

MOBILE AND CRAWLER CRANE

MINIMUM STANDARDS

The Mobile and Crawler Minimum Standards are structured as follows:

MINIMUM REQUIREMENTS	Required for all mobile and crawler cranes irrespective of the owner (LORA, Hire Company, Supply Chain Partner)
LORA PROCUREMENT REQUIREMENTS	Required for all mobile and crawler cranes procured by LORA
MINIMUM DOCUMENT REQUIREMENTS	Documentation required for all mobile and crawler cranes
PROJECT/SITE SPECIFIC REQUIREMENTS	Project/site specific requirements for mobile and crawler cranes as determined by the project risk assessment

FEATURE	REQUIREMENTS
MINIMUM REQUIREMENTS – MOBILE AND CRAWLER CRANES	
ENCLOSED, SEALED, AIR CONDITIONED CABIN	OEM designed and fitted cabin, with air conditioning suitable for conditions.
FIRE EXTINGUISHER + BRACKET	The crane shall be equipped with a portable dry chemical (ABE) fire extinguisher containing a minimum 6 kg of extinguishing agent and not weigh in excess of 20kg as per AS 1418.5-2013, specifically Section 4.5.2 Fire extinguisher. The extinguisher/s should be: - Fitted in a secure, easily accessible location - Fitted with legible instructions and coloured correctly (i.e. red with white band) - Fitted with a pressure gauge and hose to assist accessing awkward areas - Maintained in accordance with AS 1851 Minimum 1kg dry chemical (class ABE) shall be located in the operator's cabin and clearly identified. Note: This is a minimum requirement. Specific requirements for extinguisher type and/or capacity may be defined by certain work activities or sites
FLASHING AMBER BEACON (360 DEGREES)	At least one amber beacon is fitted, with easily accessible on/off toggle switch to operate. The beacon shall be mounted as near as possible to the top of the equipment and be clearly visible in normal daylight up to a distance of 200 metres (and closing) in all directions. The beacon shall be a rotating LED type (or as per site requirement).
REVERSE / TRAVEL / SLEWING ALARM (BEEP OR SQUAWK)	Fitted to central, unobstructed area of equipment. The alarm's noise level range shall be 87 to 112 dB(a) measured at a distance of 1 metre from the alarm. The alarm shall activate each time equipment movement is present (dependent on requirement and feature of alarm fitted i.e. reversing alarm) and not be fitted with an on/off feature.
RATED CAPACITY CHART/S DISPLAYED WITHIN CABIN	Sufficient charts shall be provided by the OEM to clearly define the rated capacity of the crane for all configurations. Rated capacity charts shall be in printed form, in plain English and metric numeration and comply with AS 1418.5-2013, specifically Section 10. As a minimum, the following shall be included on each rated capacity chart: (a) Crane manufacturer's name, crane model, the part number of the rated capacity chart of the crane or other agreed identification number of the rated capacity chart. (b) The standard to which the crane is designed or manufactured, or both. (c) The mass and identifier of each detachable counterweight (see Clause 4.6). (d) Boom or jib arrangement for which ratings apply. (e) Set-up configuration for which ratings given in Clause 9.3 apply, on crawlers, outriggers, tyres, stationary or pick and carry. (f) The speeds, if any, at which the crane may travel with suspended loads. (g) Working zone diagram and slew limitations, if applicable, for which the ratings apply.

FEATURE	REQUIREMENTS
	(h) The degree of level applicable to the chart. (i) Rope and reeving details, diameter, breaking strength, length and application, e.g., hoisting rope, luffing rope and rope construction specification. (j) Tyre size, ply rating and pressures for the crane duty. (k) Any special restrictions unique to the use of the ratings of the crane. (l) The mass of the manufacturer's hook blocks and other accessories. (m) The minimum ground and support conditions applicable to the rated capacities. (n) Minimum boom angle and maximum boom length for a no-load condition for a given boom configuration and machine set-up. (o) The in-service wind speed for each configuration.
WARNING SIGNAGE AFFIXED IN CABIN (FOR APPLICABLE EQUIPMENT)	Ensure overhead power line, underground cables and equipment minimum clearance height warning signage is affixed in cabin; clearly visible to operator.
LOCKABLE BATTERY ISOLATION SWITCH C/W IDENTIFICATION DECAL	A means of immobilising the equipment by isolating the battery so the equipment cannot be started and/or operated by an unauthorised person. The isolation switch must be lockable, resistant to weather and clearly identified (i.e. isolator decal). Required Colour: Battery Isolator – Red Starter Isolator – Yellow
EMERGENCY STOP/S (WITH DECAL) EASILY AND SAFELY ACCESSIBLE FROM OUTSIDE PLANT	As per Model Work Health and Safety Regulations 2024, Part 5.1 – General Duties for Plant and Structures, Section 191 – Emergency Stop Controls, Subclauses (1), (2)(a), (2)(b), and (2)(c) or Victoria OHS Regulations Part 3.5 Plant Section 102 Specific Risk Control Measures—Emergency Stop Devices Sub Clause 1-2. emergency stop devices must: (a) Be prominent, clearly and durably marked and immediately accessible to each operator of the plant; and (b) Have handles, bars or push buttons which are coloured red. (c) Not be able to be affected by electrical or electronic circuit malfunction. (d) Are of "stop and Lock-off" type: so that the plant cannot be restarted after an emergency unless the stop control has been reset. Location: Emergency stop devices shall be positioned for easy access. The E-Stops shall be located in the operator's & driver's cabin. Positioned outside (chassis and superstructure)
GUARDING (ENGINE, ROTARY PARTS, HEAT SHIELDS, SOUND CLADDING)	Guarding is in place, mitigating operator exposure to moving and/or hot parts and conform to Model Work Health and Safety Regulations 2024, Part 5.1 – General Duties for Plant and Structures, Section 208 – Guarding, Subclauses (2, 3, 4 and 5) & Section 209 Guarding and insulation from heat and cold or OHS Regulation 2017 Victoria Part 3.5 Plant Section 99 Specific risk control measures—Guarding Subclause (3, 4, 5 and 6) & Section 100 Guarding and insulation from heat and cold and, in addition, Select Plant Hire Equipment Safe Guarding Standard.
SAFETY SIGNAGE/DECALS IN PLACE FOR SWL, ACCESS/PINCH POINTS, WARNINGS, EMERGENCY, ETC.	The crane shall be marked in accordance with the marking requirements specified in the appropriate part of AS 1418, specifically Section 14.2 Marking. The crane and crane subassemblies shall be marked legibly and permanently with the manufacturer's traceable marking. Independent hoisting mechanisms (e.g. hook blocks) shall include marking for the rated capacity. Warning decals for pinch point areas (e.g. reeving winch) shall be affixed. Additional decals shall be affixed to the reeving winch (if fitted); clearly identifying operator controls and the drum's direction. Each lifting attachment, e.g., lifting beam, magnet or grab, shall be marked in a permanent manner with the following information: (a) The mass of the lifting attachment expressed in the same unit as the rated capacity of the lifting attachment.

FEATURE	REQUIREMENTS
	(b) The rated capacity of the lifting attachment in either kilograms or tonnes. (c) Name or mark of the manufacturer or distributor of the attachment, where applicable. (d) An identification number. (e) Details of wire rope used on the lifting attachment, i.e. (i) nominal size; (ii) grade (quality); (iii) construction; and (iv) length. (f) Details of chain used on the lifting attachment, i.e. (i) nominal size; and (ii) grade (quality). Marking shall be in the English language.
HANDRAILS ON UPPER DECKS WHERE PERSONNEL ACCESS IS REQUIRED	Suitably designed hand rails (edge protection) shall be fitted to prevent falls from height occurring when utilising upper decks. They shall be a minimum of 1m high, with gaps of less than 450mm between each mid rail, toe boards installed (minimum 100mm wide), manufactured from metal.
SAFE ACCESS ONTO MACHINES (THREE POINTS OF CONTACT)	Suitably designed access with hand rails shall be fitted to prevent trips and falls from height occurring when accessing plant and equipment. They shall be manufactured from metal. They shall mitigate the use of tracks to access the control cabin where possible.
SEATBELT FITTED	Shall be operational and meet Australian Standards. A sign should be prominently displayed in every cabin, warning the operator to wear the seatbelt provided. (fitted in carrier; if road registered)
UHF RADIO AND AERIAL FITTED AND OPERATIONAL	An operational UHF radio shall be fitted in the operator cab and be easily accessible. A compatible aerial shall be fitted securely to the equipment.
WHEEL CHOCKS WITH SECURE CARRYING MOUNTS (FOR RUBBER TYRED EQUIPMENT)	Rubber and compatible with equipment size and requirements. Shall be secured to equipment with bracket to prevent unintended movement when not in use.
EXTERNAL BOOM ANGLE INDICATOR	Crane boom angle indicator shall be OEM approved and externally installed.
LOAD MOMENT INDICATOR (LMI)	The load moment indicator shall be OEM approved for use on the particular crane make and model intended, installed by either the OEM or an authorised dealer and not obstruct the operators view.
ANTI-TWO BLOCK SYSTEM (A2B)	The A2B system shall be OEM approved for use on the particular crane make and model intended and installed by either the OEM or an authorised dealer. Should be tested as part of the pre-mobilisation.
EXTERNAL RATED CAPACITY LIGHTING (CHRISTMAS TREE LIGHTS)	External rated capacity lighting shall be fitted. An audible alarm (for overloads) shall also be fitted.
FREE FALL FUNCTION OF THE CRANE HAS BEEN PHYSICALLY LOCKED OUT OR DISABLED TO PREVENT OCCURRENCE	Cranes optioned with free fall capabilities should be: a) Fitted with a physical lockout device; and/or b) Be disabled permanently if possible to do so
ANEMOMETER FITTED FOR MOBILE SLEWING CRANES 45 TONNE OR GREATER	Mobile slewing cranes with rated capacity of 45 tonnes or greater fitted with anemometer.

FEATURE	REQUIREMENTS
ADDITIONAL LORA PROCUREMENT REQUIREMENTS – EARTHMOVING PLANT	
AUTOMATIC GREASING SYSTEM	OEM supplied and fitted. Typically fitted to larger equipment and shall have accessible locations for servicing and refilling grease.
ASSET IDENTIFICATION STICKERS (SELECT OWNED ASSETS ONLY)	Asset Decals: Black lettering on a white background, non-reflective adhesive backed decal Suggested Size: 200 x 100mm Installation: Evenly applied to LH and RH side of asset
DOCUMENTATION MINIMUM REQUIREMENTS (Paper or electronic – Must be available at the time of mobilisation)	
ROAD REGISTRATION	Registration paperwork (if applicable to specific mobile crane)
OPERATORS MANUAL	OEM operators manual available and in good condition.
PLANT RISK ASSESSMENT	Specific to make and model of equipment. Additional risks and controls identified in plant risk assessment to be reflected in plant pre-mobilisation checklists.
DAILY PRE-START BOOK	Specific to category of equipment of equipment.
SERVICE HISTORY	Previous 3 months of preventative maintenance and repairs. If crane is 10 years old or more, 10-yearly major service inspection to be provided.
PLANT REGISTRATION	Road registration papers, sticker and plates (where applicable)
PLANT DESIGN	Worksafe Registration, relevant to mobile crane.
PLANT LOGBOOK	Placed in operator cabin
HOOK BLOCK AND ROPE CERTIFICATES	OEM supplied inspection test certificates relevant to mobile crane for hook block/s and rope
HOOK BLOCK AND ROPE CERTIFICATES	Copy of latest Cranesafe report and green sticker affixed to windscreen (annual requirement)
SELECT HOOK BLOCK RETAINING GUIDANCE	Shall be placed in the operator's cabin for reference (located on Select Services 'Cranes' page)
VEHICLE PERMITS	E.G. over mass / dimensional permits

FEATURE	REQUIREMENTS
PROJECT / SITE / CLIENT SPECIFIC REQUIREMENTS Items that may be required as determined by the project/site and/or client	
HIGH MOUNTED TAIL LIGHTS	ADR compliant high mount lights with brake and turn signal features (reversing optional). Shall be mounted to the highest point of the vehicle (i.e. light bar or top of load guard), facing rearwards for the purpose of alerting other road users to vehicle movement.
VHF RADIO AND AERIAL FITTED AND OPERATIONAL	An operational VHF radio shall be fitted in the operator cab and be easily accessible. A compatible aerial shall be fitted securely to the equipment.
WHEEL NUT INDICATORS	Fitted to wheel nuts to help identify any loose nuts, preventing the possibility of wheel detachment. Indicators should be of a suitable design and yellow in colour.
IN VEHICLE MONITORING SYSTEM (IVMS)	As part of Laing O'Rourke's preventative maintenance and incident strategy, many Laing O'Rourke vehicles have been fitted with IVMS hardware. These units report events that have been specifically set, which include: • Fatigue • Speed • Harsh acceleration, braking and idle

FEATURE	REQUIREMENTS
	- Excessive revving - Roll over - Seat belts Mobile and crawler cranes being used for LOR project delivery must be fit for purpose. IVMS must be fitted to all Laing O'Rourke mobile and crawler cranes. IVMS must be fitted to other machinery on Laing O'Rourke projects, where the requirement has been identified in the Project Risk Assessment. The following must be considered when conducting the risk assessment: - Would the location / position of the vehicle need to be monitored in the event of an emergency? (e.g. machinery being use to undertake remote work, lone worker using machinery etc.) - Will the machinery be used an integral part of undertaking the work? (e.g. traffic control, driving to multiple locations to supervise/inspect/undertake work etc.) - Will monitoring distance travelled and driver behaviour (i.e. speed, braking etc.) be required as part of managing fatigue? - Could the machinery exceed speed limits when being used for/on the project? (e.g. being driven on public roads, haul roads, large open space etc.) The requirement for IVMS must be documented in the Project / client requirement section of the pre mobilisation document.
SPARE TYRE (SECONDARY)	Unused, in good condition and compatible with the equipment it is intended for
SPILL KIT	General vehicle spill kit design to assist in small fluid (i.e. oil or coolant) spills. The spill kit bag shall be weather proof to avoid damaging contents.
TOOL BOX	Storage solution to keep equipment and tools securely and safely packed away. Note : Loaded tool box/s weight and vehicle GVM shall be considered.
REVERSING CAMERA	Vehicles fitted with a reverse camera must have a: - Robust camera mounted to provide adequate vision to the rear for the operator - Monitor of an adequate clarity which must be mounted so as not to hinder operator's forward vision or distract operator Reverse camera and monitor shall only be installed by the OEM or a qualified technician.
HAZARD / PROXIMITY DETECTION SYSTEMS OR ANTI-COLLISION SYSTEM	Proximity Alarms/Hazard Detection Systems - Automatic or Warning Systems: Various types of hazard detection systems are available that detect people and obstacles behind or around vehicles. A huge range of technology (i.e. infrared, microwave, ultrasonic, RF/EMF, radar, laser, GPS, etc) offers different advantages/disadvantages according to application and environment. Application/suitability should be assessed on activity-basis. These systems may also be configured in a number of different ways. Automatic - A radar based system that detects hazard and automatically restricts movement without operator input. This system can also be configured to provide pre-warning of automatic braking and can turn on the CCTV when the vehicle is reversing. Warning Only - A system that detects a hazard or obstacle in proximity the machine but just sounds an audible and/or visual alarm (i.e. in the cab)
CALL SIGNS (HIGH VIS OR STANDARD)	Used for communication purposes between road users. Call Sign Decals: Typically, black lettering on a reflective yellow high vis background (high vis version) or black lettering on silver or white non-reflective background (standard, non-mine spec) Suggested Size: 500 x 250mm Installation: Evenly applied to LH, RH and rear of asset

FEATURE	REQUIREMENTS
FIRST AID KIT	A complete First Aid Kit, in date. Location of the kit must be clearly signed on outside of equipment.
REFLECTIVE TAPE	Material: The tape shall be weather resistant with a reflective surface and adhesive back Size: Minimum 50mm wide Installation: One strip evenly applied to all sides of the equipment Note: Reflective tape may be applied to boom sections and front of the equipment (optional)
LOCKABLE STARTER ISOLATION SWITCH C/W IDENTIFICATION DECAL	A means of immobilising the equipment starter. The isolation switch must be lockable, resistant to weather and clearly identified. Required Colour: Starter Isolator – Yellow
WEED AND SEED	A statutory declaration for all Plant and Equipment that they are clean and free from weed and seeds. This is to confirm that the Plant and Equipment has not gone through areas with weed and in particular (parthenium weed or giant rat's-tail grass). If the item has gone through areas of this weed, a clean down certificate will be required.