



Plant Risk Assessments  
Fallshaw Wheels and Castors, Sunshine  
July, 2008

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## 1. Introduction

National Safety Council Australia (NSCA) was engaged by Mr Michael Calladine, Engineering and Quality Manager, Fallshaw Wheels and casters, to carry out Plant Risk assessments and guarding assessments on the following items of plant supplied by the company:

- The Strongarm S4HW.

## 2. Report Scope

The scope of the report was limited to the identification of hazards associated with the design and manufacture of the plant. Hazards introduced by the method and environment in which the plant is used should be identified and assessed by the employer responsible for the workplace in which the plant is used.

## 3. Methodology

The methodology consisted of:

- A thorough examination of each item of plant
- A review of the documentation supplied by Fallshaw Wheels and castors with each item of plant.
- The application of Victorian WorkSafe Plant Hazard Checklist
- Comparison with the Australian Standard AS 4024.1 – 2006 Safety of Machinery

## 4. Key Findings

Key findings included the following:

### 4.1. The Strongarm S4HW

Recommendations have been made regarding to the connection of the Strongarm to the deck of utes and small trucks. The photographs shows that the Strongarm is connected straight onto the desk of the ute. It is possible that the deck would not sustain the weight of the Strongarm and its load. Instructions should be included to notify users how that the device should be fitted. It was noted that instruction had been provided for the connection of the device to concrete floors.

It was also noted that the lifting arm could crush a body part if it were to fall against the main support. Recommendation have been made to install a rubber stopper to prevent the arm from closing sharply onto the support.

Recommendations have been made for the amendment of the Operating Procedure to ensure that loads are lifted corrected and with appropriate slings and chains. It was also recommended that the Operating procedures include a warning to stay 2 metres clear of the load as it was being lifted.

Should require any further information, I can be contacted on 0409 995 593.

Graeme Nightingale  
Principal Consultant  
National Safety Council of Australia

## Appendix D: Plant Risk Assessment on the Strongarm S4HW

### PLANT HAZARD CHECKLIST

<b>Date:</b>	<b>18<sup>th</sup> August 2008</b>
Assessment No.:	-
Plant/Asset No.:	-
Plant Name:	Strongarm S4HW
Plant Location:	Fallshaw Casters 2A Ayton Street, Sunshine
Description:	.The Strongarm S4HW is designed to lift loads of up to 500 Kg. either from the tray or deck of utes or small trucks or strategically bolted to a concrete floor such as a loading bay... The Strongarm S4HW is operated by a hand winch to lift items and a worm and worm wheel to slew the loads.  <b>As the Strongarm S4HW is manually operated, it is not Plant as defined in the Occupational Health and Safety Regulations, 2007.</b>

### Assessment Team:

Name	Position
Graeme Nightingale	Principal Consultant – NSCA, Vic.

### Notes:

- Consider the hazards in relation to the affect they may have on plant operators, anyone working, or in the near vicinity of the plant, visitors and contractors
- Consider the hazards for the Start Up, Operation, Cleaning, Maintenance, Shut Down, and Modification phases.
- Refer to the Victorian OHS Regulations (2007) and associated Code of Practice for Plant (1995) for specific details.
- If 'yes' is the answer to a question in the following checklist, the plant, parts of the plant and/or the situation associated with the hazard, should be identified on the checklist.

The following information is based upon the  
Victorian WorkCover Authority Plant Hazard Check-sheet (1995).

## PLANT HAZARD CHECKLIST

<b>A ENTANGLEMENT</b>		
1	Can anyone's hair, clothing, gloves, necktie, jewellery, cleaning brushes, rags or other materials become entangled with moving parts of the plant, or materials in motion?	<b>No</b>

<b>B CRUSHING</b>		
1	Can anyone be crushed due to:	
a.	Material falling off the plant?	<b>No</b>
b.	Uncontrolled or unexpected movement of the plant or its load?	<b>Yes</b> In the event of a load coming unsecured or slings or chains breaking whilst the load is being lifted
c.	Lack of capacity for the plant to be slowed, stopped or immobilised?	<b>No</b>
d.	The plant tipping or rolling over?	<b>Yes.</b> In the event of the plant being dislodged from its concrete base fixings or the plant not being properly fixed to the tray of a ute or small truck and bolts pulling through the metal.
e.	Parts of the plant collapsing?	<b>Yes.</b> The potential exists for the winch cable to break causing the lifting arm to fall. This can be avoided by using the equipment within its recommended operation limits, and regular inspection and maintenance. .
f.	coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair?	<b>No.</b>
g.	Being thrown off or under the plant?	<b>No.</b>
h.	Being trapped between the plant and materials or fixed structures?	<b>Yes.</b> In the event of the lifting arm falling and crushing a person or body part between the upright and the lifting arm.
i.	Other factors not mentioned?	<b>No.</b>

<b>C CUTTING, STABBING &amp; PUNCTURING</b>		
1	Can anyone be cut, stabbed or punctured due to:	
a.	Coming in contact with sharp or flying objects?	<b>No.</b>
b.	coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair of the plant?	<b>No.</b>
c.	The plant, parts of the plant or work pieces disintegrating?	<b>No.</b>
d.	Work pieces being ejected?	<b>No.</b>

<b>C CUTTING, STABBING &amp; PUNCTURING</b>		
e.	The mobility of the plant?	<b>No.</b>
f.	Uncontrolled or unexpected movement of the plant?	<b>No.</b>
g.	Other factors not mentioned?	<b>No.</b>

<b>D SHEARING</b>		
1	Can anyone's body parts be sheared between two parts of the plant, or between a part of the plant and a work piece or structure?	<b>No.</b>

<b>E FRICTION</b>		
1	Can anyone be burnt due to contact with moving parts or surfaces of the plant, or material handled by the plant?	<b>No.</b>

<b>F STRIKING</b>		
1	Can anyone be struck by moving objects due to:	
a.	Uncontrolled or unexpected movement of the plant or material handled by the plant?	<b>Yes.</b> See hazard in crushing section regarding the lifting arm falling.
b.	The plant, parts of the plant or work pieces disintegrating?	<b>No.</b>
c.	Work pieces being ejected?	<b>No.</b>
d.	Mobility of the plant?	<b>No.</b>
e.	Other factors not mentioned?	<b>No.</b>

<b>G HIGH PRESSURE FLUID</b>		
1	Can anyone come into contact with fluids under high pressure, due to plant failure or misuse of the plant?	<b>No.</b>

<b>H ELECTRICAL</b>		
1	Can anyone be injured by electrical shock or burnt due to:	
a.	The plant contacting live electrical conductors?	<b>No.</b>
b.	The plant working in close proximity to electrical conductors?	<b>No.</b>
c.	Overload of electrical circuits?	<b>No.</b>
d.	Damaged or poorly maintained electrical leads and cables?	<b>No.</b>
e.	Damaged electrical switches?	<b>No.</b>

f.	Water near electrical equipment?	<b>No.</b>
g.	Lack of isolation procedures?	<b>No.</b>
h.	Other factors not mentioned?	<b>No.</b>

<b>I EXPLOSION</b>		
1	Can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances, triggered by the operation of the plant or by material handled by the plant?	<b>No.</b>

<b>J SLIPPING, TRIPPING &amp; FALLING</b>		
1	Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to:	
a.	Uneven or slippery work surfaces?	<b>Yes.</b> Only if plant used in an environment where slips and trip could occur.
b.	Poor housekeeping, eg. swarf in the vicinity of the plant, spillage not cleaned up?	<b>No.</b>
c.	Obstacles being placed in the vicinity of the plant?	<b>Yes.</b> The potential for an individual(s) to slip, trip and/or fall around the plant exists in the event where housekeeping standards are not maintained to a high level.
d.	Other factors not mentioned?	<b>No</b>

<b>J SLIPPING, TRIPPING &amp; FALLING</b>		
2	Can anyone fall from a height due to:	
a.	Lack of a proper work platform?	<b>No.</b>
b.	Lack of proper stairs or ladders?	<b>No.</b>
c.	Lack of guardrails or other suitable edge protection?	<b>No.</b>
d.	Unprotected holes, penetrations or gaps?	<b>No.</b>
e.	Poor floor or walking surfaces, such as the lack of a slip-resistant surface?	<b>No.</b>
f.	Steep walking surfaces?	<b>No.</b>
g.	Collapse of the supporting structure?	<b>No.</b>
h.	Other factors not mentioned?	<b>No</b>

<b>K ERGONOMIC</b>		
1	Can anyone be injured due to:	
a.	Poorly designed seating?	<b>No.</b>
b.	Repetitive body movement?	<b>No.</b>

<b>K</b>	<b>ERGONOMIC</b>	
c.	Constrained body posture or the need for excessive effort?	<b>No.</b>
d.	Design deficiency causing mental or psychological stress?	<b>No.</b>
e.	Inadequate or poorly placed lighting?	<b>No.</b>
f.	Lack of consideration given to human error or human behaviour?	<b>No.</b>
g.	Mismatch of the plant with human traits and natural characteristics?	<b>No.</b>
h.	Other factors not mentioned? (For more information on hazards associated with manual handling refer to the Victorian Manual Handling Code of Practice.)	<b>No.</b>

<b>L</b>	<b>SUFFOCATION</b>	
1	Can anyone be suffocated due to the lack of oxygen, or atmospheric contamination?	<b>NOT APPLICABLE.</b>

<b>M</b>	<b>HIGH TEMPERATURE FOR FIRE</b>	
1	Can anyone come into contact with objects at high temperatures?	<b>No.</b>
2	Can anyone be injured by fire?	<b>No.</b>

<b>N</b>	<b>TEMPERATURE (THERMAL COMFORT)</b>	
1	Can anyone suffer ill-health due to exposure to high or low temperature?	<b>No.</b>

<b>O</b>	<b>OTHER HAZARDS</b>	
1	Can anyone be injured or suffer ill-health from exposure to:	
a.	Chemicals?	<b>No.</b>
b.	Toxic gases or vapours?	<b>No.</b>
c.	Fumes?	<b>No.</b>
d.	Dust?	<b>No.</b>
e.	Noise? (For more information on hazards associated with noise, refer to the Victorian Noise Code of Practice.)	<b>No.</b>
f.	Vibration?	<b>NOT APPLICABLE.</b>
g.	Radiation?	<b>NOT APPLICABLE.</b>
h.	Other factors not mentioned?	<b>NO</b>

## PLANT HAZARD - RISK ASSESSMENT SUMMARY RISK CONTROL STRATEGIES

(The following risk control strategies have been developed to ensure the safe operation of the plant for all users and people working in the vicinity of the plant)

### A. ENTANGLEMENT

Not Applicable

### B. CRUSHING

This risk can result in injury if the load were to fall due to the load being not properly secured or the sling or chain breaking... This is unlikely however the safe work procedure should be amended.

#### RECOMMENDATION.

*This is unlikely however the safe work procedure should be amended to following.*

- *Make sure that no personnel are within Two (2) Metres of the load being lifted.*
- *Properly rates slings and chains to be used to lift loads.*

In the event of the Strongarm not being properly fixed to deck of the ute or small truck, the bolts could pull through the metal deck and cause the strongarm and load to collapse.

#### RECOMMENDATION.

*Include instructions and engineering requirements for the connection of the Strongarm to the deck of a ute or small truck. This is particularly important as the brochure photograph show the unit attached to the back of a ute.*

In the event of the uncontrolled release of the lifting arm whilst it is being folded up, a hand or other body part could be crushed between the upright (especially the brace where the support sits) and the lifting arm.

#### RECOMMENDATION.

*Consider installing an engineering control, such as a rubber stopper, to stop the arm closing sharply against the upright.*

### C. CUTTING, STABBING & PUNCTURING

No hazards detected.

### D. SHEARING

No hazards detected.

### E. FRICTION

Not applicable

### F. STRIKING

See Crushing hazard re falling lifting arm

### G. HIGH PRESSURE FLUID

No hazards detected.

### H. ELECTRICAL

No hazards detected.

### I. EXPLOSION

No hazards detected.

**J. SLIPPING, TRIPPING & FALLING**

Trip slip and fall hazards are only present if the environment in which the bin lifter is used. This is beyond the control of the manufacturer and is the responsibility of the operator.

**RECOMMENDATION**

Consider included the following statement in the Safe Operating Procedures. :”Check area for trip slip and fall hazards prior to operation”.

**K. ERGONOMIC**

NOT APPLICABLE.

**L. SUFFOCATION**

NOT APPLICABLE.

**M. HIGH TEMPERATURE FOR FIRE**

NOT APPLICABLE.

**N. TEMPERATURE (THERMAL COMFORT)**

NOT APPLICABLE.

**O. OTHER HAZARDS**

**(CHEMICALS)**

NOT APPLICABLE.

**(TOXIC GASES OR VAPOURS)**

NOT APPLICABLE.

**(FUMES)**

NOT APPLICABLE.

**(DUST)**

NOT APPLICABLE.

**(NOISE)**

NOT APPLICABLE.

**(VIBRATION)**

NOT APPLICABLE.

**(RADIATION)**

NOT APPLICABLE.