



Reflections

Fitting Instructions



CHESHIRE
mouldings

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Important information.

The following instructions are for installing the Cheshire Mouldings **Reflections Range**.

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

Cheshire Mouldings **Reflections Range** has been designed to suit stair pitches between 40° and 44°.

Please Note;

Cheshire Mouldings **Reflections Range** is a factory unfinished system, therefore when handling and installing please take extra care in order not to damage.

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.

Reflections Range is designed for use in domestic situations and will fit most closed stair cases with hand rail heights of 900mm on the rake and 900mm on the landings.

Reflections Range is manufactured to precise tolerances, however please be aware that timber is a natural product and some colour and grain variants and distortion (expansion and sometimes shrinkage) can occur.

Tools and fixings needed when installing **Reflections Range**.

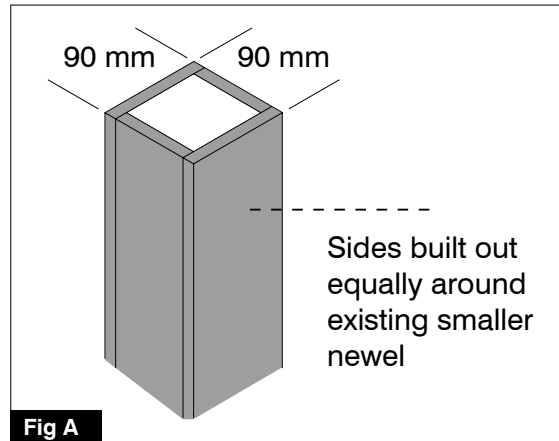
Battery drill, Countersink bit, Saw, Spirit Level, Clear Silicone, Tape Measure, Drill Bits ø3mm, ø7.5mm, ø11mm, ø12mm, ø13mm, ø25mm, ø35mm,

Installing - post to post stairs.

SETTING THE NEWEL BASE HEIGHT This range has been designed to suit stair pitches between 40° & 44°.

EXISTING NEWEL BASES

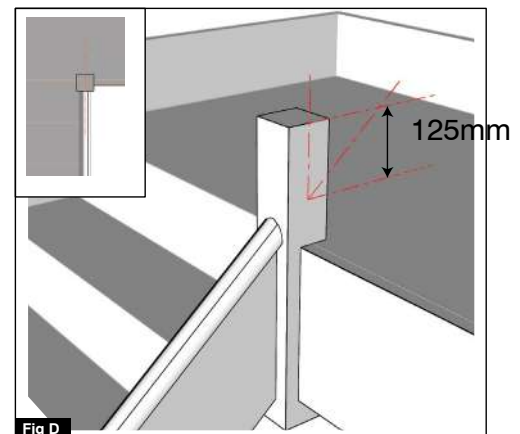
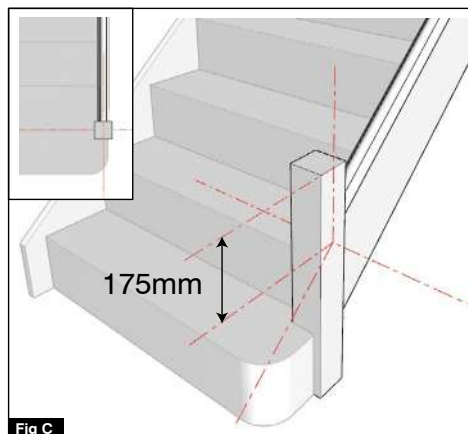
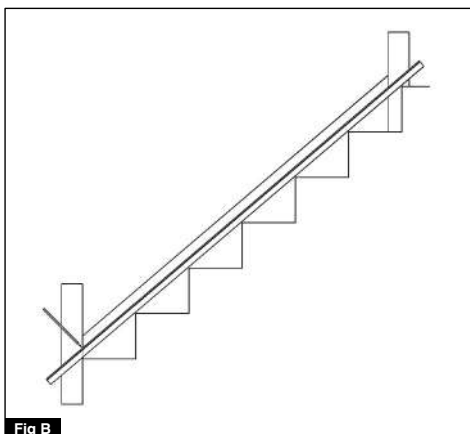
The Reflections Range can be installed using your existing staircase newel bases. If the existing newel bases are to be used, they must be positioned central to the stair string and front edge of the riser concerned and must be a minimum of 90mm x 90mm square, if they measure less the sides will have to be built up using suitable material. (See Fig A)



If your stairs are greater than 2400 mm long then you must use an intermediate newel base this will be located half way up your stairs (in most cases a new newel base will have to be installed)

To get the correct height for your newel bases draw a line continuing on from the top of your baserail through the bottom and top newel base. Find the centre point of your newel on the side facing into the stairs and measure the following dimensions up from this point. (See Fig B)

- The bottom newel base height is set at 175mm from the top of the baserail at the centre point of the newel. (See Fig C)
- If you are using an intermediate newel base on your stairs set the intermediate newel base height to 150mm from the top of the baserail at the centre point of the newel.
- The top newel base is set at 125mm (from the top of the baserail at the centre point of the newel) (See Fig D)



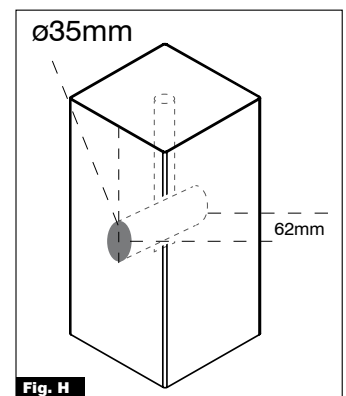
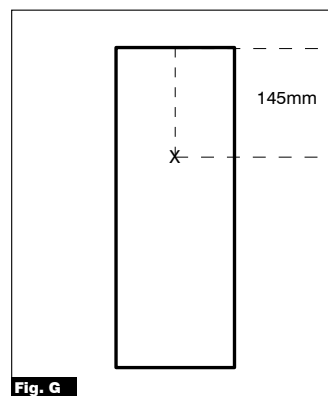
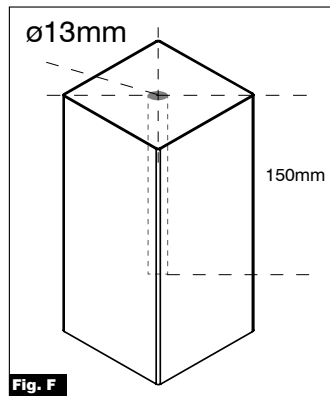
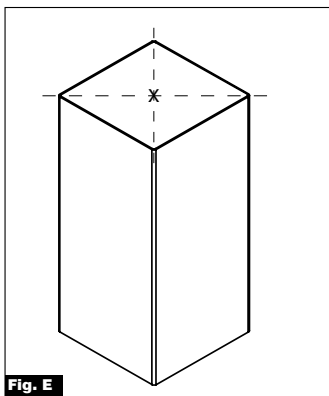
Installing - post to post stairs.

If you are using an existing 90mm x 90mm newel base, on top of the newel draw a line from corner to corner to locate the centre of the newel. **See Fig E**

Measure and mark 150mm on your $\varnothing 13\text{mm}$ drill piece with a piece of masking tape (this will be your depth) and drill down through your centre point of your newel to your required length. (Note this hole must be drilled straight) **See Fig F**

Now on the side of the newel (the side facing into the stairs), Measure and mark the centre of the width. Using your centre mark (this must be accurate) measure down 145mm and mark. **See Fig G**

Use this mark and drill a $\varnothing 35\text{mm}$ hole - 62mm deep (mark your drill piece with a piece of masking tape as before). **See Fig H**

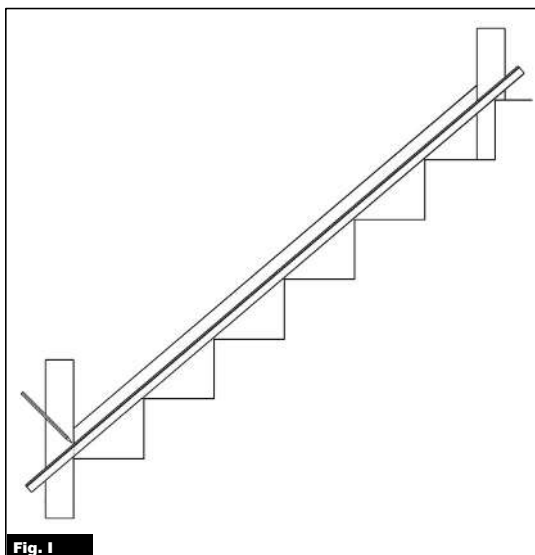


Repeat all steps for remaining newels.

Installing - The Baserail.

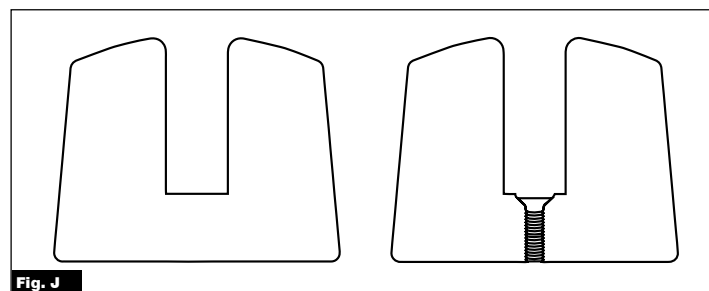
Hold the baserail in position beside the newel posts running at the angle of the string, mark where the join of the baserail and the newel base meet and cut to length.

Ensure that your baserail is central on your string, drill your counter sink screw holes in the groove of the baserail all the way up at regular intervals. Once you have done this drill your pilot holes through your baserail and straight into your string. **See Fig I.**



Before securing your baserail to your string ensure all debris has been removed from the groove of your baserail and underneath.

Screw the baserail to the string making sure the screws do not protrude into the groove. **See Fig J**



Installing - The Newel Posts.

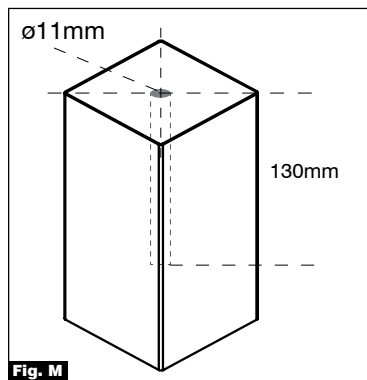
To install the newel post at the top and bottom of your stairs.

Place the newel base connector (**RFBASE**) on to the top of your newel base and with a pencil mark your holes and remove the connector, using a 3mm drill bit, drill pilot holes, replace the newel base connector to your newel base and fix using screws.

See Fig K

Next take the top section of the newel post and locate the end that **DOES NOT** have the pre drilled hole in and find the centre of the newel (by drawing from corner to corner) **See Fig E**

On this mark drill a $\varnothing 11\text{mm}$ hole - 130mm deep (mark your drill piece with a piece of masking tape as before). **See Fig M**

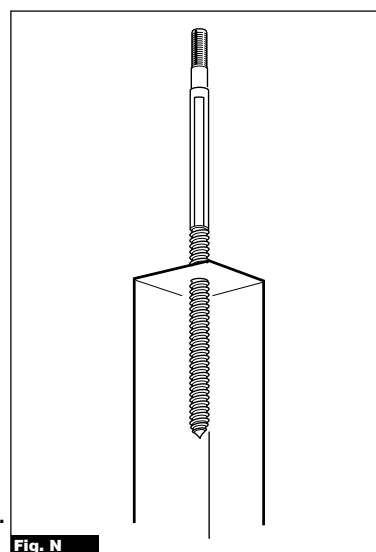


Take the long screw and insert it in to the hole you have just drilled and with your 10mm spanner insert the screw into the hole and tighten ensuring 15mm of thread is left protruding from the newel post (Do not over tighten past this point as there is a chance you may split the wood)

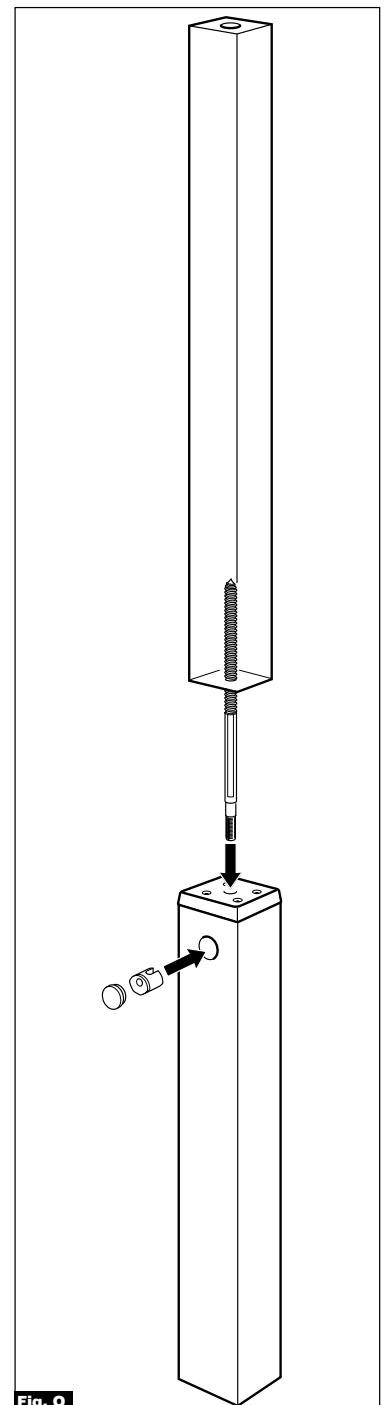
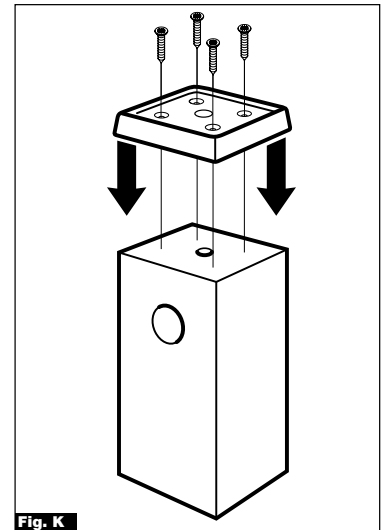
See Fig N

Now take your newel post and insert the bolt fixing through the centre hole of your newel base connector and slot into place. Using the hex key supplied and the fastening nut, insert the nut into your $\varnothing 35\text{mm}$ hole and with your hex key hand tighten until you have no movement in your newel post (Always support your newel post at all times when doing this step).

See Fig O



Repeat these steps for fixing both the top and bottom of the newel



Measuring and Marking for the length and height of the handrail and the height of the Intermediate Newel.

Using two people (one at the top of the stairs and one at the bottom) hold the handrail in position just above the baserail next to the newel posts running at the angle of the string. Mark where the join of the handrail and the newel base meet, before you do anything else add 8mm to your length (this will take into effect the size difference between the newel base and the top part of the newel) now cut to length ensuring a straight finish.

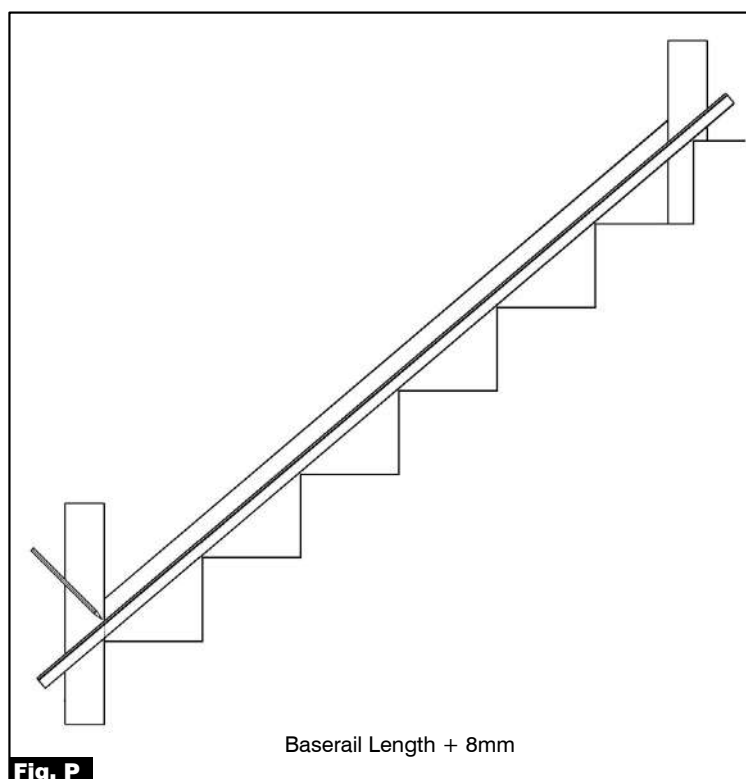
See Fig P

Now each of you take a piece of raked glass panel (one at the top of the stairs and one at the bottom) slot a raked glass panel at the top (of the stairs) and one raked glass panel at the bottom (of the stairs) into the baserail (always support the panels to prevent any accidents)

Place your handrail over the top of your glass panels and slot between the newel posts and mark the top of the handrail on the newel post at both ends, this mark will be where the top of your hand rail will sit, also mark the underneath of the handrail this mark is used for the measurement of the Intermediate newel.

(If you are using a Intermediate newel please carry on with the instructions below for the fitting of the intermediate newel) if you do not need a intermediate newel please go to the section Installing the Handrail.

(you can now remove the glass panels).

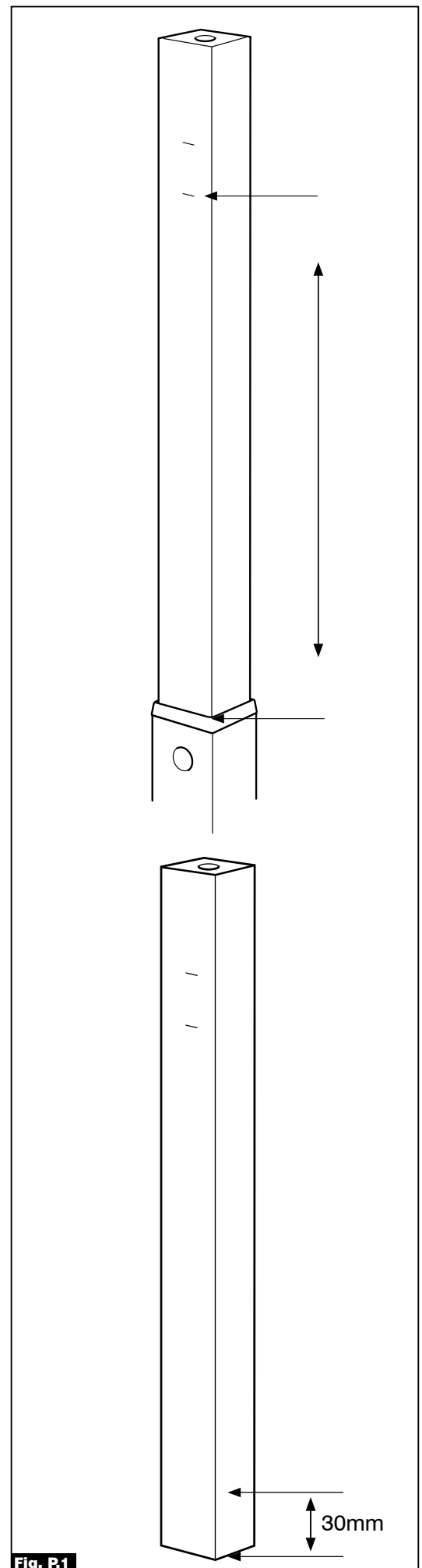
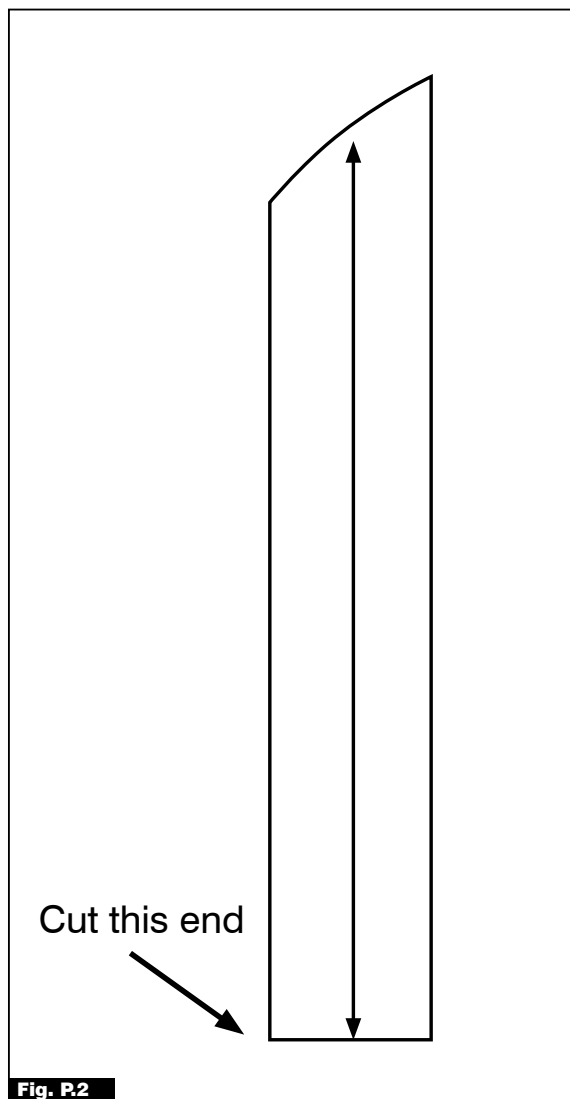


The Intermediate Newel.

Using the lower of the two marks which you have just drawn on your newel post measure the length of your newel from the lower mark down to the newel base connector (RFBASE). Using the measurement you have just taken, take off an extra 30mm from the length of your measurement (for example if your measurement between the lower mark and the top for the newel base connector is 680mm take away the measurement of 30mm) this will allow for the height of the bracket. (Double check your measurements before cutting as this needs to be an accurate fit) see **Fig P.1**.

Measure the length you require on your intermediate newel on the side with the rake, ensuring you are measuring down the centre of the side see **Fig P.2**

Cut to length on the bottom end of the newel (the one without the rake) ensuring a clean straight cut.



The Intermediate Newel.

To install the newel post

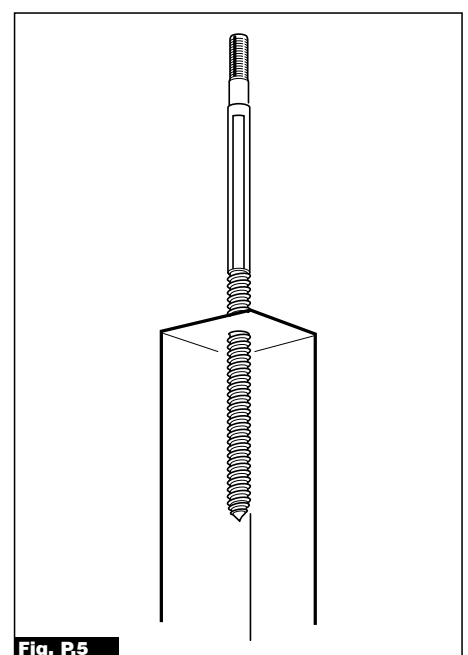
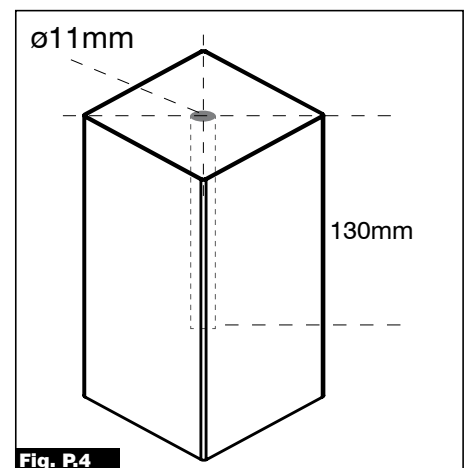
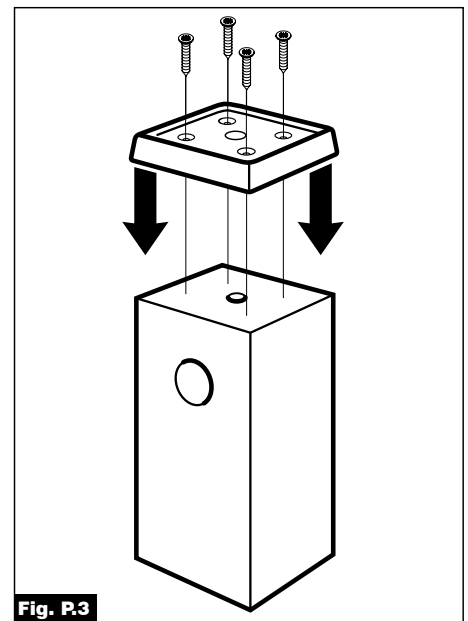
Place the newel base connector (**RFBASE**) on to the top of your newel base and with a pencil mark your holes and remove the connector, using a 3mm drill bit, drill pilot holes, replace the newel base connector to your newel base and fix using screws.

See Fig P.3

Next take the top section of the newel post and locate the end that **DOES NOT** slant and find the centre of the newel (by drawing from corner to corner) See Fig P.4

On this mark drill a $\varnothing 11\text{mm}$ hole - 130mm deep (mark your drill piece with a piece of masking tape as before). See Fig P.4

Take the long screw and insert it in to the hole you have just drilled and with your 10mm spanner insert the screw into the hole and tighten ensuring 15mm of thread is left protruding from the newel post (Do not over tighten past this point as there is a chance you may split the wood) See Fig P.5



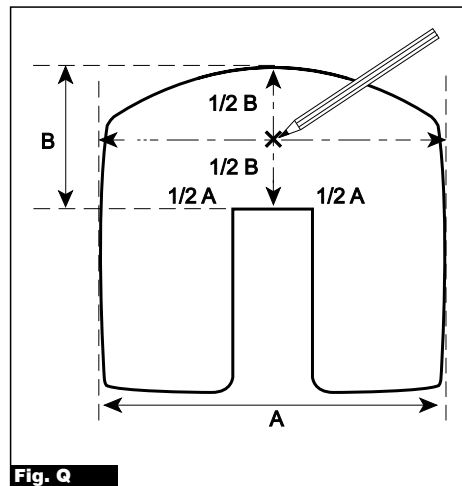
The Intermediate Newel.

Now take your newel post and insert the bolt fixing through the centre hole of your newel base connector and slot into place. Using the hex key supplied and the fastening nut, insert the nut into your $\text{\O}35\text{mm}$ hole and with your hex key hand tighten until you have no movement in your newel post (Always support your newel post at all times when doing this step). **See Fig P.6**

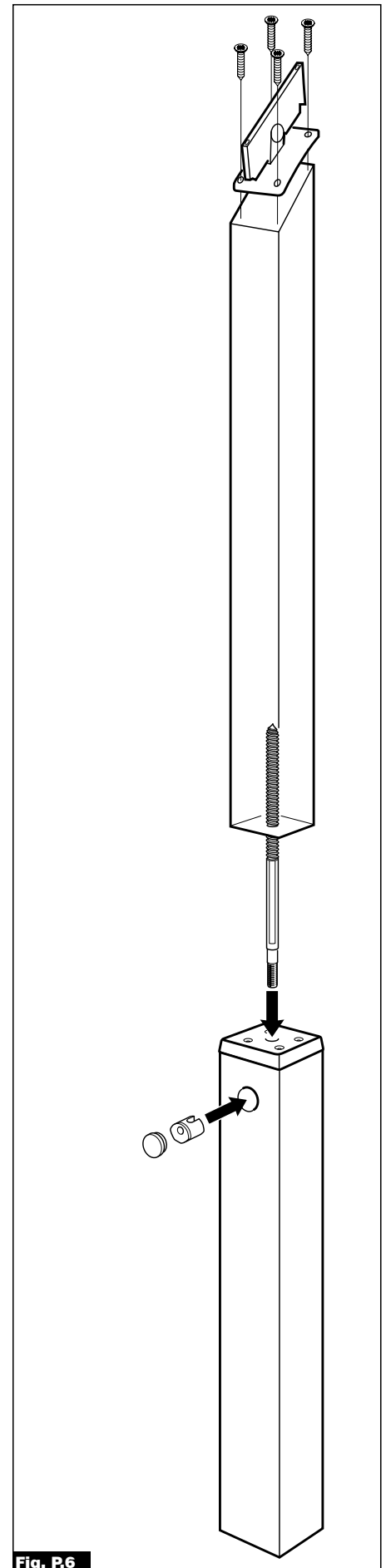
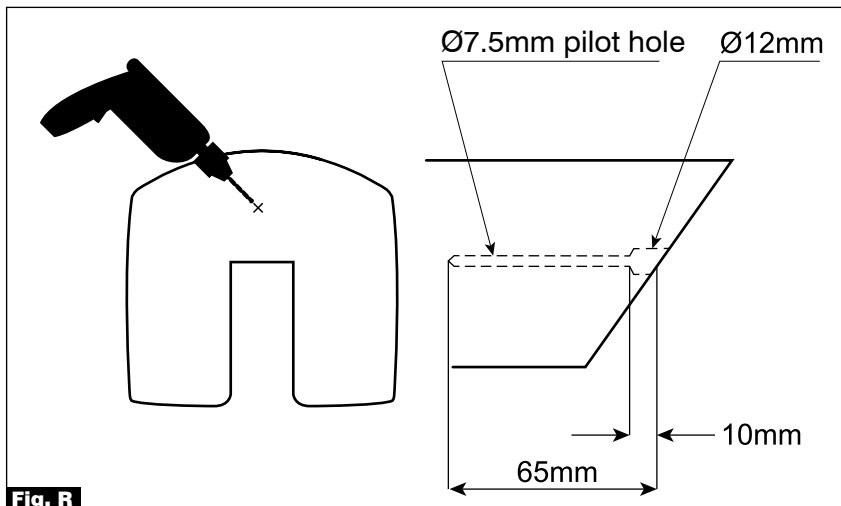
Once this is done place the pivoting bracket on top of the slant and mark the 4 holes, using a 3mm drill bit, drill pilot holes, then screw the bracket into position.

Installing the handrail

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 $1/2$ measurement of B. **See Fig Q**



On your mark drill a $\text{\O}12\text{mm}$ hole 10mm deep followed by a $\text{\O}7.5\text{mm}$ pilot hole at 65mm deep (mark your drill piece with a piece of masking tape as before). **See Fig R**



Installing - The Hand Rail.

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

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 T**

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 Q) 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 U.1**

See Fig U.1

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 U.2** (ensure holes are clear of debris).

Repeat for the other end of your hand rail

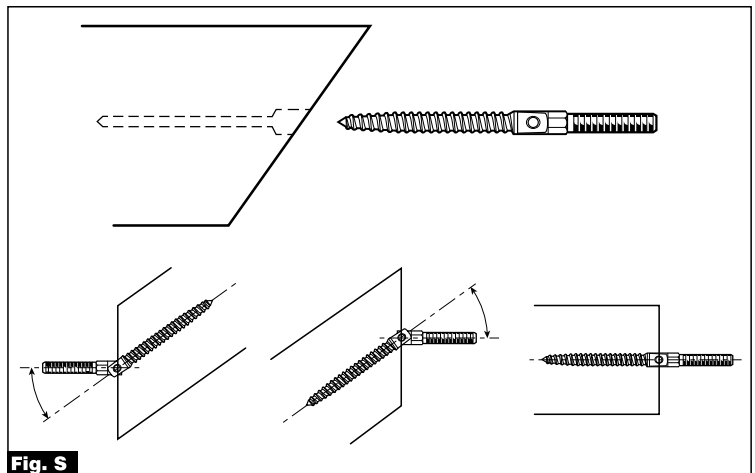


Fig. S

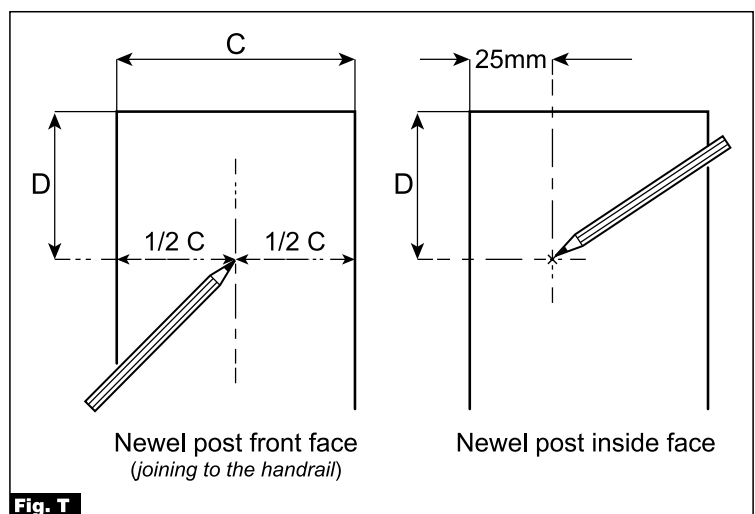


Fig. T

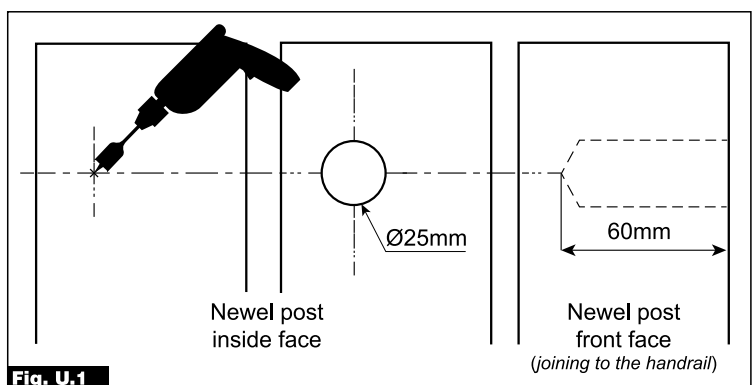


Fig. U.1

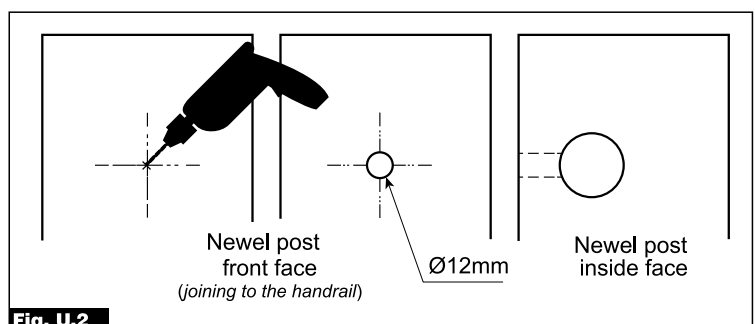


Fig. U.2

Installing - The Hand Rail.

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

First of all go to the top of your stairs and loosen the newel post with the nut (this will allow a bit of movement to the newel when fitting the handrail) 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 (this is where you may have to tilt the newel post slightly)

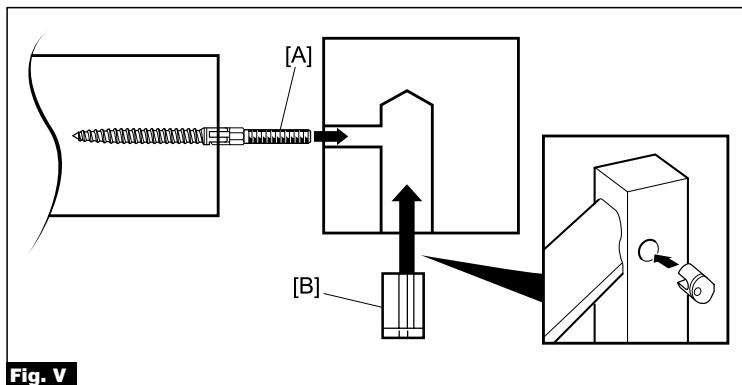


Fig. V

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 V** (Remember to re-tighten your newel posts.)

Finish off by gluing in your cover buttons in all sections of your newel posts and glue on your newel cap.

Remember if you have used the Intermediate newel this needs to be screwed from underneath to the handrail with screws

Installing - The Glass Panels.

Please note Building Regulations state that the gap between Spindles / Balustrades / Glass Panels should not be more than 99mm.

When you are installing the glass panels please take care when handling glass.

Once you have cut down and mitred your fillets to the required length you need (to fill the gaps between the glass panels) insert the larger of the two pieces into the grooves of the hand and baserail and slide to fit flush with the newel. Drill a pilot hole and secure with a screw. **See Fig W.1 & W.2**

Repeat this on both the handrail and baserail.

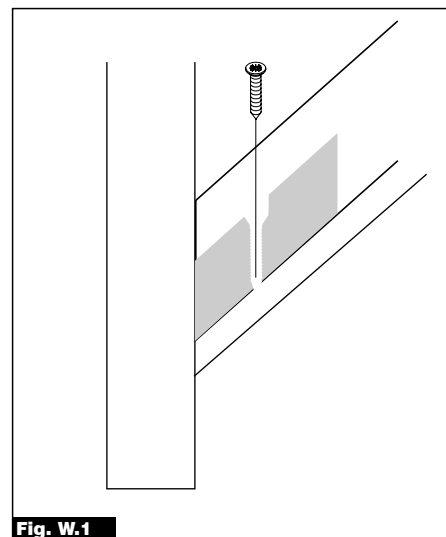


Fig. W.1

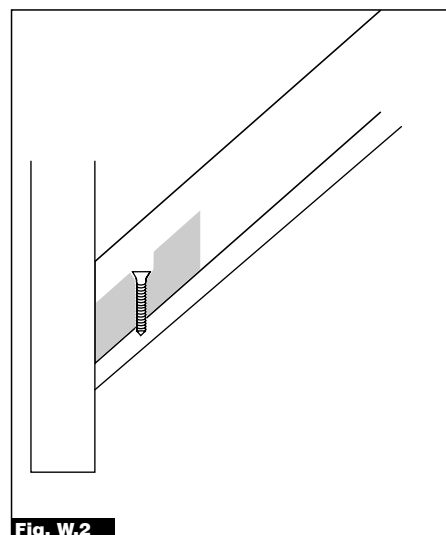


Fig. W.2

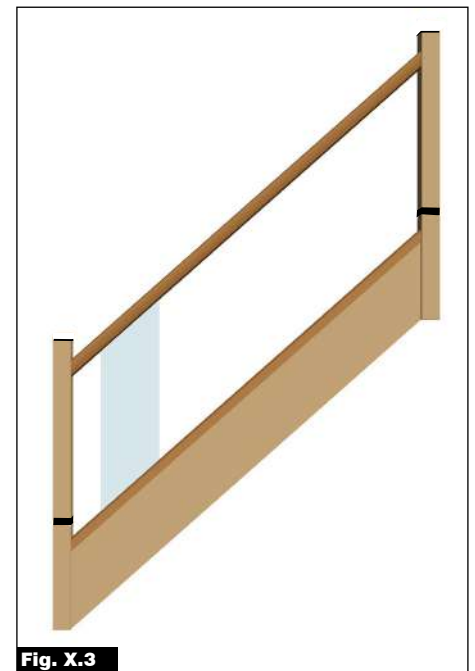
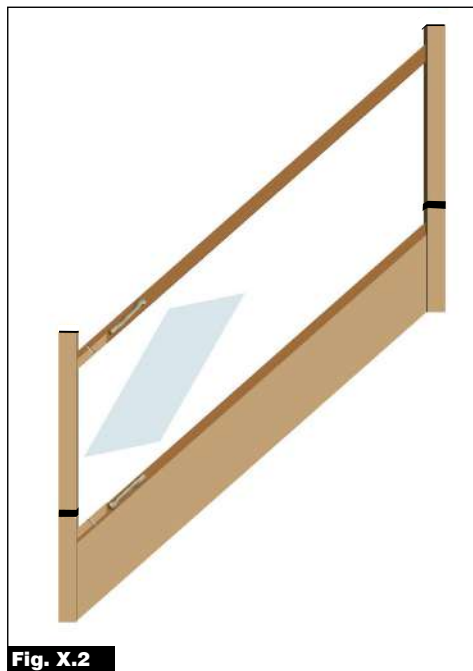
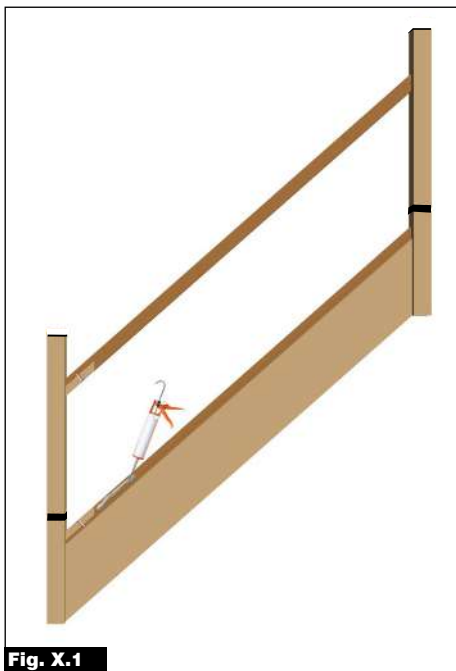
Installing - The Glass Panels.

Please note Building Regulations state that the gap between Spindles / Balustrades / Glass Panels should not be more than 99mm.

Apply a bead of silicone into the grooves of the handrail and baserail. **See Fig X.1**

Tilt a piece of glass at the angle and insert it into the grooves of both rails **See Fig X.2**

Slide the glass panel down to fit flush with your fillets. **See Fig X.3**



Repeat these steps all the way up your staircase until you get to the top 3 panels where you will need to slot all 3 glass panels in together without placing fillets in either rail, Slide up each panel separately and insert your remaining fillets (this will allow the freedom to place your last glass piece).

To finish off this step take the smaller piece of fillet and glue this in between the glass panels to seal off the hand and base fillet you have screwed in place to hide the screws and to create a perfect finish.

Installing - The landing.

The maximum distance allowed between newel posts is 2400mm for landings exceeding this length an intermediate newel must be installed.

The height that you should make your newel base is the same as the top of your stairs which is 125mm **see Fig D**

If your landing returns on a 180° angle from your staircase and you are using a 80mm glass landing panel minimum measurements are listed **see Fig Y.1**

If you are not using a 80mm glass landing panel then your minimum and maximum length of the gap between the join from your newel post to the 90° handrail connector is shown **see Fig Y.2**

The minimum length of gap between joins if using a newel post to newel post is shown below **see Fig Y.3**

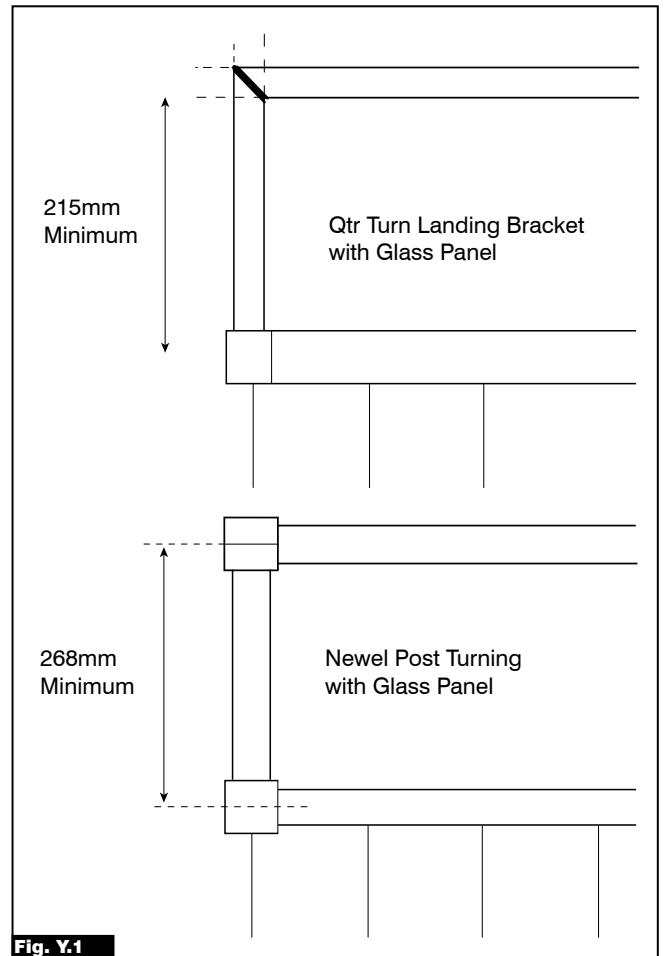


Fig. Y.1

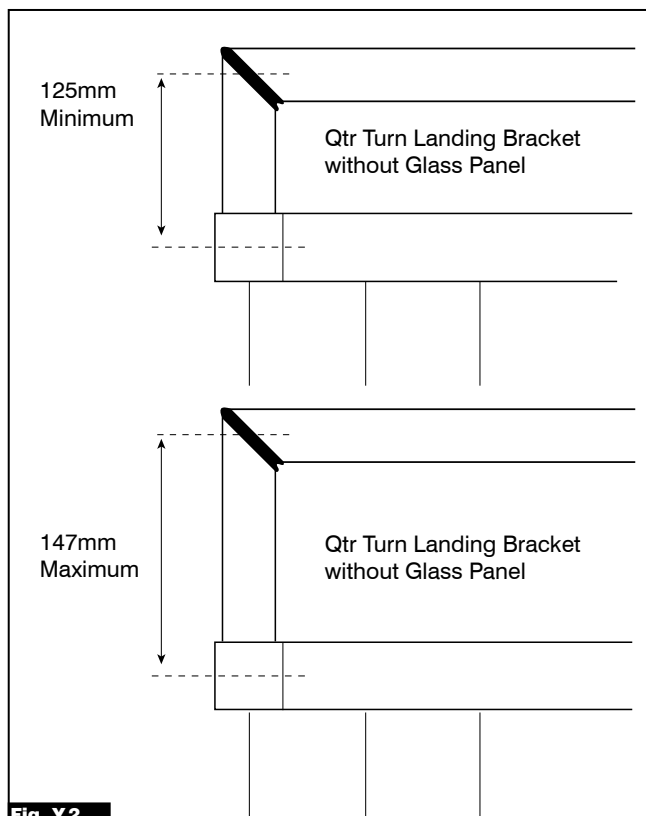


Fig. Y.2

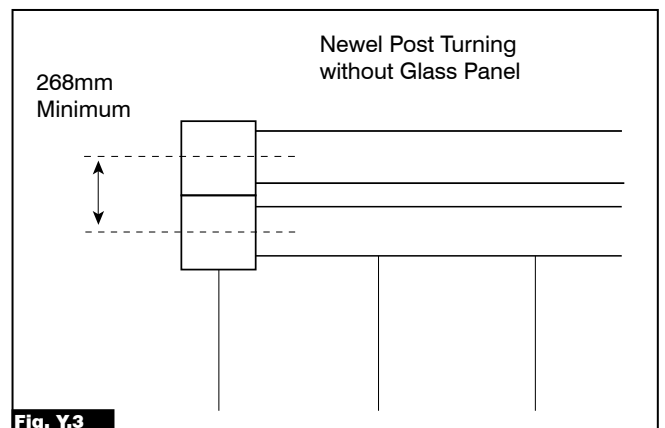


Fig. Y.3

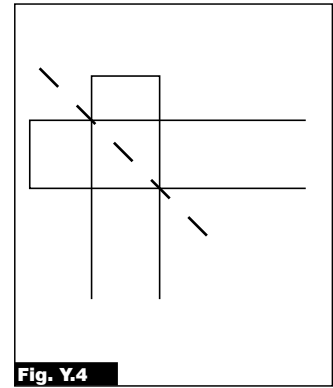
Installing - The landing base rail

When installing the base rail on a return, lay your base rails on to the floor in the positions that they need to be in, ensure they are level and the angle on the inside is at 90°, where the two rails cross over draw a diagonal line from the inside corner to the outside corner, this is going to be where you will mitre to join your base rails. **see Fig Y.4**

Cut and mitre the base rail to length and place in position.

Drill pilot hole into the grooves of the base rail and countersink so your screw heads will sit below the top of the groove.

Apply some wood glue to the mitre faces of the base rail and position the base rail on top of your location marks and fix to the floor using screws **see Fig Y.5**.



Installing - The landing hand rail and qtr turn bracket

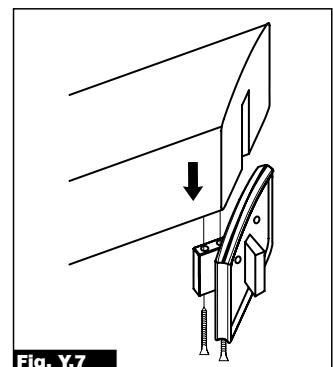
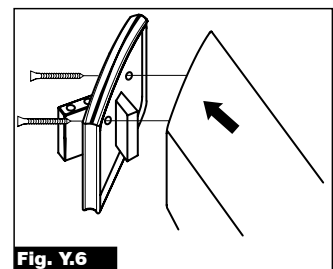
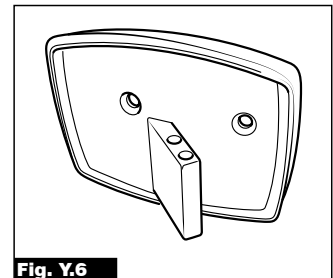
When installing the hand rail follow the same as directions as to how to lay the base rails, cut and mitre to length **see Fig Y.4**

Once you have your handrail cut and mitred before you do anything else take your handrail pieces and at the flat end install your Handrail to Newel post fixing bracket to do this go to the section **Installing your Handrail** but do not attach to your newel post.

Now Take your Qtr Turn Connector **see Fig Y.6**. This is going to join your hand rails together, You can see on the Qtr Turn Connector that there are two arms that are coming out of the centre of the connector these will sit into the grooves of the handrail and will only fit in one way. Firstly take your Qtr Turn Connector and with the arm at the bottom of the connector **see Fig Y.6** slot the smaller of the two arms into the handrail, pilot drill and fix to the handrail **see Fig Y.7**.

Now slot your other hand rail piece onto the other part of Qtr Turn Connector drill two pilot holes from the bottom and screw to the handrail.

Now fit your hand rail to your newel posts to do this go to the section **Installing your Handrail**.



Installing - The landing panel glass.

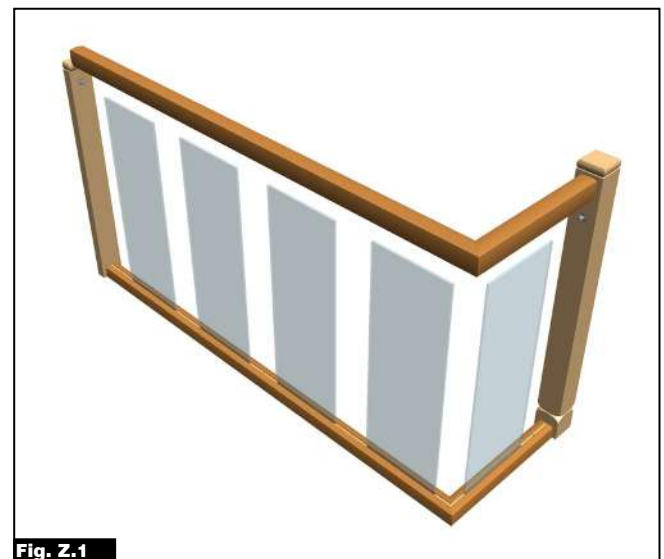
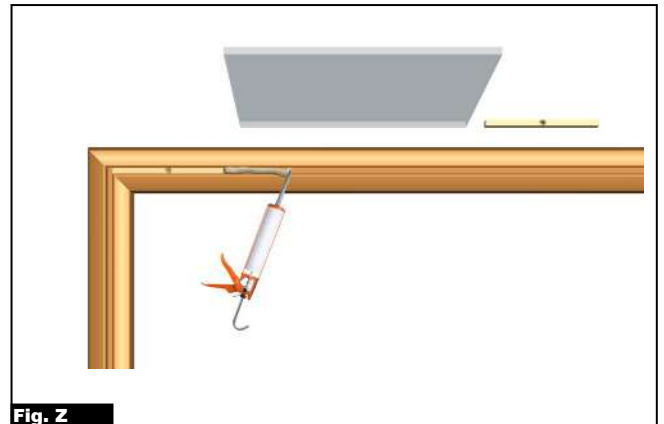
Take a fillet which is cut at your required length (but not more than 99mm long) pilot drill a hole and secure to the base rail.

Take some silicone and squeeze this into your groove carefully slide your piece of glass into your base rail sitting flush with your fillet and place flat on the floor of the base rail. **See Fig Z** Repeat this step for all your landing panels

Place your hand rail into position (this is best to do with two people) slide it over the Glass panels **See Fig Z.1** and fix to the newel posts to do this go to the section **Installing your Handrail**.

Insert the Timber fillets into the gaps in the hand rail between the panels, pilot drill and secure with a screw to fix.

To finish of use the smaller finishing strip cut to the required length and glue onto your Wooden fillets between all your glass panels on the stair case and landing.



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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