capital outlay for tools. Neither thick sections nor patterned Acrylic sheet can be cut by this method, however. If the sheet is masked, it should first be scored using the tip of the tool and a metal straight edge as the guide. Then the hook point of the cutting tool is placed at the far edge of the material and drawn the full width while applying firm pressure. This is repeated once for every 0.025 inch to 0.040 inch of sheet thickness. Figure 3A shows this procedure.

The scribed line is then positioned face up over a 3/4 inch diameter wood dowel running the length of the intended break. The sheet is held with one hand and downward pressure applied with the other hand on the short side of the break. The hands should be kept adjacent to one another and successively repositioned about 2 inches behind the break as it progresses along the scribed line. Figure 3B illustrates the procedure for breaking. The practical minimum cutoff width for scribing and breaking is 1-1/2 inches.

## Circular Blade Saws

There are several types of circular blade saws suitable for cutting Acrylic sheet. Table saws vary in size from small, light-duty models to large, heavy-production models and are generally used for cutting Acrylic sheet to close dimensions. The size of table saw most commonly used is a medium-duty model with an arbor of 5/8 to 1 inch diameter and powered by a 1.5- to 5-hp motor. Special fixtures are often used to hold the work steady for accurate cutting.

Radial saws and swing saws move while the work is held stationary and are generally used to make angle cuts and cross cuts in narrow pieces of Acrylic sheet. The length of cut of a radial saw is limited to about 24 inches.

Panel saws are of two types. The first has the saw blade and motor mounted above the material to be cut. The work is placed on the table against a fence and the saw is fed through the work. The second type has the saw blade and motor mounted below the material to be cut with a combination saw guard and hold-down bar. The blade extends through the table high enough to cut through the material. This type of panel saw is usually set so that the saw blade must be retracted before the saw guard and hold-down bar can be released. These saws are available with either horizontal or vertical tables. The vertical saws offer advantages in that less floor space is needed; large sheets of Acrylic sheet may be placed on the saw more easily; and there is less danger of scratching unmasked sheets of Acrylic sheet.

Circular saws should have motors with sufficient power. A 10-inch diameter saw should be powered by approximately a 2-hp motor; a 14-inch diameter saw, by approximately a 5-hp motor. Blades are