For Earth, For Life
Kubota

Kubota Tractor Australia Pty Ltd
25-29 Permas Way
TRUGANINA, 3029
Victoria Australia

HAZARD IDENTIFICATION and RISK ASSESSMENT

MODEL **SVL95-2s**

Assessment Date	Assessment Location	Revision
24th February 2016	KBT Test Area, Osaka, Japan	0

Assessment Team
A.Pedemont (Technical Engineer)

Unit Assessed			
	Evaluation Sample	Australian Specification Production	
Type of unit		✓	
	Model	Item Code	Serial Number
Base Unit	SVL95-2SHFC	V063126130	31494
Attachment 1	Nil	Nil	Nil
Attachment 2			
Attachment 3			
Attachment 4			

Section 1: Machine Specifications
Section 2: Risk Assessment Tables
Section 3: Hazard Identification and Risk Assessment
Section 4: Required Risk Controls

Kubota Tractor Australia Pty Ltd. has conducted this risk assessment as part of its duties to manager the risks associated with its products as required by the Work Health and Safety Act. The hazard identification and risk assessment has been performed on a standard unit as described above for flat ground application.
It is the responsibility of the dealer supplying the machine to conduct their own hazard identification and risk assessment to include any options, accessories or third party attachments installed to the machine.
The manager of the machine must conduct a thorough risk assessment specific to their application, carefully considering the environment, obstacles, operator competency and local regulations before operating the machine.

This risk assessment is void unless all the risk controls in section 4 have been completed and all the actions in section 3 J have been completed.

PREPARED BY:	RELEASED BY:
Alex Pedemont	Benjamin Binns
Technical Engineer - CE Equipment Date: 29/05/2017	Engineering Manager Date: 1/06/2017

1. Machine Specifications

			KUBOTA CTL (Compact Track Loader)	
Model name			SVL95-2s	
Type			Open Cab	Closed Cab
Operating weight (including operator's weight) kg (lbs.)			5125 (11299)	5250 (11574)
Engine	Type		Water cooled 4 cycle diesel engine with 4 cylinder EPA Tier 4	
	Model name		KUBOTA V3800-TIEF4	
	Total displacement cc (cu.in)		3796 (231.6)	
	Engine power	SAE J1995 gross kW (HP) / rpm	71.9 (96.4)	
		SAE J1995 net kW (HP) / rpm	70.8 (95.0)	
	Rated speed rpm		2400	
	Low idling speed rpm		1150	
Performance	Rated operating capacity kg (lbs.)		1451 (3200)	
	Tipping load kg (lbs.)		4252 (9376)	
	Breakout force	Bucket kg (lbs.)	3611 (7961)	
		Lift arm kg (lbs.)	3058 (6742)	
	Travel speed	Fast km/h (mph)	11.7 (7.3)	
		Slow km/h (mph)	8.0 (5.0)	
	Ground pressure (With operator) kPa (kgf/cm²) [psi]		31.0 (0.32) [4.5]	
Battery capacity			12V RC : 160 min, CCA 900A	
Pressure connection for attachments	Max.displacement (Theoretical) L (US gal)/ min		Standard Flow	High-Flow
			90 (24)	156 (41)
	Max. pressure MPa (kgf/cm²) [psi]		24.5 (250) [3553]	
Fuel tank capacity L (US gal)			111 (29.3)	

NOTE :
- Specifications subject to change without notice.

Noise Level Exposure				
Reference Standard	AS 2012.1:1996 **	AS 2012.2:1996 **		
Location	Bystander (7m)	Operator's Ear		
Model 1	76	80		
Model 2				
Model 3				

* A-Weighted equivalent noise level exposure for 8 hours operation

**Test conducted in accordance with AS2012 series, with unit stationary operating at rated Engine RPM with all attachments disengaged

Manufacturers Declaration of compliance - Operator protective structure		
The machine is supplied with a factory fitted operator protection structure which complies with the listed standards	Structure type	Reference Standard
	TOPS	
	ROPS	OSHA 1926.1001, ISO3471 2008
	OPG (FOPS) Level I	OSHA 1926.1003, ISO3449 2005

Manufacturers Declaration of compliance - Seat Belt	
The machine is supplied with a factory fitted seatbelt which complies with the listed standards	Reference Standard
	ISO 6683:2005, SAE J386

Manufacturers Declaration of compliance - Manufacturing	
The manufacturer has declared to the importer that the machine has been manufactured to the listed standards.	Reference Standard
	SAE J1388, SAE J153, ISO 6750, ISO 10968, ISO 6405-1/-2, ISO 2867:2006, SAE J1388, SAE J/ISO 6682, SAE J/ISO 5353, ISO 14397-1/-2, ISO 14397-1, ISO 6683:2005, SAE J1042, ISO 3457, ISO 3471:2008, ISO 3449:2005, SAE J674, ISO 12508, ISO 3411, ISO 5006, ISO 10265:1998, ISO 9244, ISO 10533:1993, ISO 3471:2008, ISO 3449:2005, SAE J386, ISO 6683:2005, ISO 9533-1989, SAE 1388, ISO 10533:1993, SAE J2513, ISO 24410, ISO 13333:1994, ISO 12509:2004, ISO/DIS 15818, SAE J674

2. Risk Assessment Tables

Likelihood Table

	Category	Description
1	Rare	Cannot imagine that this could occur (over 5 years)
2	Unlikely	Incident is possible, but unlikely to occur (2 years - 5 years)
3	Slight	Incident is possible to occur (1 year - 2 years)
4	Likely	Incident could occur at some time (1 month - 1 year)
5	Almost Certain	Incident will occur at some time (0 - 1 month)

Consequences Table

	Category	Description
1	Negligible	Effects unlikely to last until the next day.
2	Minor	Likely to affect employee the next day.
3	Moderate	Injury needs formal medical treatment.
4	Major	Injury requiring extensive medical treatment and/or hospitalisation.
5	Severe	Injury resulting in death or permanent incapacity.

Risk Score Calculator

		Consequences				
		Negligible	**Minor**	**Moderate**	**Major**	**Severe**
Likelihood	**Almost Certain**	Medium	High	Very High	Very High	Very High
	Likely	Medium	Medium	High	Very High	Very High
	Slight	Low	Medium	High	High	Very High
	Unlikely	Low	Low	Medium	Medium	High
	Rare	Low	Low	Low	Medium	Medium

Risk Priority Table

	Priority	Action
Very High	1	Immediate action required
High	2	Implement short term safety controls immediately
Medium	3	Short term safety controls implemented to minimise risk of injury
Low	4	Monitor activity

3. Hazard Identification and Risk Assessment (Hazards and risks associated with operating and maintaining the machine in accordance with the manufacturers instructions)

A	B		C	D	E	F	G	H	J
	Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard		Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Closing engine hood against the body	The operator and maintenance person are required to access under the engine hood to conduct daily inspection, troubleshooting and regular maintenance.		Pinching fingers Crushing limbs	The rear engine hood has a manual safety pin to lock the hood in the open position. Decal cautions personnel to ensure that the safety pin is installed. The top engine hood is supported in the open position by a gas struts. Top hood has safety decal fitted cautioning personnel of the risk of pinching point.	4. Engineering	3. Slight	1. Negligible	4. Low	
Moving operator controls	The operator is required to manually actuate controls to operate the machine.		Pinching fingers	The design and layout of the operator controls eliminates the risk of pinching by providing large gaps between moving controls.	1. Elimination	1. Rare	1. Negligible	4. Low	
Pivot points between loader arm and hydraulic rams	The operator and maintenance person is required to access the loader pivot points for greasing and maintenance		Crushing body parts	Lift arm stopper fitted for use when performing maintenance with boom in the raised position. Operators manual provides SOP for safety installing lift arm stopper. Danger and warning safety decals are fitted to the machine which identifies the crushing/pinching hazard. Warning decal instructs personnel to fit lift arm stopper when working on the machine with lift arms raised.	4. Engineering	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - The operator and maintenance person are trained and follow safe working procedures. The operator and maintenance person must ensure that: - Maintenance is only conducted with lift arm stopper fitted when boom is fully raised.
Opening and closing of cabin door	The operator and maintenance person is required to enter and exit the cabin door.		Crushing body parts	Left and right handles provided on inside of the door with lock levers directly beside. This ensures personnel hands and fingers are away from the crushing zone when opening/closing. Lock pins prevent the door from inadvertently falling once opened. Operators manual provides safe working procedure for opening and closing cabin door. Safety decals caution personnel to engage lock pins to prevent the from inadvertently falling and contacting head/hands.	4. Engineering	2. Unlikely	2. Minor	4. Low	
Movement of hydraulic quick hitch.	The operator requires access the quick hitch to connect attachments to the loader. The maintenance person is required to access the quick hitch for greasing and maintenance.		Crushing fingers	A danger safety decal is fitted to the machine which identifies the crushing hazard. The operator's manual provides safe working instructions including: - conducting maintenance with the loader lowered and the engine switched off eliminating any moving parts.	5. Administration	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator and maintenance person are trained and follow safe working procedures. The operator must ensure that: - All bystanders are clear of the machine when fitting attachments. - The engine is switched off before connecting hydraulic hoses to the loader.

A	B	C	D	E	F	G	H	J
Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard	Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Raising/tilting of cabin structure for inspection and maintenance	The operator and maintenance person is required to raise/tilt the cabin for inspection and maintenance	Crushing of body parts	Gas struts fitted with locking mechanism which engages when cabin is in the fully raised position. Stopper pin fitted to fix cabin in the fully raised position and prevent it from falling. Safety decal warns personnel to not go under raised cabin structure without the stopper pin locked. The operators manual provides safe working procedures for raising and lowering the cabin structure safely.	4. Engineering	2. Unlikely	4. Major	3. Medium	The manager of the machine must ensure that: - The operator and maintenance person are trained and follow safe working procedures. The operator and maintenance personnel must ensure that: - Cabin is only raised when parked on a flat and level surface, engine is switched off and lift arms are lowered to the ground. - No one enters beneath the cabin while raising or lowering. - Maintenance and inspection is only carried out with locking mechanism engaged and stopper pin locked in position.
Loader collapse due to hydraulic failure	The operator and maintenance person are required to conduct daily inspection and regular maintenance.	Serious injury Crushing Death	The loader is supplied with a lift arm stopper and fitting instructions for installation. The operator's manual provides safe working instructions including: - never standing under the raised loader without the lift arm stopper installed.	4. Engineering	1. Rare	5. Severe	3. Medium	The manager of the machine must ensure: - the operator and maintenance person are trained and follow safe working procedures. - training includes the mandatory installation of the lift arm stopper before working under the raised loader. The operator and maintenance person must ensure that: - No staff or bystanders work under the loader in the raised position without the lift arm stopper installed.
Falling objects	The machine may be required to work in situations with potential impact from falling objects.	Impact Crushing Concussion	The machine is fitted with a protective ROPS/FOPS structure which complies with ISO 3471:2008, ISO 3449:2005 and OSHA regulations.	4. Engineering	2. Unlikely	2. Minor	4. Low	
High pressure hydraulic oil	The operator and maintenance person may be required to locate oil leaks. The operator is required to connect and disconnect implement hoses to the hydraulic quick connectors.	Oil injection, Skin / eye irritation	The hydraulic hoses are ISO rated ensuring quality material and operating performance. The hydraulic hoses are protected by a hose sock reducing the likelihood of wear and failure. The hydraulic hoses are routed inside the loader arms protecting them from damage. The operators manual provides safe working procedures for inspecting and locating oil leaks, depressurising the hydraulic system and connecting/disconnecting hydraulic hoses. The operator's manual provides instructions for the maintenance person to regularly inspect and replace damaged hydraulic hoses.	5. Administration	2. Unlikely	4. Major	3. Medium	The manager of the machine must ensure that: - the operator and maintenance person are trained and follow safe working procedures. - the machine is maintained in accordance with the manufacturer's maintenance schedule. - the hydraulic hoses and associated components are replaced when damaged. The operator and maintenance person must ensure that: - they follow the manufacturer's safe working procedure for identifying oil leaks as listed in the operator's manual.

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Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard	Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Pressurised engine coolant	The operator or maintenance person may be required to replenish engine coolant during maintenance of the machine.	Burns, scalding	The radiator is fitted with a pressure relief cap connected to an overflow bottle. The operator's manual provides safe working procedures for conducting maintenance on the engine including waiting for the engine to cool. The radiator cap has a safety decal fitted warning the operator and maintenance person not to remove the cap while the engine is hot.	4. Engineering	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator and maintenance person are trained and follows safe working procedures. - the machine is maintained in accordance with the manufacturer's daily inspection check and maintenance schedule. The operator and maintenance person must ensure that they: - follow the manufacturer's safe working procedures when working on the engine including waiting for the engine to cool before opening the radiator.
Instability of machine when operating on steep and undulating terrain	The operator may be required to operate the machine on sloping and undulating terrain.	Roll-over Crushing Serious injury Death	The machine is fitted with a protective ROPS/FOPS structure which complies with ISO 3471, ISO 3449 and OSHA regulations. providing the operator with a safe zone of clearance in the event of a roll-over. The machine is fitted with a seatbelt compliant with ISO6683:2005 to restrain the operator and keep them in the safe zone of clearance. The operator's manual provides safe operating procedures and warnings not to operate the machine in areas where it may tip or slip, including rough and wet terrain. Alternate emergency exit by removing rear window in the event personnel becomes trapped inside.	4. Engineering	1. Rare	5. Severe	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. - the training includes conducting a risk assessment of the area and identifying hazards, ditches, steep and wet surfaces. The operator must ensure that: - they conduct a site specific risk assessment before operating the machine on steep or undulating terrain. - a seatbelt is worn at all times whilst operating.
Instability caused by overloading the attachment.	The machine loads, moves and dumps material in normal operation.	Machine rollover Crushing Machine damage	The Rated Operating Capacity (ROC) of the machine is determined using the requirements of ISO 14397-1/-2. Decal fitted inside the cabin displays the rated operating capacity of the machine.	5. Administration	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. - the training includes conducting a risk assessment to identify the material type, estimate the maximum loads and check the suitability of the machine configuration (loader / attachment) before starting work. - the correct machine is supplied for the application.
Machine mobility	The machine may be required to operate around building, stationary objects and bystanders.	Collision	The machine is fitted with reverse travel alarm and horn to warn bystanders.	4. Engineering	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. - The unit is required to be fitted with a rotating beacon, if required by local regulation/worksite requirements. - the training includes conducting a risk assessment of the area and identifying hazards. - Supplied rear vision mirror kit to be fitted to the unit.

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Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard	Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Rotating engine fan, belt and pulley	The operator and maintenance person may be required to conduct troubleshooting and diagnostics with the hood open.	Cutting fingers / hands Drawing In Entanglement	The engine fan, belt and pulley is isolated by the engine hood during normal operation. A safety decal warns the operator and maintenance person not to touch the fan when the engine is operating. The operator's manual instructs the operator and maintenance person not to wear loose clothing around rotating components and to attach a "do not operate" tag before carrying out maintenance.	4. Engineering	2. Unlikely	4. Major	3. Medium	The manager of the machine must ensure that: - The operator and maintenance person are trained and follow safe working procedures. The operator and maintenance person must ensure that: - A risk assessment is conducted before conducting troubleshooting or maintenance on the machine. - Follows Safe operating procedure by attaching a "do not operate" tag before performing any maintenance.
Cabin access steps	The operator is required to access and egress the driving position.	Slipping Falling	Handrails provided as well as steps with non-slip surface reducing the likelihood of slipping or falling. Operators manual provides safe working procedure for mounting and dismounting the machine.	4. Engineering	1. Rare	2. Minor	4. Low	
Stored energy (gas strut)	The operator and maintenance person are required to open the engine hood/side cover to conduct daily inspection and regular maintenance.	Uncontrolled movement Impact	The gas strut is matched to the weight of the engine hood ensuring slow and controlled movement.	4. Engineering	1. Rare	1. Negligible	4. Low	
Stored energy hydraulic system	The maintenance person may be required to remove hydraulic lines or components.	Serious injury	The operators manual provides safe working procedures prior and during any maintenance or inspection.	5. Administration	1. Rare	4. Major	3. Medium	The manager of the machine must ensure that: - the maintenance person is trained and follows safe working procedures.
Contacting overhead high voltage conductors	The machine may be required to operate around overhead high voltage conductors	Electrocution Severe Burns Death	A safety decal is fitted to the machine warning the operator of death resulting from contact with overhead high voltage electrical conductors.	5. Administration	1. Rare	5. Severe	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures - the training includes awareness of local regulations regarding the minimum operating distance from high voltage and other overhead electrical conductors. - the operator conducts a site specific risk assessment to identify overhead electrical conductors - a spotter is provided when work must be conducted around overhead electrical conductors.
Contacting underground services including high voltage conductors and gas supply lines	The machine may be required to operate around hidden underground services including electrical conductors.	Electrocution Severe Burns Gas Leak Explosion Death	None	5. Administration	1. Rare	5. Severe	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures - the training must include conducting site specific risk assessments to identify hidden underground services - providing relevant and up-to-date information from local authorities regarding the location of underground services. - Dial before you dig decal is to be added to the unit before delivery to customer.

A	B	C	D	E	F	G	H	J
Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard	Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Fire caused by spark emissions	The machine may be required to operate in dry grass during hot and high fire danger periods.	Fire Smoke inhalation	The machine is fitted with a DPF exhaust after treatment system fulfilling the requirements of a spark arrestor. The operator's manual instructs the operator to keep the machine clean and free of debris that can cause a fire hazard.	4. Engineering	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures - the training includes conducting site specific risk assessments to determine the risk of causing a fire - the safe work procedures includes limiting the work conducted during high fire danger periods - an appropriate fire extinguisher is fitted to the machine if it is to be operated during high fire danger periods - Fit a fire extinguisher (complying to AS1841) if required by local regulation/worksite requirements.
Hot muffler	Accidental contact by hands or limbs.	Burns	The exhaust muffler is isolated by a heat shield. A safety decal is fitted to the machine warning the operator of the hot surfaces.	3. Isolation	2. Unlikely	2. Minor	4. Low	
DPF Regeneration Cycle	Contact with the hot muffler and/or hot exhaust gas.	Burns	The operator's manual instructs the operator to keep the machine away from other people, animals, plants and flammable material during a reneration burn. In addition, it instructs the operator to look around the machine before undertaking a DPF regeneration and to keep the area near DPF muffler clean and free from flammable material. Machine is fitted with a Inhibit DPF regeneration switch. This switch disables the regeneration cycle when working around people, animals, plants and flammable materials. The exhaust muffler is isolated by a heat shield. A safety decal is fitted to the machine warning the operator of the hot surfaces.	4. Engineering	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures - the training includes conducting site specific risk assessments to determine the risk of causing a fire - the safe work procedures includes limiting the work conducted during high fire danger periods - an appropriate fire extinguisher is fitted to the machine if it is to be operated during high fire danger periods. - Fit a fire extinguisher (complying to AS1841) if required by local regulation/worksite requirements.
Hot radiator	Accidental contact by hands.	Burns	The radiator is isolated by the engine hood during normal operation.	3. Isolation	2. Unlikely	2. Minor	4. Low	
Hot exhaust manifold	Accidental contact by hands.	Burns	The exhaust manifold is isolated by the engine hood during normal operation. A safety decal / warning is fitted to the machine to warn the operator of the hot surface.	3. Isolation	2. Unlikely	2. Minor	4. Low	
Hot hydraulic components	Accidental contact by hands.	Burns	The hydraulic control valve is isolated by location reducing the likelihood of accidental contact.	3. Isolation	2. Unlikely	2. Minor	4. Low	
Engine noise - 8 hour equivalent exposure at operator's ear = 80 dBA	The operator is required to be seated on the machine to operate.	Disorientation Permanent hearing loss	Machine noise level < 85dBA 8 hour equivalent, therefore no hearing protect is required when cabin door is closed.	5. Administration	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe operating procedures. - the training includes awareness of the risk of permanent hearing loss due to continuous exposure to excessive noise. - Carry out a site risk assessment to determine whether PPE is required in the working environment.

A	B	C	D	E	F	G	H	J
Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard	Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Flammable fuel	The operator and maintenance person required to inspect and replenish fuel supply as required.	Fire Explosion	The machine is fitted with a safety decal by the fuel fill point to warn the operator and maintenance person not expose naked flame. The operator's manual provides warnings and instructions against smoking and naked flames around flammable fuel.	5. Administration	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator and maintenance person are trained and follow safe working procedures. The manager must provide appropriate fire extinguisher at the refuelling station.
Airborne dust / chaff	The operator is required to be seated on the machine to operate.	Eye irritation Breathing difficulties Asthma	The cabin structure is fully sealed from outside airborne debris when from door is closed.	4. Engineering	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator and maintenance person are trained and follow safe working procedures. - any staff member who suffers from breathing difficulties or asthma is provided with appropriate PPE. - any staff member who suffers from asthma has an asthma action plan. The operator and maintenance person who suffers from breathing difficulties and/or asthma must ensure they: - have an asthma action plan - carry their prescribed inhaler - use the appropriate PPE as required
Exhaust Gas	The operator and maintenance person are required to conduct daily inspections and regular maintenance requiring the engine to be run.	Breathing difficulties Asphyxiation Death	The operator's manual provides warnings and instructions against the operation of a combustion engine in an enclosed or poorly ventilated space.	5. Administration	1. Rare	5. Severe	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. - the training includes being aware of the risks to breathing when operating a combustion engine in enclosed and poorly ventilated areas.
Blind spot created by rear of the machine	The machine may be required to operate around building, stationary objects and bystanders.	Collision	The machine is fitted with reverse travel alarm to warn bystanders.	4. Engineering	3. Slight	4. Major	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. - the training includes conducting a risk assessment of the area and identifying hazards, objects and people that may cause a collision. - Supplied rear vision mirror kit to be fitted to the unit. - The unit is required to be fitted with a rotating beacon, if required by local regulation/worksite requirements.
Extreme hot ambient	The operator is required to be seated on the machine to operate the machine	Heat exhaustion Dehydration	Machine is fitted with a air conditioning system.	4. Engineering	2. Unlikely	2. Minor	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. - a site specific risk assessment is carried out.
Rain / wind / cold weather	The operator is required to be seated on the machine to operate the machine	Numbness Reduced fine motor skills Hypothermia Frost bite	The machine is fitted with a heater and cabin structure which is sealed from outside conditions.	4. Engineering	3. Slight	2. Minor	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. - a site specific risk assessment is carried out.

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Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard	Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Movement without the operator at the driving position	Unauthorised operation of the machine while not seated in the driving position	Collision, Uncontrolled operation Crushing	The machine is fitted with an lockout armrests that lockout hydraulic and electrical system when armrests are raised.	4. Engineering	1. Rare	2. Minor	4. Low	-
Machine operating with guards removed	The operator and maintenance person may be required to diagnose and troubleshoot a fault requiring the machine to operate with the covers and guards removed.	Entanglement Crushing Drawing in Major injury Death	Safety decals are fitted to the machine to warn the operator and maintenance person to close the guards before operating the machine.	5. Administration	1. Rare	5. Severe	3. Medium	The manager of the machine must ensure that: - the operator and maintenance person are trained and follow safe working procedures. The operator and maintenance person must ensure that: - a risk assessment is conducted before operating the machine with the guards and covers removed - the machine is stationary and shut down with all moving components secured before entering the machine. - all staff and bystanders are clear of the machine when the machine is required to continue operating with the covers removed for diagnostics.
Lifting the machine on/off transport trailer/truck or other device	The machine may be required to be lifted for transport or access.	Crushing Collision	The operators manual provides safe working procedures for safely lifting the machine. Safety decals warn personnel not to use point on top of the cabin to lift the machine.	5. Administration	1. Rare	4. Major	3. Medium	The manager of the machine must ensure that: -Personnel are trained and follow safe working procedures when lifting the machine. -Lifting equipment is in safe working order and satisfied the minimum requirements set out in the operators manual.
Loading/unloading the machine from a transport trailer/truck	The machine is required to be loaded/unloaded for transportation	Crushing Collision Rollover	The operators manual provides safe working procedures for safely loading/unloading the machine.	5. Administration	1. Rare	4. Major	3. Medium	The manager of the machine must ensure that: -Personnel are trained and follow safe working procedures when loading/unloading the machine. - Loading/unloading equipment is in safe working order and satisfied the minimum requirements set out in the operators manual.
Transportation of the machine on a trailer or truck	The machine is required to be transported on a trailer or truck	Crushing Collision Rollover	The operators manual provides safe working procedures for safely transporting the machine.	5. Administration	1. Rare	4. Major	3. Medium	The manager of the machine must ensure that: -Personnel are trained and follow safe working procedures when transporting the machine. -Transportation equipment is in safe working order and satisfied the minimum requirements set out in the operators manual.

A	B	C	D	E	F	G	H	J
Hazard Identification			Risk Control		Residual Risk			
Hazard Source	Need to access hazard	Potential Consequence	Current Controls	Hierarchy of Control	LH	Con	Risk	Action Required
Engaging/disengaging an attachment from the front end loader	The operator is required to engage/disengaging attachments.	Crushing Impact Serious injury	Safety decal warns the personnel to lower lifts arms fully before engaging/disengaging attachments and to ensure that pins are fully engaged. The operator's manual provides safe operating instructions for engaging/disengaging attachments. The operator's manual states to only use attachments which comply with ISO24410 .	5. Administration	2. Unlikely	4. Major	3. Medium	The manager of the machine must ensure that: - Personnel are trained and follow safe working procedures when engaging/disengaging attachments. - Personnel read and understand all requirements set out in the operators manual. - Only attachments which comply with ISO24410 to be used.
Relieving hydraulic oil pressure	The operator is required to relieve the hydraulic pressure to connect implements to the CTL.	Skin / eye irritation	The operator's manual provides safe working procedures for the relieving of hydraulic system.	5. Administration	2. Unlikely	3. Moderate	3. Medium	The manager of the machine must ensure that: - the operator is trained and follows safe working procedures. The operator must ensure that: - they follow the manufacturers instructions for relieving hydraulic pressure and not strike the hydraulic hose coupler to relieve pressure.
Replenishing engine oil	The operator and maintenance person are required to conduct daily inspections and replenish engine oil as required.	Skin / eye irritation	Access to the engine oil fill point is open reducing the likelihood of spilling. The operator's manual provides warnings and instructions for the wearing of PPE while handing oils.	6. PPE	2. Unlikely	2. Minor	4. Low	
Replenishing transmission oil	The operator and maintenance person are required to conduct daily inspections and replenish transmission oil as required.	Skin / eye irritation	Access to the transmission oil fill point is open reducing the likelihood of spilling. The operator's manual provides warnings and instructions for the wearing of PPE while handing oils.	6. PPE	2. Unlikely	2. Minor	4. Low	
Replenishing engine coolant	The operator and maintenance person are required to conduct daily inspections and replenish engine oil as required.	Skin / eye irritation	Access to the engine coolant fill point is open reducing the likelihood of spilling. The operator's manual provides warnings and instructions for the wearing of PPE while handing coolant.	6. PPE	2. Unlikely	2. Minor	4. Low	
Replenishing diesel fuel	The operator and maintenance person are required to conduct daily inspections and replenish engine oil as required.	Skin / eye irritation Fire	Access to the diesel fuel fill point is open reducing the likelihood of spilling. The operator's manual provides warnings and instructions for the wearing of PPE while handing diesel fuel.. The operator's manual warns the operator not to expose naked flames (smoking etc) when refuelling the machine.	6. PPE	2. Unlikely	2. Minor	4. Low	