KELTON CARVING JIG
Guide for Use

The Kelton Carving Jig has been designed to securely hold a work piece at the desired angle and working height. While it will greatly benefit wood tuners and carvers, its ability to move in an almost unlimited range of positions will also appeal to art, craft and trade people alike.

Overview

The initial brief for the Kelton Carving Jig was that it should 'out perform' existing work holding devices. It should allow the user to position the work quickly, easily and most of all, securely lock at virtually ANY angle, including allowing the piece to be held upside down, without having to resort to any 'fiddly' adjustments or extra accessories.

The brief also included that the Jig should be able to,

1. Be bolted to the bed of the lathe, work bench or drill press etc.
2. Be held in the 'banjo' (in place of the toolrest), either from above, or below (lathe permitting)
3. Be held in a vise
4. Allow for working height adjustment
5. Hold a lathe chuck, faceplate or work holding fixture (with the ability to quickly change between.)

To achieve this extensive 'wish' list meant inventing a design that will no doubt revolutionize the way we hold work.

The Design

For many years carvers have favored 'ball and socket' type jigs, for their superior locking ability. However, they can suffer from a limited range of movement and working height adjustment.

Kelton has taken this 'time proven' design and re- invented it by adding extra functionality so that the entire ball and socket assembly can rotate on it's axis and added height adjustment that can be achieved with the multifunctional base plate.

Using the Jig

The unique design of the Jig allows it to be used in numerous ways. Securing the Jig will depend upon your application; however a few of them are covered here. The Kelton Carving Jig is so versatile it would take 'dozens' of photos to show all of the possible combinations.

Bolted to the lathe bed, bench or Drill press etc.
With the optional Base plate the jig can be bolted to a bench or similar by using an appropriate size fastener (not supplied) through one or more of the holes, to fix the Base plate to the bench.

The Base plate has a horizontal and vertical Boss. These allow the Jig to be used to best suit the desired work height and user requirements.

In Optional Base Plate
Bolted to the Bench

To bolt the Base plate to the bed of the lathe (or perhaps the table of a drill press) use the optional bolt and plate (available for most lathes). Ideally position the Base plate so that when the Ball assembly is fitted, it sits clear of the lathe bed. This should allow the Jig to clear the bed and to rotate upside down, if required.

Attached to Lathe Bed
Using Optional Base Plate
and Clamping plate

Held in the 'Banjo' of the lathe (without using the Base plate)

The Jig has been designed so its hexagonal shaft can also be fitted in the 'banjo' of lathes that have a 25mm toolrest post diameter (or larger). The toolrest is removed and the Jig hex bar is inserted into the 'Banjo'. To provide a lower working height on lathes where the tool rest post hole goes through the 'Banjo', the Jig may be inserted from underneath, though care must be taken to ensure that the hex shaft is very securely tightened. If possible, the hex shaft should protrude from the top of the banjo and a locking collar installed.

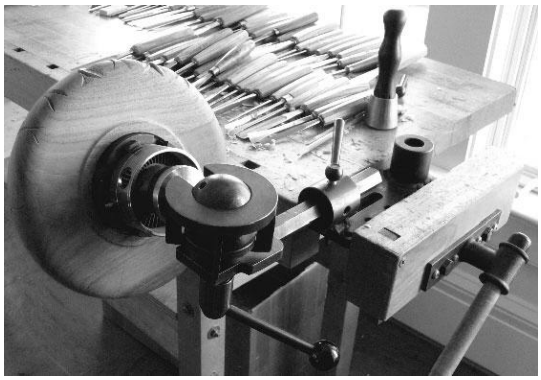
Held in the ‘Banjo’ of the lathe (Using the Optional Base plate)

The Jig has been designed with a multi-functional Base plate that can allow it to be used in conjunction with the ‘Banjo’ on larger (eg: more robust) lathes. To allow for the ideal working height an accessory piece of shaft (not supplied) is securely fitted in the rear Boss of the Base plate. Depending upon the desired work height, the shaft (typically 25mm dia.) with Jig attached, is fitted either on top of the ‘Banjo’ or (depending upon lathe design) from underneath the ‘Banjo’.
The height adjustment can be achieved by either, using the ‘Banjo’ toolrest locking fastener, or using the fastener in the Rear Boss.
Warning! When used in this mode, users should ensure that the ‘Banjo’ is not subjected to excessive force. The ‘Banjo’ should preferably be secured with minimum overhang of the lathe bed. See photo for a guide.

Held in a Vise

The Jig has been designed with a hexagonal main shaft, which can be securely held in a vise. The hexagonal shaft should prevent the Jig from rotating in use, yet allow the user to adjust the work piece position.

Held in Vice on Hex



Held in Vise
Using the Optional Base

A further alternative, to allow for the ideal working height, an accessory piece of shaft (not supplied) can be securely fitted in the rear Boss of the Base plate. Depending upon the desired work height, the shaft (typically 25mm dia.) with Jig attached, is held in a vice and the height of the jig is adjusted accordingly. See the photo of shaft being used in the Lathe ‘Banjo’.

Jig Features.

The Ball of the Jig is designed to accept various spindle thread replicators. (To suit most thread sizes.) The shaft is inserted completely into the ball and secured with the ‘grub’ screw with the hex (Allen) key, supplied with the Jig.

Ball Detail

The main Hexagonal shaft is fitted with a ‘grub’ screw at its end. This can be adjusted, outward, (if required) to prevent the shaft from inadvertently coming out of the Boss.

Hex Detail

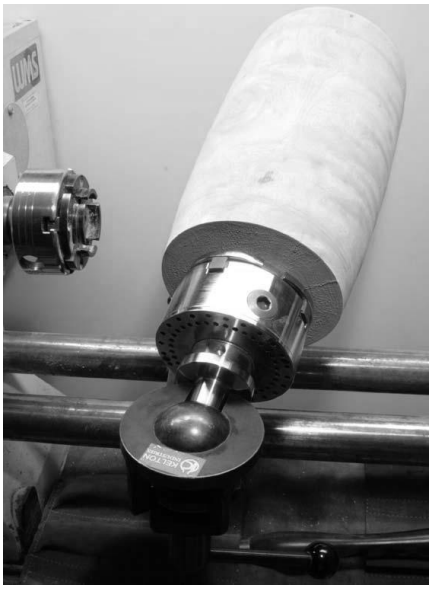
Getting the most from the Jig.

To prevent possible damage to the work piece, ensure you hold the work piece while unlocking or moving the Ball assembly and work piece. Ensure adjustment levers are adequately secured when using the Jig.To gain the most ‘generally’ usable travel of the Ball assembly, it is suggested that it can be angled and secured in the Boss so that it sits at an angle.

Long Vessel

This should allow the work piece to be quickly moved from the vertical to almost upside down and various other positions, with only operating the main locking lever.

Similarly, to achieve maximum travel it may be necessary to rotate the Ball retaining ‘C’ shaped Ring around by hand (while the Ball is unlocked). This should allow the Ball shaft to pass through the ‘C’ and hence tilt further.



Tilted Long Vessel

Suggested steps to gain maximum movement of the Work piece

1. Hold the work piece with one hand (keep an adequate grip); loosen the Main locking handle sufficiently to allow the work piece to move.

2. If a large amount of travel is required, spin the ‘C’ shaped Ring around to the desired position (with the other hand), so the Ball mounted shaft fits in the ‘C’.

3. Move the work piece so the Ball mounted shaft passes through the opening of the ‘C’ ring.

4. Adjust the position of the work piece as desired.

5. Tighten the Main handle.

Maintenance

The Jig has been designed with the minimum amount of moving parts. However to ensure the smooth operation of the Ball assembly a small, regular application of suitable lubricant (generally on the Ball only) is suggested. This is suggested where the Ball assembly is repeatedly locked and moved. A light application of non-silicon lubricating spray, wax or similar lubricant is all that may be needed.