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1. INTRODUCTION

UL-1 & UIL-2 UTILITY CRANES

1.1 ABOUT THIS MANUAL

Thank you for purchasing a Rynoquip UL Series Vehicle Loading Crane.

This manual provides important information for the safe installation, operation, inspection and maintenance of your crane.

Read this manual completely before installing or operating the crane. Failure to follow these instructions may result in equipment damage, serious injury or death.

Keep this manual with the crane at all times.



1.2 INTENDED USE

The Rynoquip UL Series crane is designed for:

- ✓ Loading and unloading equipment and materials.
- ✓ Vehicle-mounted lifting operations.
- ✓ Vertical lifting of freely suspended loads within the rated capacity.
- ✓ Operation on a correctly installed and adequately supported vehicle or mounting frame.



THE CRANE IS NOT DESIGNED FOR:

- ✗ Lifting people.
- ✗ Side pulling or dragging loads.
- ✗ Recovering vehicles.
- ✗ Pulling stumps or embedded objects.
- ✗ Towing.
- ✗ Continuous industrial production lifting.
- ✗ Operation beyond the rated load chart.

1.3 OPERATOR REQUIREMENTS

Operators should:

- ✓ Read and understand this manual.
- ✓ Be familiar with safe lifting practices.
- ✓ Understand load charts and lifting capacity.
- ✓ Inspect the crane before every use.
- ✓ Never allow untrained persons to operate the crane.

1.4 DISCLAIMER



This manual is intended to supplement, not replace, applicable Australian Standards, workplace procedures and operator training.

The owner is responsible for ensuring the crane is installed, inspected and operated in accordance with all applicable law.

1.5 CRANE IDENTIFICATION

The crane identification plate is located on the base of the crane. Record the details below for future reference.



QR CODE

Scan to access:

- Operator Manual
- Load Charts
- Maintenance Guide
- Spare Parts
- Inspection Forms
- Support

FIELD	DESCRIPTION
Model	Crane model designation.
Serial Number	Unique crane serial number. Quote this number when requesting parts, technical support or warranty service.
Safe Working Load (SWL)	Maximum rated lifting capacity. Refer to the load chart for allowable capacity at each operating radius.
Maximum Reach	Maximum horizontal operating reach.
Voltage	Required electrical supply voltage.
Crane Mass	Mass of the crane only, excluding mounting frame and accessories.
Manufacture Date	Date of manufacture.
Standard	Design standard to which the crane was manufactured.



IMPORTANT

Record the crane model and serial number for future reference. Always quote these details when ordering parts, requesting technical support or making a warranty claim.

1.6 CONTACT DETAILS



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<https://www.rippansw.com>



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1.7 MANUAL UPDATES

Rynoquip continually improves its products. Specifications may change without notice.

Always ensure you are using the latest revision of this manual.



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2. INSTALLATION

UL-1 & UL-2 UTILITY CRANES



2.1 INSTALLATION REQUIREMENTS

The Rynoquip UL Series crane has been designed in accordance with the requirements of EN 12999 and is intended to be installed in a manner that enables compliance with applicable local regulations, including AS 1418.11 where applicable.

The crane must only be installed on a vehicle or structure that is suitable for the intended application.

The completed installation should be assessed and, where required by local legislation or industry practice, certified by a suitably qualified and competent person.

The owner and installer are responsible for ensuring the completed installation complies with all applicable laws, standards, vehicle regulations and workplace requirements in the jurisdiction where the crane is operated.



2.2 UNIVERSAL MOUNTING SYSTEM

Rynoquip provides installation guidance and demonstration videos for the Rynoquip Universal Mounting System to assist installers.

These resources are intended as a guide only and do not constitute engineering approval or certification.



Because vehicle chassis, trays, subframes and operating conditions vary significantly, Rynoquip cannot verify or guarantee the suitability or compliance of individual installations.

It is the responsibility of the installer to ensure the mounting system, fasteners, supporting structure and completed installation are suitable for the intended service.



2.3 BEFORE FIRST USE

Before placing the crane into service, verify that:



✓ The crane is securely mounted and all fasteners are tightened to the specified torque.



✓ Hydraulic and electrical connections are correctly installed.



✓ The mounting structure shows no signs of deformation or interference.



✓ All crane functions operate correctly.



✓ Safety decals and load charts are fitted and legible.



✓ Any required inspections or certifications have been completed.



IMPORTANT

Installation compliance is the responsibility of the owner/installer.

Failure to install the crane correctly may result in serious injury, death, equipment damage and void warranty.

If you are unsure about any aspect of the installation, consult a suitably qualified and competent person.



Installation videos using the Rynoquip Universal Subframe are available to assist installers.



SCAN TO WATCH
INSTALLATION VIDEOS



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3. SAFETY

UL-1 & UL-2 UTILITY CRANES

1. BEFORE EVERY LIFT

- Check the load chart
- Deploy stabiliser fully
- Inspect crane & lifting gear
- Keep people clear
- Lift and lower loads smoothly. Avoid sudden starts or stops.
- Keep load low while moving

Read and understand the operator's manual before use.

2. PERSONAL PROTECTIVE EQUIPMENT (PPE)



Wear appropriate PPE for the task and environment.

6. PROHIBITED USES



KNOW YOUR LOAD

Always know the weight of the load before lifting. If the load weight is unknown, do not guess. Use a lighter lifting method or verify the weight before proceeding.

3. HAZARDS



MECHANICAL HAZARDS

- Crush or pinch points on moving parts
- Crush hazard from stabiliser legs
- Hazard from suspended load
- Slew area – keep clear
- Entanglement hazard from winch (if fitted)

HYDRAULIC HAZARDS

- High-pressure hydraulic system (injection hazard)

STABILITY HAZARDS

- Overload or incorrect load chart use
- Topple or loss of stability
- Falling objects due to poor rigging

GENERAL HAZARDS

- Electrical hazard (power pack & wiring)
- Hot surfaces (power unit)
- Trip or slip hazards from hoses or obstructions

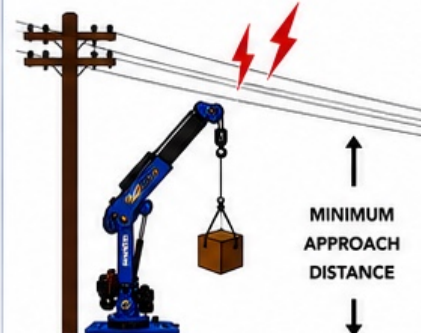
Electricity can cause death or serious injury. Treat all overhead power lines as LIVE. Always check for power lines before operating the crane.

4. OVERHEAD POWER LINES



WARNING

NEVER operate within the minimum approach distance of overhead power lines.



5. LIFTING PRACTICES

- CORRECT LIFTING**
Load directly below hook.
- SIDE LOADING**
Can cause loss of control and structure failure.
- SHOCK LOADING**
Avoid sudden starts, stops or jerking movements.
- SWINGING LOAD**
Keep load under control at all times.

7. STABILITY HAZARDS

- STABILISERS DEPLOYED**
Use stabilisers fully extended on firm, level ground.
- STABILISERS NOT DEPLOYED**
Can cause tipping and loss of control.

8. EXCLUSION ZONE

- Keep all personnel clear of the lifting area.
- EXCLUSION ZONE**
No persons within the lifting area.

9. HIGH WINDS

- Do not operate in high winds or conditions that may cause uncontrolled load movement.

10. EMERGENCY PROCEDURES

- Stop operation immediately.
- Lower the load if safe to do so.
- Isolate electrical power.
- Tag crane out of service.
- Do not return the crane to service until the fault has been rectified.

IMPORTANT – Safe crane operation depends on the operator, the installation and the load.

IF THE LIFT DOESN'T FEEL SAFE...

STOP.

Assess the situation and proceed only when it is safe.

11. THE FIVE GOLDEN RULES

- Never exceed the load chart.
- Never stand beneath a suspended load.
- Always deploy as low as practical before lifting.
- Stop immediately if unsafe.



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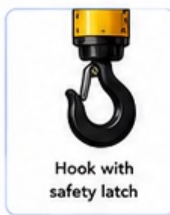
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4.1 BEFORE STARTING

Before operating the crane, complete the following checks.

- ✓ Inspect crane for damage, loose bolts or leaks.
- ✓ Check hydraulic oil level.
- ✓ Verify correct load chart for your configuration.
- ✓ Inspect lifting gear (hook, slings, chains, shackles).
- ✓ Ensure work area is clear and exclusion zone established.
- ✓ Ensure battery isolator is ON and electrical system is ready.



Hook with safety latch



Hydraulic oil level



Remote control (pendant) ready

i If any defects are found, do not operate the crane until repaired.

4.2 DEPLOYING THE CRANE

- 1 Park on firm, level ground.
- 2 Apply vehicle parking brake.
- 3 Deploy stabiliser and ensure firm ground contact.
- 4 Switch ON electrical power (12V/24V).
- 5 Unfold crane.
- 6 Test all crane functions before lifting.



i LIFTING GEAR

- Only use lifting slings, chains, shackles and hooks that:
- ✓ Are rated for the load
 - ✓ Are in good condition
 - ✓ Have legible identification
 - ✓ Are suitable for the lifting application

4.3 CONTROLS (TYPICAL)

- ↑ Boom Up
- ↓ Boom Down
- C Slew Left
- C Slew Right
- Extend Out
- ← Retract In
- ↑ Winch Up (if fitted)
- ↓ Winch Down (if fitted)

REMOTE CONTROL (PENDANT)



4.4 PLANNING THE LIFT



Think before you lift!

- ✓ Do I know the load weight?
- ✓ Is the lifting point suitable and secure?
- ✓ Is the ground stable and level?
- ✓ Is everyone clear of the lift?
- ✓ Am I within the load chart limits?

i KNOW YOUR LOAD

Always know the weight of the load before lifting. If the load weight is unknown, do not guess. Use a lighter lifting method or verify the weight before proceeding.

4.5 PERFORMING THE LIFT

- 1 Position hook centrally over load.
- 2 Take up slack slowly.
- 3 Lift approximately 100 mm and check.
- 4 Lift smoothly to the desired height. Avoid shock loading.



If anything is not right, lower the load and re-assess.

4.6 LOAD HANDLING



- ✓ Keep load as low as practical.
- ✓ Move smoothly and steadily.
- ✓ Avoid sudden starts, stops or turns.
- ✓ Avoid swinging the load.
- ✓ Never move a suspended load over people.

4.7 STOWING THE CRANE



- 1 Retract telescope fully.
- 2 Lower boom fully.
- 3 Fold boom to stowed position and lock.
- 4 Raise stabiliser fully.
- 5 Turn power OFF, secure hook and stow remote.

4.8 AFTER OPERATION

- Inspect crane for damage or leaks.
- Clean off dirt and debris.
- Grease as required.
- Report any defects immediately and stow equipment securely.

4.9 COMMON MISTAKES

MISTAKE	RISK	DO IT RIGHT
Side pulling (load not centred)	Structural failure, loss of control	Lift with load centred below hook.
Shock loading (sudden movement)	Damage to crane and load	Avoid shock loading.
Overloading	Tip-over, serious injury or death	Keep load within rated limits.
Unknown load weight	Overloading, serious injury or death	Know the weight – use the load chart.

4.10 FIVE GOLDEN RULES



- 1 Plan the lift.
- 2 Use the right gear.
- 3 Lift smoothly.
- 4 Keep the load low and stable.
- 5 Keep people clear of the lifting area.



5.1 PRE-OPERATION INSPECTION (EVERY USE)

- ✓  Crane structure free from cracks or damage.
- ✓  Hydraulic oil level correct.
- ✓  No hydraulic leaks.
- ✓  Hoses and fittings secure.
- ✓  Hoses and safety latch serviceable.
- ✓  Wire rope (if fitted) free from damage.
- ✓  Load chart and decals legible.
- ✓  Controls operate correctly.
- ✓  Stabiliser operates correctly.
- ✓  Test all crane functions without a load.

i Do not operate the crane if any safety-critical defect is identified.

5.2 LUBRICATION (GREASE POINTS)



Inspect and lubricate all pivot points, slides and pins.

Use a grease gun to lubricate all grease points regularly.

i Use a premium lithium-complex EP2 grease or equivalent.

5.3 SCHEDULED MAINTENANCE

INTERVAL	INSPECTION / MAINTENANCE
 EVERY 10 HOURS DAILY	• Clean crane. • Inspect for leaks and damage. • Grease all pivot points.
 EVERY 50 HOURS WEEKLY	• Check fastener torque. • Inspect hydraulic hoses. • Check electrical wiring and battery connections.
 EVERY 250 HOURS	• Inspect slew bearing. • Inspect cylinders and pins. • Replace hydraulic return filter (if fitted).
 EVERY 500 HOURS ANNUAL	• Inspect complete crane structure. • Replace hydraulic oil if required. • Inspect hook, winch and wire rope.

i **SERVICE RECORDS**
Record all inspections, maintenance and repairs. Maintaining accurate service records assists with safe operation, troubleshooting and resale value.

5.4 REPLACE OR REPAIR IF

- ✗  Cracked welds
- ✗  Bent boom components
- ✗  Hydraulic leaks
- ✗  Damaged hoses
- ✗  Missing hook latch
- ✗  Wire rope damaged (if fitted)
- ✗  Loose or missing fasteners
- ✗  Load chart or decals missing or unreadable

i Do not operate the crane if any of the above conditions exist.

5.5 IF A FAULT IS FOUND

! DO NOT RETURN THE CRANE TO SERVICE UNTIL THE FAULT HAS BEEN RECTIFIED.

If any structural, hydraulic or electrical defect is identified:

- 1  Stop operating the crane immediately.
- 2  Lower any suspended load safely.
- 3  Isolate the electrical supply.
- 4  Tag the crane out of service.
- 5  Repair and inspect before returning to service.

RUNNING-IN SERVICE (10 HOURS)

After the first 10 hours of operation (running-in period), complete the following:

- ✓  Check all structural fasteners.
- ✓  Inspect hydraulic fittings for leaks.
- ✓  Grease all lubrication points.
- ✓  Check hydraulic oil level.
- ✓  Inspect electrical connections.
- ✓  Re-torque mounting bolts.



i **IMPORTANT**
Installation compliance is the responsibility of the owner/installer.

Crane should be covered when not in use, exposure to the elements may result in damage and premature wear which is not covered by warranty.

If you are unsure about any aspect of the installation, consult a suitably qualified and competent person.



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6.1 COMMON ISSUES & SOLUTIONS

ISSUE	POSSIBLE CAUSE	SOLUTION
 Crane will not lift load	• Overload • Low hydraulic pressure • Hydraulic leak	• Check load chart and reduce load • Check relief valve setting and pump • Inspect hoses, fittings and cylinders
 Slow lifting speed	• Low engine RPM • Low hydraulic oil level • Pump wear	• Increase engine speed • Top up hydraulic oil • Check and replace pump if required
 Boom does not extend/retract	• Low hydraulic pressure • Control valve fault • Cylinder or hose leak	• Check relief valve and pump • Check control valve operation • Inspect cylinders and hoses
 Slew not working	• Low hydraulic pressure • Hydraulic motor fault • Debris in motor	• Check relief valve and pump • Check motor and connections • Flush motor if contaminated
 Remote control not working	• Low battery • Poor connection • Faulty transmitter/receiver	• Charge or replace battery • Check connections and fuses • Test and replace if faulty
 Hydraulic oil overheating	• Low oil level • Restricted return filter • Continuous high load use	• Top up hydraulic oil • Replace return filter • Allow system to cool, reduce duty cycle
 Abnormal noise or vibration	• Loose fasteners • Worn pins or bushings • Mechanical interference	• Inspect and tighten fasteners • Inspect and replace worn parts • Check for interference or misalignment

6.2 HYDRAULIC SYSTEM CHECKS

 Oil Level	Check hydraulic oil level daily. Top up with ISO VG46 hydraulic oil.
 Leaks	Inspect all hoses, fittings, cylinders and seals for leaks.
 Oil Condition	Oil should be clean and free from contamination. Change if required.
 Relief Valve	Check relief valve setting. UL-1: 18 MPa (2600 psi) UL-2: 20 MPa (2900 psi)
 Return Filter	Replace return filter every 250 hours or as required.
 Hydraulic Hoses	Inspect hoses for wear, cracking or damage. Replace if necessary.



HYDRAULIC OIL SPECIFICATION

Use high quality anti-wear hydraulic oil.
Recommended: ISO VG46

6.3 TORQUE SPECIFICATIONS

BOLT SIZE (METRIC)	GRADE 8.8 DRY (Nm)	GRADE 10.9 DRY (Nm)
M6	10	15
M8	25	37
M10	50	72
M12	85	125
M14	135	200
M16	210	310



Unless otherwise specified, all structural fasteners are Grade 8.8 metric coarse thread and should be tightened to the torques shown for dry (unlubricated) conditions.

Lubricated threads require reduced torque.

Always use new prevailing-torque lock nuts or approved thread-locking compound where fitted.

6.4 STORAGE



- Fully retract boom and lower to stowed position.
- Clean crane thoroughly.
- Lubricate all grease points and exposed surfaces.
- Cover crane with supplied cover.
- Store in a dry, protected area.
- Disconnect battery if storing for extended periods.



IMPORTANT

Exposure to the elements may result in rust, damage and premature wear which is not covered by warranty.



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