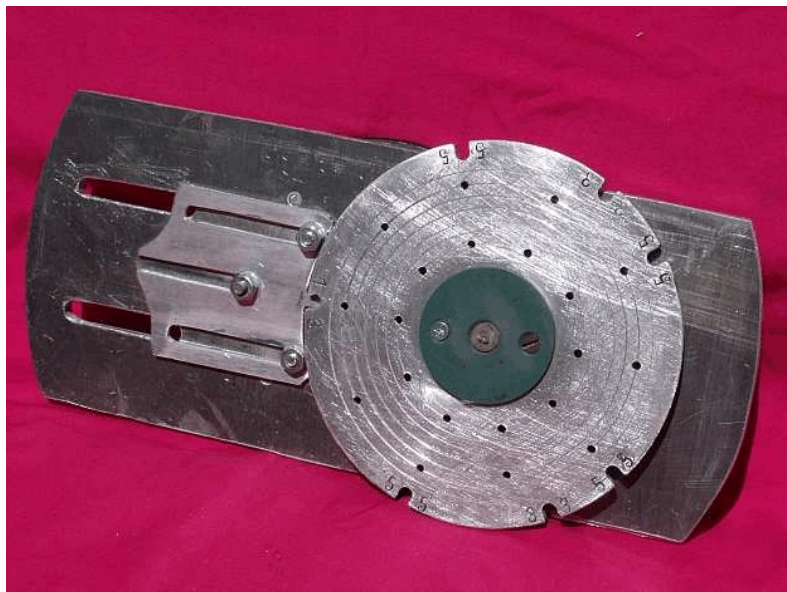


# The Off-Centre Chuck. Ornamental Turners Group Australia Update 8<sup>th</sup> June 2010

The following Instructions are for making an indexed Chuck to create bowls which have 3,4 or 5 equi distance bowls with a possible 6th within.



**The Off-Centre chuck**

**Triple Dip Bowl**



**A Five or Penta Bowl**

**Both made by Darrell Smith**

**A Six or Hexbowl**

**Warning** All precautions with machinery, tools etc should be followed. This chuck is dangerous to use. It must be secured well, all nuts, bolts, screws must be tightened as well as secured fast to the spindle of the lathe and chuck. The balance weights must be used and secured. On/Off switches must be made accessible so injury does not occur whilst attempting to adjust speed or turn off the machine.

These plans and instructions are given freely with consent of the OTGA.



### The Base Plate

The base plate is 10mm plate aluminium it can be quality plywood 150w x 347L x 10

### The Indexing Plate

The indexing plate is 6mm plate aluminium it also can be made using quality plywood 80w x 95L x 6

### The Bowl Mounting Plate

The bowl mounting plate is 6mm aluminium plywood is not advised due to wear on the index holes.

### Counter Balance Plates.

The plates are 50mm x 10 x 150mm steel or a dense timber ie:- Ironbark of varying lengths and/or thickness. Counter balances size and weight depend on physical density and diameter of the blank being turned. Then with reduction of material from each bowl, weights will need to be adjusted or altered, so a variety of counter weights will be required.

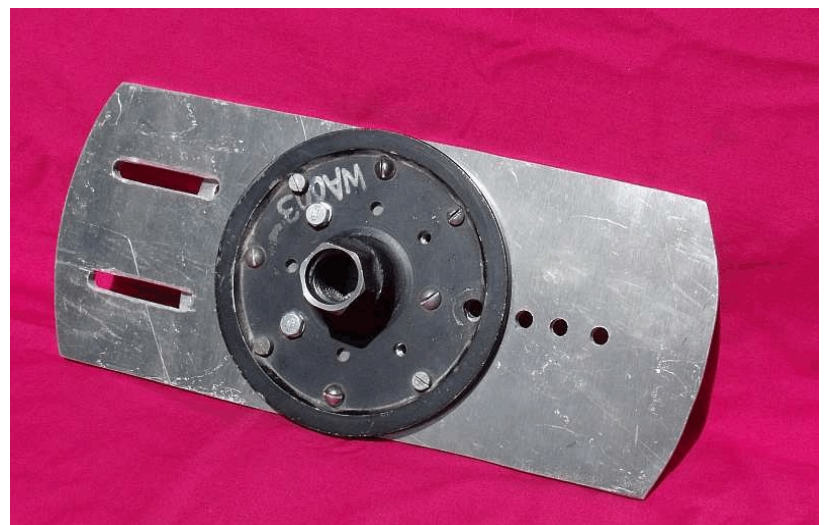
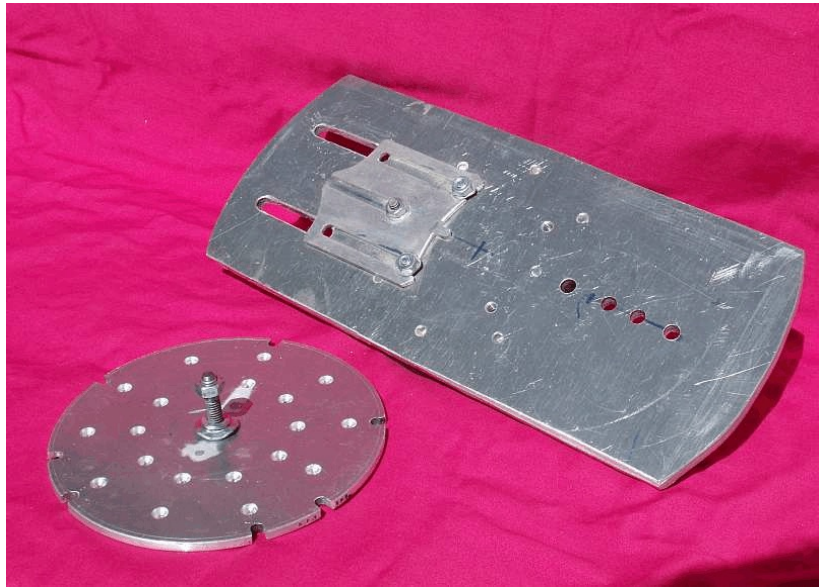
### Spindle Mount or Chuck mount

A Face Plate or Ring can be used to mount the plate and index jig to the lathe.

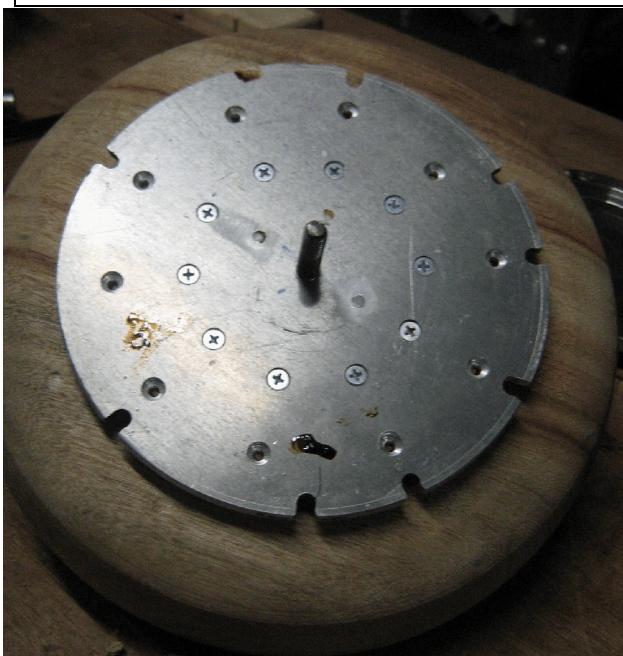
**Update June 8<sup>th</sup> 2010**

[Mount the Face plate or ring centre to the Base plate drilling a small centre hole.](#)

**Note:-** The Index chuck was used to run on a Hare & Forbes W18 MC900 to WL38



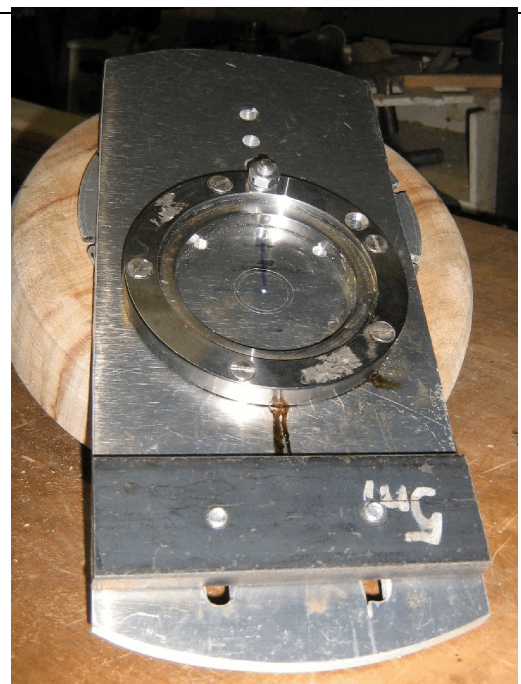
**Below - Bowl mounting plate**



**Above Top- Base plate and bowl mounting plate.**

**Above - Face plate mounting**

**Below - Face Plate Ring and counter balance fitted**



## The Base Plate.

Make it of a size to suit the swing of your lathe from centre mounting position.

Refer to Index Base plate diagram for the following:

**Holes # 1** are for adjusting the location of the bowl mounting plate.

**Holes # 2** are for mounting the indexing **locking** plate **Update 8<sup>th</sup> June 2010**

**Slots # 1** These are slide slots for the counter weights.

The index **locking** plate is bolted on the base plate at **Holes # 2**. With the indexing pin facing centre at Start position 1, it is adjusted to suit the bowl mounting plate location.

The bowl mounting plate has a bolt mounted in the centre to attach the base plate in one of the #1 holes. The indexing holes correspond to the index **locking** pin on the indexing plate. The centre boss is 3mm material (ie: plastic or aluminium) is exactly 60mm diameter and is fixed securely at centre.

**Note:** The Centre boss needs to suit your chuck jaws dovetail, as on some older chucks this maybe 50mm diameter.

**See Attached** drawings for further details.

## METHOD

Mount and turn your bowl blank as normal. **IMPORTANT!!! Note** Pay attention to make your chuck recess/dovetail a very good fit to the centre boss as this centres your bowl onto the index chuck. Finish and sand to your requirement.

Now remove your bowl from the normal chuck and mount to the index chuck as follows.

Mount your blank to the bowl mounting plate with hot melt glue or screws. If its to be screwed allow enough depth in the thickness of the base to reverse mount in Cole Jaws or a Jam fit chuck to turn away screw holes after the top of the bowl is complete.

Mount the bowl mounting plate and bowl to the index **locking** plate starting at position 1. Make sure all bolts and nuts are done up tight and secure. Mount the complete assembly on your lathe then attach the counter balance weight and adjust. Adjust until the plate is horizontal by moving or replacing the counter weight(s) until balance is achieved. Tighten all nuts and bolts.

**IMPORTANT** For safety ALWAYS START AT A VERY LOW RPM, then increase **slowly** until a safe working speed and balance is achieved up to a maximum of 600 rpm.

Turn each segment and sand as you go to your requirement.

To adjust for the number of segments/bowls undo the indexing plate, slide it back enough to rotate to the notch required and secure again.

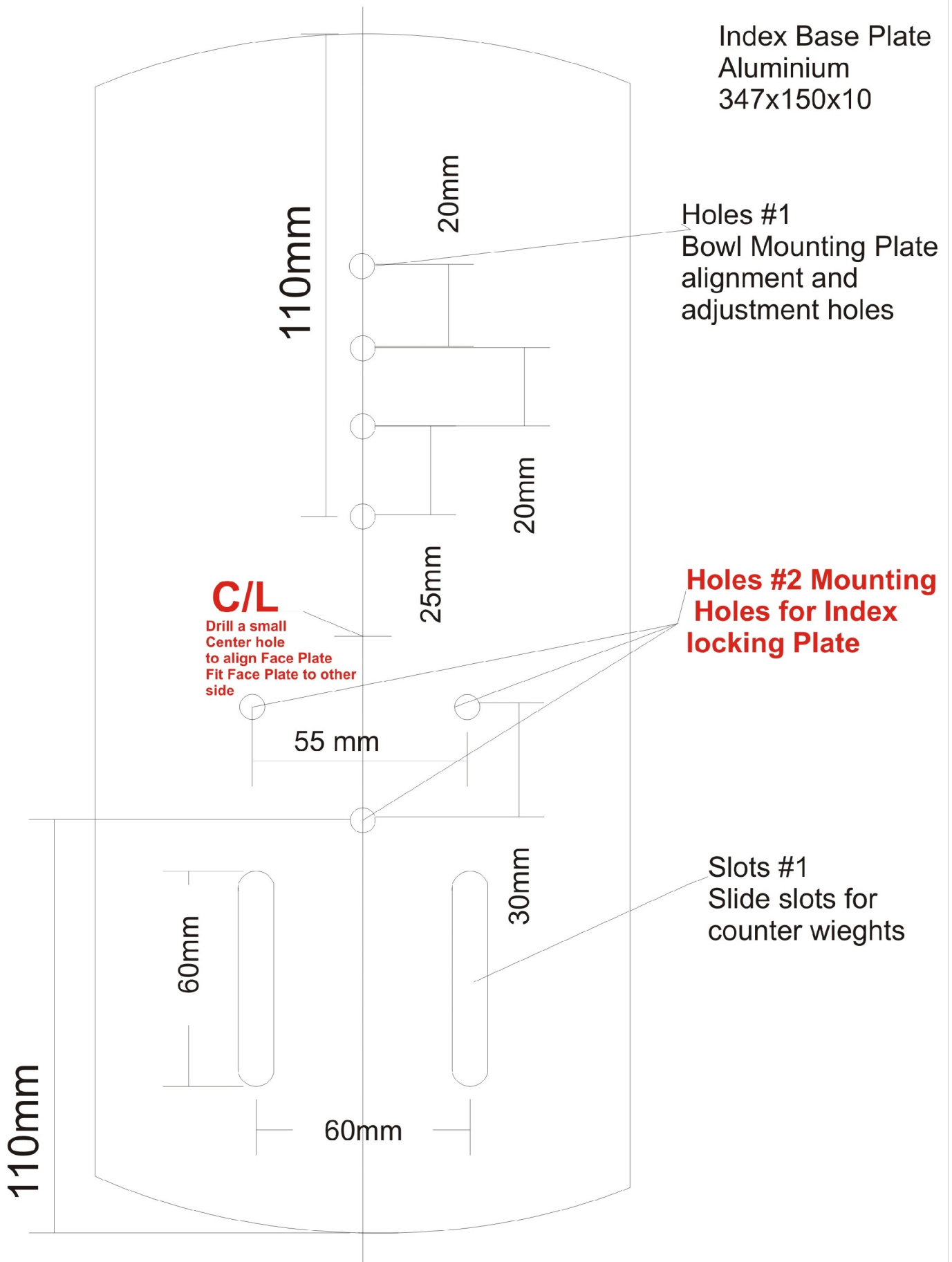
After all the segments are finished remove from the plates then centre mount in a scroll chuck for final sanding of the rim and the base to your requirement.

Have fun experimenting!!!





Index Base Plate  
Aluminium  
347x150x10



Holes #1  
Bowl Mounting Plate  
alignment and  
adjustment holes

Holes #2 Mounting  
Holes for Index  
locking Plate

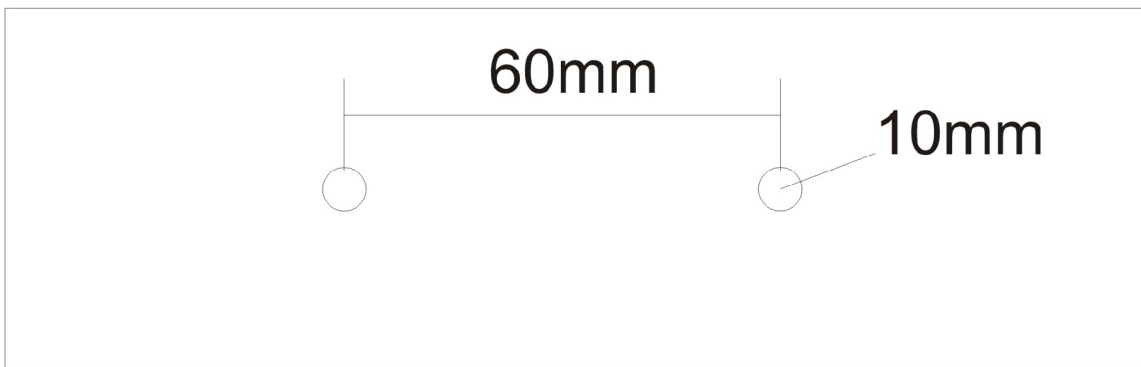
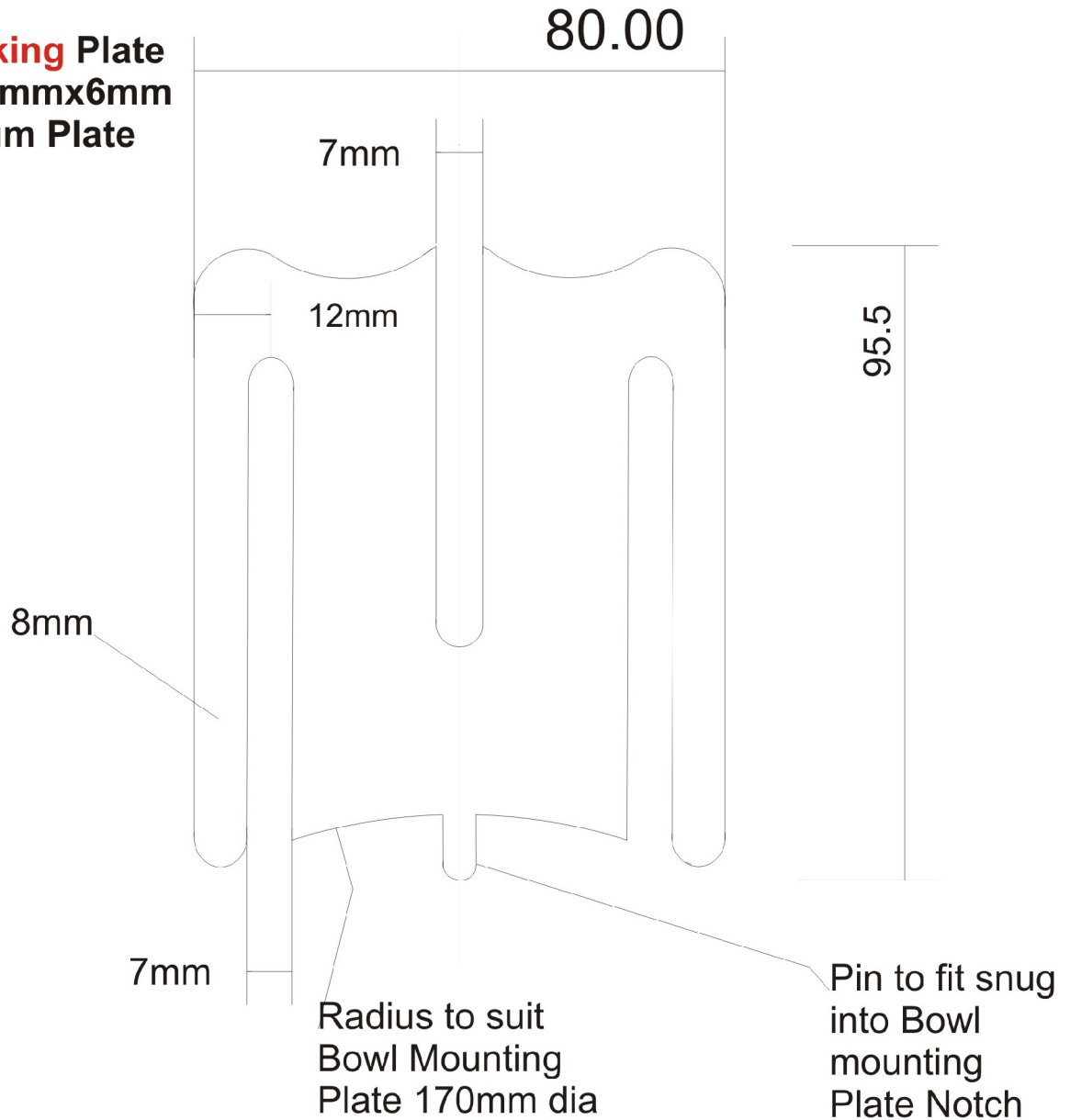
Slots #1  
Slide slots for  
counter wieghts

**C/L**  
Drill a small  
Center hole  
to align Face Plate  
Fit Face Plate to other  
side

Updated &  
Modified 8th June 2010

	2010
Ornamental Turners Group Australia	
OTAG Index BASE Plate	
DO NOT SCALE	

**Index **Locking** Plate**  
**100mmx80mmx6mm**  
**Aluminium Plate**




**Balance Plate 150x50x10**

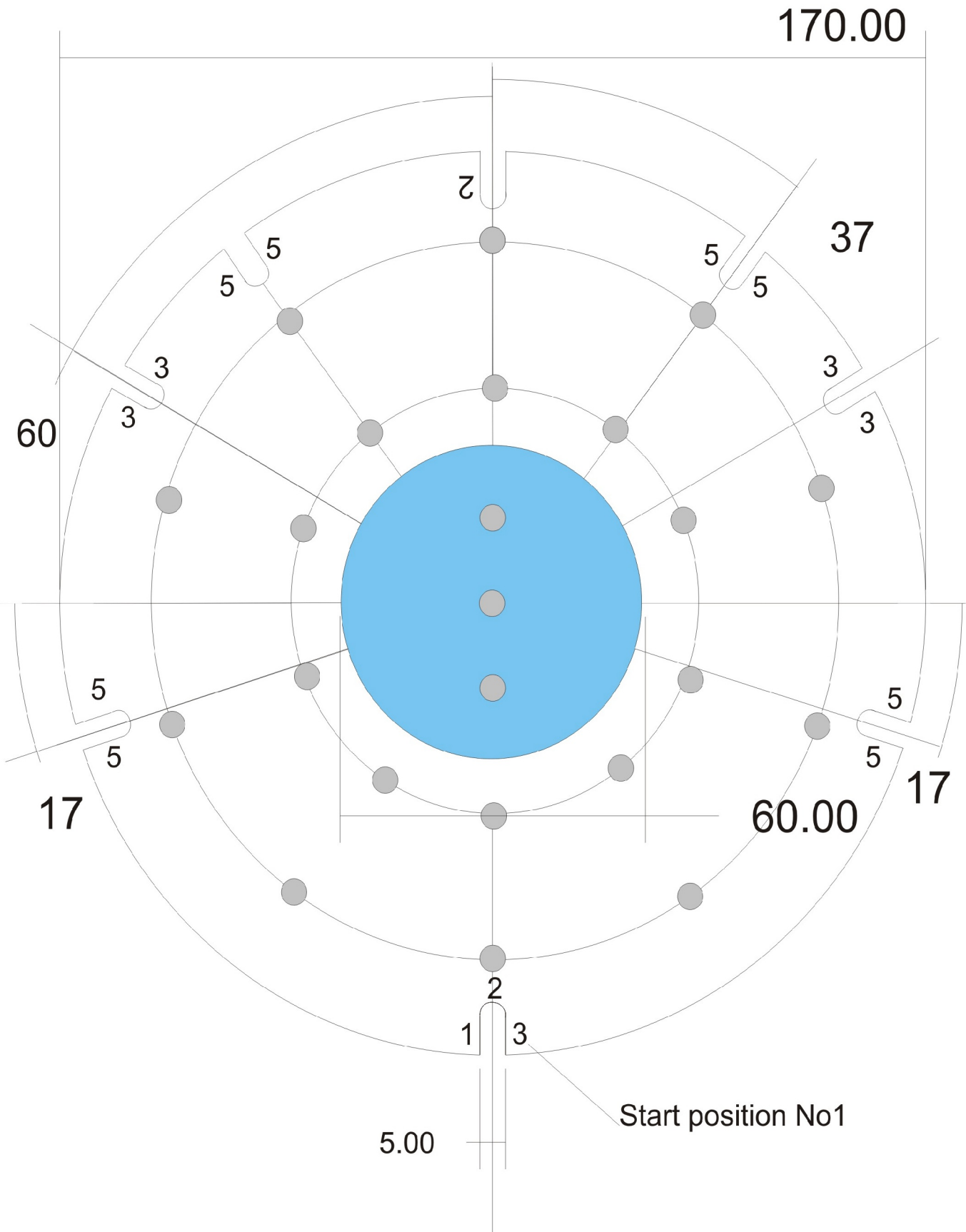
A series of balance plates may be required dependant on bowl size and weight.

**Modified 8th June 2010**

	2010
Ornamental Turners Group Australia	
OTAG Index Plate Jig	
DO NOT SCALE	

 CENTRE BOSS  
TO ALIGN INDEX PLATE

 Bowl mounting holes  
& Centre boss mounting  
screws



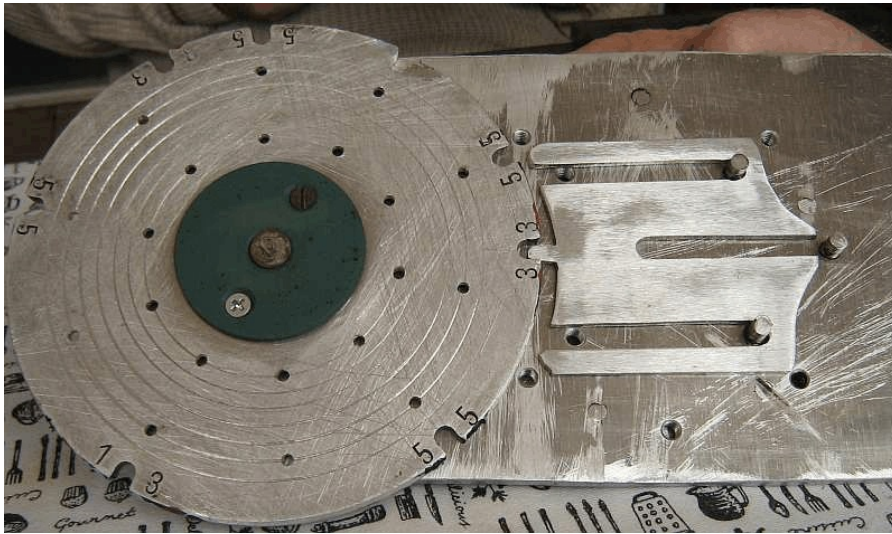
# BOWL MOUNTING PLATE

Ornamental Turners Group Australia	
OTAG Index Plate Jig	
DO NOT SCALE	2010

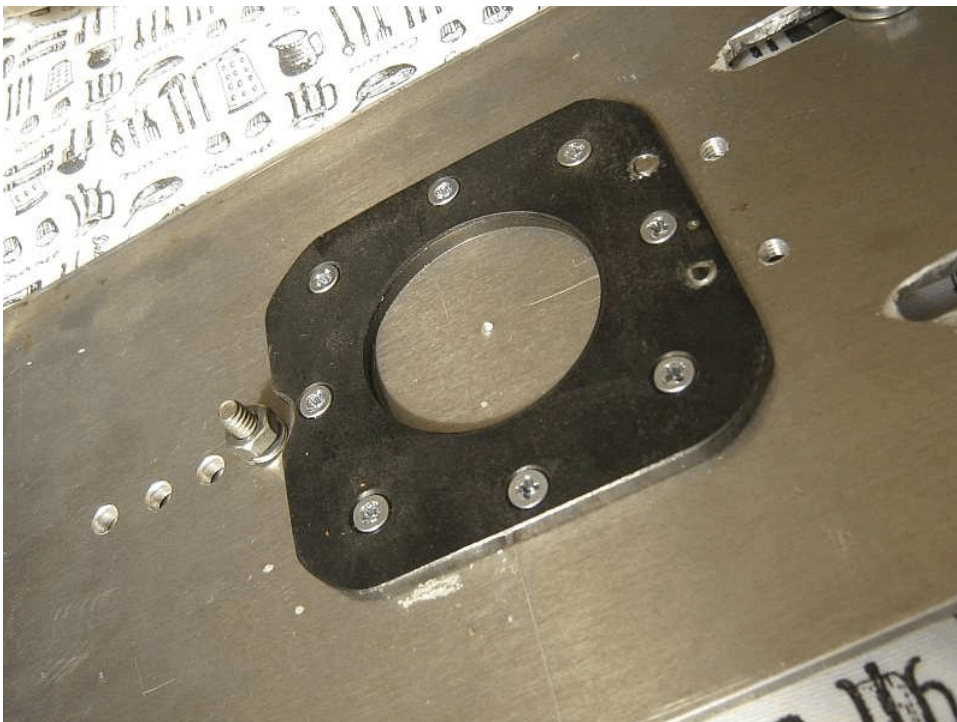
## Additional Photos



These additional weights were required to turn a large diameter bowl and balance it.



View of the Index Locking Pin and Index Plate



A home made machine turned Face Ring.