

OFSC Compliant Plant Hazard Assessment

This Plant Hazard Assessment is prepared for the operation of equipment on a wet hire basis and is not intended to address the hiring of equipment only (dry hire) by Wheeler Cranes & Services to another party

Owner Information	Plant Identification		Registration and compliance info	
Wheeler Cranes & Services Pty Ltd	Unit	FC22	Workcover Design	Q19500
6 McIntyre Rd Tomago NSW	Make	Terex	Workcover item	MC6-179453/14/0
Ph: 02 4964 9991 Fx: 02 4964 9992	Model	AT20	Road Registration	BZ12LV
e. info@wheelercranes.com.au	Serial	4310	IAP Registration	Not Required

Assessment Date: 21/7/15	Assessment Review Date: 1/8/20 (unless reviewed earlier for cause)
Assessment Team:	
Steve Smallman	Safety Manager
Tim Gordon	Technical Supervisor
Andrew Ryan	Operator

Assessment Method:

Documentary Review: AS2550.5, AS 1418.5, Manufacturer’s Instructions, Manufacturer’s Plant Hazard Assessment
 Physical inspection: Static and operational

Risk Ratings:

RISK	High	Medium	Low
ACTION REQUIRED	Potential death, permanent disability or major structural failure/damage.	Hospitalisation or medical treatment, potential temporary disability or minor structural failure/damage.	Hazard that has the potential to cause persons to require first aid.
	Cease work immediately. Review task/situation/condition. Additional risk controls and must be documented and implemented. Ensure all parties are aware of risk control.	Implement suitable controls as soon as practical. Task/situation/condition to be reviewed and reinforce control measures where applicable.	Review task and reinforce control measures where applicable.

See Wheeler Cranes Safety Management System for risk classification derivation


Hierarchy of control

Control Level Abbreviation	Control Level	Description	Example	
EL	Eliminate	Most Desirable method of dealing with a risk	Pre-sling loads to remove need to access truck decks	Most Desirable ↓
SU	Substitution	Risk reduction by substitution of less hazardous substances or processes	Use of hot pressure hoses and commercial cleaners to remove the need for Sodium Hypochlorite.	
IS	Isolation	Isolate personnel from the hazard	Installation of jersey kerbs to separate people from moving traffic	
EN	Engineering	involves interlocks or guarding to design into the machine or process a protection from the risk identified	Guarding of running belts	
Behaviour Reliant control methods – Reliant on training and supervision				
AD	Administrative	Signage or procedural controls to eliminate or minimise exposure to risk	Isolation and tag out procedures	Least Desirable
PPE	Personal Protective Equipment	Provision of equipment to prevent injury	Safety glasses when grinding	

Abbreviations used:

OFSC	Office of the Federal Safety Commissioner	OEM	Original Equipment Manufacturer	AS	Australian Standard
IS	International Standard	GM	General Manager	SOP	Standard Operating Procedure
NHVL	National Heavy Vehicle Legislation	SRA	Wheeler Cranes Site Risk Assessment form	E-Stop	Emergency Stop button

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Purchasing of Plant

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
1	Not Fit for purpose	H	AD	Definition of purchasing requirements by Director and GM	Y	Nil	L			
2	Not able to perform purpose	H	AD	Obtain handover from supplier including test certificates	Y	Nil	L			
3				Record and file test certificates	Y	Nil	L			
4	Unrecorded modifications from OEM Specs	H	AD	Certification from supplier of compliance with OEM specs when not purchasing new equipment	Y	Nil	L			
5	Awareness of special conditions required for operation of plant	H	AD	Obtain and review OEM operating instructions.	Y	Nil	L			
6				Provide training and instruction to operators regarding specific operating issues identified in document review						

Installation and commissioning of Plant

In the context of Wet Hire of mobile cranes, installation and commissioning of plant is dealt with as an operating issue.

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
7	Not Fit for purpose	H	AD	Definition of purchasing requirements by Director and GM	Y	Nil	L			

Instruction, training and supervision of personnel

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
8	Operator not competent to operate equipment	H	AD	Operator to hold National High Risk Work License (CN)	Y	Nil	L			
9	Operator not familiar with equipment	H	AD	Operator to undertake familiarisation with crane prior to operation.	Y	Nil	L			
10				Operator to have access to OEM Operating instructions						
11	Correct use of guarding and control measures	H	AD	Operator familiarisation with equipment	Y	Nil	L			
12	Safe access to machine	H	AD	Operator Competency and familiarisation	Y	Nil	L			
13	Daily Inspections including pre and post operations	M	AD	Wheeler Cranes SOP 03	Y	Nil	L			
14	Routine servicing, repairs and maintenance	H	AD	Servicing, repairs and maintenance to be undertaken by trade qualified mechanics	Y	Nil	L			
15	Compliance with NHVL	H	AD	Operation by persons holding appropriate class of NHV licence (HR)	Y	Nil	L			
16	Emergency Procedures	H	AD	Operation by competent operator, familiar with crane.	Y	Nil	L			
17				Operator to have access to OEM Operating Instructions						
18				Operator to be familiar with Wheeler Cranes Emergency response procedures (SMS)						
19				Emergency warning signs and decals fitted to be clearly legible and written in English or use pictograms						

Using Plant

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
20	Operator fitness	H	AD	Wheeler Cranes Fatigue Management Policy	Y	Nil	L			
21				Wheeler Cranes Zero Tolerance Drug & Alcohol Policy						
22				NHVL Fatigue Management laws, including heavy vehicle work diaries.						
23	Operator Licensing	H	AD	Operator to hold minimum CN National High Risk Work Licensing. Dogman to hold minimum DG High Risk Work License. Operator and Dogman to hold minimum HR NHV Licenses	Y	Nil	L			
Entanglement										
24	Entanglement in Winch Rope	H	PPE /IS	Gloves to be worn. Clothing to fit operator without excess play. Driver and dogman to have positive communication during reaving. Personnel exclusion zones to be established to prevent unauthorised persons coming into contact with rope.	Y	Nil	L			
25	Entanglement in fan belts	H	AD	Only licensed mechanics to open engine cowls while engine is running or to start engine while cowls are open.	Y	Nil	L			
26	Entanglement in suspended chains/slings	H	IS/AD	Personnel exclusion zones to be established. Driver and dogman to have positive communication at all times	Y	Nil	L			
Crushing										
27	Crushing – Shadow of load	H	IS/AD	Personnel Exclusion zones to be established. No person to be within the shadow of the load at any time.	Y	Nil	L			

28				Lifting Equipment to be inspected prior to use by dogman					
29				Lifting equipment to be proof tested as required by relevant Australian Standards					
30	Crushing – material falling from deck of crane	H	AD	Pre-departure inspection of crane as per Wheeler Cranes SOP 04, SOP 06 and NHVL to ensure all materials carried on crane are adequately secured in accordance with the Load Restraint Guide.	Y	Nil	L		
31	Crushing – uncontrolled movement of crane	H	EN/AD	Isolation of crane when not in use. Driver to remain in vicinity of crane when load is on hook	Y	Nil	L		
32	Crushing – Articulation area	H	AD	No person to approach crane without express approval of operator	Y	Nil	L		
33	Crushing – between load and object	H	AD/IS	Dogman to direct load when out of sight of driver. Personnel exclusion zone to be established, only necessary personnel to be within exclusion zone.	Y	Nil	L		
34	Crushing – crane rollover	H	AD	Crane to be operated in accordance with OEM instructions. Crane to be operated within AS load charts at all times. Completion of Wheeler Cranes SRA to ensure load is within capacity of crane and rigging.	Y	Nil	L		
35	Crushing – boom failure	H	AD	Crane to be operated in accordance with OEM instructions. Crane to be operated within AS load charts at all times. Completion of Wheeler Cranes SRA to ensure load is within capacity of crane and rigging.	Y	Nil	L		
36				Crane to be maintained in accordance with OEM specifications by licensed plant mechanic					
37				Crane to be subjected to annual engineering inspection in accordance with AS2550.5					
38				Crane to be subjected to 10/25 year					

				engineering inspections of duty cycle basis when required.					
39	Crushing – coming into contact with plant during operation	H	EN	Operator to be established within the crane operator’s cabin during operation.	Y	Nil	L		
40	Crushing being thrown off or under plant	L	AD	Operator to have door closed when operating. When crane is operated with door open, operator to wear seat belt	Y	Nil	L		
41	Crushing – between rigging and load or block	H	IS/ AD	Personnel Exclusion zone to exclude untrained and unnecessary personnel	Y	Nil	L		
Cutting, Stabbing or Puncturing									
42	Cutting – crush injury			See Crush section above					
43	Puncturing – High pressure liquids	H	IS/ AD	Personnel Exclusion Zone to be established, only necessary personnel to enter zone.	Y	Nil	L		
44				Maintenance in accordance with OEM instructions by licenced plant mechanic					
Shearing									
45	Shearing- Crush Injury			See Crush section above					
Striking									
46	Struck by – Uncontrolled or unexpected movement of crane or load	H	IS/ AD	Personnel Exclusion Zone to be established and only necessary personnel to enter zone.	Y	Nil	L		
47				Driver to remain in vicinity of crane while load suspended from hook.					
48				Driver to carry hook block and chains clear of potential collision with personnel, plant or structures					
49	Struck by – disintegrating equipment	H	IS	Personnel Exclusion Zone to be established and only necessary personnel to enter zone.	Y	Nil	L		
50	Struck by – moving plant	H	AD	Operation by competent operator familiar with crane.	Y	Nil	L		
51				Operation by operator holding appropriate NHV license					

High Pressure Fluid									
52	Contact with high pressure fluids			See Cutting section above				L	
Electrical									
53	Contact with live electrical conductors	H	AD	Wheeler Cranes Site Risk Assessment and SOP 17.	Y	Nil	L		
54				Operation in accordance with AS2550 and Ausgrid NS209.					
55				Maintain clearance distances appropriate to voltage (refer SOP 17) for ordinary person zone unless close proximity trained driver and dedicated spotter are allocated to task					
56	Overload of electrical circuits	H	EN	Maintenance by licensed plant mechanic.	Y	Nil	L		
57				Replacement of fuses and relays with items of appropriate rating for task in accordance with OEM Specs					
58	Damaged or poorly maintained electrical conductors	M	EN	Maintenance by licensed plant mechanic. Inspection of electrical conductors as part of routine servicing.	Y	Nil	L		
59				Replacement of damaged or deteriorated conductors with items of appropriate rating for task in accordance with OEM Specs					
60	Damaged electrical switches	M	AD	Operation of switches checked as part of daily pre-start and any defects rectified or notified to plant mechanic	Y	Nil	L		
61	Lack of Isolation procedure	M	AD	Stabling of crane in accordance with Wheeler Cranes SOP 03. Crane to be isolated when left overnight.	Y	Nil	L		
62	Operation of Emergency Stop	H	EN	E-stops to be checked for operation and effectiveness at routine servicing	Y	Nil	L		
Explosion									
63	NA								
Slips, Trips and Falls									
64	Fall from access ladder	M	AD	Access by authorised personnel only.	Y	Nil	L		

65				Three points of contact to be maintained at all times					
66	Fall on crane deck	M	AD	Access to crane deck by authorised persons only. Access to be confined to designated walkways on crane deck	Y	Nil	L		
67	Housekeeping	M	AD	Crane deck to be kept in ready to travel configuration as much as possible.	Y	Nil	L		
68				Slings, chains, shackles and other equipment to be returned to storage when not in use					
68	Fall from height	H	EN	All work at heights to be performed with edge protection. Where edge protection is not in place, fall arrest systems are to be established and used					
70			AD	Where individual sites have specific rules regarding work at heights, those rules are to be communicated to the crew and those rules will apply where imposing additional duties on the crew.	Y	Nil	L		
71			AD	Dogman to use appropriate access equipment to rig/de-rig loads					
Ergonomics									
72	Operator access and controls	NA							
Other hazards									
73	Noise	M	PPE	Hearing protection to be worn when performing maintenance work on engine where engine is required to run at high speed	Y	Nil	L		
74				Hearing protection to be worn when working in noisy environments					
75			EN	Maintenance to ensure noise suppression is maintained to OEM Specs (exhaust and insulation)					
76	Threat to health – contact with biological	H _H	AD	Where lifting equipment, hook blocks or winch ropes come in contact with biological agents,	Y	Nil	L		

	agents	H		equipment is to be thoroughly cleaned at the earliest opportunity, preferably prior to departure from site.			L		
77			PPE	Contaminated equipment is to be handled with PPE only. Gloves used in handling contaminated equipment are to be disposed of on site or ASAP. Safety glasses are to be worn when handling or cleaning contaminated equipment.					
78					Hep B vaccinations are available to all personnel. Personnel are encouraged to become vaccinated.				
79	Lighting	H	AD	Wheeler Cranes Site Risk Assessment to identify issues with crane placement. Crane to be relocated to allow clear vision where possible	Y	Nil	L		
80	Hypothermia	M	AD/ PPE	Dogman to be appropriately dressed for conditions. Dogman to take rest breaks as required.	Y	Nil	L		
81	Hyperthermia	M	AD/ PPE	Dogman to be appropriately dressed for conditions. Dogman to take rest breaks as required	Y	Nil	L		
82	Lightning	H	AD	Operation in accordance with OEM instructions and AS2550. When lightning present or likely in vicinity of crane, loads to be lowered to ground, boom retracted and stowed in road configuration. Crew to seek shelter in earthed building.	Y	Nil	L		
83	Wind	H	AD	Operation in accordance with OEM instructions and AS2550. Compliance with wind limits applicable to crane configuration	Y	Nil	L		
84	Crane Failure during operation	H	AD	Maintenance in accordance with OEM instructions by licenced plant mechanic	Y	Nil	L		
85				Daily pre-start inspection in accordance with SOP 03. Operational checks to be undertaken prior to commencing lifting					

Modifying Plant

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
86	Unplanned modification	H	AD	No modification to plant without consultation with OEM.	Y	Nil	L			
87				All modification to plant to be approved by GM and carried out under supervision of plant mechanic						
88		M	AD	Assessment of modifications to include need for amendment of Workcover Design Registration	Y	Nil	L			
89	Unplanned movement of plant	H	AD	Operation of all design safety features to be tested post modification to ensure each feature operates in accordance with OEM specifications	Y	Nil	L			
90	Modification to operating instructions	H	AD	Assessment to be undertaken as to whether any modifications made require modification to OEM Operating instructions, separate or modified labelling or additional training of personnel to address changes to operating conditions	Y	Nil	L			
91	Compliance with technical standards	M	AD	Where OEM consultation is not available an independent review of compliance with technical standards is to be undertaken	Y	Nil	L			

Inspection of Plant

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
92	Inspection not undertaken	M	AD	Annual independent engineering inspection undertaken in accordance with AS2550 (Cranesafe or equivalent)	Y	Nil	L			
93		H	AD	Servicing and inspection of plant to be undertaken in accordance with OEM instructions, but not greater than 6 monthly						
94				Daily pre-start inspection to be undertaken in accordance with OEM Specifications and Wheeler Cranes SOP 03.						
95	Inspection not recorded	M	AD	Daily pre-start inspections to be recorded in pre-start book located on crane. Daily pre-start inspections to be filed in folder held for purpose	Y	Nil	L			
96				Routine servicing inspection reports to be filed in folder held for purpose. Copy to be carried on crane.						
97				Annual independent inspection records to be maintained in folder kept for purpose. Cranesafe sticker to be displayed on crane.						
98	Lifting Equipment failure	H	AD	Routine inspection of Lifting Equipment prior to use.	Y	Nil	L			
99				Quarterly inspection of Lifting Equipment prior to use						
100				Annual inspection of lifting equipment in accordance with relevant AS for class of equipment.						
101				Annual proof testing of lifting equipment where specified in relevant AS for class of equipment.						
102				Inspections recorded and documents available for inspection in accordance with relevant AS						

103	Inappropriate work practices	H	AD	Wheeler Cranes employee audit procedure to include crane on a minimum annual basis. Observations to consider operational procedural improvements.	Y	Nil	L			
104	Unintended movement of plant	H	IS	Plant to be isolated during mechanical inspection.	Y	Nil	L			
105			AD	Operational inspection to be undertaken with positive communication between inspector and operator.						
106	Fall from height	H	AD	Use of ladders and access platforms to access high points of crane during inspection. Three points of contact to be maintained at all times.	Y	Nil	L			
107	Unguarded machinery	H	AD	Post inspection review of crane to ensure all guards, covers and guides are replaced correctly and all decals and signs are clean and in place	Y	Nil	L			

Maintenance, repair and cleaning of Plant

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
108	Exposure to chemicals	M	AD/ PPE	Handling of fluids for top up to be done in accordance with relevant SDS. SDS available for all fluids used (see crane folder and folder on wall of workshop). PPE as specified in SDS to be worn.	Y	Nil	L			
109		H	AD	Crane crew are not to top up batteries with acid. Plant mechanic only to handle battery acid.						
110	Crane failure	H	AD	Top up of fluids and tyre pressures as part of daily pre-start servicing as specified in Wheeler Cranes SOP 03.	Y	Nil	L			
111	Isolation failure	H	AD	Operation of isolators to be tested in routine servicing by plant mechanic. Any defect in isolator operation to be reported using defective vehicle report procedures	Y	Nil	L			
112	E-Stop failure	H	AD	Operation of E-Stop to be tested in routine servicing by plant mechanic. Any defect in E-Stop operation to be reported as an incident by incident notification	Y	Nil	L			
113	Unintended motion of crane	H	EN	Chocks to be put in place to prevent accidental movement of crane	Y	Nil	L			
114		H	AD	Tag out system to be used to prevent accidental starting of crane during maintenance						
115	Eye Injury	H	PPE	Safety glasses to be worn during high pressure cleaning of crane	Y	Nil	L			
116	Environmental damage	M	AD	Detergents not to be used when cleaning on dirt surfaces	Y	Nil	L			
117		H	AD	Oils to be recycled using bunded storage tank						

118	Guarding of Plant	H	AD	Post maintenance review of crane to ensure that crane guards are replaced prior to return to operation	Y	Nil	L			
Storing of Plant										
	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
119	Unauthorised use of crane	H	EN/AD	Crane to be isolated and E-Stop applied when crane is parked unattended. Keys to be removed from crane and stored as directed to prevent unauthorised access and use.	Y	Nil	L			
120	Damage to crane	H	AD	Crane is not to be left unattended on sites without a security presence to prevent unauthorised use or damage to crane	Y	Nil	L			
121	Person or object striking plant	M	IS	Where crane is left erected on site, barriers are to be erected around crane to prevent vehicles striking crane.	Y	Nil	L			
122			AD	Where crane is stored on site while erected, no load is to be left on crane, hook block is to be more than 6m above ground and clear of structures and traffic flow.						
123				Crane is to be stored with boom elevated above 6m height at tip.						
124	Damage to plant - weather	H	AD	Windows are to be wound up/closed to prevent rain entering cabins	Y	Nil	L			
125	Damage to plant - corrosion	M	AD	Where the plant is potential contaminated with corrosive substances (e.g. cement dust, fertilizers) the plant and lifting equipment is to be thoroughly cleaned at the earliest opportunity.	Y	Nil	L			
126	Plant failure due to damage	H	AD	Post operation inspection of crane in accordance with Wheeler Cranes SOP 03	Y	Nil	L			

Decommissioning, Dismantling and Disposal of Plant

The crane will not be dismantled without competent engineering supervision.

Decommissioning will not occur.

Disposal of the plant will be by sale.

	Hazard	Risk Rating	HOC	Control Measures in place	Existing controls adequate	Additional control measures to be implemented	Residual risk Rating	Implement by who	Implement by when	Completion Status
127	Records not available	M	AD	Records as specified in AS2550 and in Code of Practice: Managing risks of plant in Workplaces are to be maintained throughout the life of the plant. Records are to be kept in folders set aside for the purpose.	Y	Nil	L			
128	Legislative compliance on disposal	H	AD	Records as specified in WHS Act 2011, WHS Reg 2011 are maintained and on file in specified folder.	Y	Nil	L			
129	Unsafe transport	H	AD	Plant to be inspected prior to floating to purchaser to ensure that there is no danger of items falling from transport	Y	Nil	L			

Specific Control Measures implemented

Guarding of Plant

1. Operators are not to open cowlings while engine is running.
2. Operators are not to remove any guard from machinery during operation for any purpose.
3. Operators are to ensure that noise abatement materials are in place and not removed for any purpose.
4. Maintainers of plant are to ensure that all guards are in place and operating effectively.
5. Maintainers of plant are to ensure that noise abatement materials that are damaged or defective are replaced as required.
6. No person to place themselves within articulation crush zone while crane is operational.

Operator Controls

1. Operator controls are to be self-neutralising
2. Hook block free fall functions are to be permanently disabled
3. Operator controls are to be clearly labelled in English or with International standard pictograms.
4. Operator Override must not be permanently engaged.
5. Load indicator (Traffic Light) is to be operational at all times.
6. LMI to be tested annually to ensure calibration and correct operation
7. Copy of Manufacturer's instructions is to be carried on the crane and accessible to operator.
8. Copy of manual load chart is to be available to operator while using crane.
9. Arm rests are to be in good condition and adjustments operational
10. Operator seat to be in good condition and deadman switch where fitted operational.

E-Stops

1. The location of E-Stops are to be communicated to work crews and dogmen working in conjunction with the crane.
2. E-stops are to be tested as part of routine servicing

Warning Devices

1. Crane is fitted with amber rotating beacons which are to be lit during road travel
2. Headlights are to be lit during road travel
3. Oversize signs are to be clearly visible to road users to the front and rear of the crane (see SPV Notice for dimensions and display)
4. No Overtaking signs are to be clearly visible to the rear of the crane (see NHVL)
5. Traffic Light indicator to be functioning whenever the crane is operating.
6. LMI to be functioning at all times during crane operations.
7. Override switch is to be functional and not locked on
8. Override buzzer to be functional and tested during routine maintenance.
9. Reversing lights to be functional at all times.
10. Reversing buzzer to be functional at all times.
11. Boom end markings are to be clear and clean during operations
12. Crane horn to be operational.

Isolation of Energy Sources

1. Manufacturers shut down procedure is to be strictly followed to ensure potential energy sources are discharged
2. Crane is to be electrically isolated to prevent accidental operation or electrical discharge.
3. During maintenance work, where appropriate mechanics are to ensure the isolator is turned to off and when working on electrical equipment may use red locks to prevent accidental de-isolation of the batteries.
4. Batteries and electronics are to be isolated and earthing applied during welding on any portion of the crane or suspended load.

Use with personnel Workbox

This crane is not fitted with an anti-two block device. Use of this crane with a personnel workbox requires additional control measures to be implemented to ensure that the hook block does not enter the head sheave of the boom.

Approval

Reviewed and approved for use



Glenn Wilbow
General Manager
27/7/15