



# **SAFE STOP**

## **(Anti Door Jam Unit)**

**Graeme Christie**  
**Health & Safety Manager**  
Redpath Australia Pty Ltd

Sharing

**My**story

*Understanding and leading in times of true adversity*

# INTRODUCTION

The interface between Operators and Underground mobile equipment continues to be a significant risk in our industry.

In particular risks associated with operators accessing and egressing heavy mobile equipment operator cabins.

A mechanism of many incidents over the years.



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**



# THE PROBLEM

Eliminate the risk of operators sustaining a debilitating hand or finger crush injury in the cabin door jam area of mobile equipment by using the hierarchy of controls.

Eliminating persons from the line of fire.



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**

# RISK AREAS

Specific area of concern;

- / Operators using cabin pillars as support or hand holds.
- / Doors closing prematurely with maximum (Door weight 40–70kg)
- / Exposure to this risk due to frequency of task. (10-15 times a shift)



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**

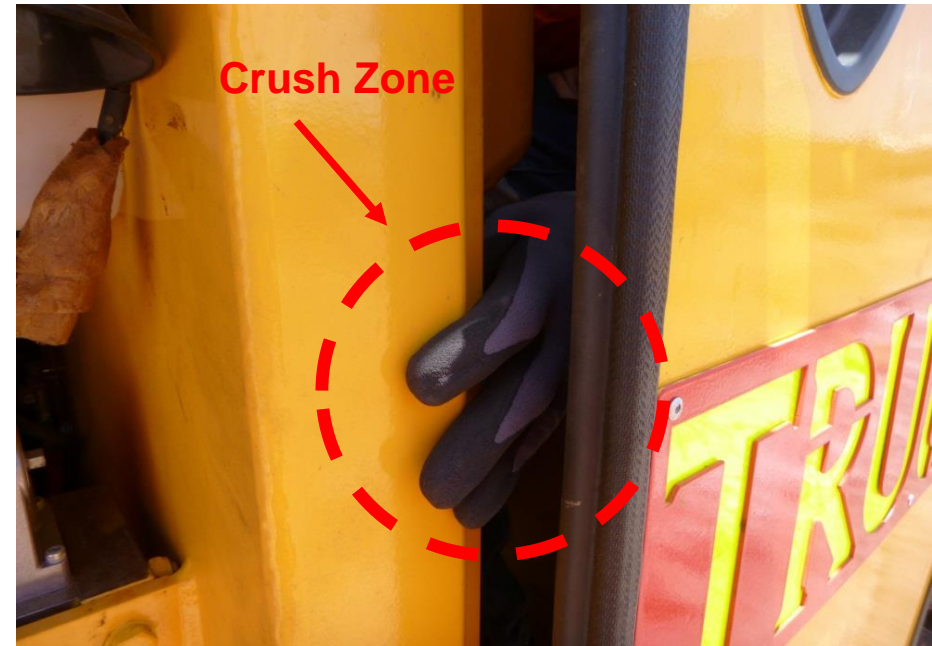


# INTERACTIVE ZONE

**Picture 1.** Potential Crush Zone in cabin door jam area when operator closing door from outside of cab



**Picture 2.** Potential Crush Zone in cabin door jam area when operator using pillar as support from inside of cab



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**



# THE SOLUTION / INNOVATION

Engineering solution to mitigate the potential for future re-occurrence of door jam type crush injuries to operators.

The **SAFE STOP** Anti Jam Door Unit.



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**

# THE SAFE STOP IN ACTION



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**



## BENEFITS / EFFECTS

The **SAFE STOP** Anti Jam Door Unit offers major benefits:

- / Eliminates the potential for crush injuries to hands or fingers
- / Minimises damage to door mechanisms and broken windows
- / Easily fitted to most equipment cabins
- / Maintains integrity of the cabins ROPS/FOPS certification



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**



# BENEFITS / EFFECTS

**Picture 1.** Fitted to Shotcrete Spray Rig



**Picture 2.** Fitted to Underground Loader



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

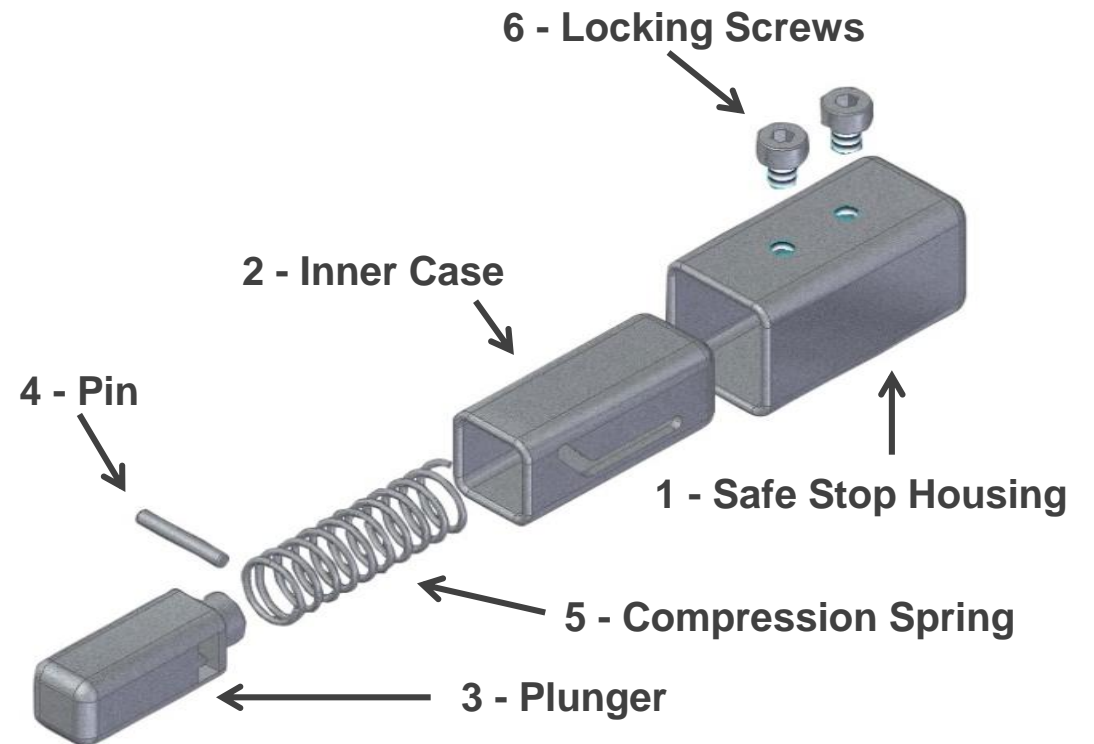
**Consider it done.**



# SAFE STOP - COMPONENTS

The **SAFE STOP** Anti Jam Door Unit consists of 6 parts all capable of being replaced as individual items as shown in diagram.

- / Housing manufactured from mild steel
- / Hardened steel pin
- / Stainless steel spring



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**



# TESTING/TRIALING

The **SAFE STOP** Anti Jam Door Unit was commissioned for a 3 month trial on a fleet of underground shotcrete spray rigs.

Now retro fitted to a range of equipment across the fleet.



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**

# INNOVATION

The innovation needed to eliminate the potential for personnel being exposed to debilitating crush injuries.

Several options were considered including:

- / Caution taping around door jam areas
- / Drop latch designs

Each of the above had their merits, but only the **SAFE STOP** could truly eliminate the exposure.



**REDPATH AUSTRALIA**  
**PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**



# TRANSFERBILITY

The **SAFE STOP** Anti Jam Door Unit has the capability of being retro fitted to a range of mobile equipment across the fleet.

With minor modifications it could be transferable to many other applications including;

- / Other heavy equipment and plant
- / Access doors
- / Manhole lids



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**

# COST

The cost to design and develop the unit was approximately  
\$10,000

Cost per unit fitted = \$850

**A small cost to pay in eliminating injuries**



**REDPATH AUSTRALIA  
PTY LIMITED**  
Mining Contractors and Engineers

**Consider it done.**



As a result of the  
**SAFE STOP UNIT**  
we are closer to achieving our

Ultimate Goal of  
**ZERO HARM**

# Questions?



**Consider it done.**

[www.redpathmining.com](http://www.redpathmining.com)

SAFETY – FIRST, LAST AND ALWAYS.