

INSTALLATION INSTRUCTIONS

Sentrel will take **NO RESPONSIBILITY** for problems arising from installations that are not in accordance with our instructions

Tools you will need other than standard kit:

- ½ inch (12.7mm) dowel drill
- AV 515 adhesive
- Stainless steel cleaner
- 75mm batten screws
- Biscuit joiner and biscuits
- 17mm socket and ratchet
- Ratchet straps

These instructions assume: **Basic building knowledge and fine craftsmanship, and That posts are in position and are square and plumb**

If further explanation is required, please refer to 'Installation Instructions for the Handyman' on our website at; <http://www.sentrel.com.au/pdf/Installation-Instructions-for-the-Handyman.pdf>

Preparing posts for mounting panels

Balustrades

- Run a string line connecting the posts at **970 mm** off the deck from the highest point of the deck.
- Mark posts off the string, or if handrail is continuous, mark and cut the posts neat and square
- Mark position for mounting pins - measure down the centre line of the post **50 mm** and **875 mm** from the string line mark (or top of the cut post). **(Dia.1)** Note: If handrail is already in place, there is no requirement for the top pin.

Pool fencing

- Where **handrail runs between posts**, posts must finish **1250 mm** above the ground (or deck) height. Run a string line connecting the posts at **1130 mm** off the ground/deck to mark the top pin position and then measure down a further **1025 mm** (**1075** from top of post) to mark the bottom pin position
- Where **handrail runs over top of posts**, posts must finish **1170** off the ground/deck. Measure down **50 mm** from top of post to mark top pin position, then measure down a further **1025 mm** to mark bottom pin position

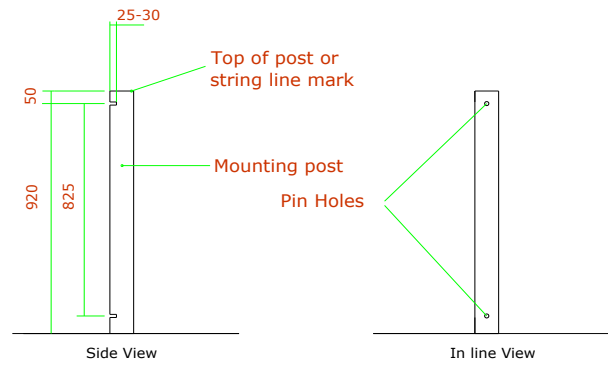


Diagram 1

- Using a ½ inch (12.7 mm) dowel drill, drill holes horizontally about 25 – 30 mm deep.
- Hammer the mounting pins provided into the holes, and use adhesive if necessary

Mounting panels

- Match panels to corresponding gaps between the posts.
- Measure the gap between the posts accurately both top and bottom where the mounting pins are.
- Measure the panel rails
- Subtract the gap measurement from the rail measurement. Divide the answer by 2, measure this distance in from the end of each rail, and trim the rail to this mark using a drop saw. (**Dia. 3**).

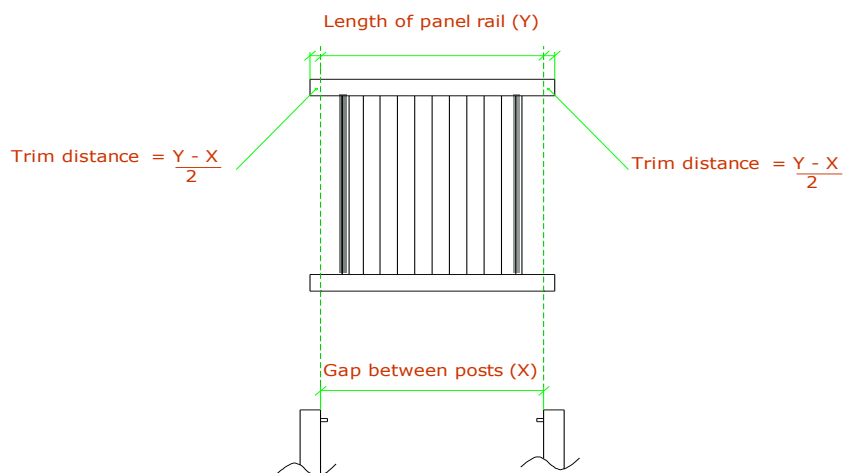


Diagram 3

- Position panel in place between posts, over and onto the pins.

- Fix the top rail to the post to stop the post moving away from the panel if necessary. Skew screw through the top at the end of the rail and into the post with **75 mm** batten screw. **Note:** Ensure that top of the top rail remains **5 mm** above the top of the post or string mark. Screws must be offset from centreline of rail otherwise they will hit the mounting pin
- **NOTE: ALWAYS MOUNT ONE PANEL FIRST TO CHECK THAT ALL PINS, HEIGHTS, ETC ARE CORRECT BEFORE DRILLING THE REMAINING HOLES**
- Repeat this process for the remaining panels. **Note: NEVER FIX THE BOTTOM RAIL WITH SCREWS. The bottom rail must be able to 'float' to allow for re-tensioning of the cables over time if necessary. See [re-tensioning video](#)**

Fitting the Handrail

- Check that the top line of the balustrade is straight and level. If not, make good before fixing handrails.

If handrails run between posts;

- Measure the gap and dock the handrails provided to length.
- Fix in place using **75 mm** batten screws through the predrilled holes in the underside of the top rail. **Note: To avoid splitting, it is imperative to drill a 5 mm pilot hole first and screw the batten screws in gently.**

If handrails run over the top of the posts;

- Make sure that all the posts are pulled in against the panels. This can be achieved by running a strap around the whole length of the balustrade, and tightening.
- The top rail of the balustrade panels will sit **5 mm** above the top of the posts. This allows the handrail, which has a **5 mm** channel underneath, to sit over the top rail and neatly onto the top of the mounting posts. If this measurement is higher or lower, adjust accordingly
- Using the handrail provided, cut and fit to the top rail of the balustrade. Biscuit join butt joints along the straights and mitre joins on corners, using AV 515 adhesive. **Note:** joints should not occur over the top of the posts, and at least **100 mm** clear of any handrail mounting screws (**Dia. 5**)
- Allow glue to set (about 1 hour, more is better) and trim off excess. Sand if necessary, then oil.

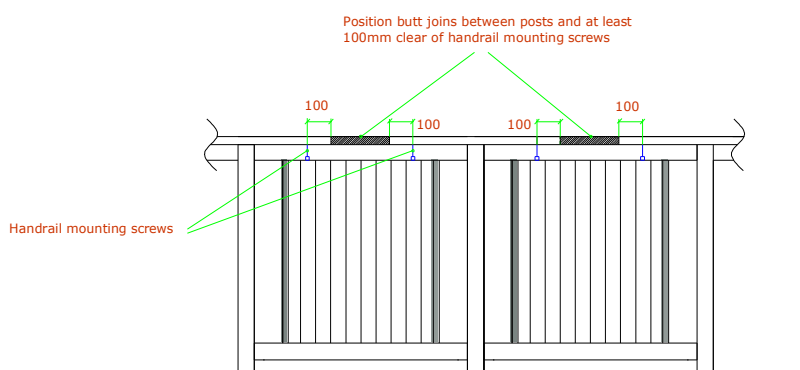


Diagram 5

Checking Cable Tension

Check and adjust tension if necessary. Go to www.sentrel.com.au/technical.html for an easy to follow video

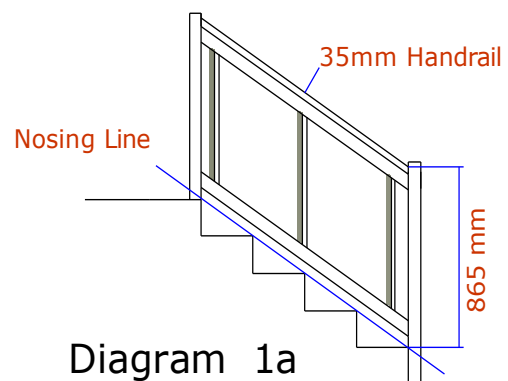
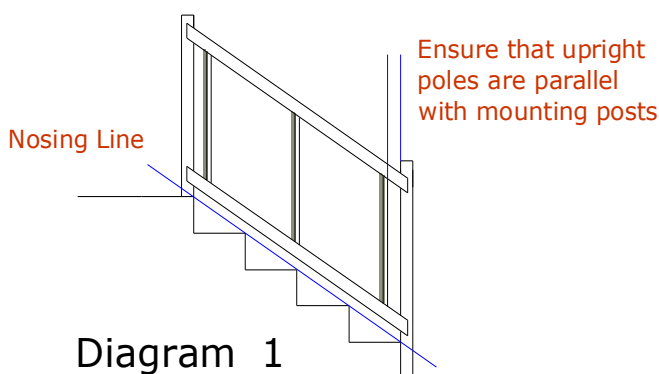
Please leave the tensioning gauge with the client and instructions so that they will be able to check the tension over time

Finishing up

- Clean down stainless steel uprights with a suitable cleaner – White Spirit is ideal. Protect with Nano Coat Metal 2 in 1, if the balustrade is in a aggressive environment (eg. near the ocean)
- **If you have installed a gate with hinges supplied by us, please note that these hinges are ADJUSTABLE! Set to the lowest setting possible to close the gate without slamming.**

INSTALLATION INSTRUCTIONS FOR STAIR PANELS

- Position and clamp the stair panel in position at the correct angle, and centred between the mounting posts. Ensure that the upright poles are vertical and parallel with the mounting posts (**Dia. 1**).
- Loosen off tensioning bolts to assist in fitting if necessary
- Ensure panel is at correct height, i.e;
 - Top of handrail to nosing line to be no less than **865 mm (Dia. 1a)**
 - Must be a minimum of **50 mm** gap above the nosing line (or stringer) so that re-tensioning of the cables is possible
- Mark (on the post) where the top of the top rail and the bottom of the bottom rail meet the mounting posts
- Mark (on the stair panel) where the top and bottom rails intersect with the mounting posts
- Remove panel and trim on the marks. **Note:** Accuracy at this point is vital. Mismeasurement will result in gaps between the posts and the balustrade, and this effects the appearance and quality of the product



Mounting the Panel

- Measure up **10 – 15 mm** from the bottom rail mark made on the post.
- Using the dowel drill, drill a hole in line with the nosing line on the centre line of the post **30 mm** deep (**Dia. 3**)

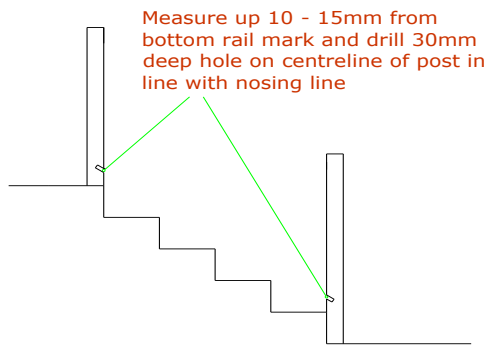


Diagram 3

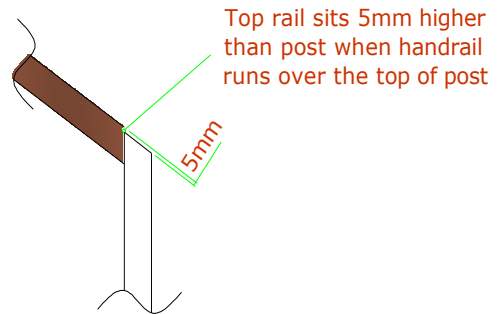


Diagram 4

- Hammer (and glue if necessary) the mounting pins provided into the holes
- If handrail is to run over the top of posts, measure down from the mark where the top rail meets the posts the required distance so that when cut, the plane of the top of the post is **5 mm** below the line of the top of the top rail (**Dia. 4**) This is so the channel in the top rail will sit over the top rail and onto the top of the post
- Cut the post neatly and accurately at the correct angle
- Place panel between posts and over the bottom mounting pins
- Using clamps or similar, devise a way to raise and fine tune the position of the top rail so that it meets with the mark, or correct position **5 mm** above the top of post if handrail is to run over
- Fix top rail in position by skew screwing through from the top into the posts. Drill clearance holes to avoid splitting the timber and make sure that any gap closes between the rail and post. Be sure that the rail remains on its mark (it may be necessary to use straps to hold everything in place while gluing and fixing)
- NEVER FIX BOTTOM RAIL WITH SCREWS
- Fit the handrail over the top rail with AV 515 adhesive, and clamp until set. Trim off any excess glue with a sharp knife.
- Tension cables if necessary