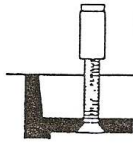


HARDWARE & DIRECTIONS FOR MOUNTING PLAQUE



MACHINE SCREWS AND EXPANSION SLEEVES

Machine screws and expansion sleeves are used to hold a plaque onto a brick or concrete surface. The metal expansion sleeve has a threaded interior to house a machine screw. The exterior has a smooth surface that expands when the screw is inserted.

HOW TO INSTALL PLAQUE

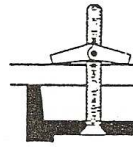
Place plaque in position on wall, or make paper or cardboard template, and mark wall for hole locations. Try to place the plaque so either the top or bottom screws will fall into a mortar line, making it easier to drill the holes.

Using a masonry bit, drill holes just large enough to accommodate the sleeves:

- 10 x 24 screw requires 3/8" drill diameter with 5/8" minimum hole depth
- 1/4 x 20 screw requires 1/2" drill diameter with 7/8" minimum hole depth
- 3/8 x 16 screw requires 3/4" drill diameter with 1-1/4" minimum hole depth

Drill hole deep enough so the tully-driven screw won't strike the back of the hole. In weak or soft masonry, drill a slightly deeper hole to countersink the expansion sleeve below the wall surface.

Insert expansion sleeve into hole, threaded cone first. Using a metal setting tool, strike tool with hammer to drive sleeve into the hole. Insert each machine screw through plaque and tighten screw into expansion sleeve with a screwdriver.

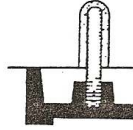


TOGGLE BOLTS

A toggle bolt is a screw about 4" - 6" long with two spring-loaded wings that fold up and pass through a hole drilled in the wall. After insertion, the wings spring open against the back side of a hollow wall, holding the bolt in place.

HOW TO INSTALL PLAQUE

Place plaque in position on wall, or make paper or cardboard template, and mark wall for hole locations. Drill holes large enough to accommodate the folded wing assembly. Insert each bolt through the plaque and screw on each wing set. Fold wings and insert bolt through hole until wings spring open inside the hollow wall. Pull back on assembly to hold wings against inside wall - this prevents the wings from spinning while tightening bolt. Turn each bolt, first by hand, then with a screwdriver.



BOSSSES & STUDS

Threaded lugs, also called "studs", are screwed into the back of the cast plaque into raised pads, called "bosses". (Flat-backed plaques do not require bosses.) Bonding cement holds the studs in holes drilled into a masonry wall.

HOW TO MAKE A PAPER TEMPLATE

Take 40-50 pound kraft paper and lay on floor or flat surface. Place cast plaque face side up on paper and trace plaque outline onto the paper with soft pencil or felt pen. Mark top and bottom centers and right and left centers of plaque. Insert studs into back of casting and place plaque face up onto paper. If plaque is large, have someone hold casting in position as you trace around circumference of each stud. These markings show the exact locations of hardware furnished.

HOW TO INSTALL PLAQUE

Tap kraft paper onto masonry wall, making sure position of plaque is level on the mounting surface. Punch each hole location with a prick punch and drill holes slightly smaller in diameter than the stud size. Measure the length of studs to determine depth of hole, drilling slightly deeper than the stud. Redrill each hole with a drill bit slightly larger than the stud, leaving enough of the small hole at the back to catch onto the stud.

After all holes are drilled, remove template from wall. Blow mortar dust out of holes.

Before using bonding cement, try to install plaque to ensure stud locations match holes drilled. If plaque is slightly warped, try dropping it against a flat, carpeted surface to straighten out. (Contact Matthews for specific instructions.)

If holes and studs line up, remove plaque from wall, and fill holes with a bonding cement. (Liquid Nails or Tuli-Bond adhesive are two brand names.) Insert all studs into back of plaque and coat all studs with cement. Press plaque into position, pounding the face with a padded block and mallet to drive studs further into the holes. Be sure plaque is tight against the wall, and brace for an hour or two as necessary.