



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: Winlet Lasius 1000

Date: 12/12/2023



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, in conjunction with the design verification process delivered by Engineering Design Innovation have 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 Winlet 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	Rated capacity chart displayed on plant and Operator's Manual. Plant fitted with load sensing system which notifies operators via visual and audible alarm when maximum capacity is reached.	C4 Extreme	Learn and understand plant limitations. Do not exceed load capacity. Regularly inspect the Winlet as per maintenance schedule to ensure integrity of structural members.	A2 Low
2.2	Excessive incline causing plant to overturn	Roll over	Driving Operation	Rated capacity chart in Operator's Manual indicates lifting operation is only allowed on level ground.	C3 High	Do not drive the plant over ground slopes which exceeds its limitations. Do not overload the plant. 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
2.4	Driving with the load too high.	Roll over Crushing	Driving Operation	Safety instructions in Operator's Manual instruct to drive with the load lowered.	B5 Extreme	Only drive the plant with the load lowered as close as practicably possible to the ground.	A2 Low
2.5	Drive acceleration	Crushing Being runover	Driving	Bump stop present on drive control arm. Micro switch on spring-loaded control arm stops drive function when control arm is released as it returns to the upright position.	C3 High	Do not drive at fast speeds. Be aware of other persons near and around the plant. Maintain visual contact with the direction of travel.	B2 Low

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
2.6	Load dislodging or becoming imbalanced.	Crushing Roll over	Operation	Operator's Manual recommends the load to be lifted from its centre of balance.	A5 High	Train operators on safe work practices to lift and handle loads with the plant to minimise the risk of loads dislodging or moving by centring the load to be lifted. Training should include ways to determine load security and balance.	A1 Low
3	Plant at worksite						
3.1	Collision with <ul style="list-style-type: none"> - site infrastructure - other plant and/or pedestrians - overhead powerlines 	Crushing Impact Electrocution	Set up Operation Driving Transport	Motion audible and visual alarm present.	C3 High	Beware of any obstructions around the work area; survey the area before moving the plant including powerlines. Beware of other plant and persons around the work area, in particular when travelling around corners or blind spots. Use spotter where required.	B2 Low
3.2	Load or parts of the crane entangled with fixed objects	Overturning Impact	Set up Operation		C5 Extreme	Plan lift beforehand, determine plant and load flight path before commencing a lift operation.	A2 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	B2 Low

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
						dunnage under outriggers if necessary. Deploy outriggers with use of duel wheel set-up.	
3.4	Pulling/pushing effort	Musculoskeletal injury	Driving Operation		C3 High	Do not attempt to pull or push the plant without using driving controls.	B1 Low
4	Operation						
4.1	Damaged control panel / control panel cable	Crushing Impact	Set up Operation		C5 Extreme	Regularly inspect control panel and cable.	B1 Low
4.2	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. Never drive across steep ground, always drive with the tyres parallel to ground inclination.	A1 Low
4.3	Operator control	Roll over Impact	Operation	Model comes with option of remote control. Wheeled version comes in 4wd.	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.	B2 Low

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
4.4	Incorrect replacement tyre fitted	Crushing Overturning Impacting	Operation	Maintain correct tyre inflation pressures as per manufacturers recommendation.	B4 High	Ensure replacement tyres match the plant manufacturer specifications.	A1 Low
4.5	Flat tyre	Overturning Crushing Impact	Operation	Prestart inspection as per manufacturers recommendation.	C4 Extreme	Regularly check condition of tyres. Avoid driving over sharp obstacles or debris.	B1 Low
4.6	Overturning due to missing counterweights	Crushing Impact Cutting	Operation		C4 Extreme	Regularly check all counterweights are present. Machine manual will indicate correct number for each unit.	B1 Low
4.7	Uncontrolled movement of plant components	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	Follow manufacturer's instructions for attachment/removal of fly jib and other items of plant. Isolate power to plant and remove the main switch key when performing maintenance and cleaning tasks. Install safety barriers around the working area to prevent unauthorised access. Maintain a safe distance from moving parts of the plant. 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
4.8	Inadvertent operation of controls	Crushing Impact	Set up Operation Maintenance Emergency	Deadman circuit installed by manufacturer.	C5 Extreme	Ensure deadman operation during prestart.	B2 Low

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
						<p>Always depress the emergency stop button whenever the plant is not being operated.</p> <p>Always double check function selection in control panel before operating a function.</p>	
4.9	Falling objects / materials	Impact Severing Cutting	Operation		C3 High	<p>Do not stand directly under material being lifted.</p> <p>Barricade work area under fall zone to create a no-go zone.</p>	B2 Low
4.10	Lowering/raising and slewing of boom, outriggers, hook block.	Crushing Impact	Set up Operation Maintenance Troubleshoot		C4 Extreme	<p>Always maintain visual contact with moving parts of the plant a payload.</p> <p>Hard hat required especially with suspended loads.</p> <p>Ensure all persons are clear of moving components before performing a movement.</p> <p>Maintenance to be carried out by a competent person.</p>	B2 Low
4.11	Faulty/out of order, or poorly maintained plant	Crushing Impact Trauma	Operation Emergency Maintenance	<p>Operator's manual outlines plant maintenance schedule.</p> <p>Current maintenance inspections up to date as per manufacturers recommendation.</p>	B4 High	<p>Always perform pre-operation inspection before operating the plant.</p> <p>Implement 'tag out' procedure to isolate faulty/out of order plants.</p> <p>Do not use an 'out of order' plant.</p> <p>Record all faults in logbook.</p> <p>Perform plant maintenance as per manufacturer's maintenance schedule.</p> <p>Keep maintenance records / plant logbook up to date.</p>	B1 Low

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
4.12	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 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. Lifting kit is available for purchase. Remove counterweights from the plant before lifting and transporting.	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
5.4	Unmarked lifting and tiedown points	Crushing	Transport Lifting	Lifting and tie-down points are provided.	B5 Extreme	Mark lifting and tie-down points on plant for correct identification.	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 - steering mechanism - runaway plant	Crushing Impact	Storage Operation Setup	Follow routine maintenance inspections by qualified person as per manufacturers recommendation. Use designated tie down points. Prestart inspection as per manufacturers recommendation. Emergency Stop located on steer handle bar cuts out all plant functions when depressed. Only boom functions are possible from the hand held controls.	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 Winlet as per maintenance schedule to ensure integrity of structural members. Regularly inspect steering mechanism. Drive system fitted with negative brakes which automatically engage when power is removed. Train operators to regularly check battery charge levels, stop working and recharging the batteries before they become flat.	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
6.4	Inadequate maintenance procedures	Crushing Impact	Maintenance	Maintenance procedures included in Operator’s Manual.	B4 High	Allow only qualified service personnel to perform maintenance tasks.	B1 Low

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
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 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.	A2 Low
7.3	Power extension lead overheating.	Electrocution Shock Fire	Set up Operation Maintenance Troubleshoot Emergency		C4 Extreme	Use appropriate means to supply power to the plant. That is, only use extension leads rated to plant requirements. 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.	A3 Medium

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
7.4	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
7.5	Power failure (flat battery)	Crushing Being runover	Operation Emergency	Instructions provided in the Operator's Manual to disengage the wheel brakes so it can be pushed into a safe area.	C4 Extreme	Prepare emergency procedure for power failure.	C1 Low
7.6	Battery charging	Burn Fire Explosion	Maintenance		C5 Extreme	Charge in an area with good ventilation, away from ignition sources.	A3 Medium
7.7	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 minutes and seek medical assistance immediately. Do not touch the battery terminals or cables with tools that may cause spark emissions. In order to avoid spark emissions, always disconnect the (-) cable first and connect it last. Use appropriate lifting techniques, perform 2 person lifting technique for heavy or awkward to reach parts.	3B Low
7.8	Lightning	Electrocution Shock	Set up Operation		A5 High	Do not use the plant during a thunderstorm.	A1 Low

ID	Description of Hazard Potential		Activity	Risk control measures already implemented	Risk	Supplementary risk control measures	Risk score
	Origin	Consequence					
8	Lifting Components						
8.1	Suspended load / hook block swinging due to wind or movement of the plant.	Crushing Impact	Operation	Crush hazard decals on plant	C4 Extreme	Use tag line to control suspended load movement. Keep plant operating area clear of obstructions. Install safety barriers around the working area to prevent unauthorised access.	B1 Low
8.2	Rigging equipment failure. - Using chains and slings not rated for lifting. Incorrect load rating of shackles, hooks and lifting slings.	Crushing Impact	Operation Maintenance		C5 Extreme	Plan lift beforehand, ensure rigging equipment is in good condition and have rated capacities suitable for the load being lifted. Ensure rigging equipment is inspected, regularly maintained and tagged with inspection dates. Do not use rigging equipment with out of-date tags. Do not use ropes for lifting operations.	A2 Low
8.3	Boom / hydraulic system maintenance and repairs	Crushing	Maintenance		C4 Extreme	Ensure boom is properly supported before carrying out any maintenance tasks to boom / boom mechanism.	B1 Low
8.4	Removal / installation of counterweights	Musculoskeletal disorders	Set up Transport		C3 High	Take care when handling counterweights, do not lift multiple weights simultaneously to reduce the risk of back injury and muscle strain.	A2 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	
	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	
						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.	1. Elimination – controlling the hazard at the source 2. Substitution – e.g. replacing one substance or activity with a less hazardous one 3. Isolation – e.g. use of barriers to shield or isolate the hazard, enclosures for noisy machinery, installing guards on machinery 4. Engineering – e.g. design and install equipment to counteract the hazard 5. Administration – policies and procedures for safe work practices 6. Personal Protective Equipment – e.g. respirators, ear plugs, face masks, safety glasses, safety shoes

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