Flights

JOINING STRINGERS

Depending on the overall length of the stair, stringers may need to be produced in two or more sections - to be joined on site. Joint stringers are pre-cut in the factory, with holes drilled to house the metal joiners (supplied with the stair).

Step 1: Glue the joining edges of the stringers with construction adhesive

Step 2: Insert the metal joiner and then tighten using a 10mm spanner.

Step 3: Place the supplied MDF gusset over the stringer join - 20mm below the tread rebate and 5mm behind the riser rebate.

Step 4: Glue and screw the gusset into place (Refer Figure 1)

***Important**: Joints in stringers cannot be left unsupported. Either prop temporarily until the supporting wall has been built or if the stair is to be left open underneath, refer to **'Sub-Stringers**' for method of support.*

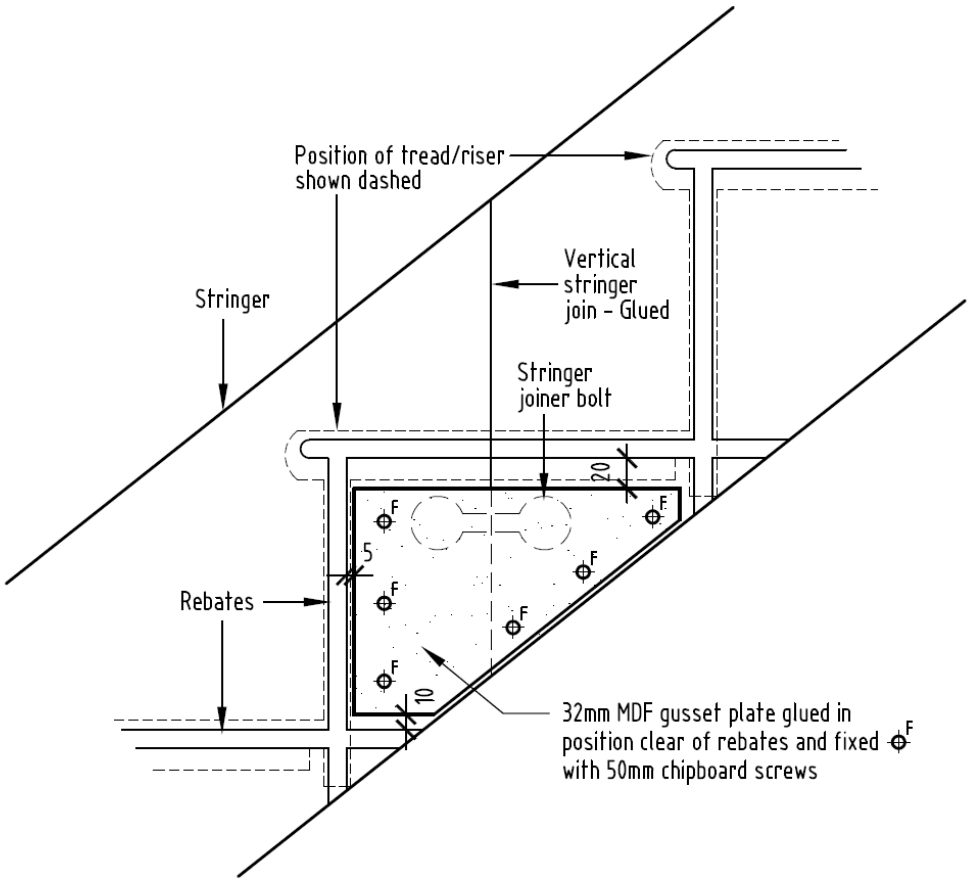


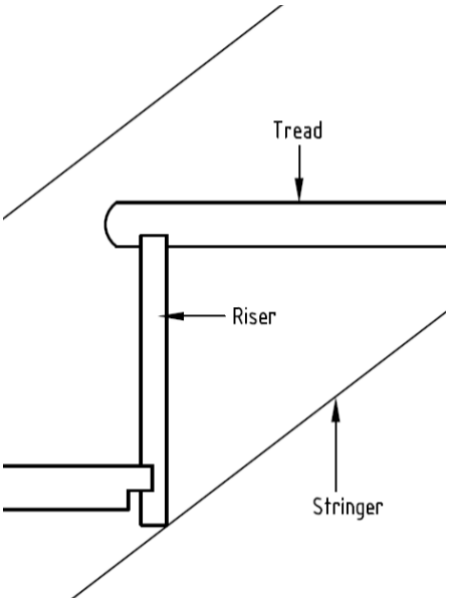
Figure 1
Stringer Joint Detail

FLIGHT ASSEMBLY

Method 1: Assembled In Place

This is the preferred method of installation when the flights are either long or if there is insufficient room to maneuver the assembled flight into position.

FIRST: *Partially assemble the flight*



1) Place the stringers on the floor with the top edge down and the dovetail rebates facing each other, ensure parallel.
2) Add glue and insert the top nosing, top tread and top riser into their respective rebates.
3) Screw through the back of the top riser into the stringer, at a slight angle.
4) Screw down through the top of the nosing into the riser, to stop the nosing from sliding forward.
5) Insert the lowest tread of the flight and push this all the way forward. This will prevent the riser from locating in the rebate in the underside of the tread.
6) Place the bottom riser into dovetail rebates and push up to the underside of the tread.

NEXT: *Lift the partially assembled flight into position (with assistance if necessary)*

7) Once in position, screw through the top riser into the floor joist to hold the flight in place.

THEN: *Insert the remaining treads and risers*

8) Apply a thick bead of construction adhesive within the rebate of each tread.
9) Insert all treads into the stringers making sure that they are pushed in parallel, careful not to damage the dovetails. Using a rubber mallet, tap into position. Ensure that the treads are pushed all the way forward or the risers will not locate into their respective rebates.
10) Apply a thick bead of construction adhesive within the rebate and along the top edge of each riser (where it will recess into the corresponding tread rebate above).
11) Insert the risers into the stringers starting from the top, working down. Make sure riser #1 is installed in the correct position.
12) Using a rubber mallet tap the riser into the rebate of the tread above, then tap the lower tread into the rebate on the face of the riser.
13) Continue down the flight until complete.
14) Before tapping tread #1 back into place ensure that riser #1 does not locate into the rebate until a bead of glue has been applied to the top edge of the riser.
15) Before fixing the stringers to the wall, sight up the top edge of the stringers to ensure that they have not sagged. If they have, cut in a temporary prop under the flight to remove the sag.

FINALLY: *Fix the stringers to each stud using 100mm batten screws (Refer Figure 2)*

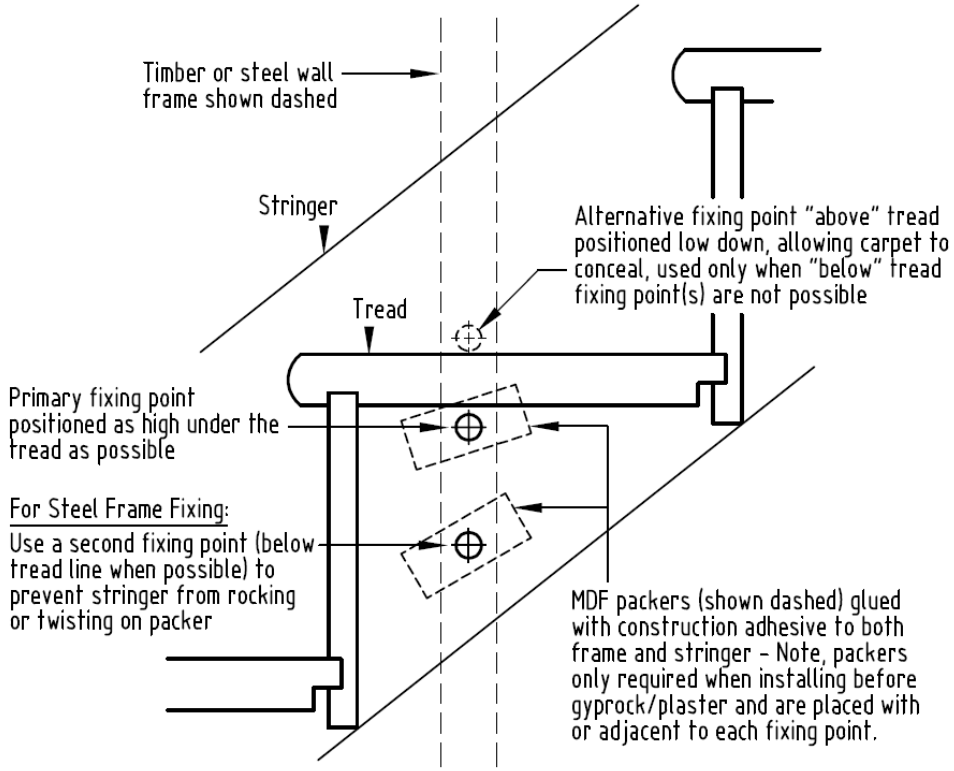


Figure 2
Stringer Fixing at Wall

Method 2: Assembled On The Floor

A method used for small flights and when there is sufficient room to maneuver an assembled flight into position.

FIRST: *Assemble the flight*

1) Place stringers on the floor with the leading edge down and dovetail rebates facing each other, ensure parallel.
2) Insert all treads between stringers ensuring parallel. Using a rubber mallet, tap each tread all the way forward.
3) Apply a thick bead of construction adhesive to both rebates within the risers and the treads.
4) Insert the risers into the stringers starting from the top, working down. Make sure that riser #1 is installed in the correct position.
5) Turn the flight onto one stringer face, preferably the wall side. Proceed to tap the treads and risers together as previously mentioned in steps 8-14 **Assembled In Place**
6) Now install the top riser and nosing as described in steps 2-4 **Assembled In Place**

THEN: *Lift the assembled flight into position (with assistance if necessary)*

Note: When a flight runs down from either a mid-landing or set of winders …

- The top nosing will not be required since the landing or first winder platform will form the nosing.
- The top riser has been reduced by 9mm in height as the landings and/or winder platforms do not have rebates.

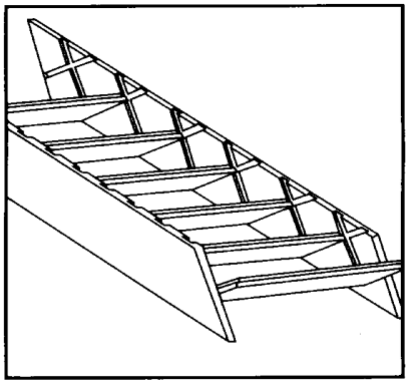
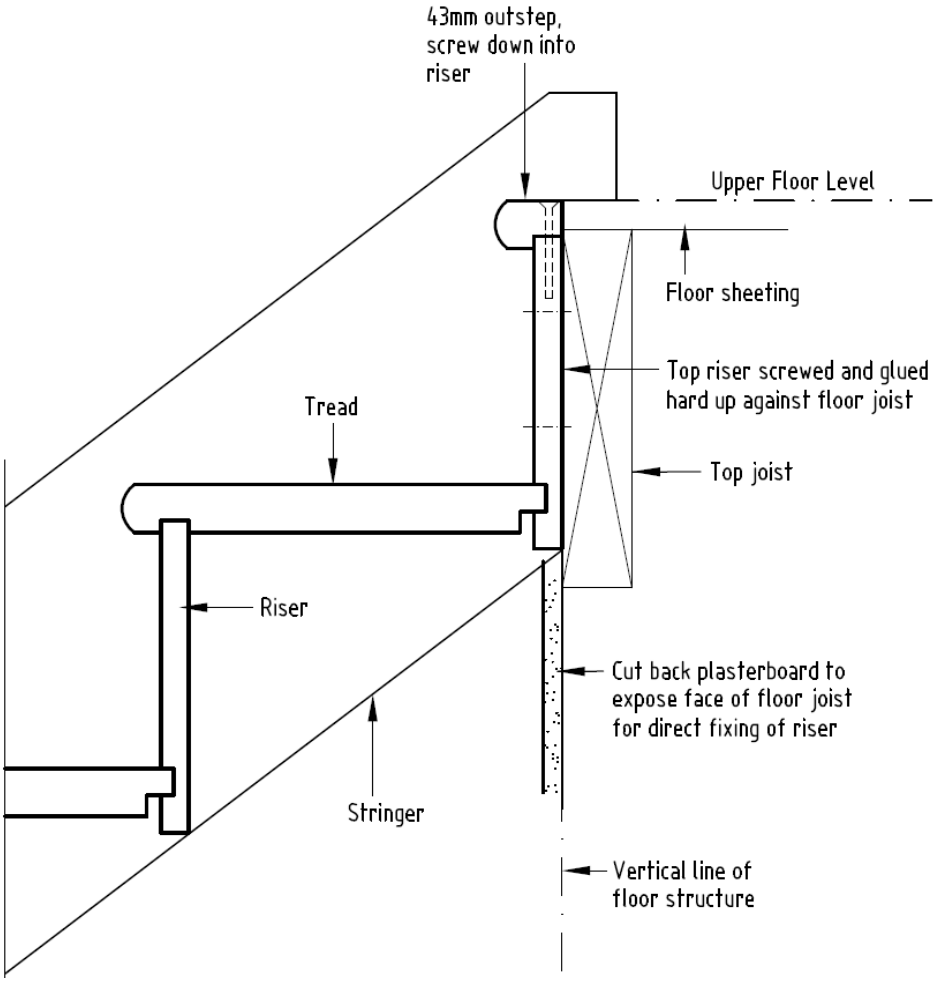


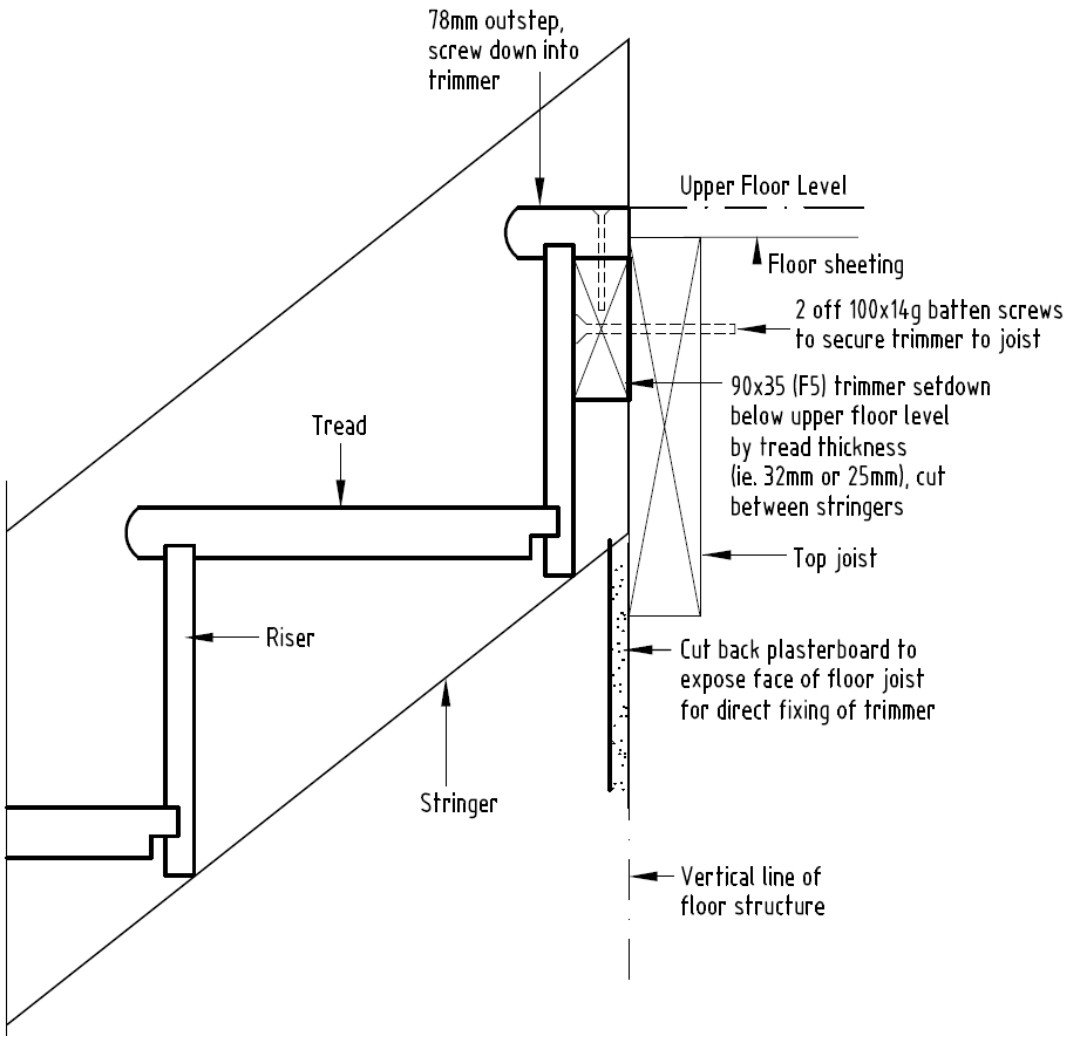
Figure 3
Flight upside down, ready for the risers to be inserted

TOP NOSINGS (OUTSTEPS)

- **43mm Outstep:** Standard in most cases, positions the back of the top riser hard against the upper floor joist. This also leaves 15mm for carpet wrap when a post is fitted.



- **78mm Outstep:** Utilizes a single 90 x 35mm trimmer, placed behind the top riser and nosing, set down by the thickness of tread.



- **133mm Outstep:** May be used to make up extra length in the stairwell.

When installing a flight using a 133mm nosing (78mm is similar), fix to the timber joist as follows:

1) Remove any plaster or plasterboard from the face of the floor joist.
2) Cut two lengths of 90 x 45mm (F5) Pine, slightly shorter than the inside measurement between stringers. Fix the first trimmer to the floor joist using 100 x 14g batten screws

   Ensure that this is tread thickness (ie:32mm, 28mm or 25mm) down from floor level so that the top of nosing will finish flush with the floor. Screw the second trimmer into the first.
3) Once the flight is in position, screw through the nosing into the trimmers (Refer Figure 4).

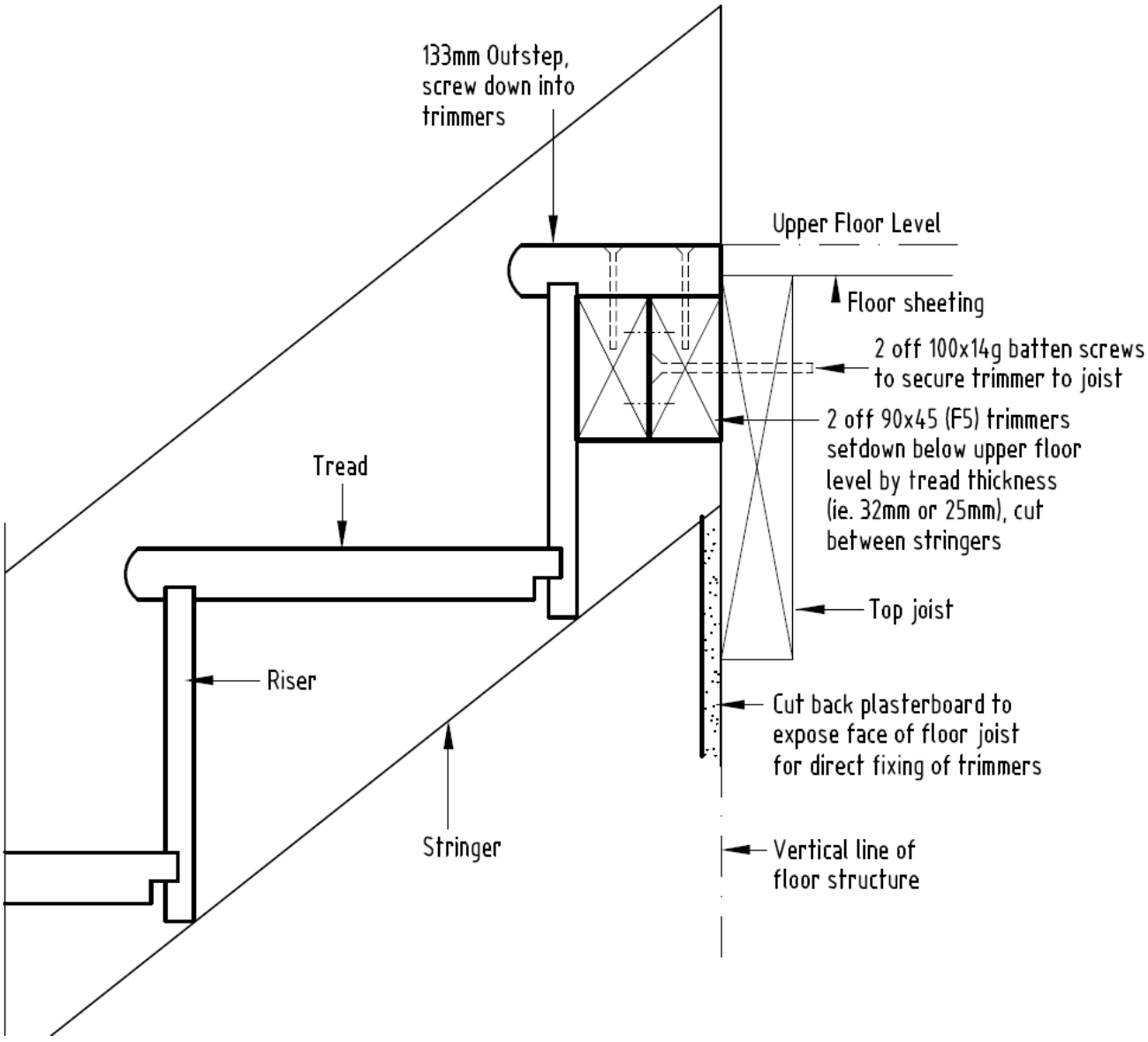


Figure 4
133mm Outstep Detail

GLUE BLOCKING

GLUE BLOCKS are required on EVERY Stair Lock MDF and American OAK staircase.

Glue block stock comes in lengths of approximately 1200mm, which are then cut to size on-site into 120mm lengths. The length and position of the glue blocks MUST remain consistent and aligned throughout so as to not detract from the finish of the staircase when viewed from underneath. Approximately 8 lengths of stock will be required for an average straight flight staircase.

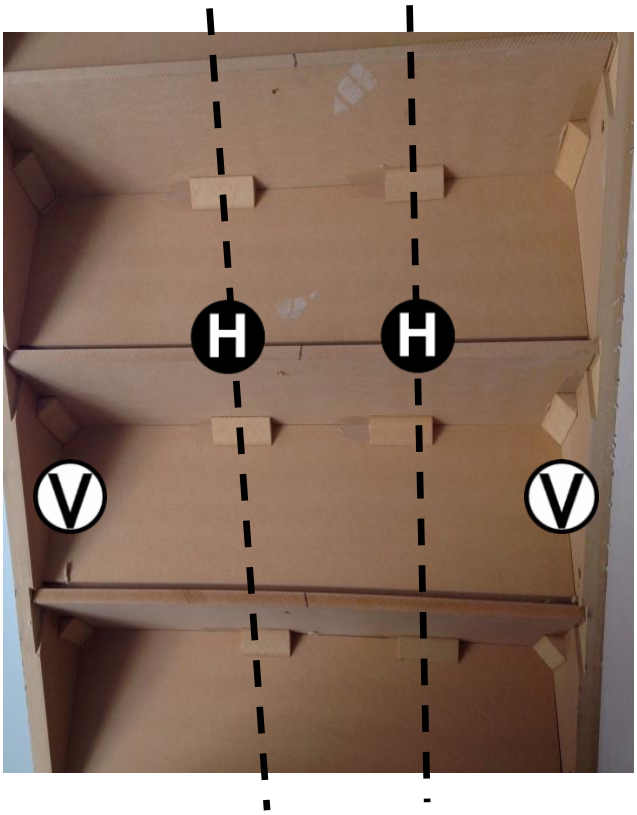
FIXING: Glue blocks are to be fixed using construction adhesive ONLY and then rubbed into place. DO NOT use fixing guns to nail the glue blocks.

The critical glue blocks are those located VERTICALLY Ⓥ glued up the back of the riser and glued to the underside of the tread above (see photo) - The stair width will determine how many are glued HORIZONTALLY Ⓗ behind the nosing line as explained in the following,

MDF STAIRS: Up to 1m wide (or about) require two (2) horizontal glue blocks placed directly behind each nosing 1/3 in from each stringer. ** Wider stairs require 3 horizontal glue blocks.

OAK STAIRS: Glue block as for MDF except directly behind the winder risers as well - This allows the oak winders to be nailed instead of 'drilled and plugged', unless screwing is required to eliminate bowing.

MDF CUT STRINGERS: With NO NOSING, glue blocks are not required since the treads are screwed from above.



Glue blocks aligned and even