

Twist Bracket Kit Fitting Instructions

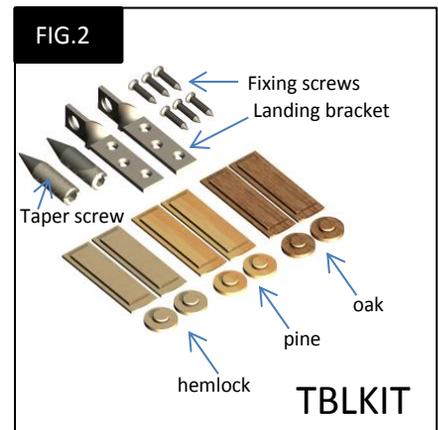
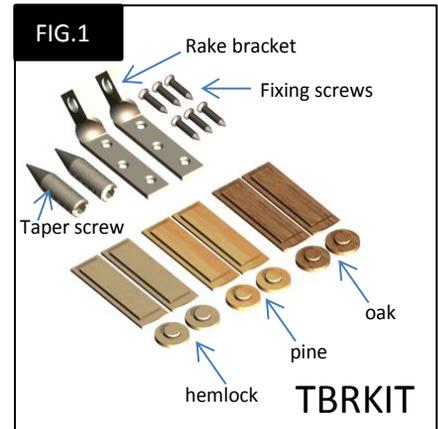
The following instructions are for correct installation of Richard Burbidge Timber balustrade components using twist bracket kits *TBRKIT* (**Fig.1**) for the stairs and *TBLKIT* (**Fig.2**) for landings. The kits come complete with timber cover caps in Pine, Hemlock and White Oak in order for you to select the option that matches your chosen balustrade. It also includes timber cover strips for installations using handrail without a groove

The TBRKIT (Twist bracket Rake Kit) has been designed to suit staircase pitches between **40 – 43 degrees**.

Note –

Please check all components carefully PRIOR to installation for any damage as Richard Burbidge cannot be held responsible for any damage once installation has commenced

Richard Burbidge Timber Balustrade systems using Twist Bracket Kits have been independently tested by FIRA and when installed in accordance with these instructions conforms with Building Regulations for balustrades at 900mm high and 0.36kN/m domestic loadings. FIRA Structural test reports and Richard Burbidge balustrades are safety approved by TRAD (BM TRADA Approved Timber Balustrade Scheme certificate number 022/001)



Before commencing your installation, please read these instructions carefully.

Tools and fixings required – battery drill, 6mm Allen drive bit, tape measure, pencil, spirit level, square, pva glue, gap filling adhesive, $\varnothing 11$ mm flat drill bit, $\varnothing 16$ mm flat drill bit, panel pins, chisel, hammer, saw, pozi drive screwdriver, $\varnothing 5$ mm drill bit, 40mm No6 wood screws, adjustable bevel

Raking balustrade

The following instructions are based on the existing newel bases/posts being centrally mounted to the string (Fig.4). If they are side mounted, it may be necessary to remove and fit new bases. Before removing existing newel bases, check that they are non – supporting or do not form a structural part of the staircase design (if in doubt, please call our technical advisers)

Using existing bases

Mark a pitch line on the inside face of the existing bottom newel base by placing a straight edge over the nosing's of two or three treads. Make a vertical centre line also on the inside face of the existing newel base.

Where the two lines intersect measure vertically the given cut off point and mark

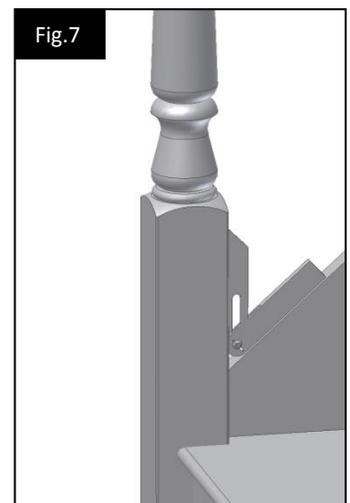
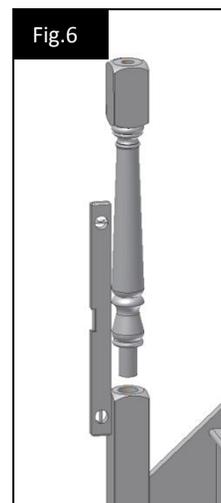
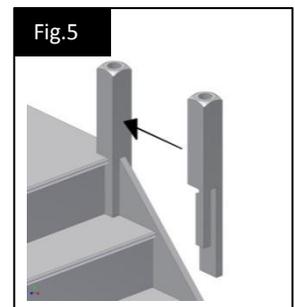
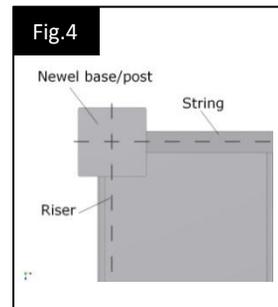
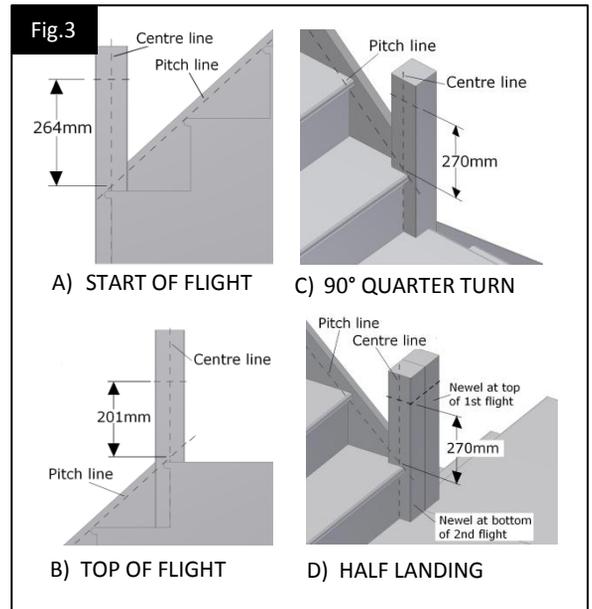
- Cut off points – 264mm bottom newel (Fig.3A)
- 201mm for top newel (Fig.3B)
- 270mm intermediate (Fig.3C)

Where the staircase has a half landing, two 415 newels are used side by side. The newel base at the start of the second flight is set at 270mm above the pitch line and the newel base at the top of the first flight is set accordingly so that the tops of the newel bases are level (Fig.3D).

Drill a 50mm dia hole to accept newel post spigot and sand/chamfer top face and corners of existing newel base to match newel post chamfer

Using new newel bases

Saddle newel base centrally over the string ensuring the front face of riser is central to the inside face of newel base (Fig.4 & Fig.5). Check newel bases is vertical and set to the correct height. To secure newel base either bolt, screw or dowel and glue. Offer newel post into newel base to check vertical (Fig.6)



Base rails

You are now ready to fit base rail which must be cut to the angle of the stairs. To find the angle of the stairs use an adjustable bevel (Fig.7). Lay the base rail on the stair nosing's and mark where it intersects the newel base faces, strike mark through base rail using adjustable bevel and cut to length (Fig.8). Drill, countersink and glue base rail to the string. Use at least 32mm x No.8 screws (Fig.9).

Newels

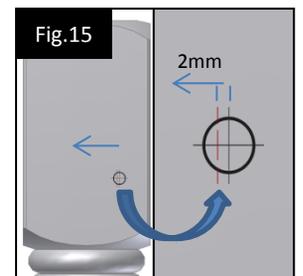
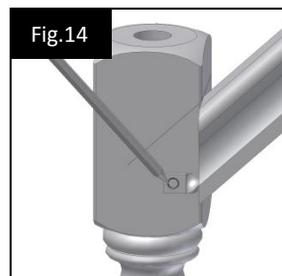
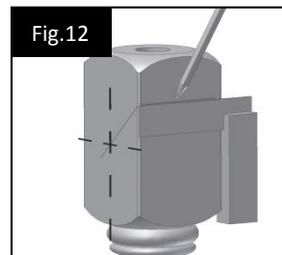
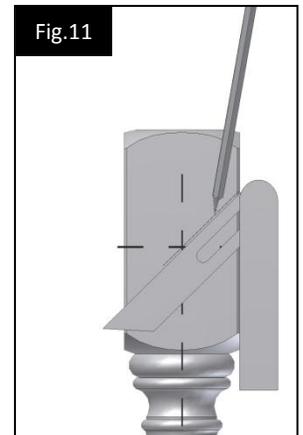
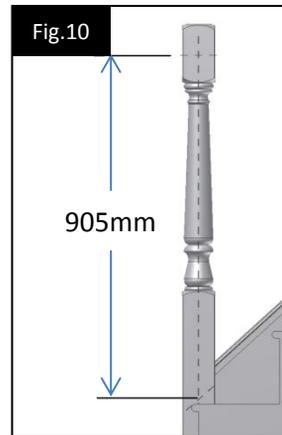
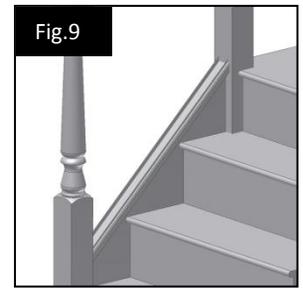
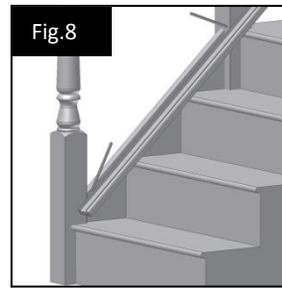
Offer newel posts into newel bases and measure vertically up 905mm from the pitch line and mark position on newel post (Fig.10). Using the adjustable bevel which is set to angle of stairs, mark a line through mark (Fig.11). Using a square strike a horizontal line across rail face of newel post. This will set the location of the top of the handrail height (Fig.12). Repeat for all newels on stairs.

Handrails

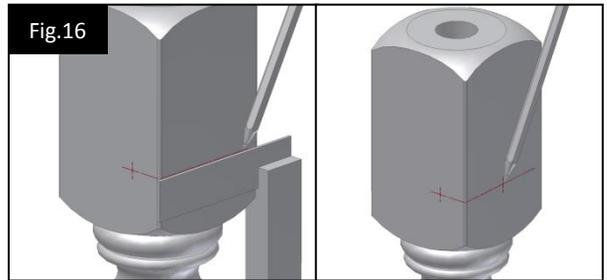
Cut handrail to length following same procedure used for base rail. Offer twist bracket to underside of rail and position centrally in groove so that twist bracket hole lug is facing 90° to rail face (Fig.13). Pilot drill rail and secure bracket using screws provided. Repeat for both ends of rail. If an un grooved handrail is being used, draw around bracket and chisel out to a depth of 8mm. To finish, fix cover strips over brackets using clear silicon

Twist bracket

Offer handrail between newels and position so top of handrail is aligned to previously marked lines. Once aligned, mark twist bracket hole position onto newel (Fig.14). Establish centre of twist bracket hole and draw another vertical line which is offset away from rail face by 2mm (Fig.15)

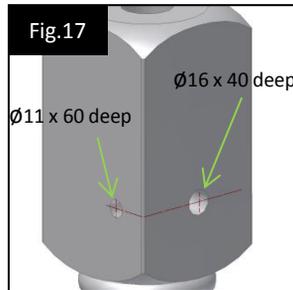


Mark a horizontal line across rail face of newel ensuring the line is level with centre line of previously marked twist bracket hole (Fig.16). Find centre of rail face of newel and mark (Fig.17). On the side mark (the face pointing towards the stairs) drill a hole using $\varnothing 11\text{mm}$ bit to a depth of 60mm. On the rail face of the newel, drill a hole using $\varnothing 16\text{mm}$ bit to a depth of 40mm.



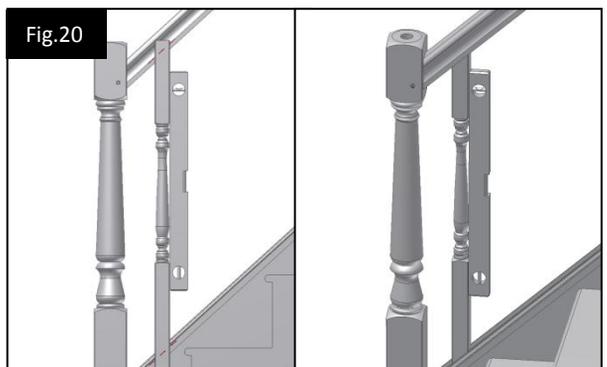
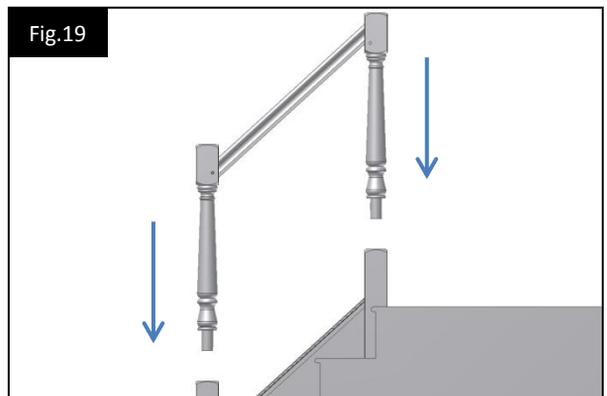
Fixing handrail to newels

With newel posts inserted in newel bases, offer rail with twist brackets into 16mm holes and tighten by inserting twist bracket taper screw into 11mm holes until the rail faces are pulled tight to the newel posts (Fig.18). Once fit has been checked, remove twist bracket taper screws and remove newel posts. Apply pva glue to both rail faces and offer newel post onto twist brackets and insert taper screw but do not overtighten at this stage. Apply gap filling adhesive to newel base holes and insert rail and newel post assembly into newel bases (this will take 2 people). Ensure newel posts are fully down then tighten twist bracket taper screws (Fig.19)



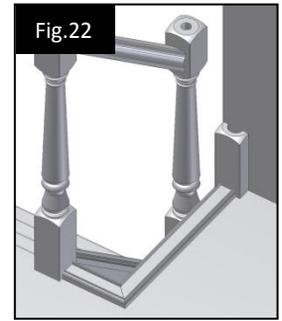
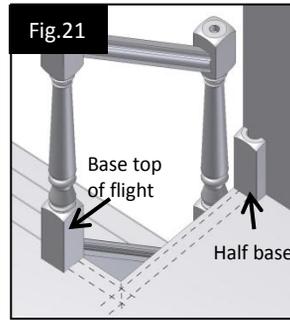
Stair spindles and fillets

The spindles should now be fitted. To give the required length and angle of cut, the first spindle should be measured by standing it against the stairs and marked accurately, remembering to allow for groove in the handrail and base rail (Fig.20). Once the spindle has been cut top and bottom and checked within the rail grooves for fit at bottom and top of stairs, this can now be used as a template for cutting the rest of the spindles. Install spindles so that there are no gaps greater than 99mm. Cut fillets accordingly and secure fillets and spindles within rail grooves by gluing and pinning all components. On the first and last fillet in the handrail, it will be necessary to chisel a groove to enable the fillet to sit over the rake twist bracket already fitted.

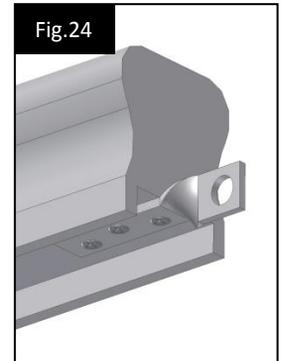
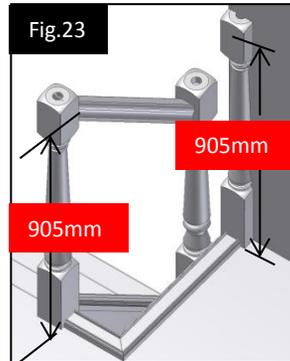


Landing newels and rails

To establish location of base rail on landing, draw layout lines centrally from top newel base to the wall. Cut half newel base so it is level with newel base at top of flight (Fig.21). Use the layout lines to align half newel base and secure to wall using suitable glue and screws/plugs. Using the layout lines as a template mark and cut the base rail. Secure to the floor using suitable screws (Fig.22)



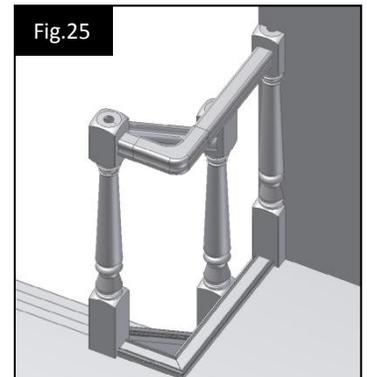
Secure half newel post into the half base and to the wall using suitable glue and screws/plugs (Fig.23). To establish finish handrail height, measure up 905mm from the landing floor and mark position on newel post. Once handrails have been cut to length, install landing twist brackets to handrail ends and follow same procedure used for stairs (Fig.24). If you are using a HT half turn fitting on the corner, please follow separate instructions which are supplied with the fitting.



Offer handrail assembly into holes in newel posts and secure with taper screws as previously done on the stairs (Fig.25).

Landing spindles and fillets

Cut spindles to correct length following same procedure adopted for stair spindles. . Spindles should be equally spaced between the rails so there is no gap greater than 99mm present. Cut fillets accordingly and secure fillets and spindles within rail grooves by gluing and pinning all components. On the first and last fillet in the handrail, it will be necessary to chisel a groove to enable the fillet to sit over the rake twist bracket already fitted.



Covers and caps

Fit all cover caps and cover strips where applicable using clear silicon.



Richard Burbidge
Archwood House, Kingsfield Court, Chester Business Park, Chester CH4 9RE
Telephone: 01691 655131
Fax: 01691 657694
E-mail: info@richardburbidge.co.uk
Website: www.richardburbidge.com

TECHNICAL HELPLINE: 01691 678212

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without written permission of Archwood Limited