



Risk Assessment – Kanga Loader Series 5, 6 & 7

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HAZARD DESCRIPTION (Without Risk Control)	LIST CURRENT CONTROL MEASURES IN THE CORRESPONDING CATEGORY	Matrix Reference (including Severity and likelihood)	Risk Rating	ACTION and RECOMMENDATIONS PRIORITY TO ELIMINATE / REDUCE AS FAR AS IS PRACTICABLE	Matrix Reference (including Severity and likelihood)	Risk Rating after Controls Actioned
<p>Unexpected movement</p> <p>(Movement of machine without operator input.)</p>	<p>Engineering All Hydraulic controls are sprung to return to neutral position. Hydraulic system disabled by shutting down drive motor. Machine speed is limited to 8 kph at maximum revs. Warning beacon and reversing beeper fitted to machine.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative Wheel Chocks to be applied when parked (not supplied with the machine) Loader is not to be parked on uneven surface (i.e., slopes) All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Severe Lik: Very Unlikely</p> <p>Matrix Ref = 10</p>	Medium	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative No other Administrative Controls are available at this time.</p> <p>PPE Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>	<p>Sev: Severe Lik: Very Unlikely</p> <p>Matrix Ref = 10</p>	Medium
<p>Parking of Loader</p> <p>(Runaway of machine or collision with traffic or pedestrians.)</p>	<p>Engineering Machine speed is limited to 8 kph at maximum revs. Hydraulic system disabled by shutting down drive motor. Warning beacon and reversing beeper fitted to machine.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p>	<p>Sev: Significant Lik: Very Unlikely</p> <p>Matrix Ref = 3</p>	Low	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p>	<p>Sev: Significant Lik: Very Unlikely</p> <p>Matrix Ref = 3</p>	Low



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	<p>Administrative</p> <p>Wheel Chocks to be applied when parked (not supplied with the machine)</p> <p>Loader is not to be parked on uneven surface (i.e., slopes)</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Manuel direct operators to ensure that a Traffic Management Plans has been developed for the area of intended use.</p> <p>PPE (Nil)</p>			<p>Administrative</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE</p> <p>Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>		
<p>Overloading</p> <p>(Human error or inappropriate use, Structural failure of load bearing parts, Slope causes machine to become unstable)</p>	<p>Engineering</p> <p>OEM structural quality control procedure during manufacture.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operation manual directs operators to perform periodic, daily and pre-start inspections and service regime.</p> <p>Safe Working Limits (SWL) decal placed on all machines.</p> <p>Operators manual details load limits.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Serious Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	Low	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>No other Administrative controls are available at this time.</p> <p>PPE</p> <p>Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>	<p>Sev: Serious Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	Low
<p>Overtipping – Backwards</p>	<p>Engineering</p> <p>Standing platform allow for quick exit from machine in case of an emergency.</p>	<p>Sev: Extreme Lik: Remote</p> <p>Matrix Ref =</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p>	<p>Sev: Severe Lik: Remote</p> <p>Matrix Ref =</p>	Medium



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<p>(Operator error, Operating on slopes or inappropriate use)</p>	<p>Rear stabilising outriggers (where fitted) act to ensure overturning risk is reduced (optional attachment)</p> <p>Auxiliary power is controlled by an interlock so that when operator leaves platform auxiliary power is off.</p> <p>Auxiliary power is controlled by a presence sensing system, when the operator leaves the platform the auxiliary power is off.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operators manual details maximum slope of 20 degrees for the operation of machine.</p> <p>Operators instruction manual directs operator to keep load close to the ground and to drive to the conditions.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Purchasers of machines sign off on reading the operational manual.</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>19</p>		<p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>Operator Manual directs operators to reverse down slopes and drive forwards going up slopes while under load.</p> <p>Safe Working Limits (SWL) decal placed on all machines.</p> <p>PPE</p> <p>Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>	<p>14</p>	
<p>Overturning – Sideways</p> <p>(Operator error, Operating on slopes or inappropriate use)</p>	<p>Engineering</p> <p>Standing platform allow for quick exit from machine in case of an emergency.</p> <p>Auxiliary power is controlled by a presence sensing system, when the operator leaves the platform the auxiliary power is off.</p> <p>Manual informs operator to avoid crossing slopes where ever possible and if it is not possible to traverse with the load lowered as possible at</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p>	<p>Sev: Severe Lik: Remote</p> <p>Matrix Ref = 14</p>	<p>Medium</p>	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p>	<p>Sev: Severe Lik: Remote</p> <p>Matrix Ref = 14</p>	<p>Medium</p>



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	<p>Manual informs operator to avoid crossing slopes wherever possible and if it is not possible to traverse with the load lowered as low as possible at reduced speed and exercising extreme caution.</p> <p>Safe Working Limits (SWL) decal placed on all machines.</p> <p>Operators instruction manual directs operator to keep load close to the ground and to drive to the conditions.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Purchaser</p>			<p>Operators manual details maximum slope of 20 degrees for the operation of machine.</p> <p>PPE</p> <p>Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>		
<p>Tip forward of loader and attachment.</p> <p>(Operator error, Operating on slopes or inappropriate use)</p>	<p>Engineering</p> <p>Standing platform allow for quick exit from machine in case of an emergency.</p> <p>Auxiliary power is controlled by a presence sensing system, when the operator leaves the platform the auxiliary power is off.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operators manual details maximum slope of 20 degrees for the operation of machine.</p> <p>Operator Manual directs operators to reverse down slopes and drive forwards going up slopes while under load.</p> <p>Operators instruction manual directs operator to keep load close to the ground and to drive to the conditions.</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p>	<p>Sev: Extreme</p> <p>Lik: Remote</p> <p>Matrix Ref = 19</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>Safe Working Limits (SWL) decal placed on all machines.</p> <p>PPE</p> <p>Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>	<p>Sev: Severe</p> <p>Lik: Remote</p> <p>Matrix Ref = 14</p>	Medium
<p>Impact</p> <p>(Operator slips from platform)</p>	<p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Purchasers of machines sign off on reading the operational manual.</p>	<p>Sev: Serious</p> <p>Lik: Remote</p> <p>Matrix Ref = 9</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time</p> <p>Engineering</p>	<p>Sev: Serious</p> <p>Lik: Very Unlikely</p> <p>Matrix Ref =</p>	Low



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	<p>Engineering</p> <p>All Hydraulic controls are sprung to return to neutral position.</p> <p>Auxiliary power is controlled by a presence sensing system, when the operator leaves the platform the auxiliary power is off.</p> <p>Operators step is constructed of perforated plate with a Slip Resistance Assessment of R11 (low).</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Manual highlights the need to keep platform clean.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>			<p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>No other administrative controls available at this time.</p> <p>PPE</p> <p>Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear</p>	6	
<p>Impact with pedestrian</p> <p>(Lapse of concentration, operator error)</p>	<p>Engineering</p> <p>Design of machine allows for clear sight lines.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Manual highlights the need for traffic control plans and to place barriers to separate activities from other persons.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Serious Lik: Remote</p> <p>Matrix Ref = 9</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>Warning beacon and reversing beeper fitted to machine.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>Safe Working Limits (SWL) decal placed on all machines.</p> <p>PPE</p> <p>Operators and other people within work area should wear high visibility clothing.</p>	<p>Sev: Serious Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	Low



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<p>Physical Crush, Pinch and Entrapment</p> <p>(Attachment falls over when attempting to attach/detach from loader)</p>	<p>Engineering</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operators manual states that attachments must be installed or removed from loader at very low speed.</p> <p>Gross weight of Kanga attachments is indicated on the attachment.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>Warning labels are placed on the attachment.</p> <p>PPE (Nil)</p>	<p>Sev: Serious</p> <p>Lik: Remote</p> <p>Matrix Ref = 9</p>	<p style="text-align: center;">Medium</p>	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>No other administrative controls available at this time.</p> <p>PPE</p> <p>Appropriate Safety footwear to be worn in compliance with AS 2210 Safety Footwear</p>	<p>Sev: Serious</p> <p>Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	<p style="text-align: center;">Low</p>
<p>Physical Crush, Pinch and Entrapment</p> <p>(Operator or other reach into potential crush, pinch and entrapment zones whilst operating Kanga arms up and down)</p>	<p>Engineering</p> <p>Operators location prevents access to pinch points.</p> <p>Arms lower at a low speed.</p> <p>Design minimises nip points (gaps greater than 4mm and less than 120mm).</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operators manual states that attachments must be installed or removed from loader at very low speed.</p> <p>Gross weight of attachments is indicated on the attachment.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p>	<p>Sev: Serious</p> <p>Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	<p style="text-align: center;">Low</p>	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>Warning beacon and reversing beeper fitted to machine.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>Safe Working Limits (SWL) decal placed on all machines.</p> <p>PPE</p> <p>Operators and other people within work area should wear high visibility clothing.</p> <p>Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear</p>	<p>Sev: Significant</p> <p>Lik: Very Unlikely</p> <p>Matrix Ref = 3</p>	<p style="text-align: center;">Low</p>



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	Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing. PPE (Nil)					
Contact with falling objects (Operator drops spoil on others)	<p>Engineering Buckets are self levelling. Generous bucket rollback permits ease of filling and safe transportation.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operators instruction manual directs operator to keep load close to the ground and to drive to the conditions. Manual instructs arms to be lowered during travelling.</p> <p>PPE (Nil)</p>	<p>Sev: Significant Lik: Remote</p> <p>Matrix Ref = 5</p>	Low	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering Warning beacon and reversing beeper fitted to machine.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE Operators and other people within work area should wear high visibility clothing. Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear</p>	<p>Sev: Minor Lik: Remote</p> <p>Matrix Ref = 2</p>	Low
Electric Shock (Contact with overhead uninsulated conductors)	<p>Engineering Machine maximum reach less than the minimum clearance of 3 metres to overhead conductors. Kanga loaders have non conductive rubber tyres and PVC track systems and non conductive operation control knobs/grips.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative Operators manual warns of hazard. Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	Medium	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operators instruction manual directs operator to keep load close to the ground and to drive to the conditions.</p> <p>PPE Appropriate Safety footwear to be worn in compliance with</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	Medium



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<p>Electric Shock</p> <p>(Contact with buried electrical services when using)</p>	<p>Engineering</p> <p>Kanga loaders have non conductive rubber tyres and PVC track systems and non conductive operation control knobs/grips.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operators manual warns of hazard. Warning notice and “1100 Dial before you dig” decal on loader. Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Extreme Lik: Remote</p> <p>Matrix Ref = 19</p>	<p style="text-align: center;">Medium</p>	<p>AS2210 Safety Footwear</p> <p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>PPE</p> <p>Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	<p style="text-align: center;">Medium</p>
<p>Hot Parts</p> <p>(Contact with motor, exhaust or hydraulic parts)</p>	<p>Engineering</p> <p>Guarding (Nil)</p> <p>Muffler and exhaust guarded against inadvertent contact.</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Warnings in Operators manual and on loader safety instruction decal. Hot warning sign on exhaust guard.</p> <p>PPE (Nil)</p>	<p>Sev: Significant Lik: Remote</p> <p>Matrix Ref = 5</p>	<p style="text-align: center;">Low</p>	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE</p> <p>Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear Appropriate Safety gloves to be worn in compliance with AS2161 Occupational Protective Gloves.</p>	<p>Sev: Minor Lik: Very Unlikely</p> <p>Matrix Ref = 1</p>	<p style="text-align: center;">Low</p>



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			Medium	Suitable clothing (i.e. long pants and shirt) to be worn during operation.		Medium
Entanglement (Operators or others have hair or clothes caught by rotating parts)	Engineering Guarding (Nil) Fixed guards on all rotating parts other than wheel/tracks. Isolation (Nil) Administrative Warnings in Operators manual and on loader safety instruction decal. All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing. PPE (Nil)	Sev: Severe Lik: Very Unlikely Matrix Ref = 10	Medium	Elimination Elimination of hazard is not possible at this time. Substitution Reduction of risk by substitution is not possible at this time. Engineering No other engineering controls are available at this time. Isolation Isolating controls are not available at this time. Administrative No other administrative controls available at this time. PPE Suitable clothing (i.e. long pants and shirt) to be worn during operation. All operators must ensure that any long hair is appropriately tied back or restrained (i.e., hat)	Sev: Severe Lik: Very Unlikely Matrix Ref = 10	Medium
High Pressure Fluid (Ruptured hydraulic hose)	Engineering Hose pressure rating has a 2:1 safety margin. Pressure relief valve fitted Guarding (Nil) Flexible hydraulic lines are protected by burst socks/guards where they are less than 0.5m from the operator during operation. Isolation (Nil) Administrative Warnings in Operators manual and on loader safety instruction decal. Maintenance manual highlights hazard and recommends regular inspection and planned maintenance regime. PPE (Nil) Pictogram on loader highlights need for ear and eye protection.	Sev: Severe Lik: Remote Matrix Ref = 14	Medium	Elimination Elimination of hazard is not possible at this time. Substitution Reduction of risk by substitution is not possible at this time. Engineering No other engineering controls are available at this time. Isolation Isolating controls are not available at this time. Administrative All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing. PPE Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear Appropriate Safety gloves to be worn in compliance with AS2161 Occupational Protective Gloves.	Sev: Significant Lik: Remote Matrix Ref = 5	Low



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				Suitable clothing (i.e. long pants and shirt) to be worn during operation. Appropriate Safety glasses to be worn in compliance with AS1336 Recommended practices for eye protection.		
<p>High Pressure Fluid</p> <p>(Ruptured hydraulic hose)</p>	<p>Engineering</p> <p>Hose pressure rating has a 2:1 safety margin. Pressure relief valve fitted</p> <p>Guarding (Nil)</p> <p>Flexible hydraulic lines are protected by burst socks/guards where they are less than 0.5m from the operator during operation.</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Warnings in Operators manual and on loader safety instruction decal. Maintenance manual highlights hazard and recommends regular inspection and planned maintenance regime.</p> <p>PPE (Nil)</p> <p>Pictogram on loader highlights need for ear and eye protection.</p>	<p>Sev: Severe Lik: Remote</p> <p>Matrix Ref = 14</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE</p> <p>Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear Appropriate Safety gloves to be worn in compliance with AS2161 Occupational Protective Gloves. Suitable clothing (i.e. long pants and shirt) to be worn during operation. Appropriate Safety glasses to be worn in compliance with AS1336 Recommended practices for eye protection.</p>	<p>Sev: Significant Lik: Remote</p> <p>Matrix Ref = 5</p>	Low
<p>Crush – Inadvertent machine movement.</p> <p>(Operator or assistant stands to the front of and/or under the loader)</p>	<p>Engineering</p> <p>Loader arms are to be locked into position when fully upright (Locking pins supplied with the machine) All Hydraulic controls are sprung to return to neutral position. Machine speed is limited to 8 kph at maximum revs. Hydraulic system disabled by shutting down drive motor.</p> <p>Guarding (Nil)</p>	<p>Sev: Extreme Lik: Remote</p> <p>Matrix Ref = 19</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>No other administrative controls available at this time.</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	Medium



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<p>arms – hydraulics fail and arms lower – alternatively machine moves forwards or backwards)</p>	<p>Isolation (Nil)</p> <p>Administrative</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p>			<p>PPE</p> <p>Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear Operators and other people within work area should wear high visibility clothing.</p>		
<p>Oxygen Depletion, Toxic fume inhalation</p> <p>(Exhaust gas (Carbon Monoxide) build up when operating in confined space)</p>	<p>Engineering</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operating manual warns of hazard. Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>Adhere to requirements defined in AS 2865 Safe working in a confined space.</p> <p>PPE</p> <p>Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	Medium
<p>Slips / Trips / Falls</p> <p>(Stepping off loader onto trailer after driving onto trailer)</p>	<p>Engineering</p> <p>Trailer deck has checker plate (non slip) floor. Slip Resistance Assessment R11 (low).</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative (Nil)</p> <p>PPE (Nil)</p>	<p>Sev: Serious Lik: Possible</p> <p>Matrix Ref = 9</p>	Medium	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE</p> <p>Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear.</p>	<p>Sev: Serious Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	Low



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<p>Noise</p> <p>(Inherent effect of motor, hydraulics and attachments)</p>	<p>Engineering Machine designed to limit noise to safe level.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil) Pictogram on machine details need for hearing protection.</p>	<p>Sev: Serious Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	<p style="text-align: center;">Low</p>	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative Recommend that a Noise Management plan is developed and adherence to AS 1269 Occupational Noise Management.</p> <p>PPE No other PPE needs to be considered.</p>	<p>Sev: Significant Lik: Very Unlikely</p> <p>Matrix Ref = 3</p>	<p style="text-align: center;">Low</p>
<p>Whole body vibration</p> <p>(Prolonged use of Kanga loader)</p>	<p>Engineering Standing design of machine. Rubber type hand grips. Mounting design of motor/pumps.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Serious Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	<p style="text-align: center;">Low</p>	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative Recommend that where possible that task rotation is utilised to reduce exposure to hazard. Where task rotation is not possible then the recommendation is that the operator takes regular breaks to reduce exposure.</p> <p>PPE Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear.</p>	<p>Sev: Significant Lik: Very Unlikely</p> <p>Matrix Ref = 3</p>	<p style="text-align: center;">Low</p>
<p>Lightning</p> <p>(Lightning Strike)</p>	<p>Engineering Rubber tyres create “Faradays Cage” effect.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative (Nil)</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	<p style="text-align: center;">Medium</p>	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	<p style="text-align: center;">Medium</p>



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	PPE (Nil)			Isolation Isolating controls are not available at this time. Administrative No other administrative controls available at this time. PPE Appropriate Safety footwear to be worn in compliance with AS2210 Safety Footwear.		
Fuel (Fuel spillage during refuelling, Ruptured tank during operation)	Engineering Guarding (Nil) Isolation (Nil) Administrative No smoking decal on machine next to refuelling point. Do not refuel whilst hot, allow to cool down. Refuel in well ventilated area Kanga Loaders use either diesel (Kubota engine) or unleaded fuel (Honda engine) to reduce volatility. Maintenance manual highlights above hazards and recommends regular inspections and maintenance regime. PPE (Nil)	Sev: Serious Lik: Very Unlikely Matrix Ref = 6	Low	Elimination Elimination of hazard is not possible at this time. Substitution Reduction of risk by substitution is not possible at this time. Engineering No other engineering controls are available at this time. Isolation Isolating controls are not available at this time. Administrative Material Safety Data sheet to be available to operators. Diesel Hazardous Substance Risk Assessment to be completed and available to operators. Unleaded Dangerous Goods Risk Assessment to be completed and available to operators. PPE Appropriate Safety gloves to be worn in compliance with AS2161 Occupational Protective Gloves. Appropriate Safety glasses to be worn in compliance with AS1336 Recommended practices for eye protection.	Sev: Significant Lik: Very Unlikely Matrix Ref = 3	Low
Exposure to chemicals (Castrol Antifreeze, Hyspin Hydraulic Oil, Engine Oil and Battery Acid)	Engineering Guarding (Nil) Isolation (Nil) Administrative Hazardous chemical Safety Data Sheet must be followed at all times. PPE (Nil)	Sev: Serious Lik: Possible Matrix Ref = 9	Medium	Elimination Elimination of hazard is not possible at this time. Substitution Reduction of risk by substitution is not possible at this time. Engineering All chemicals used within machine are within closed systems with capped entry points. Isolation Isolating controls are not available at this time. Administrative	Sev: Significant Lik: Very Unlikely Matrix Ref = 3	Low



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				Material Safety Data sheet to be available to operators. Hazardous Substance or Dangerous Goods Risk Assessments to be completed and available to operators. PPE Appropriate Safety gloves to be worn in compliance with AS2161 Occupational Protective Gloves. Appropriate Safety glasses to be worn in compliance with AS1336 Recommended practices for eye protection.		
<p>Loading/unloading Kanga onto or off trailer.</p> <p>Operator mis-controls whilst loading onto and off trailer via ramps.</p>	<p>Engineering All Hydraulic controls are sprung to return to neutral position. OEM ramps of generous incline and within working slope when on relatively level ground. Tracks on loaders (where fitted) give way as loader transverses over change of incline keeping The loader stable during manoeuvre. Rubber tyred models are relatively stable during a change of incline.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative Warning and safe instructions in manual. All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal) Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Serious Lik: Possible</p> <p>Matrix Ref = 9</p>	Medium	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative No other Administrative Controls are available at this time.</p> <p>PPE Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>	<p>Sev: Serious Lik: Possible</p> <p>Matrix Ref = 9</p>	Medium
<p>Poor Visibility</p> <p>(Night work – other plant in area, Working near trenches and alike</p>	<p>Engineering Loaders have headlight attached. Warning beacon and reversing beeper fitted to machine.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p>	<p>Sev: Serious Lik: Possible</p> <p>Matrix Ref = 9</p>	Medium	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p>	<p>Sev: Serious Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	Low



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	<p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>			<p>Administrative</p> <p>No other Administrative Controls are available at this time.</p> <p>PPE</p> <p>Operators and other people within work area should wear high visibility clothing.</p>		
<p>Physical</p> <p>(Trailer tilts whilst unloading due to trailer being detached from towing vehicle, Loader dropped while being lifted)</p>	<p>Engineering</p> <p>Lifting points designed and provided.</p> <p>Warning beacon and reversing beeper fitted to machine.</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Warning contained in manual. Decal on trailer arm.</p> <p>Loader weight posted on loader. Lifting point decal provided.</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Serious</p> <p>Lik: Possible</p> <p>Matrix Ref = 13</p>	<p>Medium</p>	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>Testing regime of the anchor points used for lifting the loader to adhere to AS 1891 Industrial falls arrest system and devices.</p> <p>Completion of certification of lifting points included at Point of Sale.</p> <p>PPE</p> <p>Operators and other people within work area should wear high visibility clothing.</p>	<p>Sev: Serious</p> <p>Lik: Very Unlikely</p> <p>Matrix Ref = 6</p>	<p>Low</p>
<p>Dust</p> <p>Earthmoving, drilling, boring, trenching, etc, activities when using attachments.</p>	<p>Engineering</p> <p>Guarding (Nil)</p> <p>Isolation (Nil)</p> <p>Administrative</p> <p>Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Severe</p> <p>Lik: Very Unlikely</p> <p>Matrix Ref = 13</p>	<p>Medium</p>	<p>Elimination</p> <p>Elimination of hazard is not possible at this time.</p> <p>Substitution</p> <p>Reduction of risk by substitution is not possible at this time.</p> <p>Engineering</p> <p>No other engineering controls are available at this time.</p> <p>Isolation</p> <p>Isolating controls are not available at this time.</p> <p>Administrative</p> <p>All bystanders are to maintain a 4 metre exclusion zone during operation. (Detailed in manual and decal)</p>	<p>Sev: Serious</p> <p>Lik: Possible</p> <p>Matrix Ref = 9</p>	<p>Medium</p>



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				<p>PPE Appropriate Respiratory protection to be worn in compliance with AS 1617 Respiratory Protection Devices. Appropriate Safety glasses to be worn in compliance with AS1336 Recommended practices for eye protection.</p>		
<p>Injury to pedestrian / road traffic incident.</p> <p>(Loader falls from trailer during transit)</p>	<p>Engineering Anchor points and restraints designed in and provided on Kanga loader and supplied trailer.</p> <p>Guarding (Nil) Isolation (Nil) Administrative Instructions in manual and on local signage. Loader anchor points decal provided. Operator to conduct pre operation assessment of task. Operator to implement controls established prior to commencing.</p> <p>PPE (Nil)</p>	<p>Sev: Extreme Lik: Very Unlikely</p> <p>Matrix Ref = 15</p>	Medium	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative Adherence to the NTC Load Restraint guide when securing loader, attachments and equipment to the trailer.</p> <p>PPE Appropriate PPE to be worn during operation as shown throughout Risk Assessment.</p>	<p>Sev: Severe Lik: Very Unlikely</p> <p>Matrix Ref = 10</p>	Medium
<p>Heat - Weather extremes</p> <p>(Heat Stress, Dehydration, fatigue, cramping)</p>	<p>Engineering (Nil) Guarding (Nil) Isolation (Nil) Administrative (Nil) PPE (Nil)</p>	<p>Sev: Serious Lik: Occasional</p> <p>Matrix Ref = 17</p>	Medium	<p>Elimination Elimination of hazard is not possible at this time.</p> <p>Substitution Reduction of risk by substitution is not possible at this time.</p> <p>Engineering No other engineering controls are available at this time.</p> <p>Isolation Isolating controls are not available at this time.</p> <p>Administrative Ensure that operators have adequate rest breaks. Ensure regular and adequate hydration occurs. Recommend that where possible that task rotation is utilised to reduce exposure to hazard.</p> <p>PPE Ensure when working outdoors that appropriate clothing (including hat) and sunscreen (preferably SPF 30+) is worn</p>	<p>Sev: Significant Lik: Remote</p> <p>Matrix Ref = 5</p>	Low



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Reference:

1. Plant Code of Practice 2005.
2. Operators Manual Kanga 8B Series.
3. AS 1586:2004 Slip Resistance classification of new pedestrian surface materials.
4. AS 2210 Safety Footwear
5. AS 2161 Occupational Protective Gloves
6. AS 2865 Safe working in a confined space.
7. AS 1269 Occupational noise management.
8. AS 1336 Recommended practices for eye protection.
9. AS 1891 Industrial falls arrest system and devices.
10. AS 1617 Respiratory Protection Devices.
11. NTC Load Restraint Guide 2004

Note: The risk assessment methodology has been suited to the Workplace Health and Safety legislation (and supporting Codes of Practice) in

Queensland, Australia. Should your business reside outside of Queensland then please refer to your states applicable legislative requirements.

Disclaimer: *The recommendations contained within this risk assessment are based to a large extent on the hazards identified by Kanga and associates. The owner of equipment must ensure that the risk management principles (as outlines in AS 4801) are applied after purchase to ensure that risks are identified within the environment for intended use. Kanga believes that the advice and information herein is accurate and reliable, however, no warranty for accuracy or reliability is given and no responsibility arising in any way whatsoever for errors or omissions (including responsibility to any person by reason of negligence) is accepted by Kanga or associates.*



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5 Series



6 Series



7 Series