



Plant Hazard Analysis & Risk Assessment

Monitor
ABN: 76 159 267 679
143 Gunnedah Rd
Tamworth NSW 2340
Ph: 02 6755 6000
E: service@monitor.net.au

Model: CMC S22HD

Date: 04/12/2023



Person conducting assessment:

This Hazard Identification and Risk Assessment document is Model specific. It is based on the knowledge that all new machines of this model were/are produced to the same specification and design. It assumes all examples of this exact model currently in service to be as per the original specification, and to have been and continue to be operated and maintained in accordance with the Manufacturers requirements, and with all applicable statutory and regulatory requirements of an original example of the Model for which it was prepared. This Assessment must be reviewed by all stakeholders as required:

- Having regard to the manufacturers approved options
- Having regard to the general arrangement of miscellaneous equipment or facilities that may be provided on the plant according to the end users requirements or specification
- According to the particular circumstances under which the plant is used and maintained
- As new Hazards are identified and/or as risks are reassessed
- As existing risk control measures are revised or new risk control measures are introduced and implemented
- As and when work procedures are altered or revised
- Having regard to any unauthorised alterations or modifications made to the design or operation of the equipment

Monitor has made every attempt to identify all reasonably foreseeable operating circumstances in preparing this Assessment, however no guarantee as to the completeness of this Assessment is provided or implied.

It is the responsibility of Owners, Employers and Operators to identify all hazards associated with the use of this equipment specifically applicable to the task to be carried out and to where the equipment is to be used or located. They must assess the risk potential for each of the identified hazards and ensure that all reasonably practicable steps are taken to ensure those risks are effectively controlled.

- All operators must be trained and competent in the safe use of this particular piece of equipment, and hold appropriate qualifications as required by applicable regulatory requirements
- Operators of the equipment to which this Plant Risk Assessment refers must read and understand the Instructions for Use and Warnings contained within the Operators Manual prior to use
- All Daily Pre-Start Checks, Routine and Periodic Inspections, Maintenance and Repairs to this equipment must be carried out in accordance with the requirements of AS2550.10-2006

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|--|---|---|---|--------------------------|--|----------------------|
| | Origin | Consequence | | | | | |
| 1 | Operator Competency | | | | | | |
| 1.1 | <p>Untrained operator, not following proper operating procedures.</p> <p>Distracted operator.</p> <p>Following a poor system of work.</p> <p>Operator working alone.</p> | <p>Crushing</p> <p>Impact</p> <p>Trauma</p> | <p>Set up</p> <p>Operation</p> <p>Maintenance</p> | <p>Operation instructions explained in operator's manual</p> | <p>C4</p> <p>Extreme</p> | <p>Train operators on safe use of the plant.</p> <p>Operator training should include at least the following:</p> <ul style="list-style-type: none"> • pre-operation inspections • safe operation of plant • regular maintenance tasks • understanding of plant operation • capabilities and limitations • emergency procedures <p>Do not operate the plant unless proper training has been received.</p> <p>Ensure operator's manual is kept with the plant for reference.</p> <p>Do not operate the plant when distracted, ill, excessively fatigued, or under the influence of drugs or alcohol.</p> <p>Implement appropriate system of work based on manufacturer's recommendations (e.g. operating instructions shown in operator's manual).</p> | <p>B1</p> <p>Low</p> |
| 1.2 | <p>Misuse</p> <p>Unauthorised use of plant</p> | <p>Crushing</p> <p>Impact</p> <p>Trauma</p> | <p>Operation</p> | <p>Operator's manual warns about not using the plant for other than its intended purpose.</p> | <p>C4</p> <p>Extreme</p> | <p>Do not use the MEWP for any other purpose than its intended use as explained in the operator's manual.</p> <p>Do not operate the plant unless proper training has been received.</p> | <p>B1</p> <p>Low</p> |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|--|-----------------------|----------------------|---|---------------|--|------------|
| | Origin | Consequence | | | | | |
| | | | | | | Keys are not to remain in an unattended machine. | |
| 2 | Plant Limitations | | | | | | |
| 2.1 | Plant overload causing <ul style="list-style-type: none"> - overturning - structural failure | Roll over Crushing | Driving Operation | Maximum Rated Capacity (MRC) displayed on basket. | C4 Extreme | Learn and understand plant limitations. Consider weight of all workers, tools and equipment to be loaded into basket. Do not exceed work platform capacity. Regularly inspect the MEWP as per maintenance schedule to ensure integrity of structural members. | A2 Low |
| 2.2 | Excessive incline causing plant to overturn | Roll over | Driving Operation | | C3 High | Do not drive the plant over ground slopes which exceeds its limitations. Conduct site risk assessment to determine suitability of job site before starting any work. | B2 Low |
| 2.3 | Excessive wind force causing overturning. | Roll over | Operation | Follow maximum wind speed rating. | C3 High | Constantly monitor wind speed when operating in wind sensitive areas. | B2 Low |
| 3 | Plant at worksite | | | | | | |
| 3.1 | Collision with <ul style="list-style-type: none"> - site infrastructure - other plant and/or pedestrians | Crushing Impact | Operation Driving | Motion audible and visual alarm present. | C3 High | Beware of any obstructions around the work area; survey the area before moving the plant. Beware of other plant and persons around the work area, in particular when travelling around corners or blind spots. | B2 Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|---|-------------------------|----------------------|--|---------------|---|------------|
| | Origin | Consequence | | | | | |
| 3.2 | Exhaust fume build-up in poorly ventilated areas. | Asphyxiation | Operation | Some models installed secondary power unit – 240V. | C4 Extreme | Use 240V powered option when available. Ensure there is enough ventilation at the job site whenever combustion engine is used to operate the plant. May require forced mechanical ventilation. | B1 Low |
| 3.3 | Plant positioned near or driven over large depressions / obstacles. | Roll over Collapse | Operation Driving | | C4 Extreme | Always maintain a safe distance from ditches, trenches or pit walls while operating plant. Plan a route to safely bring the plant to the job site. Avoid driving over large obstacles or depressions. Assess the ground conditions before setting up the plant: use dunnage under outriggers if necessary. Deploy outriggers close to ground to help prevent roll over. | B2 Low |
| 4 | Operation | | | | | | |
| 4.1 | Driving on steep ground | Overturning Crushing | Driving Set up | Follow maximum inclination limits set by manufacturer. Found in plant manual. | A5 High | Carry out job site risk assessment to determine suitability of the site before commencing any work. Avoid driving on steep ground; find alternative routes whenever possible. Do not stand on the lower side of the plant while driving on steep ground. | A1 Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|---------------------------------|--|-----------|--|---------------|--|------------|
| | Origin | Consequence | | | | | |
| | | | | | | Never drive across steep ground, always drive with the tracks / tyres parallel to ground inclination. Deploy outriggers when driving across steep surfaces. | |
| 4.2 | Operator control | Woker falls from basket Roll over Impact | Operation | Model comes with wired remote control. | C5 Extreme | Operate the drive control levers gently in order to avoid abrupt and jerky movements. When driving, pay special attention to stability and the dimensions, especially the length, of the machine. Wear safety harnesses and keep them fastened whenever operating the machine. | B2 Low |
| 4.3 | Stabilisation | Roll over Impact | Set up | | C4 Extreme | Do not use on slope that exceeds recommended inclination limits as per plant manual. Ensure track are lifted completely off ground. Check the machine levelling, by watching the air bubble level on the chassis indicator. | B2 Low |
| 4.4 | Damage to tracks | Overturning Crushing Impact | Operation | Prestart inspection as per manufacturers recommendation. | C3 High | Avoid driving on the following terrains or work sites <ul style="list-style-type: none"> • Environments with crushed stone, iron bars, scrap metal or similar recycling material • Daily/continuous driving on asphalt or concrete • Work sites with sharp objects, such as broken stones or concrete waste | B2 Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|---|--------------------------------|--|--|---------------|---|------------|
| | Origin | Consequence | | | | | |
| | | | | | | <ul style="list-style-type: none"> Work sites with corrosive substances (fuels, oil, salt or fertilisers) | |
| 4.5 | Uncontrolled movement of plant components i.e. outriggers | Crushing Impact Shearing | Set up Operation Maintenance Cleaning Troubleshoot | Prestart inspection as per manufacturers recommendation. All override valves should be returned, and lead seal installed. | C3 High | Isolate power to plant and remove the main switch key when performing maintenance and cleaning tasks. Stay clear of components which may swing or drop unexpectedly. Maintenance to be carried out by a competent person. Pay attention to crush and shear hazard decals to machine. | B2 Low |
| 4.6 | Inadvertent operation of controls | Crushing Impact | Set up Operation Maintenance Emergency | Deadman circuit installed by manufacturer. | C5 Extreme | Ensure deadman operation during prestart. Always depress the emergency stop button whenever the plant is not being operated. | B2 Low |
| 4.7 | Lowering / Raising - outriggers - work platform Moving parts | Crushing Impact | Set up Operation Maintenance Troubleshoot | Decals indicating crush hazards affixed to plant. Some models have an "Automatic stabilization" as an optional feature | C4 Extreme | Ensure crush hazard decals are affixed to plant. Take appropriate safety measures e.g. barricades to keep people away from plant's operating areas. Ensure all persons are clear of moving components before performing a movement. Maintenance to be carried out by a competent person. | B2 Low |
| 4.8 | Entering/exiting the work platform (basket) | Falls | Operation | Use fold down step to help gain access. | C3 High | Ensure basket is horizontal and if necessary, adjust it by means of the special controls prior to moving from stowed position. | B1 Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|------|---|--|------------------------------------|---|------------|--|------------|
| | Origin | Consequence | | | | | |
| | | | | | | Do not move between the basket and a structure outside the machine, machine stability could be jeopardised. Workers and equipment must enter and exit the basket only when it is at ground level. Always face inwards and maintain 3-points of contact when entering or exiting the basket. | |
| 4.9 | Falling objects | Falling objects Impact | Operation | Barricade work area under fall zone to create a no-go zone. | C3 High | Secure items such as tools and consumables which could fall from basket. Lay items flat and evenly across the floor of the basket. | B2 Low |
| 4.10 | Falling from basket | Fall Death | Operation | Drop gate. Lanyard attachment point. | C5 Extreme | Check that the sliding bar which protects the opening of the basket is closed and positioned correctly. Safety harness to be worn at all times and secured to the designated hook in the basket. | B2 Low |
| 4.11 | Raising boom | Crush between fixed structure and basket | Operation | Check surroundings prior to starting and continually throughout job. | C4 Extreme | Be aware of potential crush hazards in the direction of movement before moving the work platform. Hard hat may be required if working near overhead obstructions. | B2 Low |
| 4.12 | Faulty/out of order, or poorly maintained plant | Crushing Impact Trauma | Operation Emergency Maintenance | Operator's manual outlines plant maintenance schedule. Current maintenance inspections up to date as per | B4 High | Always perform pre-operation inspection before operating the plant. | B1 Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|------|---|-------------------------|----------------------|--|---------------|---|------------|
| | Origin | Consequence | | | | | |
| | | | | manufacturers recommendation. | | Implement 'tag out' procedure to isolate faulty/out of order plants. Do not use an 'out of order' plant. Record all faults in logbook. Perform plant maintenance as per manufacturer's maintenance schedule.Keep maintenance records / plant logbook up to date. | |
| 4.13 | Plant modifications after completion of risk assessment. | Crushing Overturning | Operation Set up | | C5 Extreme | Ensure modifications made to the plant are inspected, assessed, and approved by a competent person. Review hazard analysis and risk assessment after plant modifications. | B1 Low |
| 5 | Transport | | | | | | |
| 5.1 | Loading and unloading – driving on | Roll over Crushing | Transport | Use remote controls always as they provide a safe operating distance for loading / unloading. Use low speed / low engine RPM on slopes / ramps. | C4 Extreme | Follow appropriate loading procedures including using weight rated ramps, have ramps at a low inclination, all person clear from the loading zone and placing the heavy end towards the front of the tray or tow hitch on a trailer. | B2 Low |
| 5.2 | Loading and unloading – lifting on | Crush Impact | Transport Lifting | Lifting procedure included in Operator's Manual. | C5 Extreme | Follow appropriate lifting procedure. | B2 Low |
| 5.3 | Failure of lifting slings / chains used for lifting or tying down / tie down straps | Roll over Crushing | Transport Lifting | Plant is fitted with designated lifting and tied down points. | C5 Extreme | Use tie-down points provided on the plant to secure it for transportation. Ensure lifting slings and tie down straps are in good condition. Ensure lifting slings have a SWL suited to the load. | B2 Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|---|--|---|--|---------------|---|------------|
| | Origin | Consequence | | | | | |
| 6 | Plant Failure | | | | | | |
| 6.1 | Plant failure including: - malfunction of control devices - structural failure of machine components - failure of lift / tie down points | Crushing Impact | Operation | Follow routine maintenance inspections by qualified person as per manufacturers recommendation. Use designated tie down points. Prestart inspection as per manufacturers recommendation. | B5 Extreme | Carry out pre-operational function tests of safety related functions at the start of every shift. Beware of risks associated with inadvertent operation of the machine, avoid compromising machine positions. Familiarise with location of emergency stop buttons. Regularly inspect the MEWP as per maintenance schedule to ensure integrity of structural members. | B2 Low |
| 6.2 | Burst hydraulic hose | Crushing Overturning Burn Skin irritation | Set up Operation Maintenance | Counter-balance valves fitted on lift and extension cylinders. | A3 Medium | Check hydraulic hose condition during periodic maintenance. Report and "tag out of service" if identified. | A2 Low |
| 6.3 | Excessive hydraulic oil pressure. | Impact Crushing | Set up Operation | Plant fitted with pressure relief valve. | C3 High | Check pressure settings during preventative maintenance. | A1 Low |
| 7 | Electrical | | | | | | |
| 7.1 | Damaged power cables, components. | Electrocution Shock Fire | Set up Operation Maintenance Troubleshoot Emergency | RCD fitted to 240V circuit. Fuse protection on electrical circuits | C1 Low | Ensure plant and extension cord are electrically tested and tagged as per AS 3760. Do not operate/use equipment with an expired test tag. Ensure inline RCD is used when charging the batteries. Visually inspect the plant and extension lead before resetting the thermal fuse and RCD. | B1 Low |
| 7.2 | Earthing fault | Electrocution Shock Fire | Set up Operation Maintenance | RCD fitted to machine 240V circuit. | C4 Extreme | Use appropriate means to supply power to the plant. That is, use | A2 Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|--|---------------------------|--------------------------|--|---------------|--|--------------|
| | Origin | Consequence | | | | | |
| | | | | | | extension leads with neutral, live and EARTH wire and pin. Ensure the plant's appliance inlet is regularly tested and tagged as per AS 3760. Do not operate a plant with an expired electrical safety tag. Visually inspect the plant and extension lead before turning the power ON. | |
| 7.3 | Contact with live conductors under plant cover | Shock Electrocution | Emergency Maintenance | | C5 Extreme | Do not touch terminals/wires inside the electric cabinet. Keep electric cabinet closed and locked at all times. | A2 Low |
| 7.4 | Power failure (flat battery) | Crushing Being runover | Operation Emergency | Hydraulic valve bank over centre type when power is removed. Drive system brake is applied when power is removed. | C4 Extreme | Prepare emergency procedure for power failure. | C1 Low |
| 7.5 | Battery charging | Burn Fire Explosion | Maintenance | | C5 Extreme | Charge in an area with good ventilation, away from ignition sources. | A3 Medium |
| 7.6 | Battery handling | Burn Fire Explosion | Maintenance | Isolate power by turning off factory isolator. | C5 Extreme | When handling the battery, wear protective clothing and eyewear. Avoid contact with clothes or skin; if electrolyte gets on your skin or clothes, flush it with a large quantity of water. In case of contact with eyes, flush with a lot of water for at least 15 | 3B Low |

| ID | Description of Hazard Potential | | Activity | Risk control measures already implemented | Risk | Supplementary risk control measures | Risk score |
|-----|---------------------------------|---------------------|------------------|---|---------|--|------------|
| | Origin | Consequence | | | | | |
| | | | | | | <p>minutes and seek medical assistance immediately.</p> <p>Do not touch the battery terminals or cables with tools that may cause spark emissions.</p> <p>In order to avoid spark emissions, always disconnect the (-) cable first and connect it last.</p> <p>Use appropriate lifting techniques, perform 2 person lifting technique for heavy or awkward to reach parts.</p> | |
| 7.7 | Lightning | Electrocution Shock | Set up Operation | | A5 High | Do not use the plant during a thunderstorm. | A1 Low |

| RISK MATRIX | | | | | | ACTION | HEIRACHY OF CONTROLS |
|-------------|--|---------------------|-------------|----------------|-------------|--------------------|---|
| | | CONSEQUENCE | | | | | |
| | | 1. Insignificant | 2. Minor | 3. Moderate | 4. Major | 5. Catastrophic | |
| LIKELIHOOD | E. Almost Certain Is expected to occur immediately or within a short timeframe | HIGH | HIGH | EXTREME | EXTREME | EXTREME | EXTREME – Do not proceed, until further control measures are implemented to lower the risk. Senior management attention required. HIGH – Review and introduce additional controls to lower level of risk. Needs senior management attention. MEDIUM – Monitor and maintain supervision and controls. Specify management responsibility. LOW – Monitor and manage by routine procedures and monitoring. |
| | D. Likely Will probably occur in most circumstances | MEDIUM | HIGH | HIGH | EXTREME | EXTREME | |
| | C. Possible Could happen and has occurred here or elsewhere | LOW | MEDIUM | HIGH | EXTREME | EXTREME | |
| | B. Unlikely Unlikely to occur | LOW | LOW | MEDIUM | HIGH | EXTREME | |
| | A. Rare Not expected to occur | LOW | LOW | MEDIUM | HIGH | HIGH | |

| CONSEQUENCE DESCRIPTORS | | | |
|-------------------------|---|---|--|
| SEVERITY | SAFETY | ENVIRONMENT | BUSINESS |
| 5. Catastrophic | Potential for incident resulting in serious damage and/or fatality | The aspect is legally or contract regulated and has the potential for a disastrous long term impact resulting in prosecution. | Loss > \$1M |
| 4. Major | Potential for incident resulting in serious damage and/or permanent disabling illness or injury | The aspect is legally or contract regulated and has the potential for a serious long term impact resulting in prosecution. | Loss of service provision |
| 3. Moderate | Potential for incident resulting in significant damage and/or temporary disabling illness or injury | Significant environmental aspect with short term impact resulting in improvement notice. | Loss \$100K - \$1M |
| 2. Minor | Potential for incident resulting in moderate damage and/or requiring medical treatment. | The aspect is legally or contract regulated and has the potential for a moderate reversible short term impact resulting in an improvement notice. | Prolonged reduction in service provision or productivity |
| 1. Insignificant | Potential for incident resulting in minor damage and/or injury requiring first aid treatment | The aspect is not legally or contract regulated and has the potential for a minor negligible impact. | Loss \$10K - \$100K |