

Jacking up a foundation step-by-step video guide

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

Print (<https://www.building.govt.nz/>)

Duration: 4:39

So, you're going to jack up a foundation to re-level the floor and building above...

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

There are several ways of doing this.

A PMO or engineer will have made the decision whether or not to use jacks to lift the foundation.

<http://mbie5.cwp.govt.nz/building-code-compliance/b-stability/b1-structure/jacking-up-a-foundation-step-by-step-video-guide/>

Today we're looking at how to jack up a foundation 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.

[Finally] treat the area like a confined space – tell a workmate you're going under the floor and prepare a rescue plan.

Now prepare the building. You may need to remove some cladding, especially brick veneer; porches, steps or decks; or pipe work and drains.

Step 1: Excavate pits under the foundation.

Dig 600 by 600 mm pits at spacings and depths given by the engineer or PMO.

Part fill the pits with a minimum of 200 mm of concrete.

Once the concrete has set, position the jacks 'off centre' on the concrete.

Go under the floor and detach piles from any bearers that need lifting.

Concentrate the jacks to lift under load-bearing walls.

The next step is to lift the foundation and floor gradually to the new position.

Work all the jacks bit by bit – so you apply even pressure over the floor and foundation.

Install timber 'chocks' tight under the foundation in the pits.

Remove the jacks and finish filling the pits with 'block-fill' concrete.

Vibrate the concrete to fill the voids beneath the foundation.

The final step is to check if the cracks in the foundation have closed up.

Any remaining cracks greater than one mm will need to be filled.

Refer to the [Guidance document \(https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses-affected-by-the-canterbury-earthquakes/\)](https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses-affected-by-the-canterbury-earthquakes/), clause A4.4 for filling options.

Finally, reinstate any cladding, services and other features.

And that's how to jack up a foundation.

Before you start, make sure you're safe.

Step 1, prepare the building.

Step 2, excavate the pits.

Step 3, re-level using jacks.

Completely fill the void beneath the foundation.

Step 4, fill any cracks

And finally, clean up the job. You can find out more about jacking up foundations in [Appendix A:1 of the Guidance document \(https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses-affected-by-the-canterbury-earthquakes/\)](https://www.building.govt.nz/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses-affected-by-the-canterbury-earthquakes/).

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

Related videos



<https://www.building.govt.nz/building-code-compliance/b->

Packing house piles step-by-step video guide
[\(https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/packing-house-piles-video/\)](https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/packing-house-piles-video/)

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See how to pack earthquake damaged house piles.

[stability/b1-structure/packing-house-piles-video/](#)



[\(https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/step-by-step-guide-to-lifting-wall-plates/\)](https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/step-by-step-guide-to-lifting-wall-plates/)

Lifting wall plates step-by-step video guide
(<https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/step-by-step-guide-to-lifting-wall-plates/>)

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See how to lift wall plates to re-level floors in earthquake-damaged houses.

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