BEAMS & TIMBER

HIGH GRADE TIMBER PRODUCTS

INTERLOCK POST & RAIL
INSTALL GUIDE

BTD INTERLOCK POST & RAIL **INSTALL GUIDE**

WHAT YOU WILL NEED

Required — Tape measure, spirit level, spade, string line, rubber mallet or small sledge hammer, hand rammer, pencil or marker.

Optional — Post hole borer / powered auger, skill saw / handsaw, timber stakes, spray paint, square, concrete.

Safety Equipment — Safety boots, hearing protection, eye protection, gloves, sun protection.

STEP 1 - PREPARTION

1.1 - Determine your exact fence layout plan, consider/mark your legal boundaries and/or underground services.

1.2 - Once you have worked out where your fence will run, consider how you will handle any changes in elevation, whether to follow the contour of the land or to keep the top of the fence line level (mostly used for minor or short changes in elevation).

1.3 - Also consider how many sections will be used for each fence run. If the multiple of the distance between post centre's doesn't work out exactly (rarely will), consider how you will handle this. A good practice can be to use the full length rails until you have 10 – 20m (or longer if desired) left of any particular fence run. Then work out what post centres will be required and cut the rails accordingly. It's best to cut all rails to the required length, except the rails for the last section which you cut when doing the last section in case your calculations are a little off. Please see the table below for our post centres and an example of how to work out the length to cut rails to.

Post Centres

Inline post size	Rail length 1.8m	Rail length 2.0m	Add to rail length
125 x 125mm	1.85m	2.05m	0.05m
150 x 150mm	1.88m	2.08m	0.08m
200 x 200mm	1.93m	2.13m	0.13m
250 x 250mm	1.98m	2.18m	0.18m
300 x 300mm	2.02m	2.22m	0.22m

Example — Let's say you have 15.6m left in a fence run and your using 150 x 150mm inline posts and 1.8m rails. From the post centres table your post centres will be 1.88m, thus 15.6m divided by 1.88 gives 8.29, round this up to the next whole number, which means you will need 9 sections. Now you know the number of sections required, divide 15.9 by 9, which gives 1.73. Now subtract off the add to rail length figure from this result i.e. 1.73 – 0.08, give 1.65m. Thus cut all rails required for to 1.65m except the last section, which your best to cut when you see exactly what that will work out to be.

Tip — If you are using rail lengths other than our standard 1.8m and 2.0m rails, you can use the add to rail length figure in the post centres table i.e. your using 200 x 200mm posts and 2.1m rails, your posts centres will be 2.23 (2.1 + 0.13).

STEP 2 - SET YOUR FIRST POST

2.1 - Start your fencing run at one of your fixed posts i.e. an end or corner post. Mark the centre point of the intended post location with spray paint or a mark in the ground.

2.2 - Determine your desired finished height out of ground and dig/bore the hole accordingly. Please note the below tables.

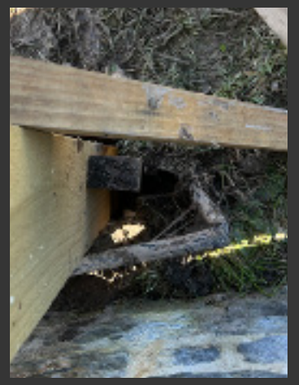
Post size	Suggested Hole Diameter
125 x 125mm	250 - 300mm
150 x 150mm	300 - 350mm
200 x 200mm	350 - 400mm
250 x 250mm	450 - 500mm
300 x 300mm	550 - 600mm
400 x 400mm	700 - 750mm

No. of rails	Post length	Out of ground height	Post hole depth
3 / 4 rail	1.8m	1.0 - 1.2m	0.6 - 0.8m
2 rail	1.5m	0.7 - 0.9m	0.6 - 0.8m
1 rail	1.2m	0.4 - 0.6m	0.6 - 0.8m

Note - When hanging gates, posts are usually 0.6m longer / further in ground.

2.3 - Put the post in the hole and make sure it is set to the desired height out of ground and is perfectly plum, checking the two vertical plains with a spirit level as shown below.

2.4 - Secure this post once you have it level for the two vertical planes, either by ramming the earth back around the post or securing with stakes if using concrete to secure your posts. It is important to secure this post very well to help eliminate movement when tapping in the rails for each section.



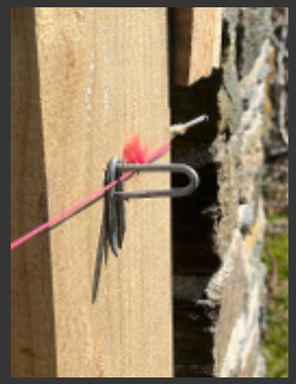
In the pictures above Tom has used stakes both ways as well as a couple of timber off cuts in the hole either side to help eliminate any lateral movement or the post turning in the hole. In this case Tom had a stone wall to put some timber between the post and the stone wall, if you don't have anything like this, another stake could be used.

STEP 3 - SETUP YOUR STRING LINE

3.1 - Determine where your ending point will be for this run and put a stake in the ground at this point or set another post following STEP 2 again.

3.2 - When attaching your string line, set it so the string line will be slightly off the side of the inline posts. In the example shown, Tom has used s staple to bring the string line a few mm off the side of the post. Keep each post this same distance off the string line to ensure you don't effect the string line by having the posts touching the string line.

Note - If you are using a larger post than the inlines for either the first post or the end of this run, you will need to allow for the difference in post size with the string line. You want the string line to be just to one side of the inline posts.



Shown above the string line is set slightly off the post with use of a staple and one of the inline posts set the same distance off the side of the post, although difficult to see in the photos.

3.3 - Attach a string line to your first post that you have secured and run it to the ending point of the run. If you wish to create a nice flow curve between the two points you can use something that is flexible that also has rigidity to it i.e alkathene piping to give you a nice flowing line to follow.

3.4 - Once you have run your string line, consider the conditions, wind can move the string off it's line. If the string is over a reasonable distance, you will want to add some additional stakes along the string line to help eliminate the effects of the wind. If you look down the string line you should be able to see if the wind is causing any movement of the string line, it doesn't take much.

It is really worth spending extra time on steps two and three making sure your first post is set perfectly plum and your string line is spot on. Getting this right will ensure you have a great end result and save you time in the long run, as there will be less adjustements required at the end.

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STEP 4 - INSTALL THE POST & RAILS FOR EACH SECTION

4.1 - Measure where your next post hole will be from the first post you have secured. You can use the post centre, measuring from the centre point of the set post which will give you the centre point of the hole to dig/bore. It is recommended to only dig/bore one or two holes ahead as it can easily get a little out meaning you have to adjust the hole position.

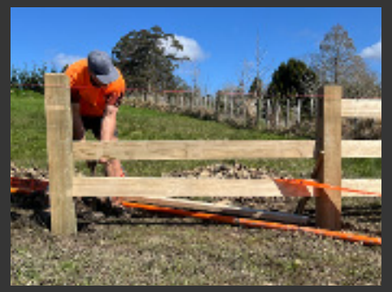
4.2 - Dig or bore this hole in it's correct location to the desired depth.

Note it is easier to dig or bore the hole slightly more than required and put a little soil back in the hole if required to raise the height than need to keep taking the post out and removing more soil.

4.3 - Drop the post in the hole and add or remove soil to achieve the desired post height.

Note it is easier to set the post at the desired height or slightly higher and can hammer the post slightly lower if required than having to need to lift the post higher by putting more soil under the post.

4.4 - Angle the post so the top of the post is further away from the set post than the bottom. This allows you to tap in the bottom rail to the set post and just put it slightly into the new post, then you can do the next rail up and any further rails that are required straightening up the post as you go.



4.5 - Tap on the new post to the rails using the rubber mallet or small sledge hammer (use a piece of scrap timber between the post and small sledge hammer to avoid damaging the post), **ensuring the rail goes right the way to the back of both rebates**. To ensure this happens you can either put a pencil mark 35mm (each rebate is 35mm into the post) off the end of each rail or measure the distance between the posts and take 70mm off the rail length i.e. using 1.8m rails the distance between the posts should be 1.73m if the rails are to the back of both rebates.

4.6 - Once you have all the rails fully inserted, you need to check the post is level on both vertical planes and that the height is at the desired height.

4.7 - Secure this post by either ramming the earth back around the post or securing with a stake if fixing with concrete. It is important when ramming the earth back around or pouring the concrete, to keep checking the post with your level to ensure it doesn't move during this process and also that it remains square to the fence line and doesn't rotate at all in the hole.

4.8 - Keep repeating the steps 4.1 – 4.7 above until you have completed the installation. Ensure the top of the fence line is nicely flowing over the contour of the land. The first/last posts and any gate posts need to be plumb, whilst generally speaking (not always) the other posts follow the contour of the land.

STEP 5 - ANGLED RAILS (may not apply)

5.1 - Some fencing layouts, may require rails to come out of the post on an angle. It simply requires on site adjustment to the end of the rails and possibly to the rebate the rail fits into, depending on the angle required.

5.2 - Firstly slide the rail into the rebate at the desired angle and mark the rail on the top and bottom of the rail as pictured below (left). Don't worry at this point if one side of the rail end is outside of the rebate and your mark doesn't go across the full thickness of the rail. The flat bit at the rail end will be trimmed off on the next cut.

5.3 - Next use a square to mark a line across the face of the rail as shown in the picture above (right). It will end up connecting the lines marked in step 5.2. Next set the angle on your skill saw to the angle of the marks on the top and bottom of the rail. Its best to do a test cut outside the line (piece being cut off) to check your angle as shown in the picture above (right). Once your happy you have the angle right, cut along the line of the face of the rail with the skill saw.

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5.4 - We now measure from the edge we have just cut to the edge of the rail. We find where it measures 35mm from the cut edge to the edge of the rail (please note it should be at a 90 degree angle to the cut face as shown in the picture below). It's easiest to use the 100mm mark as zero. Then use a square to mark the lines as shown in the picture below.

5.5 - Now cut along the marked line as shown in the picture below, setting your skill saw back to 0 degrees prior to cutting. Now simply slot the rail into the rebate for the end result shown below. It's important to ensure that the rail goes the full depth into the rebate once the cuts are made. Note depending on the angle the rail is coming out at, you may need to chisel away the edge of the rebate that has the smallest angle between the rail and the post (left side in the example shown below) to be able to get the rail to the back of the rebate. We recommend when coming out at an angle that you use either a nail or screw fixing underneath the rail, to ensure it stays in place. (not required unless coming out at an angle).

We also do custom timber to your specifications for any projects around the house or garden!!

We are just an email or phone call away if you need any help!

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