



Plant Risk Assessments Report for: Variable Message Board Trailer - Bartco

Model: VMS 400

Serial: 6T9T27V97C0FKE101

Prepared by:	Australian Risk Services (ARS)
Owner:	Bartco
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1 Executive Summary

A risk review of the Operator activities for Bartco has been conducted for a Variable Message Board Trailer. The Plant Risk assessment involved discussions with the operator of the Variable Message Board Trailer. Risks have been identified, categorised and assessed using ARS's Risk Management Approach. Risks have been rated from low to high using five-point likelihood and five point consequence matrix. **This risk review is to determine the risks associated with the use of the machinery in accordance with the Plant Regulations of 2007 and Australian Standards AS 4024 for Safe Guarding of Machinery and AS 31000 Risk Management Standards.**

Operators of an Variable Message Board Trailer should have competency in accordance with Australian Standard AS CA12:1970 Work in compressed air and AS/NZS 3788:2001 Pressure equipment – In-service inspection. However, this assessment has not been assessed to these standards. The Operator activities have been assessed by analysing activities documented by personnel as part of their day to day tasks

This report needs to be read in its entirety to understand all recommendations made. There is a summary of recommendations below.

2 Risk Management Approach

Risk Management Strategy

The Strategy requires the analysis of maintenance activities to determine:

- Likelihood of the risk eventuating,
- Standards of mitigation in place,
- The residual or risk exposure remaining after the mitigation effort,

In essence, the aim of the Risk Profile is to provide a common risk management framework to assist Management determine the appetite for, and tolerance to risk, and to communicate this throughout the industry as an aid to decision making and as a driver for maintenance improvement.

A Definition of Risk

Broadly speaking, risks are defined as uncertain future events that could influence the achievement of the organisation's strategic and operational goals and objectives. In practical terms, risk is the exposure to the threat of such things as economic, financial, reputational loss or gain, physical damage, injury or delay, as a consequence of pursuing or not pursuing a particular course of action.

Definition of Hazard

A HAZARD is any situation with the potential for human injury, damage to property, damage to the environment or a combination of these.

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Risk is defined in two dimensions:

- the likelihood of the risk occurring and
- the consequence to the business should that risk occur

Risk management is a management approach for identifying, analysing and treating risks so that industry operates in an environment where the risks are understood and are acceptable.

3 The Process

Identification of Risk

The underlying philosophy for the identification of risk exposure is to use directly the expertise of persons that have the responsibility for managing those risk exposures.

In practice this entailed structured discussions with individuals representing principle operator activities for the Variable Message Board Trailer. The following individuals participated in the Risk Review process:

- Fergus Gibson

Greater detail on the identification process for risks is detailed below.

4 Risk Analysis and Evaluation

The following risk data collection and analysis was undertaken for each risk issue identified:

- A description of the risk (as far as was practicable the risk was described in the context of a hypothetical scenario).
- A description of the impact of the risk, describing a range of potential impacts on the individuals should the risk eventuate.
- A description of the control environment and estimation of its effectiveness is provided
- An estimation of the likelihood of the risk occurring and rated against the criteria below:
- An estimation of the consequence of the risk should it eventuate. Ratings for consequence are determined according to the table below
- Determination of an overall risk rating based on the formula:

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Risk Rating = Risk Likelihood X Risk Consequence

- Actual ratings are determined using the matrix on the following page:
- Where information was readily available, a preliminary description of the control environment and estimation of its effectiveness is provided
- An estimation of the likelihood of the risk occurring and rated against the criteria below
- An estimation of the consequence of the risk should it eventuate. Ratings for consequence are determined according to the table below

5 Codes of Practice and Hazard Identification

Remember, Codes of Practice are part of a strategy to raise the awareness of workplace health and improve safety practice. They have been developed for particular hazards and provide guidelines to help employers identify, assess and control risks arising from these hazards.

Unless cited in a Regulation, they are not compulsory for employers to implement, but their implementation signifies the employer's commitment to comply with their legal obligation to provide a safe and healthy workplace.

Notwithstanding the above, a Code of Practice may be used as evidence of a breach of the Act, or as a defence that all reasonably practicable steps were taken to prevent an injury or illness.

Identification and Classification of Hazards

Once hazards have been identified, the next step is to assess their significance. In assessing the significance of a hazard there are a number of important factors that need to be considered. **These factors include the following:**

- Probability of injury or illness, in considering the probability of injury or illness it is important to note that they can be caused either as a direct result of short term exposure to a hazard, or from long term exposure to a hazard. Injuries that may be a direct result of short-term contact with a hazard include cuts, burns, abrasions, fractures, crush and compression injuries. Long term exposure to some hazards can cause conditions such as deafness, cancers, respiratory damage and dermatitis.
- Potential severity of injury or illness.
- How often are people exposed
- Length of exposure.
- Level of exposure.
- Number of people exposed.
- Adequacy of existing control measures.
- Human differences:
 - skill level;
 - work experience;
 - training;
 - physical capabilities

As there are many types of workplaces and hazards (or combinations of hazards), the methods for assessing hazards will be quite different. The level of risk of a job or task may well have a number of contributing factors which also need to be considered.

The important factor to remember in assessing hazards is that this assessment will determine what priority is assigned to their elimination or control.

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Hazard Categories

CATEGORIES	EXAMPLES
Physical	Vibration, noise, temperature, lighting, radiation, manual handling, mechanical, electrical.
Chemical	Dust, fumes, vapours, gases, explosives, acids, solvents, flammable liquids/solids, oxidising agents.
Biological	Viruses, bacteria, mould, fungi, pollen, insect excrete, contaminated body fluids and contaminated air.
Ergonomic	Poor design of work, poor design of equipment, poor design of environment.
Psychosocial	Stress, poor training and communication, work overload/underload, inappropriate work assignments.

6 RISK RATING SYSTEM - BARTCO

Likelihood of Event	Consequence of occurrence				
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
A Almost Certain	Medium	Medium	High	Extreme	Extreme
B Likely	Low	Medium	High	High	Extreme
C Possible	Low	Low	Medium	High	Extreme
D Unlikely	Low	Low	Medium	Medium	High
E Rare	Low	Low	Low	Medium	Medium

Unacceptable Risks

Extreme = Senior Management and Resources required

High = Senior Management attention required

Acceptable Risks

Medium = Management Responsibility

Low = Standard Operating Procedures to handle

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LIKELIHOOD OF EVENT						
A. ALMOST CERTAIN	Is expected in most circumstances	<ul style="list-style-type: none"> Risk has a greater than 75% chance of occurring 				
B. LIKELY	Will probably occur in most circumstances	<ul style="list-style-type: none"> Risk has a 50% to 75% chance of occurring 				
C. POSSIBLE	May occur at some time	<ul style="list-style-type: none"> Risk has a 25% to 49% change of occurring 				
D. UNLIKELY	Could occur at some time	<ul style="list-style-type: none"> Risk has less than a 25% chance of occurring 				
E. RARE	May occur in exceptional circumstances	<ul style="list-style-type: none"> Not likely to occur 				
CONSEQUENCE						
RATING	DESCRIPTION	FINANCIAL	SAFETY	REPUTATION	OPERATIONS	ENVIRONMENT
5. CATASTROPHIC	Major business failure, multiple deaths, huge financial loss	Asset destruction greater than \$10m Revenue loss or opportunity cost of more than \$10m.	Multiple fatalities, or significant irreversible effects to a number of people (employees and/or public)	Irreparable damage to Bartco name. Parliamentary inquiry. Major public concerns raised.	Significant interruption or cessation of activities for two weeks or more.	Catastrophic irreversible environmental harm. Community outrage – potential large-scale class action.
4. MAJOR	Loss of business functionality/capability, extensive injuries, situation not contained, but no detrimental effects, major financial loss.	Loss of assets totalling \$1.5m to \$10m Revenue loss or opportunity cost of \$1.5m to \$10m.	Single fatality and/or severe irreversible disability to one or more persons	Significant damage to Bartco name.	Total Service cessation for one week.	Major environmental hazard caused – long term recovery. High-profile community concerns raised – requiring significant rectification measures.
3. MODERATE	Moderate disruption to daily activities, medical treatment required, high financial loss, situation contained with outside assistance	Loss of assets totalling \$150,000 to \$1.5m Revenue loss or opportunity cost of \$150,000 to \$1.5m.	Irreversible disability or impairment to one or more persons	Moderate damage to Bartco name.	Total service cessation for several days.	Measurable environmental harm – medium term recovery. Community complaints voiced privately – minor rectification measures.
2. MINOR	Minor disruption to day to day activities, first aid treatment required, situation immediately contained, medium financial loss.	Loss of assets totalling \$15,000 to \$150,000. Revenue loss of \$15,000 to \$150,000.	Transient health impact on staff or public	Minimal damage to Bartco name.	Business interruption over several days.	Medium term immaterial effect on environment/ community – required to inform EPA.
1. INSIGNIFICANT	Will not affect day to day performance, low financial loss, no injuries.	Loss of assets less than \$15,000. Revenue loss of less than \$15,000.	No health impact on staff or public	Reputation intact, internal knowledge only.	Negligible operational impact.	Short term transient environmental or community impact – negligible action required.

7 HAZARD HEIRARCHY OF CONTROL

When developing solutions for identified hazards the risk assessment team members applied the Hierarchy of Controls. A hierarchy of hazard control measures has been established which is used on the basis that, the higher the control strategy is in the hierarchy, the more preferable and effective it is.

The hierarchy of hazard control in order of priority is:

1. Design

Before moving into new premises, or introducing new equipment or work process, all reasonably practicable steps should be taken to have the workplace plant, equipment and task designed and constructed so that potential hazards are removed or reduced to their lowest level. It is easier, and less costly to change a drawing or specification than it is to make changes after construction or installation.

2. Elimination/Substitution

Completely removing the hazard or substituting, that is, replacing the material, work process or machine with a less hazardous one is a very desirable strategy. This eliminates the risk of exposure to that hazard. For example:

- removing a noisy machine from the work area;
- substituting equipment that is ergonomically designed;
- jobs can be redesigned to remove the need for staff to maintain the same posture or carry out constant repetitive work

3. Isolation

When the above steps have been tried and have proved to not be the best solution for minimising the risk, then the separation of the hazard from employees, by use of guards on machines, enclosing noisy machines, relocating noisy portions of the plant or the use of remote handling devices should be considered. This allows for the physical separation of the hazard from the workplace.

4. Engineering Controls

Engineering control measures include such things as:

- modification of furniture, machinery and equipment;
- the use of controls such as local exhaust ventilation; and
- the provision of mechanical aids to assist staff with lifting and carrying tasks

5. Administrative Controls

Administrative procedures can also be introduced to reduce risk. Changing work procedures, for example, by introducing job rotation to reduce the exposure time to hazardous work processes or conditions is a common administrative control measure.

Administrative controls can also include education, adequate housekeeping procedures and supervision of employees in safe work practices.

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6. Personal Protective Equipment (PPE)

If engineering and other controls are not practical or feasible, then PPE may be required. PPE, which is appropriate to the hazards and properly fitted, is often used in the following situations:

- As a temporary measure till a more effective control can be established;
- If other controls are impossible or not as effective or efficient as personal protective equipment;
- During routine maintenance or emergency clean up procedures.

PPE is also sometimes required even when other control measures have been introduced, e.g. when handling hazardous substances.

Applying Control Measures

The higher the control strategy is on the hierarchy order, the more preferable and effective it is. Control measures can be used to reduce or eliminate the identified hazard.

Often, more than one control option may be used to minimise risk, e.g. exhaust ventilation plus the wearing of gloves and goggles.

In many cases there will be a number of control options available. The decision about the control measures to be used should be made in consultation with the affected employees, taking into account the hierarchy of control measures.

When considering control measures it is sometimes necessary to apply a control measure which is at the bottom of the hierarchy, for example PPE, as a short term solution until a more effective control measure can be instituted. However PPE may still be required even though control measures are in place e.g. construction item such as hard hat and boots.

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8 SUMMARY OF RISK PROFILE

The activities engaged by operator staff have been assessed for the Variable Message Board Trailer. A total of 21 risks have been identified.

Rating	Profile	As a % of Total	Definition
Extreme			Life Threatening or permanent Disability
High	5	24%	Serious Injury
Medium	16	76%	Minor to moderate injury
Low			Minor to no injury
	21	100%	

Risk ratings of hazards include the application of current controls. Risks can be further reduced with the implementation of agreed additional controls.

Risk No.	Risk Rating	Risk Description
5	High	Equipment fish tailing and rolling over if towed too fast around bends
6	High	Moving parts of sign board
12	High	Poor weather conditions
14	High	Message board and mast assemblies collapsing when being set up and in use
19	High	Drawbar separating from trailer
1	Medium	Less than adequate site set up
2	Medium	Sun exposure
3	Medium	Operating equipment while under the influence of drugs/alcohol
4	Medium	Exposure to high noise levels that exceed the legal threshold
7	Medium	Manual handling
8	Medium	Portable Message board is unroadworthy / mechanical failure
9	Medium	Driving into bystanders
10	Medium	Striking low level branches and objects
11	Medium	Inadequate battery ventilation when recharging
13	Medium	Plant tipping or rolling over
15	Medium	Unauthorised use
16	Medium	Message board are set up incorrectly
17	Medium	Parts of the plant collapsing
18	Medium	Equipment rolling away
20	Medium	High voltage equipment
21	Medium	Inadequate control identification

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The reduction in risks identified below include Agreed new controls

Y- Risk has been reduced as far as practicable. X - Risk has **not** been reduced as far as practicable

Category	HAZARD	X	Y
1.1.	Entanglement		
	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?		Y
1.2.	Crushing		
	<i>Can anyone be crushed due to:</i>		
	(a) material falling off plant?		Y
	(b) uncontrolled or unexpected movement of the plant or its load?		Y
	(c) lack of capacity for the plant to be slowed, stopped or immobilised?		Y
	(d) the plant tipping or rolling?		Y
	(e) parts of the plant collapsing?		
	(f) coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair?		Y
	(g) being thrown off or under the plant?		
	(h) being trapped between the plant and materials or fixed structures?		Y
	(i) other factors not mentioned?		
1.3.	Cutting, stabbing and puncturing		
	<i>Can anyone be cut, stabbed or punctured due to :</i>		
	(a) coming in contact with sharp or flying objects?		
	(b) coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair?		Y
	(c) the plant, parts of the plant or work pieces disintegrating?		
	(d) work pieces being ejected?		
	(e) the mobility of the plant?		
	(f) uncontrolled or unexpected movement of the plant?		
	(g) other factors not mentioned?		
1.4.	Shearing		
	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?		
1.5.	Friction/Abrasion burn		
	Can anyone be burnt due to contact with the moving parts of surfaces of the plant, or material handled by the plant?		Y
1.6.	Striking		
	<i>Can anyone be struck by moving objects due to:</i>		
	(a) uncontrolled or unexpected movement of the plant or material being handled by the plant?		Y
	(b) the plant or parts of the plant or work pieces disintegrating?		
	(c) work pieces being ejected?		Y
	(d) mobility of the plant?		
	(e) other factors not mentioned?		
1.7.	High pressure fluid		
	Can anyone come into contact with fluids under high pressure, due to plant failure or misuse of the plant?		
1.8.	Electrical		
	<i>Can anyone be injured by electrical shock or burnt due to:</i>		
	(a) the plant contacting live electrical connections?		
	(b) the plant working in close proximity to electrical connections?		
	(c) overload of electrical circuits?		
	(d) damaged or poorly maintained electrical leads and cables?		
	(e) damaged electrical switches?		
	(f) water near electrical equipment?		

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	(g) lack of isolation procedures?		
	(h) other factors not mentioned?		
1.9.	Explosion		
	Can anyone be injured by explosion of gases, vapours, liquids, dust or other substances, triggered by the operation of the plant or by the material handled by the plant?		Y
1.10.	Slipping, tripping or falling		
	<i>Can anyone using the plant or in the vicinity of the plant, slip, trip or fall due to:</i>		
	(a) uneven or slippery work surfaces?		
	(b) poor house keeping?		Y
	(c) obstacles being placed in the vicinity of the plant?		
	(d) other factors not mentioned?		
	<i>Can anyone fall from a height due to:</i>		
	(a) lack of work platform?		
	(b) lack of proper stairs or ladders?		
	(c) lack of guard rails or other suitable edge protection?		
	(d) unprotected holes, penetrations or gaps?		
	(e) poor floor or walking surfaces, such as, the lack of a slip resistant surface?		
	(f) steep walking surfaces?		
	(g) collapse of the supporting structure?		
	(h) other factors not mentioned?		
1.11.	Ergonomic		
	<i>Can anyone be injured due to:</i>		
	(a) poorly designed seating?		
	(b) repetitive body movement?		Y
	(c) constrained body posture or the need for excessive effort?		
	(d) design deficiency causing mental or psychological stress?		
	(e) inadequate or poorly placed lighting?		
	(f) lack of consideration given to human behaviour?		
	(g) mismatch of the plant with human traits and natural limitations?		
	(h) other factors not mentioned?		
1.12.	Suffocation		
	Can anyone be suffocated due to lack of oxygen, or atmospheric contamination?		Y
1.13.	High temperature or fire		
	Can anyone come into contact with objects at high temperature?		Y
	Can anyone be injured by fire?		Y
1.14.	Temperature (thermal comfort)		
	Can anyone suffer ill-health due to exposure to high or low temperatures?		Y
1.15	Other hazards		
	<i>Can anyone be injured or suffer ill-health from exposure to:</i>		
	(a) chemical?		
	(b) toxic gases or vapours?		Y
	(c) fumes?		Y
	(d) dust?		
	(e) noise?		Y
	(f) vibration?		Y
	(g) radiation?		Y
	(h) other factors not mentioned?		Y

BARTCO VARIABLE MESSAGE BOARD TRAILER



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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 1

RATINGS:

Likelihood: **C** Impact: **3** Total: **Medium**

RISK DESCRIPTION:

Less than adequate site set up

IMPACT DESCRIPTION

Pedestrians tripping over equipment causing injury



CURRENT CONTROLS

- Trained and competent operator
- ADR compliant vehicle lighting fitted
- Plant painted yellow
- Retractable draw bar fitted.

RECOMMENDED CONTROLS

- Ensure traffic management is set up according to plans
- Carry out “**Job Safety Audit**” for any use of compressed air without anti free flow valves protection. Introduce risk control accordingly.
- Ensure all hoses do not cross over the path pedestrian traffic
- Set up barricades eg witches hats

Likelihood	Consequence	Overall risk rating
Possible	Moderate	Medium

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 2

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION:

Sun exposure

IMPACT DESCRIPTION

Skin Cancer

CURRENT CONTROLS

- Trained and competent operator

RECOMMENDED CONTROLS

- Hat and sunscreen protection
- Long pants and long sleeve shirts
- Sunglasses
- Rehydrating with water
- On very hot days regular rests and breaks are recommended by policy
- If in open areas use shading



Likelihood

Consequence

Overall risk rating



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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 3

RATINGS:

Likelihood: **C** Impact: **3** Total: **Medium**

RISK DESCRIPTION

Operating equipment while under the influence of drugs/alcohol

IMPACT DESCRIPTION

Serious Accident

CURRENT CONTROLS

- Trained and competent operator

RECOMMENDED CONTROLS

- All staff are not to be under the influence of illegal drugs or alcohol while operating equipment



Likelihood	Consequence	Overall risk rating
Possible	Moderate	Medium

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 4

RATINGS:

Likelihood: **D** Impact: **3** Total: **Medium**

RISK DESCRIPTION

Exposure to high noise levels that exceed the legal threshold

IMPACT DESCRIPTION

Loss of hearing

CURRENT CONTROLS

- Wear PPE hearing protection
- Noise level below legal threshold

RECOMMENDED CONTROLS

- Hearing tests completed at employment medicals
- Every 2 years staff to have their hearing tested
- Must display clear and legible decal for noise risk
- Must check that decal is clear and legible on going



Likelihood	Consequence	Overall risk rating
Unlikely	Moderate	Medium

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 5

RATINGS:

Likelihood: **C** Impact: **4** Total :**High**

RISK DESCRIPTION

Equipment fish tailing and rolling over if towed too fast around bends



IMPACT DESCRIPTION

Crushing other vehicles or people

CURRENT CONTROLS

- Trained and competent operator
- Safety chains fitted
- Override brakes fitted

RECOMMENDED CONTROLS

- When being towed, driver to tow machine according to road condition and never exceed manufactures' design speed limits.
- Fit "**MAXIMUM TOWING SPEED**" sign to front of base frame in accordance with manufactures' design limits.

Likelihood	Consequence	Overall risk rating
Possible	Major	High

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 6

RATINGS:

Likelihood: C Impact: 4 Total :High

RISK DESCRIPTION

Moving parts of sign board

IMPACT DESCRIPTION

Entanglement causing serious injury

CURRENT CONTROLS

- Trained and competent operator



RECOMMENDED CONTROLS

- Fit “CAUTION - KEEP CLEAR, ENTANGLEMENT RISK”, sign to both sides of rotating pivot.
- Fit reflective tiger tape to outer edges of sign board.
- Fit ISO type “KEEP CLEAR, CRUSHING ZONE” signs to mast cradle areas.
- Fit reflective tiger tape and ISO type “KEEP CLEAR, CRUSHING ZONE” signs to mast telescopic slides.

Likelihood	Consequence	Overall risk rating
Possible	Major	High

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 7

RATINGS:

Likelihood: **C** Impact: **3** Total: **Medium**

RISK DESCRIPTION

Manual handling

IMPACT DESCRIPTION

Back injury, strains and sprains

CURRENT CONTROLS

- Trained and competent operator

RECOMMENDED CONTROLS

- Develop ongoing manual handling training
- Use jockey wheel to jack drawbar up and if necessary ask for assistance when hitching onto vehicle.
- Follow correct manual handling techniques.
- When manually loading/unloading battery's, follow correct manual handling procedures and use a two man lift where required.
- Ensure you use 2 people to move the portable Message board once detached from vehicle
- Use jockey wheel to lift drawbar off hitch.
- Two persons maybe required ask for assistance when hitching, unhitching, and/or positioning the sign trailer, depending on individual capabilities.



Likelihood	Consequence	Overall risk rating
Possible	Moderate	Medium

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 8

RATINGS:

Likelihood: **C** Impact: **3** Total: **Medium**

RISK DESCRIPTION

Portable Message board is unroadworthy / mechanical failure



IMPACT DESCRIPTION

Road accident/injury

CURRENT CONTROLS

- Trained and competent operators

RECOMMENDED ADDITIONAL CONTROLS

- Before use inspect the relevant equipment. Complete the equipment Checklist before use
- Report faults to Management for repair. Do not use unsafe plant. Operators must tag unsafe plant with a “Do Not Operate Tag”. Always wear appropriate PPE when performing minor maintenance
- The Portable Message board must be checked for fitness for purpose before and after every job
- Carry out periodic scheduled servicing to back up battery pack and electrical system to manufacturers’ specifications.
- Carry out Message tower mast frame & hoist system maintenance, testing, repairs & all work in accordance with AS 2550.1, AS 1735.3, AS 1418.1, & AS 1418.10 (10 year maintenance schedule).

Likelihood	Consequence	Overall risk rating
Possible	Moderate	Medium

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 9

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Driving into bystanders

IMPACT DESCRIPTION

Serious injury or death

CURRENT CONTROLS

- Licensed and competent operator



RECOMMENDED ADDITIONAL CONTROLS

- Driver to ensure pedestrians and general public are in vision of the driver and clear of vehicle before proceeding forward or reversing.
- Use of mobile phone via hands-free device only Licensed and competent operator
- Complete Risk Assessment (RA) or Hazard Assessment
- Works area to be fully cordoned off from public access
- Fit front & rear facing flashing beacon hazard lights and wire to operate automatically when mast is deployed.
- Fit tamper proof lockable parking brake system. Fit **“PARKING BRAKE MUST BE APPLIED AT ALL TIMES WHEN PARKED”** sign to draw bar.
- Fit **“NOTICE THIS UNIT MUST NOT BE PLACED ON ROAD VERGES WITHOUT THE EXPRESS PERMISSION OF THE RELEVANT AUTHORITIES”**, **“THIS UNIT IS NOT SUITABLE FOR USE ON SLOPING OR NON-LEVEL SURFACES”**, **“USE STABILISER SUPPORT PADS ON SOFT OR MOIST GROUND SURFACES”**, **“WARNING THIS UNIT IS NOT INSULATED DO NOT USE IN PROXIMITY OF LIVE CONDUCTORS”**, **“LOOK UP & LIVE”** signs in view of operator.
- Fit **“DO NOT STAND UNDER ELEVATED SIGN BOARD”**, **KEEP CLEAR”**, sign to all sides of base frame.
- Fit AS1319 compliant safety helmet P.P.E. signs to base frame on both sides, sign no. 424.

Likelihood	Consequence	Overall risk rating
Unlikely	Major	Medium

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 10

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Striking low level branches and objects

IMPACT DESCRIPTION

Serious injury or death

CURRENT CONTROLS

- Ensure spotter is used when required
- Trained and competent operators



RECOMMENDED ADDITIONAL CONTROLS

- Fit **"ENSURE STABILISER LEGS ARE LOWERED PRIOR TO REMOVING TRAILER FROM TOW HITCH"** signs fitted Develop safe system of work
- Tow/transport only when mast assemblies are in their stowed/transport position and secured with locking pins (on both master and slave units).
- Fit **"MAXIMUM.....M"** and **MINIMUM.....M"** height decals to operator stations.
- Use level jacks and jockey wheel to set up/level on stable ground (not near potholes or soft edges).
- Fit **"NOTICE THIS UNIT MUST NOT BE PLACED ON ROAD VERGES WITHOUT THE EXPRESS PERMISSION OF THE RELEVANT AUTHORITIES"**, **"THIS UNIT IS NOT SUITABLE FOR USE ON SLOPING OR NON-LEVEL SURFACES"**, **"USE STABILISER SUPPORT PADS ON SOFT OR MOIST GROUND SURFACES"**, **"WARNING THIS UNIT IS NOT INSULATED DO NOT USE IN PROXIMITY OF LIVE CONDUCTORS"**, **"LOOK UP & LIVE"** signs to operator console.
- Ensure area is clear of obstructions and Portable Message board has sufficient room to carry out required task
- Complete Risk Assessment (RA) or Hazard Assessment

Likelihood	Consequence	Overall risk rating
Unlikely	Major	Medium

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 11

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Inadequate battery ventilation when recharging

IMPACT DESCRIPTION

Flammable vapors

CURRENT CONTROLS

- Sealed type battery's used
- Trained and competent operator

RECOMMENDED ADDITIONAL CONTROLS

- Fit warning decals to battery compartments.
- The Portable Message board is not to be used in confined or restricted areas without detailed risk assessments being carried out in line with Confined Spaces Procedure.
- Fit permanent ventilation to battery compartments.



Likelihood	Consequence	Overall risk rating
Unlikely	Major	Medium

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 12

RATINGS:

Likelihood: **C** Impact: **4** Total: **High**

RISK DESCRIPTION

Poor weather conditions



IMPACT DESCRIPTION

Serious injury or death

CURRENT CONTROLS

- Trained and competent operators

RECOMMENDED ADDITIONAL CONTROLS

- Operators should reduce their speed in adverse conditions; particularly on poor roads that are unsealed
- Always remain aware of other vehicles around you; high winds are more problematic for drivers of trucks and large vehicles,
- Be aware of high winds when moving from one area to the next, or when approaching/passing large vehicles to reduce your speed and correct you're steering
- Stay alert for pot holes and debris on the road.
- Make sure you have a pair of sunglasses in your vehicle in case of bright sunlight
- Ensure staff use high visibility vests when setting up portable Message board and have assessed the hazards before setting up.
- Fit **"THIS UNIT IS NOT SUITABLE FOR HIGH WIND CONDITIONS, BASE FRAME MUST BE SECURELY ANCHORED IN HIGH WINDS"**, sign to frame.
- Fit **"CAUTION OVERTURNING RISK, DO NOT TOW IN HIGH WINDS"**, sign to base frame.
- Fit **"DO NOT STAND UNDER ELEVATED SIGN BOARD", KEEP CLEAR"**, sign to all sides of base frame.

Likelihood

Consequence

Overall risk rating

Possible	Major	High
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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 13

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Plant tipping or rolling over

IMPACT DESCRIPTION

Serious injury



CURRENT CONTROLS

- Trained and competent operator.
- ADR complaint park brake and manual over ride brakes fitted.
- Stabilisers fitted.

RECOMMENDED ADDITIONAL CONTROLS

- Ensure handbrake is engaged at all times when plant is stationary
- Never turn machine on a slope
- Take caution when operating in wet conditions – avoid soft surface areas
- Operate on firm level ground within the design limitation of the Portable Message board
- Take care when operating on rough or uneven ground
- Be aware of soft edges on the sides of roads and place vehicle and Message board clear of edges on firm ground.
- Fit **“THIS UNIT IS NOT SUITABLE FOR USE ON SLOPING OR NON-LEVEL SURFACES”**, **“USE STABILISER SUPPORT PADS ON SOFT OR MOIST GROUND SURFACES”** signs to both sides of plant

Likelihood	Consequence	Overall risk rating
Unlikely	Major	Medium

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 14

RATINGS:

Likelihood: **C** Impact: **4** Total: **High**

RISK DESCRIPTION

Message board and mast assemblies collapsing when being set up and in use.



IMPACT DESCRIPTION

Striking from collapsed mast

CURRENT CONTROLS

- Trained and competent operator

RECOMMENDED ADDITIONAL CONTROLS

- Ensure message board and mast assemblies correctly secured with locking pins when being set up and when in use.
- Fit automatic, spring loaded type mast locking pin system. System must provide for mechanical locking of mast in the raised and stored positions. Fit installation instruction signs in accordance with AS 1319.
- Paint mast locking pin **Red** to identify safety device.
- Fit reflective tiger tape and ISO type **“KEEP CLEAR, CRUSHING ZONE”** signs to mast telescopic slides.
- Fit ISO type **“KEEP CLEAR, CRUSHING ZONE”** signs to mast cradle areas.

Likelihood	Consequence	Overall risk rating
Possible	Major	High

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 15

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Unauthorised use.

IMPACT DESCRIPTION

Traffic accidents at intersection



CURRENT CONTROLS

- Trained and competent operator
- Padlock provisions fitted

RECOMMENDED ADDITIONAL CONTROLS

- When leaving machine unattended close and lock all doors, and remove keys
- Fit 'AUTHORISED PERSONAL ONLY' sign to both sides of plant.

Likelihood	Consequence	Overall risk rating
Unlikely	Major	Medium

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 16

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Message board are set up incorrectly.

IMPACT DESCRIPTION

Traffic accidents at intersection

CURRENT CONTROLS

- Trained and competent operator
- Operation instruction decals fitted to operator console.



RECOMMENDED ADDITIONAL CONTROLS

- Ensure the Message board are positioned, set up and operating in accordance with local regulatory authorities and the manufacturer’s operators manual.
- Fit **“NOTICE THIS UNIT MUST NOT BE PLACED ON ROAD VERGES WITHOUT THE EXPRESS PERMISSION OF THE RELEVANT AUTHORITIES”** sign to control panel.
- Fit identification and function signs to message board pivot control lever in accordance with AS 1319.
- Fit identification and function signs to solar panel controls in accordance with AS 1319.

Likelihood	Consequence	Overall risk rating
Unlikely	Major	Medium

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 17

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Parts of the plant collapsing

IMPACT DESCRIPTION

Serious injury

CURRENT CONTROLS

- Trained and competent operator

RECOMMENDED ADDITIONAL CONTROLS

- When the jockey wheel (or stand) is deployed, ensure it is tightly clamped and/or that the spring loaded locking pin(s) are fully and positively engaged to prevent the jockey wheel collapsing and the drawbar dropping onto the ground.
- Fit reflective tiger tape and ISO type “KEEP CLEAR, CRUSHING ZONE” signs to stabilizer leg frames, pivot points and mast slew area.
- Fit “STABILISER LEGS MUST BE DEPLOYED PRIOR TO RAISING MAST” sign in proximity of operator’s panel.
- Fit ISO type “KEEP CLEAR, CRUSHING ZONE” signs to mast cradle areas.



Likelihood

Consequence

Overall risk rating

Unlikely	Major	Medium
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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 18

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Equipment rolling away

IMPACT DESCRIPTION

Striking bystanders and / or other equipment



CURRENT CONTROLS

- Trained and competent operator
- Parking brake fitted

RECOMMENDED ADDITIONAL CONTROLS

- Chock wheels on slopes, or when hitching/unhitching from towing vehicle, positioning or setting up for use, parking, or leaving the Message board unattended.
- Fit wheel chocks to plant with check chains or lanyards to prevent loss.
- When hitched for towing, ensure the all parts are fully engaged and secured with the locking pin.
- Fit spring loaded, bolt type locking system to drawbar attachment between master and slave trailer to prevent accidental release of trailer.
- Always connect the safety chains to the towing vehicle before towing.

Likelihood	Consequence	Overall risk rating
Unlikely	Major	Medium

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 19

RATINGS:

Likelihood: C Impact: 4 Total: High

RISK DESCRIPTION

Drawbar separating from trailer

IMPACT DESCRIPTION

Striking bystanders and / or other equipment



CURRENT CONTROLS

- Trained and competent operator
- Padlock provision fitted

RECOMMENDED ADDITIONAL CONTROLS

- When hitched for towing, ensure the all parts are fully engaged and secured with the locking pin.
- Fit spring loaded, bolt type locking system to drawbar attachment between drawbar and trailer to prevent accidental release of trailer.
- Paint draw bar locking pin **red** and fit identifications signs in accordance with AS 1319.

Likelihood	Consequence	Overall risk rating
Possible	Major	High

BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 20

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

High voltage equipment

IMPACT DESCRIPTION

Electrocution risk



CURRENT CONTROLS

- Trained and competent operators
- IP66 Rated components

RECOMMENDED ADDITIONAL CONTROLS

- Fit **“DANGEROUS VOLTAGE”** and or ISO international symbol signs to all access covers over dangerous voltage areas of unit. Adequate warning of dangerous voltages within must be provided to all electrical connection access covers
- Fit **“ONLY TRAINED EMPLOYEES TO OPERATE THIS ITEM OF PLANT AT ANY TIME”** sign visible location.
- Fit **“240 VOLTS RESTRICTED ACCESS”** and or universal ISO sign, **“KEEP CLOSED AT ALL TIMES”** signs to all accessible power and control cubicle doors.

Likelihood	Consequence	Overall risk rating
Unlikely	High	Medium

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BARTCO VARIABLE MESSAGE BOARD RISK ASSESSMENT

Risk No. 21

RATINGS:

Likelihood: **D** Impact: **4** Total: **Medium**

RISK DESCRIPTION

Inadequate control identification

IMPACT DESCRIPTION

Accidental operation and uncontrolled movement

CURRENT CONTROLS

- Trained and competent operators
- AS 1319 compliant signage fitted to control panel



RECOMMENDED ADDITIONAL CONTROLS

- Fit identification and function signs to message board pivot control lever in accordance with AS 1319.
- Fit identification and function signs to solar panel controls in accordance with AS 1319.
- Fit identification and function signs to draw bar release pin assembly in accordance with AS 1319.

Likelihood	Consequence	Overall risk rating
Unlikely	High	Medium