

Butt joints for timber

This worksheet is about butt joints for joining pieces of timber.

It tells you the good and bad points about these joints and how you can make them.



What you will learn

When you have finished this worksheet, you should be able to:

- Make butt joints correctly.
- Fix butt joints correctly.

Things you need before you start

Materials

You will need scrap timber and some nails to work with.

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Tools or equipment

Measuring and marking tools

A saw, chisel and hammer

Fixings (nails and screws or bolts)

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What is a butt joint?

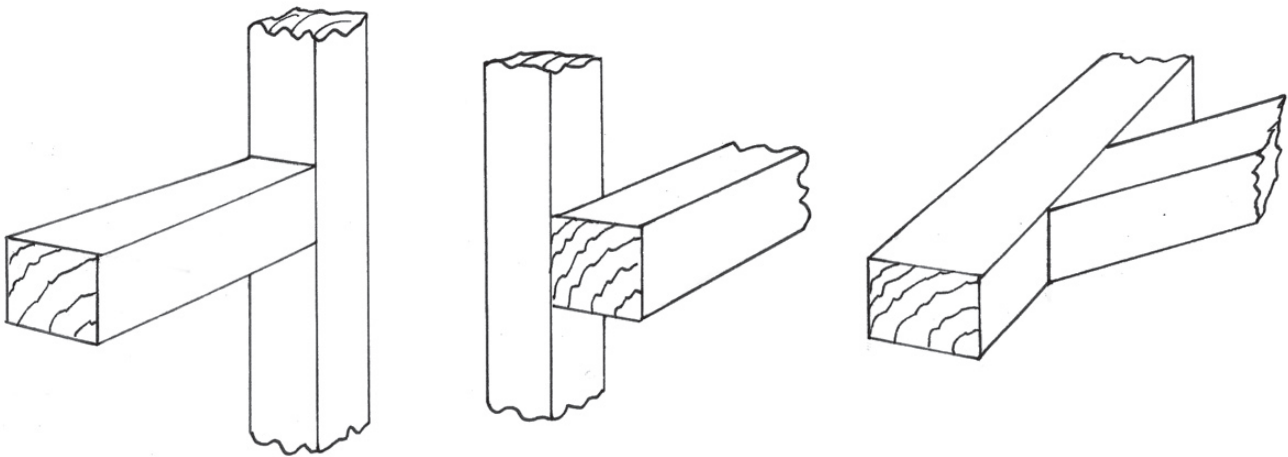
Butt joints are used for joining pieces of timber.

This is a simple joint that is quick and easy to make.

Pieces of timber are put next to each other and then fixed in place with nails

(the word “butt” means — put against each other)

Here are some examples



Butt joints need no special cuts in the timber.

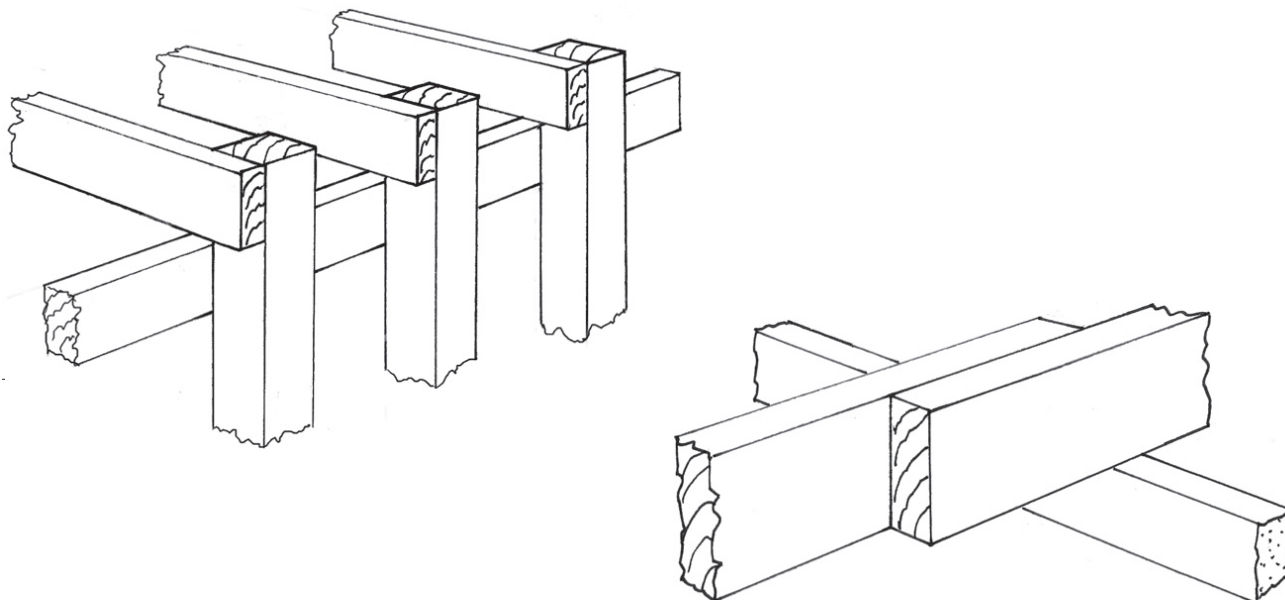
The joint:

- is usually fixed together by nails, but bolts are sometimes used
- relies on the fixings for its strength
- is not very strong unless it is used as part of a frame
- is not pretty — because the fixings always show.

What is a butt joint used for?

It is used to make such things as joints in framing.

Here are some examples in use



The pictures on the front of this worksheet show some other examples.

Activity

Find some butt joints used around where you live.

- What are they used for ?
- What sizes and types of butt joints can you find?

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How do I make a butt joint?

You need these tools:

- measuring and marking tools
- saw
- hammer for nails or
- drill and spanner for bolts
- fixings (nails, bolts)

Safety

Make sure you follow the safety tips from the Sawing and Hammering worksheets.

Do not use butt joints for heavy load-bearing areas, for example steps, unless the joint is bolted together.

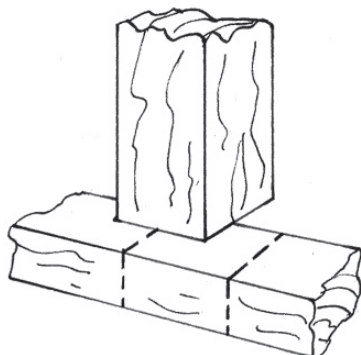
Follow these steps

Step 1 Measure and mark the pieces of timber

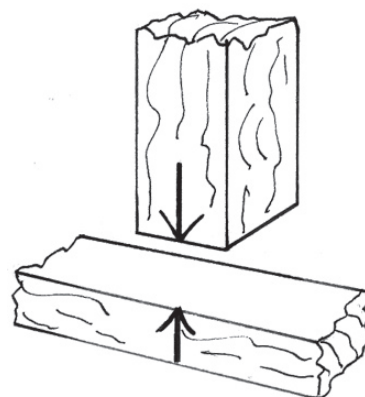
Cut your pieces of timber to the sizes you need.

Measure and mark the position for the joint on your timber pieces.

Mark the actual position



or mark centres



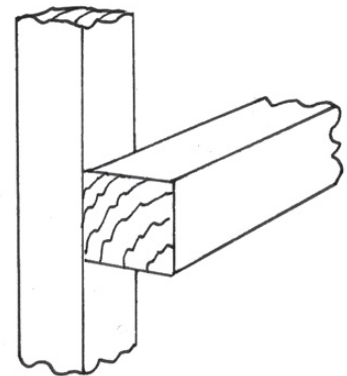
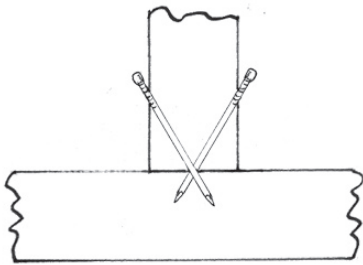
Step 2 Hold in place

Hold the pieces of timber in place on the marks.

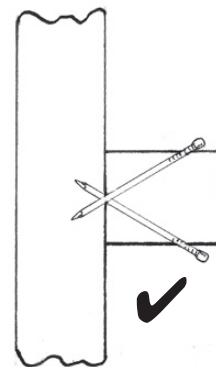
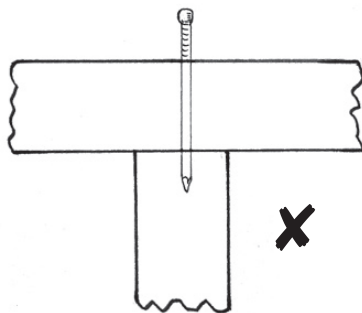
Step 3a Fix the joint with nails

Use galvanised nails for construction work

Nail at an angle from both sides (skew-nail)



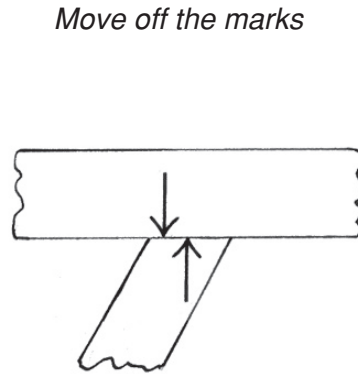
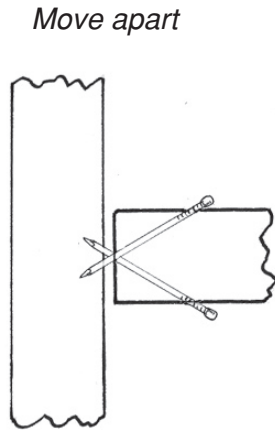
Nailing through into the end grain is not as strong as skew-nailing.



Things to check

Make sure the timber stays in place as it is nailed.

The pieces can:

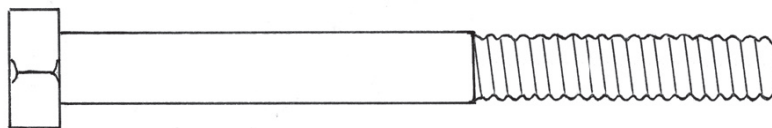


Step 3b Fix the joint with bolts

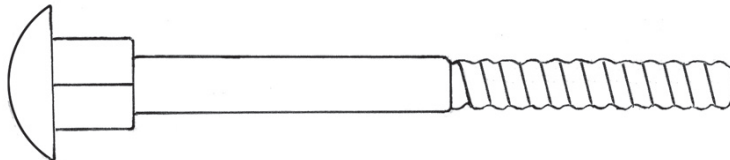
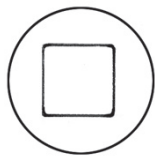
Use galvanised bolts and washers.

Use coach or hex bolts.

Bolt size should be size M10 or M12 for most construction joints.

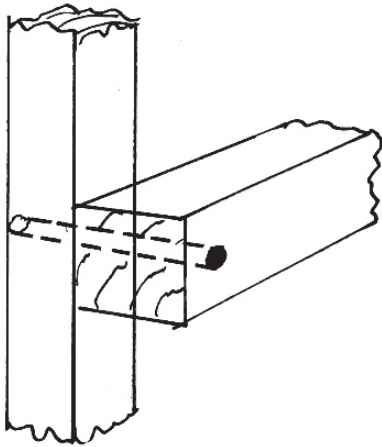


Hex bolt



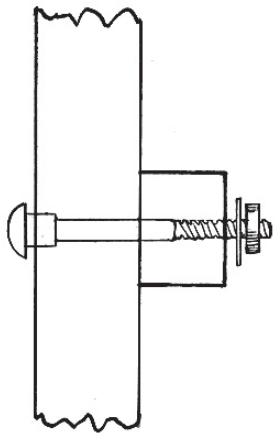
Coach bolt

Drill a hole right through both pieces of timber



Insert the bolt and tighten the nut with a spanner or wrench

Don't forget the washer

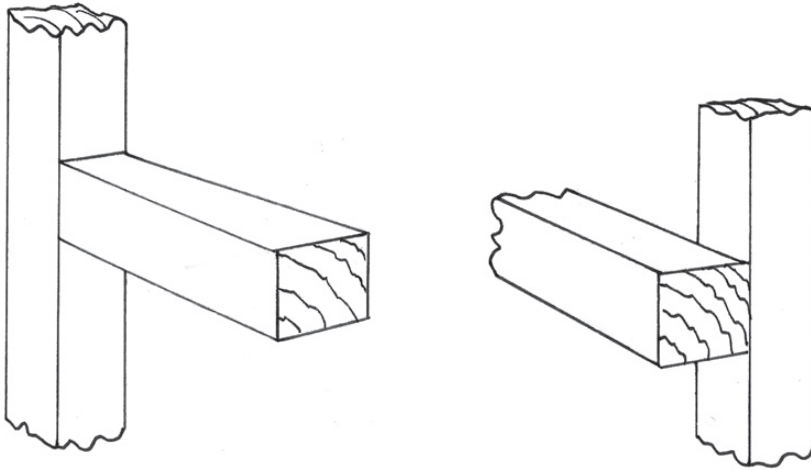


Ask questions about anything you do not understand.

Activity

Use scrap pieces of timber

1. Make nailed butt joints like each of these:



2. Make a bolted butt joint

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