Installing Posts & Rails

Your Complete How to Guide

Fixing the Rails

Once the concrete has set hard you can start fitting the rails. Check each of the posts and make sure they are firm in the ground. If there is any movement, brace the post with temporary bracing. This will hold it steady until the rails are fixed. The posts can now be trimmed to the correct height.

1. Fix the stringline to both of the end posts at the post height, and mark this height on all posts. On a level site use a square. On a sloping site the rails won’t be at right angles to the posts. In that case follow the stringline. Before taking the stringline down, check the height again.

2. Once you have checked that the heights are marked correctly on all posts trim the posts at height marks.

There are different ways of fixing the rails to the fence posts and the method you use will depend on the type of fence you are building. The major difference between rail fixing methods is:

- the rails are fixed to the outside of the posts,
- the rails are fixed between the posts,
- or, the rails are checked into the posts.

1. On a level site, trim one end of the first rail square. On a sloping site support the rail in the correct position against the posts and mark the cutting angle. Transfer that angle to a piece of scrap timber and use it to ensure all cuts are the same.

2. Fix or cramp a block to the first post to support the rail at the correct fixing height (see Illustration 5 & 6). The rail should be level flush with the leading edge of the first post and the rail then marked at the centre of the joining post.

3. Cut the rail to that mark and then rail or bolt it to the post in the correct position.

4. Remove the supporting block from the first post, and repeat the whole process for the rest of the rails.

Outside Post Fixing & Checked in Fixing

In this method the rails run from the centre of one post to the centre of the next. If the timber you are using is long enough and the rails exceed two or three posts, in any event it is better to stagger the joints in the rail so that they don’t all occur on the same post. The procedure is similar whether you are fixing to the face of the post or the top of the post (see Illustrations 1 & 5).

1. On a level site, trim one end of the first rail square. On a sloping site support the rail in the correct position against the posts and mark the cutting angle. Transfer that angle to a piece of scrap timber and use it to ensure all cuts are the same.

2. Do the same with all the posts, adding another spacing each time. Always measure from the outside face of the first post to the face of each subsequent post.

3. When all the rails are cut and you have checked their positions, put fibres of concrete in the bottom of each. Once at a time set the posts in place. Correctly position and brace as with the end posts.

Check each post (see Illustration 6).

• Is it level? Is it correct? Measure from reference point multiplying the spacing by the number of gaps.
• Does it follow the stringline? Use packers against both stringlines.
• Is it high enough? Measure from the stringline to the top of the post.
• Is it vertical? Check the sides of each post with a spirit level.

4. With posts braced in position, fill the holes with concrete and recheck as in Step 4 above and if necessary adjust and rebrace.

Leave 7 days for the concrete to harden. If you also intend to pour a mowing strip along the fenceline, do it now.

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Putting up a Picket Fence
Installing Trellis Fence Panels
Building a Paling Fence

First up, you will need to work out:
how far apart the posts need to be.
how far out of the ground they need to be (post height),
the number of posts and the sizes that are required.

These dimensions will differ depending on the type and style of fence you are building.

Tools

- Hammer
- Handsaw
- Spade / Post Hole Borer
- Stringline
- Carpenter's Level
- Mallet

In these instructions, we will cover:

- Building a Paling Fence
- Installing Trellis Fence Panels
- Putting up a Picket Fence

Ideas & Inspiration

Treating Timber

A post hole borer and a circular saw will make the job much easier, but they're not essential. Make sure all your posts are treated at least H4 standard to resist decay in the ground. If cutting posts down to length, place the post with the fresh cut surface upwards and treat all cut ends with a timber preservative before use to avoid ground damp entering the wood.

Tools

- Stringline
- Spade / Post Hole Borer
- Carpenter's Level
- Carpenter's Square
- Mallet
- Tape Measure
- Hatchet
- Shovel
- Pickaxe
- Level

Timber Selection Guide

<table>
<thead>
<tr>
<th>Treatment Level</th>
<th>Application</th>
<th>Typical Uses</th>
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<tbody>
<tr>
<td>H5.6.3</td>
<td>For timber exposed to the weather and in ground contact</td>
<td>• Poles • Fencing posts • Decking joists/struts (all deck components except decking posts, rails and verandah posts) • Fencing palings, fence rails and rails • Climbing plants</td>
</tr>
<tr>
<td>H4</td>
<td>For timber exposed to the weather but not in ground contact</td>
<td>• Paling posts • Retaining wall TGV and timber • Tennis net posts</td>
</tr>
<tr>
<td>H3.2</td>
<td>For timber exposed to the weather, ground and fresh water contact</td>
<td>• Batten • Fencing palings, fence rails and rails • Stair handrail • Decking joists/struts (all deck components except decking posts, rails and verandah posts) • Poles • Veranda posts • Trellis posts • Pilastrade</td>
</tr>
<tr>
<td>H2</td>
<td>For timber exposed to the weather, ground and fresh water contact and in high risk, load bearing applications</td>
<td>• Piles (house foundations, retaining walls, and in high risk)</td>
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<tr>
<td>H1.8</td>
<td>For timber exposed to the weather, ground and fresh water contact and in high risk, load bearing applications</td>
<td>• Piles (house foundations, retaining walls, and in high risk)</td>
</tr>
<tr>
<td>H1</td>
<td>For timber exposed to the weather, ground and fresh water contact and in high risk, load bearing applications</td>
<td>• Piles (house foundations, retaining walls, and in high risk)</td>
</tr>
<tr>
<td>H0.2</td>
<td>For timber exposed to the weather, ground and fresh water contact</td>
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</tbody>
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Consumer Information and Handling Guide for Pressure Treated Timber is available at your local PlaceMakers store.

Instructions

Setting out the Fenceline

1. Using either a post hole borer and/or a standard garden spade, dig a 300 x 300mm square hole at both ends of the line to a depth of at least a third of the post length (eg 100mm deep hole for a 2.7m post). It's a good idea to widen the bottom of the post hole to create a "bulb" effect which will provide better anchorage and wind resistance to the post.

2. For each post, drive two pegs into the ground (see Illustration 1). Nail the end of a taut stringline to each peg with one nail. Start in the middle of the run. 

3. Place 100mm of concrete in the bottom of the hole and position the post at the top of the concrete.

4. Check that the top of the post is at least the required height out of the ground. Remove the post and put more concrete into the hole if necessary. Allow some extra height (20mm) so the post can be trimmed later.

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6. At this stage, the posts should be as vertical as possible, but remember to take into account the effect of the wind. If the post is leaning, use the level to check both the front and side faces.

7. Using the level on both the front and side faces, check that the post is vertical. Nail the braces to the post. Now place 100mm of concrete in the bottom of the hole and position the post at the top of the concrete.

8. Next, using the level on both the front and side faces, check that the post is vertical. Nail the braces to the post. Now place 100mm of concrete in the bottom of the hole and position the post at the top of the concrete.

9. Fill the hole with concrete to a height of 75mm of ground level, making sure you pour in small batches to avoid settling. Check that the post is vertical and adjust braces if necessary. Allow 48 hours for the concrete to set.

10. Check the measurement from the reference point to the outside face of the first post is your reference point. Measure from the face of one post to the same point of the next post. Don't measure between posts. The outside face of the first post is your reference point.

11. Use the level to check both the front and side faces. Check that the post is vertical. Nail the braces to the post. Now place 100mm of concrete in the bottom of the hole and position the post at the top of the concrete.

12. Using the level on both the front and side faces, check that the post is vertical. Nail the braces to the post. Now place 100mm of concrete in the bottom of the hole and position the post at the top of the concrete.

13. When all the post holes have been dug, check that they are the same depth and that the posts and braces are all vertical. Nail the braces to the post. Now place 100mm of concrete in the bottom of the hole and position the post at the top of the concrete.

14. Check the measurement from the reference point to the outside face of the first post is your reference point. Measure from the face of one post to the same point of the next post. Don't measure between posts. The outside face of the first post is your reference point.

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