

## Lifting wall plates step-by-step video guide

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MBIE developed this video for builders working in Canterbury, New Zealand. It should be used in conjunction with the guidance [Repairing and rebuilding houses damaged by the Canterbury earthquakes](#).

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### Transcript

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**Duration:** 7:44

So, you have to lift a wall plate...

When earthquakes cause floors, or parts of floors to move, some will need to be re-levelled.

It's often easier to re-level the floor by lifting the wall plate rather than attempting to lift the perimeter foundation.

You'll invariably have to pack piles at the same time.

A PMO or engineer will have considered different lifting options and decided that wall plate lifting is best.

So today, we're going to look at how to lift the wall plate safely and properly.

Before you go under the floor, there are some safety considerations.

First, check the power and gas services are safe to work around and put up safety barriers around the site.

Second, make sure your electrical gear and equipment carries a current appliance test label.

Third, wear the right safety gear for the task.

And finally, treat the area like a confined space – tell a workmate you're going under the floor and prepare a rescue plan.

Now you're ready to remove parts of the cladding to expose the floor joists and wall plates.

If the house has weatherboards, it's good to remove whole boards.

If the house has sheet cladding, neatly cut it back in line with the bottom plates.

Removing whole weatherboards, or neatly cutting sheet claddings makes recladding work easier later on.

Remember, lifting wall plates for re-leveling works best for sheet cladding or weatherboards. Other lifting techniques are best for houses with brick veneer.

The next step is to prepare the wall for lifting.

Identify which wall plates and bearers need lifting.

Position the jacks and strong-backs under the joist ends.

Separate them from the foundation by disconnecting hold-downs.

Wall plates parallel to the joists can be lifted from the outside with Z shaped jack attachments. You may have to get these made up.

The next step is to jack up the floor bit by bit.

Work the jacks to keep an even pressure over the whole floor area, especially under exterior and load-bearing walls.

When the floor is in its final position, the next step is to insert continuous packing between the floor plate and foundation.

Cut packers or folding wedges from a minimum of H3.2 treated timber.

Make sure the packer is the same width and length as the wall plate.

It's good to give any cut timber surfaces a coating of timber preservative treatment.

Make sure you put damp proof course or a DPC between the packer and concrete.

Nail the packing through the wall plate. Use galvanised nails.

Next connect the floor to the foundation wall.

Attach galvanised angle straps to the floor joists and bolt to the foundation wall. Position each angle strap as near as possible to each original hold-down point.

Fix each strap to the joist with one galvanised M12 engineering bolt and washer.

Fix each bracket to the foundation with two galvanised screw bolts.

Now you've finished lifting and you've secured the foundation, the final step is to reinstate the cladding and underlay.

Make sure claddings overlap the foundation by at least 50mm.

For horizontal weatherboards, refit existing or new weatherboards. Repeat the same nailing positions that were used on the removed boards. Use galvanised nails.

It's best to pre-drill all nail holes and punch heads if needed for stopping and painting.

There are different repair techniques for sheet claddings.

It is often useful to install horizontal 'Z' flashings to keep the joint weathertight.

And that's how you lift a wall plate to re-level a floor.

First, before you start make sure you are safe.

Step 1, remove cladding.

Step 2, prepare the floor for lifting.

Step 3, jack up the floor.

Step 4, insert continuous packing.

Step 5, secure the floor to the foundation wall.

And step 6, reinstate claddings.

We've just looked at lifting wall plates for weatherboard and cladding, but brick veneers require more specialised steps.

You can find out more about good cladding design and repairs in the Building Code acceptable solution E2/AS1 (<https://www.building.govt.nz/building-code-compliance/e-moisture/e2-external-moisture/>).

Remember: Do it right first time and do it safely to avoid any call backs or accidents.

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See how to jack up foundations to re-level floors in earthquake-damaged houses. Of interest to Builders.

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