



MLA case study: BladeStop™

What: Sensor-activated braking mechanism for meat saw blades

Who: MLA Donor Company and Machinery Automation and Robotics

Why: Reduces amount and severity of injuries caused by meat band saws

Putting a stop to danger

Processing beef and sheep carcasses can be dangerous work, so MLA is reducing serious saw blade injuries.

Band saws are an essential tool in the meat processing industry, but can cause severe cuts, muscle and nerve damage, or even amputations.

Thanks to long-term research and development by the MLA Donor Company (MDC) and AMPC in collaboration with technology partner Machinery Automation and Robotics (MAR), processors and butchers can now install BladeStop™ technology.

BladeStop™ is a braking mechanism for bandsaws that, upon sensing contact with the operator's hand, will stop the blade within 15 milliseconds. This can be the difference between a small skin cut and an amputated finger.

It builds on a similar system developed in the US for the wood industry, called Saw Stop, when senses the difference between wood and a human finger – known as the difference in 'capacitive coupling'.

It was not as simple as transferring the Saw Stop technology to the meat industry, as a human finger and an animal carcass have a similar capacitive coupling, compared to timber.

Fast facts

- BladeStop™ reduces severe injury from band saws
- Unique system developed for meat industry
- Saw blade stops within 15 milliseconds

The challenge was to develop a unique system for the meat industry that could kick in fast enough and stop a saw blade before causing major injury to the operator.

Many different prototypes were tested and multiple plant trials conducted to refine the design.

The final system is only available as part of a new bandsaw purchase to avoid reliability issues with retrofitting the injury minimisation device.

BladeStop™ incorporates a new Thomson MK6 band saw with an integrated electronic board and a blade stopping mechanism. Two sensor strap positions – arm or wrist – are available.

MAR has also developed GloveCheck (patent pending), an add-on sensing system that detects operator gloves moving at high speed in a zone directly upstream from the band saw blade, and triggers the BladeStop™ mechanism to stop the blade.



BladeStop™

Benefits of BladeStop™

Improved operator safety is the main benefit of BladeStop™.

As well as legislative, WorkCover and 'duty of care' reasons to implement BladeStop™, other benefits to processors include:

- reduced down time after incidents
- reduced sick leave and related rehabilitation costs for injured workers
- reduced insurance premiums
- reduced social and financial impact of serious injury or amputation on workers
- improved occupational health and safety
- improved employee relations
- reduced product wastage



Further information

For more information contact
George Waldhausen at gwaldhausen@mla.com.au



Level 1, 40 Mount Street, North Sydney NSW 2060
Tel: +61 2 9463 9333 Fax: +61 2 9463 9393 www.mla.com.au
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