

Stairparts Fixing Instructions

Thankyou for purchasing Heritage stairparts. The following pages contain instructions on how to install your timber balustrading, including our Glass and Scala™ stairparts.

Replacing the balustrade on the average staircase will require about full 2 days work. The job is tackled in several distinct stages. Each section has a summary at the beginning to help you understand what the objective of each step is.

1. Firstly if you are installing unfinished balustrade components then we recommend you consider finishing up to the final coat prior to installation. This will make final finishing much quicker.
2. Removal of old balustrading – note, you should do this only when the new parts have arrived and have been checked over.
3. Installation of new newels. Note: getting the newels installed correctly is THE critical part of any stairparts installation. They form the foundations so do not move onto the next step until you are quite sure they are correct.
4. Hand & Baseraills – Rails are fixed into place next. You have several options to connect the handrail to the newel posts. We'll show you each option.
5. With the newels and rails in place you've effectively now creating a framework. Adding in spindles/glass panels to fill in this frame is the final step.

Removing Old Balustrade

Summary: Here our objective is to remove the old handrail, baserail, & spindles. Some newels can be removed completely, others cannot as they are part of the structure of the stairs. We'll identify these, and instead of removing them we will cut them down to form the base for a replacement top section.

Firstly, cut the handrails close to the newels and remove them. Spindles should then come out, followed by the baserails which are normally just screwed or glued onto the top of the string. Where you have removed balustrade from the landing, its worth checking now that the landing floorboards are reasonably level and if not then level them up. When you come to fix the new baserail down uneven boards can make it hard to get the baserail level. You should be left with just the newels.

The next step is to identify which newels can be removed, and which cannot. Those that cannot, we will cut down to form a base for a replacement top section called a spigot newel. This is basically a newel with a large round spigot on the bottom to help you connect it to the base.



So which newels can you remove. There are two basic rules for where you should never remove a newel. See diagram 1 opposite for examples. Do not remove a newel...

1. Where it is next to a staircase turn, whether this is a winder box or a quarter landing. The base of the newel in these situations holds the treads and strings in this area in place.
2. Where a newel part way up or at the top of the stairs runs all the way to the floor. In this case the builder has used the base to add support for some part of the stairs or landing.

If in doubt, do not remove the newel, instead you can cut it down and fit a spigot newel to the remaining base.

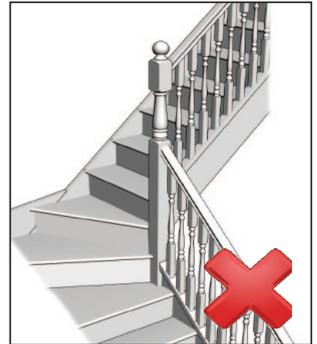
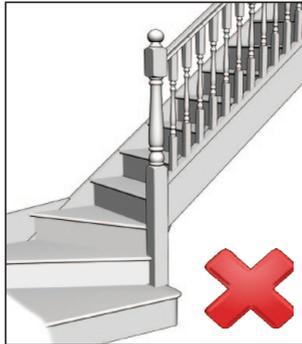
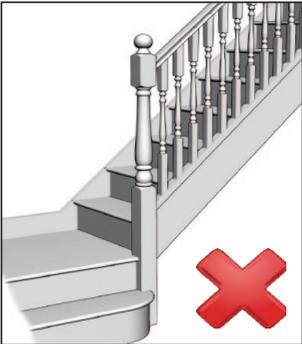
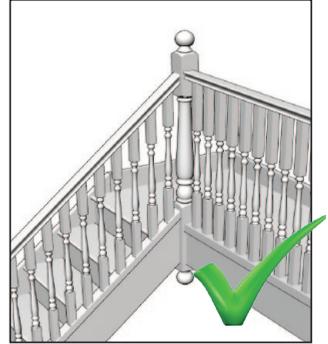
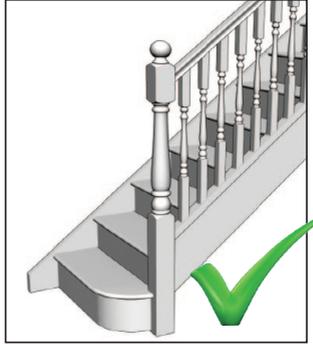
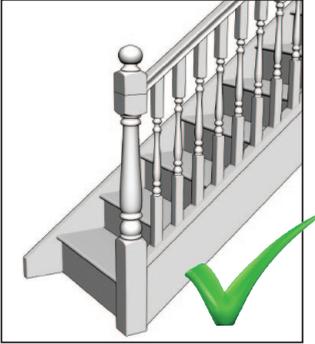
Those newels that can be removed, you should remove now. They will usually be glued to the string and there will often be a screw through from the side, often under a timber plug. It is worth retaining the old newel as they can be used as a template for shaping the new newels to fit. The newels that cannot be removed should be cut down to form a base as follows.

Newels at the bottom of the stairs should be cut so the top of the newel is 260mm above the adjacent tread. Newels on a winder stair or quarter space stair should be cut so the top is 260mm above the next straight step after the three winder treads. You should find that you are left with around 200-230mm of newel post still protruding up past the string.

Newels at the top should be cut so that they are 200mm above the landing.

Removal of the old balustrade is now complete.

Diagram 1- Removing Old Newels



Installing New Newels (including spigot newels)

Summary: Here our objective is to fit the new newels including new top sections where we have cut down an existing newel that cannot be removed. The newels must be vertical and correctly positioned on the stairs as they form the foundation for the whole balustrade

Newels are always positioned in a certain way and you should ensure that your new newels follow this.

1. Each newel is always fitted centrally over the string. It is also fitted central to the adjacent riser. See the diagram opposite for a plan view that shows the newel correctly located.

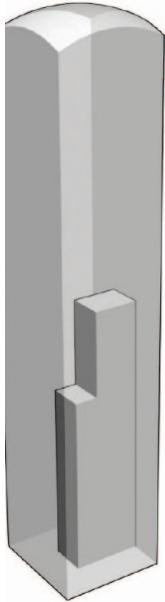
Note: Where your handrail passes the landing as it rises up the stairs it can be quite tight. If this is the case for you, it is ok to offset the whole newel/handrail/baserail assembly on the string a little to help gain some room. However you will find there is a limit to how much you can move the baserail over before it no longer fits on the string, in most cases at best you can gain around 5-10mm but this may be helpful.

2. Check that each newel is vertical.
3. You are aiming for the top of the newel post to be 1000mm above the top of the adjacent tread. This allows for the handrail to be fitted with its top 900mm above the tread, leaving 100mm above that for the newel cap to sit on. The newel bases that you have cut down, are already sized to place the newel at the correct height.



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.

To fit the new newel, it needs to be "housed out" to fit over the string. This is probably the trickiest part of the whole stairparts installation but again if you approach it in steps it becomes easier.



Firstly cut the slot in the centre of the newel the same width as the string. Using DIY tools this is most easily done by using an

appropriately sized spade bit to drill a series of holes. Use a chisel then to square up the resulting slot. You will then need to cut away half of one side to allow it to sit up to the riser so that the newel is central.

Once you can slide the newel over the string so that it ends up in the correct position, final fix it in place using glue and a screw through the side of the newel into the string. The screw can be plugged over to ensure a neat finish. Check that the newel is vertical in both planes before final fixing.

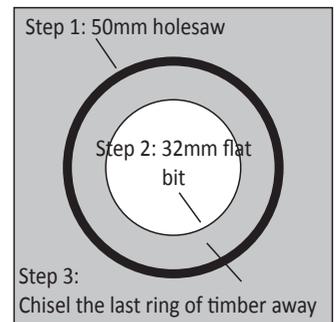
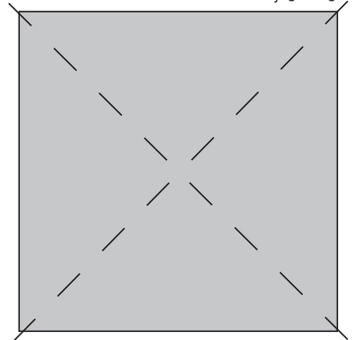
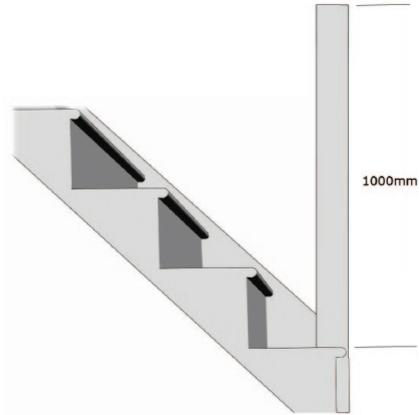
The next step is to fit the spigot newels to the bases of the cut down newels. Before you do this you may want to clad the base to match in with the new timber. Your new newels measure 90mm x 90mm and this is the final measurement you should aim for with your base. Often newels are 75 or 82mm square giving you room to clad the base with 4 timber sections. If the base is already 90 x 90 then you can use veneer to finish it. Heritage holds oak veneer in stock for this purpose.

With the base suitably finished, you can now move onto drilling a hole for the spigot on the underside of the newel to fit into. Find the centre of the base by drawing 2 lines, corner to corner. You will need to drill a 50mm hole to a depth of 80mm to take the spigot. You will be cutting into the end grain of the timber and there is only one practical

way to do this. Use a 50mm hole cutter which will cut a circular groove in the base. With this cut you can then use a flat bit to remove a large proportion of the inner, (32mm is a good size to use) and finally a chisel to remove the last parts. You will find that most hole saws will only cut a groove to around 50mm so you will need to perform this operation twice to get the 80mm deep hole you need. With the holes drilled, glue the spigot newel in place, once again checking that it is vertical in both planes. If a mistake has been made and the hole drilled too large then you will find that a gap filling adhesive such as Grippfill can be used to rescue the situation!

On the landing you can use half newels and half newel caps, positioned against the wall to finish the handrail up to. Alternatively the handrail can simply be bracketed into the wall itself.

With this done, all the newels should now be in place. You can either fit the newel caps now or at the end of the installation when they are less likely to be damaged. Newel caps are simply held in place with wood glue. The next step is to fit the handrail and base rails. Depending on the system you have chosen, how you approach this will be slightly different so we recommend that you read through the whole section to find the information relevant to your range before your start.



Installing Handrails & Baserails

Summary: Here our objective is to fit the new handrails and baserails. The baserail is simply fitted centrally to the string. The handrail is also fitted centrally over the string but its height must also be correctly set. There are a few methods of connecting the handrail to the newel posts which will all be described.

The first step is to fit the baserails to the string and landing between the newel posts. Starting with the stairs, the baserail should be cut to length and angle and positioned centrally to the newel posts. The easiest way to achieve this is to lie the baserail on the stair treads next to the newels. Use the newels themselves to mark where the baserail needs to be cut.

With the rails cut you can now fix them permanently in place using glue and screws. On stairs with grooved rails for timber or Scala™ spindles you can simply screw through the bottom of the groove at approximately 300mm centres. The fillets and spindles will hide the screws wherever you position them. With a grooveless baserail, used with our glass system, the ideal is to hide the screws underneath the centre of the each glass bracket. In this case its easiest to leave the baserail loose until you come to fit the panels.

With the baserails now in place we need to fit the handrails. Once again, offer the handrails up to the newel posts and mark where they need to be cut. The next step is to fix them in place between the newels. There are two things to consider here.

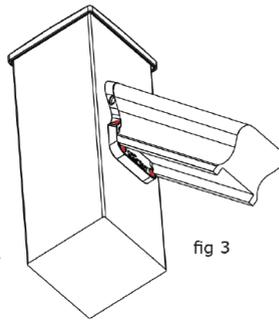
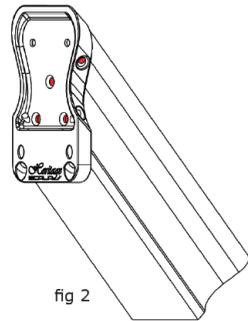
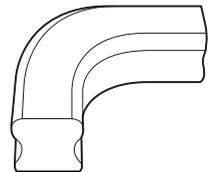
The handrail needs to be set at the right height above the stairs. For a timber spindle balustrade you should measure up each newel and mark a point 900mm above the top of the adjacent tread. The top of the handrail will be fitted to this mark so that it is 900mm above the treads (this is the minimum height needed to comply with UK building regulations).

With a glass panel or Scala system, the panels/Scala™ balusters are precut to create a handrail height of 900mm minimum. As the panels/balusters are precut rather than measuring up from the treads, use two panels or balusters at each end of the handrail to set the height. The glass panels should be set with the long edges vertical and with brackets in place.

With the height now marked, it is time to fix the handrails permanently in place. There are three ways to connect the handrails to the newel post. The traditional method is to use a mortice and tenon joint, which forms an exceptionally strong and stable joint. However this can be difficult to create accurately using DIY tools so the other alternative is to use Scala handrail to newel connecting brackets and as a bonus these form a pleasing metal accent to the handrail.

Scala™ handrail brackets are designed to fix to the end of the handrail, and then allow access to screw through them into the head of the newel. Whilst these brackets form part of the Scala™ metal system, they can also be used on normal timber or glass stairparts and you will also find they are extremely quick to use and create a very strong joint.

The bracket are first screwed to the end of the handrail using the screw holes shown in Fig 1. You may need to slightly sand the end of the handrail to get a perfect fit as the shape changes depending on the angle the handrail is cut to.



depending on the angle the handrail is cut to. The rail can then be fixed to the newel using the screw holes highlighted in Fig 2. Always mark and predrill the holes, oak is very hard and its extremely easy to snap screws in it unless you predrill.

On the landing you may need to use a shaped 90 degree handrail section called a quarter turn. This takes the handrail out from the newel post, then turns it through 90 degrees onto the landing. One end of the horizontal turn is fixed to the head of the newel in the normal manner, using either a screw or a Scala™ handrail connector. The other end must be connected to the landing handrail. Inside each quarter turn pack you will find a special fixing bolt with a woodscrew on one end and a machine thread on the other. There will also be a shaped half moon washer and nut.



The wood threaded end is screwed into the end of the quarter turn. Drill a corresponding hole into the end of the handrail to feed the machine thread into. You will then need to drill a larger hole in the underside of the handrail to allow access to fit the washer and the nut. The best tool for this is a flat spade bit, but be careful to ensure the "spike" in the centre of the bit does not come through the top surface of the handrail.

The handrails should now all be in place, and you are ready to move onto installing the balusters or glass panels.

Installing Balusters (inc Scala™) and Glass Panels

Summary: Here our objective is to fit the balusters or glass panels to complete the balustrade. They must be spaced equally and also in such a way that there are no gaps that would allow a 100mm diameter ball to pass through the balustrade.

With timber balusters the next step is to cut the balusters to length, and on the stairs to angle. Once again the easiest way is to offer the baluster up to the handrail and baserail and mark where the cut needs to be. Once the first baluster is cut, check it fits snugly between the hand and baserail all the way up the stairs before cutting all the rest. Scala™ balusters and glass panels are all precut and are ready to install.

Space the balusters so that the gap between them is just under 100mm. Scala™ balusters are held in place by drilling a small hole 5mm up from the bottom of each baluster and then using either a small woodscrew or nail driven through the hole on an angle into the handrail/baserail. Timber balusters can be pinned in the same way.

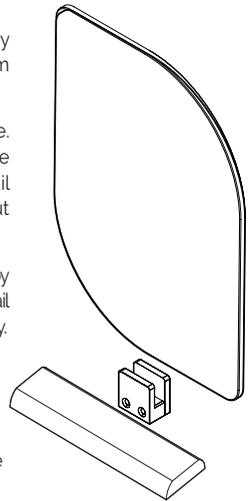
Once the balusters are in place, cut your fillet strips to the correct length, remembering to angle cut one end of the fillet for the ones used on the staircase. The fillets can now be glued and pinned in place between the balusters.

The landing is tackled in the same way, spacing the baluster to just under 100mm and cutting the fillets to fit the gaps between.

Glass panels are held in place with glass brackets, one to the top and bottom of each panel. It is helpful to temporarily fit the brackets to the panels, and with the help of an assistant trial fit the panels to the balustrade to work out the correct spacing. Mark the position of the glass brackets and remove them from the glass panels.

With the position of the brackets marked, it's now easy to screw the baserail down permanently with screws hidden under where the brackets will be fixed. Remember that you will also be screwing the glass bracket down so ensure that the screws do not clash. Rubber pads are fitted to the glass bracket and with the glass held in place, the side of the bracket is bolted up using the two Allen headed bolts provided. Note that the bracket may come with rubber pads to suit both 8 and 10mm glass, you should use the pads marked 8mm (10mm glass is used in commercial applications).

This completes your installation. You can now move onto finishing the timber elements of the stairs if you have not bought prefinished stairparts.



We recommend...

Check carefully before you remove any newel posts. If in doubt either cut the existing post down and use a spigot newel or consult an expert.

Always take the time to get the newel posts in the correct position, central to the string and first and last risers. They form the foundation for the whole installation.

Please DO NOT...

Use abrasive finishes on any of the chrome or glass parts

Be careful when handling your glass panels. They are tough in everyday use, but dragging one over another as you unpack them can easily cause scratches

Finishes Available for your Stairparts

Below are the current finishes we offer for your new stairparts. Note that aged Oak Finishes are not available for pine stairparts. For more information download our product brochure or go online at www.theheritagecollection.co.uk

Natural Unfinished



Traditional Clear



Shades - Extra White



Shades - Old Grey



Shades - Clouds



Shades - Castle



Shades - Cherry Red



Shades - English Brown



Shades - Smoked Oak



Shades - Wenge



Shades - Chocolat



Aged Oak - Caramel



Aged Oak - English Brown



Aged Oak - English Red



Aged Oak - Weathered Oak



Aged Oak - White



Aged Oak - Baro



Aged Oak - Cottage



Aged Oak - Burned Oak



Aged Oak - Double Smoked

