KANGA LOADERS™

RADIO CONTROLLED LOADER OPERATOR'S MANUAL



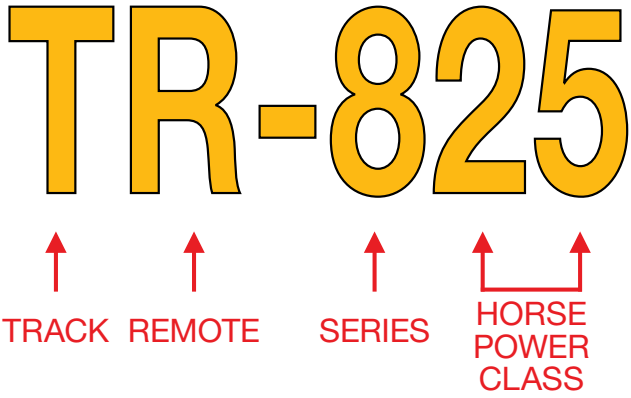
WWW.KANGALOADER.COM
REV.21.2

1300 4 KANGA
PM-000095

REVISION SHEET

REVISION	DATE	PAGE #	CHANGES MADE	BY
1	Feb 2019	1	Updated cover page	LC
2	May 2019	4, 6	Copy updates	LC
3	Dec 2019	15, 52, 59	Updated SWL terms to ROC, images	LC
4	Feb 2020	15, 70	Update ROC, add Tipping Load	LC
5	Sep 2020	13, 25, 27, 28, all	Update DE-000289 / Operating Instructions, add Cable Control, General copy update	LC
6	Jan 2021	3, 62	Change 'engine size' to 'horse power class', update ROC's & Tipping Loads on specs table, Bucket Volumes, hyd. res. capacity, Pump size	LC
7	Jun 2021	6	Updated the WARRANTY section.	BA





Proprietary Statement
© Copyright 2019 Kanga Loaders Global Pty Ltd. All rights reserved. No part of this publication may be reproduced, photocopied, stored on a retrieval system, or transmitted without the express prior written consent of the publisher.

Disclaimer
While all care has been taken in the development of this product, no loss of any kind is accepted by Kanga Loaders Global Pty Ltd or its agents arising from the use of this document.

Kanga Loaders Global Pty Ltd makes no representations or warranties with respect to the contents of this document, and specifically disclaims any express or implied warranties or fitness for any particular purpose. Furthermore, Kanga Loaders Global Pty Ltd reserves the right to revise this publication and to make changes to its contents, at any time, without obligation to notify any person or entity of such revisions or changes.

Trademarks
KANGA LOADERS GLOBAL PTY LTD (ACN 087 977 660, ABN 14 087 977 660) 2019 ('we', 'us', 'our')
™ Trade mark of Kanga Loaders Global Proprietary Limited.
® Australia Registered trade marks include the Kangaroo logo, stylised 'Kanga Loaders', Kanga Kid, Earth Power, and ™Business on a Trailer.
© Kanga Loaders Global Pty Ltd

1 Copyright
1.1 This document, its contents, kangaloader.com, the material on kangaloader.com, the software, design, text and graphics comprised in kangaloader.com and the selection and layout of kangaloader.com are owned or licensed by us and protected by copyright under the laws of Australia and other countries.
1.2 You may view this document and our website and save an electronic copy of the website solely for the usual operation of your web browser visiting the site.
1.3 You must not otherwise reproduce, transmit (including broadcast), adapt, distribute, sell, modify or publish or otherwise use any of the material on this document or our website, including audio and video excerpts, except as permitted by statute or with Kanga Loaders prior written consent.

2 Trade Mark Notice
This document includes registered trade marks and trade marks which are the subject of pending applications or which are otherwise protected by law including, but not limited to the word KANGA LOADERS, and the Kanga Loaders logo. You may not use these trade marks or the names 'Kanga Loaders Global Proprietary Limited', 'Kanga Loaders Australia Pty Ltd', 'Kanga Loaders', or the name of any of our related companies.

3 Framing
You must not frame any of the material appearing on this document or on kangaloader.com except in accordance with the Kanga Loaders Global Pty Ltd Linking and Framing Policy or otherwise in accordance with Kanga Loaders Global prior with written consent.

Patents
Patents Pending US 6397967, 438218 & 10/096997 AU 65424/99, 2006101054
UK 2345046. AU Registered Design 138603

DELIVERY SHEET

Owner:	Date:
Address:	
City:	Post Code:
State/Territory:	Email Address:
Owners Phone No: ( )	Mobile:
Dealer/Delivered By :	
Loader Model and Seriel No:	

Attachments:	Serial No.
(1)	
(2)	
(3)	
(4)	
(5)	

Customer's name) ……..……

Salesman / Owner to initial

1. Accept delivery of the equipment as detailed above. All equipment has been inspected and is accepted.
2. Have had the operational and safety procedures explained to me for the Loader and attachments and have been provided a copy of these procedures for reference and use.
3. Have received a copy and understand the Operators Manual and safety information contained therein for all equipment and attachments supplied.
4. Understand that I am required to perform a risk assessment/JSEA covering all tasks before I operate this machine and/or any attachment.
5. Understand the warranty conditions and maintenance requirements for the Loader and attachments.

Comments:
(COMPLETE SERIAL NUMBER REGISTRATION ON PAGE 7)

Purchaser's Signature: Date:

…….. ..... / ..... / .....

Forward as indicated overleaf

WARRANTY

TERMS AND CONDITIONS

KANGA

- 05 years unlimited warranty - Chassis structure faults.
- 02 years/or 1000 hours warranty - Workmanship & structural faults in arms and tilt assemblies.
- 12 months - All other loader components.

HONDA

- 36 months - Limited engine warranty for motors released after 1/4/10.
- 12 months warranty/or 1000 hours - Engine accessories (fuel, starter & charging system).

KUBOTA

- 24 months/or 2000 hours - Limited engine warranty.
- 12 months warranty/or 1000 hours - Engine accessories (fuel, starter & charging systems).

Purchaser's Responsibilities:

- The purchaser must ensure maintenance & minor adjustments, as detailed in the Operator's Manual and engine manufacturer's Manual, are carried out as per the schedule. If there is a discrepancy between the two, the Service Chart in the Operator's Manual will take precedence.
- The purchaser must notify Kanga Loaders or an authorized Kanga Loader service representative of the need for warranty repair.
- The purchaser must organise, and is financially responsible for the transport of the product to and from the place of warranty repair.

Product Registration:
The **Purchaser** must fill out and return the warranty registration card within 30 days of purchase in order to validate the warranty.

Repairs
Warranty repairs must be carried out by an **authorised Kanga Dealer**.
For details contact Kanga Loaders on 1300 4 KANGA (1300 4 52642).

Battery Warranty- Pro rata

- One to three months - Free replacement.
- Four to twelve months - Pro rata over 12 months.

Exclusions (No Warranty):

- Normal maintenance, servicing, and replacement items such as spark plugs, oil, oil filters, air filter, muffler, tyres, cutting blades and edges, chains, tracks, cables, etc. are not covered by this warranty.
- Any equipment which has been altered, misused, incorrectly assembled, improperly adjusted, neglected, or damaged by accident is not covered by this warranty.
- Service completed by someone other than an authorized Kanga Loader dealer is not covered by this warranty.
- Any attachment not approved by Kanga Loader or any parts that are not genuine Kanga Loader service parts are not covered by this warranty.
- Engines and engine accessories are covered under the terms of the warranty made by the engine manufacturer, and are not covered by this warranty.

The standard engine manufacturers warranty is for 2 years and is subject to their terms and conditions.

Kanga Loaders may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating **Kanga Loaders** to incorporate such changes into previously manufactured products nor shall such changes be construed as an admission that previous designs were defective.

LIMITATION OF REMEDY AND DAMAGES
Kanga Loaders liability under this express warranty, and under any implied warranty that may exist, is limited to repair or replacement of any defective part. In no event shall **Kanga Loaders** be liable for incidental, special, or consequential damages (including lost profits).

DISCLAIMER OF FURTHER WARRANTY
Kanga Loaders makes no warranty other than what is expressly made in this warranty. If the law provides that an implied warranty of merchantability, or an implied warranty of fitness for a particular purpose, applies to **Kanga Loaders**, any such implied warranty is limited to the duration of this express warranty.

SPARE PARTS WARRANTY: 6 MONTHS

TERMS AND CONDITIONS

KANGA LOADERS LTD will warrant any part found to be defective within the conditions of normal usage. Breakage or damage to any part caused by abuse or misuse will not be considered. Hydraulic hoses will not be covered by warranty if any signs of external damage are apparent.

Consumables including tyres, tubes and tracks are not covered by warranty.

The warranty period is for **six (6)** months from the delivery date and applies to only genuine spare parts.

This warranty does not cover any labour, freight, incidental or consequential charges.

The warranty claim will not be recognised without the return of the faulty part to Kanga Loaders, and must include the Loader and attachment serial number.

A warranty claim for any engine part is covered by the engine manufactures standard warranty contained in the engine manual handbook.

It is the owner's responsibility to ensure that the correct hydraulic and engine oil levels are maintained and that maintenance is carried out as required in the manuals. Claims for damage as a result of insufficient oil levels will not be recognised.

WARRANTY REGISTRATION CARD

Once you have read the Warranty section of this manual, please complete the **Warranty Registration Form** below. Check the details, then return within 30 days of the delivery date to the address as indicated below the respective country of purchase on the Registration Form.

Owner:	Phone: ( )
Address:	Mobile:
Town/City:	Fax: ( )
Country:	Post Code:
Delivery Date:	KANGA SERIAL NO:
Email:	
Kanga Agent/Sales Person:	

I (The Purchaser) have read and fully understand the Operator's Manual, Safety Instructions and warranty conditions.

Warranty will only be accepted if this Certificate is completed and returned to:

AUSTRALIA:
KANGA LOADERS GLOBAL, 4 OCTAL ST, YATALA, QLD 4207

Email: service@kangaloader.com

DEALER STAMP

Purchaser's Signature: Date:

…….. ……. / ……. / …….

MAIN COMPONENT SERIAL NUMBERS

KANGA KID Serial No: _____

Engine Type: _____

Serial No: _____

Wheel Motors: REAR RIGHT: _____

REAR LEFT: _____

Lift Ram: _____

Tilt Ram: _____

Hydraulic Pump: _____

Control Valve: _____

Date Purchased: _____

LOADER CHECKLIST

MODEL:

SERIAL No.:

ENGINE No.:

INSPECTOR'S NAME:

MACHINE BUILT BY:

DATE:

VISUAL CHECK	✓	✗
1. Damage		
2. Loose bolts/nuts		
3. Rust		
4. Leakage oil or water		
5. Wiring / oil cooler connection		
6. Paint work		
7. Any untidy weld spots or runs		
8. Check of fittings alignment		
9. Is Loader clean and tidy?		
10. Are pipes and hoses clear of parts on Loaders?		

SERVICE	✓	✗
1. Tie down lugs fitted on body		
2. Correct Attachment Plate/ operation ok with test jig		
3. Lubricate Loader, grease all linkages		
4. All pins and bushes fitted and tight		
5. Belt tension fan/alternator		
6. Wheel condition/wheel nuts been tensioned 100 ft-lb		
7. Is the track slot forward and tyre direction correct?		
8. Is the tyre pressure to specification?		
9. Radiator core, hoses and fittings		
10. Air element and hose clearance and connections tight		
11. Sediment in fuel filter/tank (drain fuel tank)		
12. Is engine EPA compliant?		
13 Is PTO direction correct?		
14. Has valve tag been removed?		
15. Are QRCs correctly aligned and covers fitted?		
16. Spare key fitted correctly to machine		
17. Ensure battery is secure and boot is on alternator		
18. 8 Series U-Beaut bracket stop bolt fitted		
19. Is the Splash Plate fitted?		
20. Check oil cooler connection to fan		

OPERATIONAL CHECK	✓	✗
1. Gauges/switches and connections/dash lights.		
2. Attachment Plate.		
3. Throttle Lever (not too tight or loose).		
4. Remote Operations tested ok.		
5. Unusual noises or vibrations.		
6. Is Loader easy to start?		
7. Is Hour Meter working? Test time = hrs.		
8. Check that lift cylinder stops in correct position.		

GUIDANCE	✓	✗
1. Correct stickers applied (UK C/E sticker).		
2. Correct Tyre Pressure sticker attached.z		
3. Identification Plate -(correct number stamped).		
4. Safety/Operating Manual.		
5. Safety/Operating USB.		
6. Engine Manual (Kubota Warranty Form).		

FLUID COMPARTMENT CHECK	✓	✗
1. Battery condition.		
2. Engine oil level.		
3. Hydraulic oil level.		
4. Fuel level.		
5. Inspect fuel tanks for leaks.		
6. Radiator water level (Diesel Engine)		
7. Hydraulic filter housing directions and elements tight		

OTHER	✓	✗
1. Is the "Passed By" sticker attached and signed?		
2. Check machine to be shipped against order.		
3. Is the Loader ready for despatch?		
4. If Track Loader, is Track Tool attached?		
5. Ensure diesel Loader has oil funnel.		
6. Have back protection bars been ordered and fitted?		
7. Ensure control knobs are not split and are secured.		

CUSTOMER'S COMMENTS:

INSPECTOR'S COMMENTS:

"Received the above Loader, attachments and documentation as stated above in good condition. The correct operation of the Loader has been explained to our satisfaction. We understand that this Loader should be operated by a properly trained operator. We are aware that the use of this Loader in any manner or place for which it is not designed will render it unsafe."

DISTRIBUTOR'S NAME:

INSPECTOR'S SIGNATURE:

FOREWORD



We thank you for choosing the KANGA LOADER. This machine is the result of extensive design and development, and is acknowledged as being a superior product in its category. We congratulate you on your discerning choice and wish you many years of productive service.

Read this manual carefully before operating your machine it contains important technical information, safety precautions and operating instructions. Compliance with Safety Precautions and Risk Management standards together with the correct operation and attention to maintenance procedures are necessary to ensure a long, SAFE and trouble free working life for your KANGA LOADER.

Some illustrations in this publication show details or attachments that may be different from your machine. Guards and covers may have been removed for illustrative purposes, however, the machine in its operational state must always be operated with all guards and safety controls in place.

Continuing improvement and advancement of product design may have caused changes to your machine which are not included in this publication. We advise you to read, study and understand this manual before undertaking any maintenance, and to keep it with your machine at all times as a ready reference.

SAFETY
The safety section lists basic safety precautions. In addition, this section identifies the text and locations of warning labels used on the machine.
Read and understand the basic precautions listed in the safety section before operating or performing lubrication, maintenance and repair on this product.

TABLE OF CONTENTS

WELCOME

REVISION TABLE	3
SERIAL NUMBER REGISTRATION	4
DELIVERY SHEET	5
WARRANTY DETAILS	6
SERIAL NUMBER REGISTRATION	9
LOADER CHECKLIST	10
FOREWORD	11
TABLE OF CONTENTS	12
HOW TO CONTACT US	14
ORDERING SPARE PARTS	14

SAFETY

PREPARATION FOR USE	15
SAFETY LABEL IDENTIFICATION	16
SAFE OPERATION	17
FIVE STEPS TO EFFECTIVE JSEA	20
NO GO ZONES FOR UNDERGROUND UTILITY SERVICES	21
OPERATOR SAFETY - summary	22
TASK PLANNING FOR THE KANGA LOADER	23
PRE-OPERATIONAL RISK ASSESSMENT	24
RISK ASSESSMENT	25

OPERATING INSTRUCTIONS

OPERATING INSTRUCTIONS	29

ATTACHMENTS

HYDRAULIC ATTACHMENT CONNECTIONS	35
SAFETY - Rules for Attachments	36
4IN1 OPERATING INSTRUCTIONS	38

TABLE OF CONTENTS

MAINTENANCE

DAILY OPERATOR MAINTENANCE	39
LOADER ARM MAINTENANCE	39
OPERATOR MAINTENANCE – Safety Checks	40
SERVICE TASKS	41
SERVICE CHART	42
SERVICE TASKS - Engine	43
SERVICE TASKS - Hydraulics	44
SERVICE TASKS - Grease Nipple	47
SERVICE TASKS - Tyre Pressure	47
SERVICE TASKS - Battery	48
SERVICE TASKS - Visual	48
SERVICE TASKS - Fuses & Relays	48
TRACKS	51
ASSEMBLY - Arms	58
ASSEMBLY - Engine	59
HYDRAULIC HOSE & TUBE CONNECTIONS	61

SPECIFICATION

SPECIFICATIONS - D800R - Tracked - Series II	62
DIMENSIONS - D800R - Tracked - Series II	63

TROUBLESHOOTING

TROUBLESHOOTING	64

HOW TO CONTACT US

SERVICE CENTRES - *SPARE PARTS, SERVICE & SUPPORT*

QLD SERVICE

Phone: *Aus:* (07) 3441 9222
Int: +61 7 3441 9200

Address: 4 Octal Street
Yatala, QLD 4207

VIC SERVICE

Phone: Aus: (03) 8793 6600
Int: +61 3 8793 6600

Address: 17-21 Babbage Drive
Dandenong South, VIC 3175

NSW SERVICE

Phone: *Aus:* (02) 9854 1444
Int: +61 2 9854 1444

Address: 19 McKay Close
Wetherill Park, NSW 2164

SOUTHERN NSW & ACT

Phone: Aus: (02) 6297 9099
Int: +61 2 6297 9099

Address: 1/49 Yass Road
Queanbeyan, NSW 2620

SALES

Phone: 1300 4 KANGA (1300 4 52642)

SPARES

Email: qldparts@kangaloader.com

SERVICE BOOKINGS

Email: servicebookings@kangaloader.com

VISIT OUR WEBSITE

www.kangaloader.com

DEALER STAMP

SAFETY

PREPARATION FOR USE

INSPECTION AFTER DELIVERY

When the machine is delivered, it should be inspected for any evidence of damage caused as a result of shipment before it is declared ready for use. The preparation of the Remote Loader for use should only be undertaken by a responsible person who has read and understood this manual. The requirements are simple, and coupled with the use of good common sense together with general occupational health and safety knowledge and a visual inspection; should not pose any problems. The following checklist provides suggestions for detecting defective or damaged parts.

CHECK BEFORE USE

1	Inspect the machine chassis for any visible damage.
2	Visually inspect all components to ensure they are attached securely.
3	Inspect all areas for evidence of hydraulic oil, engine oil or fuel leakage.
4	Inspect Arm assembly area for firm attachment and sufficient lubrication. Check hydraulic cylinders for oil leakage and visible damage.
5	Check hydraulic oil lines for correct connection and for signs of leakage.
6	Check wheel and tyre assemblies for loose or missing wheel nuts, any visible damage and proper tyre inflation.
7	Check wheel drive motor assemblies for any visible damage and oil leakage.
8	Inspect all cylinders for rust, nicks, scratches or foreign material on shafts. Check for hydraulic oil leaks at the seal and fitting areas.
9	Inspect the engine compartment for loose or missing components and any evidence of damage or leakage.
10	Check the hydraulic fluid level is within operating limits as marked on the Sight Gauge.
11	Check the engine oil level is within operating limits as marked on the Dip Stick.

SAFETY LABEL IDENTIFICATION

The safety section lists safety precautions required to be taken when operating or maintaining a Kanga Loader. Read and follow all operating and safety instructions contained in this Manual and illustrated on the decals fitted to the Loader, and ensure that you assess the risk of any task by use of the attached Job Safety & Environmental analysis (JSEA) sheet.

If you are unable to identify hazards or do not understand the process for use of the JSEA chart, stop the job and consult a qualified Occupational Health and Safety consultant.

DANGER **THIS SYMBOL HAS BEEN USED THROUGHOUT THIS MANUAL TO HIGHLIGHT CRITICAL SAFETY INFORMATION TO PREVENT DEATH AND INJURY.**

THIS SYMBOL HAS BEEN USED THROUGHOUT THIS MANUAL TO HIGHLIGHT IMPORTANT SAFETY INFORMATION. ENSURE YOU READ AND UNDERSTAND THE INFORMATION BEFORE EMBARKING ON ANY RELATED TASK.



THESE SYMBOLS ARE PICTOGRAMS AND REFER TO COMPULSORY PERSONAL PROTECTIVE EQUIPMENT (PPE) THAT MUST BE WORN AND/OR ACTIONS THAT MUST BE TAKEN BY THE OPERATOR TO ALLOW SAFE OPERATION OF THE MACHINE TO OCCUR.

SAFE OPERATION

The Kanga Loader is a versatile machine, capable of performing a variety of tasks in a safe and effective manner, when used in accordance with established procedures and supported by Risk Assessment. However, to ensure the safety of operators and others, it is important to ensure that the capacity of the machine is not exceeded and that the Loader is operated appropriately, and only after all tasks associated with the work at hand have been documented and the relevant risk control measures implemented.

To ensure the safe operation and transport of your Kanga Loader, the following basic Safety Rules must be understood and complied with at all times.

Safe Loading/Unloading and Transportation:

- When loading/unloading the Kanga from a trailer, it is important that the trailer remains attached to the towing vehicle on a firm even surface.
- Never unload a trailer positioned on a slope.
- Ensure the angle of ascent/descent is within safe operational limitations.
- Ensure bystanders are sufficiently clear.
- All loading/unloading is to be carried out at a slow speed with due care for personal safety and damage to equipment. Practice the manoeuvres first on flat ground if necessary.
- When lifting the machine, use appropriately rated slings and shackles and attach securely to the lifting point on the top of the machine.



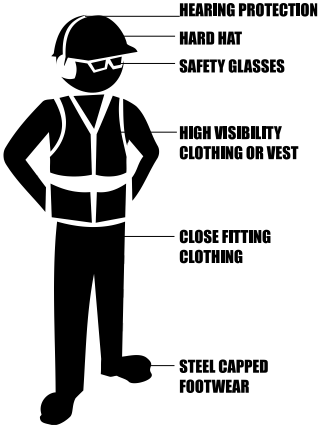
- Always use the tie down points on each side of the machine to secure the Loader when transporting.
- Always use witches hats, signage and traffic signals to control the unloading/loading zone, particularly when in close proximity to operational roads.

Before Commencing Work:

- Ensure all safety instructions are clearly understood, that operating manuals have been read and that operators are familiar with the controls of the Kanga Loader.
- Ensure that the daily inspection routine has been successfully conducted. It is particularly important to ensure that all attachment Locking Pins are fully engaged and secure.
- Ensure the driving platform is free from dirt, grease or mud before use.
- Check all controls for proper response. Shut down the machine if a fault is detected, tag the machine out with an 'Out of Service' tag, remove the key and contact the local Service Agent.
- Review the working site for hazards through the use of a Job Safety Analysis and/or Risk Assessment and implement the risk control measures to eliminate or minimise their effects, such as:
  - Overhead power lines.
  - Underground services.
  - Excavations.
  - Slopes or adverse cambers.
  - Confined spaces.
  - Other obstructions.
  - Other people or animals accessing the working area or machine.
  - Check frequency of other Radio controlled machinery in the area.

ALWAYS

- Completely read and understand the Operator's Manual supplied with the machine.
- Undertake a Job Safety and Environmental Analysis (JSEA) and/or Risk Assessment before any use of both the Kanga Loader and the trailer upon which the Loader and/or attachments are carried. A blank JSEA is provided in Appendix A for use. Photocopy as required.
- Use the Job Safety and Environmental Analysis Checklist to check that the relevant safety procedures are in place before work commences.
- Position the trailer carrying the Kanga in an area free from traffic, establish a traffic control plan/zone, chock the wheels and ensure that people are not placed in a position where they can be struck by vehicles or equipment being loaded or unloaded.
- Demarcate the work area with barricades and/or witches hats before using the Kanga Loader.
- Identify, mark and delineate all underground services before any work commences.
- Have both feet planted firmly on the driving platform at all times when operating the Kanga Loader. This is especially important when carrying loads, as body weight provides additional counter-balance to the bucket load.
- Come to a complete stop before changing direction from forward to reverse and vice versa. Failure to do so can affect the stability of the Loader and may also damage the drive of your machine.
- Come to a complete stop before operating other hydraulic controls.
- Reverse down slopes at slow speed when carrying loads.
- Ensure the machine is fully stopped and turned off before alighting or exiting the machine. Never use control levers as hand holds, instead utilize the handholds, using the thumbs and forefingers to operate the control levers.
- Travel at speeds suitable for the conditions and as determined by the task JSEA or Risk Assessment.
- When traveling over undulating surfaces and/or rough terrain, it is essential that the operator ensures that the speed is appropriate to suit conditions and to creep over uneven terrain at minimum speed. The recommended normal operating speed is between 2/3 to 3/4 throttle; at a lower speed the noise levels are reduced to both the operator and bystanders.
- Wear approved, appropriate Personal Protective Equipment (PPE), such as:
    - hearing protection,
    - safety footwear,
    - eye protection,
    - hard hat,
    - long, close fitting protective clothing, and
    - a high visibility vest or clothing, etc.



- Keep hands, feet and clothing away from all moving parts, including hydraulic rams.
- Keep body parts within the confines of the machine.
- Keep alert, and avoid being distracted whilst operating the loader.
- Remove the key and chock the wheels whenever the Loader is to be left unattended and/or unsupervised

NEVER

- Operate this machine or the trailer without undertaking a Risk Assessment or JSEA.
- Operate this machine without Personal Protective Equipment (PPE).
- Exceed the Rated Operating Capacity (ROC) for the B Series
- Carry passengers on any part of the Loader or attachments.
- Place feet under the driving platform.
- Smoke (or approach the Loader with a naked flame) whilst operating or refuelling.
- Leave the engine running whilst refuelling.
- Tie or secure yourself to any part of the machine or attachment.
- Fool around while operating the Loader or attachments.
- Carry a load with the bucket raised. Carry all loads as close to the ground as practicable.
- Traverse across slopes, especially on uneven ground.
- Jerk the control levers. Always use a steady, even action to achieve proper control.
- Touch exhaust, engine parts, hydraulic pipes and fittings, drive chains, friction parts or guards.
- Park or leave Loader unattended on a slope.
- Remove safety decals.
- Remove safety guarding.
- During operation use mobile telephones or portable radios.
- Operate machine for extended periods at full throttle.





CAUTION

Always exercise care when operating on slopes. The Kanga Loader has been designed to be able to access restricted areas, due to its minimal width. This, however, reduces its stability when crossing slopes.

The Kanga Loader is designed to operate on slopes ***to a maximum of 20°, under no circumstance is this to be exceeded.*** The actual safe slope angle may need to be reduced depending on a number of variables, such as site conditions, attachments, condition and configuration of machine and operator experience.

Crossing slopes should be avoided wherever possible. If it is not possible, slopes should be traversed with loads lowered as far as possible, reduced speed and extreme caution.

FIVE STEPS TO EFFECTIVE JSEA

1	**DOCUMENT THE ACTIVITY** Assemble those involved in the activity and then, using the JSEA worksheet, write down in step by step form, the tasks that make up the activity.
2	**IDENTIFY THE HAZARDS** Next to each task, identify what part of the task may cause injury to those engaged in the task or others in the vicinity.
3	**DOCUMENT THE CONTROL MEASURES** For each identified hazard, assess the associated level of risk to those involved, and then list the control measures required to eliminate or minimise those risks.
4	**IDENTIFY WHO IS RESPONSIBLE** Document the name of the person responsible for implementing the control measure.
5	**MONITOR AND REVIEW** Ensure that the activity is supervised and that the documented process is being followed. The documentation should be reviewed whenever a documented activity changes or when there is a change of personnel or after an appropriate length of time.

NO GO ZONES FOR UNDERGROUND UTILITY SERVICES

No work is to commence on any worksite until you have checked if it contains underground services. Here is how you can find out.

- The “Dial Before You Dig” service (in Australia), dial 1100, provides free and easy access to the records of a large number of organizations, including telecommunications, water, electricity and gas.
- To see a list of organizations registered with the service or to log an enquiry electronically, visit the Dial Before You Dig website at www.dialbeforeyoudig.com.au, or telephone 1100 (otherwise consult with your local environment department).

If underground services are present, you must comply with the No Go Zones.

If the worksite contains or is suspected to contain ANY underground services, before any work commences, you must follow the relevant No Go Zone safety procedures:

- No Go Zone safety procedures are available from all gas, water, telecommunications and electricity companies.
- You must follow these safe systems of work at all times. If you cannot comply with these safety procedures, then NO work shall be undertaken without written permission being received from the utility company.
- The Kanga Loader and attachments must be kept a minimum distance of 2 meters from all underground services.

MAINTAIN A MINIMUM OF 2 METERS DISTANCE FROM ANY UNDERGROUND SERVICE.



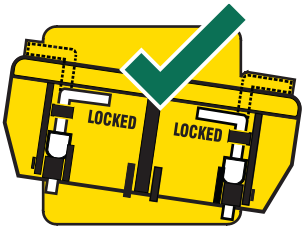
OPERATOR SAFETY - SUMMARY



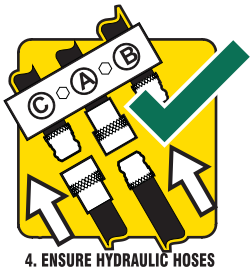
1. READ OPERATORS MANUAL PRIOR TO USE



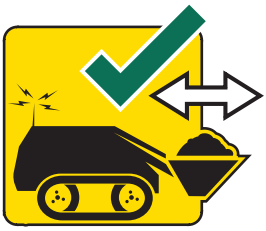
2. DAILY INSPECTION



3. ENSURE BOTH (2) ATTACHMENT LOCK PINS ARE FULLY ENGAGED



4. ENSURE HYDRAULIC HOSES ARE CLEAN AND ATTACHED



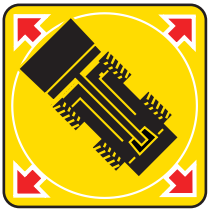
5. TRANSPORT MATERIAL WITH BUCKET DOWN AND LEVEL



6. ALWAYS REVERSE DOWN SLOPES



7. WEAR APPROPRIATE PROTECTION



8. NO PERSONNEL WITHIN A 4M (12 ft.) DIAMETER



9. NO SMOKING



10. DO NOT PLACE FEET UNDER LOADER



11. DO NOT TRAVEL WITH ARMS RAISED



12. AVOID TRAVELLING ACROSS SLOPES



13. NO PERSONNEL IN BUCKET OR ATTACHMENTS



14. PAY ATTENTION



TASK PLANNING & SAFETY CONSIDERATIONS

PERFORM A SITE ASSESSMENT

Is the terrain stable or suitable to work on?

- Unload Loader from a trailer with ramps
- Conduct a thorough site inspection before entering site with Loader
- Consider Wet or boggy conditions
- Consider environmental factors
- Consider steep slopes. Do not work side on to slopes.
- Dial before you dig (dial 1100) to check for services.
- Amend your plans and take precautions where necessary
- Document your plans in the JSA/SWMS

Personal safety

- Where other mobile plant and equipment is in use, wear high visibility garments
- Read the Loader instruction manual – familiarise yourself with Loader features
- Use Loader only as specified in instruction manual
- Perform a pre-operational inspection of the Loader to identify any faults.
- Ensure all safety features are operable
- Use bunting, flags or witches hats to demarcate or isolate work area
- Wear additional PPE such as safety glasses, hearing protection and hard hat and steel capped boots

Task execution

- Discuss work plans with other workers/persons in the area
- Coordinate Loader activities with other trades/activities on site
- Work in a logical sequence
- Do not exceed weight/load and operational limitations of the Loader
- Keep loads low to the ground when travelling
- Keep bucket down when not in use

Site Clean Up

- Remove Loader from site
- Wash Loader down and inspect Loader for hydraulic leaks/damage
- Return Loader and attachments to trailer
- Remove bunting, flags, witches hats
- Restore site conditions as required

Perform a site assessment

ENGAGE YOUR MIND BEFORE USING THE LOADER

Assess the risks

STEP BACK - Take 5 X 5

Take 5 steps back

Take 5 minutes to reflect

- **Stop and think.**
- **Observe the work area and surroundings.**
- **Step through your mind what you are going to do.**
- **Think about what else is happening in the area or nearby.**
- **Identify what else could go wrong.**
- **Decide on control measures to prevent things going wrong.**
- **Make sure the hazards are controlled before starting work.**

Think about the consequences to your quality of life, your income, your family, your children and everything you value. Are these things worth the risk of rushing or cutting corners? It's not just your life that could be affected – you may shatter the lives of the ones you hold dear.

THINK SAFE ! ACT SAFE ! BE SAFE ! GO HOME

OHS&E Risk Assessment/SWMS – Powered Mobile Plant

Work Activity			
Principal Contractor's Name:		**Project Reference #:**	
Contractor Name:		**ABN:**	
Contractor Address:		**Foreman and contact number:**	
Prepared By:			
Name 1: **Signature:** **Position:**		**Name 2:** **Signature:** **Position:**	
Received and reviewed by:			
Name:	**Signature:**	**Position:**	**Date:**
Date work method prepared: (must be within last 12 months)		**Date work to be commenced:**	
Actions before work commences: (e.g. signage, bunting, demarcation, isolation)			
Action during work:			
Actions after work is complete:			

Supervision:	**Engineering details/certificates/ authority approval required:**
Personnel qualification & experience required:	**Permits e.g. excavation, hot work etc:**
Training and instruction:	**Warning signs and control measures:**
Plant, equipment & materials to be used and the maintenance checks to be completed (details at back of SWMS also): • Loader •	**Personal protective equipment requirements:**
Legislation, codes of practice, standards applicable:	**List of attachments (e.g. material safety data sheets, diagrams etc):**

RISK SIGNIFICANCE (Level of Risk)

C = Consequence	L = Likelihood	
5 = Catastrophic Death, disablement, significant incident, unacceptable risk, significant financial cost.	**5 = Almost Certain** Could occur in most circumstances	**Risk control legend**
4 = Major Extensive injuries leading to lost time, major risk-damage to plant and equipment, major financial cost for repairs/reinstatement.	**4 = Likely** May probably occur in most circumstances	**16-25** Cease activity immediately and implement risk controls before commencing work activities. Make the work area safe & consult with competent/qualified personnel.
3 = Moderate Medical treatment, medium risk-damage to plant and equipment, medium financial cost for repairs/reinstatement.	**3 = Possible** May occur at some time	**10-15** Plan and implement risk control measures after performing a Step Back 5 X 5 risk assessment. Seek advice from the manufacturer if any doubt exists.
2 = Minor First Aid treatment, minor risk-damage to plant and equipment, minor financial cost for repairs/reinstatement.	**2 = Unlikely** Could occur at some time	**6-9** No immediate risk. Assess overall risk in line with resources, instruction manual, and manufacturer's advice.
1 = Insignificant: No injuries, slight damage, low financial cost for repairs/reinstatement.	**1 = Rare** May occur only in exceptional circumstances	**1-4** Accept level of risk

Likelihood (L)	Consequences (C)				
	5 Catastrophic	4 Major	3 Moderate	2 Minor	1 Insignificant
5 – Almost Certain	25	20	15	10	5
4 – Likely	20	16	12	9	4
3 – Possible	15	12	9	6	3
2 – Unlikely	10	8	6	4	2
1 – Rare	5	4	3	2	1

R

ITEM #	WHAT ARE THE BASIC STEPS (List steps in logical sequence & include materials, equipment etc)	POTENTIAL HAZARDS (What may cause an injury/illness to occur)	RAW RISK RANKING L C R	HAZARD CONTROLS (What controls will be put in place to prevent an injury/illness) N.B. Control measures must not raise or create an increased risk	RESIDUAL RISK RANKING L C R	WHO WILL MONITOR & ENSURE THAT THIS IS DONE

OPERATING INSTRUCTIONS

BEFORE STARTING

- Ensure that all maintenance checks have been carried out correctly.
- Ensure that the emergency stop button is disengaged by turning it completely to the right until the button “pops” up.
- Turn the selector switch to “REMOTE” (or Local) function.
- Check the fuel level and fill up if necessary (take off both filler caps whilst refuelling).
- Ensure that the fuel is the correct type, free from impurities or water.
- Check that both the crankcase oil and hydraulic oil levels are within operating limits.
- Ensure that the transmitter remote battery is fully charged.



CAUTION: Check to make sure Steer/Tram switch is in ‘Steer’ position, and the Fast Switch is in ‘Centre Off’ position.

STARTING – REMOTE METHOD (REFER TO REMOTE CONTROL PANEL ON PAGE 28)

Place the controls around your waist ensuring a comfortable and ergonomic fit. Ensure that the remote control battery is fully charged and that all levers including lights are off tram steer is in steer mode aux 2 is in neutral and all controls are in their Neutral (centre) Position.

Refer to the engine manual for correct throttle starting positions in warm and cold conditions. Turn battery switch to the “On” position and selector switch to the “Remote” position. Insert Remote Key 6 and turn clockwise, Push Forward button 14 to activate the signal and ignition. The blue enable light will flash fast on receiver box.
Pull down lever 11 until glow plug indicator light goes off.
Pull lever 7 to start the engine.



LOADER CONTROLS

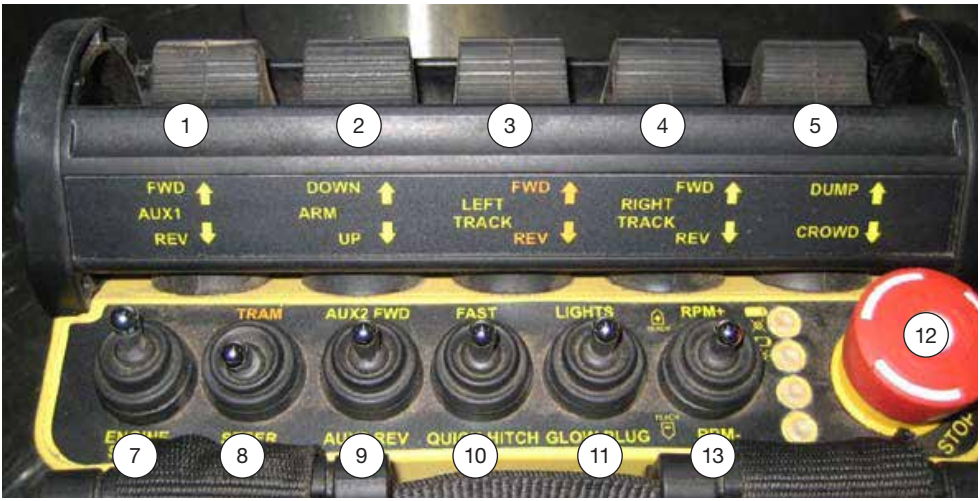
On the back of the KANGA loader are three spring-centred levers which allow excess pressure to be released from the system when the engine is turned off to enable couplings for attachments to be released.

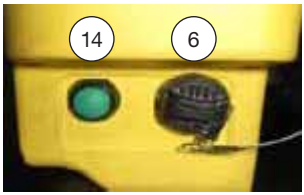


LEVER	PUSH	PULL
1	4 in 1 open	4 in 1 closed
2	Lower arm	Raise arm
3	Aux reverse	Aux forward

CAUTION: Do not move any levers by hand if the system is in the “REMOTE” function position as this may damage the controls.

REMOTE CONTROLS





LEVER	PUSH	CENTRE	PULL
1	4 in 1 open	Neutral	4 in 1 closed
2	Arm down	Neutral	Arm up
3	Left track forward	Neutral	Left track reverse
4	Right track forward	Neutral	Right track reverse
5	Dump forward	Neutral	Crowed back
6	Twist clockwise on	-	Twist anti clockwise radio off
7	-	-	Engine start
8	tramming	-	Steering
9	Aux/Pto forward	-	Aux/ Pto reverse
10	Fast travel speed	Slow Travel Speed	Quick hitch active momentary
11	Headlights on	Head Light Off	Glow plug active momentarty
12	Emergency stop	-	Twists release on
13	RPM+	-	RPM-
14	To Initialise radio connection to reciever.	-	-

CABLE CONTROL

The cable control is used:
- In particular working conditions, established by the machine manufacturer
- When it is not possible to establish a radio link between the radio remote control units
- When working in environments where using radio frequencies is not allowed or is dangerous
- When a fully charged battery is not available



CAUTION: The use of the cable control entails risk of electric shock when working near overhead or underground power line cables.

DESCRIPTION

The cable control connects the transmitting unit to the receiving unit through a cable to replace the radio link. Plug the cable in to the suitable connectors; one on the transmitting unit, and the other on the receiving unit (or placed where established by the machine manufacturer). When using Cable Control, working features (ie. actuators and the data feedback function) do not change.

OPERATION

Follow this procedure to control the machine with the cable control:
1. Power on the receiving unit, respecting the voltage limits provided in technical data - The Power LED switches 'On'
2. Make sure that the battery is inside the transmitting unit and leave it there even though the power supply comes from the receiving unit via the cable control. The battery is not, in any case, recharged through the cable control; It can only be recharged through its appropriate battery charger, provided together with the system
3. Connect the cable control to its connector in receiving unit
4. Connect the cable control to its connector on the transmitting unit
5. Insert the power key switch in the transmitting unit
6. Press the 'Start' push button, and hold it down until the green LED blinks slowly. If the red LED lights up, refer to 'Troubleshooting' section, on page 68

When the green LED illuminates and blinks slowly, the radio remote control is active and it can send commands, and activate the machine. When working with the cable control, the radio link is cut off.



CAUTION: Before starting work, make sure that the cable and corresponding connectors are intact. Work organisation, machine position, passages, etc. require planning to avoid cable control damage, by moving trolleys, or ongoing operations. DO NOT USE THE CABLE CONTROL CABLE TO LIFT THE TRANSMITTING UNIT. Lay the cable in a way to prevent it from being squashed or strained by people or objects. Avoid contact with sharp or cutting objects which can cut the cable's protective sheath. The cable control cannot be used if the radio remote control is installed on a machine which controls loads not isolated from an AC power supply, or from a DC power supply higher than 30V.



CAUTION: Using the cable control at the same time as the waist belt/shoulder harness means there is a physical connection between user and machine. Therefore, the user must constantly check machine movements, especially in case of loss of control (overturning risk, or cable dragging by other machinery), do not cause hazards. In such situations, the user must pull out the belt, or open it by unfastening its buckle(s).



CAUTION: Cable control must only be connected/disconnected when the transmitting unit is 'Off'. When finished working with Cable Control, disconnect the cable from transmitting unit/machine. Use protection caps on connectors.

PARKING AND SHUTDOWN

When parking the Kanga, always choose level, unobstructed ground away from any entranceway or roadway and lower any bucket or attachment fitted, fully to the ground.

Manual Controls: To shut down, reduce the engine speed to idle and turn the key to the off position,
and turn the battery switch to the “Off” position.
Remove the key to prevent unauthorized use.

Remote Controls: Reduce engine speed to idle and push emergency stop to stop the engine

CAUTION: Do not park or leave the machine on steep slopes

UNLOADING AND LOADING

- When loading/unloading the Kanga from the trailer, it is important that the trailer remains attached to the towing vehicle on a firm even surface.
- Never unload a trailer on an incline.
- Use the vehicle and trailer park brakes and apply wheel chocks to the trailer.
- Ensure bystanders are sufficiently clear.
- All loading/unloading to be carried out using a ramp must be done at a slow speed, with due care for personal safety and damage to equipment. Practice the manoeuvres first on flat ground if necessary.
- Use appropriately rated slings and shackles, and attach to the lifting point on the top of the machine when lifting the machine.



- Always use the tie down points on each side of the machine to secure the Loader when transporting.
- Always use witches hats, signage, and traffic signals to control the unloading/loading zone, particularly when in close proximity to operational roads.

CAUTION: First time users to use slow 1/3 throttle to practice safe operation before commencing work. The recommended normal operating speed of the machine is 2/3 to 3/4 throttles.

CAUTION: Always exercise care when operating on slopes. The 8 Series Track Kanga Loader is 1,021mm (40.2”) wide; the wheeled model is 1,011mm (39.8”) wide. This is a great benefit in providing access to confined spaces, however the machine may become unstable if operating across a slope. If it is impossible to avoid crossing a slope keep the load close to the ground and travel at reduced speed.

The maximum safe angle of slope is 20°. This angle is a recommendation only. The actual safe slope angle will depend on site conditions, operator experience and activity.

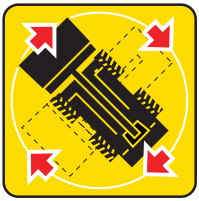
MANOEUVRING

The forward and reverse levers should be thought of as softly operated clutches for engaging and disengaging the wheels. Use slow even movements of the control levers for smooth operation of the Loader. Practice slow starts and gentle stops in an open,
safe area.

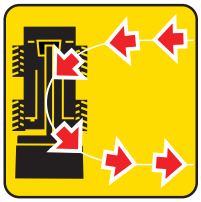
Manoeuvring is made possible by individual controls for the hydraulic motors on each side of the machine. A turn may be achieved by varying the amount and/or direction of power supplied to each side of the machine. The machine is capable of turning in its own length by applying equal forward and reverse power to opposite sides of the machine.

While moving forward, a gentle turn to the left for instance, can be made by slightly increasing the power to the right hand side or by reducing the power to the left hand side of the machine. This mode of steering allows the type of turn to be chosen to suit the situation.

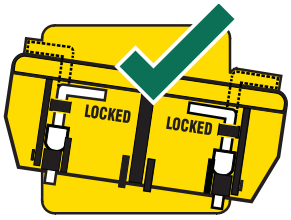
CAUTION: Always ensure that the attachment Locking Pins are fully engaged at all times.



MANOEUVRING



MANOEUVRING



3. ENSURE BOTH (2) ATTACHMENT LOCK PINS ARE FULLY ENGAGED

ONLY KANGA DESIGNED AND APPROVED ATTACHMENTS ARE TO BE USED ON THIS MACHINE.

NO OTHER ATTACHMENT IS TO BE USED ON THIS MACHINE UNLESS THE DESIGN AND USE OF THE ATTACHMENT HAS BEEN ASSESSED AND AUTHORISED BY KANGA; AND HAS BEEN SUPPORTED BY A COMPLIANT RISK ASSESSMENT, WHICH HAS BEEN VERIFIED AND VALIDATED BY THE RISK MANAGEMENT CONSULTANTS .

HYDRAULIC ATTACHMENT CONNECTIONS

Kanga Loaders are fitted with hydraulic quick release couplings (QRC) to connect the different attachments. The QRCs are paired as male and female to ensure correct hose connections.

COLOUR CODING OF QRC's FOR ATTACHMENTS

Left Side : Controlled by the Auxiliary lever on the Control Panel.

Yellow — **B MALE QRC -** For Power Head, Under Road Borer, Mixer Bowl, Wood-Chipper, Log Splitter, Rotating Log Grab, Rock Breaker.

Black — **A FEMALE QRC -** For Power Head, Trenchers, Under Road Borer, Backhoe, Rotary hoe, Vibrating Plough, Mixa Bowl, Wood Chipper, Log Splitter, Rotating Log Grab, Rock Breaker, Bucket Broom, Angle Bucket Broom, Rod Hammer & Drill.

Red — **C MALE QRC TRENCHER VALVE -** For Trenchers, Backhoe, Rotary Hoe, Vibrating Plough, Bucket Broom, Angle Bucket Broom, Rod Hammer, Post Mast Rod Hammer & Drill.

Right Side: Controlled by the 4:1 Lever on the Control Panel.

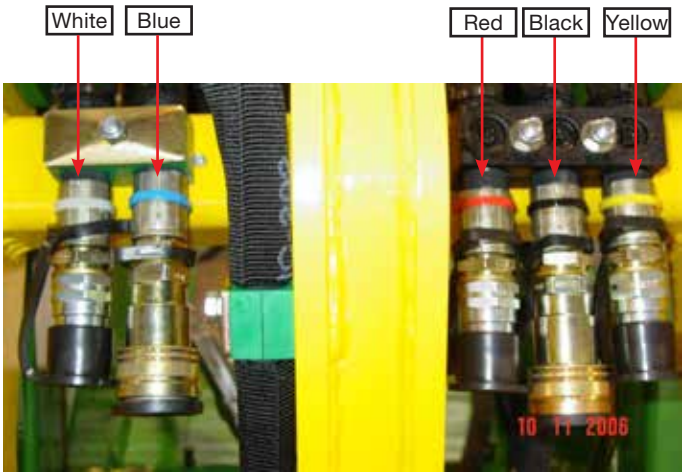
Blue — **4&1 FEMALE QRC -** For 4&1 Bucket, Stump Grinder Slew, Backfill Blade, Rotating Log Grab, Kerb Clamp, Grapple Bucket, Plant Box Lifter, Angle Bucket Broom.

White — **4&1 MALE QRC -** For 4&1 Bucket, Stump Grinder Slew, Backfill Blade, Rotating Log Grab, Kerb Clamp, Grapple Bucket, Plant Box Lifter, Angle Bucket Broom.

Purple — **Tank return line** - Post Mast Rod Hammer & Drill. (If fitted)

Green — **Case drain** - Hydraulic Stump Grinder, Poly Pipe Layer, Wood Chipper. (If fitted)

Hydraulic connections as viewed from the front.



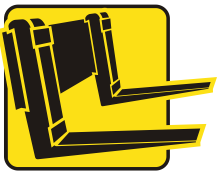
SAFETY - RULES FOR ATTACHMENTS

The following safety requirements should be read in conjunction with the Safety Rules provided for the base model, i.e., Kanga Loader, Kanga Kid, and the corresponding Operating Instructions accordingly. All tasks and risks associated with the activity are identified using the Job Safety and Environmental Analysis (JSEA) or Risk Assessment (RA) and AL risk controls are to be identified and implemented before the work commences.

FORK LIFT TYNES SAFETY RULES

Always…

- Establish and maintain a minimum 4 meter (12 foot) exclusion zone around the local working area and ensure no person other than the operator, enters this zone whilst the machine's engine is running.
- Keep the general working area clear of bystanders and other workers. Loader operations typically rely on rapid movement and direction changes. It is important, therefore, that the whole operation area is kept clear of other personnel and operators maintain vigilance about their immediate surroundings.



FORK LIFT TYNES

Never…

- Place any article or body part under the tynes at any time.
- Carry passengers, either on the machine or on the tynes of the forklift.
- Overload the machine or tynes.
- Travel with the tynes raised, especially when carrying loads.

ANGLED BACK-FILL BLADE SAFETY RULES

Always…

- Establish and maintain a minimum 4 meter (12 foot) exclusion zone around the local working area and ensure no person other than the operator, enters this zone whilst the machine's engine is running.
- Keep the general working area clear of bystanders and other workers. Loader operations typically rely on rapid movement and direction changes. It is important, therefore, that the whole operational area is kept clear of other personnel and operators maintain vigilance about their immediate surroundings.



BACK FILL BLADE

Never…

- Place any article or body part under or near the angled back-fill blade at any time.

4 IN 1 BUCKET SAFETY RULES

Always…

- Establish and maintain a minimum 4 meter (12 foot) exclusion zone around the local working area and ensure no person other than the operator, enters this zone whilst the machine's engine is running.
- Keep the general working area clear of bystanders and other workers. Loader operations typically rely on rapid movement and direction changes. It is important, therefore, that the whole operation area is kept clear of other personnel and operators maintain vigilance about their immediate surroundings.
- Check with Local Authorities and land owners about the presence of underground services within the prospective working area prior to commencement of work. (Dial **1100** to establish any existing underground services before work commences.)
- Ensure excavations are located a minimum of 2 meters away from any underground service.



FOUR IN ONE BUCKET

Never…

- Place any article or body part between the jaws of an open bucket, or under the bucket at any time.

TRENCHER SAFETY RULES

Always…

- Establish and maintain a minimum 4 meter (12 foot) exclusion zone around the local working area a nd ensure no person other than the operator, enters this zone whilst the machine's engine is running.
- Check with Local Authorities and land owners about the presence of underground services within the prospective working area prior to commencement of work. (Dial 1100 to establish any existing underground services before work commences.)
- Ensure trenches are located a minimum of 2 meters away from any underground service.

Never…

- Place any article or body part under the trencher at any time



POST HOLE AUGER & TREE PLANTER AUGER SAFETY RULES

Always…

- Establish and maintain a minimum 4 meter (12 foot) exclusion zone around the local working area and ensure no person other than the operator, enters this zone whilst the machine's engine is running.
- Check with Local Authorities and land owners about the presence of underground services within the prospective working area prior to commencement of work. (Dial 1100 to establish any existing underground services before work commences.)
- Ensure excavations are located a minimum of 2 meters away from any underground service.

Never…

- Place any article or body part under the auger at any time



ROTARY HOE (TILLER) SAFETY RULES

Always…

- Establish and maintain a minimum 4 meter (12 foot) exclusion zone around the local working area and ensure no person other than the operator, enters this zone whilst the machine's engine is running.

Never…

- Place any article or body part near or under the Rotary Hoe at any time.
- Carry out maintenance of any type whilst the Rotary Hoe is attached to the Loader or any other power source.



BUCKET BROOM SAFETY RULES

Always…

- Establish and maintain a minimum 4 meter (12 foot) exclusion zone around the local working area and ensure no person other than the operator, enters this zone whilst the machine's engine is running.
- Keep the general working area clear of bystanders and other workers. Loader operations typically rely on rapid movement and direction changes. It is important, therefore, that the whole operation area is kept clear of other personnel and operators maintain vigilance about their immediate surroundings.
- Wear respiratory and eye protection whilst using the Bucket Broom.

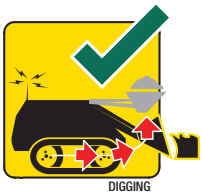
Never…

- Place any body part under the bucket broom at any time**.**



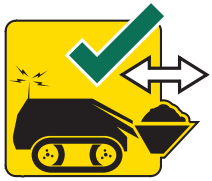
SAFE AND EFFICIENT USE OF BUCKETS

When lifting soil from a heap or pile, always have the bucket level. To achieve this, push the Loader arm downwards and use the tilt ram to bring the bucket level with the ground.


DIGGING

Towards the end of the run when the bucket is nearly full, gently tilt the bucket (rotate the bucket) towards the Loader. This decreases the lifting resistance when the arms are raised and promotes an efficient tear out.

When transporting material in the bucket on slopes or rough ground, always keep the bucket close to ground level. This lowers the centre of gravity of the Loader and maximises stability.


5. TRANSPORT MATERIAL WITH BUCKET DOWN AND LEVEL

The material may then be dumped into a trailer or utility truck for removal or repositioning on the site.

When scraping, levelling and surface stripping, lower the bucket to the ground, tilt it down and so raise the front wheels slightly off the ground. Drive forward using the back wheels, the bucket will bite into the soil as you move forward.


11. DO NOT TRAVEL WITH ARMS RAISED

CAUTION: Always ensure that the attachment Locking Pins are fully engaged at all times.


1. READ OPERATORS MANUAL PRIOR TO USE


6. ALWAYS REVERSE DOWN SLOPES


13. NO PERSONNEL IN BUCKET OR ATTACHMENTS


12. AVOID TRAVELLING ACROSS SLOPES


10. DO NOT PLACE FEET UNDER LOADER


14. PAY ATTENTION

DAILY OPERATOR MAINTENANCE

INSPECTION AND CHECKS

Before each day's operation of the KANGA Loader, the operator MUST perform the inspection and checks as outlined below.



2. DAILY INSPECTION

The purpose of the operator's inspection is to keep the equipment in a safe working condition and to detect any signs of malfunctioning during normal operations between scheduled maintenance checks.

While it may not be the operator's responsibility to perform mechanical maintenance, they should be thoroughly familiar with the unit, as this involves their own safety.

Many costly maintenance jobs can be prevented through observance of the following operator maintenance inspections and checks by KANGA Loader operators.

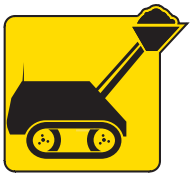
CAUTION: DO NOT operate a Kanga Loader that is known to be damaged or malfunctioning. Remove the key from the ignition and Tag Out the machine using an Out of Service tag and contact your Service Agent.

Defective components and/or equipment malfunctions can jeopardise the safety of the operator and other personnel and can cause extensive damage to the unit. Remember, a poorly maintained unit could become a great operational hazard.

LOADER ARM MAINTENANCE

ALWAYS

- Secure the Arm using arm locking pins or overhead gantry whencarrying out maintenance activities, particularly when working with theArm in the raised position.
- Keep a fire extinguisher on hand during maintenance operations.
- Ensure the working area is kept clean and free of oil, grease anddebris.
- Designate the effective maintenance work area using witches hats.



ARM MAINTENANCE

NEVER

- Rely solely on the machine hydraulics to keep the Arm elevated whilstcarrying out maintenance. Mechanical means should always be usedto physically hold the arm in the raised position.
- Raise or lower the arm with the support mechanism in place.

DAILY CHECKS				
Element		**Yes**	**No**	**Comment**
LOADER				
Tyres & Whee	Good condition/ adequate tread			
	Adequate pressure			
	Wheel nuts secure			
Guarding	Good condition			
	Secure			
Hydraulics	Good condition of hoses (check for leaks)			
	Good condition of casings (check for leaks)			
	Good condition of rams (check for leaks)			
	Adequate hydraulic oil level			
Controls	Correct operation			
	Responsiveness			
Structure	Adequate weld condition			
	Free of cracks/damage			
	Linkage Pins greased			
Bolts and Fasteners	Check pivot pins for wear/damage			
	Tight			
	None missing or damaged			
Battery	Terminals tight			
	Free of corrosion			
	Good condition (check indicator)			
Safety Decals	Legible			
	All in place			
Engine	Adequate crankcase oil level			
	Check Air cleaner / Filter			
Fuel	No Leakage			
	Adquate Fuel Level			
	Drain water tap if fitted (Optional Extra)			
Operating Manual	Present with machine			
ATTACHMENT				
Guarding	Good condition			
	Secure			
Hydraulics	Good condition of hoses (Check for leaks)			
	Good condition of casings (Check for leaks)			
	Good condition of rams (Check for leaks)			
Controls	Correct operation			
	Responsiveness			
Structure	Adequate weld condition			
	Free of cracks/damage			
Bolts andFasteners	Tight			
	None Missing			
	Attachment locking pins in place			
Decals	Legible			
	All in place			
Operating Supplement	Present with machine/attahcment			

SERVICE TASK

The following service work should only be carried out by a qualified Service Technician at intervals indicated on the Service Chart

The operating hours are displayed by the Hour Meter on the Instrument Panel. A Charge Warning Light and an Oil Warning Light, Coolant temperature light and Glow Plug Indicator are positioned in the control panels as well as the local /remote selector switch and the batter master isolator.



SERVICE CHART

ACTIVITY HOURS	50	150	250	350	450	550	650	750	850	950	1050	1150	1250	1350	1450
ENGINE OIL (DIESEL ENGINE)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
ENGINE OIL FILTER (DIESEL ENGINE)	R		R		R		R		R		R		R		R
ACTIVITY HOURS	**8**	**16**	**24**	**32**	**40**	**48**	**56**	**64**	**72**	**80**	**88**	**96**	**104**	**112**	**120**
AIR FILTER*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ACTIVITY HOURS	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**	**1100**	**1200**	**1300**	**1400**	**1500**
AIR FILTER*		R		R		R		R		R		R		R	
FUEL FILTER (DIESEL ENGINE)*				R				R				R			
VALVE CLEARANCE (DIESEL ENGINE)								X							
HYDRAULICS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
HYDRAULIC FLUID										R					
HYDRAULIC FILTER RETURN		R		R		R		R		R		R		R	
HYDRAULIC FILTER PRESSURE	X				R					R					
GREASE ALL PINS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TYRES	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
VISUAL CHECK	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PIVOT PINS	GREASE NIPPLES EVERY 8-10HRS - INSPECT PERIODICALLY FOR DAMAGE														
SERVICE STAMP															
DATE SERVICED															

LEGEND

X= SERVICE

R= REPLACE

Note.

The warranty on the equipment is subject to the periodic maintenance being carried out at the intervals specified. If a service provider other than Kanga Loaders is used, maintenance records from the trade qualified provider may be required to support any claim. Only genuine Kanga spare parts should be used during servicing.

* Replace sooner if used in dusty environment.

ENGINE OIL
Change the engine oil after the first 50 hours of operation and thereafter after every 100 hours. The following engine oil type is recommended.

Ambient Temperature	Oil Type
Above 25°C (77°F)	SAE 30 or SAE10W-30/SAE10W-40
0°C to 25°C (32°F to 77°F)	SAE 20 or SAE10W-30/SAE10W-40
Below 0°C (32°F)	SAE 10 or SAE10W-30/SAE10W-40

ENGINE OIL FILTER
Replace the oil filter after every 200 hours of operation. See Engine Manual for details.

AIR FILTER
Service and clean the air filter every 8 hours when used in a dusty environment. Replace the air filter after every 200 hours of operation or sooner if a dusty environment is encountered frequently.

FUEL FILTER
Change the fuel filter after every 400 hours of operation. Replace the element sooner if operating in adusty environment.

VALVE CLEARANCE (DIESEL ENGINE)
Change the fuel filter after every 400 hours of operation. Replace the element sooner if operating in adusty environment.

HYDRAULICS

Hydraulics Oil Level

Check hydraulic fluid level, (with arms down, dipstick wound in, and oil cold - FC-Cold Level Mark). The appropriate Full Cold level mark (FC) is indicated on the dip-stick. Top up with Hydraulic Oil ISO 68 if necessary.



NOTE: A significant drop in fluid levels will indicate leakage.

Inspect all hydraulic hoses, tubes, fittings, valves and rams for leaks and damage. Tighten loose fittings and replace damaged components.

Check all three pressure settings (see procedure on opposite page). Adjust if necessary.

HYDRAULICS FILTER

Replace the return line filter after every 200 operating hours. Replace the pressure filter after every 500 operating hours.

(Pressure Filter Element Part No: L116420; Return Filter Element Part No: L116442).

PRESSURE FILTER
(Illustration shows housing removal Of the rear oil cooler is necessary)



RETURN LINE FILTER

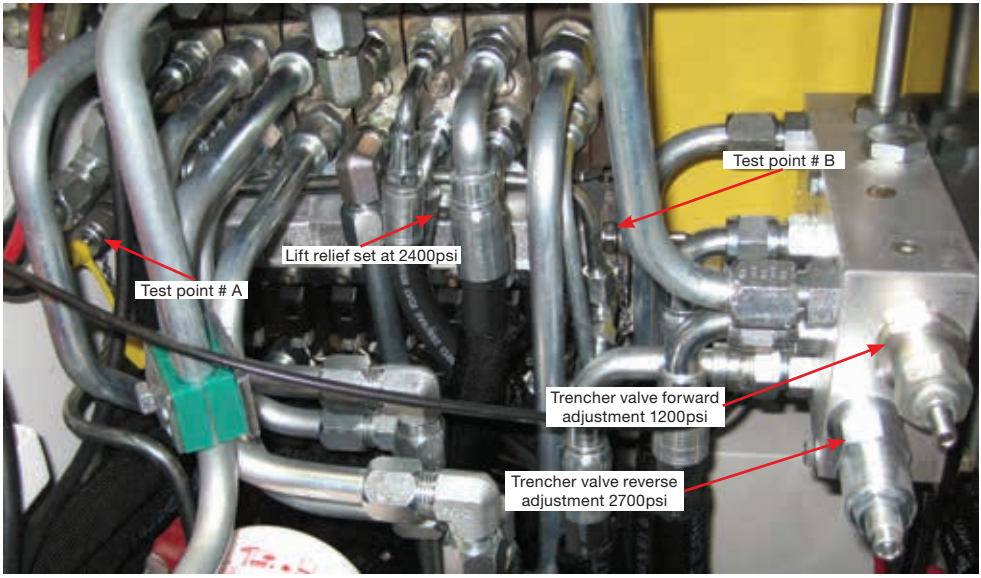


Hydraulics Oil Level

The hydraulic system has pressure settings which have to be set as follows:

Before any testing is carried out run the engine and hydraulic system to warm the hydraulic oil until the oil coolers are on.

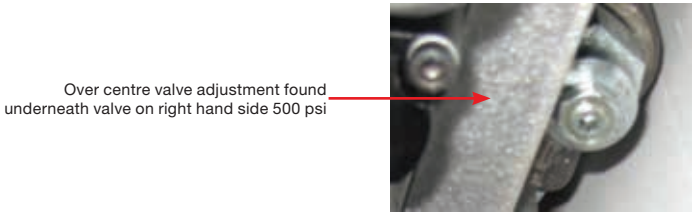
All pressure settings are performed with the engine running at full speed (3,600 rpm).



OVER CENTRE VALVE
Connect an accurate pressure gauge with a range **0-300 bar (0-4,300 PSI)** to the **Test Point**.

The pressure should be set at: 34.5 bar (500 PSI).

NOTE: If adjustment is required slacken off the lock nut and using a 5mm hex key wind in the screw to increase the pressure or out to reduce the pressure. Retighten the lock nut when adjustments are complete.



MAIN SYSTEM RELIEF PRESSURE (Main Valve Bank)
Connect an accurate pressure gauge with a range **0-300 bar (0-4,300 PSI)** to the **Test Point**.

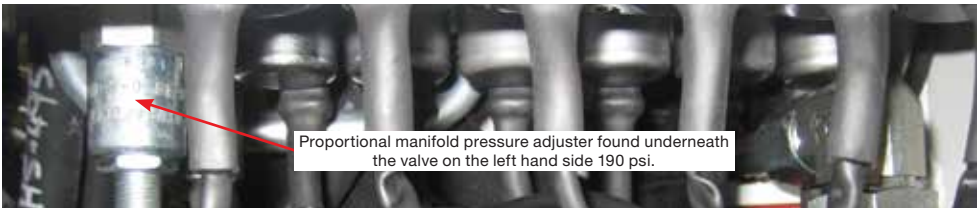
Check the pressure while pulling the **tilt control lever** at the end of the ram's stroke.

The pressure should be set at: 220 bar (3,200 PSI).



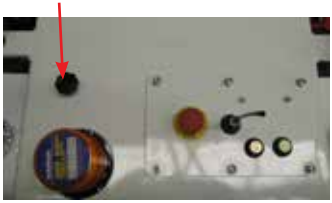
LIFT PRESSURE
Check Pressure while pulling the lift lever back to end of cylinder stroke to stall the arms up.
The pressure should be set at: **165 bar (2,400 PSI)**.

PROPORTIONAL PILOT PRESSURE
This should not require re adjustment from factory however it should be checked.
Connect pressure gauge with range up to 145 bar (1000psi).
To test point B with engine at maximum the pressure should be 190-200psi (13-13.7 Bar)
If adjustment is nesesary you can adjust with to a maximum of 200psi if this pressure changes the proportion controls will change sesitivity.



TRENCHING VALVE OPTION

SETTING INSTRUCTIONS
With machine hot oil coolers running trencher speed controller would fully off in the clockwise position



Trencher valve forward adjustment 1200psi

Trencher valve reverse adjustment 2700psi



Connect the trencher attachment to A and C Quick couplers, connect pressure gauge with range 0-300 bar (0-4,300 PSI) to the Test Point A Start the machine and increase the engine RPM to maximum, engauge auxhillery 2 in forward direction of cutting, adjust pressure to be approx 1200psi.

Then with auxhilery 2, select reverse direction and set reverse pressure at 2700psi.

HYDRAULIC FLUID
Replace the hydraulic oil after every 1,000 operating hours.
(Hydraulic Oil ISO 68)

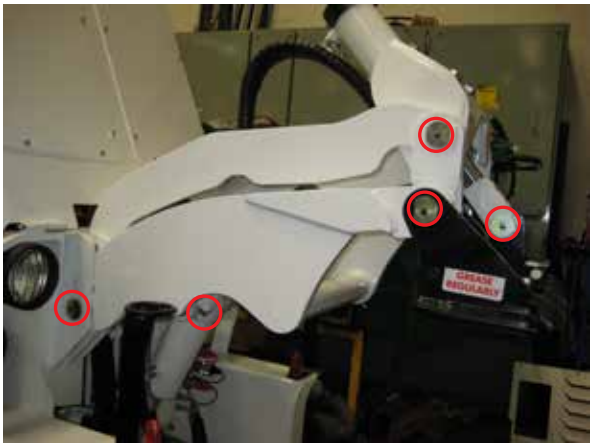
HYDRAULIC OIL DRAIN PLUG
(Situated at the front right hand side of the loader)

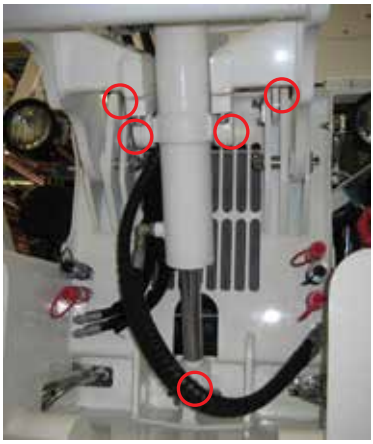


SERVICE TASKS - GREASE NIPPLE

GREASE

Grease* and inspect for wear, all eleven (11) linkage pins after every 8-10 operating hours.
(Grease type Castrol APX T or equivalent)
* The frequency for regreasing depends on the workload and the severity of the working conditions. Regreasing during the day of operation may be necessary (see Daily Checks).





◯ Grease Nipples – Both Sides except centre of attachment plate.

SERVICE TASKS - TYRE PRESSURE

TYRES

Check tyre pressure every 50 operating hours.
Visually check for wear and damage to tyres and tracks.

Tyre pressures

KANGA LOADER TYRE PRESSURES GROSS				
Tyre	Size	Recommended Pressure		Gross weight Kgs (Water Filled)
		KPA	PSI	
Lug 23”	23 X 8.5 X 12	220	32	40
Turf 23”	23 X 10.5 X 12	150	22	40
Track Drive	145 X 10	380-520*	55-75*	N/A

* Minimum 55psi (380kPa) and maximum 75psi (520kPa). Tyre pressure will have to be increased over time to allow for wear in the track system. When traction between the drive wheel and track is lost, increase tyre pressure in 5psi stages to compensate for wear. If traction is lost when the tyre pressure is set at 75psi, track chain links will need to be removed to tighten the tracks. Refer to the Chain Link Removal section. Once links are removed tyre pressure must be decreased in accordance with instructions.

SERVICE TASKS - BATTERY

BATTERY

The battery provided with the Loader are maintenance free. Ensure that the terminals are tight and that covers and battery leads are not damaged.

The hand-held Remote controller is powered by a removable battery and has it's own charger. A spare battery is provided for convenience as well as a 12 v lead for the charger that can be charged from the loader when stationary.

SERVICE TASKS - VISUAL

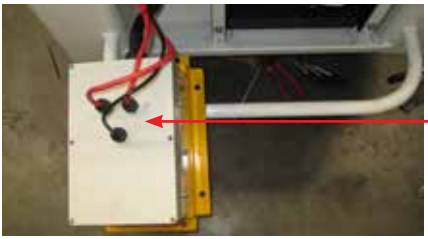
VISUAL CHECK

Check all over machine for loose bolts, cracks and dents after every 100 operating hours. Tighten loose bolts, and replace if worn or damaged.

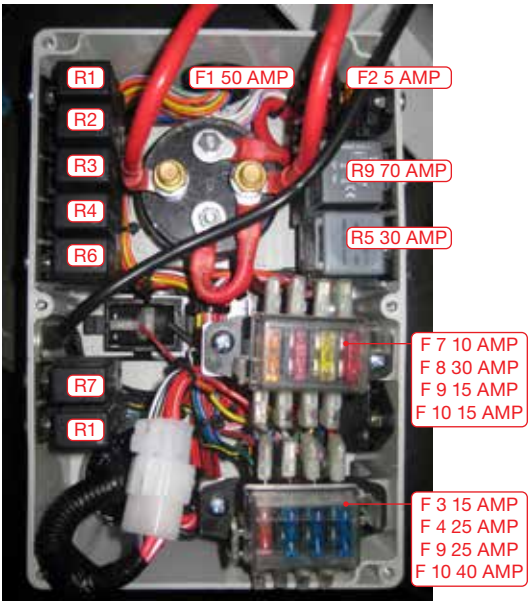
SERVICE TASKS - FUSES & RELAYS

FUSES & RELAYS

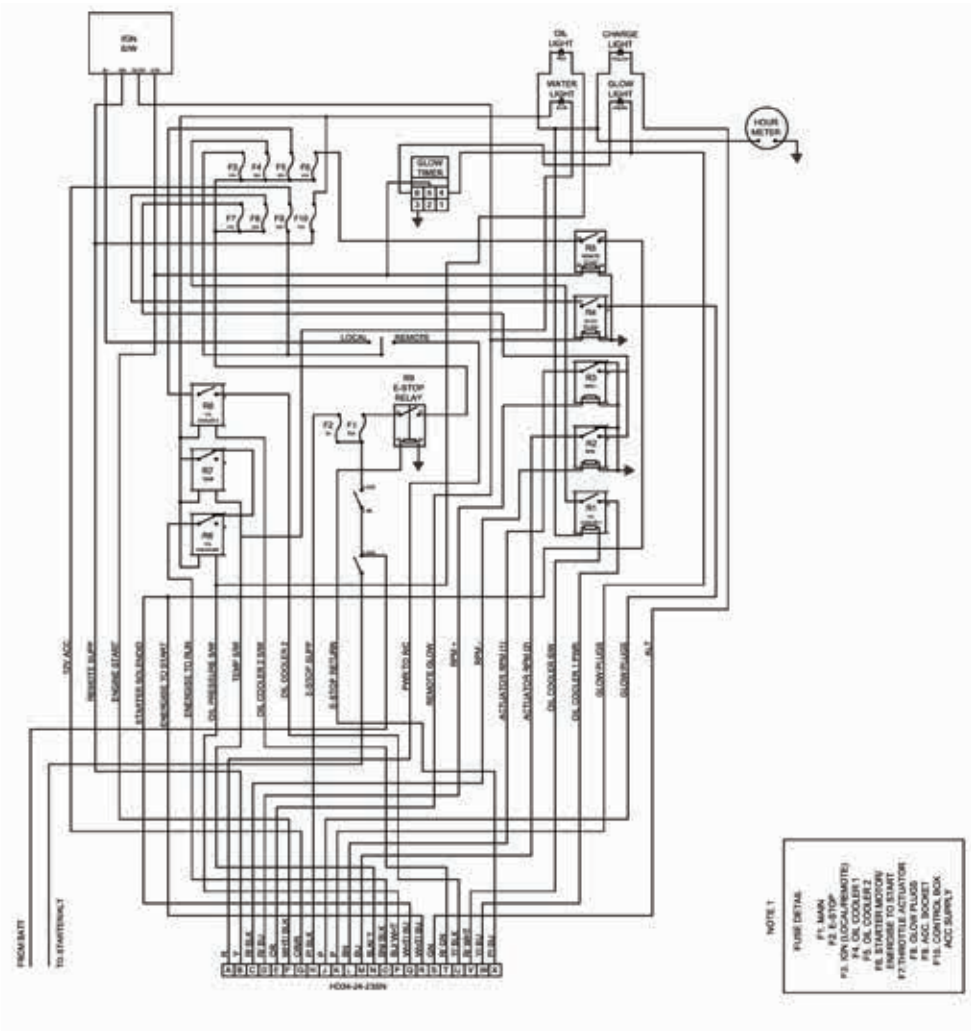
Fuses are provided on critical line functions and are situated in the engine compartment and within the battery compartment which also houses the battery electronic maintenance system.



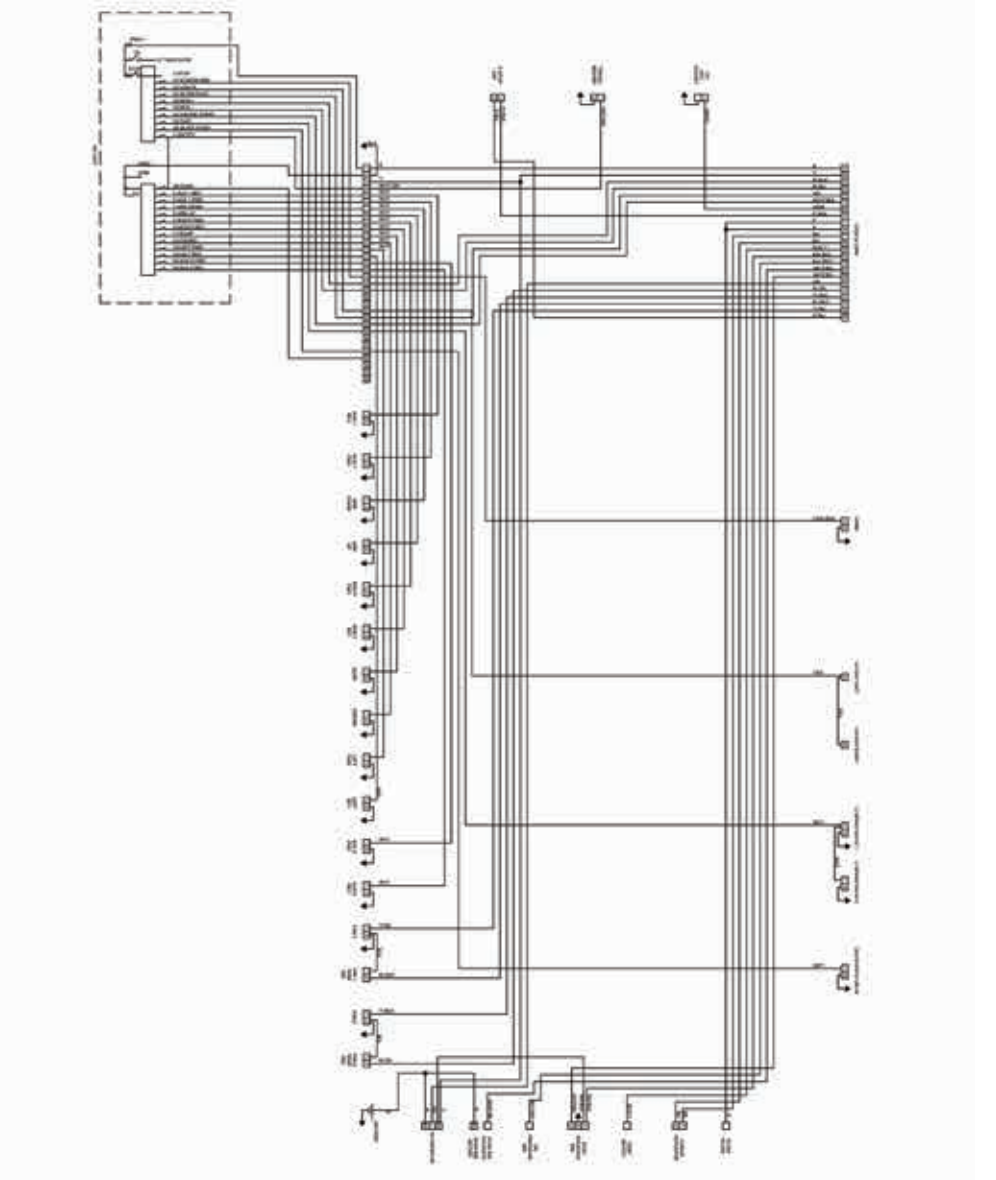
All of the electrical components are located in the electrical box on the rear of the ignition switch this can be accessed by removing the rear louvered panel and releasing the 6 screws and the 3 sealing glands on the battery cables to open the box all the fuses, relays, timers switches are located inside here refer to wiring diagram on following page.



SERVICE TASKS – FUSE WIRING LOOM



SERVICE TASKS – FUSE WIRING LOOM



SERVICE TASKS – Replaceable Parts

PIVOT PINS

Thoroughly inspect pivot pins and bushes for wear and damage every 200 operating hours. Replace the bushes as required after every 1,000 operating hours.

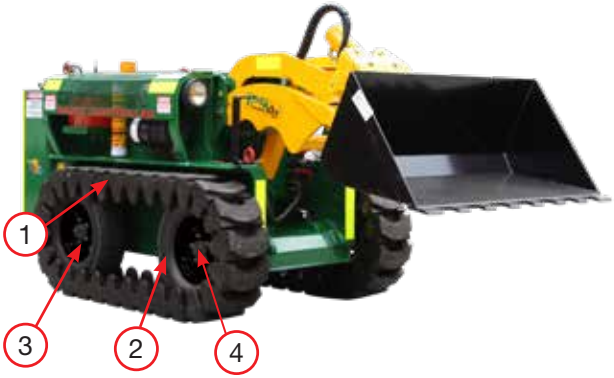
TRACKS

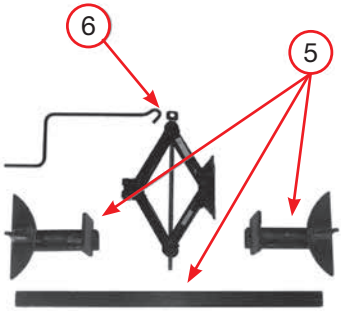
CAUTION: Observe all Safety Rules as outlined in the Operator's Manual.

CAUTION: The series 8 Track Loader is capable of negotiating very steep inclines outside the safe operating limit of the machine. It is possible to tip the Loader backwards when climbing or descending a steep bank and with little load in the bucket.

Do not use this machine on slopes without assessing the risks and fully identifying the required risk control measures by use of a Job Safety and Environment Analysis (JSEA) or Risk Assessment (RA).

Do NOT operate on slopes without undertaking a risk assessment and complying with the requirements outlined in the Safe Operation section of the manual.

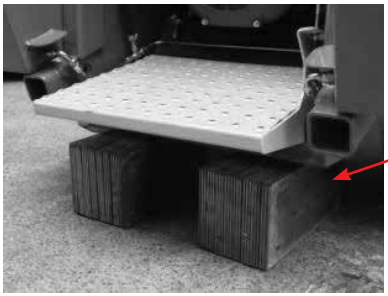


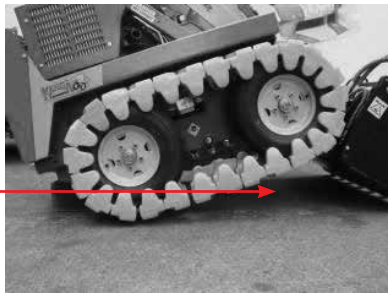


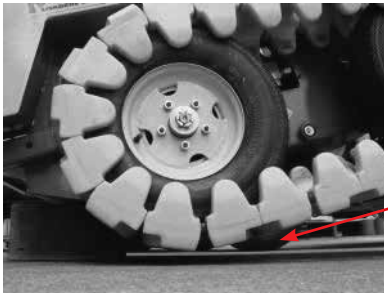
NO	DESCRIPTION	PART NO
1	Track Assembly With chain (2 OF)	0K14317
2	Track Drive Tyre yellow (4 OF)	L114301
	Track Drive Tyre Black (4 OF)	DL-001349
3	Track Drive Rim (4 OFF)	L114211
4	Hub	0K12714
5	Track Tool 7 & 8 Series Scissor Type	0K14315
6	Scissor Jack 1 Tonne	L150209-1

DISASSEMBLY

1. Attach a bucket to the Loader, ensuring the attachment Locking Pins are fully engaged.
2. Position the Loader on level, solid ground for a stable working base.
3. Place suitable wooden blocks or stands under the flat section of the Loader base at the rear of the Loader.
4. Place the bucket flat on the ground.
5. Tilt the bucket forward (as if dumping) and the Loader will lift clear of the ground, supported by the block and the bucket.
6. When tracks are clear of ground at both ends, place another wooden block or a stand under the base at the front of the Loader.
7. Deflate tyres to 25psi.
8. Remove the wheel nuts and use a suitable lever to remove the front wheel from the hub. Repeat for the rear wheel

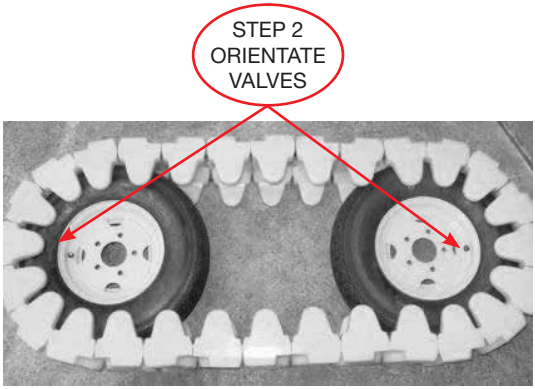




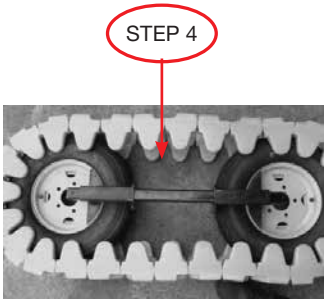


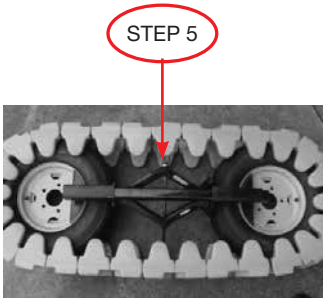
INSTALLATION OF TRACKS

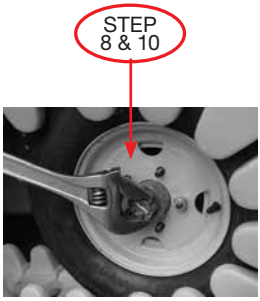
1. Set tyre pressure at 25psi.
2. Position the wheels with the valves in the same orientation to assist with aligning the wheels to the studs, ensuring the wheels and tracks are laying flat on the floor.
3. Attach the left and right end segments of the tool to the wheels as illustrated.
4. Slide the guide through both segments.
5. Install the scissor jack, with handle end pointing through the top of the track.
6. Tension the jack to extend the track assembly and stand the track upright.
7. Use two people to lift the tracks onto hub spigot; you may have to adjust the jack to suit.
8. Use an adjustable wrench to rotate the rear hub so the studs will line up with the wheel while depressing forward/ reverse control lever. Do not start the engine.
9. Locate the rear wheel on the hub and studs and install one wheel nut to hold the wheel to the hub.
10. Rotate the front hub with an adjustable wrench to line up the studs to the wheel while depressing forward/ reverse control lever. Do not start engine. To do this, the jack may have to be extended or retracted. If the tracks cannot be extended far enough using the scissor jack, reduce the tyre pressure and extend the scissor jack further.
11. Install all wheel nuts and tighten to 135Nm (100 ft-lb).
12. Adjust tyre pressure to between 55psi and 75psi. Refer to the Tyre Pressure Section for further tyre pressure information











TRACK ORIENTATION OPTION

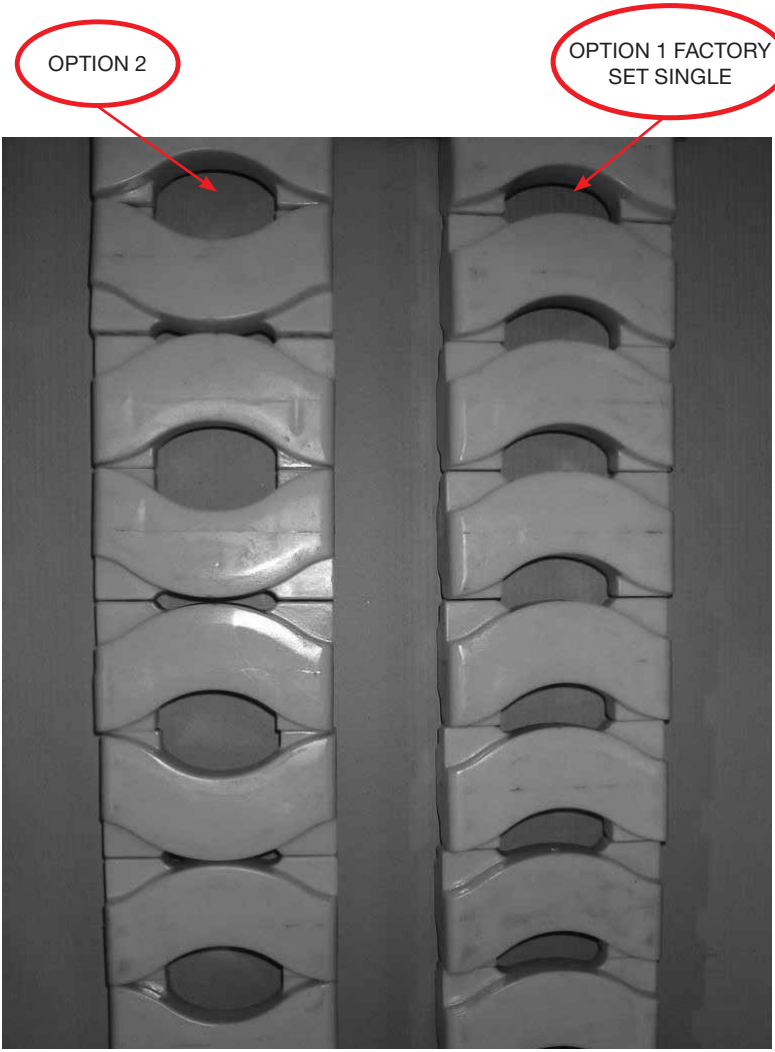
URO TRACK GRIP OPTION

There are 2 different configurations that you can have the tracks set to for grip. All Loaders will come set up with option 1.

However if customers would like to change the tracks around to try a different set up they can. We feel that the way that they are supplied is the best all round set up.

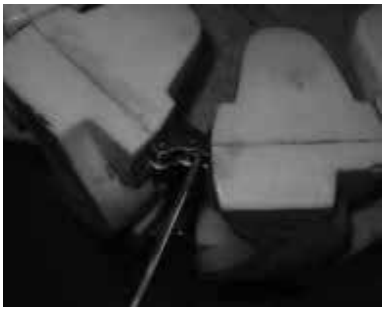
Option 2 is best suited for muddy or sandy conditions.

URO Track Roller Train 7 Series Part Number: 0K14313



Follow these instructions to change the option, start by removing the tracks from the machine; use the **Track Removal Instructions** to perform this operation.

1. Once the track is removed, lay the track on its side and use a flat blade screw driver or suitable lever to move the chain through the track to the joining link. If you have trouble doing this you can purchase a spare joiner for repair or adjustment (Part number L117900).



2. Once you have found the joining link, place 2 x 6mm bolts or suitable pins to hold the chain while you remove the joiner link.



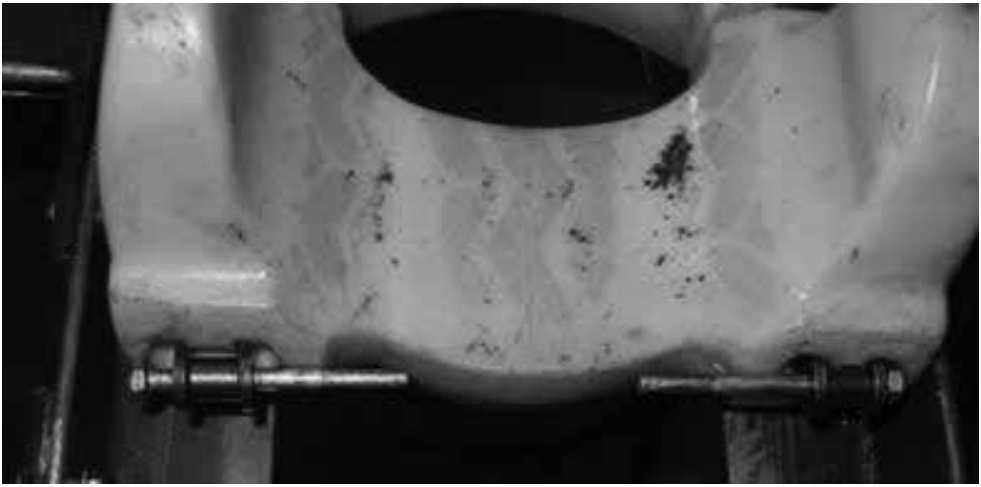
3. Pull the locking bolts out and remove the chain simply by pulling it through the track segments. Then turn the track onto it's other side and repeat steps 1, 2 and 3.



4. Lay segments out on the floor in the required pattern, and then feed the chain in from one end through to the other. It will assist if the chain is washed clean and soaked in diesel. If you have trouble, you can thread a piece of 3 mm wire in from the other end and connect it to the chain to help pull the chain through.



1. Once the chain is fed all the way through, install the 6mm locking pin in one end of the chain and push all the segments up tight, inserting the 6mm locking pin through the other end. Repeat this procedure with the chain on the opposite side.



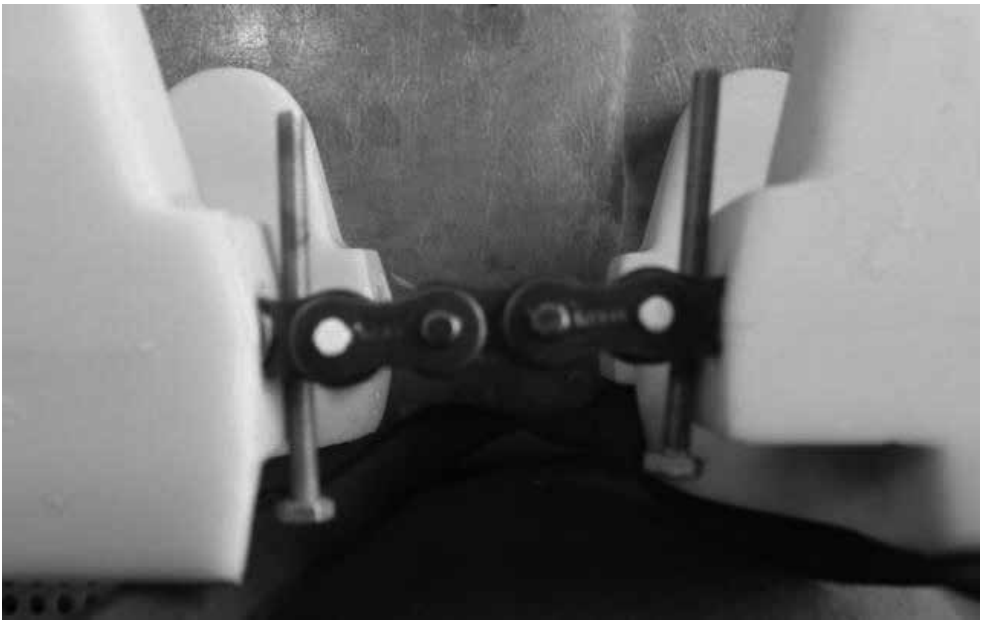
2. Once both chains are pulled through and secured with pins, lay the track it on it's side. Place the securing pins through the link in such a manner so as to expose the holes through which you will fit the joining link.
3. With the track on its side, install the joining link from the inside to the outside so that the spring clip is on the outside. Flip the track over and repeat to the other side, remove the locking pins/ bolts and the track is now ready to install. Refer to Track Installation Instructions (Page 46).



TRACK CHAIN LINK REMOVAL

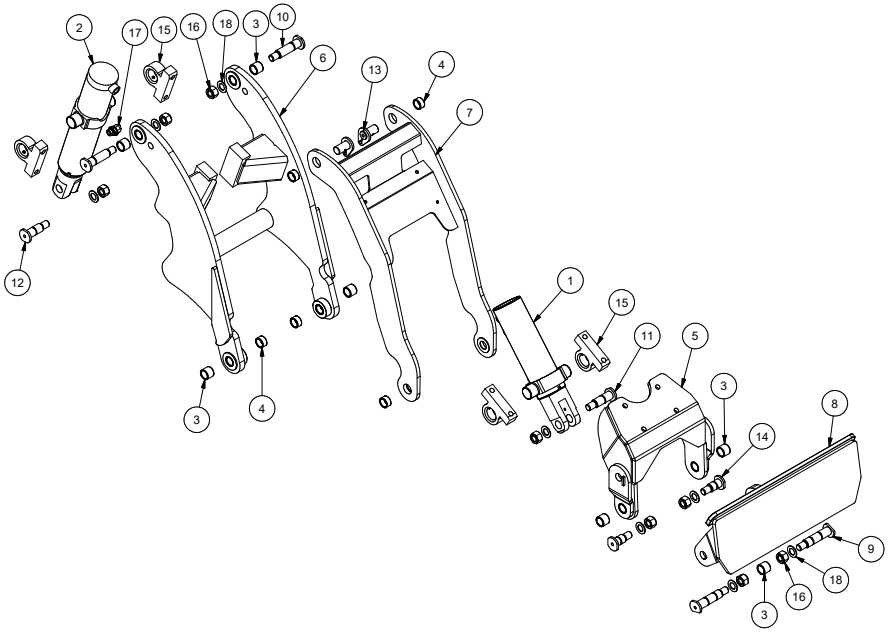
If traction between the drive wheel and track is lost, increase tyre pressure in 5psi stages to compensate for wear. If traction is lost when the tyre pressure is set at 75psi, track chain links will need to be removed to tighten tracks.

1. Use the Track Removal Instructions to undertake this operation.
2. Once track is removed, lay track on its side.
3. You will have to pick a spot and pry the L/H segment apart to allow you to insert a 6mm locking bolt through the chain link. Then pry the R/H segment back as far as you can with a screwdriver to expose 2 full side plates (4 x pins).
4. Use chain splitter or angle grinder to grind off 2 pins that are on the outside of the 4 pins. Grind off these 2 pins to remove 1 x link. Use a pin punch to drive the pins out to release the chain section.



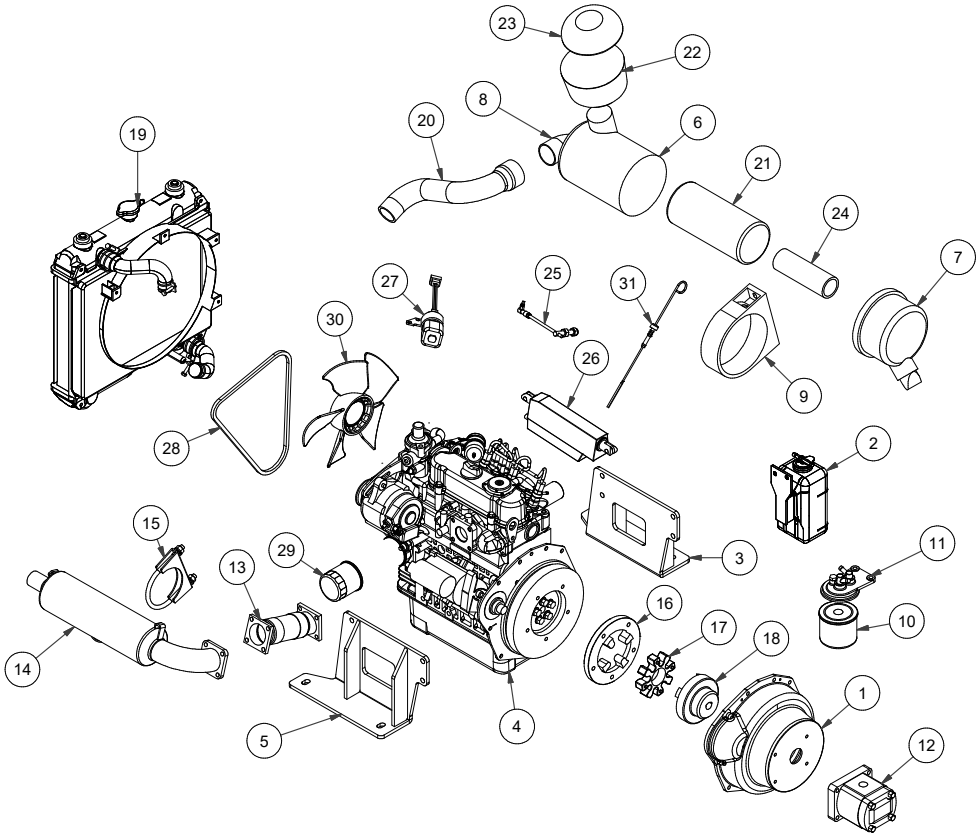
5. Turn the track over and perform the same on the other side to release the track so it is no longer joined.
6. Use Joiner Link (part number L117900) to rejoin the chain, this has now shortened the chain by one link. Turn track over and perform this to the other side.
7. Remove the 6m locking bolts on both sides, and then reinstall the tracks.
8. Once links are removed tyre pressure must be decreased.

ARM ASSEMBLY



ITEM	QTY	PART NUMBER	DESCRIPTION	KMN
1	1	CY-000103	HYDRAULIC CYLINDER - 8 SERIES TILT CYLINDER - 3" BORE-1.5" ROD-148mm STROKE	0K10196
2	1	CY-000128	HYDRAULIC CYLINDER - NORDON SPECIAL -(NI-30S-TI-XU-0262-R15-C1-S4-TOP PORT B BOTTOM PORT A) - DRAWING WILL BE REQUIRED	
3	7	DL-000158	COMMON LOADER PARTS - HARDENED BUSH - PURCHASED - IRB1616 L111410	
4	6	DL-000222	COMMON LOADER PARTS-HARDENED BUSH-IRB 1610	L111210
5	1	DL-000375	8 SERIES LOADER - TILT ARM ASSEMBLY	0K11470A
6	1	DL-000415	8 SERIES REMOTE - ASSEMBLY - MAIN ARMS	
7	1	DL-000421	8 SERIES REMOTE - ASSEMBLY - LEVELLER ARM	
8	1	DL-000430	8 SERIES - ASSEMBLY - MANUAL HITCH ATTACHMENT PLATE	0K11517
9	2	DL-000446	COMMON LOADER PARTS - LOADER PIN E(L110901)	L110901
10	2	DL-000447	COMMON LOADER PARTS - LOADER PIN H(L110904)	L110904
11	1	DL-000449	COMMON LOADER PARTS - LOADER PIN G	L110903
12	1	DL-000513	COMMON LOADER PARTS - LOADER PIN C	L110900
13	2	DL-000516	8 SERIES - ASSEMBLY - LEVELLER ARM PIN	0K10905
14	2	DL-000531	COMMON LOADER PARTS - LOADER PIN F(L110902)	L110902
15	4	DL-000537	8 SERIES - PARTS - TILT CYLINDER MOUNT LUG	0K11471
16	8	FA-100184	NUT NYLOC M20F CL8 ZP F1CBBBA20	
17	1	HA-000032	ELB90-09 JICM-12UNOM-S91-0912	HA90-UJ-M12M09
18	8	WA-100005	WASHER ENGINEERING M20 ZINC PLATED	F1DBAA20

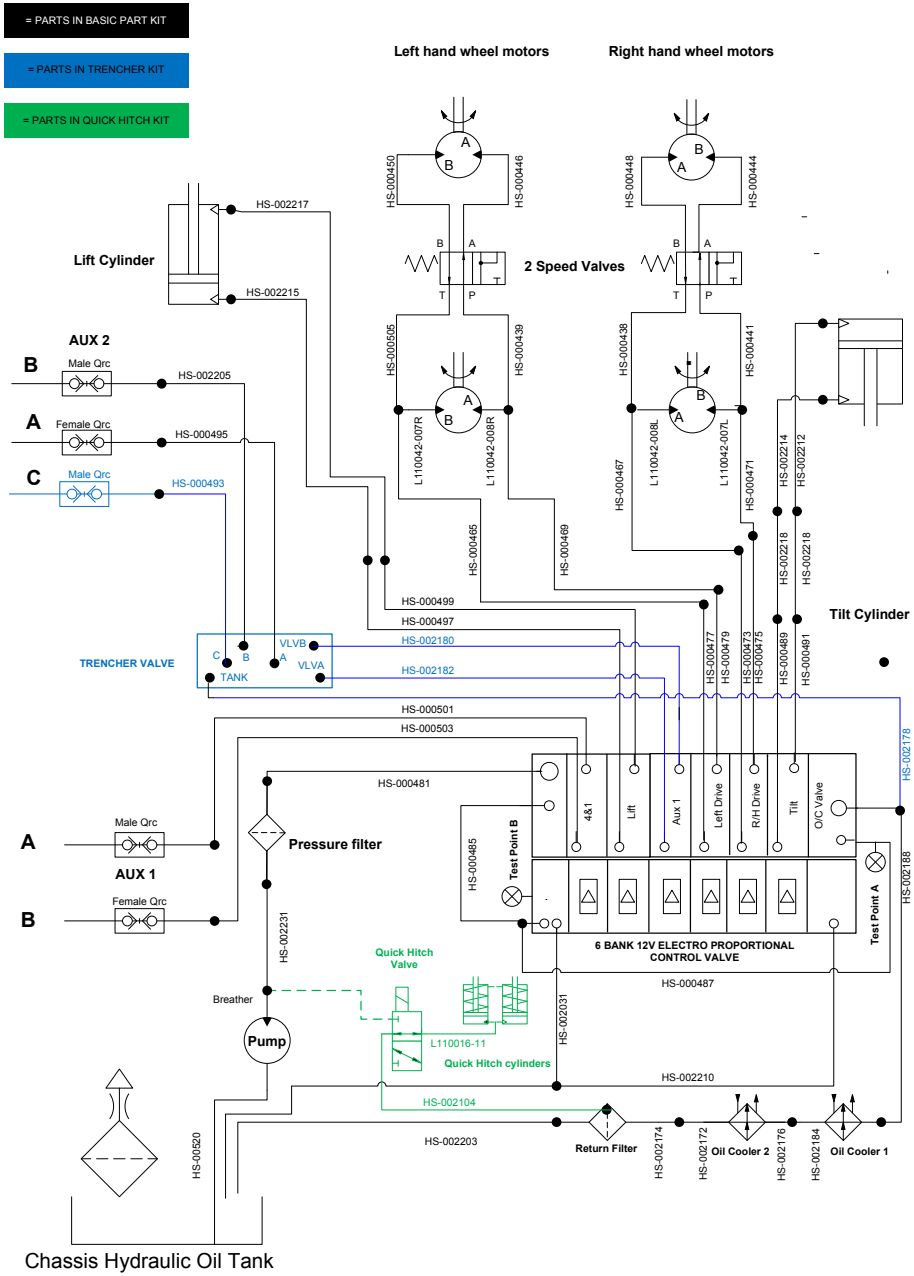
ENGINE - ASSEMBLY DRAWING



ITEM	QTY	PART NUMBER	DESCRIPTION	KMN
1	1	DL-000182	COMMON LOADER PARTS-KUBOTA D09 25 HP BELL HOUSING	0K15213
2	1	DL-000361	A SERIES - PARTS - COOLANT OVERFLOW BOTTLE	L115965-2
3	1	DL-000437	8 SERIES REMOTE - ASSEMBLY - R.H. ENGINE MOUNT	
4	1	DL-000438	COMMON LOADER PARTS - ASSEMBLY - 25H.P. KUBOTA & PUMP ASSY (SUIT REMOTE LOADER)	
5	1	DL-000440	8 SERIES REMOTE - ASSEMBLY - L.H. ENGINE MOUNT	
6	1	DL-000474	COMMON LOADER PARTS - 5" DONALDSON AIR CLEANER HOUSING	L120662
7	1	DL-000475	COMMON LOADER PARTS - 5" DONALDSON AIR CLEANER END CAP	L120682-1
8	1	DL-000476	COMMON LOADER PARTS - 5" DONALDSON 90 DEG. ELBOW	
9	1	DL-000477	COMMON LOADER PARTS - 5" DONALDSON CLAMP	L120672
10	1	DL-000500	COMMON LOADER PARTS - KUBOTA FUEL FILTER ELEMENT	L120400A
11	1	DL-000502	COMMON LOADER PARTS - KUBOTA FUEL FILTER ASSEMBLY	L115965-10A
12	1	DL-000529	COMMON LOADER PARTS - 12.5cc SALAMI HYD. PUMP	L114621

13	1	DL-000532	8 SERIES REMOTE - EXHAUST FLEX 180mm	(L118910-2)
14	1	DL-000533	COMMON LOADER PARTS - KUBOTA 25 H.P. EXHAUST	(L115965-6)
15	1	DL-000541	COMMON LOADER PARTS - ASSEMBLY - KUBOTA EXHAUST CLAMP ASSEMBLY	L118920
16	1	DL-000549	COMMON LOADER PARTS - 25 H.P. KUBOTA DRIVE COUPLING	0K15545
17	1	DL-000550	COMMON LOADER PARTS - 25 H.P. RUBBER COUPLING SPIDER	L115531
18	1	DL-000551	COMMON LOADER PARTS - 25 H.P. COUPLING - PUMP HALF	L115521
19	1	DL-000793	8 SERIES - RADIATOR KIT 20 & 25 H.P. KUBOTA	L115950-18
20	1	DL-000963	COMMON LOADER PARTS - DONALDSON AIR CLEANER HOSE FOR DIESEL	L120323
21	1	DL-001227	COMMON LOADER PARTS - 5" DONALDSON AIR FILTER ELEMENT	L120682
22	1	DL-001228	COMMON LOADER PARTS - 4&5" DONALDSON PRE-CLEANER BOWL	L120640
23	1	DL-001229	COMMON LOADER PARTS - 4&5" DONALDSON PRE-CLEANER CAP	L120635
24	1	DL-001230	COMMON LOADER PARTS - DONALDSON SAFETY FILTER ELEMENT	L120691
25	1	DL-001413	8 SERIES REMOTE - THROTTLE LINKAGE ASSEMBLY	
26	1	EC-000253	ELECTRICAL COMPONENT - LINEAR ACTUATOR LA12	
27	1	KS-000082	KUBOTA - FUEL SHUT OFF SOLENOID - ENERGIZE TO RUN	
28	1	KS-000088	FAN BELT KUBOTA - D722 & D902	L115958
29	1	KS-000089	FILTER OIL KUBOTA	L120500
30	1	KS-000090	FAN 5 BLADE SUCKER KUBOTA	L115957
31	1	KS-000091	DIP STICK KUBOTA D902	L115965-14

TR825 MODEL TRACK 2 SPEED CIRCUIT WITH TRENCHER VALVE AND QUICK HITCH OPTIONS



SPECIFICATIONS - REMOTE LOADER

PERFORMANCE	D800R (TRACK 25HP CLASS) SERIES 2	
Tipping load with 0kg bucket[1]	601 kg	1322 lbs
Tipping load with 80kg HD GP bucket[1]	521 kg	1146 lbs
Tipping load with 160kg HD 4in1 bucket[1]	441 kg	970 lbs
Tipping load for forks with 500mm fork arm[1]	432 kg	950 lbs
Tipping load for forks with 750mm fork arm[1]	391 kg	860 lbs
Tipping load for forks with 900mm fork arm[1]	370 kg	814 lbs
Rated operating capacity (ROC) with 0kg bucket[1]	270 kg	595 lbs
Rated operating capacity (ROC) 80kg HD GP bucket[1]	234 kg	516 lbs
Rated operating capacity (ROC) 160kg HD 4in1 bucket[1]	198 kg	437 lbs
Rated operating capacity (ROC) for forks with 500mm fork arm[1]	194 kg	427 lbs
Rated operating capacity (ROC) for forks with 750mm fork arm[1]	176 kg	387 lbs
Rated operating capacity (ROC) for forks with 900mm fork arm[1]	167 kg	366 lbs
Operating Mass (incl. 4in1 bucket)[2]	1,040 kg	2,288 lbs
Fuel Capacity	38 L	10 US gal
ENGINE		
Manufacturer	Kubota D902	
Power Rating[3]	18.5 kW	25 hp
DRIVE SYSTEM		
Drive Control	Soft Touch Hand Levers	
Throttle Control	Remote	
Track/Wheels	Tracks, Direct Drive Hydraulic Motors	
HYDRAULICS		
Gear Pump Displacement	11.3 cc/rev	0.69 cu.in/rev
Pump Output	40.6 L/min	10.75 US gal/min
System Pressure	220 bar	3,200 psi
Hyd. Reservoir Capacity	80 L	21.1 US gal
BUCKETS		
H.D. GP Bucket Capacity (heaped / struck volume)[3]	0.122 m^3 / 0.093 m^3	4.31 cu.ft / 3.28 cu.ft
H.D. 4 in 1 Bucket Capacity (heaped / struck volume)[3]	0.13 m^3 / 0.095 m^3	4.59 cu.ft / 3.36 cu.ft
DIMENSIONS		
A Max Operating Height H.D Bucket	1739 mm	68.4 "
B Height to Hinge Pin	1565 mm	61.6 "
C Overall Height (No Warning Lights)	1069 mm	42 "
D Overall Length With 4:1 Bucket	2535 mm	99.8"
E Overall Track/ Wheel Width	1046 mm	41.1"
F H.D. Bucket Reach at 40°	432 mm	17.1"
G Dump Height Std. Bucket	522 mm	20.15 "
Dump Height (arm raised)	1214 mm	47.7 "
H Bucket Width	1,050 mm	41.34"
I Bucket Max Roll Back	42°	
J Bucket Max Dump Angle	57°	
K Ground Penetration	477 mm	18.7 "
L Overall Length Less Bucket	1997 mm	78.6 "
M Ground Clearance	194 mm	7.6 "
N Angle of Departure	24°	
Approach Angle	90°	

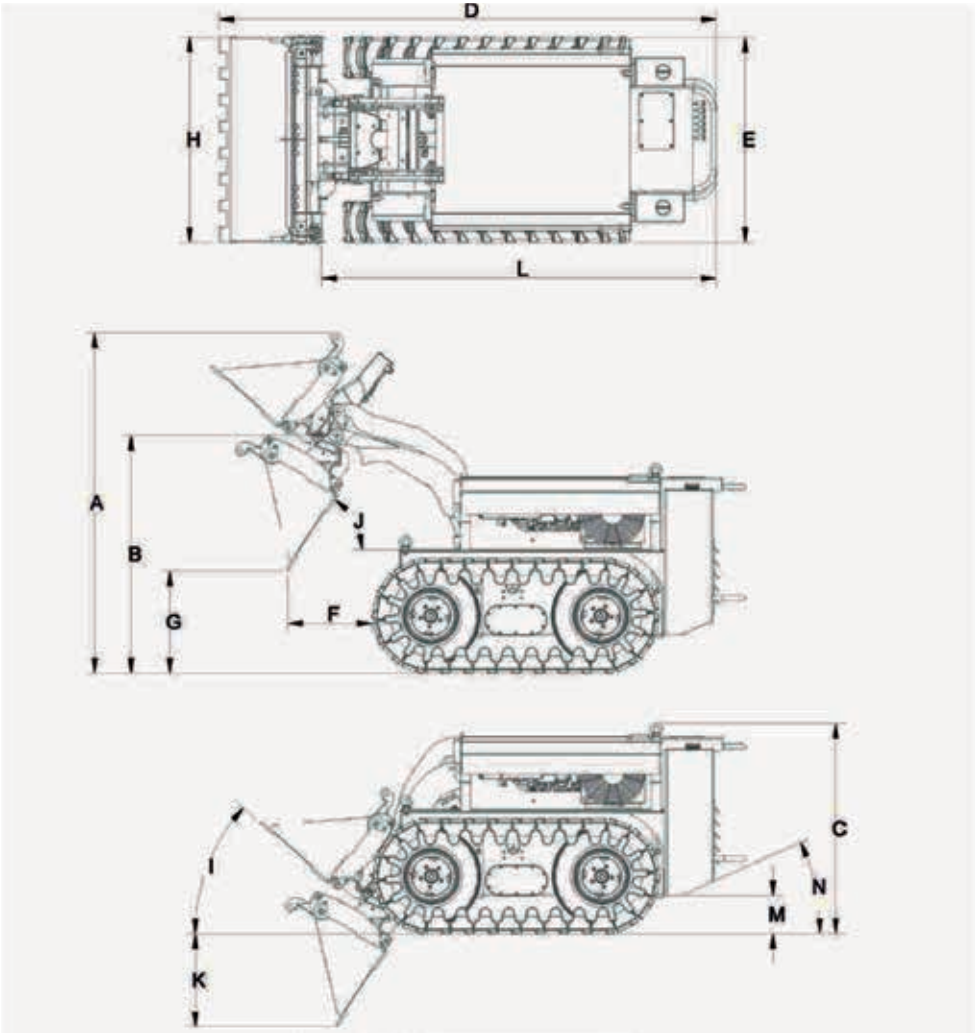
[1] Tipping load and Rated Operating Capacity (ROC) have been determined to ISO 14397-1, though the values shown here are for the material load and bucket mass combined. This is to represent the general loader capabilities and cannot be used for material load without adjusting for the specific attachment. Referring to the section of this manual "Practice Safety at All Times", these adjustments have been made for a range of Kanga buckets and fork tynes. Note that ROC is 50% of the Tipping Load for wheel loaders and 45% for Kanga "over tire track" loaders.

[2] Operating Mass is calculated in accordance with ISO 6750-1:2019 (E) which is based on the most usual configuration as specified by the manufacturer. This includes a 75kg (165 lb) operator, an empty 4in1 Kanga bucket, water-filled tires where applicable, fluids at recommended levels and a full tank of fuel. Bucket mass is 40kg for 2 series, 62kg for 6/7 series and 84kg for 8 series loaders.

[3] Power Rating is the power of the production engine only as measured in accordance with SAE J 1349 at 3600 RPM. Mass production engines vary from this value. Actual power output for the engine installed in the delivered machine may vary depending on numerous factors. These factors can include operation speed of the engine in the application, environmental conditions, and other variables.

[4] Volumes based on ISO 7546:1983.

DIMENSIONS - REMOTE LOADER



TROUBLESHOOTING

This section contains trouble-shooting information to be used for locating and correcting problems which may develop with your KANGA Loader. Troubleshooting and maintenance information relating to the engine are contained in the Engine Manual.

ARMS

TROUBLE	PROBABLE CAUSE	REMEDY
Arm will not rise.	Load capacity exceeded.	Reduce load. Load should not exceed the specified ROC displayed on the machine.
	Hydraulic system oil level low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Damaged or blocked hydraulic line.	Remove line and remove any obstructions or replace line as necessary.
	Malfunctioning hydraulic pump.	Replace Hydraulic Pump as necessary.
	Worn Control Valve spool.	Check pressure delivery from Control Valve. Contact Service Agent.
	Lift Control Valve relief set too low, allowing oil to return to reservoir.	Adjust relief valve to proper setting. Contact service Agent.
	Excessive oil leak past lift cylinder piston seal.	Repair or replace cylinder as necessary.
Arm will not lower.	Hydraulic oil system low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Damaged or blocked hydraulic line.	Remove line and remove any obstructions or replace line as necessary.
	Malfunctioning pump	Replace Hydraulic Pump as necessary.
	Worn Control Valve spool.	Check pressure delivery from Control Valve. Contact Service Agent.
	Control rod or lever broken or disconnected.	Repair or replace control rod or lever.
Arm will not rise, or rises slowly.	Lift Control Valve relief set too low allowing oil to return to reservoir.	Adjust relief valve to proper setting. Contact Service Agent.

	Worn Control Valve spool.	Check pressure delivery from Control Valve. Contact Service Agent.
	Excessive oil leak past lift cylinder piston seal.	Repair or replace cylinder as necessary.
	Control rod or lever broken or disconnected.	Repair or replace control rod or lever.
	Hydraulic lines incorrectly connected at Control Valve.	Correctly connect line at Control Valve
Arm rises and lowers erratically.	Lift Control Valve relief set too low, allowing oil to return to reservoir.	Adjust relief valve to proper setting.
	Hydraulic system oil low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Damaged or blocked line.	Remove line and remove any obstructions or replace line as necessary.
	Worn Control Valve spool.	Check pressure delivery from Control Valve. Repair or replace valve as required.
	Excessive oil leak past lift cylinder piston seal.	Repair or replace cylinder as necessary.
	Arm pivot pin seized or otherwise damaged.	Replace pivot pin and bushing as necessary. Grease thoroughly.
Arm Lowers with control lever in neutral.	Worn Control Valve spool.	Repair or replace valve as required.
	Lift ram piston seal leaking.	Replace seals.

DRIVE SYSTEM

TROUBLE	PROBABLE CAUSE	REMEDY
Machine will not drive forwards or backwards.	Hydraulic system oil low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Worn Control Valve spool.	Check pressure delivery from Control Valve. Repair or replace valve as required.
	Damaged or blocked line.	Remove line and remove any obstructions or replace line as necessary.
	Control rod or lever broken or disconnected.	Repair or replace control rod or lever.

	Hydraulic lines incorrectly connected at Control Valve.	Correctly connect line at Control Valve.
	Malfunctioning pump.	Repair or replace pump.
Machine drive speed is erratic.	Hydraulic system oil low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Damaged or blocked line.	Remove line and remove any obstructions or replace line as necessary.
	Binding drive motor(s).	Repair or replace motor(s) as necessary.
	Relief valve setting.	Adjust relief valve.

HYDRAULIC PUMP

TROUBLE	PROBABLE CAUSE	REMEDY
Flow from hydraulic pump erratic or non existent	Hydraulic system oil low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Damaged or blocked line.	Remove line and remove any obstructions or replace line as necessary.
	Worn or chipped pump gears.	Replace pump gears as necessary.
	Worn or broken drive shaft or coupling.	Inspect drive shaft or coupling. Repair or replace as necessary.
Hydraulic pump noisy	Air in hydraulic system.	Check suction side or hydraulic system for defects and repair as necessary. Ensure no leaks exist in the suction line.
	Hydraulic system oil low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Worn or broken drive shaft or coupling.	Inspect drive shaft or coupling. Repair or replace as necessary.
	Worn or chipped pump gears.	Replace pump gears as necessary.

AUXILIARY HYDRAULIC

TROUBLE	PROBABLE CAUSE	REMEDY
Attachment is slow or will not function.	Hydraulic system oil low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Damaged or blocked line.	Remove line and remove any obstructions or replace line as necessary.
	Malfunctioning pump.	Replace Hydraulic Pump as necessary.
	Worn Control Valve spool.	Check pressure delivery from Control Valve. Repair or replace valve as required.
	Attachment plate pivot pin seized or otherwise damaged.	Replace pivot pin and bushing as necessary. Grease thoroughly.
	Excessive oil leak past cylinder piston seal or motor rotating group.	Repair or replace cylinder motor as necessary.
	Control rod or lever broken or disconnected.	Repair or replace control rod or lever.

ENGINE

TROUBLE	PROBABLE CAUSE	REMEDY
Engine will not crank over	Low battery output.	Recharge or replace battery.
	Loose, disconnected or broken battery cables.	Inspect cable(s) and tighten all connections. Repair or replace cables as necessary.
	Faulty Starter.	Repair or replace starter.
	Faulty circuit wiring.	Check wiring continuity.
	Engine flooded (petrol).	Remove spark plug and crank.
Engine cranks but not fires	No fuel in tank.	Refill fuel tank.
	Spark plug fouled (petrol engines).	Check spark plug gap and clean or replace spark plug.
	Dirty fuel filter.	Clean filter.
	Carburetor floods (petrol engines).	Clear carburetor.
	Fuel valve closed.	Open valve.
Engine runs but stalls.	Spark plug fouled (petrol engines).	Check spark plug gap & clean or replace.
	Fuel valve closed.	Open valve.
	Low battery output.	Recharge or replace battery.
	Power take-off engaged.	Shift power take-off lever into neutral.

RADIO SYSTEM

TROUBLE	PROBABLE CAUSE	REMEDY
Radio transmitter wont communicate with reciever	Low battery in transmitter.	Replace battery with freshly charged unit.
	Emergency stop on loader or transmitter ingaged.	release emergency stop buttons.
	No power to receiver box. Check power light is illuminated on reveiver box.	Ensure the battery isolater switch is on and the battery is fully charged. Check F2 fuse in receiver unit it not blown replce if required check F3 in power distribution is not blown.
	Head lights, AUX 2 or Fast mode is selected.	Check the disengaged switches
	Low engine oil.	Check engine oil level.
	Engine over temperature.	Check engine coolant.
	Poor connnection in the 23 pin plug.	Disconnect plug and check connections.
	Machine shut down when driving.	Emergency stop has been activated.
	Low battery in transmitter check for res LED on transmitter.	Replace battery in transmitter with new one.
	Low engine oil.	Check oil level.
	Engine over temperature.	Check engine coolant.
	Poor connections in 23 pin plug.	Disconnect plug and check connections.

REMOTE CONTROL

SIGNALS	PROBABLE CAUSE	REMEDY
The green LED does not switch on when the START push button is pressed, even though both the battery and the S-KEY are inserted.	The battery is flat.	Replace the battery with a charged on.
The green LED blinks fast.	No radio link.	Bring the transmitting unit close to the receiving unit.
The red LED switches on for 2 seconds and then the unit switches off.	The transmitting unit does not work correctly.	Contact the support service of the machine manufacturer.
The red LED blinks once during start up.	The STOP push button is locked or damaged.	Unlock the STOP push button. If this signal persists, contact the support service of the machine manufacturer.

The red LED blinks twice during start up.	At least one of the actuators corresponding to commands D2-D20 is activated or damaged.	Bring the actuators to the rest position. If this signal persists, contact the support service of the machine manufacturer.
The red LED blinks three times during start up.	The batttery is flat.	Replace the battery with a charged one.
The red LED blinks four times during start up.	At least one of the actuators corresponding to commands A1-A8 and H1-H8 is activated or damaged.	Bring the actuators to the rest position. If this signal persists, contact the support service of the machine manufacturer.
The POWER LED is off.	The receiving unit is switched off.	Make sure the fuse F2 is intact. Correctly plug in the connecting plug and power on the reciver unit.
The POWER LED is on.	No radio link.	Bring the transmitting unit closer to the receiving unit.
The ALARM LED blinks once.	Error on the STOP outputs.	Make sure that the fuses F3 and F4 are intact. Correctly plug in the connecting plug. Make sure that the STOP outputs are wired correctly.
The ALARM LED blinks twice.	Error on the SAFTEY outputs.	Make sure that the fuses F1 and F5 are intact. Correctly plug in the connecting plug. Make sure that the SAFETY outputs are wired correctly.
The ALARM LED blinks three times.	Error on the outputs of direction commands.	Contact the support service of the machine manufacturer. Make sure that the outputs of direction commands are wired correctly.
Thw ALARM LED is on.	The receiving unit does not work correclty.	Contact the support service of the machine manufacturer.
The STATUS LED blinks slowly.	Over-voltage on power supply.	Make sure that the receiving unit power supply is within the voltage limits provided in the technical data.
The STATUS LED blinks fast and irregularly.	The receiving unit loses data sent by the transmitting unit.	Bring the transmitting unit closer to the receiving unit. contact the support service of the machine manufacturer.
The STATUS LED is on.	Over-current in one of the PWM analogue outputs.	Contact the support service of the machine manufacturer.
The RUN LED blinks.	The receiving unit does not send commands in the CAN network.	Contact the support service of the machine manufacturer.

The ERR LED blinks.	CAN communication error.	Contact the support service of the machine manufacturer.
The SETUP LED blinks once.	Error on the address key.	Contact the support service of the machine manufacturer.
The SETUP LED blinks twice.	Error on the data memory.	Replace the data memory on the DTK connector with the backup data memory attached inside the cover.
The SETUP LED blinks slowly.	A data memory is connected to the BKK connector.	If you are not performing a backup of the data memory, removed the memory from the BKK connector.



WWW.KANGALOADER.COM
1300 4 KANGA

QUEENSLAND

Phone: *Aus:* (07) 3441 9222
Int: +61 7 3441 9200

Address: 4 Octal Street
Yatala, QLD 4207

VICTORIA

Phone: Aus: (03) 8793 6600
Int: +61 3 8793 6600

Address: 17-21 Babbage Drive
Dandenong South, VIC 3175

NEW SOUTH WALES

Phone: *Aus:* (02) 9854 1444
Int: +61 2 9854 1444

Address: 19 McKay Close
Wetherill Park, NSW 2164

SOUTHERN NSW & ACT

Phone: Aus: (02) 6297 9099
Int: +61 2 6297 9099

Address: 1/49 Yass Road
Queanbeyan, NSW 2620