

# CARVING BY NUMBERS

Mike Davies

[www.CarvingbyNumbers.com](http://www.CarvingbyNumbers.com)



Woodcarving by Numbers is a simple to follow programme that guides woodworkers of all skill levels to become competent woodcarvers. Available with a selection of tool sets, simply match your carving tools to the numbered profile chart, and follow the step-by-step guidance through a wide selection of projects. As a bonus with each tool set, you will have access to a comprehensive treasure trove of technique tutorials, project, and guidance videos. Watch and learn the Significant Six carving techniques and practice them on a selection of projects, graded in difficulty, designed to put your skills to the test. The ultimate goal is to create designs of your own to add a unique point of difference to your woodworking projects.

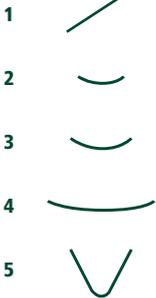
Please refer to the **Significant Six techniques tutorial** or watch the **Foundation Skills DVD** at [www.carvingbynumbers.com](http://www.carvingbynumbers.com) for safety and guidance with your techniques.

## The Swag

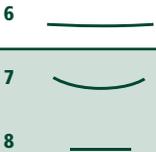
This project makes use of tool numbers 1, 2, 3, 4, 5 and 6. For instructions on how to complete using the Essential Collection only, please refer the Woodcarving by Numbers book at [www.CarvingbyNumbers.com](http://www.CarvingbyNumbers.com)

### Sweep Profile Reference Chart

#### Essential Collection:



#### Pattern Carving Set:



#### Spoon Carving Set:



#### Comprehensive Collection:

##### Bonus Gouge



Picture 1.

### Carving in 3 Dimensions

When carving decorations in three dimensions it is often difficult to gauge where the appropriate contours and details should go, especially if you are working from a drawing or a photograph. Carving the human form can be particularly challenging, as the eye can often easily detect if something is 'not quite right'.

Creating patterns to work from can be very helpful. For example, some projects may feature leaves or flowers, therefore you may find it helpful to use the real thing for inspiration. Working with models can also help to explore interesting arrangements and layouts. When carving fabric, for example, on linnenfold designs, it is useful to

cut and arrange material as a pattern, especially when carving bows. If the design is large and awkward to arrange, you could try concentrating on small sections at a time. The use of plasticine or clay may prove invaluable when experimenting with detailed forms.

Also make sure that you choose a suitable material from which to make your pattern. The author, Mike Davies, made the mistake of using fresh fruit as a pattern to carve this Bowl of Fruit. The project was completed over several weeks in summer, so Mike learned this lesson the hard way, whilst carving amongst a cloud of fruit flies.



Picture 2.



Picture 3.



Picture 4.

## The Carving Process

There are four simple stages to any carving project, whether it be chip carving, relief carving or sculpture, and it is essential that each one is completed before the next is undertaken.

### Stage 1. Drawing

An outline is all that is initially required. However, time should be taken to get the drawing precise. You would not endeavour to cut a dovetail until it had been correctly marked out.

### Stage 2. Construction and Cutting Out

The foundations for the carving are made. If you are carving from material that need to be glued together to form the required thickness, then take time to ensure that the joints are clean. When cutting the carving blank out, work as accurately as possible. I have encountered many students who cut the shape roughly with the intention of tidying the shape during the carving process, only to find that the form becomes lost as they progress.

### Stage 3: Roughing In

The overall shape should now be achieved with the carving tools. Remove the timber in unwanted areas, defining the high and low levels for the entire project. It sometimes helps in the early stages to mark the high spots with a cross or measurement.

### Stage 4: Adding Details

Draw the details on to the 'roughed in' shape. Take your time as it is important here to ensure that the drawing is accurate. The result of the carved detail will be a direct reflection of this. When your drawing is accurate you can begin to set in the detail carefully.

Remember that each stage must be completed before the next is undertaken. It is futile adding details to areas before the entire shape has been roughed in. It is very easy to get carried away on

a certain area of the design, adding detail before the overall shape is formed. It is very upsetting to find that you need to remove all of the detail because the component needs to be set lower in relation to the design. It's almost like trying to frost a cake before you had cooked it.

## The Swag Project

Swags comprise of elongated amalgams of decorative motifs which are usually interwoven amongst leaf work. The arrangements are carved as though they are draped or hanging, and are used for interior and architectural decoration. Grinling Gibbons (1648-1726), who was famed for his incredibly ornate work, produced some outstanding examples featuring fruit, leafwork, flowers, birds, musical instruments and cherubs.

The versatile aspect of this decoration is that you can make it as simple or complicated as you wish. **Figure 1**, shows a relatively simple design, which if you are feeling confident can be made more challenging. In the step by step instruction I have carved the rose with open petals, however, to simplify matters you could carve it as a closed bud instead.

It is very important to follow the 'Carving process' with all projects, however, when working on 3 dimensional jobs this is especially important.

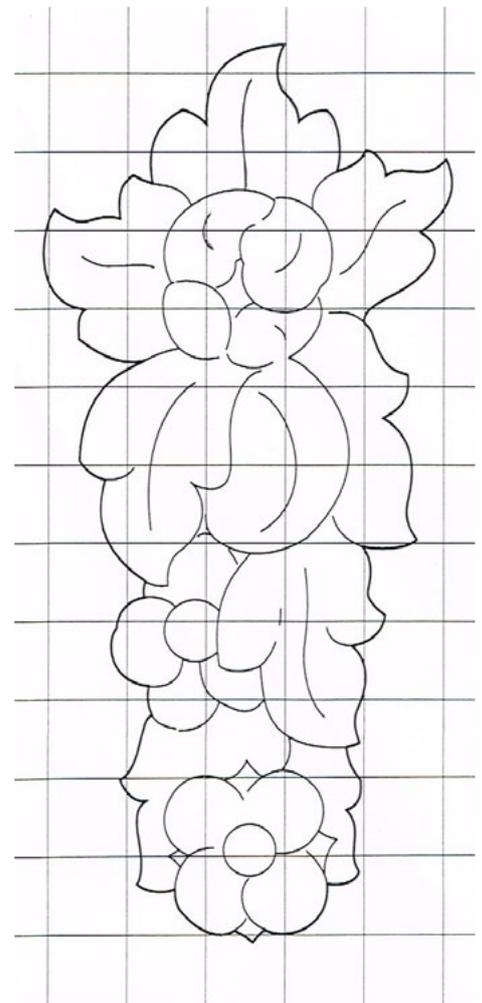


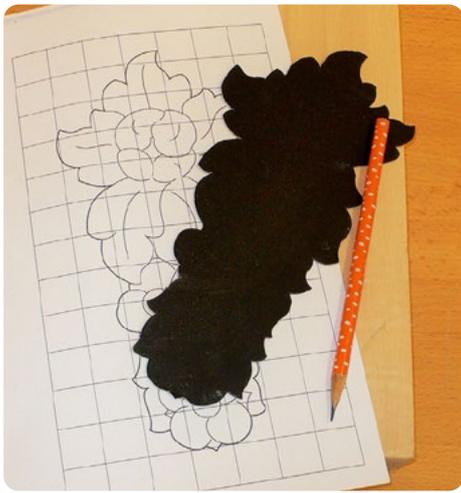
Figure 1.

### 1. Drawing.

Make a stencil using **figure 1**. Expand the drawing so that each square measures 2cm, then mark the drawing onto your piece of timber which should be around 45mm 1 3/4" thick.

I used a piece of old pine which was extremely well seasoned, but you may find that a good quality mahogany or walnut is rather more attractive if the carving is to be polished.

**Please refer to the Significant Six Techniques tutorial or watch the Foundation Skills DVD for safety and guidance with your techniques.**



**Picture 5.**

Lime, Jelutong or Basswood are outstanding timbers for intricately detailed carvings. It is probably for this reason that Lime was favoured by Grinling Gibbons for much of his work.

## 2. Construction and Cutting Out

The profile of the design should now be cut out using a scroll saw and then secured to the work surface.



**Picture 6.**

## 3. Securing Your Work

When carving a small object where access would be restricted by securing with a clamp, a useful tip is to glue the carving blank to a larger board which can be cramped to the work surface.

In order to do this, first ensure that the bottom face of the carving is clean and perfectly flat. "Key the surface" by shallowly scoring it with a marking knife to create a checked pattern.

Then lightly rub a candle over the surface to apply a thin layer of wax, before gluing and clamping the blank to a board.

The score marks allow the glue to form a strong bond while the wax provides a barrier between the two surfaces, which enables you to release the carving easily on completion.

You could use any sort of glue, but a general purpose PVA is ideal. The blank should now be secure enough to allow you to carve.



**Picture 7.**

On completion, it can be raised using a thin pallet knife, by gently working the blade underneath the carving, concentrating on freeing the outer edges first before moving to the centre.

After a little persuasion, the carving should lift quite easily, leaving a clean surface to use as a base.

## 4. Roughing In

Whether your decision is to follow the instructions herewith, or to carve a more simplistic version, it is necessary to mark onto the carving blank the details as shown in **Picture 8**. This will provide you with the basic shape guidelines.

5. Start to carve the high and low areas of the design using each of the tools from your foundation tool kit as appropriate. All the individual components should be distinguishable from each other. It is wise to consider overlapping the items to avoid empty spaces on the carving where irregular shapes do not fit neatly together. Potential problem areas could be around spherical objects such as the plum and rose. Note how the flower and plum are carved high and the leaves are reduced to provide a background.



**Picture 9.**

6. Having established the various heights of each component, carefully plan their shape. While it would be rather ambitious to make the leaves as

thin and fine as their natural counterparts, do try to give them as much movement and character as possible. Avoid leaving them high around the edges as this will allow a view underneath revealing their true thickness.

For example, note that the three acanthus leaves at the top of the design are carved with their centres high and their edges rounded downwards. If an empty space appears, try to create something from it such as the surface of a lower leaf. Pierced holes may be effective in some places though too many will look unattractive. After shaping each component, carve the edges of the acanthus leaves into their primary forms. You will find detailed information on the correct formation of the acanthus decoration in Carving by Numbers Acanthus Panel Tutorial.



**Picture 10.**

## 7. Adding Detail

When you have defined the overall shape of the swag, you can begin to add the detail. Work on the acanthus leaves and form the flowers. Remember that your own swag need not be as detailed as this one pictured here. Rather than carving the rose with open petals, you could simply form a closed bud. Silk flowers provide an excellent source of reference.

Tool numbers 2,3 & 4 can be used to form the petals to remove the waste fragments. Carve a groove down the side of the plumb with tool #5.



**Picture 11.**

## 8. Now Add the Fine Details.

Using the various profiles from your tool kit. Tool #2 and 3 can be used to cut small channels on the surface of each leaf forming ridges that sweep down towards the base of the leaf. Each leaf and petal should be slightly undercut to produce a fine appearance. Round the plumb with tools #4 & 6.



Picture 12.

9. The V channel of the plumb can be further defined with tool #5. Note how ridges have been formed on the petals of the second flower with tool #2 & 3. Each petal of the third flower has been stylized by creating the primary form of the acanthus decoration into their tips, using tools 3 and 4.



Picture 13.

10. Sand the swag lightly to remove any remaining tool marks. Take care not to round over any details or crisp lines.

Finally, if you chose to secure the work to a board using wax and adhesive, you will need to carefully release the bond by gently easing a pallet knife between the work and the backing board.

To complete the work and provide a light and delicate appearance, you can further remove timber from the rear of the carving. This process is known as 'backing off'. Place the carving on a soft surface, such as material or a cushion. Then, very carefully use the various tools from your set to remove the waste from the rear of the carving and create the impression that the work is hovering. Note how only the waste timber is removed from the very tips of the work and keep the bulk out sight to ensure that the carving retains its strength.



Picture 15.

It is essential when backing off that both hands are kept behind the cutting edge at all times. NEVER carve towards the hand that is holding the work. Only remove tiny slices at a time to ensure that you do not put too much force behind the tool.



Picture 14.

## About the Author:

Mike Davies is an accomplished craftsman, who has completed projects for royalty, national trusts and private collectors alike. He has surveyed and restored works by many of the great designers and carvers from the past.

As a qualified teacher, he originally developed his 'Woodcarving by Numbers' educational system in 1994. It was created to help woodworkers of all skill levels to master the art of woodcarving.

Since then, his system has been published in magazines and books. It has been televised and used to teach students in schools and colleges around the world.

The information contained within this document, forms part of an educational package, which has been developed in cooperation with many of the world's leading carving tool manufacturers.



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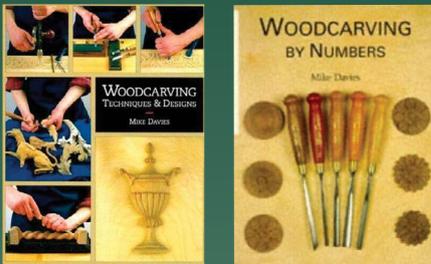
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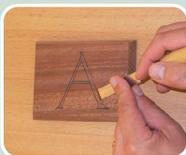


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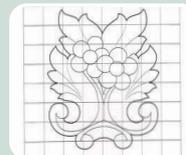
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*Mike Davies*

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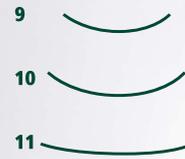
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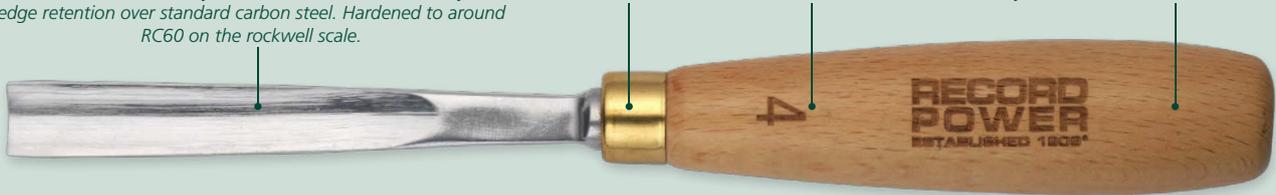
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