

MANUAL HANDLING - LIFT YOUR LEVEL OF SAFETY



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Manual handling is probably the major OH&S issue in most truss plants in Australia.

It includes "lifting, pushing, pulling, holding, throwing, and carrying. It includes repetitive tasks such as packing, typing, assembling, cleaning and sorting, using hand-tools, and operating machinery and equipment."*

In this context, taking control of the injury risks associated with manual handling involves most of the primary tasks in a truss plant.

These injuries are musculoskeletal disorders (MSD), e.g. muscle strains and sprains or repetitive strain injury, and can be the result of a sudden event, or prolonged exposure to a damaging activity.

Each state has an OH&S legislative framework that provides guidance on how to comply with the relevant regulations in the area of manual handling. Generally speaking, there will be an expectation on employers to:

- identify manual handling activities that have the potential to cause an MSD;
- assess the level of risk associated with the task; and
- eliminate or reduce the risk accordingly.

To help understand these issues let's look at a fictitious case study.

Our typical truss plant has two operators who lift finished trusses from a flow-through-jig, and stack them on a trolley. In the process, the trusses are carried across the flow-through-jig base rail.

Operators have complained to management about lifting the heavier trusses, and an operator strained a muscle in his shoulder recently when the truss he was lifting broke free of the jig unexpectedly.

Using a worksheet, which can be obtained from your local OH&S authority, the plant

manager and health & safety officer made notes and sketches on the task of lifting and stacking trusses.

RISK IDENTIFIED

1. Workplace layout

- The operators step over the base rail to carry the truss 4.0 meters sideways to the trolley.
- The ageing concrete floor has several surface depressions. There is a fixed steel conduit for air supply to the jig, and loose flexible hoses for staple guns.
- The trusses are often tightly wedged in the jig after pressing and require extra lifting force to break the truss free.
- The base of the truss trolley is 300mm off the ground, and the truss stack can often exceed 1600mm in height.

2. Systems of Work

- The same two employees perform this task for a full shift once every four minutes (average).

3. Nature of the object

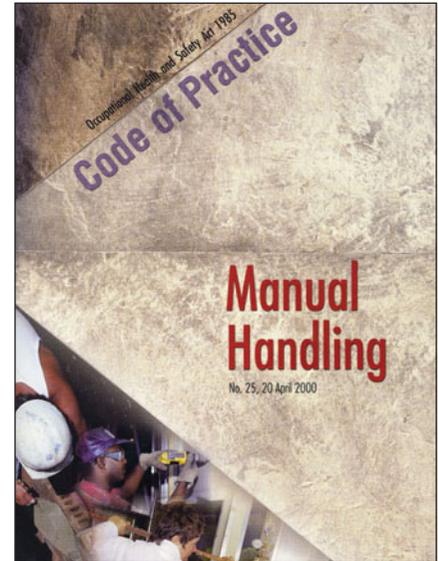
- The trusses range in size up to 12 metres long and weigh up to 50 kg. Occasionally large span trusses and girder trusses with hardwood bottom chords are even heavier. A typical 8m metre pine truss weighs approximately 35kg.

Having identified the risks they proposed ways to eliminate or reduce the source of each risk.

The following actions were considered necessary:

1. Workplace & environment

- Repair damaged concrete and re-route the fixed conduit on the floor.
- Provide staple gun holsters on the jig and consider shorter or spiral air hoses.
- Turn the flow-through-jig around so that the operators do not step over the bottom chord when carrying the truss.
- Alter the timber locating pins on the jig so



* Victorian OH&S Act 1985 Code of Practice for Manual Handling No. 25, 20 April 2000, p.5.

that they have a slight taper upwards, reducing likelihood of trusses jamming.

2. Systems of work

- Since three operators could work on the jig, they will rotate lifting duty, two hours on, one hour off.

3. Objects used in the task

- Detailers to avoid hardwood and consider laminated trusses where appropriate.
- Use lighter materials in truss construction, eg. Matrix webs.
- Increase the trolley height to avoid stooping and impose height limits on manually stacked trusses.
- Use a spring loaded truss trolley to maintain a good working height.

4. Mechanical aids

- Install extra jig arms with pneumatic truss ejectors, eliminating operators exerting break-out forces and reducing the lift distance.
- Install an overhead truss lifting jib.

These options were presented to the plant's Safety Committee.

The first six items were implemented in the short term, having little direct cost. The plant manager adopted the last item as a permanent solution.

He had knowledge of a truss lifting device offered by his nail plate supplier and immediately placed it in his budget for the next year.

By taking the time to conduct a thorough hazard assessment for this activity the risk of an MSD was greatly reduced.

In fact, you could say that they made a significant 'lift' to their plant's manual handling safety level.