

Greetings all. Today's Bulletin is about **using excavators as cranes**.

This might seem like a handy shortcut on a tight job, but it comes with a fair few risks.

Even though we don't recommend it, some people will still give it a go, so it's best to know the dangers and how to keep things as safe as possible.

WorkSafe Victoria has recently released this [guidance note](#). The recommendations of the guidance note and the risks below should be considered before excavators are used as cranes.

The Risks Involved

First off, the idea of suspending loads from an excavator isn't something that should be taken lightly. When you hang a load from an excavator, you're exposing yourself to several hazards:

Load Instability: One of the biggest worries is that the load can shift or even fall while the excavator is on the move. Imagine a heavy piece of equipment or material swinging unexpectedly – it could hit nearby workers or damage structures. This isn't just a minor risk; it's a serious safety issue that can lead to injuries or worse. When cranes pick and carry, there are different stability requirements based on if they are on wheels or tracks and how fast they move.

Equipment Failure: The lifting gear – be it slings, chains, or clutches – needs to be spot on. If these components aren't inspected regularly or aren't rated correctly for the load, they can snap or fail at a crucial moment. This isn't something you want to test in the field, so regular checks are vital.

Overtipping: If you're raising a loaded bucket too high, especially on uneven ground or while making turns, the excavator can tip over. This risk increases significantly when the machine isn't operating on stable, level terrain. Overtipping isn't just a problem for the machine; it can lead to the load falling or even cause a chain reaction of accidents.

Operator Error: Even the best equipment can't save you if the operator isn't properly trained. Mistakes, misjudgements, or simply not having the right experience can result in poor decision-making. And in situations where every second counts, a small error can have big consequences. There isn't a formal unit of competency for excavator operators that includes lifting suspended loads.

Ground Instability: The ground itself plays a big role. It is natural that excavators are working on disturbed ground or uneven terrain because of their primary function to dig.

Failing to assess the site properly could mean that the lifting setup is on unstable ground. If the ground can't support the weight or the shifting forces, you're setting yourself up for a potentially dangerous situation.

Choosing the Right Sling

If you're going to use an excavator as a crane, choosing the right sling is so important. In a crane crew, licensed doggers who have been trained on sling selection and load attachment perform the task. Who is doing this task when an excavator is used?

Here are some key points to keep in mind:

Working Load Limit (WLL): Every sling has a WLL, which is essentially its maximum safe lifting capacity. Never, ever exceed this limit. Pushing a sling beyond its capacity is a fast track to disaster.

Sling-to-Load Angle: The angle at which the sling is attached to the load matters a lot. The smaller this angle becomes; the more tension is put on the sling. If you don't account for this increased tension, you could be setting up for a sling failure.

Load Distribution: How the weight of the load is spread out across the sling legs is another critical factor. Uneven distribution can cause one sling to bear more than it should, increasing the risk of failure.

Material and Type: Not all slings are created equal. Depending on the weight, shape, and surface of the load, you'll need a sling that's designed to handle those specifics. Using the wrong type of sling can compromise the entire lift.

Environmental Factors: Don't forget the weather and other environmental conditions. High winds, rain, or extreme temperatures can all affect how well a sling performs. Make sure the sling you choose is suited to the conditions on the day.

Getting the Load Down Safely

Once your load has been lifted, safely landing it is another challenge. Even if the lifting itself goes smoothly, getting the load onto a stable surface is essential.



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Proper Placement: The landing zone needs to be flat, stable, and able to support the weight of the load. If the ground is uneven or weak, you might end up with a load that's as dangerous as it was in the air.

Load Characteristics: Some loads are trickier than others. For example, a load that contains fluids or is inherently unstable requires extra caution. Fragile loads might shift or break, so understanding the nature of what you're lifting is key.

Exclusion Zone: Once the load is in the air and nearing its landing spot, it's a good idea to set up an exclusion zone. This means keeping people and equipment clear of the area until you are sure the load is secure. A few extra metres of space can make all the difference in preventing accidents.

Gradual Release: Don't just pull the slings away once the load touches down. Gradually release the tension to avoid any sudden shifts. This slow, careful approach helps keep the load stable until it's completely detached from the lifting gear.

Final Assessment: Always take a moment to check the load's stability before completely letting go. A final look can help spot any issues that might need attention, ensuring that the landing process is as safe as the lift itself.

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