RISK ASSESSMENT OF PLANT

Applicable to the following Skyjack models:

SJ45T	98 000 796 & Above
SJ66T	97 000 419 & Above

DATE OF ASSESSMENT : January 11,2019	**PLANT DESCRIPTION: TELESCOPIC BOOM – SKYJACK MODEL SJ45T, SJ66TSERIES**	**ORGANISATION: SKYJACK AUSTRALIA.**
Prelimilnary Assessment for Review	**RISK ASSESSMENT METHOD USED: SAFETY REVIEW**	**ADDRESS: 1/35 Honeycomb Drive Eastern Creek NSW 2164**

This Hazard Identification and Risk Assessment has been prepared based on information available at the date of publication. The assessment must be reviewed by all stakeholders and revised:

(a) Having regard to the options and general arrangement of miscellaneous equipment/facilities that may be provided on the plant according to the end users requirements or specification.

(b) According to the particular circumstances under which the plant is used and maintained.

(c) As new hazards are identified or as risks are reassessed.

(d) As new or revised control measures are implemented.

(e) As and when work procedures are altered

Although every attempt has been made to identify reasonably foreseeable circumstances no guarantee as to the completeness of this assessment is implied or provided.

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Hazard No.	**Hazard Description -** **(the situation or parts of plant which could cause injury or illness)**	**Is there any risk?** Describe the risk control measures ALREADY implemented	**Risk** L = Low M = Med. H = High E = Extreme NA = Not Applicable	**Proposed SUPPLEMENTARY risk control measure**	**Are the control measures practicable?** Yes/No	**For Action by whom**	**Confirmation that the necessary action has been completed**	**Notes**
1	**General**							
1.1	Persons could be injured when following a poor system of work in relation to the operation of this device.	Operating manual provided [Part Number 158019AC-A July 2012] detailing specifications, limitations and residual hazards associated with the operation of the machine.	H	Prepare a documented system of work having regard to the operating specification and limitations as detailed in the owners operating manual. AND Verify that the procedure (including maintenance) covers all modes of operation of the Unit and is a practicable solution. AND Instruct and train the operator in its use. AND Ensure operator's manual is with the EWP at all times.	Yes Yes Yes Yes	MGMT MGMT MGMT MGMT		
1.2	Persons could be injured if the device is not suitable for the required task.	Machine specifications are included in the manual [Page 62-63].	H	Ensure that the unit is adequately rated in terms of capacity, height and reach, rated inclination and mass; having regard to the required task, the site conditions and the environment AND Source another machine if the specifications do not match the requirements for the task	Yes Yes	MGMT MGMT		
1.3	Persons could be injured or injure others when operating the unit without sufficient information, instruction, training and supervision.	Operating manual provided [Part Number 158019AC-A July 2012] detailing specifications, limitations and residual hazards associated with the operation of the machine. Warning in manual [Page 6].	H	Ensure that all standard work procedures (SWP's) are effectively implemented AND Ensure that the operator(s) have read and understand the training and instructions (which must include Manufacturer's and local information).	Yes Yes	MGMT MGMT		
1.4	Injury as a result of site specific	General requirements and	H	Ensure operators are able to identify	Yes	MGMT		

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	hazards.	general list of site specific hazards included in manual [Page 7].		particular hazards that may be encountered at the site and implement actions to ensure that they are addressed by appropriate means. AND Ensure operators conduct a site hazard assessment before use AND Ensure Operators implement appropriate systems to eliminate the hazards or adequately control the risks associated with the hazards identified. AND Ensure operators feedback information relating to new hazards identified so they may be reviewed and measures implemented in a training package. AND Ensure that if operators are uncertain how to address a particular site hazard that they seek advice from a competent person.	Yes Yes Yes Yes	MGMT MGMT MGMT MGMT		
1.5	Persons could be injured if the unit is operated by persons under the influence of drugs and/or alcohol.	Warning in manual forbidding the operation of MEWP if operator is under the influence of drugs or alcohol [Page 9]	H	Ensure that operators do not use the unit while under the influence of alcohol or drugs.	Yes	MGMT		
1.6	Persons could be injured if the operator's performance is inhibited by poor health or medication with side effects.		H	Instruct the operator that he/she must report to the supervisor if suffering poor health and safe operating performance could be affected.	Yes	MGMT		
1.7	Persons could be injured if the operator's performance was inhibited by excessive fatigue.		H	Implement a system to ensure that operators do not work excessive or continuous shifts and manage peak demands.	Yes	MGMT		
1.8	Persons could be injured if the		M	Instruct the operator to in relation to the	Yes	MGMT		

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	operator's vision is impaired by bright lights in close proximity.			sighting of lights.				
1.9	Persons could be injured if the unit is operated during storms.	Warning in manual [Page 6], stating machine is not to be operated during lightning or storms.	H	Ensure that the unit is not operated during storms or if storms may arise when carrying out the required task	Yes	MGMT		
1.10	Persons could be injured if the unit is operated indoors without adequate ventilation.	Warning in manual regarding operation and refueling in well ventilated areas [Page 21].	H	Ensure that the unit is operated only in well ventilated areas.	Yes	MGMT		
1.11	Persons could be injured if equipment is operated while not wearing appropriate PPE.	Requirement specified in AS2550.10. Warning in manual regarding the use of PPE [Page 6].	H	Provide specification for appropriate PPE including gloves, safety glasses, hard hat and safety footwear as appropriate. AND Instruct operators on the requirements for its use. AND Ensure PPE is inspected and certified on a routine basis.	Yes Yes Yes	MGMT MGMT MGMT		
1.12	Persons could be injured due to exposure to UV.		M	Develop and provide specification for appropriate UV protection and its use. AND Provide UV protective equipment AND Instruct operators on the requirements for its use.	Yes Yes Yes	MGMT MGMT MGMT		
1.13	Injury due to —horse playǁ or inappropriate use.	Warning in manual forbidding horseplay or stunt driving [Page 8].	H	Ensure operators do not engage in horse play or stunt driving AND Ensure that only properly trained personnel use MEWP	Yes Yes	MGMT/OP MGMT		
1.14	Injury due to unauthorised use.	Note in manual regarding	H	Ensure that the unit is locked before	Yes	MGMT		

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		locking of machine to prevent unauthorised use [Page 9]. Unit is provided with key lock switches at ground controls.		leaving unattended AND Ensure that the machine is not lent or sub-hired to any unauthorized person AND Ensure that only authorized personnel use the MEWP	 Yes Yes	 MGMT MGMT		
1.15	Personnel injured due to missing or illegible safety signs.	Pre-operational inspection includes checks of safety decals. Warning in manual noting that all safety signs and decals are legible and in place [page 5]. A list of decals and the corresponding locations is included in the operators manual [section 5].	M	Conduct pre-operational checks as described in manual AND Maintain signs and replace as necessary	Yes Yes	MGMT MGMT		
2	**Structural Failure**							
2.1	MEWP could collapse as a result of design or manufacturing fault.	Designed, manufactured and tested by SKYJACK to the requirements of the design standards and directives in the country where the MEWP is sold. Specifications provided in operators manual [Page 62-63].	M	Ensure that the unit is registered with SKYJACK Australia AND Periodically check for the existence of routine Safety Alerts that may be issued by the manufacturer or the representative. AND Routinely inspect the MEWP by a competent organisation external to operator. AND Monitor local Hazard Alerts and Incident Safety Notices and examine these to determine if they are or could be relevant to the MEWP.	Yes Yes Yes Yes	MGMT MGMT MGMT MGMT		

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2.2	Structural failure due to influences from load combinations not taken fully into account	Specification provided on nameplate. Operation of MEWP interlocked so that it cannot be operated on slopes outside the specified limit. MEWP fitted with load sensing system. Warning provided on the machine and specification provided in manual [Page 64]. Design independently verified against EN280 & AS1418.10 design requirements. Safety decal fitted in platform detailing acceptable horizontal load combinations [Page 64]. Safety decal fitted in platform detailing the maximum rated capacity and number of personnel and equipment load which is acceptable.	H	Ensure that the machine is only operated within the specification detailed in the operating manual and in accordance with industry standards and AS2550.10; AND Ensure each person required to operate the machine has been trained and assessed in accordance with the High Risk Work (WP) assessment instrument. AND Ensure the machine is isolated to prevent unauthorised use at the end of each work shift. AND Verify expected loading and confirm it is less than Rated Capacity AND Verify operating slopes AND Verify wind loads anticipated in service.	Yes Yes Yes Yes Yes Yes	MGMT MGMT MGMT MGMT MGMT MGMT		
2.3	Structural failure due to thermal expansion of hydraulic oil if MEWP is left fully extended for a long period.	All load bearing cylinders fitted with counter balance valves which provide thermal relief.	M	Ensure that hydraulics is maintained in accordance with manufacturer's instructions.	Yes	MGMT		
2.4	Structural failure due to dynamic loading	Speeds provided in manual [Page 62].	M	Ensure that the unit is not operated near drop offs or kerbs AND	Yes	MGMT		

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		Unit extensively tested and analysed using dynamic modeling.		Ensure that the system speeds are set to the specifications provided in the manual. AND Ensure that the MEWP is maintained in a manner to minimize the excessive backlash between components	Yes Yes	MGMT MGMT		
2.5	Structural failure due to operation on a slope greater than the design slope	Tilt alarm fitted which alerts operators if slope exceeded. Sensor securely mounted in protected area and external damage causes an open circuit (alarm) condition. Instructions provided in manual illustrating how to recover from an excessive tilt. [Section 3.11]. Tilt sensor tests specified in service manual [Section 1 Page 17]	M	Ensure the tilt alarm is checked as per pre-operational checks in manual AND Ensure the MEWP is operated within the rated slope limitations listed in the manual	Yes Yes	MGMT MGMT		
2.6	MEWP could collapse as a result of poor structural/mechanical condition due to fatigue/wear	Pre-start checks include checks of general structural and mechanical items and are included in manual [Page 67]. Warning in manual [page 9] not to operate machine if it is not working properly or if any parts are missing or damaged.	H	Inspect the machine in accordance with the instructions outlined in the service manual. AND Undertake major inspection per AS2550.10 at end of design life.	Yes Yes	MGMT MGMT		
2.7	Persons could be injured by the unit if operating in poor mechanical or hydraulic condition.	Preoperational checks listed in manual [Chapter 67].	H	Ensure that the unit is checked, repaired and maintained by a competent person in accordance with the checklists	Yes	MGMT		

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		Warning in manual [page 9] not to operate machine if it is not working properly or if any parts are missing or damaged.		contained in the operation manual, AND Modify maintenance program according to use AND Instruct the operator/competent person to report all faults to management. AND Ensure all inspections, servicing, replacement of parts and modifications are entered into logbook. AND Use equivalent replacement parts AND Log replacement.	 Yes Yes Yes Yes Yes	 MGMT MGMT MGMT MGMT MGMT		
2.8	Due to accidental impact – unintentional activation of controls	Safety control (constant pressure foot-switch) provided which must be depressed for any MEWP movement via joystick control. Emergency stop switch located at both platform and ground controls. Control switches automatically return to neutral when released	H	Implement system to ensure adequate reporting of all incidents in relation to machine AND Ensure that all incidents in relation to the machine are reported and acted on.	Yes Yes	MGMT MGMT		
2.9	Failure due to unauthorized alteration or interference.	Note provided in operators manual [Page 8] prohibiting unauthorized modification	H	Seek advice for all modifications/repairs considered during life of machine. AND Ensure that no additions or alterations are performed on the platform without written approval from SKYJACK engineering department.	Yes Yes	MGMT MGMT		
2.10	Structural failure because of loose or	Pre-operational checks include	H	Provide a logbook for use by the	Yes	MGMT		

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	missing fasteners.	in manual [section 2.3] which include checks of fasteners and pivot pins.		operator and service personnel AND Ensure that the unit is checked, repaired and maintained in accordance with the checklist contained in the operation & service manuals, by a competent person AND Results are entered into the logbook.	 Yes Yes	 MGMT MGMT		
2.11	Structural failure due to loose or missing pivot pins	Checks included in manual [section 2.3]	H	Ensure that pre-operational inspections are performed and the results documented AND Perform regular maintenance checks as listed in the operator's and maintenance manuals	Yes Yes	MGMT MGMT		
2.12	Persons could be injured as a result of fatigue failure – road transport.	Inspection procedures provided. Pre-operational inspection list provided with instructions provided in section 2.3. Periodic inspection program established as per AS2550.10 Tie-down points provided on MEWP chassis.	M	Inspect the machine in accordance with the procedures specified in manual [Page 68]. AND Ensure the operators are instructed to properly stow unit prior to transportation. AND Ensure the platform is restrained during transportation.	Yes Yes Yes	MGMT MGMT MGMT		
2.13	Injury as a result of excess water/debris in platform and/or booms.	Open platform provided. Pre-operational inspections included in manual regarding condition of MEWP.	M	Ensure that and annual inspection is performed before placing the MEWP back into service.	Yes	MGMT		
2.14	Injury as a result of collision with other vehicular traffic.		L	Implement a traffic management system AND Ensure the MEWP is not driven on public roads	Yes Yes	MGMT MGMT		

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				AND Ensure a traffic management system is enforced, should the EWP be exposed to vehicular traffic.	Yes Yes	MGMT MGMT		
2.15	Structural failure due to collision with buildings etc.		H	Ensure spotters are used in areas where clearances are restricted. AND Ensure that trained personnel are used to provide emergency assistance as required.	Yes YES	MGMT MGMT		
2.16	Structural failure due to overload.	LSS fitted in accordance with AS1418.10 requirements. The rated capacity is displayed on platform and data plate. The rated capacity is listed in the operators manual [page 64].	H	Ensure that operators follow the limits listed on the platform and in the operator's manual.	Yes	MGMT		
2.17	Structural failure due to excessive wind.	Unit designed and stability tested for a maximum wind speed of 12.5 m/s. Maximum wind speed stated in operators manual, warnings in manual regarding the fitting of bluff bodies which may increase loads due to wind. [Page 7].	H	Ensure that operators do not exceed the limits listed on the platform and in the operator's manual. AND Ensure that the operators do not carry bluff bodies which increase the wind load. AND Ensure banners or other advertising is not attached to the platform at any time.	Yes Yes Yes	MGMT MGMT MGMT		
3	**Overturning**							
3.1	Persons could be injured as a result of instability or overturning – on excessive slope	Chassis tilt alarm provided. Instructions included in operations manual regarding site checks prior to deploying unit	H	Ensure that the MEWP is operated within the rated slope limitations specified on the name plate AND Ensure that the tilt sensor is maintained	Yes Yes	MGMT MGMT		

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		[Page 7].		in a proper working order at all times.				
3.2	Persons could be injured as a result of instability or overturning	Stability Tests in accordance with AS1418.10. Tilt alarm fitted to machine which warns the operator if the permitted chassis inclination is exceeded.	H	Train operators in respect of proper siting and precautions necessary to ensure stability. AND Audit work practices accordingly AND Ensure machine is stability tested after modifications to the body or unit have been performed.	Yes Yes Yes	MGMT MGMT MGMT		
3.3	Overturning due to collapse of support surface	Instructions included in operations manual regarding site checks prior to operating MEWP [page 7]. Maximum allowable ground pressures included in manual [Page 65]. Wheel load decals fitted to MEWP [Section 5]. Additional notes in AS2550.10 Maximum wheel load included in manufacturer's plate.	H	Ensure the unit is not set up on rough, soft or otherwise hazardous surfaces AND Seek advice regarding ground/surface capacities as necessary	Yes Yes	MGMT MGMT		
3.4	Overturning as a result of setting up on uneven surfaces	Tilt alarm provided. Warning in manual that MEWP is to be elevated only on firm level surfaces [page 7]. Calibration procedure in service manual.	H	operators are trained relating to proper setup, including the necessity to set up on flat surfaces within the limits specified both fore and aft and sideways on the nameplate. AND Ensure operators follow these requirements AND	Yes Yes	MGMT MGMT		

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				Ensure that operators follow the instructions given in the operators & service manuals regarding site checks, special limitations and service information.	Yes	MGMT		
3.5	Overturning due to overloading the platform	Unit stability tested in accordance with the requirements of EN280/AS1418.10. Rated load indicated on platform and data plate. Picture of data plate included in manual [Page 74]. Warning in manual not to exceed the maximum rated capacity [page 9]. Load Sensing System Fitted	H	Ensure that the rated capacity is not exceeded and personnel observe the load sensing system alarms and understand their meaning. AND Conduct a weight audit on a periodic basis	Yes Yes	MGMT MGMT		
3.6	Overturning due to high wind loads.	Unit designed and stability tested for a maximum wind speed of 12.5 m/s. Maximum wind speed stated in operators manual, warnings in manual regarding the fitting of bluff bodies which may increase loads due to wind. [Page 7].	H	Ensure that bluff bodies are not carried or fitted to the platform AND Ensure that the MEWP is not operated in high wind gusting above the rated speed. AND Monitor wind forecasts on a regular basis AND Ensure that operators observe the restrictions relating to single person only use outdoors.	Yes Yes Yes	MGMT MGMT MGMT		

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3.7	Pushing or pulling objects with platform.	Warnings provided in manual [Page 8] not to use MEWP as a crane and not to push or pull objects or lift chassis off the ground.	H	Ensure that operators do not exert lateral force greater than that specified AND Ensure that operators do not push or pull objects with platform	Yes Yes	MGMT MGMT		
3.8	Due to tyre failure.	Foam tyres fitted on MEWP Warning decal on MEWP chassis stating that only foam filled tyres to be fitted. Inspection instructions included in operators manual – prestart inspection and in maintenance manual [Page 67]	H	Check tyre/wheel condition as per manual AND Ensure that tyres are replaced with OEM parts	Yes Yes	MGMT MGMT		
3.9	Due to incorrect tyre specification.	Specification and warning provided in manual [Pages 8, 24 & 64].	H	Ensure that only the correct specification tyres are used	Yes	MGMT		
3.10	Due to operation on a truck or similar device.	Warning in manual forbidding the operation on a truck or similar device [Page 8].	H	Ensure that the unit is only operated on firm ground capable of adequate capacity and never on vehicle or similar	Yes	MGMT		
3.11	Due to loss of wheel.	Hub fixed to stub axle using castellated nut and split pin.	M	Ensure that pre-operational inspections are conducted as per manufacturer's checklist.	Yes	MGMT		
3.12	Overturning due to operator falling out of platform while attached the harness & lanyard	Fall arrest overturning test performed in accordance with AS1418.10 requirements.	M	Ensure that personnel do not climb on the handrails AND Do not drive over rough terrain at speed. depressions at speed AND Wear a harness with energy absorber.	Yes Yes Yes	MGMT MGMT MGMT		
3.13	Due to safety limit switches being overridden	Note in manual [page 8] warning not to disable limit switches.	H	Ensure operators or maintenance personnel do not alter or disable limit switches.	Yes	MGMT		

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4	**Control malfunction & uncontrolled motions**							
4.1	As a result of control malfunction.	Emergency stop switches fitted at upper and lower control stations. Pre-operational checks included in operators manual [page 67].	M	Ensure that control cubicle is clear and free of tools and equipment that could jam controls AND Verify condition and operation AND Check operation of Emergency-stop switches every day before use	Yes Yes Yes	MGMT MGMT MGMT		
4.2	Due to contamination of hydraulic system.	Hydraulic filters fitted Maintenance manuals detail service intervals for hydraulic filters under section Hydraulic Maintenance.	M	Maintain hydraulic filters as per manual instructions	Yes	MGMT		
4.3	Accidental knocking of controls	Constant pressure foot-switch provided which must be pressed for controls to be activated. Emergency stop provided. Lower controls positioned to minimize the risk of accidental activation. Note in manual not to wear loose fitting clothing [page 7].	M	Maintain control console.	Yes	MGMT		
4.4	Control conflict using emergency power system	Lower controls override upper controls, manual lowering does not rely on a power source.	M	Ensure operators are familiar with the emergency lowering procedures prior to operating the MEWP AND Ensure that ground personnel are always available to perform emergency	Yes Yes	MGMT MGMT		

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				Operations if required.				
4.5	Due to safety switches being overridden	Warning in manual prohibiting the alteration or disabling of limit switches, safety switches or interlocks [Page 8].	H	Ensure that safety devices are not tampered with	Yes	MGMT		
4.6	Unintentional activation of controls due to entanglement of hoses or cables with joystick	Warning in manual regarding the danger of entanglement of hoses and cables around controls [page 7]. Constant pressure foot-switch must be depressed before movement will take place.	H	Ensure operators engage the emergency stop when they have reached the desired work location as instructed in the manual.	Yes	MGMT		
5	**Hydraulic**							
5.1	Failure of cylinder or hose resulting in platform movement	Cylinders fitted with load holding valves. Cylinder design assessed in accordance with AS1418.10, 2.9 requirements. Pre-operational checks included in operators manual [page 19] regarding hydraulic checks.	L	Ensure the pre-operational checks are performed and documented by operators prior to use of the MEWP AND Ensure that the machine is withdrawn from service and repaired if the platform position is not maintained or there are signs of hydraulic leaks.	Yes Yes	MGMT MGMT		
5.2	Injury as a result of a high pressure hydraulic leak	Warning in Service manual regarding High pressure hazard.	M	Ensure that personnel are properly trained and aware of the hazard.	Yes	MGMT		
6	**Crushing/Trapping Hazards**							
6.1	Crush injury as a result of operation – either travelling or raising.	Motion alarms fitted which provide an audible alarm when the MEWP is travelling and/or lifting and lowering. Warning in manual [page 8].	H	Ensure that operators, observe the surroundings and travel at appropriate speeds AND Ensure that ground personnel are available to observe and take corrective action if necessary. AND	Yes Yes	MGMT MGMT		

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Hazard No.	**Hazard Description -** **(the situation or parts of plant which could cause injury or illness)**	**Is there any risk?** Describe the risk control measures ALREADY implemented	**Risk** L = Low M = Med. H = High E = Extreme NA = Not Applicable	**Proposed SUPPLEMENTARY risk control measure**	**Are the control measures practicable?** Yes/No	**For Action by whom**	**Confirmation that the necessary action has been completed**	**Notes**
				Ensure they are familiar with emergency operation procedures	Yes	MGMT		
6.2	Crush injury due to inadvertent operation.	Constant pressure foot-switch provided which must be pressed for controls to be activated. Pre-operational inspections list checks for platform and lower controls [Page 67].	M	Conduct pre-operational function checks per the manual [Page 67]	Yes	MGMT		
6.3	Ground personnel crushed whilst machine is operating	All motion alarm fitted. Warning in manual to ensure that there are no personnel or obstructions in the path of travel, including blind spots [page 49].	H	Ensure that the all motion alarm is maintained and working as part of pre-operational inspection AND Ensure that personnel remain clear of the platform when in use.	Yes Yes	MGMT MGMT		
6.4	Persons exposed to vehicular traffic.	See 2.15	NA					
6.5	Persons crushed whilst performing maintenance.	Instructions included in operations & maintenance manual regarding blocking the booms prior to conducting any maintenance and/or checks.	H	Train operators to be aware of these hazards AND Ensure maintenance personnel always prop the scissors when performing maintenance.	Yes Yes	MGMT MGMT		
7	**Slips, trips, falls**							
7.1	Falling from the platform	Guard rails fitted which comply with AS1418.10 – 2011 clause 2.5.4. Non slip flooring and standard access provided. Warning provided regarding climbing on guardrails [Page 8]. Pre-operational inspections include checks of the platform	H	Ensure that access points and platform floor are maintained and free of obstacles, slick surfaces and slip resistant. AND Observe instructions in manual.	Yes Yes	MGMT MGMT		

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		for loose or missing components [page 24].						
7.2	Stepping out of elevated platform	Refer to requirements per AS2550.10, see clause 5.9 and figure 5.9(B). Warning in manual [page 8] not to sit, stand or climb on the guard rails. Warning in manual not to climb on the booms [page 8].	H	Ensure that operator egress at heights is prohibited unless in an emergency and there is a safe means to do so. AND Ensure that the operator does not egress from the basket at height unless secured via a twin lanyard assembly to a secure anchor point on a fixed structure AND Refer to requirements per AS2550.10, see clause 5.9 and figure 5.9(B)	Yes Yes Yes	MGMT MGMT MGMT/OP		
7.3	Use of step ladders or stools in platform	Warning in manual not to use ladders or other devices to increase the platform height [page 8].	M	Ensure that operators do not use any means to gain additional height AND Ensure the correct machine is used for the particular task at hand	Yes Yes	MGMT MGMT		
7.4	Falling whilst performing maintenance checks.	Pre-operational checks able to be performed at ground level. Warning in manual not to climb on boom [page 8].	M	Ensure that appropriate equipment is used during maintenance where access at height is required.	Yes	MGMT		
7.5	Fall whilst accessing the platform.	Platform able to be accessed from ground level. Warnings throughout manual to always use three points of contact while accessing the platform.	M	Ensure that operators do not access the platform when elevated. AND Ensure that operators follow the instructions provided in the operator's manual when accessing the platform.	Yes Yes	MGMT MGMT		
7.6	Falling through the platform gate.	Gate is self-closing & self-latching in accordance with AS1418.10 clause 2.5.6. Check of gate operation	H	Ensure that the gate is free to close and automatically latches before use.	Yes	MGMT		

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Hazard No.	**Hazard Description -** **(the situation or parts of plant which could cause injury or illness)**	**Is there any risk?** Describe the risk control measures ALREADY implemented	**Risk** L = Low M = Med. H = High E = Extreme NA = Not Applicable	**Proposed SUPPLEMENTARY risk control measure**	**Are the control measures practicable?** Yes/No	**For Action by whom**	**Confirmation that the necessary action has been completed**	**Notes**
		included in pre-operational inspection [page 24].						
7.7	Falling through guard rails which have not been properly locked in place	Guard rails are permanently attached to platform.	NA					
8	**Falling Objects**							
8.1	Ground crew or passerby being struck by falling tools or objects	See also AS2550.10 100mm high toe guards provided on platform in accordance with AS1418.10 clause 2.5.4	M	Barricade area from public access AND Ensure that materials are not supported on the guardrails or exceed the confines of the platform.	Yes Yes	MGMT MGMT		
9	**Electrical Hazards**							
9.1	Persons could be injured due to contact or approach to live electrical apparatus	Legislative requirements to maintain clearances Warnings in AS2550.10 Warning in manual and table of clearance distances [page 6]. No-go zone labels fitted to platform and base.	H	Ensure persons observe the limits of approach as specified by regulation and as indicated on the signs attached.	Yes	MGMT		
9.2	Use in Storms	See 1.9 above.						
9.3	Electric shock due to fault with AC power supply		H	Ensure that all AC installations are certified or performed by suitably qualified personnel in accordance with AS3000 wiring rules. Check the condition of the AC Power supply on a routine basis AND Ensure that the supply is appropriately protected	Yes Yes Yes	MGMT MGMT MGMT		
9.4	Short circuit batteries with jewelry or watches	Note in manual not to wear watches or jewelry [page 7].	M	Ensure that operators and maintenance personnel do not wear jewelry or	Yes	MGMT		

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Hazard No.	**Hazard Description -** **(the situation or parts of plant which could cause injury or illness)**	**Is there any risk?** Describe the risk control measures ALREADY implemented	**Risk** L = Low M = Med. H = High E = Extreme NA = Not Applicable	**Proposed SUPPLEMENTARY risk control measure**	**Are the control measures practicable?** Yes/No	**For Action by whom**	**Confirmation that the necessary action has been completed**	**Notes**
				watches whilst operating or maintaining the MEWP.				
10	**Fire or Burns**							
10.1	Work in and explosive atmosphere.	Warning in manual regarding operation if hazardous environments [Page 10] Warning provided in manual regarding hazards associated with charging of batteries. [Page 20]	M	Ensure MEWP is not operated in an explosive or hazardous environment AND Ensure MEWP is not operated with with flammable or explosive liquids on or within the platform.	Yes Yes	MGMT MGMT		
10.2	During refueling	Warning in manual [Page 53].	M	Ensure refueling procedures listed in manual are followed when refueling.	Yes	MGMT		
10.3	During battery maintenance	Note in manual [Page 20] Also see 9.4 above.	M	Ensure that battery maintenance is performed by competent persons in accordance with established SWP's.	Yes	MGMT		
10.4	Carrying fuel or other explosive substances in platform		H	Ensure no explosive materials or fuel is stored on platform during operation.	Yes	MGMT		
10.5	While checking engine components	Warning in manual [page 21] to beware of hot engine components.	M	Ensure operators are trained in performing necessary checks and are aware of the hazards.	Yes	MGMT		
11	**Driving Transport & Handling**							
11.1	Injury as a result of accumulated deterioration during long term storage.	Platform is self draining.	M	Ensure that an annual inspection is comprehensively performed before returning the unit to service.	Yes	MGMT		
11.2	Injury from unsecured vehicle	Tie down lugs fitted to chassis and are marked. Instructions for transportation included in manual [pages 54].	M	Ensure that the unit is secured in accordance with the requirements in the manual	Yes	MGMT		
11.3	Injury loading/unloading from vehicle	Instructions for loading & unloading included in manual [pages 54].	H	Ensure that the loading ramps are adequate to support the machine and the gradient is less than the maximum gradeability AND	Yes	MGMT		

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				Ensure that the transport vehicle and ramps are secured to prevent rolling/shifting	Yes	MGMT		
11.3.1	Injury releasing brakes	Instructions provided in manual on correct procedure for releasing brakes [section 2.5-2] which includes warnings regarding slopes.	M	Ensure that the unit is secured and not on a slope before releasing the brakes	Yes	MGMT		
11.4	Lifting the unit	Machine weight provided on nameplate. Machine mass listed in specifications [Page 62]. Instructions for loading & unloading included in manual [pages 54].	M	Ensure that only the designated lift points are used during lifting and that all rigging is appropriate for the task	Yes	MGMT		
12	**Maintenance**							
12.1	Injury during hydraulic maintenance from pressurized sources	See 5.2 above.						
12.2	Strains/sprains when removing or performing certain maintenance aspects of the Unit.		L	Establish appropriate work procedures for all anticipated maintenance issues arising AND Periodically review these SWP's.	Yes Yes	MGMT MGMT		
12.3	Persons may be injured as the result of poor maintenance and/or adjustment procedures.		L	Supplement the manuals with concise criteria in respect to : Hazard warnings as detailed herein and as identified during periodic safety assessments and updates as suggested in manual reviews AND Ensure that the unit is tested by a competent person prior to being returned to normal service after repairs and/or	Yes Yes	MGMT MGMT		

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				adjustment of critical components or systems.				
12.4	Persons injured handling heavy or unsupported items		M	Instruct personnel in respect of proper maintenance procedures including the necessity to support items during maintenance.	Yes	MGMT		
12.5	Persons injured due to exposure to pinch points/shear points		L	Instruct personnel in respect of proper maintenance procedures.	Yes	MGMT		
12.6	Repair personnel crushed by falling platform during maintenance		H	Ensure personnel are trained in correct repair procedures	Yes	MGMT		
12.7	Repair personnel sustain burns as a result of short circuit between jewelry and watch during battery maintenance.	See 9.4 above.						
13	**Emergency Procedures**							
13.1	Injuries exacerbated as a result of incorrect emergency retrieval procedures.	Instruction in manual [Page 39]. Decal fitted which explains the emergency lowering procedure.	M	Ensure that persons are available at ground level and are familiar with the operation of the controls to effect retrieval.	Yes	MGMT		
13.2	Injuries exacerbated as a result of insufficient communication procedures or equipment.		H	Establish and audit routine emergency procedures AND Ensure that all operators are equipped with portable communications equipment where necessary. AND Establish protocols and procedures to ensure a timely and appropriate response in emergencies. AND Ensure all operators report in when attending site and on a routine basis thereafter.	Yes Yes Yes Yes	MGMT MGMT MGMT MGMT		
13.3	Injuries exacerbated as a result of working solo.		H	Ensure that workers do not work solo AND	Yes	MGMT		

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				Establish protocols and procedures to ensure a timely and appropriate response in emergencies AND Ensure all operators report in when attending site and on a routine basis thereafter. AND Ensure that trained personnel are available to observe operation in areas where clearance is reduced and are available to effect emergency retrieval if necessary.	Yes Yes Yes	MGMT MGMT MGMT		
14	**Other**							
14.1	Persons injured using toxic chemicals or flammable materials in platform.	Open Platform provided	M	Ensure operators are aware of the hazards specific to the material being used.	Yes	MGMT		
14.2	Due to failure to observe or rectify safety upgrades from manufacturer.		H	Ensure that the owner of each machine is registered with the manufacturer. AND Periodically check the status in respect of safety bulletins or upgrades applying to the machine. AND Ensure that safety upgrades provided by the manufacturer are implemented. AND Ensure the manufacturer is advised when the machine is disposed of.	Yes Yes Yes Yes	MGMT MGMT MGMT MGMT		
14.3	Operators hearing damaged as a result of excessive noise.	Sound pressure level does not exceed 103dBA.	M	Ensure that if noise exceeds acceptable levels that either ear protection is worn and/or the operators are removed from the noisy environment.	Yes	MGMT		
14.4	Persons injured due to unrecognized hazard.	Preliminary Hazard ID prepared provided.	M	Update hazard ID as necessary AND	Yes	MGMT		

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				Implement Risk control measures as necessary having regard to the hierarchy of control measures available.	Yes	MGMT		

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NOTES:

1.	SKJ:	Skyjack Australia
2.	MGMT:	Refers to the person legally responsible for the use of the unit; it generally means the employer, the company or the legal entity that has responsibility under the Health and Safety legislation in the State or Territory in which the unit is being used.
3.	OP:	Is the operator, authorized by management and responsible for the operation and preoperational inspection and use of the unit.
4.	OWNER:	Is the person or organisation that owns the unit and is responsible for its condition and state of repair.

GENERAL NOTES:

1. *This Risk Assessment has been prepared for Skyjack Australia for the subject plant and is not transferable to other plant or parties.*

2. *Item Numbers refer to hazards, which can exist if the unit is not adequately maintained – e.g. Guards not fitted, gauges fail to correctly display readings etc. The measures listed to control risks arising from this type of hazard can include reference to operating procedures. Operating Procedures cannot make the operator responsible for inadequate maintenance/repairs etc but is only intended to ensure that the procedures include the need for the operator to report any faults detected.*

3. *This Hazard Identification and Risk Assessment document has been prepared based on information available at the date of publication. In order to ensure this Hazard Identification, Risk Assessment, Risk Control document is* ***both accurate and complete;*** *—Management of the Unit‖ must review it:*

(a) According to the particular circumstances under which the plant and/or process is used and maintained,

(b) As new hazards are identified or as risks are re-assessed,

(c) As new or revised control measures are implemented,

(d) As and when work procedures are altered.

Although every attempt has been made to identify reasonably foreseeable circumstances, no guarantee as to the completeness of this assessment is implied or provided.

4. *-Preliminary‖ is placed in this document to indicate that the Controls listed in* ***Columns C and E*** *are a practicable way of controlling the risks arising out of the Hazards listed in* ***Column B****. -Preliminary‖ status remains in place until the -Management of the Unit" agrees that the assessment is complete and that the controls proposed are practicable.*

5. ***Column Y has*** *been provided on the document to allow the —Management of the Unit‖ to record that their Hazard Identification, Risk Assessment, and Risk Control process has been completed and that all controls are in place and operating. When* ***Column Y*** *is completed, the document becomes a record of the completeness of the process and the documentation (subject to any changes which need to be further reviewed in accordance with Item 3 above).*

6. The use of the word -AND‖ or -&‖ in the supplementary risk control measure column is intended to mean that the combination of risk control measures are to be implemented on the whole not in part.

7. The determination of risk, column D, is a subjective assessment based on the following factors: exposure – the number of times humans are exposed to the risk, the probability of the hazard arising, and the consequence of the hazard – death or serious injury.

Risk Management

Risk management is a five-step process for controlling exposure to health and safety risks associated with hazards in the workplace.
To properly manage exposure to risks, a person must:

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(a) Identify hazards;
(b) Assess risks that may result because of the hazards;
(c) Decide on appropriate control measures to prevent or minimise the level of the risks;
(d) Implement control measures; and
(e) Monitor and review the effectiveness of the measures.

Hazards and risks are NOT the same thing.
*A **hazard** is something with the potential to cause harm. This can include substances, plant, work processes or other aspects of the work environment.*
***Risk** is the likelihood that death, injury or illness might result because of the hazard.*

As examples:

• The hazard is electricity—the risk is the likelihood that a worker might be electrocuted because of exposure to electrical wires that are inadequately insulated.
• The hazard is a 40 kg bag—the risk is the likelihood that a worker might suffer back strain from manually lifting 40 kg bags.
• The hazard is carbon monoxide—the risk is the likelihood that a worker might suffer carbon monoxide poisoning because they are using a petrol-operated pump in a well.

When undertaking risk management:

(a) Involve workers in the process; (it is legal requirement that all stakeholders are consulted)
(b) Don't use it to justify a decision that has already been made;
(c) Consider good industry practice; and be aware of the current State of Knowledge in relation to the hazard
(d) Record any risk management activities undertaken.

Under the relevant Workplace Health and Safety Acts, to properly manage exposure to risks, a person should consider the appropriateness of control measures in the following order (sometimes referred to as the 'Hierarchy of Control'):

(a) Eliminating the hazard or preventing the risk; or
(b) If eliminating the hazard or preventing the risk is not possible, minimising the risk by measures that must be considered n the following order:

(i) Substituting the hazard giving rise to the risk with a hazard giving rise to a lesser risk;
(ii) Isolating the hazard giving rise to the risk from anyone who may be at risk;
(iii) Minimising the risk by engineering means;
(iv) Applying administrative measures; and
(v) Using personal protective equipment.

Examples of subparagraph (iii)—redesigning work, plant, equipment, components or premises.
Examples of subparagraph (iv)—training, reasonable hours of work.

The higher in the hierarchy of control, the better and more reliable the control is. In practice, several control options are often used in combination. Personal protective equipment is usually used in conjunction with other control measures.
Control measures must be implemented before work commences.
Risk Ranking Matrix

CONSEQUENCES TABLE

Level	Descriptor	Examples
1	Insignificant	No injuries, low financial loss
2	Minor	First aid treatment, on-site release immediately contained, medium financial loss
3	Moderate	Medical treatment required, on-site release contained without assistance, high financial loss

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4	Major	Extensive injuries, loss of production capability, off-site release with no detrimental effects, major financial loss
5	Catastrophic	Death, toxic release off-site with detrimental effect, huge financial loss

NOTE: Measures used should reflect the needs and nature of the organisation & activity under study, e.g.in high risk industries multiple fatalities and fatalities may be separated into several levels.

LIKELIHOOD TABLE

Level	Descriptor	Examples
A	Very likely	Is expected to occur in most circumstances
B	Likely	Will probably occur in most circumstances
C	Moderate	Might occur at some time
D	Unlikely	Could occur at some time
E	Rare	May occur only in exceptional circumstances

NOTE: Measures used should reflect the needs and nature of the organisation and activity under study.

MATRIX TABLE

	Consequence				
Likelihood	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost certain (A)	H	H	E	E	E
Likely (B)	M	H	H	E	E
Moderate (C)	L	M	H	E	E
Unlikely (D)	L	L	M	H	E
Rare (E)	L	L	M	H	H

The risk level read from the matrix defines the priority for action or the importance for review. Again the actions required for a particular risk level should be customized to the particular circumstances.
Possible actions are:
E= Extreme risk—consider stopping work (who decides which boxes contain E?)
H= High risk—should be reduced as soon as possible.
M= Moderate risk—management responsibility and action dates must be specified
L= Low risk—manage by routine procedures
The matrix suggests four different action levels but could equally be divided into a larger number of priority levels. There is merit in assigning all events that have the potential for a fatality priority 1 unless they are so unlikely that they are not expected ever to occur. This ensures that controls for preventing fatalities receive priority attention even where they are believed to be good.

Notes on using the matrix method
The strengths of this method are:
• The analysis provides a ranking of risk.
• The method encourages the risk analyst or team to understand the hazard in order to rank the significance of the risk.
The major problems involved in applying such a method are:
• People guess levels of likelihood and consequence without sufficient analysis of the hazard or existing controls.
• The analysis methodology is applied to a risk where the circumstances of occurrence are rare. For example, suppose a person was exposed to a hazard for a short period of time, once every 10 years. Suppose also that that hazard was almost certain to cause fatality upon each exposure. It would be incorrect to use a simple methodology whereby the likelihood of the consequences was ranked relatively lowly at once in 10 years. In that particular example the likelihood of fatality is certain once exposure occurs. An amended methodology will be required to deal with those circumstances such as the fine risk score calculator described in B10, below.
• Since judgements of consequences and likelihood are highly subjective the matrix does not work well as a decision tool, particularly concerning the need for action on high consequence low probability risks.

WARNING

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The risk ratings used in this document are intended to stimulate discussion from the parties affected by the use of the subject machine; they shall not be adopted as the most appropriate risk rating without sufficient consideration by the designer, manufacturer, management or user of the plant.

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