Relief

Introduction to Relief Printing

A relief print is an image created from a block where the negative, non-printing areas, are cut away. The remaining raised surface areas are then inked up and printed. The block can be made from any flat surface capable of being easily cut. A wood which has an even grain such as Beech is not too hard and gives good results. Plywood or MDF can also be used as these are readily available and a less expensive alternative. A Lino block although similar in principle to wood has distinct differences. Lino is a smooth material making it a medium suited to printing large areas of colour and bold lines. The absence of a grain makes it easier to cut than wood and more forgiving to being cut in any direction.

Preparing A Block

Prior to cutting, it is helpful to lightly stain the block with drawing ink or thinned acrylic paint. This will increase the contrast when cutting, making the cut away areas more visible. Use an ink colour that will contrast with the block material but that will still allow you to see your guide image/design.

Transferring The Drawing

After the block has been stained with drawing ink, a guide image/design can be sketched onto the surface with a chalk pencil or sharpie. An image can also be transferred from another source (photo, sketchbook etc).

To do this, trace your image from the source material using tracing paper. Flip the tracing over (reversing it) and tack it in place over the block with two small pieces of masking tape. Place a piece of carbon paper between the tracing paper and block and retrace the drawing offsetting it onto the black. A permanent marker can then be used to reinforce the transferred image making it easier to see while cutting.

Remember to reverse the image as the print will be a mirror image of the drawing on the block.

The Photocopy Transfer process can also be used to transfer a drawing or photo from a photocopy. With this method you don’t need to worry about reversing the image beforehand as it will occur during the process.
Cutting The Block

The variety of tools available, vary in quality. The best are of Japanese steel, even if they are inexpensive to buy. Pencil, **Type Cutters** are hard wearing and make an excellent value starter set as they can be used for both wood and lino. Typically the tools found in a set include; 2 ‘U’ shaped gouges; a ‘V’ shaped gouge and an angled and flat knife.

☞ NEVER cut with a tool towards your fingers or body as this could result in injury. ALWAYS cut away from yourself.

☞ Use a bench hook or non-slip mat when cutting to stop the block moving and provide you with more control.

Before carving an image it is worth making a small test print using different size and shape gouges to play around and make as many different shape cuts - lines, dots, dashes, marks that get thicker and thinner. It is through this mark making that texture, tone and form can be rendered in the finished print.

When cutting a woodblock it will be easier to cut along the grain rather than against it. Cutting against it especially with tools that are not sharp will result in splintering. To prevent splintering a sharp woodcut knife can be used to cut the outline around the area to be removed before the gouges are used to clear these areas. This is not necessary for lino as the material is more forgiving but can be done to aid in the cutting of intricate areas.

Setting The Pressure On The Press

The pressure is adjusted by providing more or fewer packing sheets under the MDF board when on the bed of the press. The packing sheets comprise of two sheets of mountboard and three sheets of 250gsm cartridge paper as standard, when printing smaller blocks it may be necessary to remove one or two packing sheets as less pressure is required. Having positioned the packing sheets and MDF board on the press, the un-inked block is positioned dead centre on the bed. The block must always be placed dead centre or it will fail to print properly.

A sheet of the printing paper along with a sheet of newsprint is placed on top of the block. Lower the tympan and wind the lower handle slowly so that the bed slides fully under the “platen”. Gently pull the upper handle towards you. Adjust the pressure if necessary (more or fewer backing boards) so that the handle feels stiff towards the end of its travel but does not leave the paper embossed.

When the pressure is correct you should have to carefully exert extra pull at this stage. If the handle cannot be pulled all the way across the pressure is too great. Treat the press with respect at all times and NEVER use force, rapid jerking movements or extreme pressure. Cast iron is strong but very brittle.

☞ Setting the pressure should be done before the block is inked up and is tested by trial and error.
Inking The Block

The block is made ready for printing by charging a roller with ink and passing it over the now raised surface of the block. The ink should be quite stiff to prevent ink gradually filling up the cuts, reducing the prints sharpness and losing definition in the finer details. Litho / relief inks used for relief printing at WSA are very pigment intense, therefore 30-50% extender should be added to make the ink more economical. These inks are also very stiff and should be loosened by adding a medium plate oil in small increments until the correct viscosity is achieved. As oil-based ink can take a considerable time to dry, especially when printing more than one layer of colour 2-3 drops of Manganese drier should be added when mixing the ink.

Water-based inks can also be used for printing blocks and may be desired when printing at home. Numerous quality water-based relief inks are available from printmaking suppliers and their use is more or less identical to oil-based inks. However, the drying time can be considerably shorter, drying on the slab during long print sessions. A water mister can help alleviate this by gently spraying onto the ink slab and working the ink when drying begins. Water-based inks may also prove harder to print numerous layers as they tend to not roll out as lean as oil-based inks.

Registering The Block For Printing

There are various methods of registering the printing so that the block prints in exactly the same place on every sheet of paper. This allows for accurate registration of secondary blocks which are used to print other colours. When printing multiple colours it is advised to start with the palest colours and finish with the darkest colour.

When printing on the Alexandra Press, a registration sheet featuring two sets of gauge pins is used. This sheet is taped to the centre of the press bed, the inked block is placed face up so that it sits flush against the inner gauge pins. Then, a sheet of printing paper is placed up against the outer gauge pins and carefully lowered onto the block before being run through the press.

Relief prints can also be printed without a press. A registration bar can be made from an ‘L’ shaped piece of mountboard or thick card with a width of about 5cm. Onto this Stops can be fixed providing the required margin between the edge of the paper and the block.

The print is made by burnishing, where the paper is gently pressed down onto the inked block and rubbed firmly with a flat piece of bamboo leaf covered wood called a barren. This is also an ideal way to print at home, where a metal or wooden spoon will work just as well as a barren.

Burnishing works best with light-weight papers. It is useful for taking proofs during the early development of a block or, can be employed during the printing stage allowing for a variety of tonal qualities to be pulled from a single block. This technique is typified in the Japanese woodcut tradition Mokuhanga where a combination of burnishing and watercolour like inks provide subtle wash-like quality to the prints.
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Techniques for Cutting

When cutting a block aesthetic decisions must be made for interpreting the image and marks. Information can be interpreted in a number of different ways.

White line is the most straightforward, cutting with the gouge or knife as a drawing tool will print as a white image on a colour ground. The classic “black-line” approach echoes the historical aim of woodcut to mimic the look of a drawn line, printing a black line on a white ground. It is achieved by cutting both sides of the line with the knife to establish linear elements, then clearing away the areas in between with the gouges. High contrast cutting of solid black or white shapes interpret architectural forms and lettering while textured cutting with gouges or other mark making tools can create a variety of interesting marks that can read tonally. Patterned cutting allows for decorative interpretation of tonality and the abstraction of form.

None of these cutting techniques are mutually exclusive, they can be combined in any number of ways to provide a visual language and convey the desired outcome.