

## Cutting Wood

This video will show how to cut the wood used in Indoor Flying Models and other structures using light weight wood. Most of the wood used in indoor flying models is Balsa wood. Occasionally, Bass, Spruce and thin plywood are used. Two basic types of cuts are performed: with the grain to make strips and across the grain to establish a specific length. Each type of cut uses a slightly different technique.

If a number of strips are needed for a project, better results at a lower cost can be achieved by cutting them from sheet as opposed to purchasing precut strips. There are various methods to accomplish the task and a few tools will be needed. A surface on which to cut the wood, a guide, a method to measure the width and a cutting tool will be needed.

Before any strips of balsa are produced it is necessary to ensure the edge of the sheet is straight and perpendicular. Often, the edge will be damaged, wavy or have a crack. These imperfections need to be removed before we start. If the end of the sheet is rough or damaged it should also be trimmed. Lay the wood on a cutting surface, with a straight edge along one side. Hold a hobby knife or razor blade vertical to the surface and trim off enough of the edge to clean it up.

With practice, uniform strips can be cut using a hobby knife or razor blade and a straight edge. Care must be exercised to keep the cutting tool perpendicular and in contact with the straight edge at all times. The straight edge must be positioned accurately and held securely in place while making the cut.

A superior way to make strips is with a balsa stripper. Once the edge of the balsa sheet is trimmed this inexpensive tool makes quick work of producing precise, uniform strips of wood up to 1/2" wide.

To cut a sheet, place a square or straight edge where you wish to make the cut. For all but the thinnest sheets such as 1/32" multiple passes will be required. Pull the cutting tool across the sheet while maintaining contact with the straight edge. As you reach the edge of the sheet slow down, reduce the cutting pressure and make a series of cuts. This will prevent the wood from splintering at the edge. Make a few passes and you should be through the sheet.

Cutting strips to length requires the wood to be sliced not chopped. To cut strips to length, press the blade down while sliding it forward or backward. A good practice is to use a straight edge "fence" to support or hold the strip in place.

For thicker strips, Basswood, spruce and plywood a Razor Saw is indispensable. Depending on the manufacturer chosen, some cut on the pull stroke while others cut on the push stroke. Both styles work equally well so the choice is one of personal preference.

To make multiple identical curved shapes first create a template. While this might seem like extra work, it actually will save time. Copy the desired shape onto a piece of plain paper and cut around the shape leaving the lines. Glue the paper to a piece of sturdy material like cardboard, a piece of plastic or laminate.

Cut this accurately using scissors or a hobby knife and if necessary, sand right to the printed lines. Place the template on the balsa wood blank taking notice of the correct direction of the grain. Use just the tip of a razor blade or hobby knife to cut the wood while keeping the side of the blade against the template to cut the part.

For sliced wing ribs just slide the template down to get the thickness you want. This is a great inexpensive alternative method to generate shapes without the need for laser cutting.

If the cut shape is not perfect a bit of sanding using the template as a reference can often make things right.

A note about Safety. Please keep in mind these cutting tools are very sharp. If they become dull, you will use more force to cut, increasing the chance of an accident. Replace them for a sharp blade. Even when they become so dull they have difficulty cutting wood they will still cut skin very well. Before you dispose of any dull blades wrap the cutting edge a few times with masking tape. Should someone need to retrieve something from a waste basket this will minimize the chance of them getting a nasty cut.