



# axxys<sup>®</sup> origins

Fitting Instructions



CHESHIRE  
mouldings

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# axxys<sup>®</sup> origin fitting instructions



**axxys<sup>®</sup> origin** is a contemporary range of stair balustrade designed to inspire.

As a modular system **axxys<sup>®</sup> origin** provides the flexibility to blend components from across the range to create a stylish, bespoke staircase and a focal point for any living space. Clean lines and metallic details also allow **axxys<sup>®</sup> origin** to make a modern statement within more classic, period environments.

**axxys<sup>®</sup> origin** has been designed not only for its quality and style, but also for its simplicity to install. All components have been independently tested to conform to UK building regulations, are design registered and patent pending.

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Cheshire Mouldings **axxys<sup>®</sup> origin** stair balustrade is a UK and International Patent and Design Registration pending product, blending traditional turnings with modern materials. Hand and base rails are assembled using our unique metal brackets. Balusters are fixed into place using our patented fully adjustable baluster brackets which adjust between 90° and 45°, locking firmly into place when positioned into the Hand and Base rail profile. These components once assembled form an innovative balustrade solution that can be adjusted to suit any staircase pitch between 38° & 45°.

*Please Note;*

Cheshire Mouldings **axxys<sup>®</sup> origin** is a factory pre finished system, therefore when handling and installing please take extra care in order to not damage the finish.

*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.

**axxys<sup>®</sup> origin** is designed for use in domestic situations and will fit most closed stair cases with hand rail heights of 900mm on the rake and 90mm on the landings.

**axxys<sup>®</sup> origin** is manufactured to precise tolerances, however please be aware that timber is a natural product and some distortion, expansion and sometimes shrinkage can occur.

If timber components (i.e. hand rails) are slightly oversize, gently sand or shave the timber until a tight fit is achieved, being careful to only sand/shave the part of the component that is going to be concealed by the metal or plastic connector. If the timber component is slightly under size, the tolerance can be taken up by using a gap filling adhesive.

If your staircase measures more than 3.7m between inside newel faces, then you will require an Intermediate Newel Post. The Newel base cut off point will be 150mm, all other fitting instructions will apply.

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## Existing Newel Bases

### **Important;**

*All newel bases must be cut off squarely in order for the newel posts to sit perfectly level.*

*Sand if required to achieve correct level, however the newel connectors can compensate for any slight height inaccuracies.*

*Once level they can be chamfered to improve the aesthetic.*

**axxys<sup>®</sup> origin** can be installed using the existing staircase newel bases.

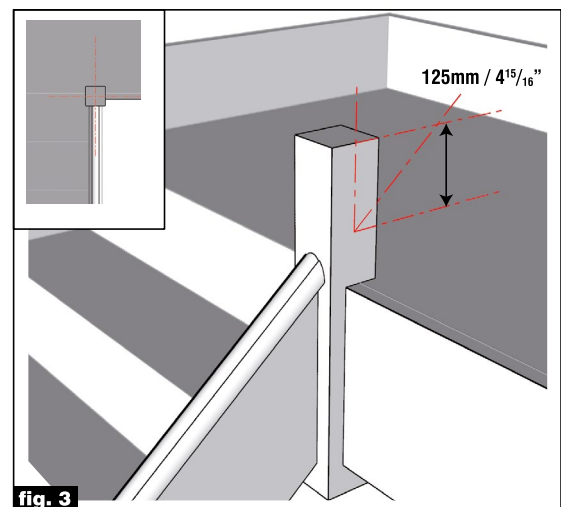
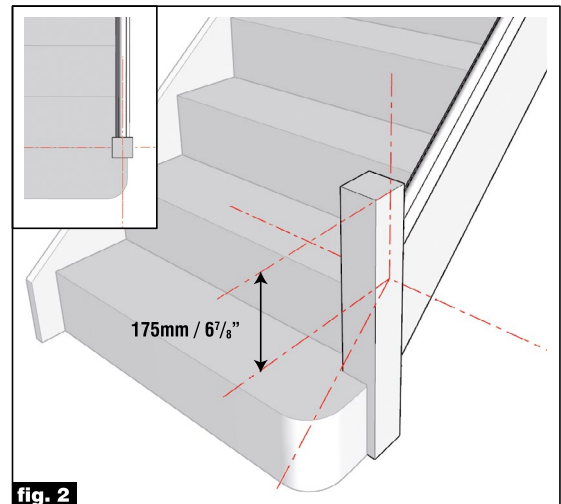
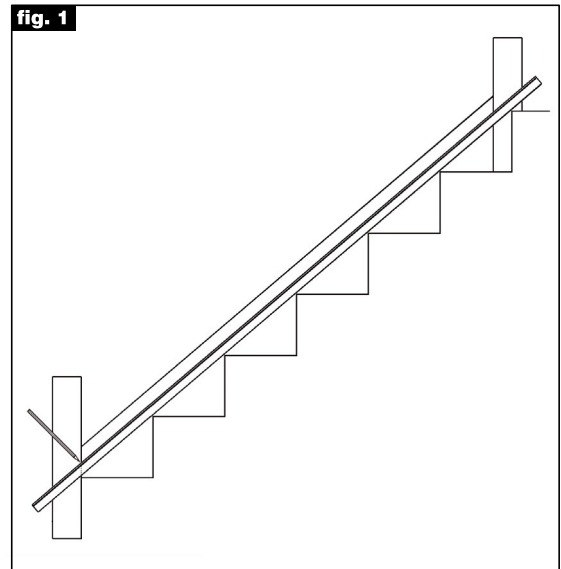
If the existing newel bases are to be used, they must be positioned central to the stair string and front edge of the riser concerned, and must be a minimum of 81x81xmm square, if they measure less, the sides will have to be built up using suitable material.

They must also have enough material once cut, to achieve the dimensions shown plus the baserail height, remembering to cut the excess from the top of the newel base (Fig. 2 & 3).

Prior to cutting the newel bases down to the correct height, the **axxys<sup>®</sup> origin** baserail must be temporarily fitted to the string.

First Lie the baserail on top of the tread nosings and push it up against the newel bases, then mark the vertical lines and cut achieving a good finish (Fig. 1)

Rest the cut baserail on top of the string, temporarily fix it in place at this stage using tacks or double sided tape.



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## New Newel Bases

### **Important;**

*Before removing any existing Newel Bases, please check to ensure they are non-structural.*

If fitting new newel bases, they must be installed centrally to the stair string and front edge of the riser concerned (Fig. 2 & 3).

Prior to fitting to the string, please follow the following instructions to cut down the newel bases to the correct height, ensuring you cut any excess from the bottom of the newel base.

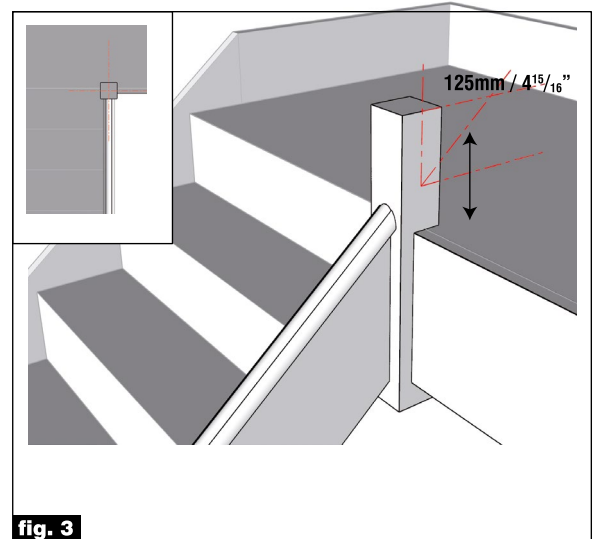
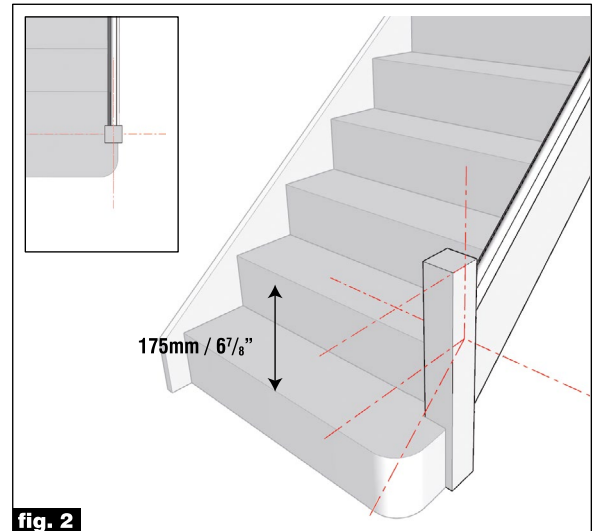
### **Bottom Newel Base**

Using the top edge line of the baserail that you marked on the newel base prior to cutting, now draw a vertical line up through the centre point of the newel base, making sure to intersect the baserail line.

Now measure up 175mm from the intersecting point and mark a horizontal line (Fig. 2). Then finally measure the remaining distance to the top of the newel and remove this from the bottom of the newel.

### **Top Newel Base**

The top newel base should be marked out and cut in the same way as the bottom newel base, however the 175mm dimension should be replaced with 125mm (Fig. 3)





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## Newel Base Connectors

### **Important;**

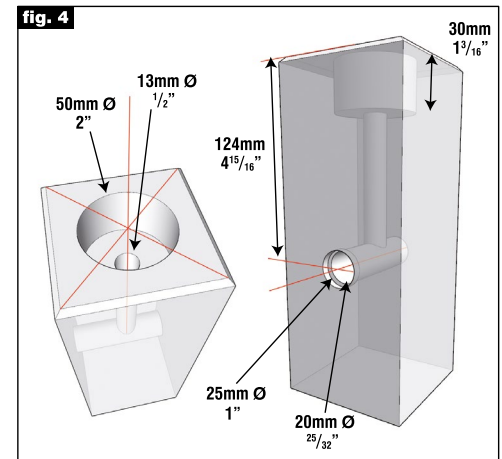
Before you start work with the newel base connector, slide the newel post into the connector to make sure it fits snug. If the newel is too tight to fit into the connector, this requires the spigot on the bottom of the newel to be eased so it slides into the connector, this can be done by using sandpaper to reduce the taper on the spigot.

Please DO NOT try to force the newel post into the connector.

Newel base connectors AXBCT can now be fitted to the newel bases.

**For existing bases only**, find the centre of the newel base top by drawing diagonal lines from corner to corner and use the intersecting point. From the top and centre of the newel base drill a hole 50mm diameter x 30mm deep (using our 50mm spur drill) to take the connector.

**For new & existing bases**, from centre of the 50mm hole drill a further hole 13mm diameter x 140mm deep to take the bolt and washers (Fig. 4).



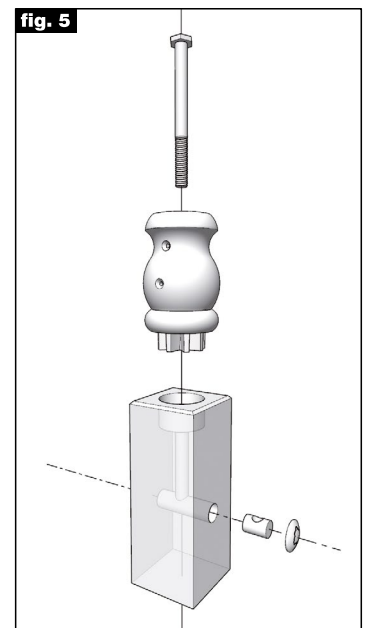
Now from the top and front face of the newel base (facing the stairs, as if you were to walk up them) measure down 124mm and mark a point centrally on the face, drill a hole 25mm diameter x 4mm deep to accept the cover button, now extend this hole 20mm diameter x 65mm deep to take the retaining barrel nut. These measurements are based on a newel base 83mm square (Fig. 4).

**Important;** All drilling operations should be accurate, straight and level.

Before fitting the base connector please clear all newly drilled holes of swarf and chippings.

Then fit the base connector into the 50mm hole in the top of the newel base, then slide the retaining barrel nut into the front face hole with the slot showing to the outside.

Now slide the washers onto the bolt, fit the bolt through the connector and locate into the retaining nut, then tighten the bolt and finish off pushing the cover button into the front face hole (Fig. 5).



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## Newel Posts

The newel posts can now be installed into the newel base connectors.

Insert the newel post spigot into the connector, making sure that the newel head faces are aligned with the newel base faces. Now push down so the spigot goes all the way into the connector and secure using the screws provided.

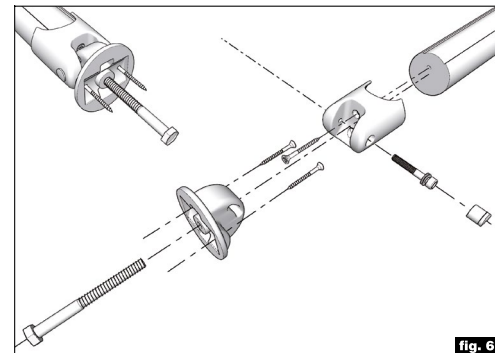
## Handrail Length & Adjustable Connectors

### **Please Note;**

*The adjustable handrail connector is a two part assembly, consisting of a newel plate and a handrail connector, with various fixing screws, bolts and washers.*

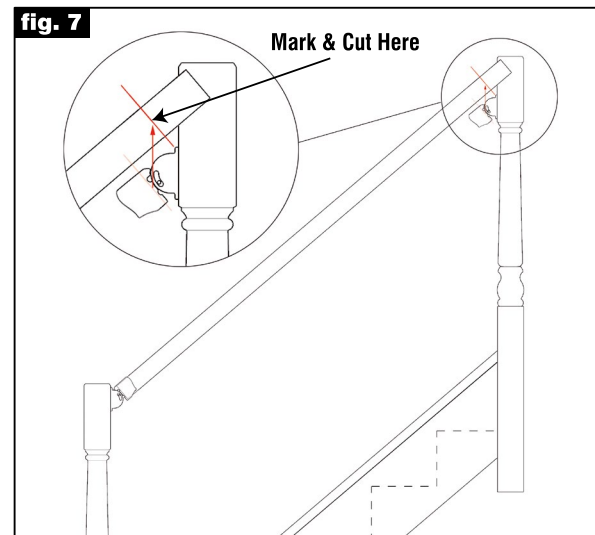
This is a job best done by two people. Before fitting the handrail, the length required must be established. This can be done by fitting the handrail connector onto one end of the handrail and secure using the two 45mm screws provided.

Then loosely fix the newel plate to the handrail connector using the 45mm bolt provided, ensuring that the two washers provided are used (Fig. 6).



Loosely assemble both parts of another handrail connector together, and have it ready near the top newel.

Hold the assembled end of the handrail in place against the bottom newel head and mark the cut length at the top newel head, using the loose connector assembly held against the top newel head as a guide for what space the bracket will take up (Fig. 7).



### **Please Note;**

*When making this measurement please remember that you will have to allow for any difference between the size of the newel base and the head of the newel turning.*

*If using an existing base this could be as much as 12mm.*

*If using an Axxys® newel base the difference should be minimal.*

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Once the handrail has been cut, un-assemble the newel plates of both connectors and fix the remaining handrail connector to the cut end of the handrail as above, using the two 45mm screws provided.

## Handrail Height & Baluster Assembly

### **Please Note;**

*When assembling the baluster brackets onto a baluster tube, remember to slide the baluster bracket covers onto the tube first followed by the tube bung and finally the baluster bracket, then lie each baluster bracket onto a separate piece of wood to ensure that they are both level/square with each other.*

*Now tighten the fixing screws prior to sliding the baluster bracket cover over the baluster bracket.*

*The baluster assembly is now ready to be fixed on the hand/base rails (Fig. 8).*

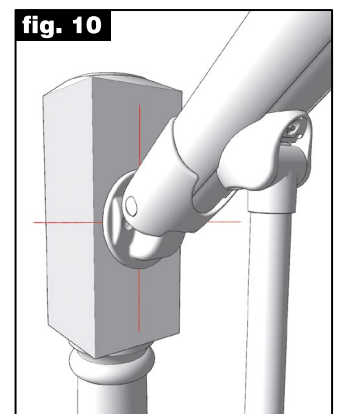
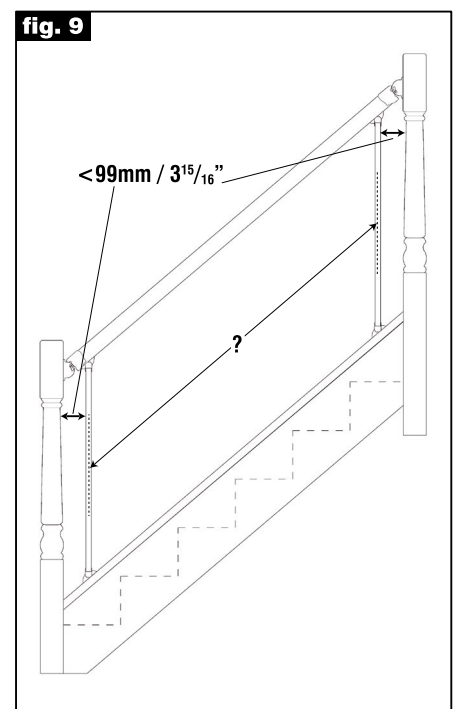
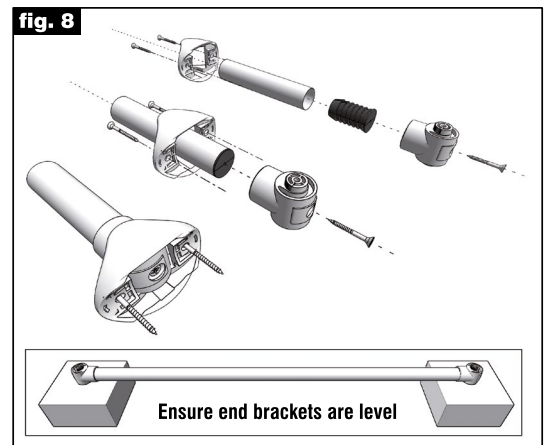
In order to fix the newel plates to the newel heads in the correct position, first you must fix a baluster to either end of the baserail and lock into position.

All holes for fixing the baluster brackets should be pre-drilled.

The first baluster should be fixed vertically no more than 99mm from the narrowest part of the newel post turning (Fig. 9).

When both balusters have been fixed using the correct spacing, use these as your guide to determine the height of the hand rail, and mark its position vertically and horizontally on the head of both top and bottom newel heads.

Now measure the horizontal marks you have just made from the top of the newel head down, and repeat them on the opposite faces of both top and bottom newels (Fig. 10)



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Working on the front face of the bottom newel (opposite to the handrail joining face) using the centre marks drill a 25mm diameter x 10mm deep hole to take the cover button, then drill a 8mm diameter hole all the way through the newel using the same hole centre.

Make sure that the hole is perfectly level and comes out through the centre mark on the opposite face (Fig. 11a).

Repeat this procedure on the top newel.

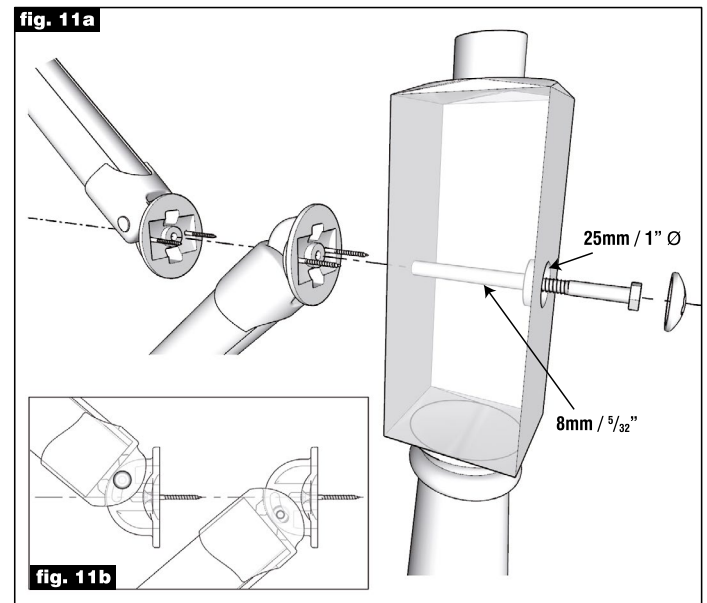
Clean out the drill chippings, place the newel plate in place and fix using the 85mm bolt and washer provided.

Make sure the newel plate is vertically level and then fix into the newel head using the two 45mm screws provided (Fig. 11a).

Repeat this procedure on the top newel.

## **Important;**

*Please remember to rotate the newel plate through 180° for the top newel prior to fixing, as it has been designed to work for both top and bottom connections, still allowing for adjustability on the rake and a horizontal lock out feature in both orientations (Fig. 11b).*



Offer the handrail into place and secure using the 45mm bolt, ensuring that both washers are used, carefully tighten the bolt making sure not to over tighten.

Finally fit all cover buttons to newels and connectors.

## **Remaining Baluster Assembly**

Remembering to pre-drill all holes for the baluster brackets the rest of the balusters can now be fixed.

In order to space the remainder of the balusters evenly measure the distance in mm between the centre points of the 2 balusters already fitted and divide by 148.5. Round the answer up to the next whole number and divide the whole number back into the original measurement and this will give you the exact spacing (Fig. 9).



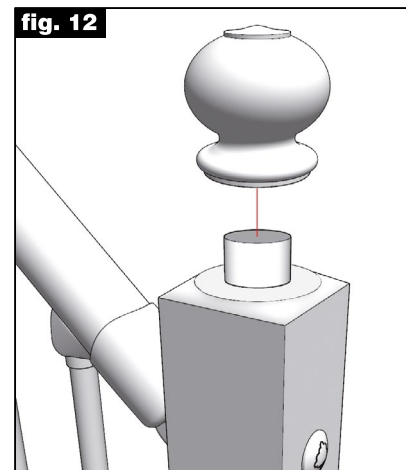
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Example - 2264mm between centre points of balusters divided by 148.5mm = 15.25, rounded up to 16, then take the original measurement 2264mm divided by 16 = 141.5mm which is the exact spacing measurement.

Pre-drill all holes for the baluster brackets after marking their position on the hand rail and base rail, using the spacing measurement from the previous step.

## Fitting Ball Caps

To ensure a snug fit of the axxys® origin ball cap, offer the cap onto the spigot and sand down the wooden spigot on the newel post using sandpaper until you have achieved a friction fit (Fig. 12).



### **Important;**

*Under no circumstances should force or any implement be used to manipulate the cap onto the spigot.*

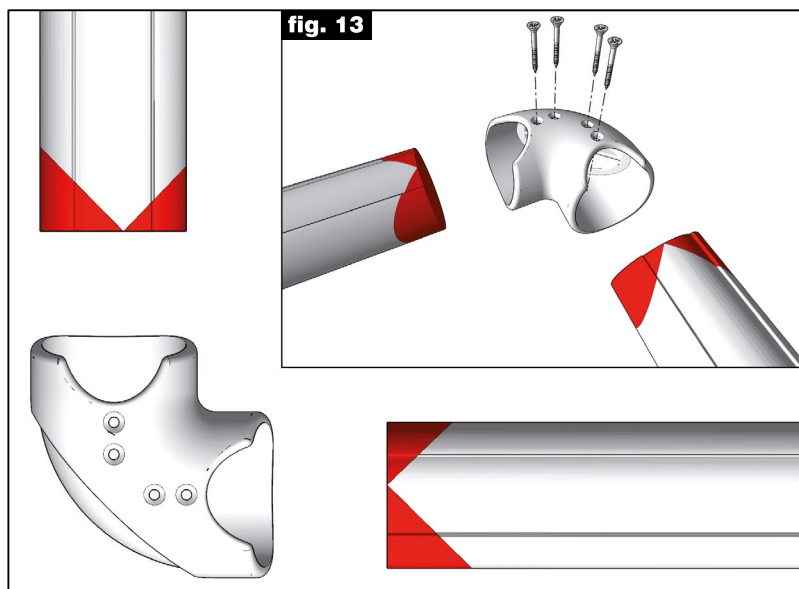
*To assist in securing the Ball Cap, a gap filling adhesive can be used.*

## 90° Elbow for Return Landings

If you have a return landing, then our 90° Elbow can be used to achieve this, in conjunction with a standard Adjustable Handrail Connector and short piece of handrail.

Simply mitre the handrails using the template supplied (last page of this booklet), slide them into the elbow from either side and check that the handrails pass the screw holes.

Then pre drill and secure the handrails using the screws supplied and glue from underneath (Fig. 13).

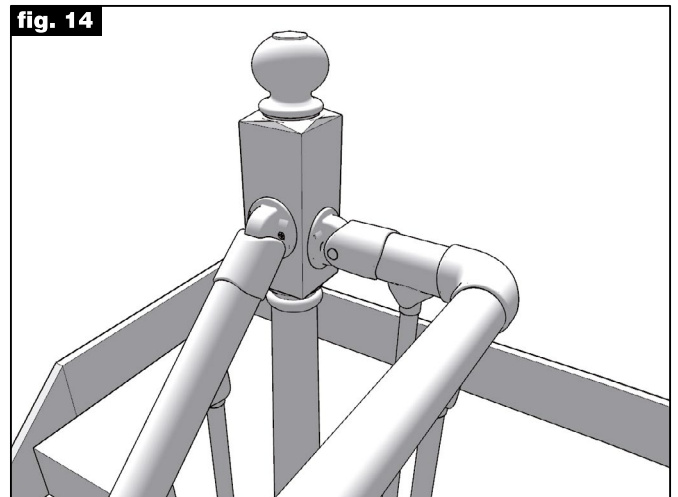
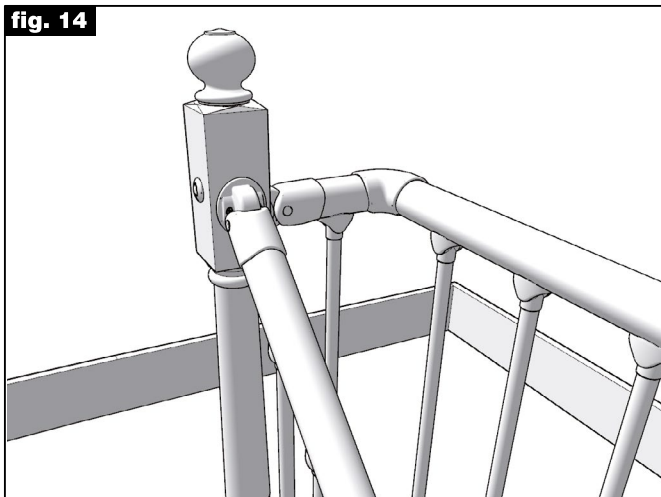


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Now connect the short handrail end to the Adjustable Handrail Connector, following the same instructions from earlier on how to install this connector to the Newel Head. The completed installation should look like the illustrations shown below (Fig. 14).

## Short Handrail Connector for Small Return Landings

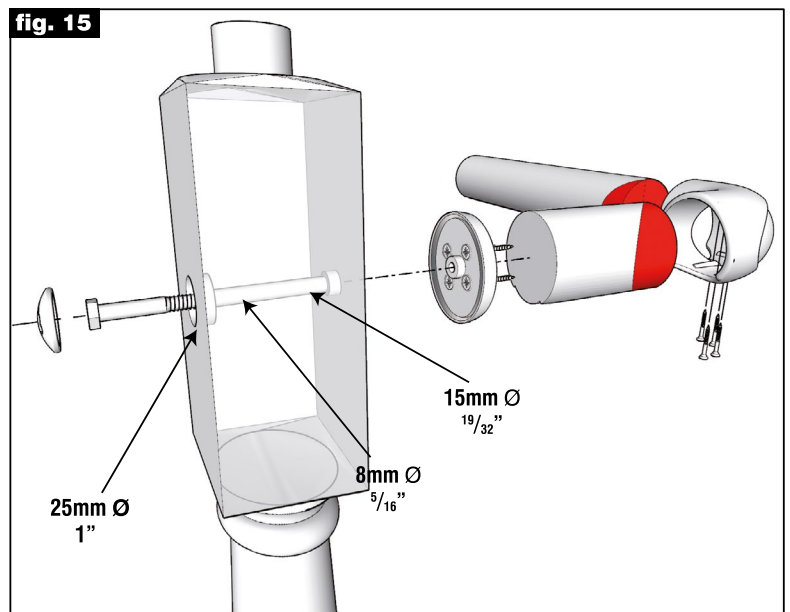
If your return landing is particularly tight and you don't have the space to fit a standard Adjustable Handrail Connector before the 90° Elbow, then our Short Handrail Connector can be used to substitute it.



Simply mark the centre of the handrail on the Newel Head, then drill a 25mm x 10mm hole for the cover button, then a 15mm x 5mm hole on the face you will be mounting the connector, using the same centre to accept the recessed nut lug, then finally a 8mm hole all the way through for the 85mm bolt, again using the same centre.

Insert the nut into the hexagon shaped recess on the Short Handrail Connector and then fix it onto the handrail using the 4 screws provided, pre drilling where necessary.

Then fix the whole handrail assembly to the Newel using the bolt provided, tighten to secure and then fit the cover cap to finish (Fig. 15).



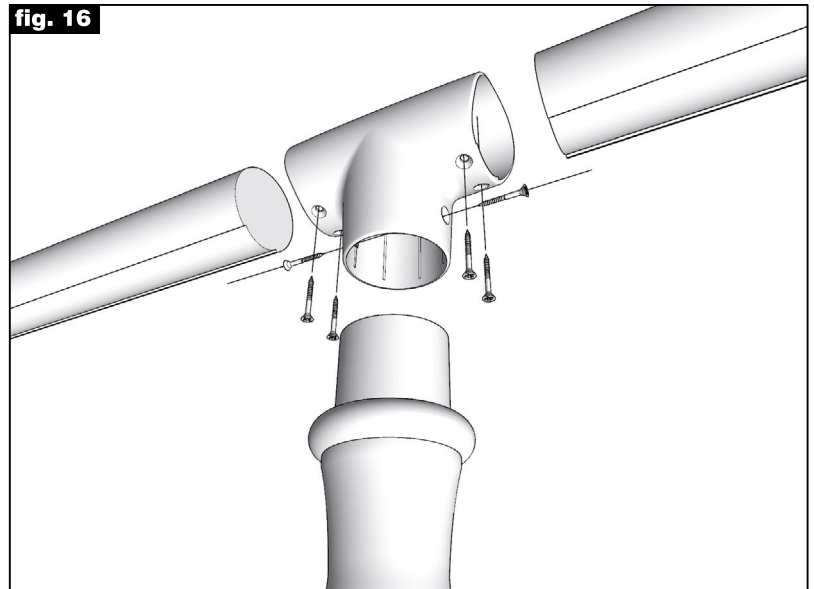
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## Tandem Cap for Intermediate Landing Newels

If your staircase requires an Intermediate Newel on the landing for added strength, then our Tandem Cap must be used in this instance, as it will allow an Tandem Newel Post to be connected to the Handrail.

Slide the Tandem Cap onto the Tandem Newel, then slide the Handrails into either side of the cap, checking that the Handrails slide past the screw holes.

Now pre drill and secure with the screws provided into the Handrails and Newel (Fig. 16).



This procedure should be repeated for any other Tandem Caps that are to be used in your installation.

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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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