

TRADE OF PAINTING & DECORATING

PHASE 2

Module 1

Recoating Surfaces and Sign work

UNIT: 4

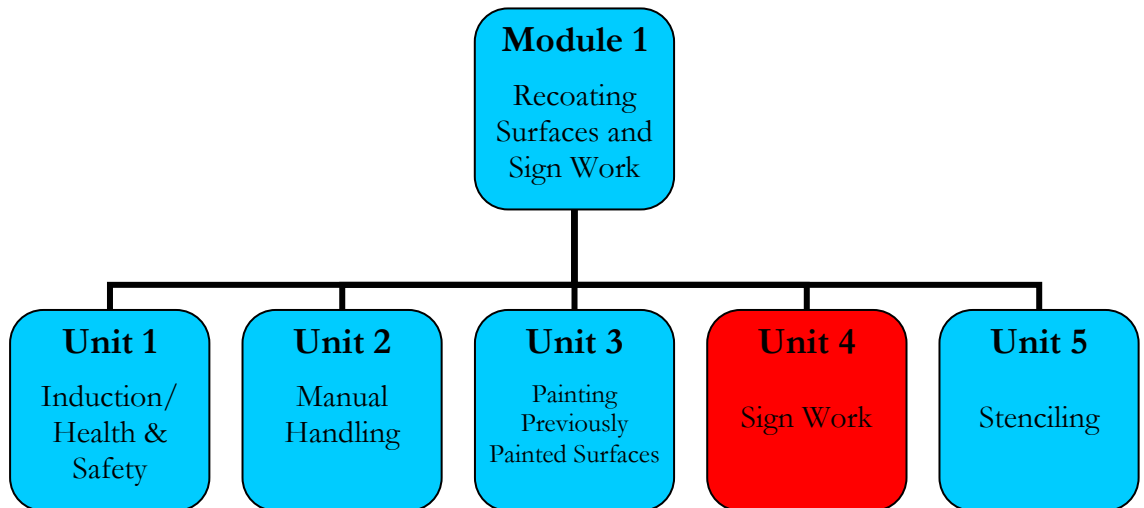
Signwork

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Introduction

Signwriting / signmaking is probably more in demand now than ever before, but has changed almost totally in recent years. It is used to advertise and sell product, to identify hazards such as dangerous chemicals etc., and for directional and other road signs such as speed limits. The modern signwriter is more likely to use computers and adhesive vinyl than paint, but the traditional craft still exists in certain areas, such as tourist destinations.



Learning Outcomes

By the end of this unit each apprentice will be able to:

- Draw, enlarge and paint in block capital alphabet
- Calculate the size of a given word to fit a given surface
- Wash out a pencil brush used in oil based paint and store correctly

1.0 Draw Enlarge and Paint in block capital alphabet

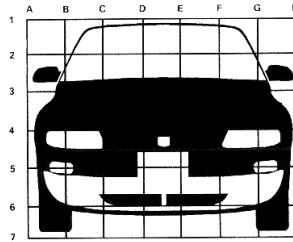
Key Learning Points

- Use of enlarging equipment
- Methods of enlarging letters
- Constructing block capitals
- Freehand sketching
- Setting out, spacing and layout of lettering
- Preparation of paint for sign writing to include lettering enamels
- Filling in sharply and neatly with clean background
- Work area to be kept clean at all times

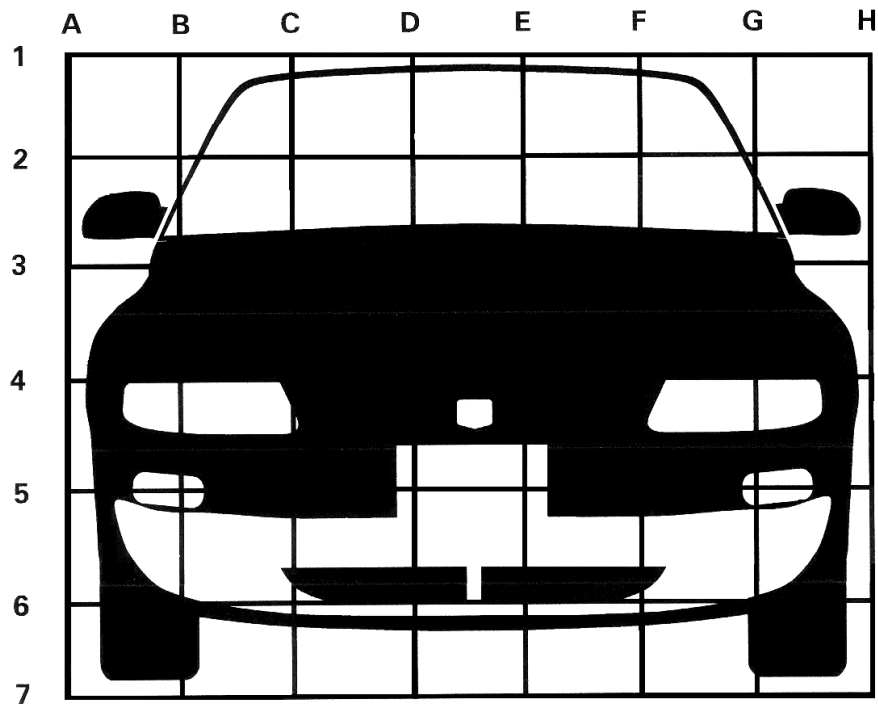
1.1 Grid Enlargement and Use of Enlarging Equipment

Grid Enlargement

ENLARGEMENT OF DESIGN



ORIGINAL



ENLARGEMENT X 3

A method of enlarging or reducing a piece of artwork which many signwriters have found useful over the years is the grid method. This can be used in the home, studio or in situ, without the use of expensive equipment as normal sized artwork can be worked on using a quite basic mechanical drawing set.

Step 1. Construct a square or rectangle (whichever is more suitable) around the artwork to a size which can be easily divided into equal squares e. g. if the artwork measure 105mm high x 85mm wide, draw a rectangle 110mm high x 90mm wide around it. Mark off the height into 11 x 10 mm. squares and the width into 9 x 10 mm. squares forming a grid. The squares can of course, be 20mm, 30mm or whatever is most convenient for the particular job. It is a good idea to mark off the vertical grid lines with numbers, and the horizontal ones with letters, or vice versa to avoid confusion.(see illustration). The square can also be divided up accurately by a simple mechanical drawing method.

Step 2. Draw the grid which is to contain the Full Size (F.S.) drawing. If the F.S. drawing is to be for example 3 times bigger than the original artwork, then you draw the same number of squares in the full size grid as you had in the original, but the squares will be 3 times bigger.

Example; Original Grid 110mm x 90mm divided into 10mm squares,

F.S. Grid- 330mm x 270mm divided into 30mm squares.

The points at which the artwork touched the lines of the original grid are marked on the full sized grid, and when the points are connected, a larger version of the original artwork is obtained. If you do not wish to damage the original artwork by marking it, the grid can be drawn on tracing paper laid over it.

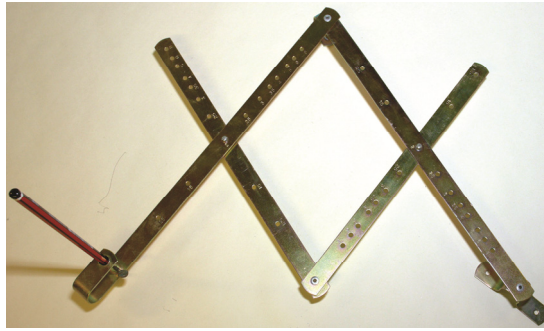
Reduction of design can also be carried out using the grid method; the difference being that the Full Size grid is drawn with the squares smaller as desired than on the grid covering the original artwork.

Enlargement Using Projectors or Epidiascopes



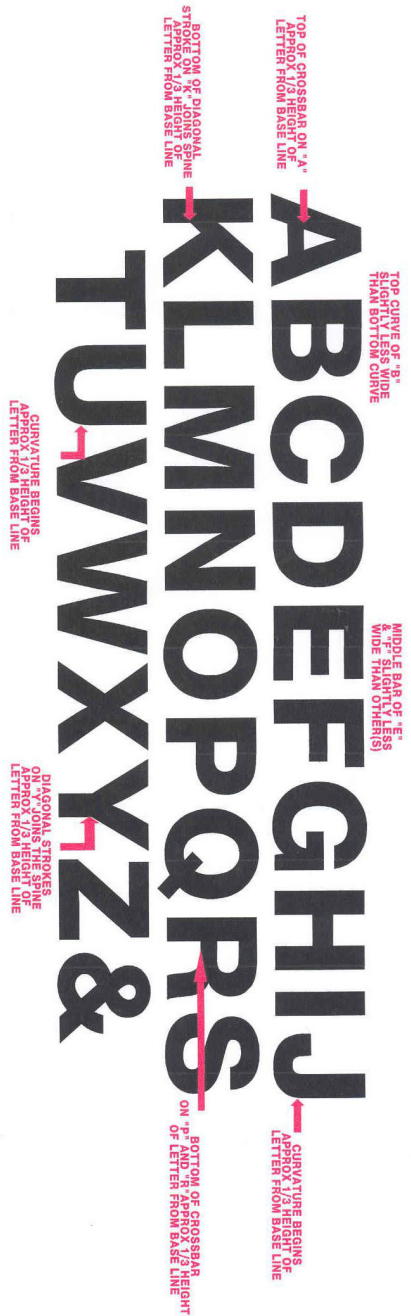
To enlarge using a projector, a copy of the artwork is laid on the projector and an enlarged image is projected onto the working surface. The size of the image can be adjusted as required.

Pantograph



A small device which can be adjusted to different settings to enlarge or diminish drawings accurately. Not used as much today as projectors are easier to set up.

1.2 Constructing Block Capitals



* Proportions for Block Capitals

THICKNESS OF LETTERS = 1/5 OF HEIGHT

LETTER WIDTHS AS FOLLOWS:

A AND M = WIDTH SAME AS HEIGHT

CGOQ = WIDTH 9/10 OF HEIGHT

DHNUXYKTVZ = WIDTH 3/4 OF HEIGHT

BEFJLPRS = WIDTH 2/3 OF HEIGHT

W=HEIGHT+10%

* THE ABOVE ARE SUGGESTIONS ONLY. PROPORTIONS MAY VARY IF LETTERS ARE STRETCHED, CONDENSED, OR ALTERED IN ANY OTHER WAY. THIS CAN BE DONE TO SUIT LAYOUT NEEDS ETC.

Block Alphabet Capitals

A B C D E F G H I J
K L M N O P Q R S
T U V W X Y Z
& 0 1 2 3 4
5 6 7 8 9

Square Block Capitals

A B C D E F
G H I J K L M
N O P Q R S
T U V W X Y
1 2 3
4 5 6 7 8 9

1.3 *Freehand Sketching*

Freehand drawing is a skill the Painting apprentice should develop, as it is a resource that will be found useful in designing stencils, room layouts, graining, pictorial work etc. To achieve this it is necessary to understand the principles of shape, perspective, light and shade, proportion, and also composition. These skills are developed by closely studying the relationship between objects, their similarities and contrasts, and by carrying out a series of basic exercises on simple objects and continuing from that point. Freehand drawing can be used in conjunction with enlargement of design to produce the desired effect, but should not be attempted in a commercial situation before a satisfactory level of competency has been achieved.

1.4 *Setting out, Spacing and Layout of Lettering*

Layout, Spacing, Text and Colour.

Computerised design has largely replaced the drawing skills of the craft but design skills are vital as those who can design signs well before producing signage on computers will be more skilled and able to produce work which is more individual and of a higher quality. Although there are guidelines on sign layout and lettering, improvised methods may need to be used depending on the job in hand.

Layout



Good layout

Bad layout

This will to a large extent be determined by the shape of the sign board. Surrounding space must be taken into account. Bigger text does not always mean the sign will be more easily read, or read from a greater distance. Allowing more negative (blank) space around the text can help to achieve this, and the finished job will usually look much better.

Spacing

Good spacing cannot be set out to measurement in the signwriter's field, but depends on the eye for acceptable results. This essential skill applies to all alphabets and is acquired by experience over a period of time. Well spaced lettering makes a sign more readable and of a higher quality visually.

Letters such as A,L,T,Y are termed open letters and must be placed closer together. Whereas letters H,M,N,E,I are termed closed letters and must be drawn with more space between them. For this reason the measuring of equal spacing between letters does not work.

SALTY
SALTY

* N.B. NOTE THE TWO EXAMPLES OF THE WORD "SALTY" IN THE TOP SAMPLE, THE DISTANCE BETWEEN THE LETTERS IS MATHEMATICALLY EQUAL, YET VISUALLY INCORRECT. IN THE BOTTOM SAMPLE, THE SPACING IS ARRANGED VISUALLY AND APPEARS CORRECT. THIS DEMONSTRATES THE NECESSITY TO TAKE INTO ACCOUNT THE VISUAL SPACE CREATED BY THE SHAPE OF THE DIFFERENT LETTERS.

Text

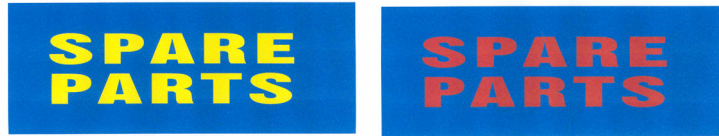
ICE CREAM

SOLICITOR

Correct text selection is very important. For instance, the same letter style would hardly be suitable for an ice cream parlour as would be used for a solicitor's office.

Colour

Another vital element in producing a professional quality sign. Well planned colour combinations are essential, as they can play a very important role in making the sign legible and aesthetically successful.



1.5 Preparation of Paint for Sign Writing to Include Lettering Enamels

Signboards should be painted well in advance of the sign itself. This allows the paint on the signboard to harden, allowing drawing and painting to be carried out without disfiguring the painted finish.

Signs can be painted using oil paints such as gloss, or where required, eggshell, emulsion, acrylics etc. Specialist signwriting enamels are also on the market with higher opacity and a harder finish, plus a wide selection of vibrant colours.

Paint used for signwriting should be well stirred and slightly thinned to correct viscosity. This helps with brushing technique and allows the signwriter to paint in the text easily and accurately.

Attempting to use the paint unthinned will cause problems, for example it would be very difficult to obtain clean, accurate lines and curves. Over thinning of the paint will cause reduced viscosity and almost certainly will produce runs and sags in the work.

1.6 *Filling in Sharply and Neatly with Clean Background*

The ability to do this is an essential skill for the Painter, and is achieved by a number of elements, such as paint viscosity, brush technique and practice. Some painters also use a mahlstick to support the painting hand.



Using a mahl stick, dipper, and palette

To use this tool, place the padded end against the surface to be painted, keeping it clear of the lettering, and rest the painting hand on the stick. This relieves strain on the wrist and shoulder muscles, while leaving the wrist and fingers free so that accurate brush strokes can be made. The stick also prevents smudging by holding the hand clear of the surface. Alternatively, a bridge can be used while working on a bench.



Use of a bridge

Brush technique is vital, as holding a brush incorrectly can cramp the hand, restricting free movement and prohibiting the signwriter from rolling the brush between the fingers which is vital to accurate painting, as well as making the hand tired very quickly.



Correct grip of the brush

The end result should be accurately painted graphics and a spotlessly clean signboard.

2.0 Fitting Artwork to a Given Area

Key Learning Points

- Reading drawings and following specifications
- Calculate the height and width of a given word to fit a given fascia board
- Tools, materials and methods used to transfer lettering to surface

2.1 *Reading Drawings and Following Specifications*



Reproducing artwork (such as that illustrated above) supplied by a customer can present problems, as great care must be taken with corporate logos, style of text, colours, positioning of all elements in the artwork etc. Careful measurements must be taken of the original and accurately reproduced, usually to a much greater size. Because of this, the signwriter must make sure that the original artwork supplied by the client is of good quality in order that it can be read accurately.

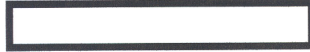
Reproduction of the artwork can be carried out using the methods outlined in the section “Enlargement of design”, by the use of enlarging equipment such as a projector, or by scanning the original into a computer and using signmaking software to reproduce the drawing.

2.2 Calculate the Height and Width of a Word to Fit a Fascia Board

This can be achieved in a variety of ways, and several methods are available to the signwriter. One simple method is to set out the work area to scale, and design the layout in this. When the sign is set out to the signwriter's satisfaction in this way it can then be enlarged by measurement to full size.

JOB: FIT THE WORDS "GARDEN CENTRE"
INTO A 500mm x 3000 mm FASCIA

- 1 Make a scale drawing of the Fascia for example, a 1:5 drawing of 100 x 600 mm for this job



- 2 Lightly sketch sign accurately to fit into this space, taking care to ensure that spacing is correct with enough negative space all round.

GARDEN CENTRE

- 3 When everything is correct, all that remains is to redraw at full size, multiplying every measurement by 5. Centres can now be marked on the finished drawing and also on the fascia board. The drawing is then chalked on the back and applied to the fascia, taking care to line up the centres. The sign is then transferred and painted in.

GARDEN CENTRE

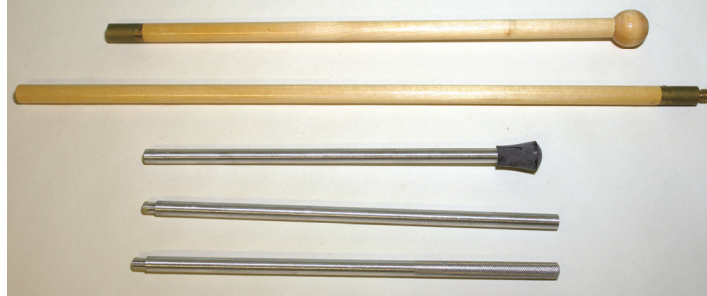
- 4 Completed Sign painted in



Drawings not to scale

2.3 Tools, Materials & Methods to Transfer Lettering to Surface

Mahl Stick:



A metal or wooden rod with padding at one end. Can be a single piece or in two or three pieces that can be screwed together. Used to keep the hand steady.

Self-Chalking Line

Contains a reservoir of chalk which feeds the line as it is pulled out. Used to snap long lines.



Dipper:

Small containers with a clip so that it can be attached to the palette. Home made dippers are small tins plastic cups etc.

Palette:

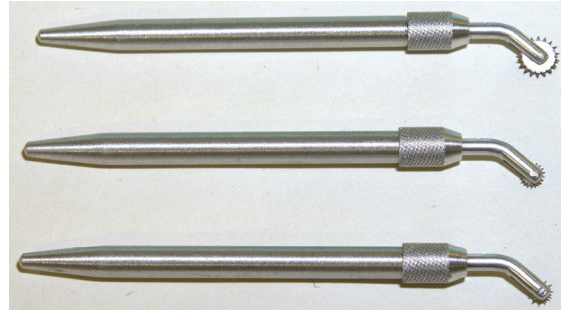
A small board that fits over the thumb and holds dippers or paint when working.



Dipper and Palette

Pounce Wheel:

A device approximately the size of a ballpoint pen with a spiked wheel at the tip which is used to perforate the outline of a drawing. The design can then be transferred to the surface by pouncing chalk through the perforations.



Filling for lettering brushes:

Sable, Ox Hair or Nylon.

Sable:

The most expensive Filling for lettering brushes. It comes from various animals in the weasel family in the Arctic regions of Asia, the best being Kolinsky. Red-brown in colour it has strength, spring and produces a fine taper required for fine work.

Ox:

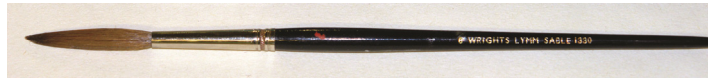
A reasonably good substitute for sable. Less expensive. Hair from the ear of the ox. Has not the same spring or lasting of sable

Nylon:

Much cheaper than sable or ox. They are very fine, long lasting and springiness.

Types of lettering brushes:

Pointed Writers:



Long handled brushes with filling finished to a point, with seamless metal ferrule. Suitable for Roman and Script letters.

Sizes:

00, 0, 1,2,3,4,5,6,7,8,9,10,11,12.

Chisel Edged Writers:



Long handled brushes with filling finished to a chisel end, with seamless metal ferrule. Suitable for Roman and Block letters.

Sizes:

00, 0, 1,2,3,4,5,6,7,8,9,10,11,12.

Quills:



So called because the ferrule is made from the end of a bird's feather fitted to a wooden handle. Available in pointed or chisel form. Size of brush denoted by size of bird.

All lettering brushes except quills are available in different length out.

Sizes:

Lark, crow, small duck, duck, large duck, small goose, goose, large goose, extra small swan, small swan, swan, large swan, condor.

One Strokes:

Available in sable or ox hair or mixtures of both. Long handle brush with metal ferrule.

**Sizes:**

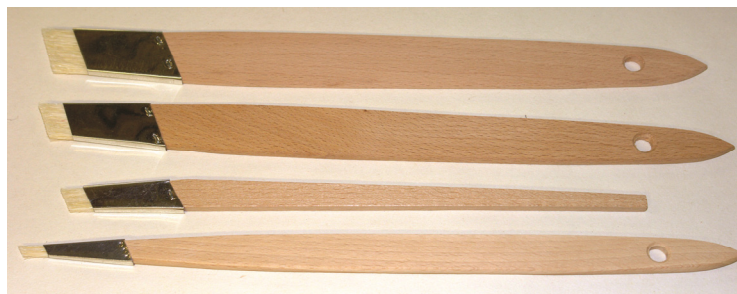
From 4mm. To 25mm.

Artist brushes:

Many different types available for use in oil colour, acrylics, water colour etc. Flat, round, pointed.



Lining fitches, sword liners, coach liners



Lining fitches



Sword Liners



Coach liner

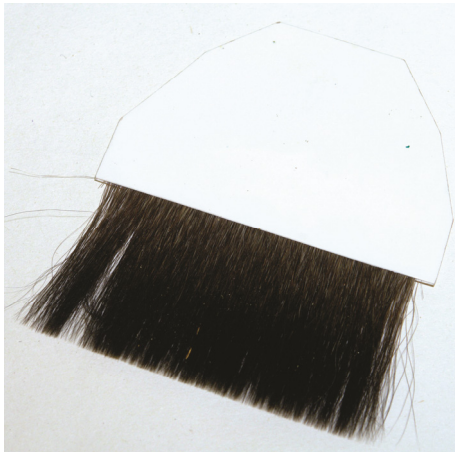
Also included in the list of signwriting brushes. Used primarily to paint lines but lining fitches can also be used for very large text.

Lining Tools:

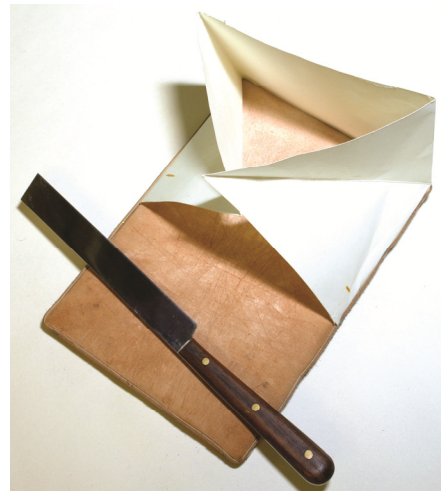
A variety of these are available. The tool has a small reservoir for paint with a variety of wheel sizes that can be interchangeable. They can be used with a supplied guide or a straight edge.



Gilders Tips Gilders Knife & Cushion & Gilders Mops:-



Gilder's Tip



Gilder's Knife & Cushion



Gilder's Mop

Used in the application of Gold Leaf.

3.0 Component Parts, Care and Maintenance of Sign Painting Brushes

Key Learning Points

- Component parts, care and maintenance of Signpainting brushes
- Work area kept clean at all times
- Safe working practices
- Self awareness in the workplace

3.1 *Component parts, Care of Signwriting Brushes*

Component Parts

Handle, either lacquered or plain wood, usually with a seamless metal ferrule, an epoxy resin setting and a filling of either sable, ox, a mixture of these or nylon.

Before Use

Make sure any petroleum jelly in the brush is washed out in white spirits

After use

- Wash the brush out gently in white spirits, taking care not to damage the brush hair.
- Using small amounts, replace with fresh white spirits and repeat until all traces of the paint are removed. **Pay particular attention to the area around the base of the brush hair, by the ferrule.**
- Remove remaining traces of white spirits by washing the brush in warm water and washing up liquid. Repeat and gently rinse clean. **When carrying out this procedure, hold the head of the brush turned away from the tap in order not to spread and thereby damage the brush hair.**
- Squeeze out excess water and lightly grease the brush with petroleum jelly.
- Never stand the brush resting on its hairs. This will permanently distort them.

3.2 Work Area Kept Clean at all Times

All work areas should at all times comply with Health and Safety regulations. Wet floors, tools and other equipment lying around, and general untidiness can be a serious safety and/or fire hazard. A sense of order is essential for a clean working environment. Untidy, dirty habits make it very difficult to produce high quality work. A proper system of storage should be in place and used. Another reason the workshop must be kept clean and uncluttered, is that some signboards will be at the preparation stage while others are being finished, and an orderly workplace is the most efficient way of doing this.

3.3 Safe Working Practices

Cloths

A clean cloth is an essential part of a painter's equipment and should be in his/her possession at all times. Old cloths that have been used for wiping should be dampened and dumped immediately after use as they ignite due to spontaneous combustion. Never leave them lying around during lunch breaks or when leaving work at the end of the day. Immerse in a bucket of water if a metal bin is unavailable.

Storage

Oil paints and their thinners are highly flammable materials and should be treated with caution and stored carefully and safely. When not in use, they should be stored in a suitable exterior facility, and materials in use in the workshop should be kept in a fireproof metal cabinet. Thinners in particular should be kept covered before and after use to avoid spillage, and any that does occur should immediately be cleaned up as this can create a fire hazard.

Self Awareness in the Workplace

As Unit 4.3.2

Summary

Signwriting is a craft which dates back many centuries, and in some cases the same or similar techniques are used as in the past, but in the main, there are few areas that have undergone so much change in recent times. For example, the methods of enlargement of design have changed greatly. Computers and scanners can be used to import and edit art work, and with the aid of a plotter drawings can be produced to a variety of sizes quickly. This method cannot be used for all situations and alternatives such as projectors and the grid method can always be relied upon to produce accurate drawings.

Computer technology has revolutionised the craft, and today's signwriter needs to be very computer literate to keep up. However knowledge of colour, layout and good design is as important as ever as the amount of work in the signwriting industry is huge and the opportunities are there for good craftspersons with the relevant skills.

An apprentice to the trade needs to learn these skills as they are important both in hand painted and computer generated signage, and those with these have a great advantage over others. Along with this, knowledge of good design, colour, freehand drawing ability etc are skills that can be used in many areas other than signwriting.

Suggested Exercises

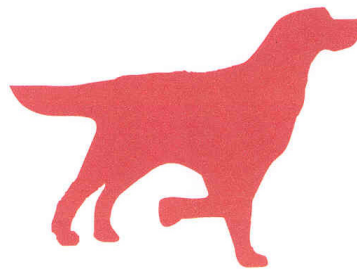
Exercise 1

Using drawing provided enlarge it to four times it's size using the projector.



Exercise 2

Using drawing provided enlarge it to four times it's size using the grid method.



Exercise 3

1. Draw a series of round and curved block letters 100mm. high. (E.g. letters O, C, S Q, G)
2. Now practice with straight letters taking care to get sharpness at the corners. (e.g. letters A,E, F,H,T)
3. Now practice with letters incorporating both straight lines and curves (e.g. letters B,R,D).

Exercise 4

On a prepared panel finished in a gloss oil paint, draw transfer and fill in using a gloss oil paint the word **QUALITY** in block capitals. This exercise will help you to develop the art of spacing.

Self Test

1. Why is a Mahl Stick used?
2. Why do people need signs painted?
3. What type of lettering brush can be used for filling in
4. Script letters?
5. Block letters?
6. A lettering brush has been used in oil paint
 - a) How should it be cleaned out?
 - b) How should the brush be stored after cleaning?
7. What methods can be used to enlarge drawings?
8. How should oil paints be safely stored?

Suggested Reading

Books

Signwork (second edition). Author. Bill Stewart

Mastering Layout. Author. Mike Stevens

Vinyl Graphics/How to Author: Larry Mitchell

The Leonardo Collection Publishers Vinciana

Magazines

Signcraft

Signs of the Times

Image Report

Websites

www.Signcraft.com

www.Letterville.com

S O L A S

An tSeirbhís Oideachais Leanúnaigh agus Scileanna
Further Education and Training Authority

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Dublin 4*