

MOBILE SAWMILLS

The use of a mobile sawmill should be considered in the following situations. It can be a way of maximizing the returns from a small quantity of sawlogs that would not constitute a full load for a lorry. It removes the cost of transport to and from a static mill. The sawn timber can be cut to your own required dimensions and for the farm or estate this can result in producing timber much more cheaply than it would have been to buy in the material. If the sawn timber is to be sold on, the sawing has added value to the timber and the waste wood can be utilized for fuelwood at source.

Types of mill available in the Highlands

There are several types of mobile sawmill present in the Highlands at the moment. These range from bandsaw mills such as the Wood-mizer and circular saw blade mills such as the Lucas Board mill and the Blossom Double Slabber, to chainsaw mills such as the Logosol.

- **Woodmizer-** This is a self-contained horizontal bandsaw. Although there are several models available, one of the most popular is the LT30 which is fully transportable by being built onto a towable chassis. It is powered by its own 24hp engine and some models have hydraulic loading and log turning which greatly enhances the speed of operations. The saw can handle timber up to 6m long (and an extension bed can extend this to 10m) up to a maximum diameter of 900mm. The Wood-mizer is particularly effective at sawing parcels of fairly large, medium or high quality sawlogs. When using smaller logs the production rate decreases. By using a saw with narrow bandsaw blades there is less wastage than from a circular saw, which has a much thicker blade. This loss can be significant on higher value logs.





- **Lucas Board mill-** This is a self contained portable sawmill consisting of a carriage incorporating the engine, saw blade, and mechanics, which runs on a frame comprising two tracks and end frames. It can easily be transported by a car with a trailer. This saw can be set up on a wide range of sites and even on sloping ground. The frame consists of aluminium components which can be carried a short distance and the carriage has an integral set of wheels which allow it to be pushed like a wheelbarrow. This type of design allows the saw to be set up around a log and is thus suitable for logs which are too heavy or difficult to move. The Lucas mill uses a 545mm diameter circular blade with five carbide tipped cutters. This allows a maximum depth cut of 215mm. The saw operates by initially cutting in the horizontal plane on the forward cut. At the end of the log the blade is turned by 90° to give a vertical cut on the return run. This allows timber to be cut out of the log in any dimension up to 215x215mm (8"x8"). As with the Wood-mizer this saw is most productive with larger sized sawlogs. If the material is small, then two logs can be placed side by side to allow tandem sawing.



- **B lossom Double Slabber-** This saw was developed to process small diameter hardwood logs which are too small to be processed on conventional sawmills. It consists of two parallel circular saw blades which are adjustable and the unit is powered from a tractor PTO, with a hydraulically powered feed chain. Because the saw cuts two slabs off the log at each pass it is a very efficient way of producing square cants. The saw can handle logs of 150-250mm diameter and from 1m to 1.8m in length. This type of sawing method adds value locally to what is typically a low value product, and allows the higher value cants to be sold on to be used for flooring blanks etc., while the waste wood can be utilized as fuelwood. Bear in mind that the saw blades are much thicker than a bandsaw and the wastage will increase if the saw is used to resaw the square cants down to individual boards.



- **Logosol Chainsaw mill-** This is a self-contained portable chainsaw mill. It consists of an aluminium frame upon which the log sits together with a saw carriage onto which a chainsaw is attached. Logosol recommend the Stihl 066(92cc) and 088(122cc) chainsaws. However other makes and models can be used. The chainsaw's standard crosscutting chain is replaced by a PMX ripping chain together with a separate bar and sprocket. The unit is very portable, weighing only 49kg and can be carried in a car trailer. The cutting operation consists of attaching the chainsaw to the carriage which then runs on rails on the frame. During sawing the carriage is moved manually along the frame. The Logosol can produce sawn material surprisingly accurately. The quality of the cut can be exceptionally high with faces being smooth, consistent and free from tear. On a point of safety, the ripping chain which is used, is more dangerous than conventional types of chain as it is more likely to cut through chainsaw resistant clothing. These ripping chains should only be used in conjunction with the saw carriage, and in normal usage there is no danger to the operator.

Preparation

- Planning an efficient milling operation begins while the trees are still standing. All operations from felling to stacking the sawn planks should be designed to avoid unnecessary double handling. It will be useful to contact the sawmill operator at this stage. You should know what dimensions that you or your customer requires before you crosscut the timber. If you are felling the trees yourself you should ensure that you have the necessary Forestry Authority felling consents and check whether there are any tree preservation orders involved. Check that the timber is the right quality and species for its intended use, and seek advice if necessary.
- You should crosscut the logs to as long a length as possible. Short lengths of timber produce less timber but require as much handling as longer logs: e.g. if you require 5'6" fence posts, cut

the logs to 11". With bent logs you should select out the straight sections. If possible you should cut all the logs to the same length as this will reduce the labour costs later on.

- The sawmill worksite should be reasonably dry and level. Preferably on hard standing. It needs to be large enough to set up the saw, allow a tractor/telehandler to stack and move the logs and also have room to stack the sawn boards and the waste slabwood.
- Dirty logs will quickly blunt the teeth of the saw blades, so logs should be kept as clean as possible when bringing them to the site. If necessary, peel the bark with a spade or brush off any soil before the saw arrives. Trim the timber carefully to remove small slivers of wood or branches. Check thoroughly for wire, nails or stones. Damaged saw blades will be charged to the job so it is in your interest to minimize any damage to the blades. Remember the sawmillers time is your money.
- The logs should be stacked with their butt ends together on bearers to reduce timber being damaged, dirtied and to ease handling. The stack should be positioned so that the logs can easily be rolled to the saw.
- To ensure value for money, the sawmill operator should be kept sawing continuously. This means keeping fresh timber in front of the saw and getting sawn planks and waste out of the way. Pallet forks are the easiest method for this and one or two assistants will be needed depending on the size of the logs. Provide the sawmiller with a cutting list of the sizes and quantities required.
- If possible stack the timber for drying straight off the saw to minimise handling. You will require a large number of 25mm 'stickers' to put between the planks to allow air to circulate.

Sawing, stacking and drying

- Drying timber is a skilful process and poor practice can easily ruin good timber. If in doubt ask the sawmiller, though for most purposes the main things to remember are that planks must be protected from direct sunlight, kept dry and stacked to allow good air circulation and access.
- The timber drying area should be level and dry, an open shed or lean-to is ideal. Whatever type of roof you use it should have good overhanging eaves and possibly a bit of shelter on the windward side to prevent driving rain wetting the stack.
- You should support the stack on solid wooden bearers every 600mm, and 25mm square stickers separating each tier of sawn timber are vital to allow air circulation. These must be in line with each other and with the bearers. Check that the stickers are free from rot, woodworm, and creosote, and brush the planks free from sawdust before stacking. The bearers should be about 20cm high to allow a good airflow under the stack.
- The maximum width of the stack should be 1.8m. Within reason, the higher the stack the better, to resist warping. You should put weights on the top of the stack to reduce the tendency to warp. This can simply be a pallet with concrete blocks. Coat the ends of the planks with paint or glue to reduce the tendency to split.
- Most hardwoods will air-dry at a rate of about one year per inch of thickness, softwoods in around half this time. In order to reduce movement in use to a minimum the timber needs to be dried to around the same moisture content as the environment in which it is to be used. Air-drying is fine for gates and other outdoor items but for use in heated surroundings further drying in a kiln will be needed. Many small woodworking businesses own a kiln and offer a drying service but check how the timber is to be presented before sawing and stacking it.

Coille Beithe na Gàidhealtachd
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Contact Details

We have included a list of the mobile sawmills that operate in the Highland area;

Wood-mizer

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Tony Oakley, 108 Scorguie Drive, Inverness, Tel. 01463 224654

Lucas Board Mill

K.K. Timber, 28 Station Road, Ardersier, Inverness. Tel 01667 462038

Blossom Double Slabber

Tony Oakley, 108 Scorguie Drive, Inverness, Tel. 01463 224654

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