



Benchmark

Fitting Instructions



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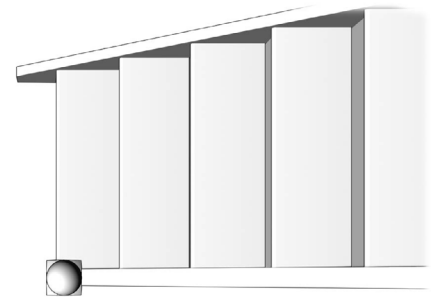
Benchmark fitting instructions

The following instructions are for installing the Cheshire Mouldings Benchmark Range.

If you have any queries please contact our technical helpline on (0800) 085 3475.

Please Check, All components should be inspected BEFORE installation commences for any damage, as Cheshire Mouldings cannot be held responsible for any damage caused during installation.

The Benchmark Range is designed for use in domestic situations and will fit most closed or open stair cases with hand rail heights of 900mm on the rake and 900mm on the landings it is manufactured to precise tolerances, however please be aware that timber is a natural product and some distortion, expansion and sometimes shrinkage can occur.



Tools and fixings needed when installing Benchmark Range.

Battery drill, Saw, Spirit Level, Tape Measure, Drill Bits $\varnothing 6.5\text{mm}$ for Softwood, $\varnothing 7.5\text{mm}$ for Hardwood, $\varnothing 12\text{mm}$, $\varnothing 25\text{mm}$,

Removing Old Balustrade

Removing the old balustrade is generally a quick and easy job. The only area to pay particular attention to is the newel bases. Please note: You should never remove newel bases from a staircase turn, whether this is a winder box or a quarter landing. The base of the newel in these situations holds the treads in this area in place.

In these circumstances the existing newel can be cut off to fashion a new newel base. This option is open in all areas of the staircase, although a more professional finish will be achieved by installing new bases wherever possible. To cut down the newel to form a base, check the correct height to cut off the newel from the next section "Installing Newel Bases". Cut the newel off level. The newel must be a minimum of 91 x 91, the same section size as the new newel turning. If it isn't then it can be built up to achieve this. Don't worry if it's slightly larger. Once you have an acceptable sized newel you can drill a hole for the Newel Turning.

Installing Newel Bases and One Piece Newels

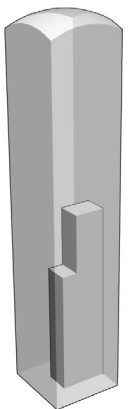
With the old balustrade removed the next stage is to install the newel bases. If you are using one piece newels these will be installed in exactly the same manner.

It is important that the new base is correctly positioned on the staircase string. It must be fitted central to the string and exactly perpendicular. In addition it must be set to the correct height to ensure that the handrail height meets the relevant legislation.

The height is measured above a line called the pitch line. This is a theoretical line connecting the nosings of the treads. The easiest way to find this line is to lay a straight edge, such as the handrail, on the nosings.

Each newel base is fitted a specific distance above the pitch line.

1. Bottom newel base is fitted with its top 260mm above the pitch line
2. Top newel base is fitted with its top 200mm above the pitch line
3. On a winder flight the newel base should be cut off 260mm above the pitch line of the second flight. As before do not attempt to replace this newel base.
4. On a half landing where two bases are used side by side, the newel base at the bottom of the second flight should be fitted at 260mm, the newel base at the top of the first flight should then be fitted to match.



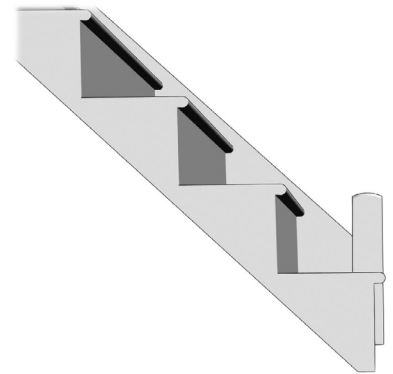
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The newel base should be housed out to fit over the string. Its often easier to cut away a piece of the nosing than try to perfectly fit the newel base over it. Once in place and with all measurements checked, the newel bases should be glued and screwed into position.

Once the newel bases are in position the newel turnings can now be glued into place and the chosen newel caps fitted to the top. If you have opted to use a half newel to finish the balustrade against the landing wall, then this should also be fitted now. Trim the half newel base so that the newel assembly is at the same height as the newel at the top of the staircase.



Handrails and Baserails

The first step is to fit the baserail to the staircase. The easiest method is to lay the rail on the staircase and mark the cuts where it meets the newel bases. Cut the baserail then glue and screw into position on top of the string.

The handrail for the staircase can be fitted in a similar manner by offering it up to the heads of the newel and marking the cut lines. Once cut we recommend our fixing kit to securely fix the rails to the head of the newels.

Installing the handrail to the newel post

Once the handrail has been cut to the required length and at the desired angle, measure and mark the centre of the handrail. It is critical these measurements are correct to ensure an accurate fit.

Make a note of the $\frac{1}{2}$ measurement of B. **See Fig 1**

On your mark drill a $\varnothing 6.5\text{mm}$ (if drilling into softwood) or a $\varnothing 7.5\text{mm}$ (if drilling into hardwood) pilot hole at 65mm deep followed by a $\varnothing 12\text{mm}$ hole 10mm deep (mark your drill piece with a piece of masking tape as before). **See Fig 2**

Using a 7mm Spanner, insert the threaded end into the hole you have just drilled ensuring the hinge section can move freely. **See Fig 3**

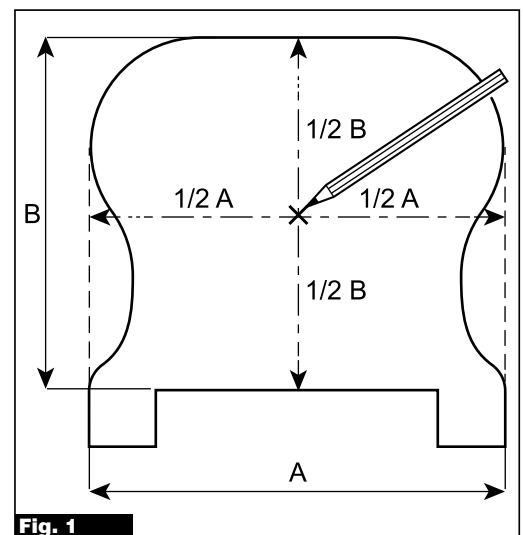


Fig. 1

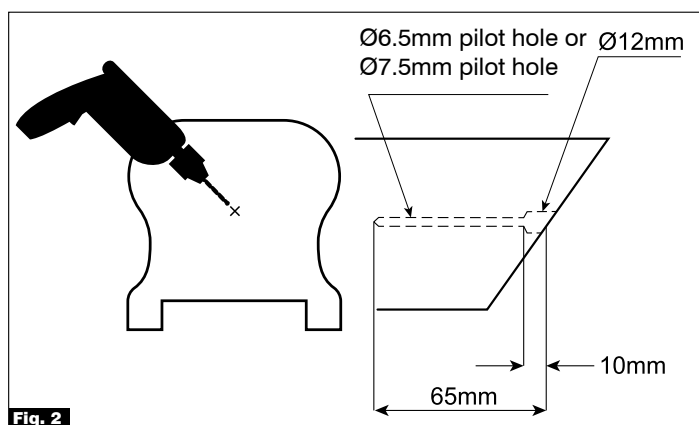


Fig. 2

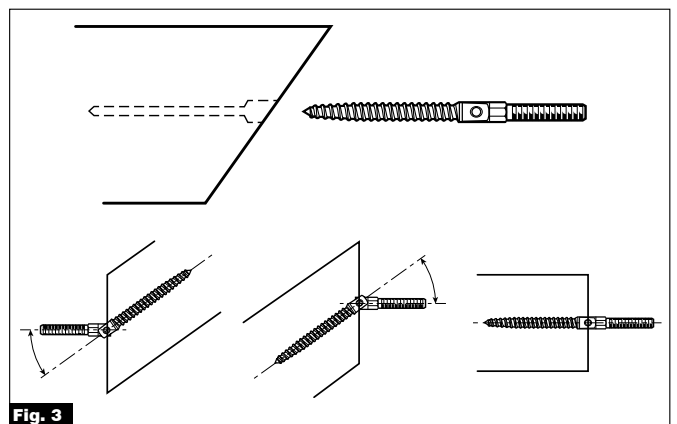


Fig. 3



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Next you will need to measure and mark the points in which to drill into your newel post to allow your handrail to fit in place. **See Fig 4**

Firstly you will need to find measurement D on the front face on the newel (side of the newel joining to the handrail) to do this take your measurement from before (your handrail height (1/2 of B from Fig 1) and measure down your newel post (from the mark where the top of your handrail will sit) to the same length and mark, continue this mark horizontally around your newel post onto the side facing into the stairs.

Now to find measurement C (this is the centre of the width of the newel) Mark this along the horizontal line just drawn.

Move to the side of the newel post facing into the stairs along your horizontal line measure 25mm from the edge of the newel (this is the edge that is joining to the handrail) and mark.

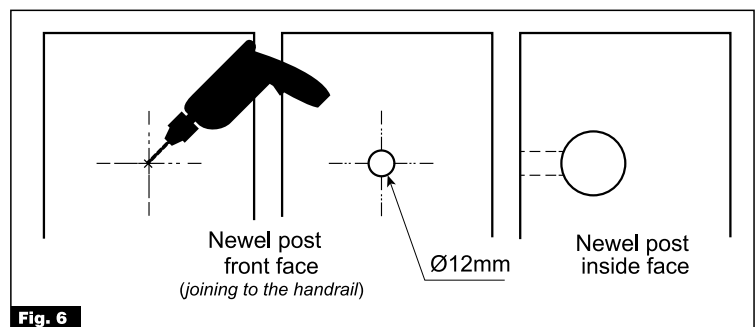
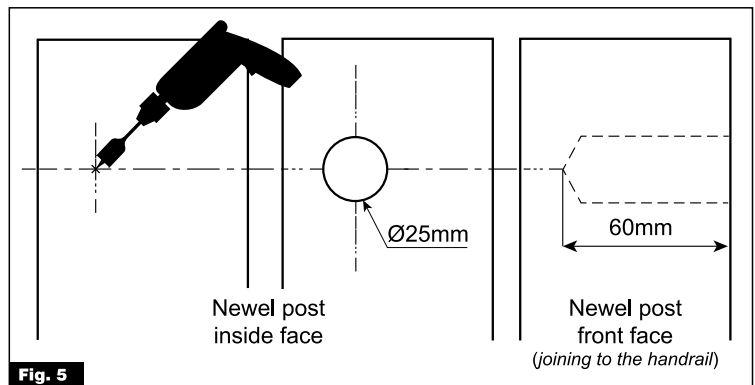
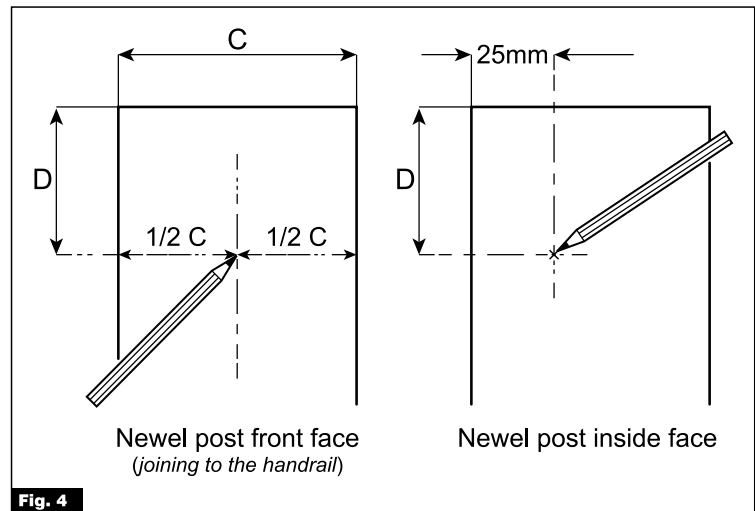
DRILLING NOTE: Take all Safety Precautions when drilling

First on your newel post on the side facing into the stairs on your mark take a $\varnothing 25\text{mm}$ drill piece and drill a 60mm hole ensuring a straight level hole. (mark your drill piece with a piece of masking tape as before).

See Fig 5

Next on the front face joining the handrail on your mark drill a $\varnothing 12\text{mm}$ hole which will intersect the larger hole you have just drilled. **See Fig 6** (ensure holes are clear of debris).

Repeat for the other end of your hand rail



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Once both ends have been fitted with the universal fixing brackets you are ready to fix it to your newel post.

First of all take your hand rail with one of you at the top and one at the bottom, slot the pivoting brackets in to the hole on both ends.

Once the handrail is in place take your locking nuts and place into the hole facing into the stairs and hand tighten using a 5mm hex key.

See Fig 7 (Remember to re-tighten your newel posts.)

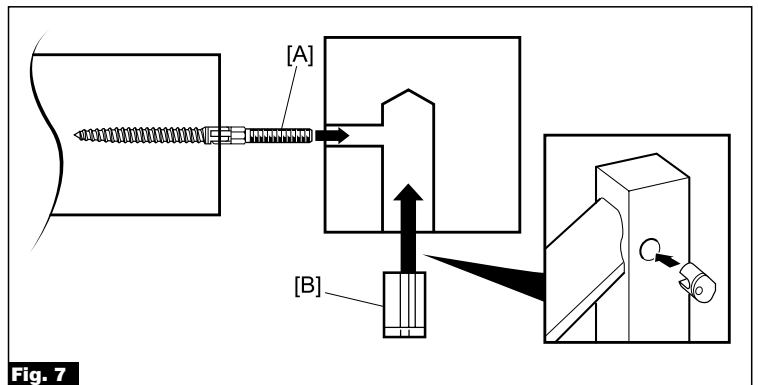


Fig. 7

You are now ready to install the spindles.

Spindles need to be cut to lengthened spaced to ensure a gap of no more than 99mm exists between the balusters. This is to ensure the finished balustrade meets UK Building regulations.

A horizontal gap of around 80mm between the squares of the spindle is usually correct to ensure no greater than a 99mm gap between the turned areas.

Start by cutting the staircase spindles to length. Hold a spindle against the handrail and baserail and mark where the cuts should be.

Once cut ensure that the spindle fits at all points of the staircase.

You can then use this spindle to mark all the other spindles and cut them to suit. Do the same with the landing spindles.

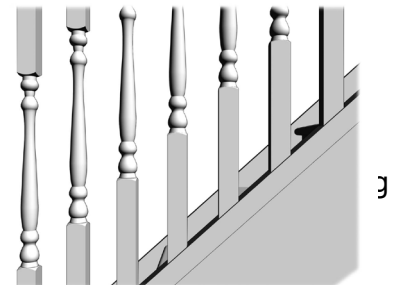
You will need to centre the spindles within the gap between the newels.

Equalise the gap between the first and last spindle and the newels. An easy way to visualize this is to use the spindle offcuts and your fillets.

Place them in the baserail and it will be easy to work out the lengths of the gaps at either end.

With the fillets and spindles cut to length you can now begin installing them.

Starting at the bottom of the staircase (don't forget to use your shorter fillets and then spindles up the flight. Constantly check that each spindle easier if you pin the fillets in place as otherwise you will find that they can you add more spindles.



When finishing off the run you will need to fit the final 2 or 3 spindles at the same time before adding the fillets. Otherwise you will not be able to get the last spindle into the grooves of the rails. Please note all spindles and fillets must be pinned and glued.

Repeat the process for the landing balustrade, add any cover caps to cover screw holes, and the installation is complete.

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90° Level Quarter turn.

Firstly take your Level quarter turn measure and mark the centre of the handrail. It is critical these measurements are correct to ensure an accurate fit. (see fig 8)

Using a $\varnothing 7\text{mm}$ drill piece, drill a pilot hole into the centre of the level quarter turn to a depth 40mm (mark your drill piece with a piece of masking tape at 40mm). (see fig 9)

Using the bolt and screw fixing supplied attach the nut to the end with the bolt thread (position the nut to the middle where the threads meet) and tighten the screw thread end into the level quarter until tight, remove the nut from the thread. (see fig 10)

Measure and mark the centre of the handrail. It is critical these measurements are correct to ensure an accurate fit. (see fig 11)

On your centre mark drill a $\varnothing 8\text{mm}$ pilot hole at 55mm deep (mark your drill piece with a piece of masking tape as before). (see fig 12)

Measure and mark 40mm inwards from the end of the handrail, using a $\varnothing 25\text{mm}$ forstner bit drill a hole into the underside of the handrail making sure you intersect the previous hole (be careful not to go through the top side of the handrail) (see fig 13)

Place a bead of glue onto the level quarter turn and insert the fixing of the quarter landing turn into the handrail.

Place the D shape plastic washer onto the thread of the bolt using a 13mm spanner tighten the nut until secure.

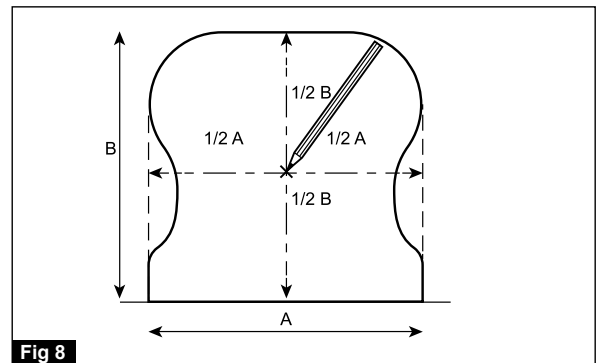


Fig 8

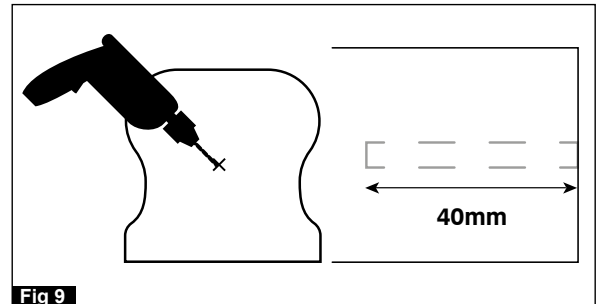


Fig 9

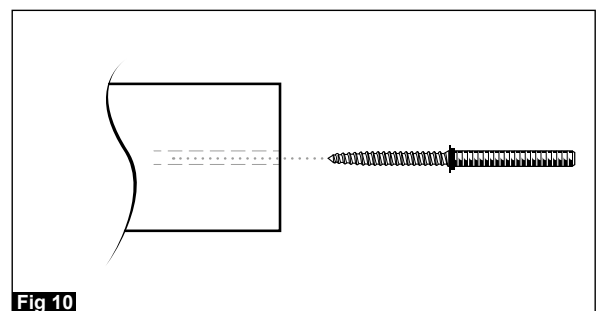


Fig 10

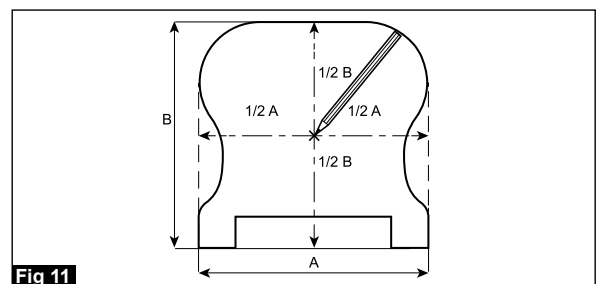


Fig 11

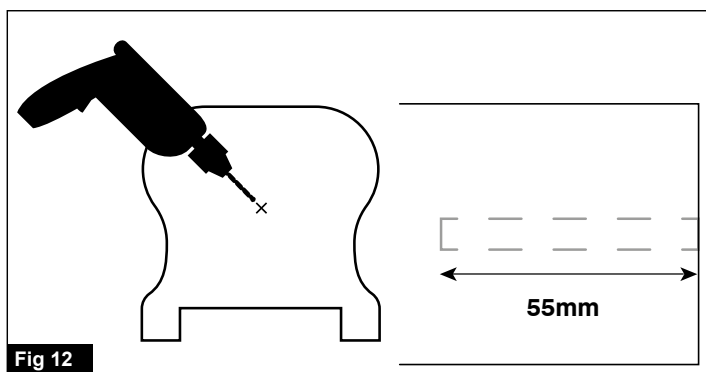


Fig 12

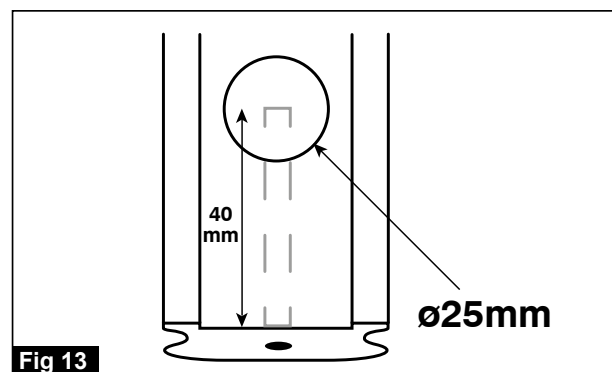


Fig 13



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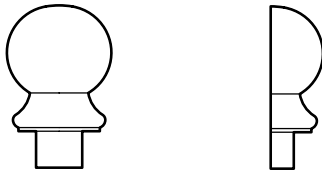
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Installing your Newel Cap

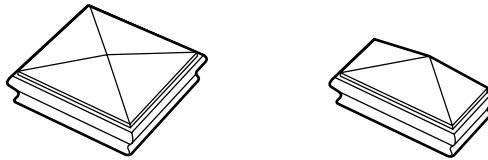
Depending on your newel cap will depend on how to fix it to your newel post if your newel cap is a ball cap you will need to apply PU glue to the spigot and insert it into your newel post.

If you are using a flat cap or a pyramid cap apply a small continuous bead of glue within the groove on the bottom and fix this to the top of your post.

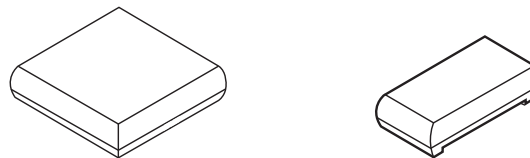
Pre dowelled Ball Cap & Half Ball Cap



90mm Pyramid Cap & Half Pyramid Cap



82mm Flat Square Newel Cap & Half Flat Square Cap



Finishing your Stair Balustrade

Finishing your stair balustrade can take as long as the installation.

The range of finishes available is extensive and you should always follow the manufacturer's recommendations when using them.

In terms of what finish to use, we recommend one that will seal the product, particularly the handrail, as it will be subjected to constant use. Products such as wax will not work well as the timber will quickly become soiled.



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We have a team of dedicated technical and expert advisors that will offer you the support you need with any planning and technical advice through your project from start to finish.

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