

# RISK & HAZARD MANAGEMENT

JLG Machine Type	1250AJP	Safe Working Load (kg)	454/227	Max. Drive Height (m)	38.1	Max. Height (m)	38.1
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## INTRODUCTION/SCOPE

The aim of this report is to conduct an investigation into the hazards<sup>1</sup> and risks involved with the operation, maintenance, servicing, inspection, transportation and storage of the above plants<sup>2</sup>. Our aim is to ensure people at work (and any other personnel) are protected against health and safety risks associated with the use of the plant detailed within this report. Possible hazards and risks are to be assessed with respect to use of the plant and control measures incorporated to maximize safety. For each identified risk the probability and consequences of occurrence are assessed and the control measures implemented to reduce this risk as far as practicable<sup>3</sup>. Additional measures taken to control risk are also listed. The following procedure will be used:

- 1. Identifying Hazards** - associated with the plant or 'systems of work'<sup>4</sup>
- 2. Risk and Hazard Likelihood** - The probability of a hazard occurring, and the probable consequence associated with that hazard occurring.
- 3. Controls implemented to reduce Hazards & Risks** - these include design and any other measures that are put in place to reduce risks and hazards as far as practicable.

**NOTE:** This assessment is based on the design of the unit prior to additional hazard control measures incorporated into the Australian build design.

**TABLE 1: RISK & HAZARD LIKELYHOOD**

HAZARD	(A) Likelihood of Occurring	(B) Consequence of Occurring	RISK SCORE*
As listed in Table 2	(1) Rare (2) Very Low (3) Low (4) Moderate (5) High (6) Very High	(1) First Aid (2) Casualty (3) Hospitalisation (4) Disabled (5) Fatality (6) Numerous Fatalities	Risk Scores* are found by adding likelihood (A) & consequence (B) of Occurrence together. Risk Scores range from 2-12

\* The higher the risk score the larger the requirement for the hazard to be addressed and guarded against. Please see Table 2 for identification of hazard types checklist.

<sup>1</sup> A hazard is anything with potential to cause injury, illness or harm when the plant is operated, maintained, serviced, repaired, inspected, transported and stored.

<sup>2</sup> Plant in this case is defined as a 1250AJP boom lift elevating work platform.

<sup>3</sup> JLG considers that "reducing the risk as far as practicable" to be an undertaking of out duty of care in that we have addressed the potential to exposure to a risk during design and manufacture and have adhered to the required standards during this time. Any identified additional risks raised during this assessment have been addressed and eliminated for normal machine operation by trained personnel.

<sup>4</sup> Systems of work describe all operating/maintenance procedures and in general systems used by workers in servicing, inspecting, transportation and storage

**TABLE 2**  
**\*HAZARD TYPE CHECKLIST**

<p><b>A. CRUSHING. ENTANGLEMENT. CUTTING. STABBING. PUNCTURING. SHEARING. FRICTION. STRIKING.</b></p>	<ul style="list-style-type: none"> <li>-can anyone's hair, clothing, gloves, cleaning apparatus or any other materials become entangled in moving parts, or objects in motion.</li> <li>-crushing due to material falling from plant.</li> <li>-uncontrolled motion or unexpected movement of plant.</li> <li>-inadequate stopping devices of plant to control movement.</li> <li>-support structure collapse.</li> <li>-being thrown from or within plant.</li> <li>-cutting, stabbing &amp; puncturing due to contact with sharp or flying objects.</li> <li>-parts of plant or worksite material disintegrating or falling.</li> <li>-movement of plant.</li> <li>-can anyone's body parts be sheared between moving parts or surfaces of the plant.</li> <li>-can anyone be burnt due to contact with moving parts or surfaces of the plant.</li> <li>-can anyone be struck by moving objects due to uncontrolled or unexpected movement of plant or workpieces.</li> </ul>
<p><b>B. ERGONOMIC. SLIPPING. TRIPPING. FALLING .</b></p>	<ul style="list-style-type: none"> <li>-can anyone be injured due to poorly designed seating or repetitive body movements.</li> <li>-constrained body posture or the need for excessive effort.</li> <li>-design inefficiency causing mental or psychological stress.</li> <li>-inadequate or poorly placed lighting of plant or workers.</li> <li>-lack of failsafe measures against human error.</li> <li>-mismatch of plant with natural human limitations.</li> </ul>
<p><b>C. HIGH PRESSURE FLUIDS. HIGH TEMPERATURES. FIRE/EXPLOSION.</b></p>	<ul style="list-style-type: none"> <li>-can anyone come into contact with fluids under high pressure, due to plant failure or misuse.</li> <li>-can anyone come into contact with objects at high temperatures, or objects which can cause fire or burning.</li> <li>-can anyone suffer illness due to exposure to high or low temperatures.</li> <li>-can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances triggered by the operation of the plant or workpieces.</li> </ul>
<p><b>D. SUFFOCATION. DROWNING.</b></p>	<ul style="list-style-type: none"> <li>-can anyone be suffocated or drowned due to lack of oxygen, or atmospheric contamination.</li> </ul>
<p><b>E. ELECTRICAL.</b></p>	<ul style="list-style-type: none"> <li>-can anyone be injured by electric shock due to the plant coming into contact with live conductors.</li> <li>-plant being too close to high tension power lines.</li> <li>-overload of electrical circuits.</li> <li>-electrical wiring or switch shorting.</li> <li>-lack of insulation against water contact shorting.</li> <li>-magnetic interference from workplace corrupting electrical components.</li> </ul>
<p><b>F. STABILITY.</b></p>	<ul style="list-style-type: none"> <li>-can machine tip or roll over due to outriggers not extending.</li> <li>-outriggers failing mechanically, or retract unintentionally.</li> <li>-control valve or interlock failure.</li> <li>-set up on soft ground, unlevel or uneven ground, excessive slope.</li> <li>-driving on rough surfaces, over potholes, hitting fixed objects, excessive side loads e.g wind.</li> </ul>
<p><b>G. HYDRAULIC FAILURE.</b></p>	<ul style="list-style-type: none"> <li>-hydraulic system failure.</li> <li>-check valve or relief valve failure.</li> <li>-hose or cylinder failure - mechanical or fatigue.</li> </ul>
<p><b>H. STRUCTURAL FAILURE.</b></p>	<ul style="list-style-type: none"> <li>-boom or scissor arm failure due to fatigue, corrosion, or overloading.</li> <li>-pin, cable or linkage failure.</li> <li>-general overload- lifting excessive load, loading platform/ basket in an unintended way.</li> </ul>
<p><b>I. MAINTENANCE.</b></p>	<ul style="list-style-type: none"> <li>-can anyone be injured while carrying out routine, preventative or corrective maintenance.</li> <li>-explosion due to welding spark etc. near charging battery</li> <li>-adjusting equipment for essential components faulty or seized.</li> <li>-guard removal.</li> </ul>
<p><b>J. TRANSPORT.</b></p>	<ul style="list-style-type: none"> <li>-can anyone be injured due to machine instability while transporting.</li> <li>-plant or objects falling from transport truck.</li> <li>-loading and unloading hazards</li> </ul>
<p><b>K. OCCUPATIONAL HAZARDS</b></p>	<ul style="list-style-type: none"> <li>-plant obstructing other plants at site.</li> <li>-unauthorised use by untrained personnel.</li> <li>-unintended use of duplicate controls while working.</li> <li>-hearing loss or communication interference due to excessive noise.</li> <li>-safety signs or decals removed.</li> <li>-energy supply failure (chemical, electrical or mechanical).</li> </ul>

\* Table 2 is based upon N.Z Chamber of Manufacture hazard identification guide, & specifications from the Elevating Work Platform purchasing Specification and Operating Guide by the Electricity Association NSW - 1996, and pr EN280.

TABLE 3 - HAZARD TYPES (1250AJP BOOM LIFTS)	RELEVANT CODE* ADDRESSED	RISK SCORE**	DESIGN CONTROL MEASURES (To reduce risk as far as practicable)	ADDITIONAL STEPS TAKEN TO REDUCE RISK
<b>A. CRUSHING, ENTANGLEMENT, CUTTING, STABBING, PUNCTURING, SHEARING, FRICTION, STRIKING.</b>	Design Code AS1418.10-1.5.11 Operational Code 2550.10-9		Moving parts that pose an entanglement hazard are guarded, eg's. <ul style="list-style-type: none"> <li>• Motor is enclosed under covers.</li> <li>• Fan blades have a shroud around their circumference.</li> <li>• Slew pinion is shielded and slew bearing is out of arms reach with cover down.</li> </ul> Guarding is of a fixed permanent nature which can only be removed with tools. A motion alarm is fitted to warn of any movement.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10. The manuals for this plant are in accordance with AS1418.10. Warning decals are placed on the plant, and safe operating procedures are placed in the manuals.
-Entanglement, shearing		1+3	Three main entanglement points exist: between boom and turntable where there are no finger width gaps; the second is between wheels and turntable when slewing; again, no tight gaps; the third is the slew pinion, which is guarded.	Crushing hazard decals are clearly displayed on the machine. Warnings and instructions regarding safe operation of the machine are placed in manuals.
-Crushing, shearing		1+3	Motion alarms are fitted to plant to warn of movement. In the event of hydraulic failure, boom is held in place by holding valves. Gaps maintained between components so that they do not create a "pinch point".	The boom is clearly labelled with warning decals due to the potential crushing hazard associated with boom type plants. Correct maintenance and operating procedures and safety instructions are placed in the manuals. Warning stripes on basket and knuckle.

\* Codes used at time of publication are Australian AS1418.10-1996 & AS2550.10-1994, American ANSI/SIA A92.6-1999, European EN280: 2001

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-Friction		1+1	Operators are not subject to friction as there are no high speed exposed components. Mechanical failure due to friction is reduced with self-lubricating bushes & wear pads. Drive motors are self-lubricating as they are hydraulic, other friction points have a grease nipple. 1250AJP engine lubrication points are easily accessed.	Locations of lubrication points are shown on a chart in the manuals. Also, a lubrication schedule is provided along with oil/grease types to be used.
-Striking		1+1 (operator) 1+3 (pedestrian)	Striking due to sudden platform movements when driving is restricted with speed limiting limit switches. Braking and an enable switch at each control box are provided to prevent inadvertent movement of plant. Braking is achieved through the use of spring-applied brakes (hydraulic release). Holding valves hold boom in place event of hydraulic or power failure.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10-10. The manuals provided with the plant are in accordance with AS1418.10-1.4. Safe operating procedures are placed in the manuals. Warning stripes on knuckle.
-Cutting, stabbing, puncturing		1+1	Contact surfaces such as handles and platform entry points have no sharp edges.	As above.
<b>B. ERGONOMIC, SLIPPING, TRIPPING, FALLING</b>	Design Code AS1418.10- 1.10,1.5.10		Controls are ergonomically designed. The platform is low mounted for easy access and has a non-slip mesh floor. Interlocks are provided to ensure against inadvertent operation. An enable switch must be pressed before machine operation. Operators are protected from falling from platform with a solid peripheral rail around entire platform. The access door opens inwards and self latches as per AS1418-10. A red emergency stop button is positioned at top and ground controls. Safety harness attachment points are provided for intended number of operators.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10
-Seating	N/A	N/A	No seating required	

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-Excessive effort, bad posture	Design Code AS1418-1.10	1+1	Controls are designed to operate with one hand and are either of joystick, toggle or button type. Non-assisted controls are minimized using electrical actuation. Where controls are mechanical in nature operating effort is reduced as far as practicable. Controls return to neutral upon release and movement will only occur when physically actuated.	Safe operating procedures are placed in the manuals.
-Operating stress		1+1	Control panels use pictures for functions, and switches, which control direction operate in that direction. Controls are field tested in IPD*** process. Hand rails are provided around control station for support during motion.	Warning decals are used to warn of incorrect operating procedures.
-Lighting		1+1	Plant is mobile and adequacy of lighting will depend on where it is being used. Where lighting is requested, work lights and flood lights may be fixed to mounts on the platform rail at waist height.	
<b>C. HIGH TEMP OR PRESSURE FIRE/EXPLOSION</b>	Design Code AS1418.10-1.14 Maintenance Code AS2550.10-10		High temperature components (motor and pump) are positioned within turntable. Exhaust tubing passing out through the turntable cover is designed not to get hot using a loose fitting tube. Hydraulic hoses are held in place by clamps to prevent crushing or kinking.	These hazards maybe related to incorrect and or lack of maintenance. Correct inspection and maintenance procedures are placed in the manuals. Regular maintenance in accordance with AS2550.10 is required.
-high pressure fluid jets		1+3	Hydraulic hoses used have a bursting pressure well in excess of the working pressure. Relief valves prevent excessive pressure. Holding valves keep booms in place if a hose did burst.	Inspection and maintenance procedures (including warnings) are placed in manuals.
-high temperatures	Design Code AS1418.10-1.5.11.3	1+1	Hot surfaces are positioned within covers.	Operating & maintenance procedured are placed in manuals.

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\*\*\* IPD is an internal JLG process used in research and development of new products. This process includes testing and evaluation of new machines by engineers, safety experts and operators.

TABLE 3 - HAZARD TYPES (1250AJP BOOM LIFTS)	RELEVANT CODE* ADDRESSED	RISK SCORE**	DESIGN CONTROL MEASURES (To reduce risk as far as practicable)	ADDITIONAL STEPS TAKEN TO REDUCE RISK
<b>D. SUFFOCATION /DROWNING</b>	N/A	0	Exhaust gas is directed away from the operator. The size of machine prevents operation in confined spaces, therefore exhaust gas inhalation is not considered to pose a problem.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10-10.
<b>E. ELECTRICAL</b>	Design Code AS3000 AS1418.10-1.7		This EWP is not fitted with high voltage (i.e. above 32V a.c). Those units fitted with 240 V a.c. outlets have an earth leakage circuit breaker and wiring is in accordance to AS3000 as applicable.	A decal warning of insulation protection and electrical hazard as per AS1418.10-1.15 (j)/(m) is placed on the plant. Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10-10.
-Accidental electrical shock		1+1	Cables insulated & secured to plant. Major current carrying cables are colour coded. These cables have protective rubber boots over connection points or are enclosed in junction boxes to prevent contact shorting during maintenance.	Regular inspections to AS2550.10. Maintenance procedures are placed in the manuals. Maintenance should be carried out by trained personnel.
-Loose wire shorts		2+1	Durable connectors and terminals are used. Stain-resistant cable glands used. Fuses and circuit breakers on main cables.	Correct maintenance and inspection procedures in the manuals.
-Working too close to power lines	Design Code AS1418.10- 1.5.13.2(b) Operational Code AS2550.10-9.3	3+5	Plant is not insulated and has not been designed to work close to powerlines.	Warning decals are placed on the machine and the machine is marked non-insulating. Safe operating procedures and guidance on minimum safe approach distances to power lines are placed in the manuals. Operators advised local requirements may be more stringent.
-Electromagnetic interference		1+1	Design is sufficient for normal use.	Plants may be fitted with shielding for special applications.
-Water bridging		1+1	Control boxes sealed. Sealed connectors. All wiring insulated. Machines are tested for water damage in the IPD*** process.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10-10. Pressure washing tests are completed on machine per IPD*** process. <b>NOTE:</b> Manuals have weatherproof storage containers.

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<b>F. STABILITY</b>	Design Code AS1418.10-1.5.5 AS1418.10-4.2		The plant is designed to meet AS1418.10 for stability. In and out of service braking is spring applied (hydraulic release). The boom control system is used to avoid unstable boom configurations and keeps the basket within the appropriate working envelope for the capacity mode selected. Holding valves hold boom in position in advent of hydraulic failure.	The plant is tested in accordance with AS1418.10 for stability requirements. Upon commissioning of a new machine the customer is provided with a short operator training session, which reduces the chance of the machine being put in an unstable position.
-Outrigger failure	Design Code AS1418.10-1.5.12	N/A	These units are not fitted with outriggers.	
-Control valve or interlock failure	Design Code AS1418.10-1.8,1.10.4 AS1418.1-8.8	1+3	Interlocks are self-monitoring i.e. they are normally off/open so that in the event of malfunction motion is prevented. Holding valves are installed to prevent decent due to hydraulic failure. There is an auxiliary power system available in advent of motor failure.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10. A daily inspection list is included in the manuals, which includes the checking of the auxiliary pump. The manuals provided with the plant are in accordance with AS1418.10.
-Setup hazards (e.g. Slope, side force)	Operational Code AS2550.1 Design Code AS1418.10-1.10.2/4 Design Code As1418.10-1.15	2+5	Tilt switch provides an audible and visual alarm when plant is put in an out of level condition, also function speeds are reduced to creep speed. Machines are counterweighted to meet Australian requirements.	A permanent type specification plate is permanently attached to the plant, which shows S.W.L., max slope, max side force and wind speed etc. Warning decals are placed on machine, and safe operating procedures are placed in the manuals

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-Travelling hazards (e.g. Rough surface, dynamic loading.)	Design Code AS418.10- 1.125.2.3(a) AS1418.10-1.5.10.6 Operational Code AS2550.10-9.1/2/3	2+5	Audible and visual alarms warn the operator when driven onto excessive slope. Travel speed is also limited when elevated. Braking is designed to hold the unit on its maximum rated gradeability. Machine is tested for dynamic stability in various conditions. E.g. driven into a kerb, side loading and side slope per AS1418 performance requirements.	Warning decals are placed on machine, and safe operation and transportation procedures placed in the manuals. The plant is tested for braking on its max gradeability and a kerb test performed. A permanent type specification plate is stamped with machine design limits.
<b>G. HYDRAULIC FAILURE</b>	Design Code AS1418.10-1.8		Relief valves are used to prevent over pressurizing the hydraulic system. Holding valves prevent unsafe descent in the advent of failure.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10-10. The manuals provided with the plant are in accordance with AS1418.10-1.4.
-check or relief valve failure		1+3	Auxiliary control system is available to allow emergency retrieval in the advent of failure.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10. A daily inspection list is included in the manuals, which includes the checking of the auxiliary pump. Instructions for use of auxiliary power in manuals. The manuals provided with the plant are in accordance with AS1418.10. Emergency retrieval procedures in manual.
-Pump or motor failure	Design Codes AS1418.10-1.5.8	1+3	In the advent of pump or motor failure, an auxiliary power system is installed on the machine.	These plants have malfunction signals to assist in fault finding. Codes are placed in the Service and Maintenance Manual.
-general failure		1+3	As above	
<b>H. STRUCTURAL FAILURE</b>	Design Code AS1418.10-1.5.4		Rigorous stress analysis plus IPD process is used to ensure structural soundness. Cyclic fatigue testing is carried out before introduction to the workplace.	Design calculations have been reviewed by a local independent engineer. Also the plant has been overload tested at 1.25 times the S.W.L. required by AS1418.10. The boom control system prevents boom configurations and basket positions that the 1250AJP has not been designed for.
-component failure due to fatigue	Design Code AS1418.10-1.5.6	2+3	The plant has been cyclic tested against fatigue.	Regular inspection in accordance with AS2550.10. Annual inspections are required as stated in manuals. A full 10 year rebuild is also required per AS2550.

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-component failure due to corrosion or wear		2+3	Corrosive surfaces are painted or plated, components subject to wear have provisions to minimize wear by using sacrificial components or lubrication e.g. boom sections use wear pads along telescoping sections, pins use self lubricating bushes. Components which are not self-lubricating, such as the slew ring have grease nipples provided.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10-10. The manuals provided with the plant are in accordance with AS1418.10. Lubrication points and a schedule for maintenance are included in the manuals to reduce chance of corrosion.
-general overload eg. use as a crane (which is unintended).		1+3	A relief valve is used to prevent excessive loads being lifted by the platform. Tools are required to alter pressure settings. Test points are provided for checking of pressures.	Warning decals are placed on machine to show safe working loads. Safe operating procedures are placed in Operation and Safety Manual, which explicitly state that the plant should not be used as a crane. Correct pressure settings are placed in the manuals.
<b>I. MAINTENANCE</b>	Design Code AS1418.10-1.14.3 Maintenance Code AS2550.10-10		Design incorporates low maintenance and easy to maintain components, such as self-lubricating components.	Inspection and maintenance procedures are placed in the manuals and are to be in accordance with AS2550.10-10. <b>NOTE:</b> Manuals have weatherproof storage containers.
-routine inspection or maintenance		1+1	Components which require regular maintenance such as filters are placed in an easily accessed area. These plants feature a hinged engine tray that enables easy access to both sides of the engine. A jack is fitted to aid in the swinging out of the tray.	Illustrated parts manual is available for ordering replacement parts. Additional to this, JLG conducts operator and service training courses to all customers.
-battery charging		1+1	Battery is automatically charged while engine is running and, as it is only being trickle charged, gas (hydrogen) build-up is not considered a problem.	Service instructions are placed in the manuals.
-adjusting equipment	Design Code AS1418.10-1.8	1+1	Test points are provided for checking of pressure settings eg. lift relief. Adjustment points require tools to change.	Correct adjusting procedures are placed in the manuals. Hydraulic (and other) specifications are listed to enable adjustment.

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-guard removal		1+2	Guarding is of a fixed permanent nature, which can only be removed with tools.	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10. Warnings have been placed in the manuals.
<b>J. TRANSPORT</b>	Operational Code AS2550.10-9.4		There are both lifting and tie down points provided on the machine.	Decals are placed on the plant to clearly identify lifting/tie down points. Safe transportation procedures are placed in the manuals.
-objects falling from plant	Design Code AS1418.10-1.5.10.3.	1+1 (operator) 1+2 (pedestrian)	Components are designed to withstand vibration, and are tested in harsh conditions in excess of normal use. The platform has and 150mm high kickplate around periphery of platform to prevent objects falling	Inspection and maintenance procedures are placed in the manuals and are to be done in accordance with AS2550.10-10.
-stowing, loading and unloading		1+3	There are both lifting and tie down points provided on the machine. The jib stow override switch, which can only be operated from platform, must be held down in order to stow jib fully, reducing the risk of crushing or striking while stowing.	Decals are placed on the plant to clearly identify lifting/tie down points. Safe transportation procedures are placed in the manuals.
<b>K. OCCUPATIONAL HAZARDS</b>	Operational Code AS2550.10		Plants with duplicate controls can be over-riden from ground for emergency retrieval.	Safe operating procedures are placed in the manuals in agreement with AS2550.10.
-unintended use	AS1418.10-1.5.8	1+3	Only one set of controls may be used at one time. Ground controls are recessed to prevent inadvertent engagement by hitting an object. Plants have a removable key switch which prevents operation by unintended personnel. A clearly visible emergency stop button is positioned at top and bottom controls to stop unintended movement. At each set of controls, there is an enable switch that must be depressed for functions to commence or continue to operate. Boom control system prevents operator moving basket into incorrect envelope for the selected capacity.	Correct operating procedures are placed in the manuals. Warning decals are placed on the machine. Safety warnings are also placed in the manuals. Additional to this, JLG conducts operator and service training courses to all customers.
-excessive noise	Design Code AS1055.2/AS1269	1+1	Engines use baffled mufflers and are within acceptable sound limits. Acoustic insulation on hoods covering turntable components.	Where noise is considered excessive, level testing is done to AS1055.2/AS1269.

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-decals or safety sign removal	AS1418.10-1.15	2+5	Decals have permanent type marking & weatherproof backing. Specification plate is stamped for longevity.	Recommended daily inspection requires operator to check all decals are in place and are legible. Safety warnings are in manuals. Decal locations are in manuals along with JLG P/Nos, so they may be replaced as necessary.
-energy supply failure		1+2	An auxiliary power system is supplied.	Instructions on the use of the auxiliary power supply are contained in the manual.

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Compiled by: David Mearns, 05/10/2004.

## OTHER SAFETY RELATED INITIATIVES

**Please Note:** The risk assessment compiled and attached is prepared in addition to many other activities that have been undertaken by JLG to ensure the safety of the product. These include:

- JLG Industries (USA) performs computer simulation/modelling of product and internal design calculations.
- Independent design review by an independent engineer to local design requirements is completed in Australia.
- Cycle testing of components to ensure fatigue life is adequate for a 10-year life is completed.
- Extensive field testing of prototype units to ensure faults and hazards are identified before manufacture is completed.
- JLG conducts an intensive Integrated Product Development (“IPD”) Process to fully specify, design, risk assessment and safety test and field prove the design.
- JLG Industries (Australia) offers training and maintenance courses to any interested companies. All machines come with an Operation and Safety Manual. The Service and Maintenance Manual and the Illustrated Parts Manual are available for purchase from JLG Industries (Australia).
- JLG Industries (Australia) supports industry safety for operations and maintenance (being an EWPA member and an AS1418 & AS2550 Standards Association of Australia committee member).