



AXXYS® Evolution Fitting Instructions

The following instructions are for installing Axxys Stairparts only.

If you have any queries please contact Cheshire Mouldings technical helpline on (0800) 085 3464.

Please Check, All components should be inspected BEFORE installation commences for any damage and all your items are correct before installations.

Whilst every care has been taken to ensure the information contained within these fitting instructions are correct, they are only a general guide, every situation is different. Please read through the fitting instructions fully before commencing any fitting, Cheshire Mouldings will not be held responsible for any mistakes made through incorrect fitting. Cheshire Mouldings reserve the right to amend the fitting instructions at any time.

You will need to take extra care when installing pre-finished components and some touching up will undoubtedly be necessary around the cut areas.

Regulations & Standards

AXXYS® 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.

This means that they conform fully to the domestic requirements laid down by UK Building Regulations Part K, relating to guarding and resistance to horizontal force. Relevant British Standards for compliance are BS585 Part 1 1989 and AMD 6510, concerning wooden stairs and their fixings; BS5395 Part 1 2010 about straight stairs; and BS6180 2011 with its code of practice for protective barriers.

Domestic

As stated, the Cheshire Mouldings balustrade systems conform to domestic standards as set out in Building Regulations Part K. This asserts that "The guarding should be able to resist a horizontal force of 0.36kN for each metre of length if it guards a private stairs". Cheshire Mouldings spindles have also been tested in accordance with BS610.

AXXYS® is a contemporary range of stair balustrade designed to inspire.

As a modular system **AXXYS®** 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®** to make a modern statement within more classic, period environments.

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

AXXYS® is designed for use in domestic situations and will fit most closed stair cases achieving minimum handrail heights of 900mm on the rake and 900mm on the landings. If your staircase is longer than 3.9m on the rake, you must install an Intermediate Newel Base, Newel Post & Handrail Connector in order to achieve the FIRA strength standards, instructions for this are on the following pages.

AXXYS® 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.

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Existing Newel Bases

Important;

If your handrail is longer than 3.9m you will need to install an intermediate newel, If you do not need an intermediate newel ignore these parts within each section.

Please note that the newel connectors do not allow for any height adjustment, so newels must be set at the correct height to achieve building regulation standards.

Prior to cutting the newel bases down to the correct height, the **AXXYS®** 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, mark against the vertical lines of the newel posts and cut, achieving a good finish (See 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.

AXXYS® can be installed using the existing staircase newel bases.

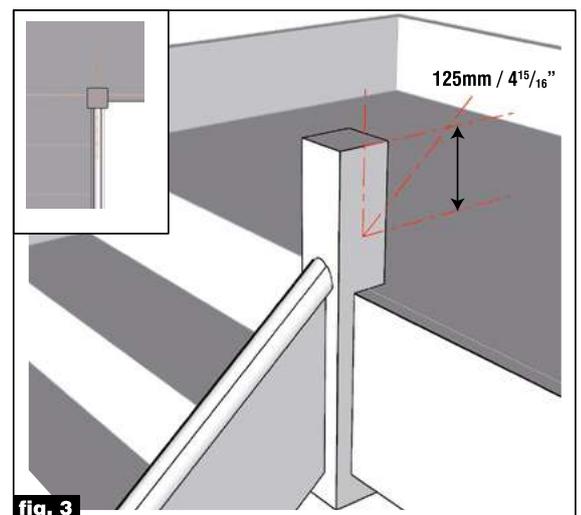
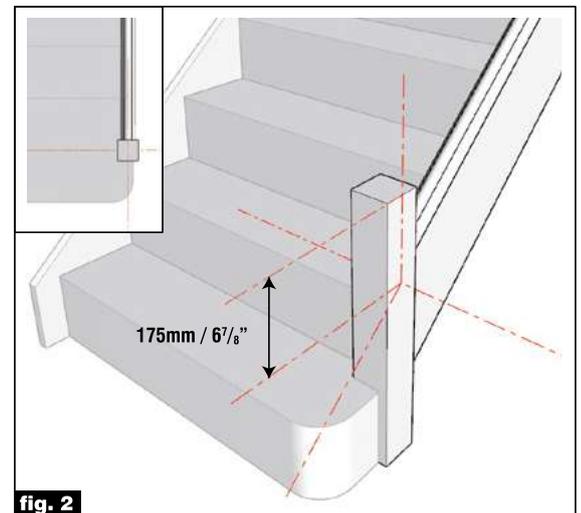
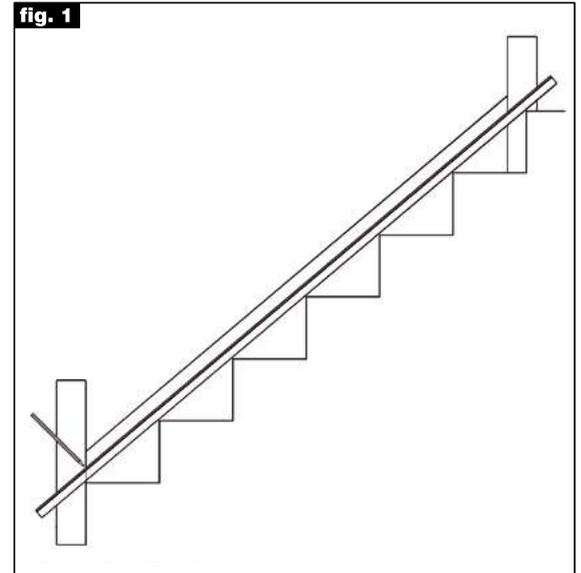
If the existing newel bases are to be used, they must be positioned central to the stair string and front edge of the riser concerned, and must be a minimum of 81x81mm square, if they measure less then the sides will have to be built up using suitable material.

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.

Once level they can be chamfered to improve the aesthetic.

They must also have enough material once cut, to achieve the dimensions shown plus the baserail height (See fig. 2 & 3).



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For existing bases only, find the centre of the newel base top by drawing diagonal lines from corner to corner and using the intersecting point, from the top and centre of the newel base, drill a hole 50mm diameter x 100mm deep (using our 50mm forstner drill bit or a 50mm drill bit) to take the newel spigot (fig. 4).

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.

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

Place your baserail onto your string and loosely attach it to your string using double sided tape, offer up your newel posts and draw a line along the top of your baserail onto your newel post. fig. 5)

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

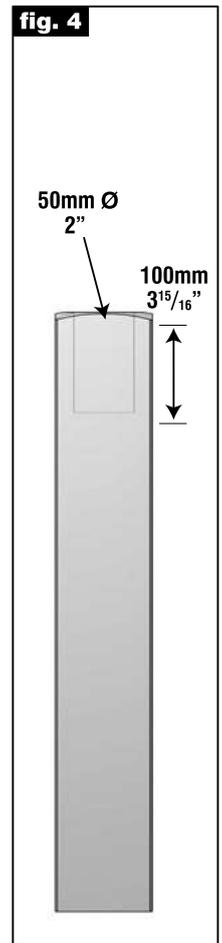
Now measure up 175mm from the intersecting point and mark a horizontal line (fig. 6). Then finally measure the remaining distance to the top of the newel and remove this from the bottom of the newel base.

Top Newel Base

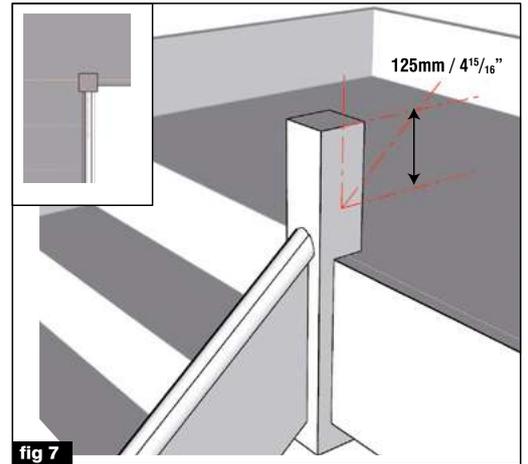
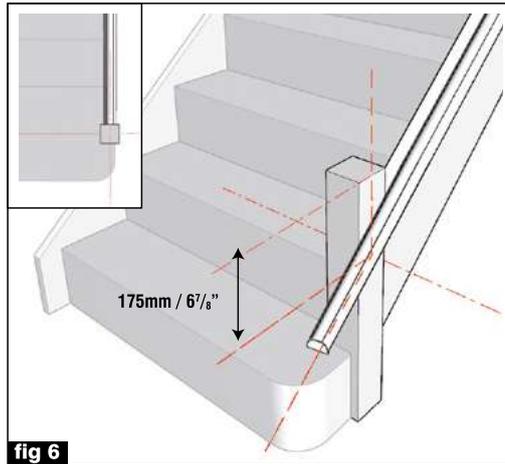
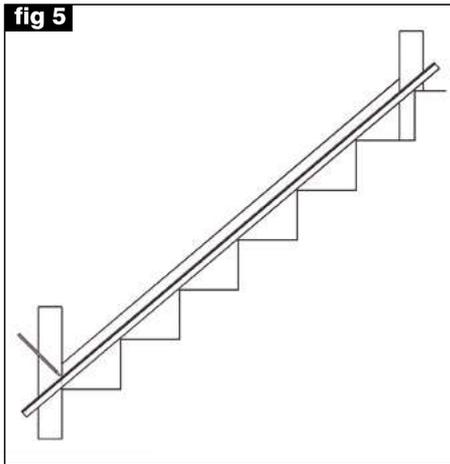
The top newel base should be marked out and cut in the same way as the bottom newel base, however the 175mm dimension should be replaced with 125mm (fig. 7)

Landing Newel Base

The Landing newel base should be marked out by using the top newel base. Measure from the floor of the landing to the highest point of the top newel base, this measurement is the height that your newel base will need to protrude above the floor.



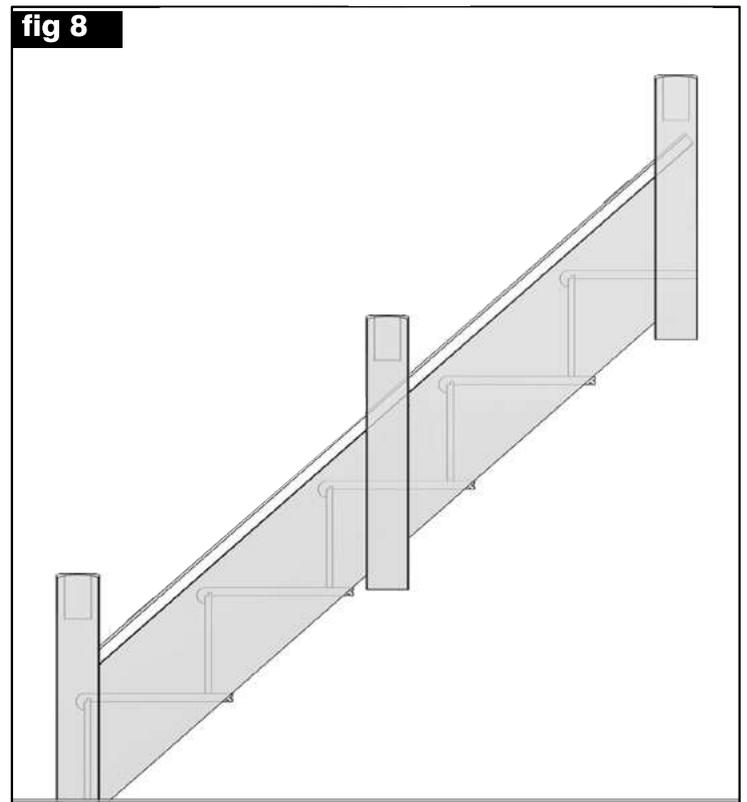
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Intermediate Newel Base

If your staircase is longer than 3.9m (measured between inside newel faces) then you will require an intermediate newel for added strength.

This will require an additional newel base to be installed at the same time as the top and bottom bases, the cut off point for the intermediate newel base is 150mm. The intermediate newel post must be cut to 590mm from the top of the spigot before fitting the collar and inserting it into the base. (fig. 8)



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Newel Posts & Newel Base Connector

Important;

Before you start, slide the AXXYS® newel post into the AXXYS® newel base connector to make sure it fits snug.

If the newel is too tight, the spigot on the bottom of the newel must be eased so it slides into the base connector, this is done by using sandpaper to reduce the taper on the spigot. Please **DO NOT** try to force the newel post into the base connector.

All drilling operations should be accurate, straight and level.

The Newel Base Connector can now be fitted to the AXXYS® newel, slide the connector onto the bottom spigot up to the stop, then pre drill and secure using fixings provided (fig. 9).

Before inserting the bottom newel post, mark and cut the newel to a length of 565mm measured from the top of the spigot.

Once cut to length insert the newel post making sure the collar meets with the newel base, secure using a PU glue (fig. 9).

Repeat this step for the top newel assembly, but the newel must be cut to 750mm to the top of the spigot.

Repeat this step for the Intermediate newel assembly (if you require one) the newel must be cut to 590mm to the top of the spigot.

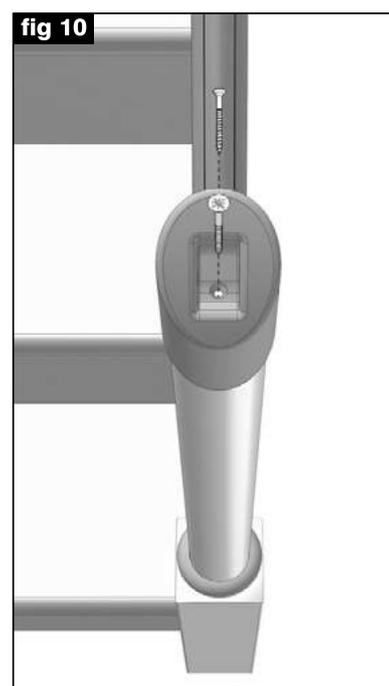
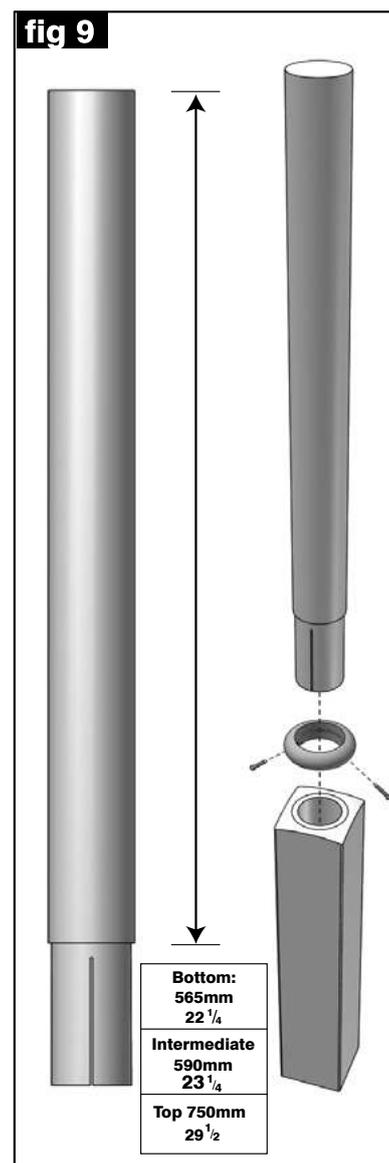
Handrail Length & End Brackets

Please Note;

The bottom newel connector is a three part assembly, consisting of a newel connector, a handrail connector and a handrail cap, with various fixing screws, bolts and washers. It must be fitted with the angles in the same orientation as the rake of the stairs.

The following is a job best done by two people.

First you must fit the newel connector onto the top of the bottom newel and secure by pre drilling and using the two 30mm screws provided, remembering to align the connector with the handrail (fig. 10)

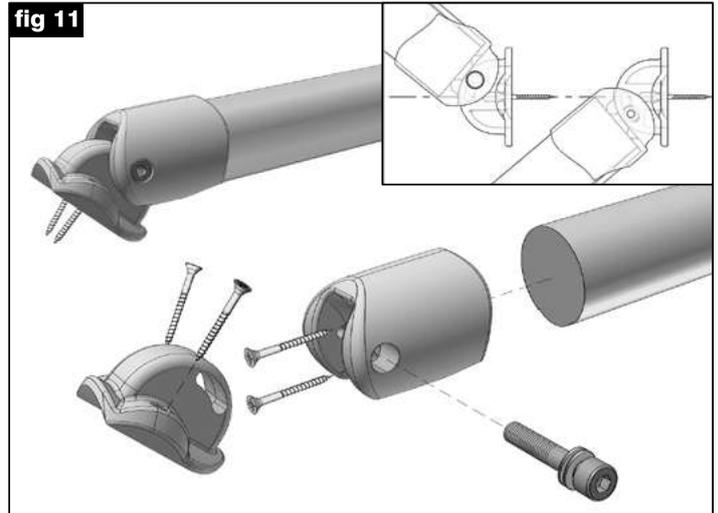


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Fit the intermediate connector onto the top of the newel and secure with the two 30mm screws provided.

Now fit the top connector to the handrail. Slide the connector onto the handrail and secure using the two 30mm screws provided.

Loosely assemble the remaining half of the bracket, using the bolt and two washers provided (fig. 11).

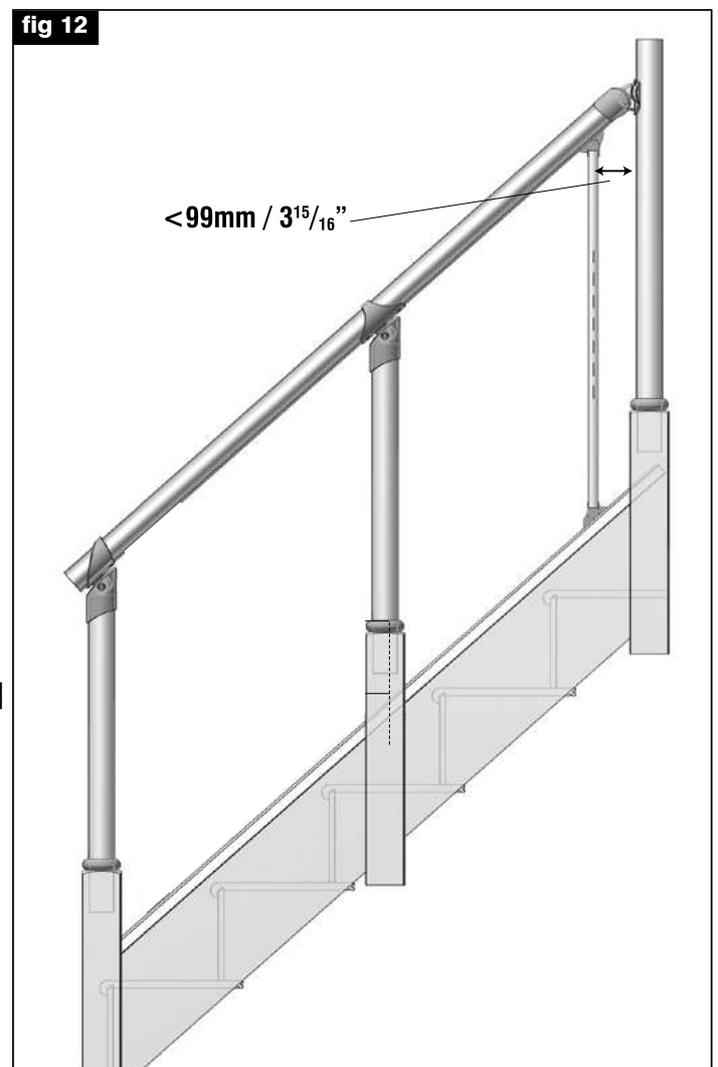


Then with a pre-assembled spindle (*instructions found on the following pages*) secured onto the baserail no more than 99mm away from the newel, lay the handrail assembly onto the spindle to determine the height of where the bracket sits on the newel. Secure using two 30mm screws provided (fig. 12)

If you are using an intermediate post you will need to slide on the intermediate connector on to your handrail now, before attaching the bottom connector

Next slide the Bottom connector onto & up the handrail, line up both the intermediate and the bottom connector into their relevant newels post brackets and drop into place ensure the bolt holes are perfectly aligned, you can now pre drill and secure the handrail connectors in their positions using the 25mm screws provided.

Then loosely fix the handrail connectors into the appropriate newel connector using the 45mm bolt and spacer provided, making sure the chamfered end goes into the hole first. Do not fit any cover caps yet (fig. 8).



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With the handrail connectors secure, cut the end of the handrail vertically with the bottom newel post, leaving 20mm protruding at the bottom of the handrail. You can now fit the end cap securing with two 30mm screws provided. (fig.13).

Baluster Assembly

If you are using our glass panels please see our AXXYS® Glass fitting instructions

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 in-line with each other.

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. 14).

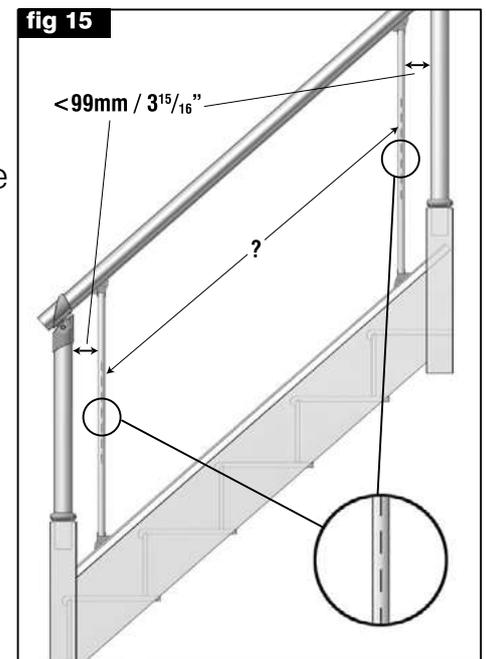
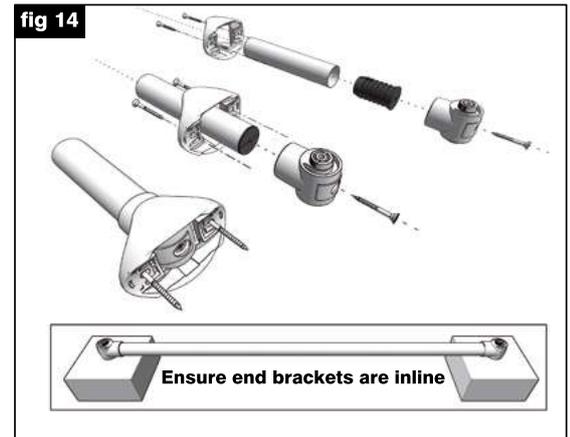
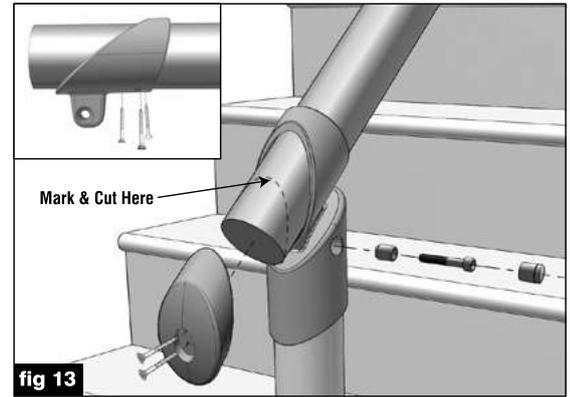
All holes for fixing the baluster brackets should be pre-drilled.

The bottom baluster should be fixed vertically no more than 99mm from the narrowest part of the newel post, in the same way as the top baluster was previously (fig. 15).

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 (if using an intermediate newel you will need to add a baluster on either side of the intermediate newel as well at the same dimensions of 99mm the formula above will stay the same fig. 15).

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

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.



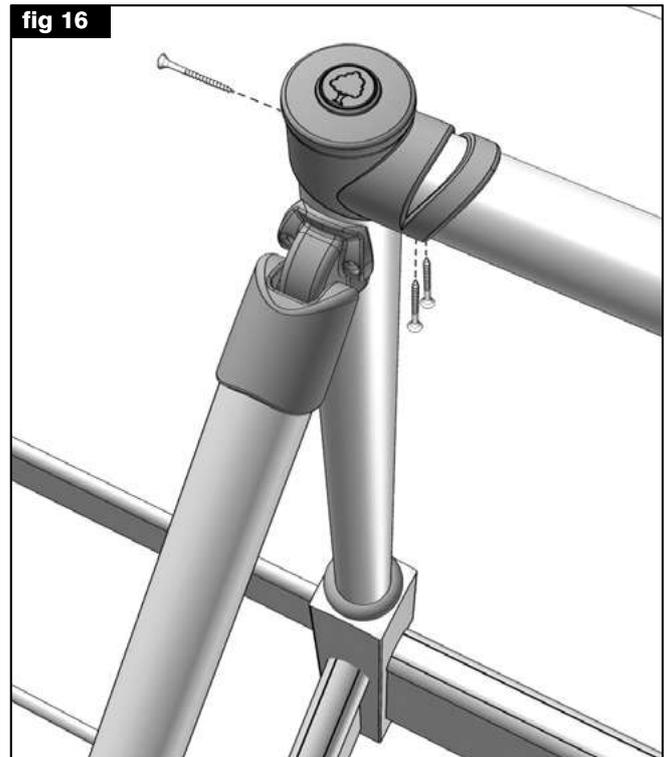
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Top Newel Cap or Handrail Landing Connector

If your balustrade ends at the top of the stairs, then you can finish off the newel with our Newel Cap.

However if you have balustrade coming off the top newel, typically at a 90° angle (for return landings please see instructions below), then you can use our Landing Handrail Connector.

To install the Landing Handrail Connector simply slide it onto the top newel and secure using the 30mm screw provided, making sure you have lined it up with your landing baserail. It is now ready for you to insert the handrail and secure using the two 30mm screws provided (fig. 16).

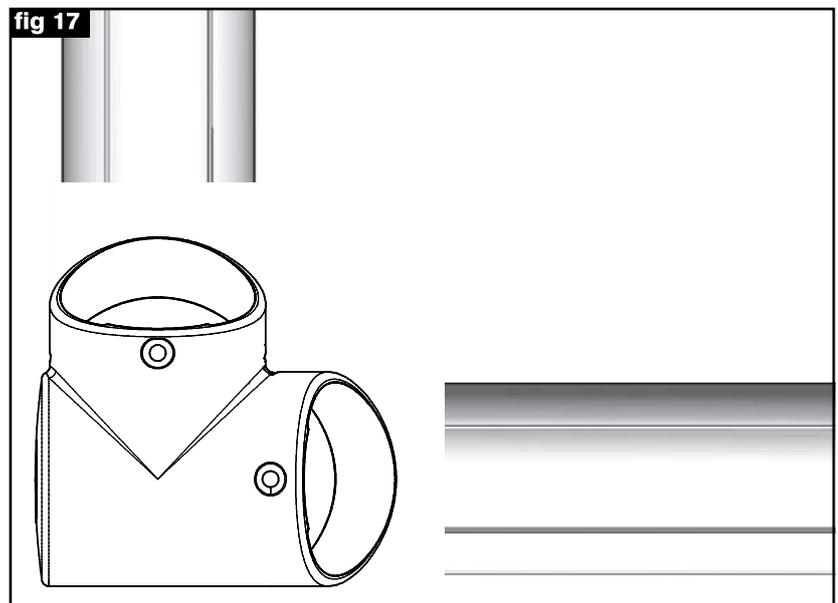


The handrail can terminate to either a wall connector, or to another newel to handrail connector where there is a second flight of stairs.

90° Elbow for Return Landings

Please Note;

When using a combination of the 90° Elbow and the Landing Handrail Connector to form a return landing, the minimum distance you can achieve is 160mm from the centre of the staircase baserail to the centre of the landing baserail.



If you have a return landing, then our 90° Elbow can be used to achieve this, in conjunction with a Landing Handrail Connector slide your handrails into the elbow from either side and check that the handrails pass the screw holes, pre drill and secure the handrails using the two screws supplied (fig. 17).

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Now slide the short handrail end into the Landing Handrail Connector, and secure using the two 30mm screws provided. The completed assembly should look like the illustration to the left (fig. 18).

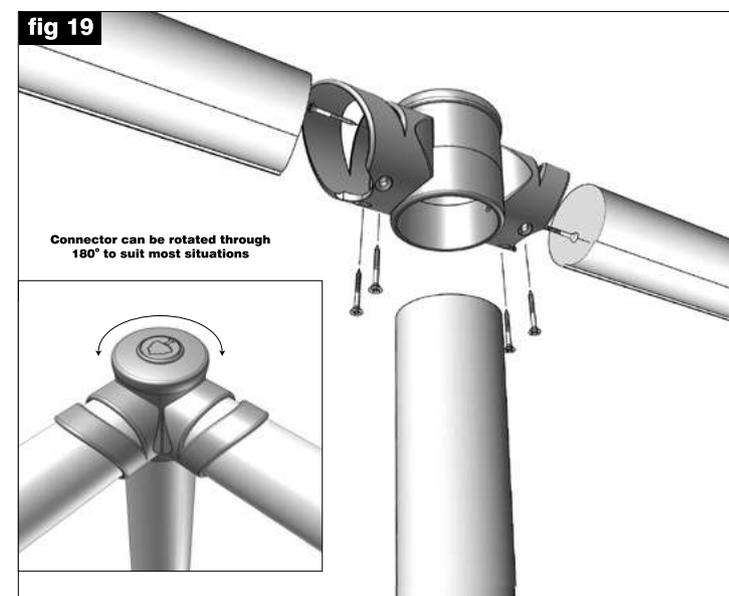
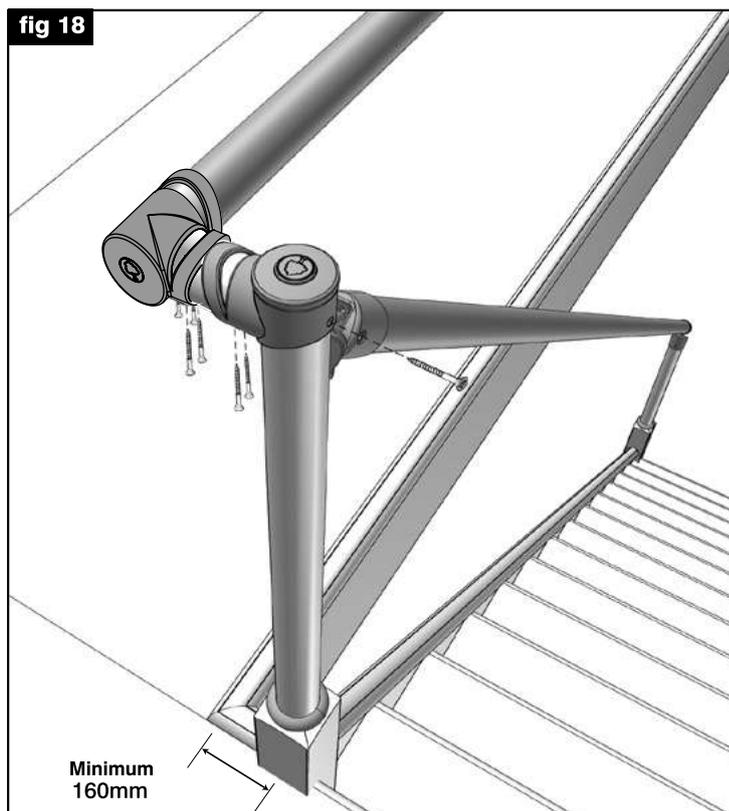
Intermediate Landing Handrail Connector for Intermediate Landing Newels

NOTE: your intermediate Landing Newel must be installed at the same height as your top newel.

If your staircase requires an Intermediate Newel on the landing for added strength, then our Intermediate Landing Handrail Connector has been designed for this instance, as it will allow an Evolution Newel Post to be connected to the Handrail. You can also rotate it any angle between 90° to 180° to suit a multitude of configurations.

Now measure the handrail lengths you require from newel to newel (including connector) and cut to suit. Slide both parts of the Intermediate Landing Handrail Connector onto the newel and position correctly their orientation, then secure using the two 30mm screws provided.

Finally slide the handrails in the connectors secure using the 30mm screws provided (fig. 19).



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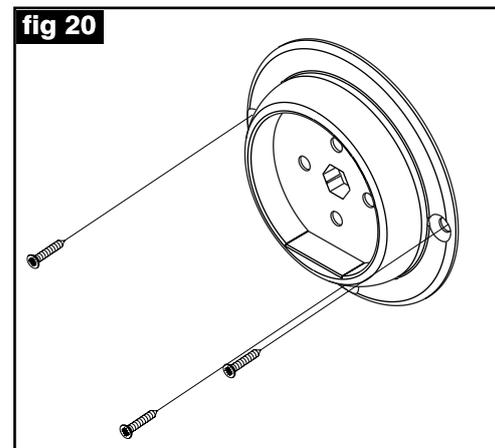
Connecting the Landing Handrail to a Wall Connector

To connect your handrail to a wall you will need a wall connector using suitable screws with the correct fixings for the type of walls.

Firstly place the wall bracket onto your handrail and drill 4 pilot holes in the 4 positions to fix the handrail to the wall connector next fix the wall connector to the handrail using suitable wood screws.

Place the handrail against your wall and mark the holes in which to drill your pilot holes for your adequate fixing to connect your wall connector to the wall.

Screw in the screws into your adequate wall fixing and make sure that it is secure. (fig. 20)



Landing Baluster Assembly

If you are using our glass panels please see our AXXYS® Glass fitting instructions
Please Note;

Please assemble your balusters exactly the same way as for the rake.

The landing balusters should be fixed vertically no more than 99mm from the narrowest part of the newel posts or wall, in the same way as the rake was previously (See Baluster assembly).

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 115. 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 to centre of the Balusters.

Example - 2000mm between centre points of balusters divided by 115 = 17.3, rounded up to 18, then take the measurement 2000mm divided by 18 = 111.1mm which is the exact spacing to the centre of the balusters.

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.



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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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