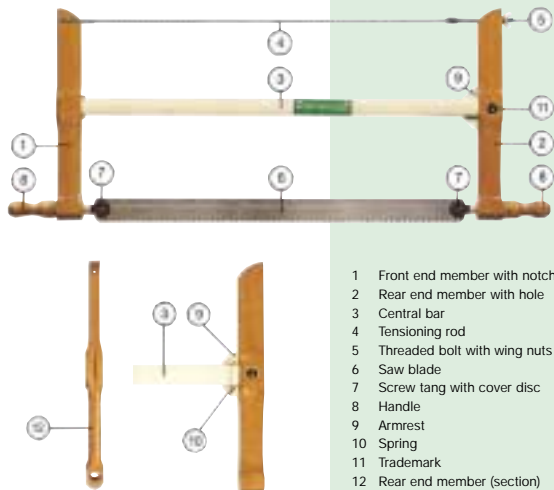


Frame saws - Technical characteristics

Original ULMIA frame saws are ready-to-use quality tools with a wide range of characteristics and features distinguishing them from frame saws of other makes.



- 1 Front end member with notch
- 2 Rear end member with hole
- 3 Central bar
- 4 Tensioning rod
- 5 Threaded bolt with wing nuts
- 6 Saw blade
- 7 Screw tang with cover disc
- 8 Handle
- 9 Armrest
- 10 Spring
- 11 Trademark
- 12 Rear end member (section)

End members

made of best quality steamed red beech, moulded oval at the handle but left at full thickness to accommodate the central bar. All surfaces fine sanded, all edges bevelled.

Central bar

made of best quality limewood, moulded oval, light, elastic and shock absorbent, with glued-in arm support to reinforce the saw frame.

Tensioning rod

made of 2.2 mm thick twisted wire, galvanized, non-rusting.

Threaded bolt

made of steel with thread for steel wing nuts for tensioning the wire.

Saw blade

made of high-grade Swedish steel, ready to use, i.e. set and sharpened, with various toothing types, partially with hardened tips, i.e. resharpening not possible.

Screw tang

made of steel, heavy-duty design with cover plate for saw blade fixture.

Saw handle

made of best quality steamed red beech, turned to fit the contour of the hand.

Armrest

made of tough white beech to reinforce the saw frame / to accommodate the iron spring, glued into the central bar.

Spring

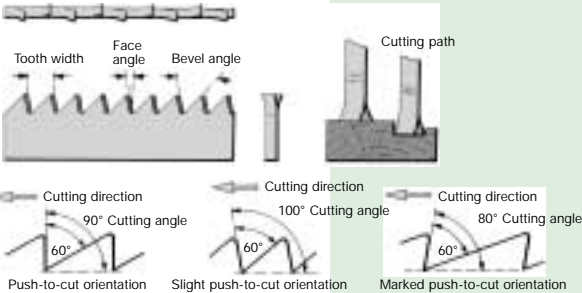
made of steel, each let half into the end member and central bar as a torsion safeguard for the end member.

Wood surfaces

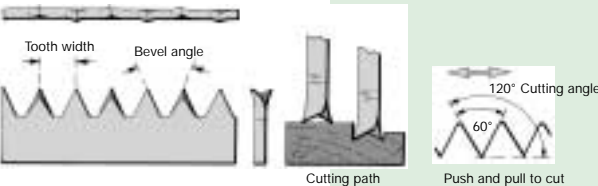
All surfaces fine sanded with highly abrasion resistant varnish.

Toothing types through different cutting angles

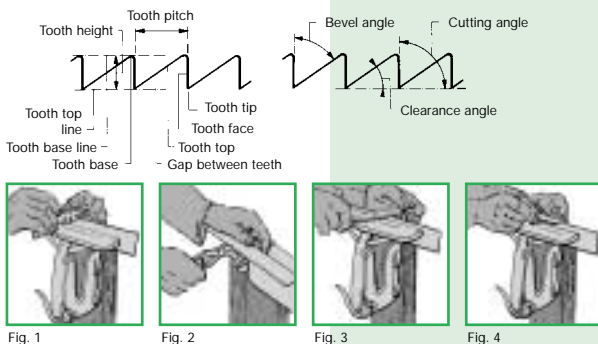
Push-to-cut toothing



Push-to-cut



Saw blade terms



Some background information on "setting, sharpening and trimming" saw blades for frame saws

Even if these techniques are nowadays restricted to the training sector, below we have outlined some of the most important tips:

Setting

Setting prevents the saw from jamming, ensuring that it is able to cut freely through the material. A handset (Fig. 1) or setting depth and height-adjustable setting pliers (Fig. 2) are used to bend the teeth alternately to the left and right. This must be done evenly to prevent the saw migrating to one side. The setting width should never be more than twice the blade thickness. Excessive setting results in a cut which is too wide and uneven. The setting depth should be around half the tooth height, as otherwise there is a danger of crack formation in the tooth base. To avoid tool breakage, never bend a tooth to the right that has been previously set to the left and vice versa.

Sharpening

Sharpening takes place by filing the tooth face and top using a three square file. This is always done after setting. To sharpen, the saw blade is clamped in the sloping clamp close to the base of the teeth and clamped by the clamping jaws over its complete length (Fig. 3). To prevent premature blunting of the file due to vibrations of the saw blade, the teeth may only be permitted to project far enough for the file to just be able to pass above the jaws. The file must be guided horizontally and exerting a slight pressure to ensure that the edges of the teeth are fully and evenly engaged.

Trimming

Setting and sharpening alone does not guarantee optimum cutting capability of a saw, as repeated sharpening will change the shape and height of the tooth. The row of teeth which once lay in perfect flush alignment becomes uneven, teeth which have worn down further stand back from the row and so do cut into the material - this reduces the cutting performance. This type of toothing can be rendered reusable by trimming. For this purpose, the saw blade is clamped in a sloping clamp (Fig. 4) and filed over the row of teeth with a flat file until a small surface has formed on each tooth tip. Individual teeth which have been worn down excessively are not included in process. The saw blade is then evenly filed through using the three square file, with each tooth receiving generally 3 - 4 strokes of the file without exception. This process is repeated until all the teeth are the same shape. The saw blade is then set and filed through one last time.