

# TAPE MEASURES AT TRUSS JIGS

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**H**and-held tape measures are common place at most truss assembly stations, and despite their simplicity and reliability, their use often goes unquestioned. However they do come at a cost.

The problems associated with using tape measures at truss production stations are simple: time lost performing the measurement and the potential for errors in the process.

Measurements taken by jig-setters with hand held tape measures, and using string-lines for setting truss camber, can account for a significant proportion of the overall set-up time when building roof trusses on table presses, multi-head presses and flo-jigs alike.

In many cases a reduction in their usage could provide significant gains in productivity and fewer costly manufacturing mistakes.

The continuing trend of increased truss complexity and fewer repeat trusses can only amplify any such benefits.

Short of a call to 'Throw away your tape measures!', I would like to explore some practical alternatives and suggestions for minimising their use.

## Eliminate unnecessary measuring

By force of habit or lack of supervision, jig setters often take measurements that are simply not required.

Make sure their training includes a firm understanding of the critical dimensions for each truss type, and that relevant dimensions are clearly displayed on their detailing sheets or projector screens.

Make the job easy and remove any unnecessary information that detracts from the key measurements.

Also, when producing identical trusses, ensure that operators use

sufficient tooling so that repeat trusses do not require the same measurements to be taken.

Much time can be spent by a jig-setter checking the length of cut components that should not need to be checked at the jig.

If your cutting stations are working properly jig operators should have confidence in the accuracy and consistency of cut truss members.

## Proper use & maintenance of equipment

We all know that flo-jigs and press tables take a hammering (literally!) and often the built-in measuring scales are the first item to become worn or damaged.



■ A laser camber measurement system will provide a fast way of measuring and setting camber.

Even when the scales are readable, older flo-jigs tend to harbour damage to pressing stations and rails that prevents the scales from being used for anything other than a rough guide.

Make sure these items are on your maintenance checklist and replaced as soon as they are reported.

## Alternative measuring systems & equipment upgrades

Many would argue that built-in scales on flo-jigs, particularly for setting camber, are simply unreliable. The physics support this.

With the measuring scale mounted on the rails approximately 450mm below the working surface of the flo-box, the mildest distortion in the base rail and flo-boxes are amplified to produce several millimetres error at the truss, not to mention the

added deflection in flo-boxes when clamping a heavy bottom chord.

For setting camber, a laser camber measurement system for under \$5K will provide a fast way of measuring and setting camber that is independent of the truss jig, and allows you to throw away your string-lines for good.

Rising to the challenge of throwing away tape measures altogether will require a higher, but often justified, capital investment.

Laser projection systems have been available for many years. These can operate over almost any type of jig, and are particularly popular over roller gantry and table presses.

These PC controlled lasers project on to the working surface the truss component outline, jiggling positions, and component and plate descriptions and positions. If in the past you dismissed such systems on a cost basis, look again.

Advances in laser technology have made such systems more affordable than ever.

Automated truss jiggling systems for gantry roller and table presses are also well established systems with the potential for building quite complex trusses with little or no manual measurement.

These systems provide a jiggled truss profile in less than 30 seconds, as will an automated multi-head press.

In addition to productivity gains, automated equipment solutions also reduce the margin for operator error during measuring and truss manufacture, and can increase consistency of output across different crews and shifts.

'Measure' is the key word here. Measurement and analysis of the activities at your truss assembly jigs may prompt you to consider the real costs of your plant's current manufacturing technologies.

So consider investment in new equipment and engineering solutions to reduce the burden of manual measuring at truss jigs. There are options for all budgets.