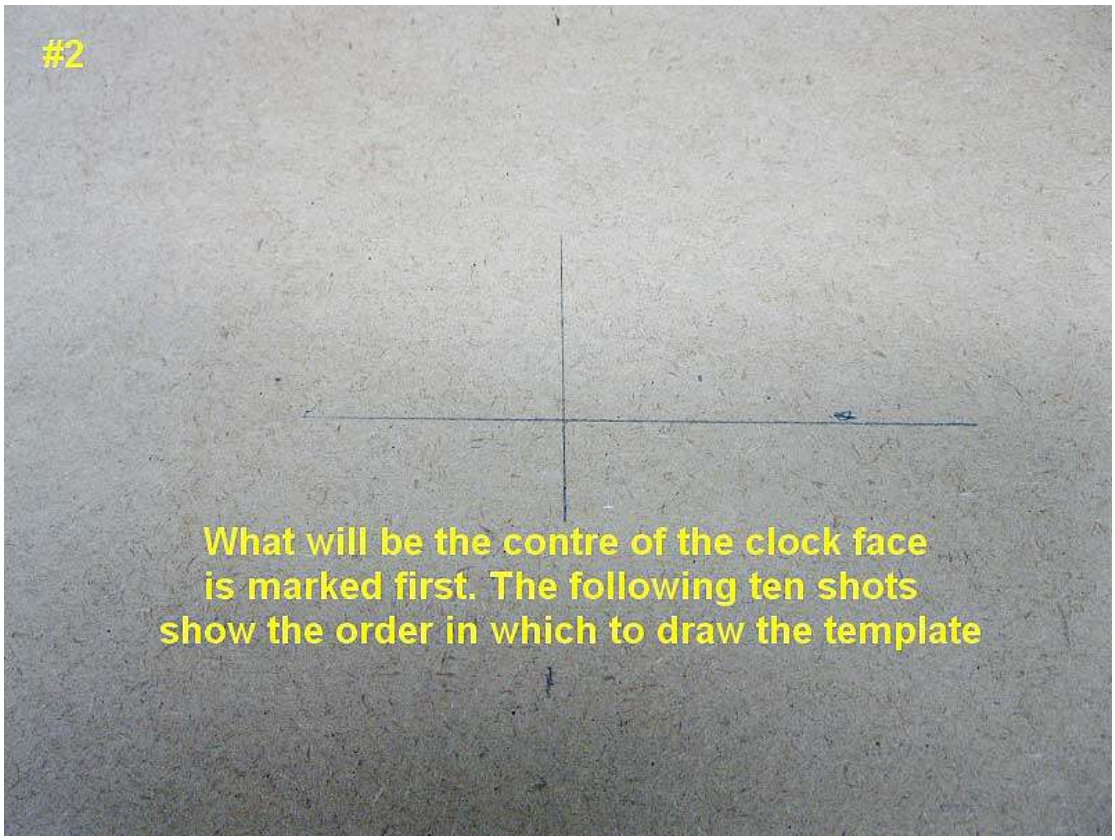
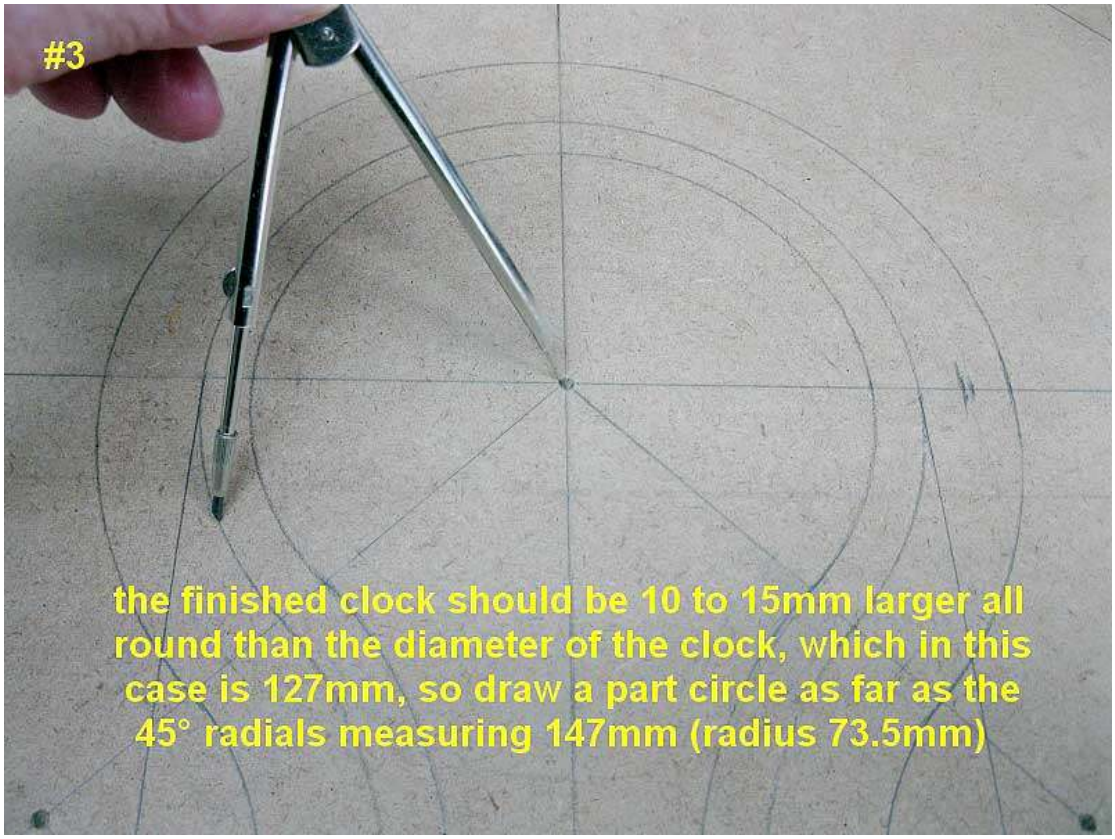
Routing a French style balloon clock
By Harrysin (Harry Sinclair)

This step by step photo. record details the making of a French style balloon clock using Pine measuring 170 x 35mm, cut to 400mm length to fit one of my jig holders. Because a Pine finish wouldn't suit this style of clock, it was decided to give it a high gloss black lacquer finish. Not all measurements are shown, this is because you can Make such a clock based on the diameter of the clock face that you have. Basically, the diameter of the head is about 10mm to 15mm larger all-round. Because the diameter of This clock face is 122mm so add 15mm all-round gives us a head diameter of 152mm. The waist radius is the same as that of the head. Shot #1 showing the clock fit-up placed on the MDF to decide on the position of the clock proved to be a bad choice, when I commenced routing, it became obvious that it was too close to the top of the template, and so I started from scratch and re-drew it on a new piece of MDF, this is why there are two holes in the second template and rather than waste the piece of MDF I routed the second correct hole.

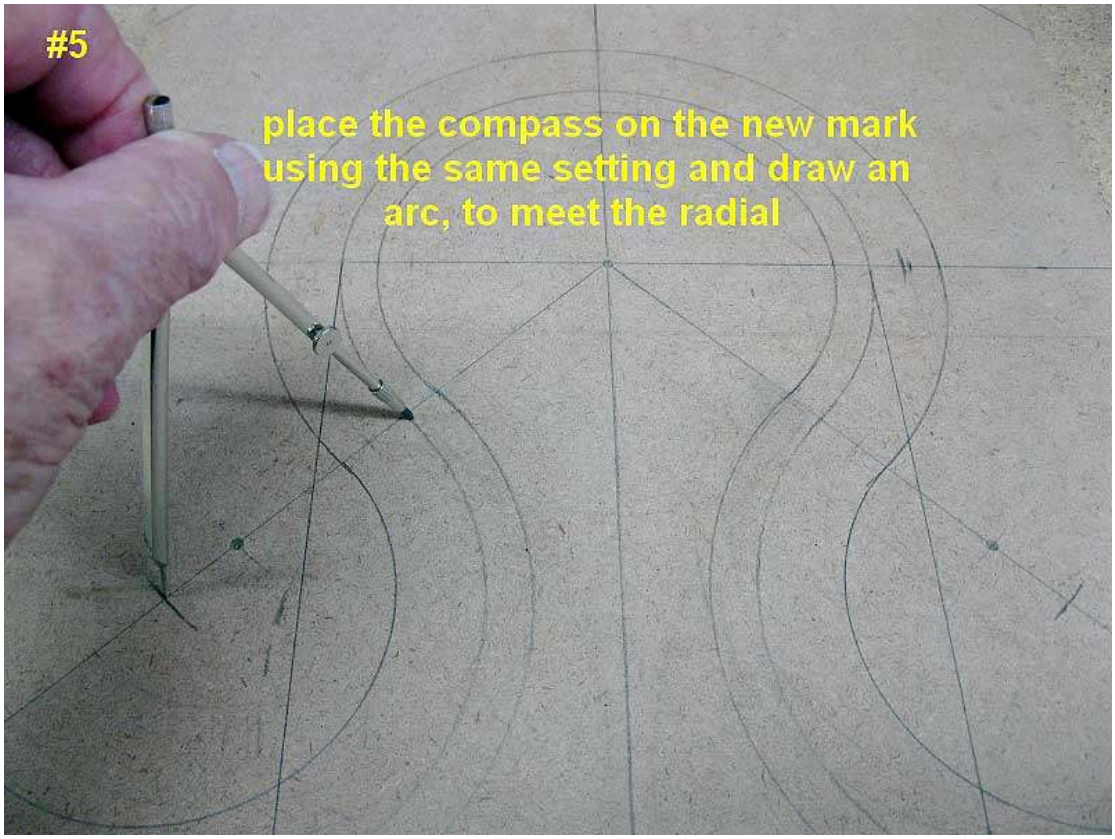
This is what this project is all about

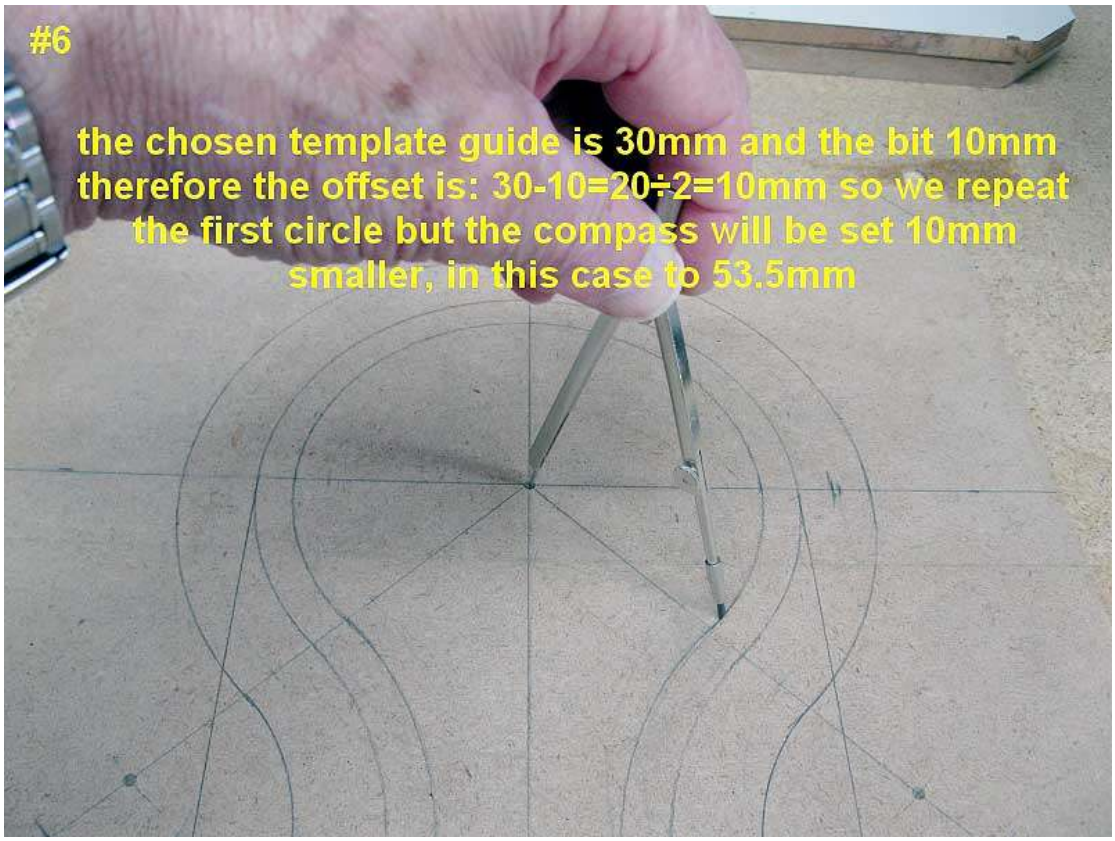

#1
the 5" clock is sat on a piece of 12 x 300 x 400mm MDF, with an identical piece clamped beneath, but all measurements are to be based upon the size of your clock, jig holder, template guide and bit. The reason for the 2nd. piece of MDF will soon become obvious.


#2
What will be the contre of the clock face is marked first. The following ten shots show the order in which to draw the template


#3
the finished clock should be 10 to 15mm larger all round than the diameter of the clock, which in this case is 127mm, so draw a part circle as far as the 45° radials measuring 147mm (radius 73.5mm)


#4
with the same setting, place the compass where the part circle meets the radial then mark the new intersection


#5
place the compass on the new mark
using the same setting and draw an
arc, to meet the radial

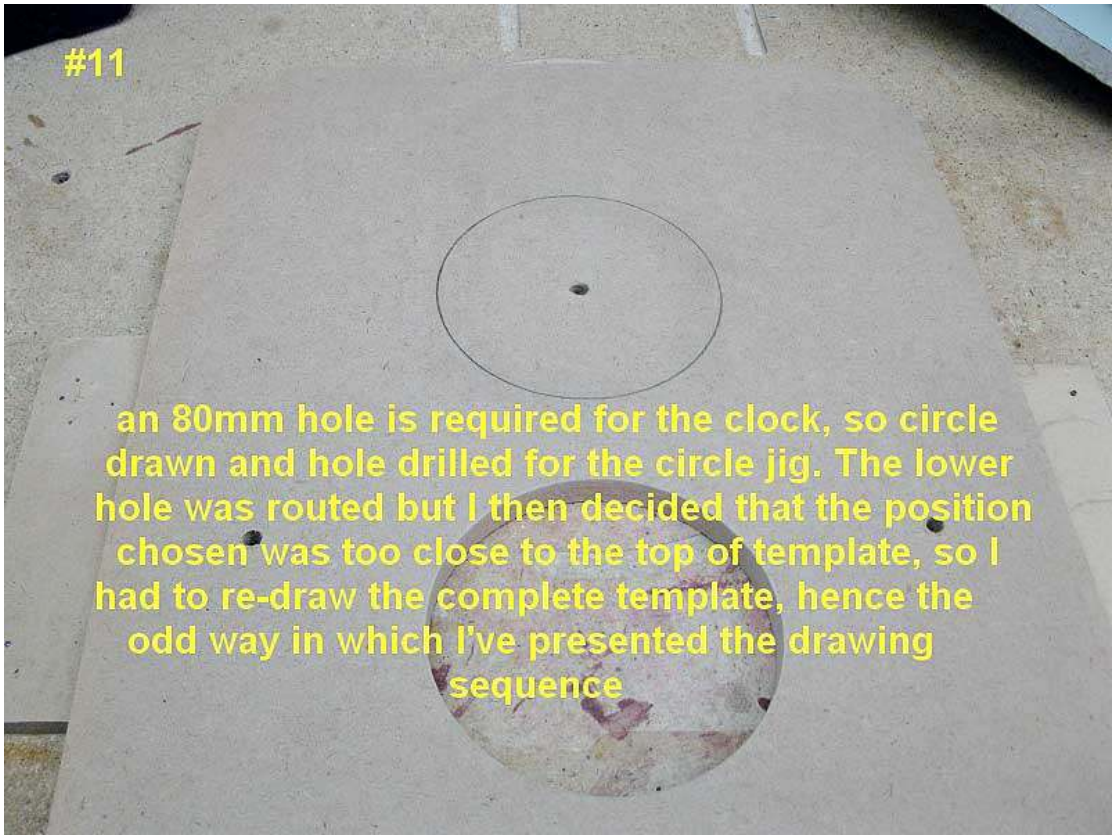

#6
the chosen template guide is 30mm and the bit 10mm
therefore the offset is: 30-10=20÷2=10mm so we repeat
the first circle but the compass will be set 10mm
smaller, in this case to 53.5mm


#7
compass is set to suit your template guide,in this case 30mm plus about 1mm to allow for a final fine cut
→ 31mm ←

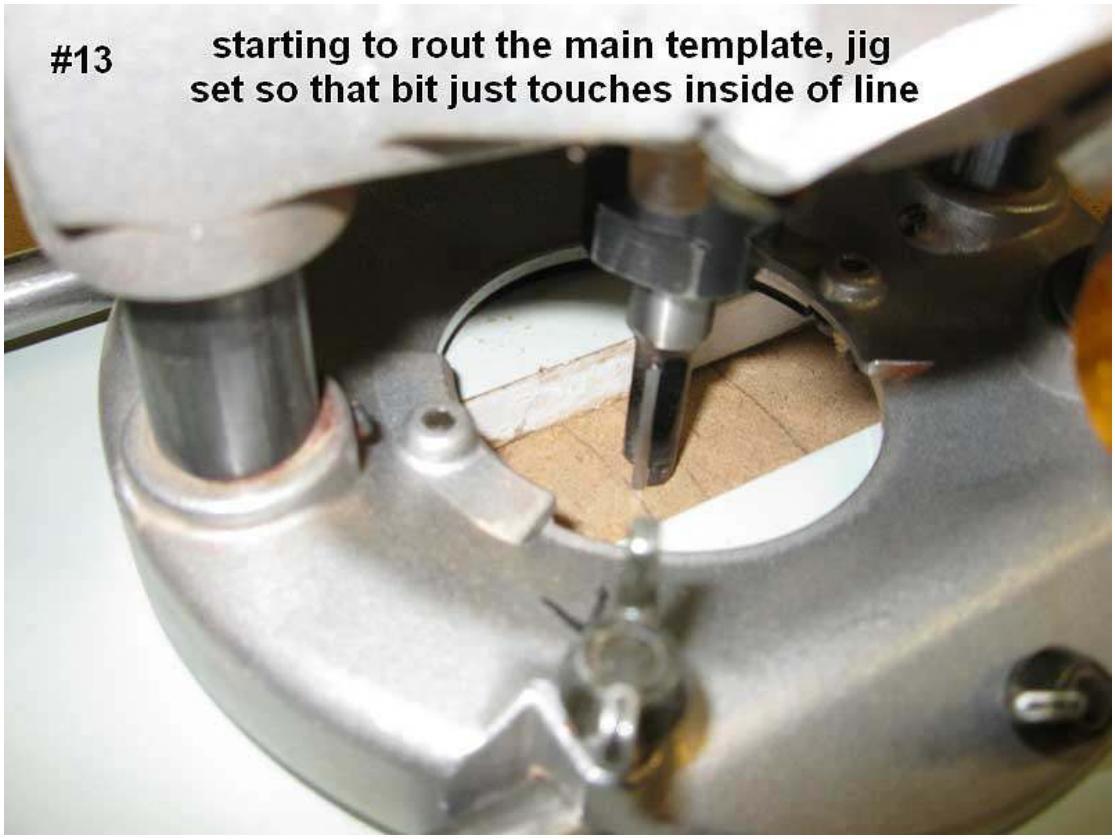

#8
marking the centre for drawing the waist, using the same setting


#9
final line, the outer waist

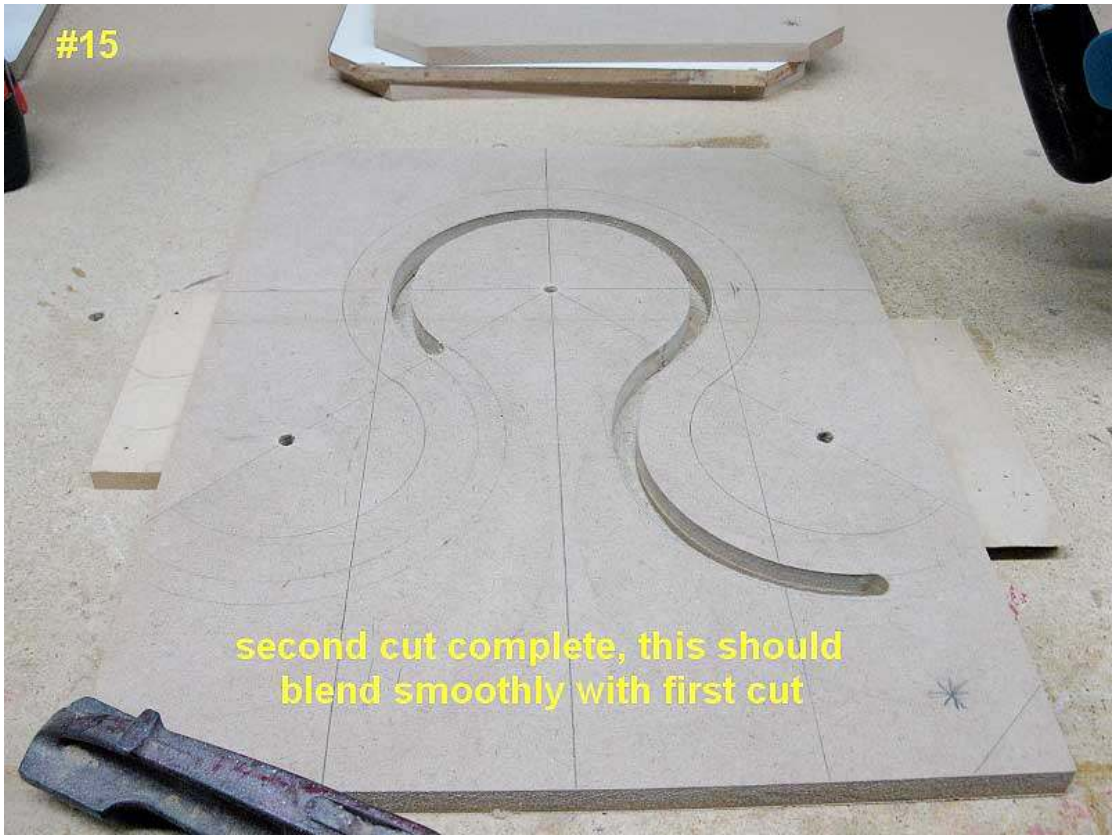

#10
drawing complete and holes drilled
for the circle jig. Now we see the reason
for clamping the second template, so
that the clock centre is identical


#11
an 80mm hole is required for the clock, so circle drawn and hole drilled for the circle jig. The lower hole was routed but I then decided that the position chosen was too close to the top of template, so I had to re-draw the complete template, hence the odd way in which I've presented the drawing sequence


#12
circle jig set so that bit just touches the inside of line


#13
starting to rout the main template, jig
set so that bit just touches inside of line

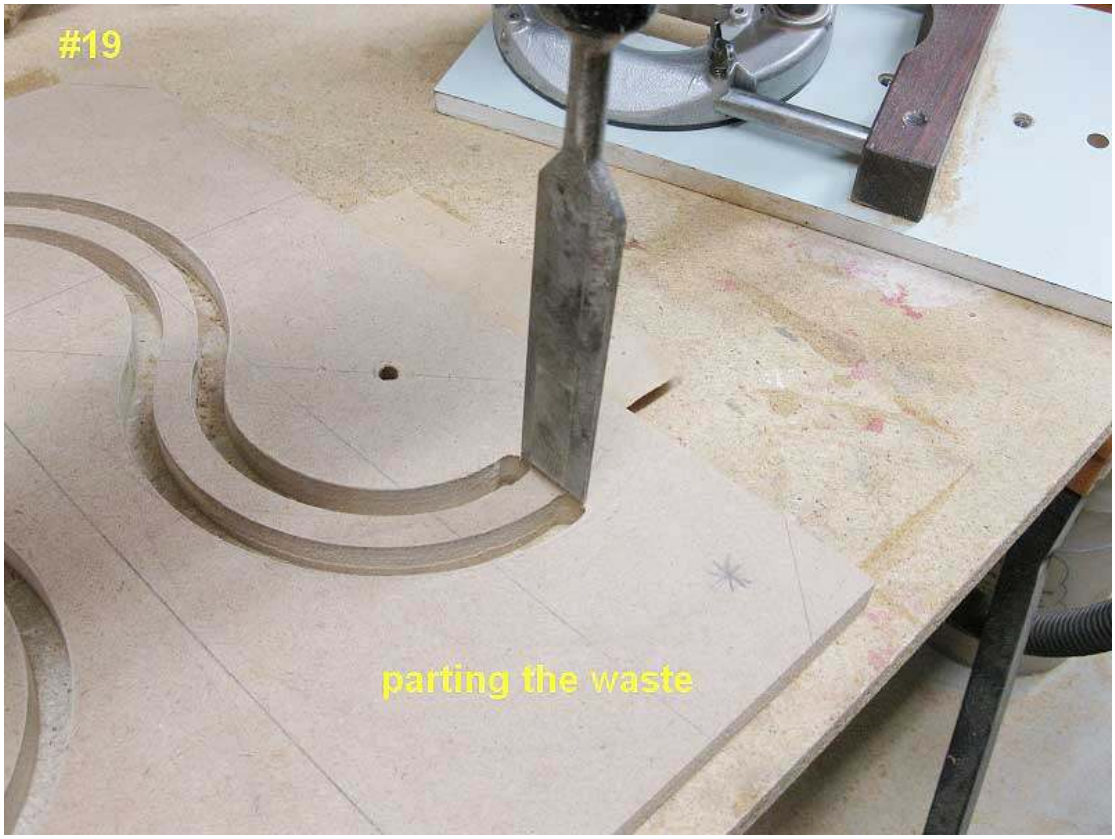

#14
first cut complete


#15
second cut complete, this should
blend smoothly with first cut

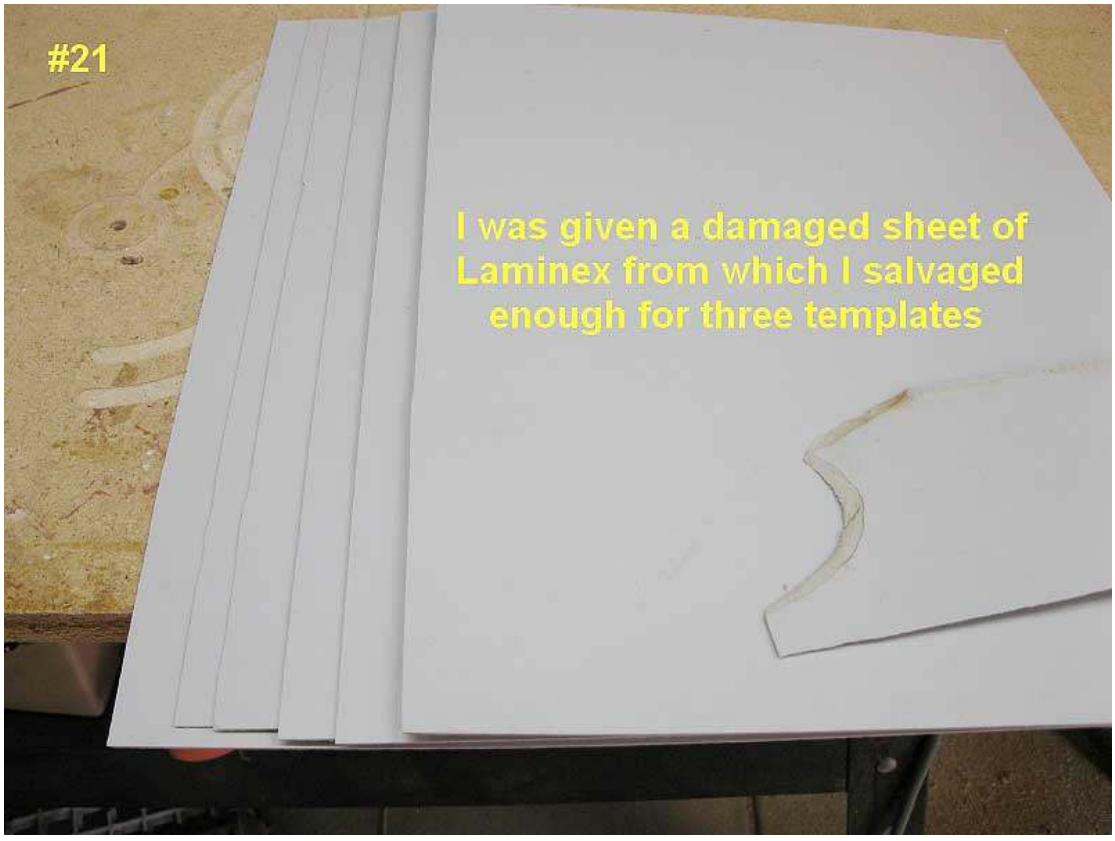

#16
third cut complete


#17
jig set so that bit just touches
inside of line


#18
starting to make sense?


#19
parting the waste


#20
there is a very slight nick which
I'll fill with hard plastic filler

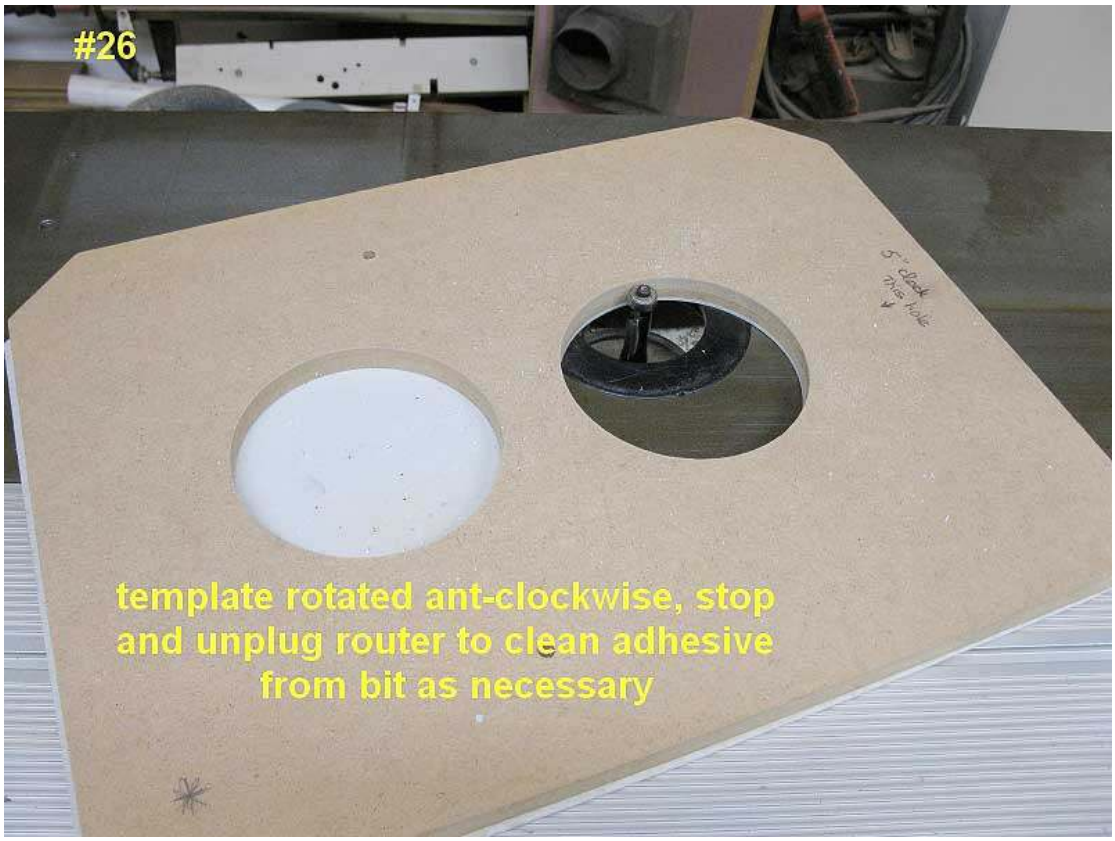

#21
I was given a damaged sheet of Laminex from which I salvaged enough for three templates


#22
all dust removed with a tack rag before applying the adhesive

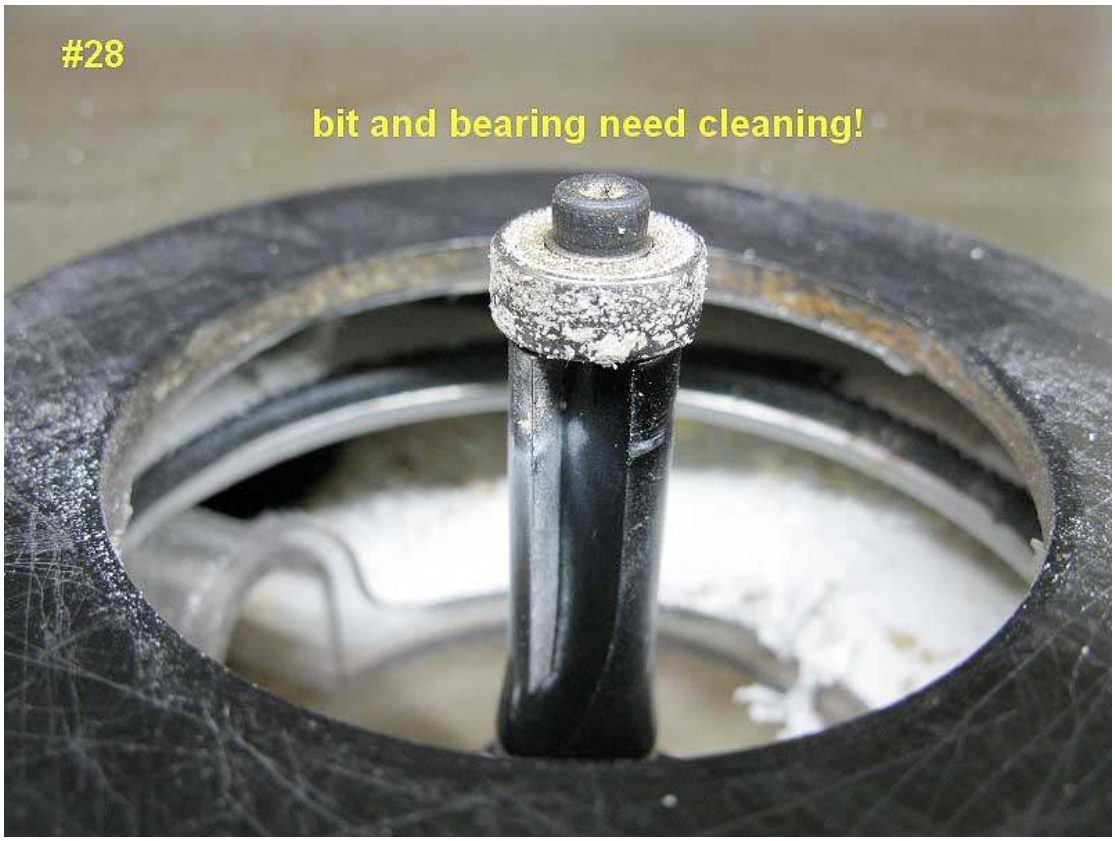

#23
SELLEYS
KWIK GRIP
SPRAY
contact adhesive applied
to both surfaces

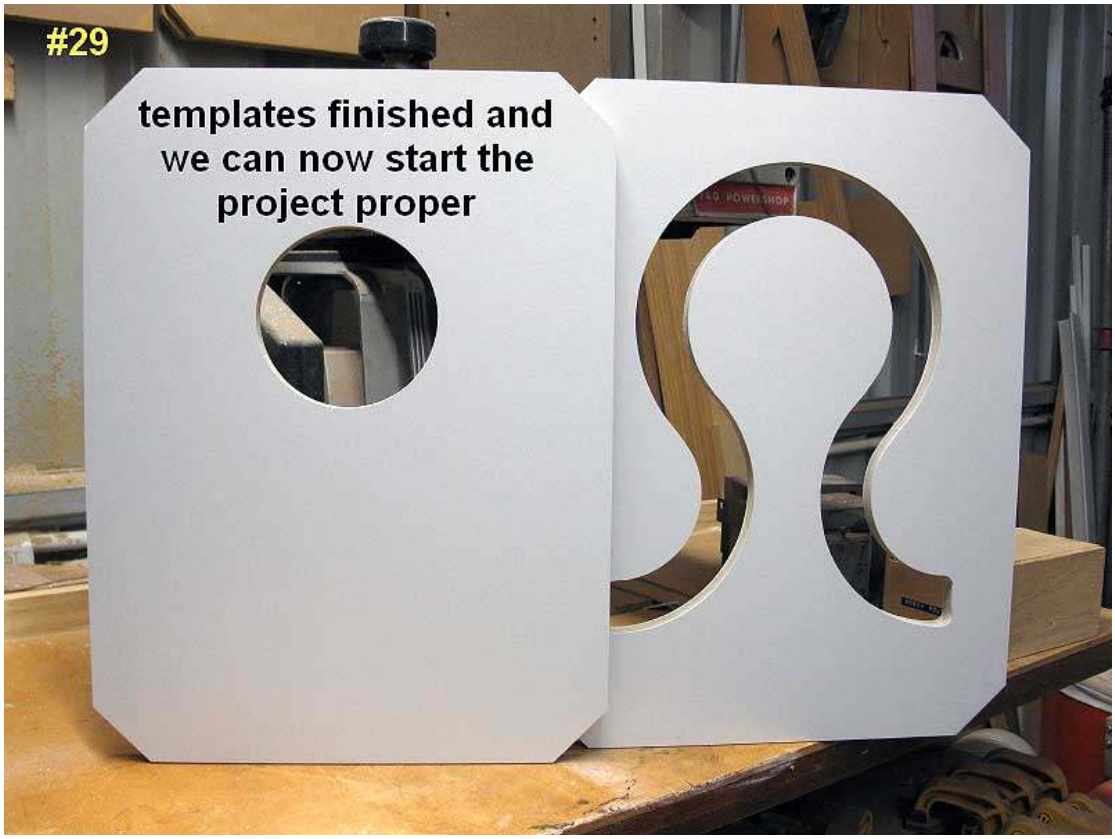

#24
after 15 minutes Laminex
is sat on dowells so that
it can be centered on template

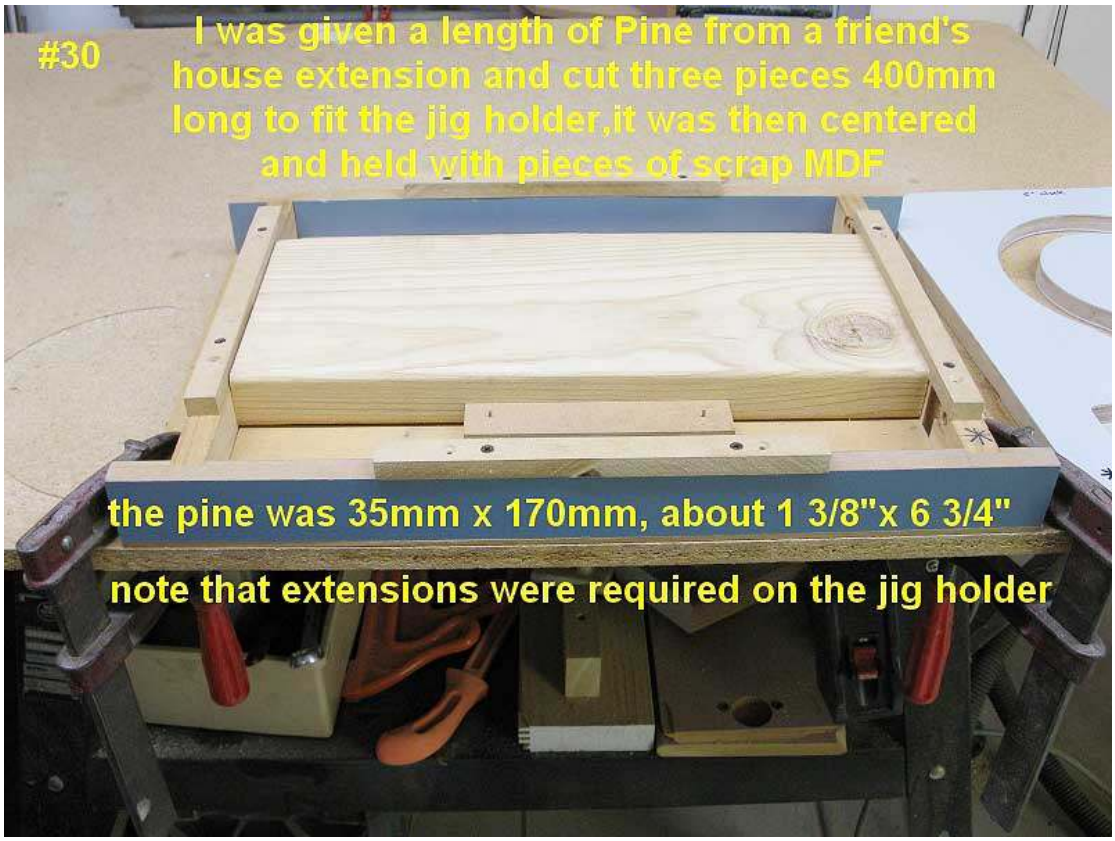

#25
5" clock
This hole
making a starting hole for trimming

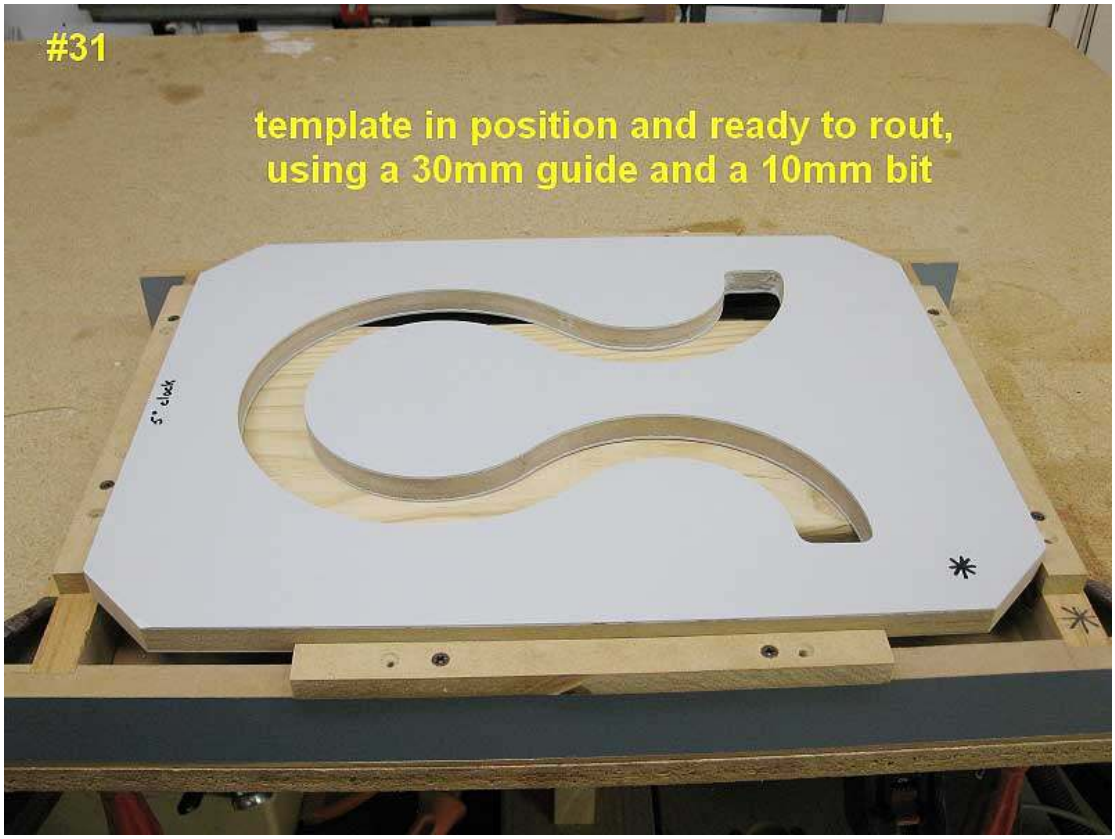

#26
5" clock
This hole
template rotated ant-clockwise, stop
and unplug router to clean adhesive
from bit as necessary


#27
trimming the edge, move from
right to left


#28
bit and bearing need cleaning!


#29
templates finished and we can now start the project proper


#30
I was given a length of Pine from a friend's house extension and cut three pieces 400mm long to fit the jig holder,it was then centered and held with pieces of scrap MDF
the pine was 35mm x 170mm, about 1 3/8"x 6 3/4"
note that extensions were required on the jig holder


#31
template in position and ready to rout,
using a 30mm guide and a 10mm bit

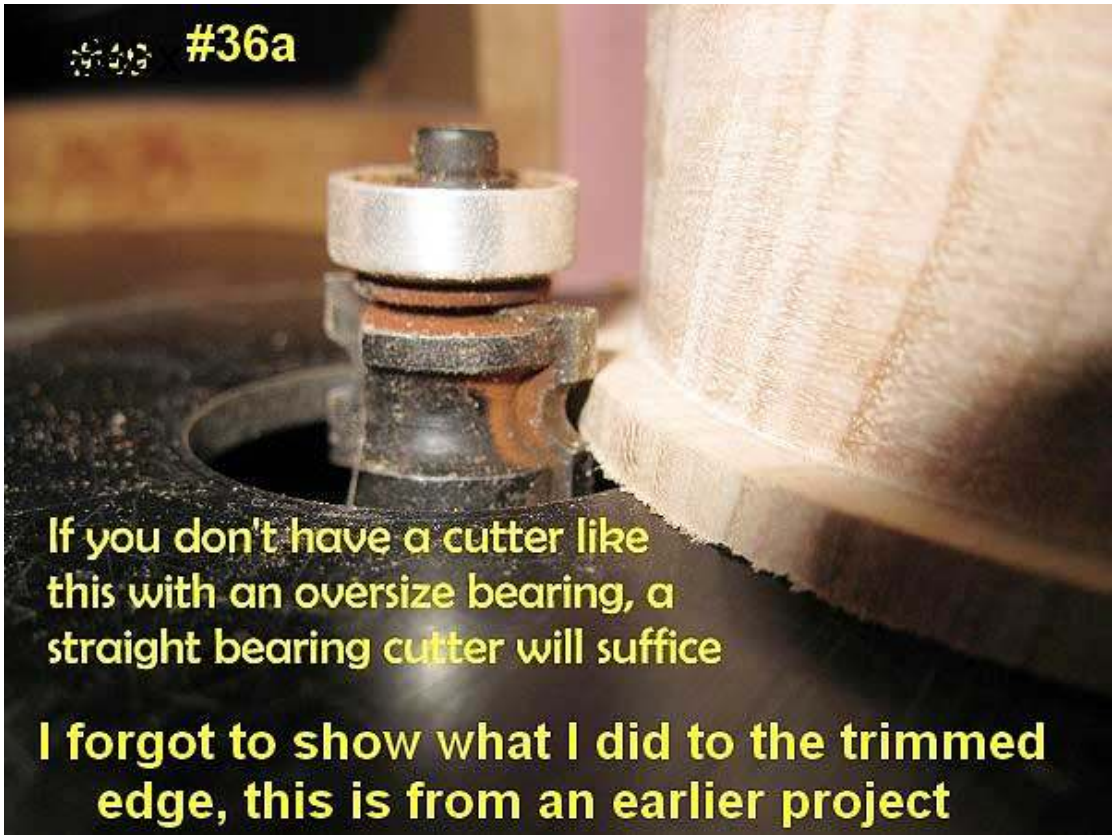

#32
setting the total depth of
cut to 32mm, leaving 3mm

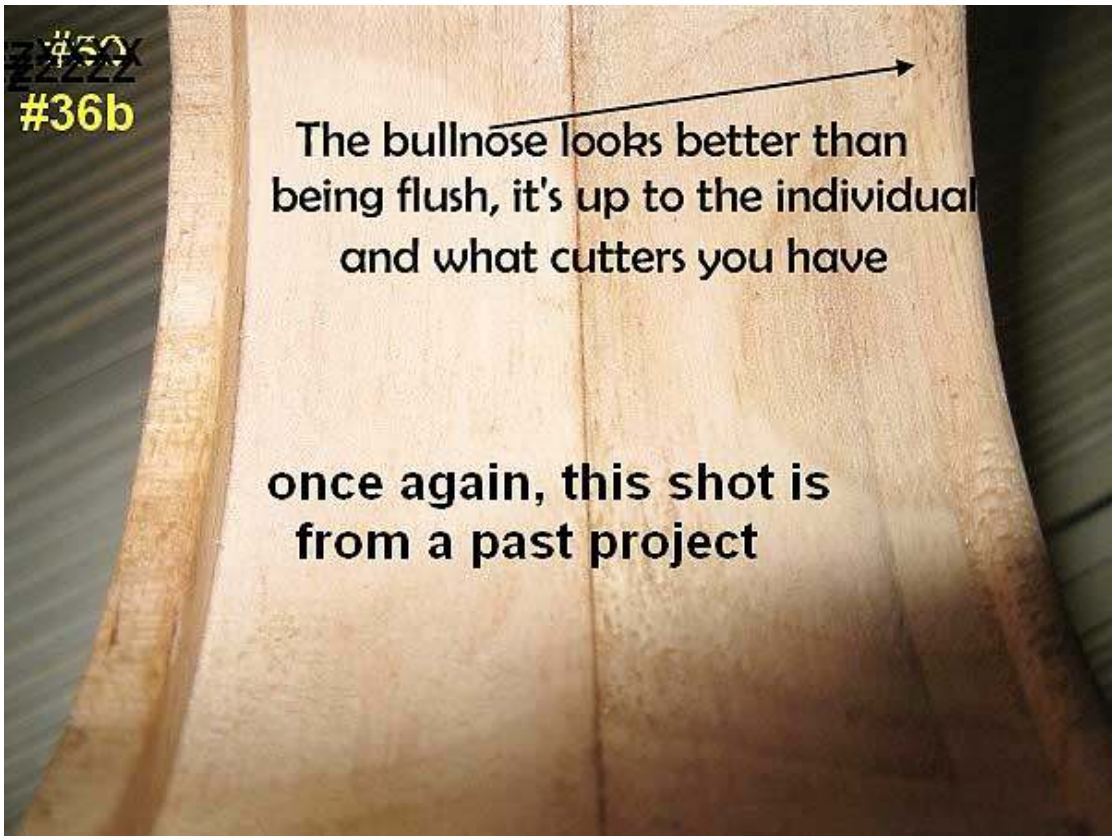

#33
each cut was 4mm but not critical
the router was pressed against the outside,
allowing it to be moved to the inside for the
final approximately 1mm cut


#34
after starting, I felt a slight tilt of the template
so I stopped and placed a spacer in each corner

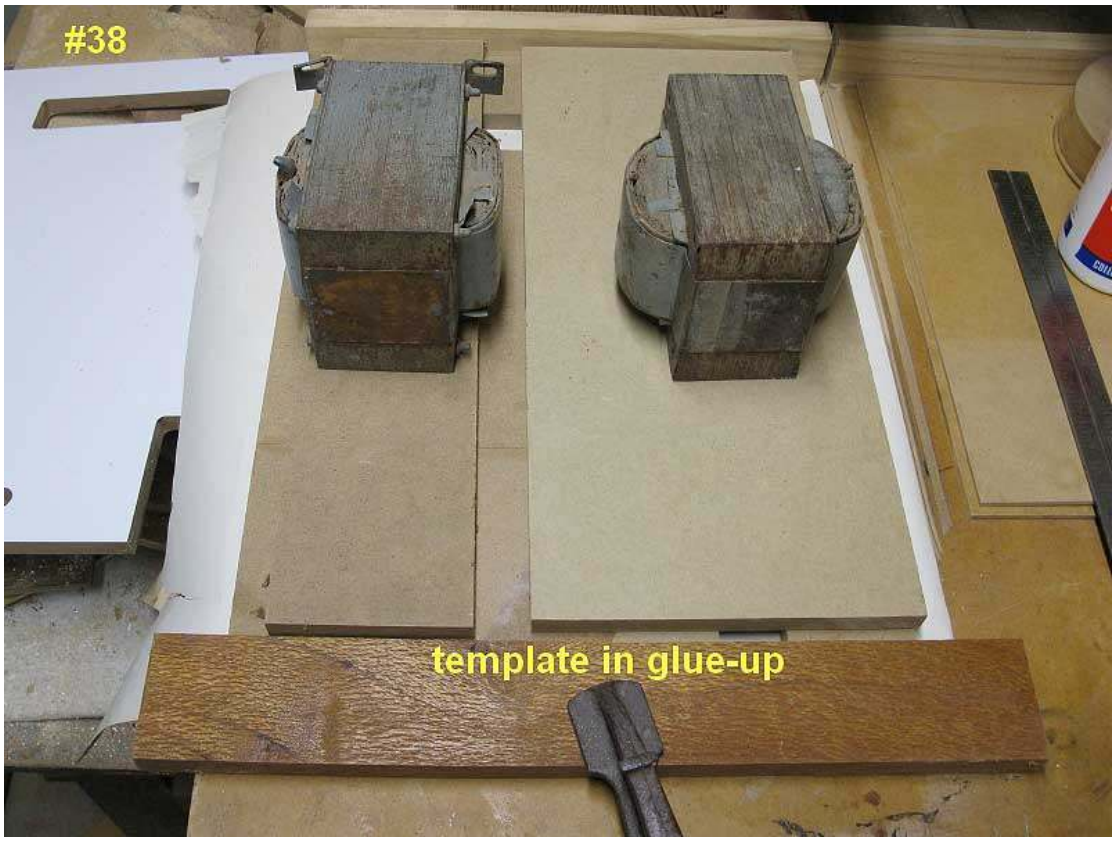

#35
this is the rear of
the three pieces

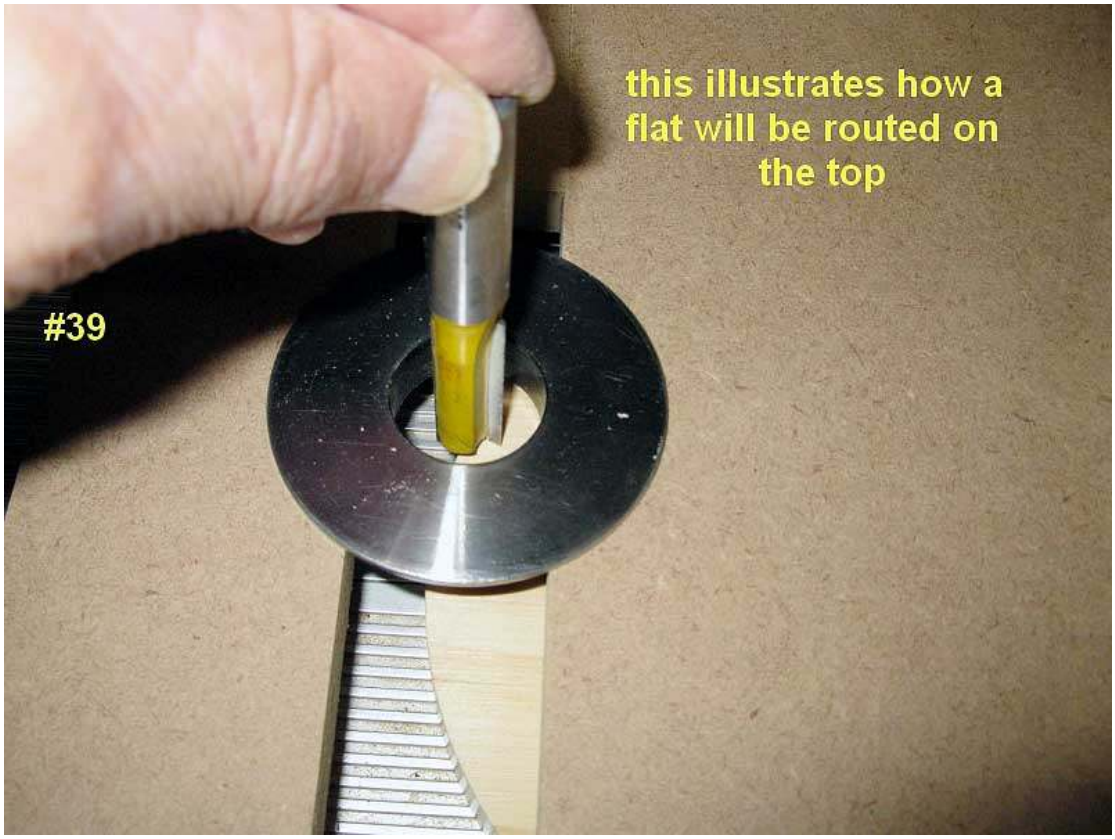

#36
waste trimmed leaving about 3mm

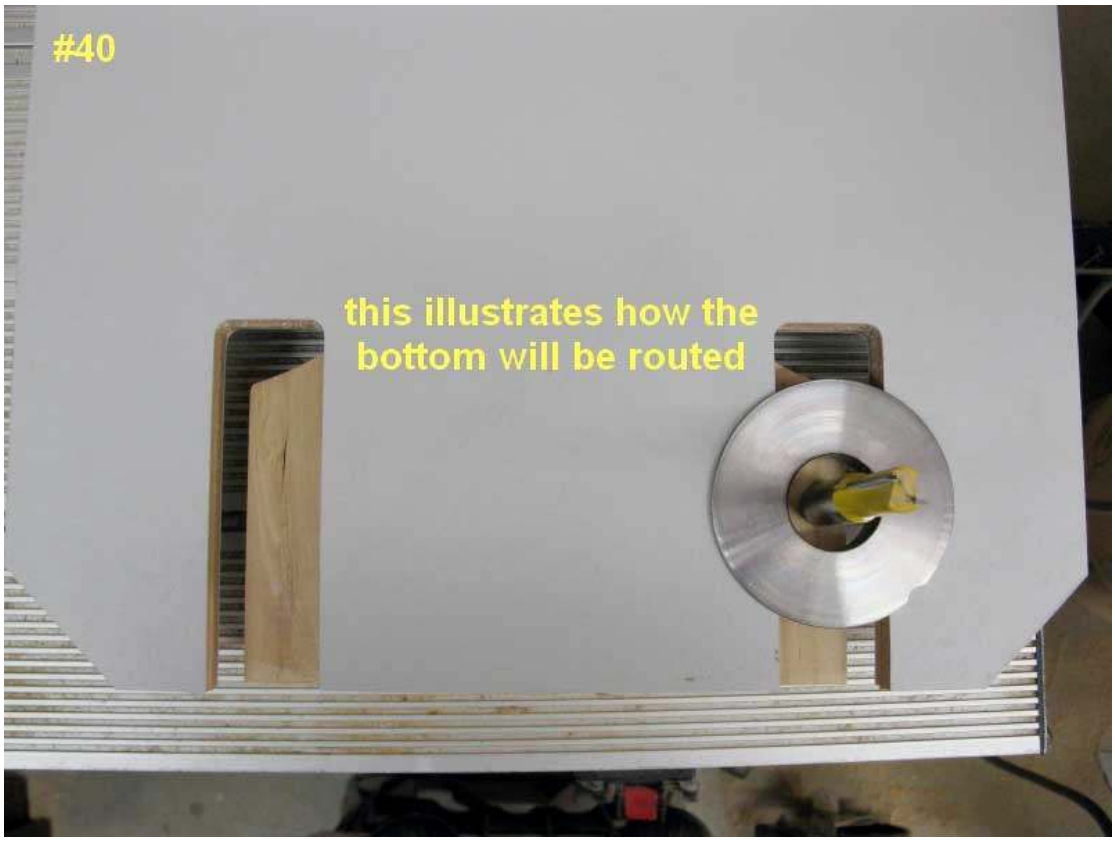

#36a
If you don't have a cutter like this with an oversize bearing, a straight bearing cutter will suffice
I forgot to show what I did to the trimmed edge, this is from an earlier project


#36b
The bullnose looks better than being flush, it's up to the individual and what cutters you have
once again, this shot is from a past project


#37
correcting clanger #2!
I should have made this template
BEFORE removing wood from jig.
It's purpose is to trim the bottom
level with the clock head and to trim
the top for a pediment, don't worry,
it will soon become clear!


#38
template in glue-up

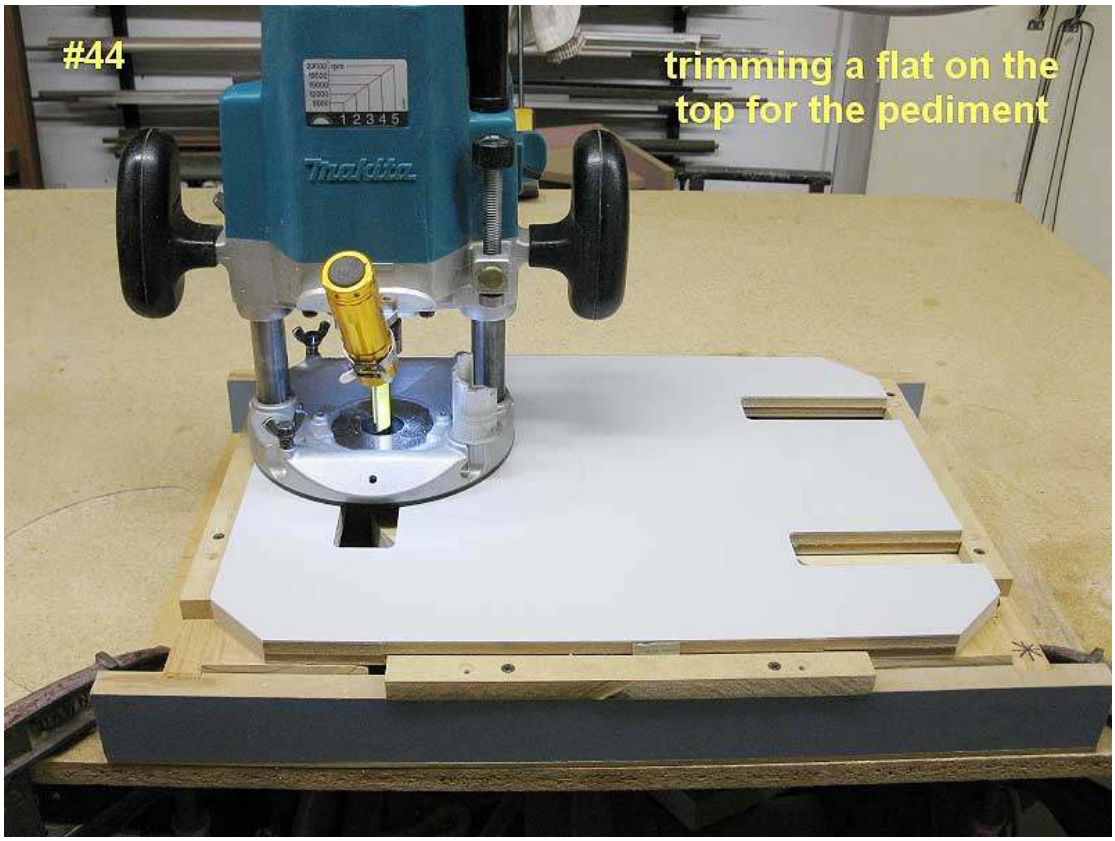

this illustrates how a flat will be routed on the top
#39

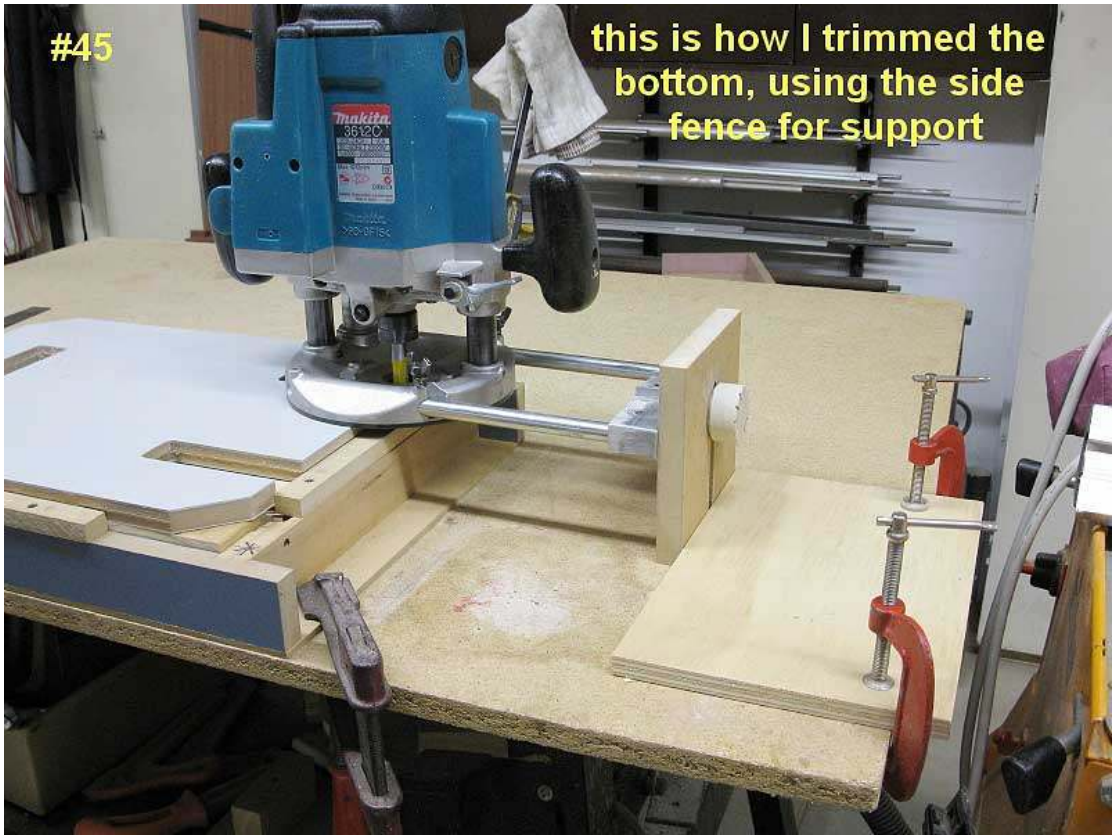

#40
this illustrates how the bottom will be routed


#41
completed template, reason for the drawing is so
that I can hopefully re-centre the wood onto the jig


#42
double sided tape to secure
the wood


#43
this unfortunate step wouldn't have been necessary had I made the trimming template at the beginning. Old age has a lot to answer for!
this is the front piece with 80mm hole for the clock fit-up


#44
trimming a flat on the top for the pediment
Makita
1 2 3 4 5

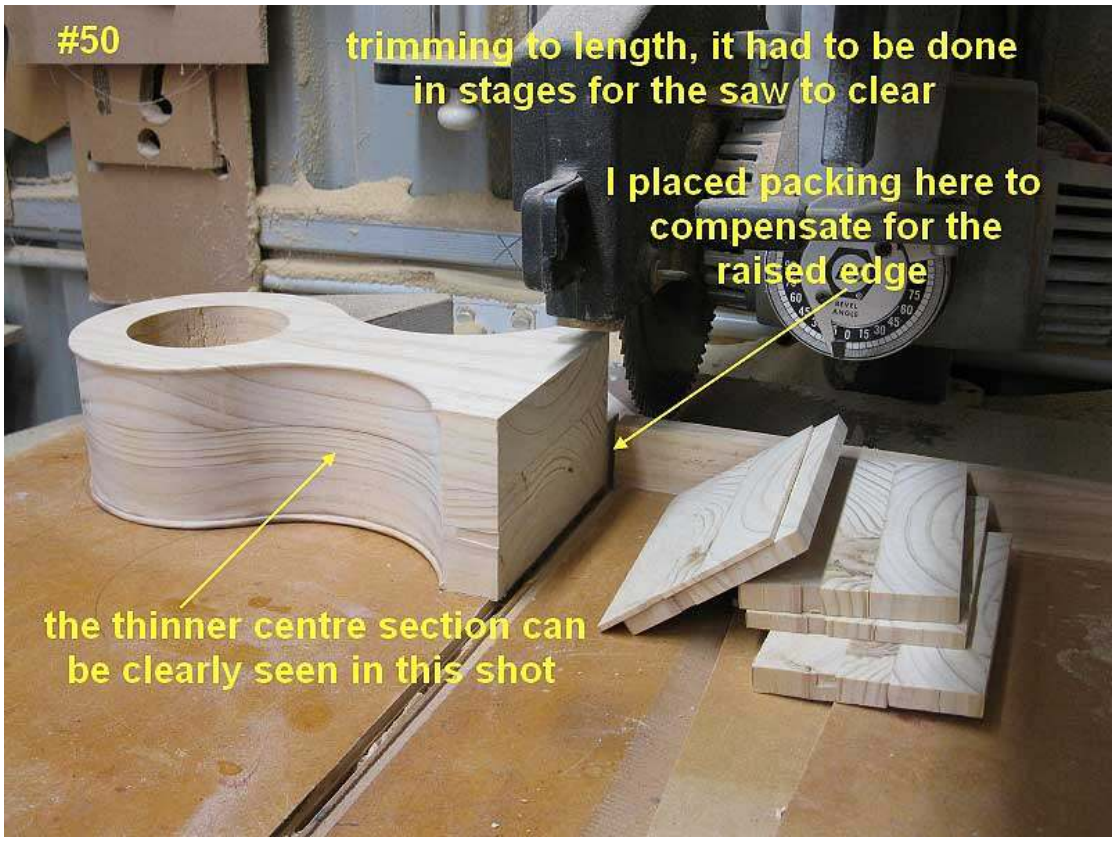

#45
this is how I trimmed the bottom, using the side fence for support
Makita
3612C

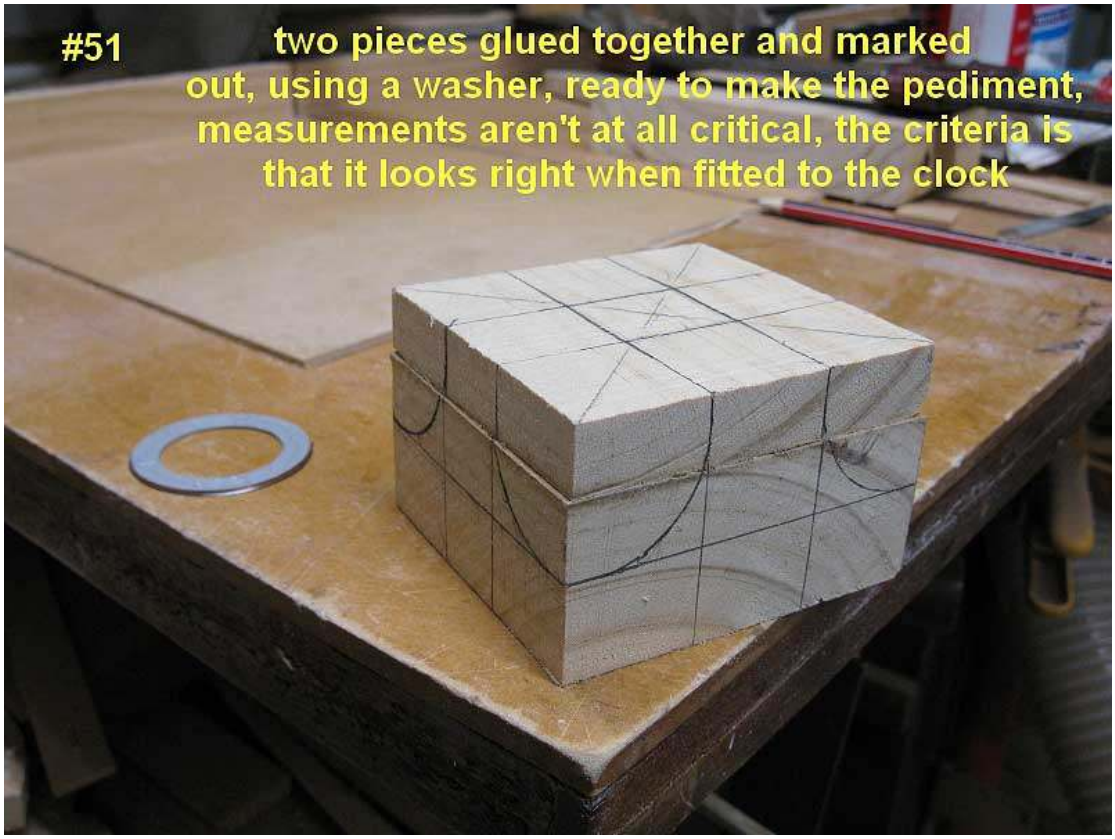

#46
trimming complete on the front piece


#47
Removing the waste


#48
gluing the front and centrepiece
when held together, the three pieces of 35mm made the clock look too thick so the centrepiece was reduced by half

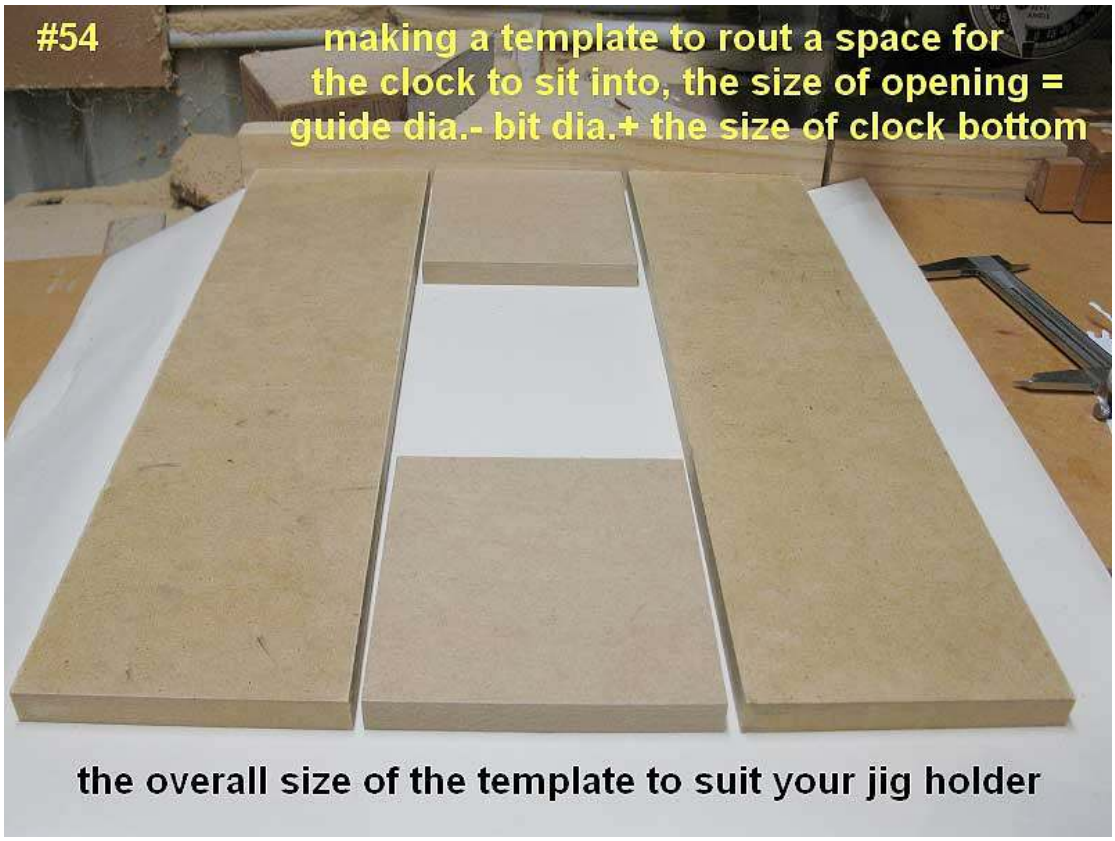

#49
gluing the rear piece

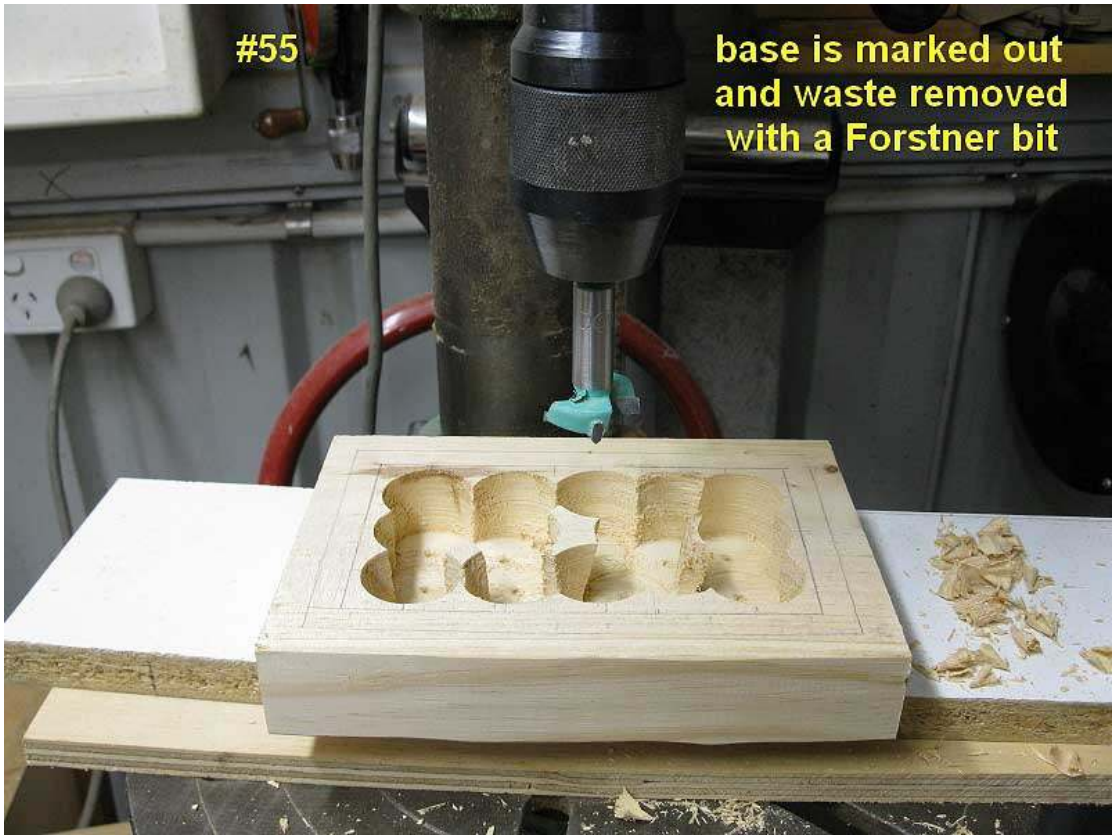

#50
trimming to length, it had to be done in stages for the saw to clear
I placed packing here to compensate for the raised edge
the thinner centre section can be clearly seen in this shot


#51
two pieces glued together and marked
out, using a washer, ready to make the pediment,
measurements aren't at all critical, the criteria is
that it looks right when fitted to the clock


#52
the first side was done with coping saw
but it was hard work so it was finished
using the bandsaw followed by sanding
on the end of the belt sander


#53
routing a shallow groove to "hide" the joints


#54
making a template to rout a space for
the clock to sit into, the size of opening =
guide dia.- bit dia.+ the size of clock bottom
the overall size of the template to suit your jig holder


#55
base is marked out
and waste removed
with a Forstner bit


#56
routing complete


#57
corners being squared with a corner chisel


#58
It's looking better!


#59
the bottom edge has been rounded over


#60
body has been glued into base and sprayed with primer. I put clock and finial in place to decide if white looked ok, it didn't!


#61
after several coats of gloss black,sanding front
with 1200 grit wet/dry paper with plenty water


#62
upholstery nails for feet, I
may change these later

Drying in the last of the summer sun

Whilst this project is aimed at the more experienced routologist, it really isn't too difficult and relative beginners who have been following my threads in various forums should have little difficulty. Questions are always welcome.