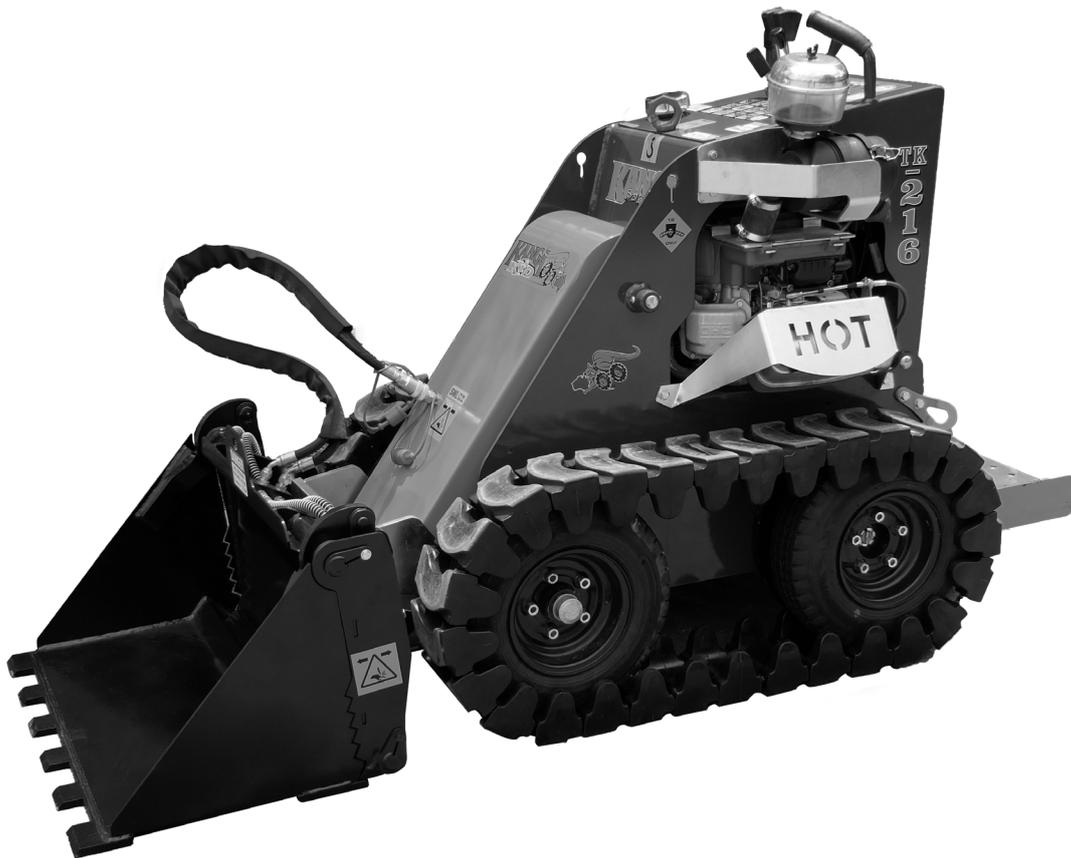




SERIES 216 LOADER

Operator's Manual



IN PROGRESS

2 SERIES CURRENTLY IS IN DESIGN

CHANGES OUTSTANDING:

COVER PAGE

TABLE OF CONTENTS & INDEX

SPECIFICATIONS

DRAWINGS

DECALS

SERVICE PROCEDURE

ATTACHMENTS

We thank you for choosing the Kanga Loader.

Your machine is the result of extensive design and development and is acknowledged as being the 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. With correct operation and attention to maintenance procedures, you are ensured of a long, safe, and trouble-free working life for your Kanga Loader.

We advise you to study and understand this manual before undertaking any maintenance. Keep it with your machine at all times as a ready reference. Some illustrations in this publication show details or attachments that may be different from those of your machine. In addition, continuing improvements and advancement in product design may have resulted in changes to your machine that are not present in this publication. If you have any questions, please do not hesitate to contact us.

Safety first!

Safety guidelines and warnings are highlighted throughout this manual. These address potential hazards that may arise during the typical daily operation and maintenance of your loader. You must know and observe these safety guidelines and ensure that all personnel working on or near your loader understand and practice them as well.



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Register Your Kanga Loader

This part will be removed from this manual at the time of machine handover.

- Record the Main Component Serial Numbers
- Loader Checklist
- Delivery Sheet
- Warranty Registration Card

Identify Your Kanga Loader

Read Your Product Plate

○ **MANUFACTURER: DIGGA AUSTRALIA PTY LTD** ○

LOADER SERIAL NUMBER: 1 2 3 POWER: 4 5 6

MANUFACTURE DATE: 7 8 9 10 ROC: 11 MASS:

MODEL: 11 DE-000886

ENGINE MAKE:

ENGINE SERIAL NUMBER:

EPA ENGINE FAMILY NAME:

EPA EVAP GASOLINE FUEL SYSTEM FAMILY NAME:

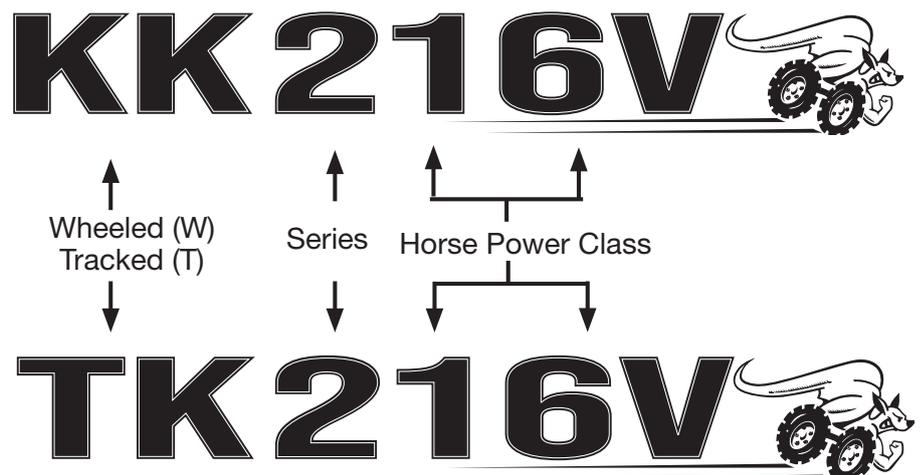
○ ○

Key

- 1 Mini-Loader VIN Number
- 2 Date of Manufacture (in Australia)
- 3 Full Model Code
- 4 Engine Gross Maximum Power (HP/KW)
- 5 Mini-Loader Rated Operating Capacity (ROC)
- 6 Mass of Loader (without bucket, operator and full fluid capacity)
- 7 Make of Installed Engine
- 8 Engine Manufacturer Serial Number
- 9 EPA Engine Family Name (from engine)
- 10 EPA Family Name of Fuel System (unleaded fuel loaders only)
- 11 Re-order Part Number for Serial Tag

Understand the Model Number

Your loader's model number provides information about your loader. Compare the number on the machine to the code provided on the right side of this page. The first letter represents the fuel type: D for diesel and P for gasoline (petrol). The next letter, a T or W, indicates either a tracked (T) or wheeled (W) loader. The three numbers identify the series and model.



Safety Information

Understand Safety Warnings and Symbols

You must understand all safety statements shown on your loader and in this manual. Especially note information called out by the designations shown below. Following these safety precautions is required when operating or maintaining a Kanga Loader.

DANGER

The **DANGER** designation indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING

The **WARNING** designation indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION

The **CAUTION** designation indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury or property damage.

You will also see information called out with the **Note** designation. This additional safety or general information is important to the maintenance and operation of your loader.

This Operator's Manual provides measurements in both International System of Units (SI) and United States customary system units (USCS), displayed as "SI (USCS)."

During day-to-day operation of your loader, you will encounter a variety of situations beyond those listed in this manual. We encourage you to assess the risk present at any job site and in every work task *before* beginning work. Apply appropriate risk mitigation strategies to make safety a first priority at all times, and if these are not sufficient, stop the job and immediately seek the help of a qualified safety consultant.

Note

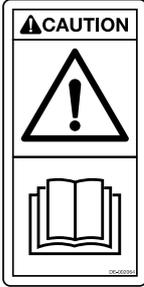
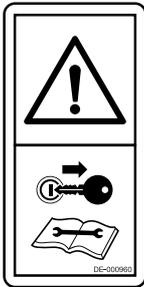
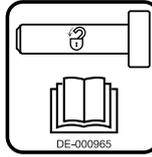
In the diagrams and illustrations shown in this manual, safety guards and covers may have been removed. This is strictly for illustrative purposes. All guards and safety controls must be in place while operating your loader.

Safety Decal Labels

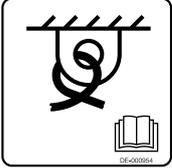
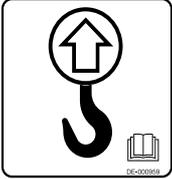
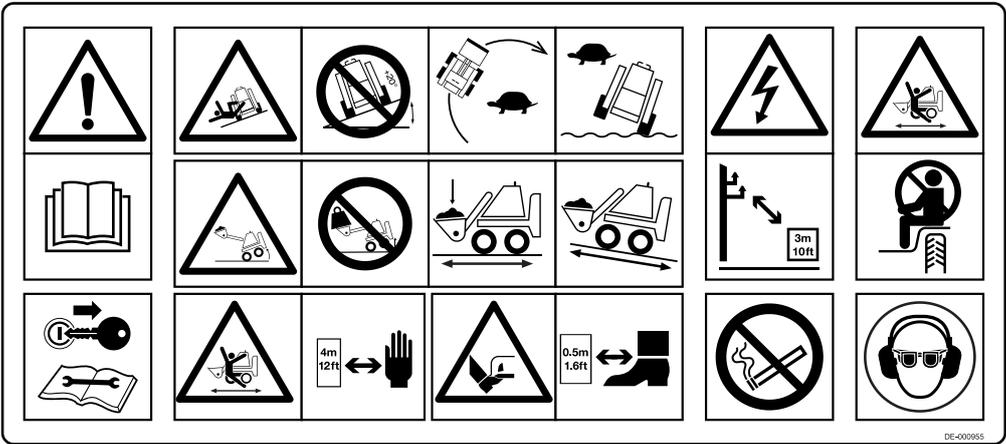
The following section provides a glossary of safety labels found on your Kanga Loader. These labels are important! Become familiar with both their meaning and location prior to operating your loader.

They must be maintained so each decal label is clean, visible, and legible. To clean the decal, use a soft cloth, water, and soap. Avoid the use of solvents, gasoline, or other harsh chemicals, as these may damage the decal.

If a label has been damaged or removed, it must be replaced. In the Loader Specifications section of this Operator's Manual, refer to the Decals pages (76 - 87) for your loader, part number information.

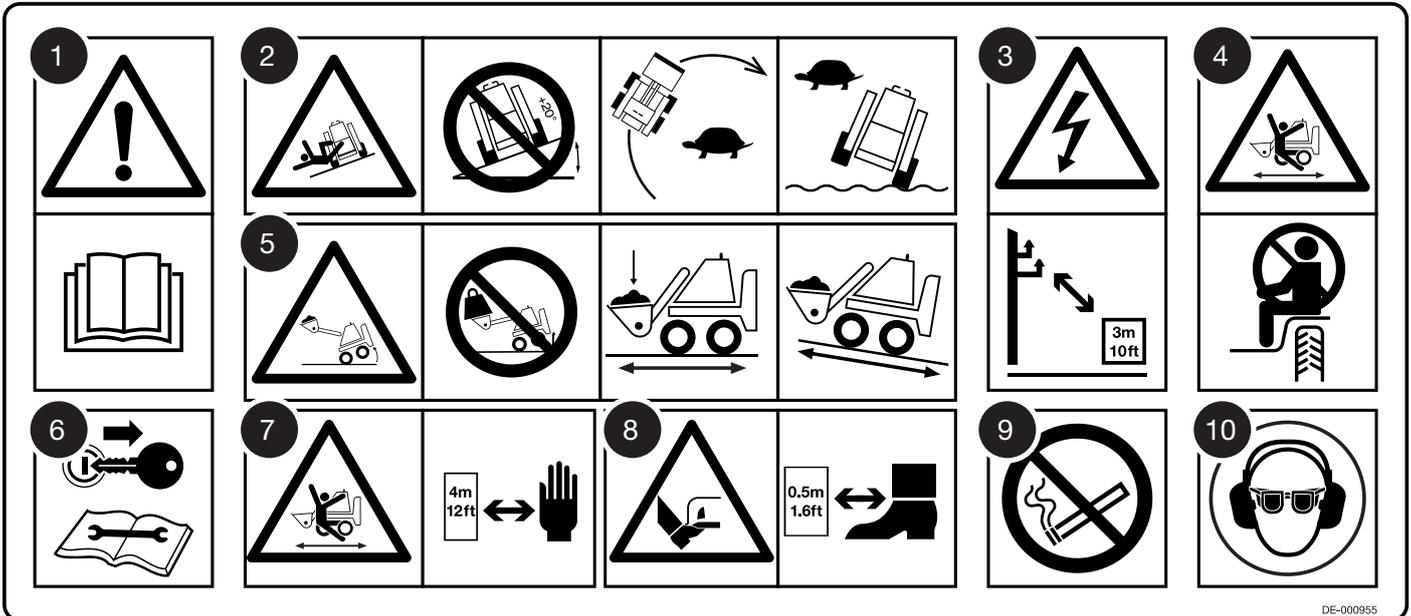
READ OPERATOR'S MANUAL	REMOVE IGNITION KEY	TIPPING HAZARD
 <p>CAUTION</p> <p>Completely read and understand this operator's manual before using your Kanga loader. Keep the manual with the machine at all times.</p>	 <p>CAUTION</p> <p>Before any maintenance is performed, switch engine off and remove the key. Never leave the key in an unattended machine.</p>	 <p>WARNING</p> <p>To avoid a tipping hazard, do not overload this machine. Read this operator's manual for Rated Operating Capacity (ROC).</p>
CRUSHING HAZARD	SAFETY LOCK	SAFETY LOCK PIN STORAGE
 <p>DANGER</p> <p>The loader arm poses a whole-body crushing hazard. Ensure loader pins are fully and correctly installed whenever the arm is raised for maintenance.</p>	 <p>DANGER</p> <p>The loader arm poses a whole-body crushing hazard. Ensure loader pins are fully and correctly installed whenever the arm is raised for maintenance.</p>	 <p>CAUTION</p> <p>Read this operator's manual for information on safely locking the loader arm in the raised position for daily checks and maintenance.</p>

<p>ATTACHMENT CONNECTIONS</p>	<p>HIGH PRESSURE FLUID</p>	<p>SAFE FILL LEVEL</p>
<div data-bbox="245 353 419 535" data-label="Image"> </div> <p>⚠ WARNING</p> <p>Ensure attachment locking pins are engaged and quick couplers are connected before using a loader attachment. Refer to this operator's manual for safe hitch connection and safe connection and disconnection of hydraulic hoses.</p>	<div data-bbox="659 353 944 506" data-label="Image"> </div> <p>⚠ WARNING</p> <p>This machine operates on high pressure hydraulic fluid. Always wear eye protection when operating or performing maintenance on this machine. Consult this operator's manual for information on safe connection and disconnection of attachments for hydraulic safety.</p>	<div data-bbox="1166 353 1378 560" data-label="Image"> </div> <p>⚠ CAUTION</p> <p>Read and understand this operator's manual for refuelling and maximum fuel level.</p>
<p>COMBUSTIBLE LIQUID</p>	<p>REFUEL</p>	<p>ENGINE OIL</p>
<div data-bbox="226 929 438 1214" data-label="Image"> </div> <p>⚠ WARNING</p> <p>The low sulphur diesel fuel required for this loader is combustible. Refer to this operator's manual for more information.</p>	<div data-bbox="692 965 911 1182" data-label="Image"> </div> <p>⚠ CAUTION</p> <p>When refuelling, fill both tanks to maximum fill level; do not over fill. Read this operator's manual for information on fuelling your loader.</p>	<div data-bbox="1166 976 1378 1182" data-label="Image"> </div> <p>⚠ CAUTION</p> <p>Consult this operator's manual for information on hydraulic oil.</p>
<p>ENGINE SPEED CONTROL</p>	<p>DAILY GREASE POINT</p>	<p>TIRE PRESSURE</p>
<div data-bbox="292 1529 373 1787" data-label="Image"> </div> <p>⚠ CAUTION</p> <p>Consult this operator's manual for information on engine speed control.</p>	<div data-bbox="703 1563 900 1756" data-label="Image"> </div> <p>⚠ CAUTION</p> <p>Some grease points may be hidden. Consult this operator's manual for more information on greasing your loader.</p>	<div data-bbox="1166 1563 1378 1765" data-label="Image"> </div> <p>⚠ CAUTION</p> <p>Maintain correct tire pressure for all loader tires. Consult this operator's manual for more information.</p>

LASHING POINT	LIFT POINT	CRUSHING HAZARD
 <p>CAUTION Lash the loader to a trailer or truck from only the locations marked as lashing points. Read and understand this operator's manual prior to transporting your loader.</p>	 <p>CAUTION Lift the loader only at points approved for lifting. Read and understand this operator's manual prior to lifting.</p>	 <p>DANGER Keep hands and body parts a safe distance from actuating parts.</p>
HOT FLUID UNDER PRESSURE	CAUSTIC LIQUID	HOT SURFACE
 <p>CAUTION Do not remove radiator cap when hot.</p>	 <p>WARNING The 12V battery contains caustic liquid that may result in chemical burns to flesh and materials.</p>	 <p>WARNING Keep hands and body parts a safe distance from the hot surfaces located in the exhaust, engine, and hydraulic areas.</p>
MULTI-SAFETY ADVISORY PANEL		
 <p>See next page for information on these advisories.</p>		

Safe Work Practices – Pictograms

These illustrate key safety practices related to the operation of your Kanga Loader.



Descriptions

- 1 **Caution:** Take note of the following safe work practices and safety notices. Always read the operator's manual before operating this machine.
- 2 **Warning:** Fall hazard
Safe Operation Angle: Do not operate machine on slopes greater than 20 degrees.
Maneuver the machine slowly when turning.
Maneuver the machine slowly across rough ground.
- 3 **Danger:** Electrocution hazard. Always check for overhead and underground power services.
Keep 3 meters (10 feet) from overhead services and 2 meters (6 feet) from on-ground utility markings.
- 4 **Caution:** Entanglement hazard. Always keep both feet on the standing platform and stand in an upright position.
Only operating personnel may be present on the machine. Never sit or ride on the side, top, or front of the machine.
- 5 **Tipping Hazard:** Refer to operator's manual for Rated Operating Capacity (ROC). Use a steady, even motion on the control levers; do not jerk the control levers. Carry the heavy end uphill. Always check behind you before reversing the machine.
Never overload the machine or exceed ROC.
- 6 Always operate the machine with the attachment lowered.
Always move up and down slopes with the attachment lowered.
- 6 Before any maintenance is performed, switch engine off and remove the key. Never leave the key in an unattended machine.
- 7 **Caution:** Entanglement hazard
Bystanders must be at least 4 meters (12 feet) from the operating machine at all times.
- 8 **Caution:** Crushing hazard to feet and legs
Do not place feet under the standing platform. Always keep both feet on the standing platform while operating the machine. When stepping on or off, keep feet clear of rear of machine by 0.5 meters (1.6 feet).
- 9 No smoking, no fire, or open flame on or near this machine.
- 10 Wear hearing and eye protection at all times during operation of this machine.

Practice Safety at All Times

General Safety Rules

Read, remember, and apply the following safety rules during the operation of your Kanga Loader. In addition, complete a thorough risk assessment before loading and unloading the loader, and before beginning work. This will aid in anticipating any unsafe operations or work conditions unique to the job.

Completely read and understand this Operator's Manual and keep it with the machine at all times.

Identify, mark, and delineate all underground utility installations before any work commences.

Establish a traffic control plan with a well-defined and clearly marked loading/unloading and work area.

DANGER

To avoid the risk of struck-by and back-over accidents, ensure all personnel, guests, and passers-by in the work area understand where they can and cannot travel on foot.

Mark the boundaries of the work area with barricades and/or traffic cones before beginning work with the loader.

Plant both feet firmly on the driving platform at all times during loader operation.

Note

When carrying loads, the operator's body weight provides additional counterbalance to the weight of the bucket load.

Keep body parts within the confines of the loader.

Never tie or otherwise secure yourself to any part of the machine or attachment.

Do not place feet under the driving platform.

DANGER

Keep hands, feet and clothing away from all moving parts, including hydraulic arms.

Stop completely before changing loader direction from forward to reverse or vice versa.

CAUTION

Failure to stop completely before changing direction can affect loader stability and damage the drive of the loader.

Stop completely before operating other hydraulic controls.

Travel at speeds suitable for the conditions and as determined by the task risk assessment.

Slow loader speed to appropriately match ground conditions, such as rough surfaces or uneven terrain.

Travel at the recommended operating speed between 2/3 and 3/4 throttle.

Note

Reduced speeds minimize noise levels dangerous to both the operator and bystanders.

Travel with the bucket low and level to the ground, carrying loads as close to the ground as practicable.

Ensure the machine is fully stopped and shut off before stepping onto or off of the loader.

Use handholds to aid in stepping onto or off of the loader.

⚠ CAUTION

Do not use control levers as handholds.

General Safety Rules (continued)

Use only thumbs and forefingers to operate the control levers.

Use a steady, even action to achieve proper control. Do not jerk the control levers.

Avoid distractions during loader operation.

⚠ DANGER

Never carry passengers on any part of the loader or its attachments.

Remove the key and chock the wheels when the loader is left unattended and/or unsupervised.

Attach a "Do Not Operate" or similar warning tag in the driver area during service and repairs.

Shut off engine during refuelling.

Do not smoke or use open flame during loader operation or while refuelling.

Do not exceed this loader's Rated Operating Capacity (ROC).

Do not engage in horseplay and other dangerous behaviour while operating the loader or attachments.

⚠ WARNING

Avoid touching exhaust, engine parts, hydraulic pipes and fittings, drive chains, friction parts, or guards.

Do not remove safety decals. Replace decals that have become damaged or illegible.

Do not remove safety guarding.

If safety guarding must be removed for repairs or maintenance, replace immediately.

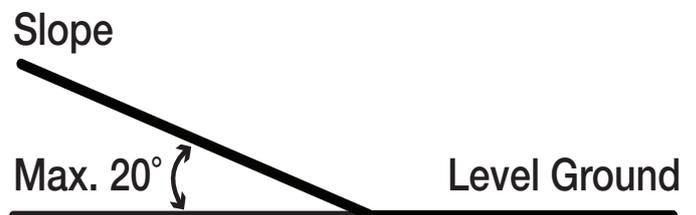
Working on Slopes

Slopes present especially dangerous working conditions. Environmental factors, such as the presence of moisture, snow, ice, or slippery plant material, can affect loader stability. Soil conditions, rough terrain, reduced visibility due to dust, and other factors can impair safe operation. The presence of attachments, the condition and configuration of the machine, the loads being carried, and operator experience also impact work safety.

The Kanga Loader is designed to operate on slopes to a maximum of 20°. Note that this is a maximum; the actual safe slope angle may be lower depending on the factors listed above.

⚠ WARNING

Never work on a slope greater than 20°. Always complete a comprehensive assessment of slope conditions and risks before commencing work.



Working on Slopes (Continued)

Avoid traveling with and working the loader across slopes, especially on uneven ground. If traveling across a slope is imperative, the area should be traversed under reduced speed and with extreme caution. Any load should be lowered as far as possible.

⚠ DANGER

Your Kanga Loader has been engineered to permit access to restricted areas. The loader's reduced width can affect stability when traveling across slopes.

In addition to the precautions listed here, observe the following safety practices when working on slopes:

- Ensure personnel operating the loader are fully trained and aware of hazards and precautions prior to commencing work on a slope.
- Travel down a slope in reverse, and if carrying a load, reduce speed.
- Do not leave the loader unattended on a slope.
- Do not park the loader on a slope.
- Do not carry a load with the arms raised. Always carry loads with the arms against the chassis, close to the ground.
- Never load or unload the loader on a slope.
- Never attach, change or remove attachments on a slope.
- Slopes are a major factor in loss-of-control and tip-over accidents, which may result in severe injury or death. Operating the machine on any slope or uneven terrain requires extra attention and extreme caution.
- Always operate the machine up and down slopes and loading ramps with the heavy end of the machine uphill and the load close to the ground. The heavy end of the machine will depend on the attachment being used or load being carried. Operating with an empty bucket will make the rear of the machine the heavy end, while a full bucket will make the front of the machine the heavy end. Most hydraulic driven attachments make the front of the machine the heavy end.
- Raising the loader arms on a slope will affect the balance and stability of the machine. Always travel and operate with the loader arms in the lowest possible position when on slopes.
- Establish your own pre-operation procedures and operating rules for when operating on slopes. Your procedures must always include surveying the site/slope prior to operating the machine to determine whether the slope is safe for machine travel and operation. With safety at the forefront of your decision making, use good judgment and common sense when completing the slope/site survey.
- Slow down and use extra care on slopes. Take into consideration the ground conditions, weather conditions, surface type, surface condition and available traction which can all affect the stability of the machine. Always proceed slowly, ensuring all movements are smooth and gradual. Never make sudden changes in direction, speed or arm movements.
- Avoid starting or stopping on a slope as this may cause the machine to lose traction.
- Avoid travelling across or turning on a slope. Always proceed straight up and down a slope with the heavy end of the machine uphill.
- Always use extra caution when operating your mini loader near ditches, embankments, waters edge and culverts.

Tipping Load and Rated Operating Capacity (ROC)

In accordance with ISO 14397-1:2007(E), the tipping load was determined by the load that when put in the bucket or fork will commence tipping of the machine. This load has been determined for a range of attachments with the tabulated results on the following pages. As per the code, Tipping Load was determined with:

- The load acting through the centre of bucket volume or in the centre of the fork tynes
- The boom in the least stable position
- A 75kg (165 lb) operator
- Fluids at recommended levels
- A full fuel tank
- Air-filled tires

Note:

The water filled tires is the usual configuration in Australia, however air filled was used as a conservative measure. Optional counterweight mass is not included unless stated.

Rated Operating Capacity (ROC):

ISO 14397- 1:2007(E) states that the Rated Operating Capacity (ROC) is the Tipping Load multiplied by stability factors for normal operation. For skid steers, these factors are 0.50 for wheeled machines and 0.35 for tracked / crawler machines. On certain loaders, Kanga uses what is called an Over Tire Track (OTT) system. This system is intended to improve traction and float in soft wet conditions, while maintaining the hard / uneven ground stability attributes of a wheel loader. In terms of stability, Kanga find the OTT system to be comparable to a wheel loader though have reduced the factor to 0.45 as an added precaution.

Only Kanga designed and approved attachments are to be used in conjunction with your Kanga Loader. Operator to ensure the attachment is suitable for use with the loader model type and will not cause tipping. Contact Kanga for specific attachment details.

216 SERIES - DW825

BUCKETS								
Material load for buckets:	No bucket *		62kg Kanga GP Bucket		84kg Kanga HD GP bucket		157kg Kanga HD 4in1 bucket	
Tipping load	539kg	1186lb	477kg	1050lb	455kg	1001lb	382kg	841lb
Rated Operating Capacity (ROC)	270kg	593lb	239kg	525lb	228kg	501lb	191kg	420lb

FORKS						
Material load for forks**:	500mm Kanga fork tynes		750mm Kanga fork tynes		900mm Kanga fork tynes	
Tipping load	373kg	821lb	339kg	746lb	321kg	707lb
Rated Operating Capacity (ROC)	187kg	411lb	170kg	373lb	161kg	354lb

* This is to represent the general loader capabilities. Cannot be used for material load without adjusting for the bucket mass.

** Tipping Load and ROC are based on stability only. Refer to the fork tyne specifications / manuals for individual arm load capacities.

216 SERIES - DT825

BUCKETS								
Material load for buckets:	No bucket *		62kg Kanga GP Bucket		84kg Kanga HD GP bucket		157kg Kanga HD 4in1 bucket	
Tipping load	552kg	1214lb	490kg	1078lb	468kg	1029lb	395kg	869lb
Rated Operating Capacity (ROC)	248kg	546lb	220kg	485lb	211kg	463lb	178kg	391lb

FORKS						
Material load for forks**:	500mm Kanga fork tynes		750mm Kanga fork tynes		900mm Kanga fork tynes	
Tipping load	383kg	844lb	348kg	766lb	330kg	726lb
Rated Operating Capacity (ROC)	173kg	380lb	157kg	345lb	149kg	327lb

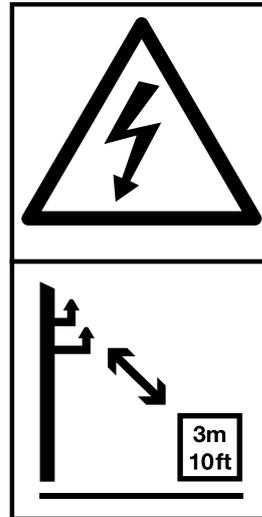
* This is to represent the general loader capabilities. Cannot be used for material load without adjusting for the bucket mass.

** Tipping Load and ROC are based on stability only. Refer to the fork tyne specifications / manuals for individual arm load capacities.

Call Before You Dig

Never begin work at a new location until the work area has been fully marked for underground utilities. Buried electrical, telephone, cable wires, gas, water and sewer lines are likely to be present. Unintentionally disrupting these hidden hazards while working with your loader can result dangerous situations and property damage.

Many countries offer a “Dial Before You Dig” service which advises the location of underground services in your area. If available also use this service prior to digging, drilling, trenching or any form of excavating and earthmoving.



⚠ CAUTION

You must ensure that underground utilities have been officially marked before working in the area. Markings must be valid according to state law or practice.

To begin the process of utility location, call the respective “Dial Before You Dig” authority for your Country or State, several days before work is to begin. Your call will be routed to a local utility locator dispatch service. Be ready to provide information about where you plan to dig, the type of work involved, and how you can be reached.

The applicable utility companies will be informed, and utility locator personnel will be sent to the property to mark the approximate locations of the underground utilities. They will use paint, flags, stakes, or other temporary methods.

While operating your loader and attachments in a marked area, keep a distance of at least 2 meters (6 feet) from all underground services.

⚠ DANGER

During loader operation, maintain a minimum “no-work zone” buffer of 3 meters (10 feet) from any overhead electrical service and 2 meters (6 feet) from any underground service.

Personal Protective Equipment (PPE)

All personnel working on or near the Kanga Loader must follow the work site's Health and Safety guidelines and wear a hard hat, hearing protection, safety glasses, and other protective equipment, as appropriate for the hazards present.



WARNING

Avoid loose clothing or jewellery that can snag on controls or on other parts of the equipment.

Complete a Risk Assessment

Five Steps to an Effective Risk Assessment

Your Kanga Loader is a versatile machine, capable of performing a variety of tasks in a safe and effective manner. To ensure the safety of operators and others, it is important to document the work at hand for hazards and risk. Before beginning work, complete a risk assessment. The following steps provide a framework for this activity:

1	<p>DOCUMENT THE ACTIVITY Assemble those involved in the activity. Write down the tasks required for the activity in step-by-step form.</p>	<p>The following are examples of hazards that may be present at your work site:</p> <ul style="list-style-type: none"> • Overhead power lines • Underground utilities • Excavations • Slopes or adverse cambers • Confined spaces • Poor or limited sight lines and visibility • Roadways carrying vehicular traffic • People or animals accessing the work area or machine <p>Note other hazards here:</p> <table border="1" style="width: 100%; height: 100%;"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>					
2	<p>IDENTIFY THE HAZARDS (see list, right) Next to each task, identify what part of the task may cause injury to those engaged in the task or others in the vicinity. Rate the consequences and likelihood of the hazard using the risk assessment matrix on the next page.</p>						
3	<p>DOCUMENT THE CONTROL MEASURES Using the results from the risk assessment matrix, determine which hazards require attention. List all mitigation measures that are required to eliminate or minimize those hazards.</p>						
4	<p>IDENTIFY THE RESPONSIBLE PERSON Document the name of the person responsible for implementation of the mitigation measure.</p>						
5	<p>MONITOR AND REVIEW Ensure that the activity is supervised and that the documented process is being followed. When a documented activity changes, when there is a change of personnel, or after an appropriate length of time, review the documentation.</p>						

Should an incident occur, conduct an investigation to determine hazards, their underlying causes, and any safety-related strategies that may be needed. In this way you can work to prevent future occurrences.

Risk Assessment Matrix

Consequences	Rating	Likelihood	Rating
Catastrophic <ul style="list-style-type: none"> Catastrophic injury, injuries resulting in single or multiple deaths or permanent disablements 	5	Almost certain <ul style="list-style-type: none"> May occur several times a year/ can happen almost every time the activity takes place/almost all employees are exposed to the hazard 	5
Major <ul style="list-style-type: none"> Major injury, fatality, serious bodily injury or illness caused by work- permanent incapacitate 	4	Likely <ul style="list-style-type: none"> May occur once or several times during the life of the activity / many employees are exposed to the hazard 	4
Moderate <ul style="list-style-type: none"> Moderate injury or illness- injury requiring casualty treatment- Lost time injury 	3	Possible <ul style="list-style-type: none"> Low possibility that it may happen in the life of the activity / some employees are exposed to the hazard 	3
Minor <ul style="list-style-type: none"> Minor injury- first aid treatment without absence- medical treatment injury 	2	Unlikely <ul style="list-style-type: none"> Only a remote risk that it may happen in the life of the activity / few employees are exposed to the hazard 	2
Negligible <ul style="list-style-type: none"> Small injury or bruises- first aid treatment 	1	Very Unlikely <ul style="list-style-type: none"> No knowledge of similar situations happening elsewhere / only a few employees are exposed to the hazard 	1

Likelihood	Consequences				
	Negligible	Minor	Moderate	Major	Catastrophic
5 Almost certain	11	16	20	23	25
4 Likely	7	12	17	21	24
3 Possible	4	8	13	18	22
2 Unlikely	2	5	9	14	19
1 Very Unlikely	1	3	6	10	15

Risk Control Legend - Outcome

23 to 25 = Extreme Risk - Cease activity immediately and implement risk controls before restarting work activities. Consult with competent and qualified personnel to make the work area safe.

15 to 22 = High Risk - Plan and implement risk control measures after performing the five-step risk assessment. Seek advice from the manufacturer if any doubt remains.

7 to 14 = Medium Risk - Acceptable but remedial work may be required in the longer term.

1 to 6 = Low Risk - Acceptable without further remedial work. However, you should still monitor and review periodically.

Be Work-Ready

Before beginning work, answer the following questions. Immediately address any issues detected during this process.

Perform a Site Assessment

- Is the terrain stable and suitable to work on?
- Have you conducted a thorough site inspection before entering the area with loader?
- Are wet or boggy conditions present?
- Are other environmental factors affecting loader operation present?
- Is the work area sloped?
- Are slope angles within safe recommendations?
- Have underground utilities been marked and the no-work zone specified?

Ensure Personal Safety

- Are all safety instructions clearly understood by all individuals working on and around the loader?
- Are all personnel wearing recommended and appropriate PPE?
- Is the loader operator fully prepared to use the loader as specified in the operator's manual?
- Has the daily pre-operation inspection of the loader been completed?
- Have issues detected during the pre-operation inspection been addressed?
- Are all loader safety features operable?
- Are the attachment locking pins fully engaged and secure?
- Is the driving platform clean, dry, and free from grease, mud, or other slip risks?

Execute the Task

- Have any required risk mitigation strategies been put in place?
- Has a safe and logical sequence of work been specified?
- Has the plan of work been discussed with all personnel and bystanders in the area?
- Has work been coordinated with other trades and activities on the site?
- Has the work area been clearly demarcated?
- Do work plans reflect the weight or load and operational limitations of the loader?
- Have all operators been reminded to travel with loads low to the ground?
- Do operators understand that the bucket must be in the down position when not in use?

Operate Your Kanga Loader

Inspection After Delivery

As soon as your loader is delivered and before declaring it ready for use, thoroughly inspect it for any evidence of damage resulting from shipment.

CAUTION

The task of preparing a new loader for use should be completed by a responsible person who has read and understood this manual.

Care and maintenance requirements for your loader are simple, and coupled with the use of common sense, a general occupational health and safety knowledge, and a daily prework visual inspection, should not pose any problems. The following checklist provides suggestions for detecting defective or damaged parts.

Check Before Using

1	Inspect the machine chassis for any visible damage.
2	Visually inspect all components to ensure they are securely attached.
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 connections and for signs of leakage.
6	Check wheel and tire assemblies for loose or missing wheel nuts, any visible damage, and proper tire 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 engine oil level is within operating limits as marked on the dip stick.

Loading and Unloading

Carefully observe the following safety guidelines during the loading, unloading, and trailering of your Kanga Loader.

When loading or unloading the machine from a trailer, the trailer must be located on a firm, even surface. It must remain fully attached to the towing vehicle.

WARNING

**Never unload a trailer positioned on a slope.
Do not park or leave the loader on a slope.**

Ensure the angle of the loader during ascent or descent from the trailer is within safe operational limitations.

Carry out all loading or unloading maneuvers at a slow speed, with due care for personal safety and damage to equipment.

Note

As necessary, practice the loading or unloading maneuvers in a safe location until the process is mastered.

Unloading

1. Ensure trailer and towing vehicle are on firm and level ground.
2. The trailer tow hitch must always be engaged and locked onto the tow ball during unloading and loading.
3. Make sure the tow vehicle is in gear and park with the handbrake applied.
4. Lower the ramps on the trailer.
5. Remove the load binders/or ratchet straps as follows:
 - From the tie down points located between the wheels on the left and right hand side.
 - From the tie down points at the rear of the loader on the left and right hand side.
6. Start the loader as per operating Instructions.
7. Keep the arms on the chassis of the loader and Roll back the bucket using crowd and tilt lever. Always keep the bucket on when unloading.
8. Drive back slowly to the edge of the trailer and align the loader wheel with the ramps proceed to reverse the loader down the ramps at a slow and Consistent speed.
9. Drive the loader clear of the ramps.
10. Park the loader on flat level ground with the

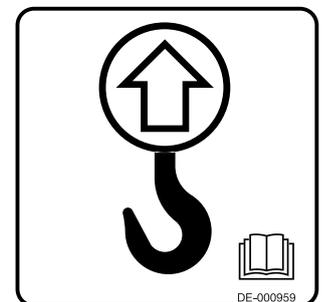
bucket lowered flat on the ground.

Loading

1. Ensure trailer and towing vehicle are on firm and level ground.
2. The trailer tow hitch must always be engaged and locked onto the tow ball during unloading and loading.
3. Make sure the tow vehicle is in gear and park with the handbrake applied.
4. Lower the ramps on the trailer.
5. Keep the arms on the chassis of the loader and Roll back the bucket using crowd and tilt lever. Always keep the bucket on when unloading.
6. With the bucket facing the tow vehicle align the wheels with ramps
7. Drive the loader forward up the ramps at a slow and consistent speed.
8. With the loader squarely on the trailer, lower the bucket using the tilt and crowd lever so the bucket flat on the trailer deck, then slowly drive the loader forward into the bucket stop on the trailer.
9. When correctly positioned, shutdown the loader, then attach the load binder/or ratchet straps as follows:
 - a) From the tie down points between the wheels on the left and right hand side.
 - b) From the tie down points at the rear of the loader on the left and right hand side.
10. With the loader and attachments are secured for transport, raise and secure the trailer ramps.

Lifting Your Loader

When lifting the machine, use appropriately rated slings and shackles. These must be attached securely to the lifting point on the top of the machine.



CAUTION

For the Kanga Series 216 Loader, the load on the lifting lug must not exceed 1500Kg (1.6 US tons).

Parking and Shutting Down

When parking your loader, observe the following safety guidelines:

Always select level ground.

Lower any bucket or attachment fully to the ground.

To shut down, reduce the engine speed to idle, then turn the key to the "OFF" position.

Remove the key to prevent unauthorized use.

If your machine has an optional parking brake, push the lever to engage.

Safety in the Work Zone

In all work zones, it is important to control both vehicle and foot traffic in the area.

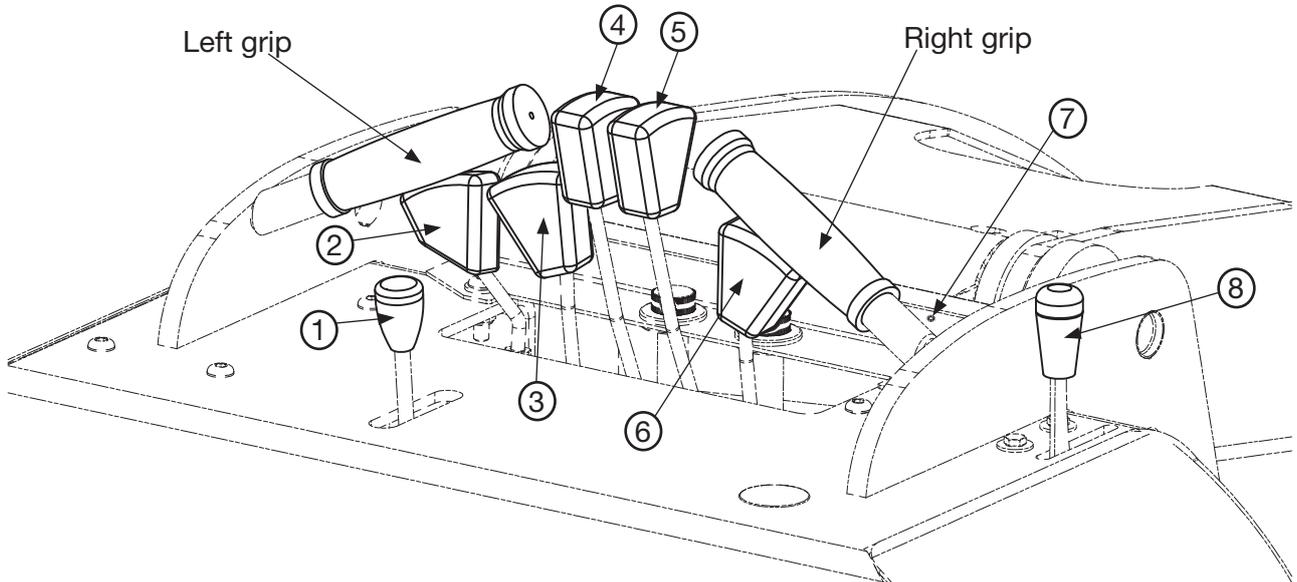
Always use cones, signage, and other signals to demarcate the unloading and loading zone. Ensure that non-essential personnel and bystanders are sufficiently clear of the area before proceeding with the loading or unloading process.

DANGER

Observe extra vigilance when loading, unloading, or working with your loader close to roadways carrying traffic. Never count on drivers to slow down, stop, or otherwise accommodate your presence.

Controls THIS SECTION TO CHANGE

Spring-centered levers sit on the top face of the loader control area. These control the basic operating functions via a push-pull action. The levers and their corresponding functions are illustrated here.



Lever	Controls	Action on PUSH	Action on PULL
1	AUX 1	Reverse	Forward
2	4-in-1 bucket	Open	Close
3	Main lift arm control	Lower	Raise
4	Left drive	Forward	Reverse
5	Right drive	Forward	Reverse
6	Tilt control	Dump	Crowd
7	2 Speed drive control (Track machine only)	Low travel	High travel
8	Throttle control	Increase RPM (up)	Decrease RPM (down)

Before Starting Up

Before starting up, read this operator's manual for this loader, then complete the following steps:

Check the fuel level and fill up if necessary. 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.

CAUTION

Check that all control levers are in the neutral, centre position before starting the loader.

Note

Ensure AUX lever has automatically returned to the "N" position from the "F" or "R" position. If this lever is not in neutral, the engine will attempt to start under full load, placing a strain on the starter motor and draining the battery.

Starting

Refer to the engine manual for correct throttle starting positions in warm and cold conditions. Turn starter key switch to start the engine.

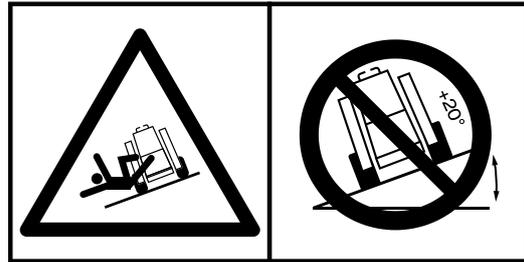
WARNING

The operator must not move any of the control levers until he or she is standing with both feet on the driving platform and holding the grip handles, and has confirmed no people or obstacles are in the path of the loader.

First-time or novice users should employ a 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 throttle.

The standing position is a safety feature which allows a quick exit from the machine in case of an emergency. For this reason, the loader is not fitted with a seat belt.

Never limit the operator's ability to safely exit from the loader. Do not add an after-market safety restraint system to the machine.



DANGER

Exercise extreme care on sloping terrain. Avoid traveling or working across a slope.

If you must cross a slope, keep the load close to the ground and travel at reduced speed.

If you must travel down a slope, do so in reverse.

Cold Weather Starting

1. Turn the key to the "PREHEATING" position and keep it there for a certain period mentioned below.

Important

Shown below are the standard preheating times for various temperatures. This operation, however, is not required, when the engine is warmed up.

Item	Cold intensity		Low temperatures more than 258 K (-15 °C (5 °F))	Intense cold more than 253 K (-20 °C (-4 °F))	Extreme cold more than 248 K (-25 °C (-13 °F))
	Fuel	For cold weather	No. 1-D (ASTM D975-94)	No. 1-D (ASTM D975-94)	No. 1-D (ASTM D975-94)
Combustion	Preheating	Combustion Chamber	Glow 10 sec	Glow 10 sec	Glow 10 sec
		Intake air	-	-	Preheating
		Engine body	-	-	Preheating
Turning Force	Starter		Standard	Size up from std.	Size up from std.
	Battery		Standard	Size up from std.	Size up from std.
Lubrication	Oil	For cold weather	SAE #10W or SAE #10W30	SAE #5W or SAE #10W30	SAE #5W or SAE #5W20
Cooling	Coolant		Antifreeze	Antifreeze	Antifreeze
			-	-	Preheating

Note

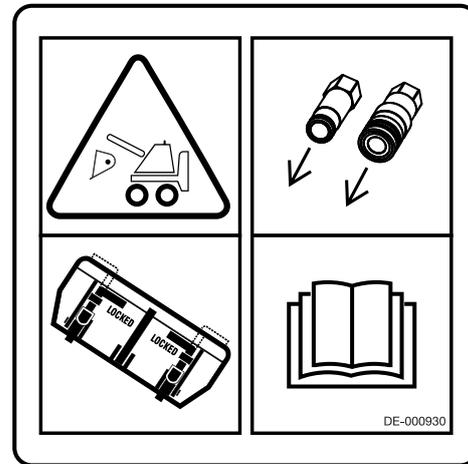
In case of installing standard glow lamp, the glow lamp goes off after about 6 seconds, when the starter switch key is turned to the "PREHEATING" position. However if necessary, keep the starter switch key at the "PREHEATING" position for longer time, according to the above recommendation.

2. Turn the key to the "STARTING" position and the engine should start. (If the engine fails to start after 10 seconds, turn off the key for 5 to 30 seconds. Then repeat steps (1) and (2).)

Important

- Do not allow the starter motor to run continuously for more than 20 seconds.
- Be sure to warm up the engine, not only in winter, but also in warmer seasons. An insufficiently warmed-up engine can shorten its service life.
- When there is fear of temperature dropping below -15°C (5°F) detach the battery from the machine, and keep it indoors in a safe area, to be reinstalled just before the next operation.

Maneuvering



WARNING

Always ensure that the attachment locking pins are fully engaged at all times.

Maneuvering is made possible by individual control of the hydraulic motors on each side of the machine. The left drive control lever (4) and the right drive control lever (5) are used for maneuvering.

Think of these levers as softly operated clutches for engaging and disengaging the wheels or tracks. Use slow, even movements of the control levers for smooth operation of the loader.

CAUTION

If an operator is unfamiliar with the loader's operation, he or she should practice slow starts, gentle stops, and controlled turns in an open, safe area prior to beginning work.

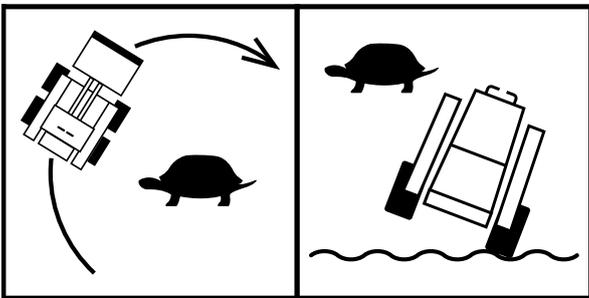
Note

Please refer to "Working on Slopes" for Information on MANEUVERING on slopes.

Turning

When the power and/or direction on one side of the loader is different from that on the other, the loader will turn. For example, applying forward power to one side and equal reverse power to the other will cause the loader to turn by its own length.

While moving forward, a gentle turn to the left or right can be achieved in two ways. The power can be slightly increased on the side opposite the turn or it can be decreased on the turning side. This mode of steering allows the type of turn to be chosen to suit the situation.



CAUTION

Always maneuver the machine slowly during turns or when traveling across rough ground.

Note

Please refer to “Working on Slopes” for Information on TURNING on slopes.

Operate Loader Attachments

About Loader Attachments

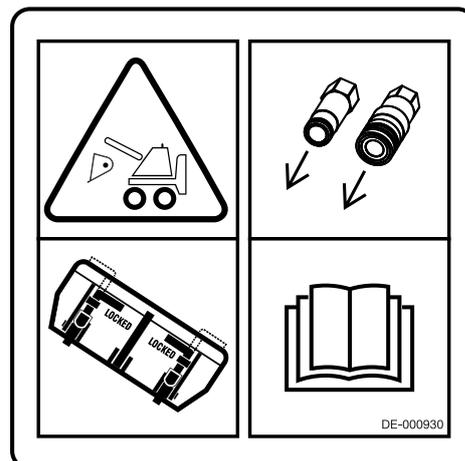
Your Kanga Loader becomes a powerful, job specific work tool with the addition of attachments. Attachments are available for civil, arbor, agricultural, landscaping, road maintenance, earthmoving, fencing, contracting, irrigation and other applications.

Safety Guidelines for Attachments

In addition to the general safety practices related to the operation of your Kanga Loader, you must follow the safety guidelines given for the attachment you are using. Before commencing work with any attachment, ensure that all tasks and risks associated with the activity have been identified and appropriate risk mitigation measures have been put in place. Attach the hose bracket (if any) to loader arm. This will keep them secure and away from entanglement with loader arms, cylinders, and other parts.

WARNING

Only Kanga-designed and approved attachments are to be used in conjunction with your Kanga Loader. No other attachment is to be used until the design and use of the attachment has been assessed and authorized by Kanga.



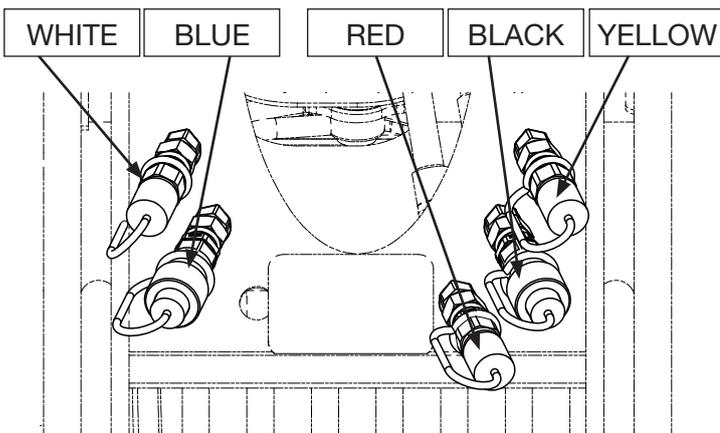
WARNING

Before use, always read the operator's manual and ensure the attachment is securely attached to the machine. Locking pins must be engaged and hydraulic hoses connected.

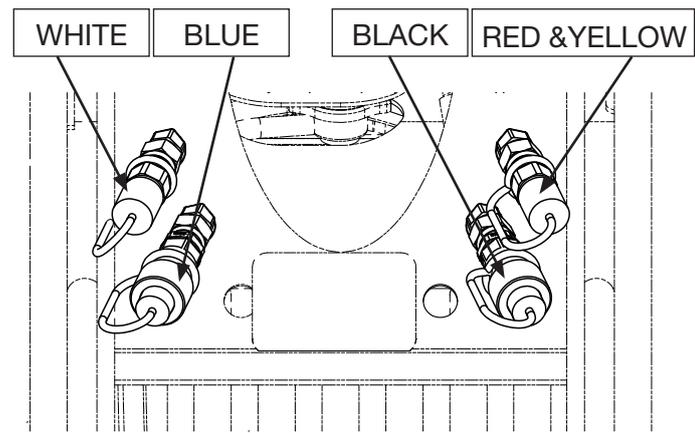
Hydraulic Attachment Connections

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 Attachment QRCs	STANDING ON REAR OF MACHINE						
	LEFT SIDE (Controlled by the AUX lever.)			RIGHT SIDE (Controlled by the 4-in-1 lever.)			
	YELLOW	BLACK	RED	BLUE	WHITE	PURPLE	GREEN
	B MALE QRC	A FEMALE QRC	C MALE QRC TRENCHER VALVE	4-in-1 FEMALE QRC	4-in-1 MALE QRC	Tank return line	Case drain
4-in-1 Bucket				x	x		
Auger Power Head	x	x					
Backfill Blade				x	x		
Backhoe		x				x, if fitted	
Bucket Broom		x	x				
Grapple Bucket				x	x		
Hydraulic Stump Grinder		x				x, if fitted	x, if fitted
Mixa Bowl	x	x					
Post Mast		x				x, if fitted	
Rock Breaker	x	x					
Rod Hammer		x				x, if fitted	
Rod Hammer and Drill		x				x, if fitted	
Rotary Hoe		x	x				
Rotating Log Grab	x	x		x	x		
Stump Grinder Slew				x	x		
Trencher		x	x				
Under-Road Borer	x	x					



Quick release couplings (QRCs) with Trenching valve option.



Quick release couplings (QRCs) without Trenching valve option.

4-in-1 Attachment

Using the 4-in-1 Bucket

Connect to Blue and White couplings.

When collecting product from a heap or pile, lower the arms all the way down until the arms touch the bump stop. Then using your tilt lever roll forward until the bucket is level with the ground. Drive the bucket into the pile or heap. As the loader comes to a stop, hold the drive levers forward and gently roll the bucket back using the tilt lever towards the operator. This process will make sure you have a full load in your bucket. Using the tilt instead of raising will decrease resistance and have more break out force then trying to lift product out of the pile or heap.

WARNING

When transporting material in the bucket on slopes or rough ground, always keep the bucket close to the ground. This lowers the loader's centre of gravity to maximize stability.

When scraping, leveling, and surface stripping, lower the bucket to the ground and tilt it down.

Drive forward. The bucket will bite into the soil as you move forward.

CAUTION

Do not step off the operator platform with the load raised or the machine moving.

CAUTION

Always ensure that the attachment locking pins are fully engaged at all times.

Important Safety Guidelines

Always attach, change or remove a bucket on flat even ground. Loader operations involve rapid movement and unpredictable direction changes. Because of this, the working area must be kept clear of bystanders and any personnel other than the operator. To avoid accidents, the operator must be vigilant at all times.

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

Do not carry passengers, either on the machine or an attachment.

DANGER

Do not place an object or body part between the jaws of an open bucket or under the bucket for any reason.

Power Head and Auger Attachments

Fitting the Power Head

Drive the loader to the attachment. Couple the attachment plate onto the attachment. Raise the power head slightly and fully engage the locking pins. Turn the engine off and push the AUX lever forward and backward to release any hydraulic line pressure. Clean the hydraulic fittings (QRCs) and connect them to connections A and B. (See “Hydraulic Attachment Connections.”)

To remove, reverse the order given above. To prohibit dirt from entering the hydraulic system, always reconnect the attachment hoses into one another or fit with supplied dust caps.

Fitting the Auger

Once fitted to the loader, raise the power head high enough to allow the auger to be positioned into the power head's square drive shaft. Drive the power head forward, positioning the drive into the auger and aligning the locking pin holes.

CAUTION

Large auger fitting is a two-person operation.

Operating Instructions

Complete a pre-operation check. Insert the locking pins and lock in place. Ensure that the power head is securely attached to the loader. Check that the couplings are engaged and check for leaks. Tighten and repair as required. Check that bolts securing the pilot are tight. Inspect the cutting tips and teeth. Ensure that they are in good condition and firmly attached.

Note

Teeth should display slight movement.

Start the auger turning in a clockwise direction by activating the AUX lever downward towards the operator. Lower the auger by pushing the arm lever forward. If the ground is hard, the front wheels of the loader will lift off the ground. *Note:* The front wheels should never come off the ground more than 1 inch (25mm).

As the auger cuts into the ground, the arm travel arc will move the auger out of vertical. To keep the auger vertical, move the loader backward or forward slightly to compensate. Continually clear the hole during digging by pulling back on the arm lever to raise the auger.

If the auger stops rotating, push the auxiliary forward to disengage hydraulic flow to the power head. Push further forward and hold the auxiliary lever to put the power head in reverse. This may dislodge the auger, allowing it to be raised. If the auger does not dislodge then push forward on the auxiliary lever and pull back on the tilt lever to pull out the auger while rotating. Drill a trial hole in a clear area away from utility markings to practice operations and become familiar with the procedure.

When transporting the auger drive to the desired location the arms should never be raised in the air. The arms should be against the chassis in the bump stop position and the power head should be in the locked position. Then fully rolled back towards the operator using the tilt lever.

DANGER

Keep clear of the auger at all times (4m/12 ft minimum distance).

Important Safety Guidelines

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

DANGER

Do not place hands, feet, or other body part or object under the auger attachment for any reason.

Trencher Attachment

Fitting a Trencher

Drive the loader to the attachment. Couple the attachment plate onto the attachment. Raise the trencher slightly and fully engage the locking pins. Turn the engine off and push the AUX lever forward and backward to release any hydraulic line pressure. Clean the hydraulic fittings (QRCs) and connect them to connections A and C. (See "Hydraulic Attachment Connections.")

To remove, reverse the order given above. To prohibit dirt from entering the hydraulic system, always reconnect the attachment hoses into one another or fit with supplied dust caps.

Operating Instructions

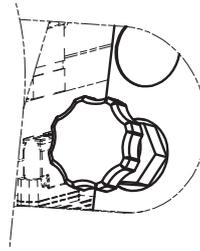
Complete a pre-operation check. Ensure that the trencher is securely attached to the loader. Check that the couplings are engaged and check all joints for leaks. Tighten and repair as required. Inspect the cutting teeth, ensuring that they are in good condition and firmly attached.

Tension the chain. Correct tension requires about 35–45mm (1.5 inches) of lift. To adjust the chain to this specification, loosen the 16mm bolt, adjust the adjustment wedge and re-tighten the bolt.

Position the trencher and activate the AUX lever so that the chain runs along the top of the boom and returns back toward the operator on the underside. Engage the TILT lever so that the boom and chain arcs down to dig a trench. When the desired depth is achieved, slowly drive the loader backward along the trench line.

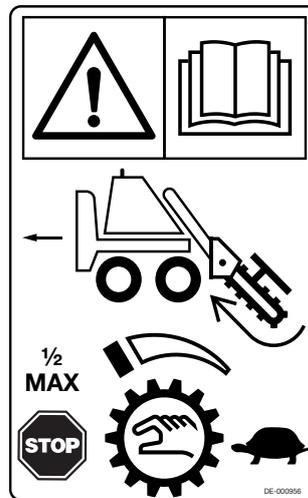
Setting the Trenching Valve

1. On low engine revs and with the attachment off the ground engage the AUX lever.
2. Increase the revs to desired level.
3. Lower the attachment to working position.
4. Pull drive levers all the way back .
5. Use the knob on the trenching valve to adjust the ground speed of the loader. Turning the knob clockwise will make loader move slower while turning the knob anti-clockwise will increase the speed of the loader.



Note

Minor adjustments are required to maintain a straight line, as the loader will tend to "drift" to the left.



Important Safety Guidelines

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

! DANGER

Call the respective "Dial Before You Dig" authority for your Country or State, several days before work will commence to have the work area marked for underground utilities. Do not begin work until all markings are in place.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

! DANGER

Do not place hands, feet, or other body part or object under the trencher for any reason.

Bucket Broom Attachment

Fitting the Bucket Broom

Connect the attachment plate of the loader to the bucket broom frame. Check to confirm that the quick hitch attachment locking pins are engaged. Turn the engine off and push the AUX lever forward and backward to release any hydraulic line pressure. Clean the hydraulic fittings (QRCs) and connect bucket broom hoses to connections A and C. (See “Hydraulic Attachment Connections.”)

To remove, reverse the order given above. To prohibit dirt from entering the hydraulic system, always reconnect the attachment hoses into one another or fit with supplied dust caps.

Operating Instructions

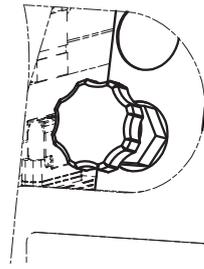
Complete a pre-operation check. Ensure that the bucket broom is securely attached to the loader. Check that the couplings are engaged and check all joints for leaks. Tighten and repair as required.

Place the AUX lever in neutral. Start the engine and adjust the engine RPM lever to suit the operation power you require. Position the bucket broom flat on the ground. Engage the AUX lever, pulling toward the operator. The broom will begin rotating and sweeping into the bucket base.

Bucket Broom should be used in conjunction with Trenching Valve.

Setting the Trenching Valve

1. On low engine revs and with the attachment off the ground engage the AUX lever.
2. Increase the revs to desired level.
3. Lower the attachment to working position.
4. Pull drive levers all the way forward.
5. Use the knob on the trenching valve to adjust the ground speed of the loader. Turning the knob clockwise will make loader move slower while turning the knob anti-clockwise will increase the speed of the loader.



Note

The bucket should only be pushed forward with the loader drive system.

To empty debris from the bucket, disengage the AUX lever and tilt the bucket back slightly. Travel to the dumping location, then raise the lift arm with Lever 3 and tilt the bucket forward to dump the debris out using Lever 6 (refer to page 30).

Important Safety Guidelines

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

CAUTION

Wear respiratory and eye protection while using the bucket broom.

DANGER

Do not place hands, feet, or other body part or object under the trencher for any reason.

Note

If Trencher valve is not available on your Kanga Loader, connect the bucket broom hoses to connections A and B. Control the speed by gently engaging both drive levers forward. The further forward the levers are pressed, the faster the machine travels. Allowing the levers to gently return to centre will slow the machine's travels. Allowing the levers to gently return to centre will slow the machine's travel.

Rotary Hoe Attachment

Fitting the Rotary Hoe

Connect the attachment plate of the loader to the rotary hoe frame. Check to confirm that the quick hitch attachment locking pins are engaged. Turn the engine off and push the AUX lever forward and backward to release any hydraulic line pressure. Clean the hydraulic fittings (QRCs) and connect rotary hoe hoses to connections A and C. (See "Hydraulic Attachment Connections.") Connect the hose bracket to the machine and secure the R-clip.

To remove, reverse the order given above. To prohibit dirt from entering the hydraulic system, always reconnect the attachment hoses into one another or fit with supplied dust caps.

Operating Instructions

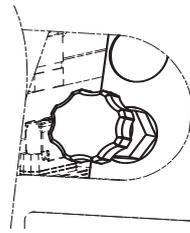
Complete a pre-operation check. Confirm that the rotary hoe is securely attached to the loader and the couplings are engaged. Check all joints for leaks. Tighten and repair as required. Check that the rotary hoe and cutting blades are in good condition.

Place the AUX lever in neutral. Start the engine and adjust the engine RPM lever to suit the operation power you require. Position the rotary hoe flat on the ground. Engage the AUX lever, pulling toward the operator. The hoe blades will begin rotating.

Rotary Hoe should be used in conjunction with Trenching Valve.

Setting the Trenching Valve

1. On low engine revs and with the attachment off the ground engage the AUX lever (refer to page 30).
2. Increase the revs to desired level.
3. Lower the attachment to working position.
4. Pull drive levers all the way back.
5. Use the knob on the trenching valve to adjust the ground speed of the loader. Turning the knob clockwise will make loader move slower while turning the knob anti-clockwise will increase the speed of the loader.



Note

The rotary hoe should only be pulled in reverse with the loader drive system. Do not push the rotary hoe.

Using the drive levers, drive the machine. Control speed by gently engaging both levers rearward. The further rearward the levers are pressed, the faster the machine travels. Allowing the levers to gently return to centre will slow the machine's travel.

Adjust the travel speed of the loader to achieve the required condition of the soil. For example, slower travel speed will turn the soil over more, resulting in softer soil, and faster speed will turn the soil over less, resulting in a chunkier soil texture.

Important Safety Guidelines

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

DANGER

Do not place hands, feet, or other body part or object near or under the rotary hoe for any reason.

DANGER

Never carry out maintenance of any type on the rotary hoe while it is attached to the loader or other power source.

Note

If Trencher valve is not available on your Kanga Loader, connect rotary hoe hoses to connections A and B. Control the speed by gently engaging both drive levers forward.

Backhoe Attachment

Fitting the Backhoe

Refer to the Backhoe Manual for complete installation instructions.

Turn the engine off and push the AUX lever forward and backward to release any hydraulic line pressure. Clean the hydraulic fittings (QRCs) and connect backhoe hoses to connections A and T. (See “Hydraulic Attachment Connections.”)

Lower the loader's main arm and place the bucket flat on the ground. For best results and increased stability, fill the bucket with dirt.

To remove, reverse the order given above. To prohibit dirt from entering the hydraulic system, always reconnect the attachment hoses into one another or fit with supplied dust caps.

Complete a pre-operation check. Confirm that the backhoe is securely attached to the loader and the couplings are engaged. Check all joints for leaks.

Operating Instructions

Complete a pre-operation check. Confirm that the backhoe is securely attached to the loader and the couplings are engaged. Check all joints for leaks. Tighten and repair as required. Check that the backhoe bucket teeth, hydraulic hoses, and cylinders are in good condition.

Place the backhoe wheels in the locked position. Place the AUX lever in neutral. Start the engine, then adjust the engine RPM lever to suit the operation and hydraulic requirements. Drive the loader into position, then lower the loader main arms to position the bucket onto the ground.

While standing on the rear step of the loader, pull the AUX lever toward you, allowing hydraulic power to go to the backhoe valve. Now, turn around and operate the backhoe as per control details in the Backhoe Operator's Manual.

CAUTION

Once the AUX lever is engaged, the backhoe is live and operational. Any movement of the backhoe control levers will cause the backhoe to move.

WARNING

Ensure that you are ready to operate the machine and have observed all safety recommendations before moving the control levers.

Important Safety Guidelines

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

DANGER

Keep clear of the auger at all times, (4 m/12 ft minimum distance).

Fork Tyne Attachment

Important Safety Guidelines

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

During loader operation, maintain a minimum "no-work zone" buffer of 3 meters (10 feet) from any overhead electrical service and 2 meters (6 feet) from any underground service.

Do not carry passengers, either on the machine or on the fork tynes.

Do not travel with the tynes raised, especially when carrying loads.

Avoid overloading the loader or the fork tynes. Refer to the fork tyne manual for specific Rated Operating Capacity (ROC).

DANGER

Do not place hands, feet, or other body part or object under the forks for any reason.

Angled Backfill Blade Attachment

Important Safety Guidelines

Connect to 4 in 1 bucket circuit (Blue + White).

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

Do not carry passengers on the machine or on attachment.

Do not travel with attachment raised.

DANGER

Do not place hands, feet, or other body part or object under or near the angled backfill blade for any reason.

Terminator Stump Grinder Attachment

Important Safety Guidelines

Connect slew function to 4 in 1 bucket circuit (Blue + White).

Establish and maintain a minimum 10-meters (33-feet) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine or the stump grinder is running.

Install effective 2-meter (6-feet) perimeter barricades around the exclusion zone.

Observe all underground utility markings carefully. Maintain a no-work zone 2 meters (6 feet) from any utility marking.

Wear respiratory, hearing and eye protection.

CAUTION

Do not touch the exhaust, engine parts, hydraulic pipes and fittings, guards, or stump grinder wheel soon after use. These parts will be hot and pose a burn hazard.

DANGER

Do not place hands, feet, or other body part or object under or near the stump grinder for any reason.

Log Splitter Attachment

Important Safety Guidelines

Connect hoses to A + B couplings (Yellow + Black).

Establish and maintain a minimum 4-meter (12-foot) exclusion zone around the working area. No person other than the operator should enter the work zone while the machine's engine is running.

Clear split logs away from the base of the machine to ensure they do not interfere with the operation of the log splitter.

WARNING

When clearing away the split logs, ensure that the machine is shut down and the pressure released from the hydraulic controls.

Use leather gloves to protect hands from wood splinters.

Wear eye protection at all times.

Do not place attachment, article, or body part in the log splitter's zone of travel for any reason.

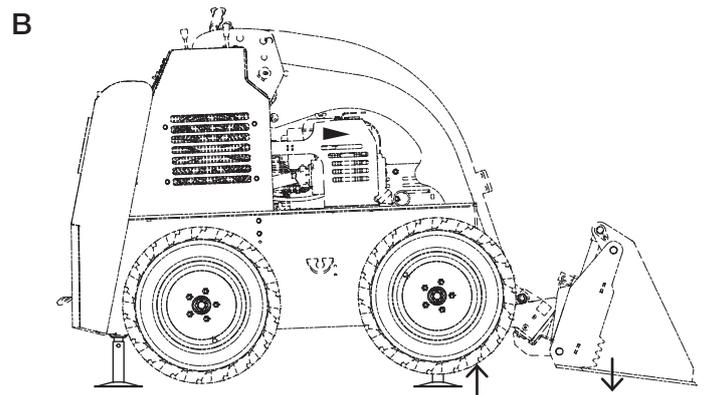
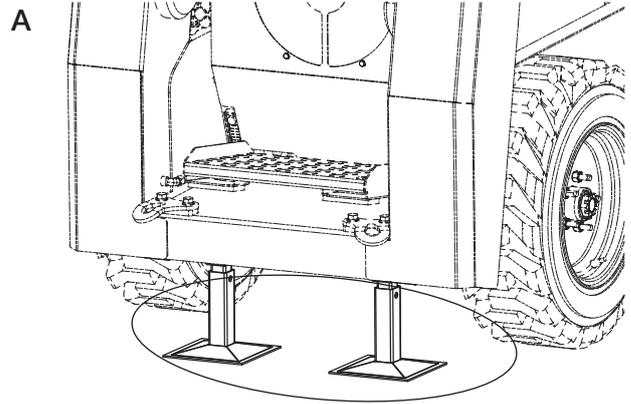
DANGER

Do not place hands, feet, or other body part or object under the log splitter for any reason.

Install Track

Preparation

1. Attach a bucket to the loader, ensuring attachment locking pins are fully engaged.
2. Position the loader on solid and level ground for a stable working base (A).
3. Place suitable wood 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) to lift the loader off the ground. It will be supported by the block and the bucket.
6. When tracks are clear of the ground at both ends, place another wooden block or a stand under the base at the front of the loader (B).
7. Deflate tires to 25 PSI (172 KPA).
8. Remove the wheel nuts and use a suitable lever to remove the front wheel from the hub. Repeat for the rear wheel.



Installation

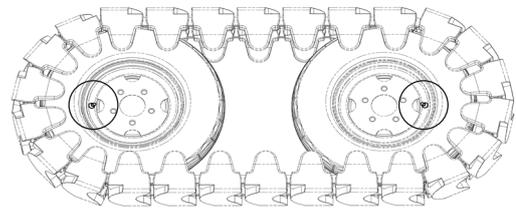
1. Position the wheels with air valves in the same orientation (C). This will assist in aligning the wheels to the studs. Lay wheels and tracks flat on the floor.
2. Attach the left and right end segments of the installation tool to each wheel (D).
3. Slide the guide through both segments (E).
4. Install the scissor jack with handle end pointing through the top of the track (F).
5. Tension the jack to extend the track assembly. Stand the track upright.
6. Working with another person, lift the tracks onto hub spigot. Adjust the jack as needed.
7. Rotate the rear hub using an adjustable wrench. Align the studs with the wheel while depressing forward/reverse control lever (G). **Do not start the engine.**
8. Locate the rear wheel on the hub and studs. Place one wheel nut to hold the wheel to the hub.
9. Rotate the front hub using an adjustable wrench. Align the studs to the wheel while depressing forward/reverse control lever. **Do not start the engine.**

Note

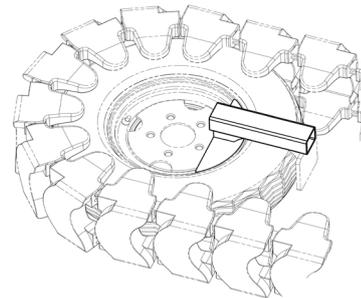
To do this, the jack may have to be extended or retracted. If the tracks cannot be extended far enough using the scissor jack, reduce the tire pressure and extend the scissor jack further.

10. Install all wheel nuts and tighten to 135Nm (100 ft-lb).
11. Reinflate tires to between 55 PSI (379 KPA) and 75 PSI (517 KPA). Refer to the tire pressure section for further information.

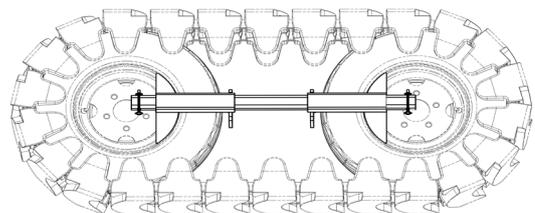
C



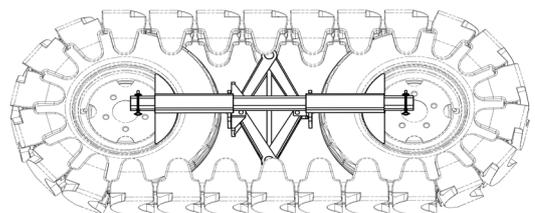
D



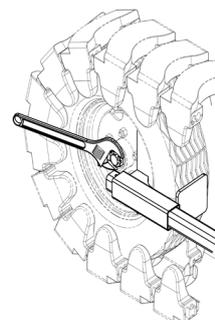
E



F



G



Track Orientation

URO Track Grip Option

For grip, the track can be set to two different configurations. All loaders are delivered with the configuration that is well-suited for a variety of working conditions. The second configuration (Option 2, right) is best for muddy or sandy conditions.

URO TRACK ROLLER TRAIN (1 per side) Part Number **DL-003254**

Changing the Track Option

To change the track option, begin by removing the tracks from the machine, following the steps in the track removal section.

1. Once the track is removed, lay the track on its side. Use a flat-blade screwdriver or other suitable lever to move the chain through the track to the joining link (H).

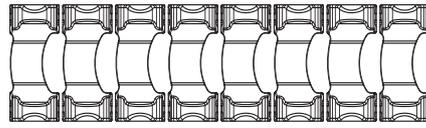
Note

*If you have trouble doing this, you can purchase a spare joiner for repair or adjustment (Part Number **DL-003251**).*

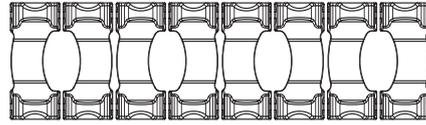
2. Once you have found the joining link, insert two 6mm bolts (or other suitable pins) to hold the chain while you remove the joiner link (I).
3. Pull out the locking bolts and remove the chain by pulling it through the track segments. Turn the track and repeat steps 1 to 3 on the other side (J).
4. Lay segments out on the floor in the required pattern. Feed the chain in from one end to the other (K).

(Continued on page 49)

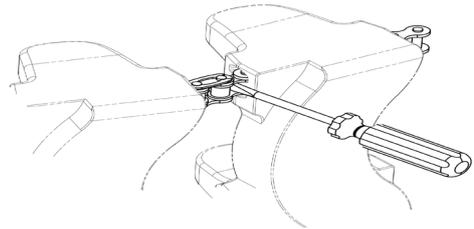
OPTION 1 – STANDARD (SINGLE DIRECTION)



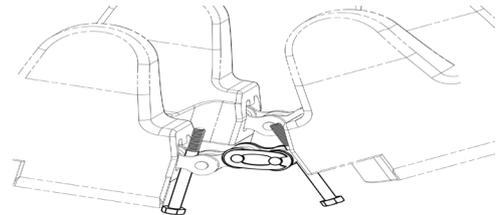
OPTION 2



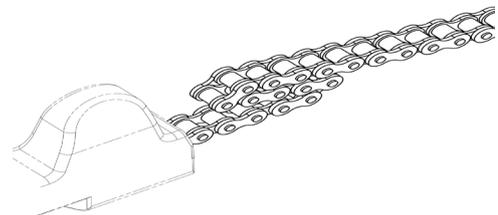
H



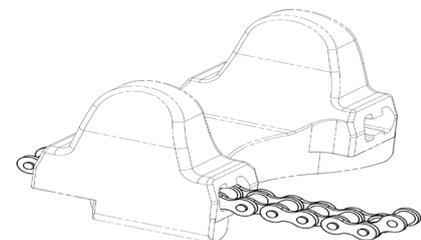
I



J



K



Note

Cleaning the chain will assist in the process of pulling the chain through. Wash it clean, then soak in diesel. If you have trouble feeding the chain through, thread in a piece of 3mm wire from the opposite end, connect it to the chain, and gently pull the chain through.

Kanga Handover Worksheets

The following 3 pages are to be filled out as part of the machine handover with the centre spread removed by the Kanga Loaders representative.

The information will be stored by Kanga Loaders for warranty and after sales service.

Please note: The centre 4 pages do not form part of the owners operators manual.

TO BE FILLED OUT BY KANGA LOADERS MANUFACTURING

Record the Main Component Serial Numbers

Kanga Serial Number				
Engine Type/Power				
Serial Number				
Wheel Motors	FRONT RIGHT		REAR RIGHT	
	FRONT LEFT		REAR LEFT	
Lift Ram				
Tilt Ram				
Hydraulic Pump				
Control Valve				
Radio-Controlled Unit Only	RECEIVER		TRANSMITTER	
Purchase Date				

Loader Checklist

MODEL:	INSPECTOR'S NAME:
SERIAL NUMBER:	MACHINE BUILT BY:
ENGINE NUMBER:	DATE:

VISUAL CHECK ✓ X	OPERATIONAL CHECK ✓ X
1. Damage	1. Gauges/switches and connections/dash lights
2. Loose bolts/nuts	2. Attachment plate
3. Rust	3. Throttle lever (not too tight or loose)
4. Leakage oil or water	4. Levers and linkages working correctly
5. Wiring/oil cooler connection	5. Unusual noises or vibrations.
6. Paint work	6. Gasoline/diesel engine idle 1350-1450/900-1000 RPM
7. Any untidy weld spots or runs	7. Gasoline/diesel engine max 3550-3650/3800-3850 RPM
8. Check of fittings alignment	8. Is loader easy to start?
9. Is loader clean and free of debris?	9. Is hour meter working? Test time = hrs.
10. Are pipes and hoses clear of parts on loader?	10. Check that lift cylinder stops in correct position and locked
11. Are Hershel plugs clear of tank and hydraulic lift tubes?	11. Aux stop cable: Cable length is correct; tested 5 times

SERVICE ✓ X	GUIDANCE ✓ X
1. Tie down lugs fitted on body	1. Correct stickers applied for country/export
2. Correct attachment plate/operation OK with test jig	2. Correct tire pressure sticker attached
3. Lubricate loader, grease all linkages	3. Identification plate (correct number stamped)
4. All pins and bushes fitted and tight	4. Operator's Manual present (provided in a USB)
5. Belt tension fan/alternator	5. Engine Manual (Honda or Kubota warranty form) present
6. Wheel nuts tensioned to 135 Nm (100 ft-lb)	
7. Is the track slot forward and tire direction correct?	
8. Is the tire 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 and label fitted?	
13. Is PTO direction correct?	
14. Are QRCs correctly aligned and covers fitted?	
15. Spare key in compendium	
16. Battery is secure and boot is on alternator	
17. Is the splash plate fitted?	
18. Check oil cooler connection to fan; confirm operational	
19. Ensure control knobs are not split and are secured	
20. Is the control knob on trencher valve clear of guard?	

FLUID COMPARTMENT CHECK ✓ X	OTHER ✓ X
1. Battery condition	1. Is the "Passed By" sticker attached and signed?
2. Engine oil level	2. Check machine to be shipped against order
3. Hydraulic oil level	3. Is the loader ready for delivery?
4. Inspect fuel tanks for leaks	4. Ensure diesel loader has oil funnel
5. Hydraulic filter housing directions and elements tight	5. Have back protection bars been ordered and fitted?
6. Radiator water level (diesel only)	6. Lights/beacon operational (where fitted)
	7. Horn/reverse beeper operational (where fitted)
	8. Rear legs operational (where fitted)
	9. Track tool attached to loader

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:
---------------------	------------------------

Delivery Sheet & Warranty Registration

Owner Name		Date
Owner Street Address		
Owner City, State, Post Code / ZIP		
Owner Email	Owner Telephone	
Dealer/Delivered by		
Attachments	Attachment Serial Number	
(1)		
(2)		
(3)		
(4)		
(5)		

Customer's Name _____

Salesperson
Initials

Owner
Initials

Accept delivery of the equipment as detailed above. All equipment has been inspected and is accepted.

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.

Have received a copy and understand the Operator's Manual and safety information contained therein for all equipment and attachments supplied.

Owner: I understand that I am required to perform a risk assessment covering all tasks before I operate this machine and/or any attachment.

Understand the warranty conditions and maintenance requirements for the loader and attachments.

Comments

PURCHASER'S SIGNATURE _____ DATE _____



ADDITIONAL NOTES FROM THE MACHINE HANDOVER

MACHINE OWNER UNDERSTANDING

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:

KANGA LOADERS GLOBAL PTY LTD

AUSTRALIA:

4 Octal Street, Yatala, QLD, 4207

Email: info@kangaloader.com

UNITED STATES:

2325 Industrial Parkway SW, Dyersville, Iowa 52040

Email: infous@kangaloader.com

EUROPE:

Unit 41-45 The Warren, East Goscote, Leicester UK LE7 3XA

Email: info@kangaloader.com

PURCHASER’S SIGNATURE _____

DATE _____

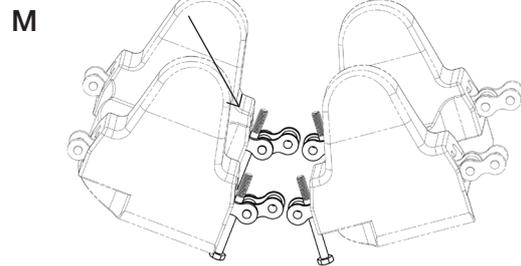
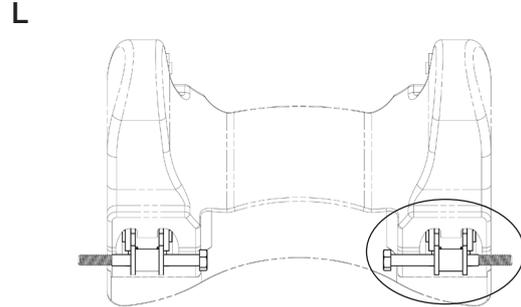
Changing the Track Option (continued)

5. Once the chain is fed all the way through, install the 6mm locking pin in one end of the chain and push up all the segments tightly. Insert the 6mm locking pin through the other end. Repeat steps 4 and 5 with the chain on the other side (**L**).
6. Once both chains are pulled through and secured with pins, lay the track on its side. Place the securing pins through the link.

Note

*Ensure that the holes through which you will fit the joining link are exposed (**M**).*

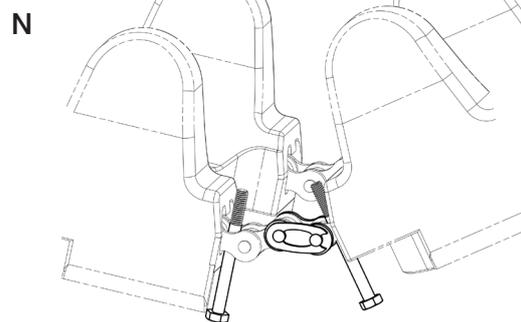
7. With the track on its side, install the joining link from inside to outside. The spring clip is on the outside. Flip the track over and repeat on the other side. Remove the locking bolts (or pins, if used) and the track is now ready to install. Refer to track installation instructions



Track Link Removal

If traction between the drive wheel and track is lost, increase tire pressure in 5 PSI (34 KPA) stages to compensate for wear. If traction is lost when the tire pressure is set at 75 PSI (517 KPA), you must tighten the tracks by removing track chain links. The following steps describe track link removal.

1. Follow the track removal instructions to remove tracks.
2. Once track is removed, lay the track on its side.
3. Choose a spot on the track. Pry the left-hand segment apart to allow the insertion of a 6mm locking bolt through the chain link. Next, pry the right-hand segment back as far as you can with a screwdriver to expose two full side plates (four pins).
4. Use a chain splitter or angle grinder to grind off two pins on the outside of the four pins. This action will remove one link. Use a pin punch to drive the pins out to release the chain section. (**N**)
5. Turn the track over and perform the same steps on the other side, releasing the track so it is no longer joined.



6. Use joiner link (Part Number **DL-003251**) to rejoin the chain. You have now shortened the chain by one link. Turn track over and perform the same steps on the other side.
7. Remove the 6mm locking bolts on both sides, and reinstall the tracks.

Note

Once links are removed, tire pressure must be decreased to normal levels.

Maintain Your Kanga Loader

Inspection and Checks

Before operating the Kanga Loader each day, the operator must complete the inspection and checks as outlined on the following pages. This inspection will ensure the equipment is in safe working order and aid in the detection of malfunctions between scheduled maintenance checks.

⚠ CAUTION

While it may not be the operator's responsibility to perform mechanical maintenance, he or she should be thoroughly familiar with the loader. Such familiarity is critical to operator safety.

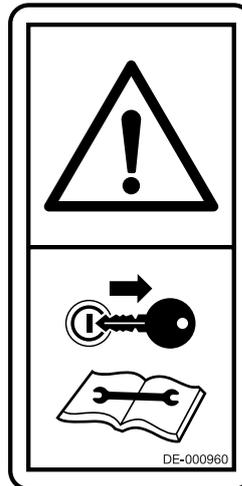
⚠ DANGER

In addition to ensuring safety, the daily inspection can prevent many costly maintenance jobs. Should an issue arise, however, consult an authorized Kanga technician.

The owner should retain evidence that proper maintenance has been performed as prescribed. A claim against a warranty will not qualify if it results not from defective material or authorized workmanship, but from a lack of maintenance.

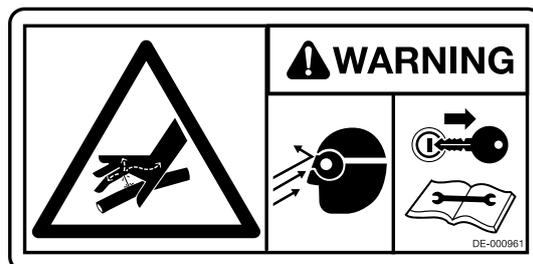
Never operate a Kanga Loader that is known to be damaged or malfunctioning. Remove the key from the ignition and tag out the machine using an "Out of Service" tag. Contact your Kanga service technician.

Defective components, equipment malfunctions, or both can jeopardise the safety of the operator and other personnel while also causing extensive damage to your loader. Remember: A poorly maintained loader can be a significant operational hazard.



⚠ CAUTION

Before any maintenance is performed, switch engine off and remove the key. Never leave the key in an unattended machine.



⚠ WARNING

This machine operates on high pressure hydraulic fluid. Always wear eye protection when operating or performing maintenance on this machine. Consult this operator's manual for information on safe connection and disconnection of attachments for hydraulic safety.

Daily Checklist

LOADER				
Element		Yes	No	Comment
Wheels	Good condition, with 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 or damage			
	Linkage pins greased			
Bolts and fasteners	Check pivot pins for wear or 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			
Air Management	Empty pre-filter cleaner bowl (if fitted)			
	Clean air filter			

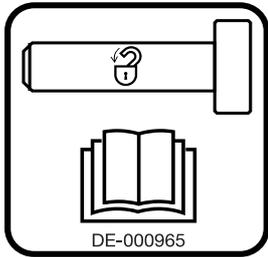
Daily Checklist (continued)

Element		Yes	No	Comment
Fuel	No leakage			
	Adequate fuel level			
	Drain water tap, if fitted as optional extra			
Water (diesel loader only)	Radiator hose/water level			
Operator's Manual	Present with machine			

ATTACHMENT(S)				
Element		Yes	No	Comment
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 or damage			
Bolts and fasteners	Tight			
	None missing			
	Attachment locking pins in place			
Decals	Legible			
	All in place			
Operating supplement	Present with machine/attachment			

Loader Arm Maintenance

Important Safety Guidelines



! DANGER

Attachments must be removed before working on the loader arms. Maintenance must be performed on a flat and even surface.

! DANGER

When performing maintenance activities on the loader arm, particularly when working with the arm in the raised position, you must carefully follow all safety guidelines.

Always secure the arm using the supplied locking pins.

Ensure the working area is kept clean. The area must be free of oil, grease, and debris. Keep a fire extinguisher on hand during maintenance operations.

Mark the maintenance work area using cones or barricades.

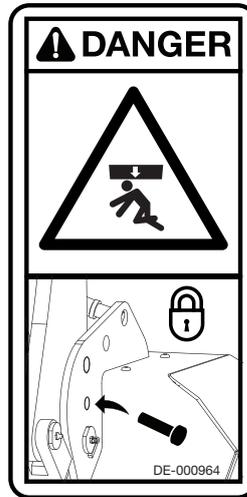
! DANGER

Never rely solely on machine hydraulics to keep the arm in the elevated position during maintenance.

Locking pins must always be used to physically hold the boom in the raised position.

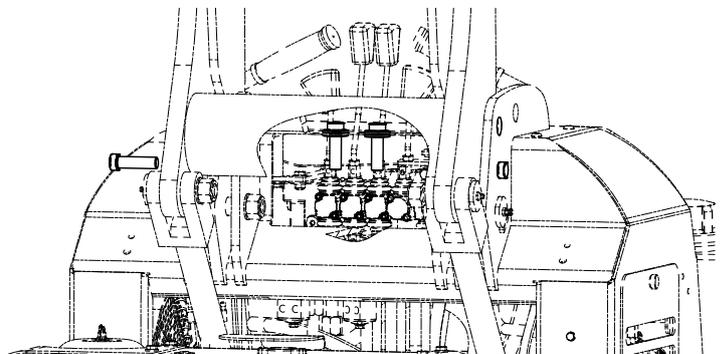
Do not raise or lower the boom with the locking pins in place.

Remove attachment before working on loader arms.



! DANGER

The loader arm poses a whole body crushing hazard. Ensure loader pins are fully and correctly installed whenever the arm is raised for maintenance.



REPLACEMENT PARTS

ARM SAFETY PIN REPLACEMENT
Part Number **0K10750**

RUBBER SAFETY PIN GROMMET
Part Number **DL-000283**

Long-Term Loader Storage

If your Kanga loader must be stored for an extended period of time, follow these guidelines for preparation and storage.

Preparation

Complete the following maintenance prior to storage:

- Thoroughly clean the loader, including the engine compartment.
- Touch up the paint to prevent rusting.
- Replace worn or damaged parts.
- Lubricate the loader and grease any exposed cylinder rods.
- Replace all fluids and filters.
- Add fuel stabiliser to the fuel tank and operate the engine for several minutes to fully circulate the stabiliser.
- Remove the battery, check its electrolyte levels (if applicable) and ensure it is fully charged. Store the battery in a cool dry location where temperatures will remain above freezing.

Storage

To store, following these steps:

- Park your loader in a dry and protected location.
- Put the bucket flat on the ground.
- Place blocks under the frame to remove weight from the tires.
- Set all controls in Neutral position.
- Cover the exhaust pipe opening and any other openings that might admit small animals.
- Tag the loader to clearly indicate it is in non-operational, storage condition.

Post-Storage Return to Operation

To return the loader to operation after a period of long-term storage, complete these steps:

- Remove cover(s) from exhaust pipe and other locations.
- Remove grease from exposed cylinder rods.
- Complete maintenance inspection and correct any issues detected.
- Lubricate the loader.
- Check tire inflation and remove blocks under frame.
- Install a fully charged battery.
- Start the engine and operate for several minutes. Observe engine, panels, and systems for correct operation.
- Operate the loader, checking for correct function.
- Stop the engine and check for leaks. If detected, repair before returning the loader to service.

End-of-Service-Life Disposal

When your Kanga loader has reached the end of its useful life, responsible disposal of its parts, components, and fluids is required. Fortunately, much of a Kanga loader can be recycled.

Note

Regulations and approaches related to the disposal of materials vary from region to region. Learn more about guidelines specific to your location before proceeding with loader disposal.

CAUTION

The steps required for proper disposal may expose the dismantler to hazardous or toxic materials. Proper PPE and safety precautions are required.

The following provides general steps for proper end-of-service-life disposal:

1. Remove hazardous materials in an area with a sturdy, non-permeable floor.

Drain all hazardous fluids from gasoline/diesel fuel tanks, oil reservoirs, and similar.

Remove the battery.

Remove items containing toxic metals, such as mercury switches and lead battery connectors.

Note

Each of these materials and the rags, paper, sawdust, and gloves contaminated by them must be captured in suitable containers and disposed of properly. Avoid scattering this toxic material in the environment.

2. Dismantle the loader for usable or recyclable parts.

Remove all usable or recyclable parts.

Sell or store usable parts in safe, environmentally suitable ways.

Recycle remaining parts through local environmental or recycling centres.

3. Recycle the metal hulk.

After identifying a metal recycling vendor in your area, inquire about their requirements for preparing the metal hulk for recycling.

As required by the metal recycler, remove all plastic, synthetic fabrics, and other non-metal components.

Perform Service Tasks

About Service Tasks

The following service work should be completed only by a qualified Kanga service technician. Required service intervals are shown in the next section.

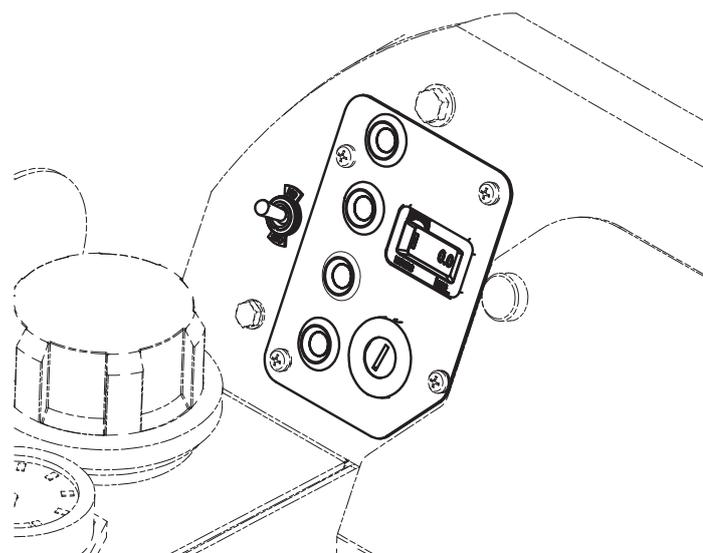
Determine Hours of Operation

Total hours of loader operation are displayed on the hour meter on the instrument panel.

Service Interval Indicator

When a service interval has been reached, the display will flash. Flashing ends after a two-hour operating period has passed. This is a generic setting from the gauge supplier. Please refer to the manual for correct service information.

Instrument Panel (Remote Loader - Series 825)



REPLACEMENT PARTS

KUBOTA REPLACEMENT KEY
Part Number **KS-000092** pair

HOUR CLOCK
Part Number **DL-000817**

LED LIGHTS
Red **EC-100155**
Blue **EC-100158**
Green **EC-100157**
Yellow **EC-100156**

Service Tasks: Engine

Engine Oil

Change the engine oil after the first 20 hours of operation to ensure bed in service of the engine. Thereafter, change the oil after every 100 hours.

Engine oil type SAE 10W-30 is generally recommended. See engine manual for details.

Ambient temperature above 25°C (77°F):
SAE30 or SAE10W-30/SAE10W-40
Ambient temperature 0°C to 25°C (32°F to 77°F):
SAE10W or SAE10W-30
Ambient temperature above 40°C (104°F):
SAE40 or SAE10W-50

ENGINE OIL FILTER (Diesel Engine)—Part Number **KS-00089**

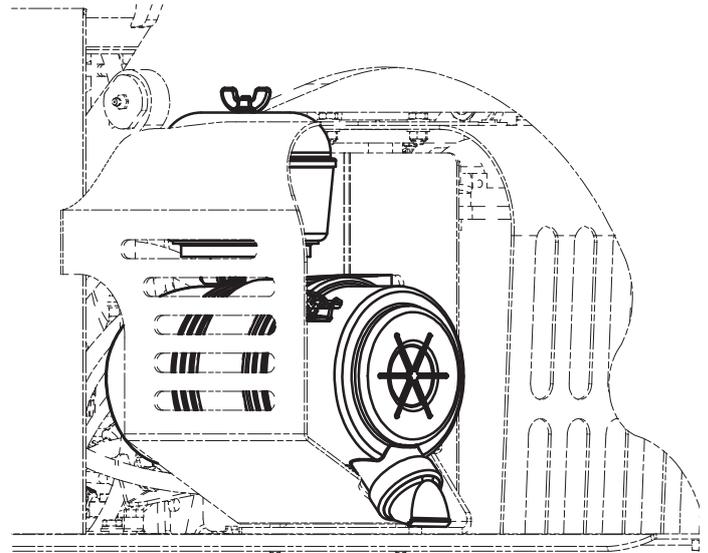
Replace the oil filter after every 100 hours of operation. See engine manual for details.

Air Filter (Diesel)

AIR FILTRATION—Primary Air Element
5" Donaldson

Part Number **DL-001227** - Outer Element
Part Number **DL-001230** - Inner Safety

Replace the air filter element after every 100 hours of operation, or sooner if operating in a dusty environment.



Radiator (Diesel Engine)—REPLACEMENT RADIATOR CAP Part Number **KS-00081**

The radiator fluid bottle should be checked every day when engine is cold and topped up when necessary. The system contains a pre-mix of water and coolant at a 50:50 ratio. Water capacity is 3.1 litres (0.82 US gallons). Periodically check the radiator cap for proper performance. Replace as required.

FAN BELT (Diesel Engine)—Part Number **KS-00088**

The fan belt should be checked regularly for signs of wear and changed in accordance with all manufacturer recommendations (see engine manual).

Note

Please refer to your KUBOTA engine manual.

Fuel Filter Service Instructions

DANGER

To avoid unintended start-up during service and repairs, attach a “Do Not Operate” or similar warning tag in the driver area.

1. Make sure the engine is switched off and cool to touch.
2. Place a small catch container under the fuel filter housing.
3. Spin the see-through bowl off of the mounting head by turning in a counter-clockwise motion.
4. Remove the aqua block filter element and clean in a bath of methylated spirits (denatured alcohol) and dry thoroughly. Do not use compressed air to dry the filter; this could damage the filter.
5. Reinstall or replace the fuel filter element as required (**Part Number DL-000500**).
6. Lubricate the filter bowl O-ring with motor oil and hand-tighten only. Do not use tools.
7. Start the engine and check for leaks. Correct, if necessary, with the engine switched off.

IN LINE FUEL FILTER FOR DIESEL FUELS

Part Number **DL-002934**

Replace the fuel filter after every 100 hours of operation, or sooner if operating in a dusty environment.

GLOW PLUGS (Diesel Engine)—Part Number **KS-000341**

See engine manual for details.

Idle Speed

Check engine idle speed after every 200 hours of operation. Adjust if out of specification. See engine manual for details.

Valve Clearances (Diesel Engine)

Check and adjust engine valve clearances after every 800 hours of operation. See engine manual for details.

Note

Please refer to your KUBOTA engine manual.

Service Tasks: Hydraulics

Hydraulics

Perform the following work after every 100 operating hours:

With arms down and oil cold, check hydraulic fluid level. The hydraulic oil should be visible half way (50%) down the sight gauge when the oil is cold and all rams in their closed position. Top up with Hydraulic oil ISO 68 if necessary.

Note

A significant drop in fluid levels indicates leakage. The appropriate cold fluid level is shown on the sight gauge.

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

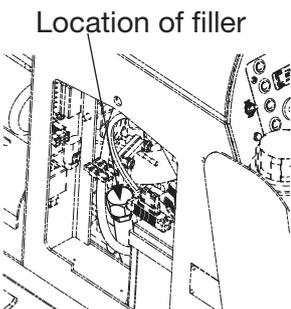
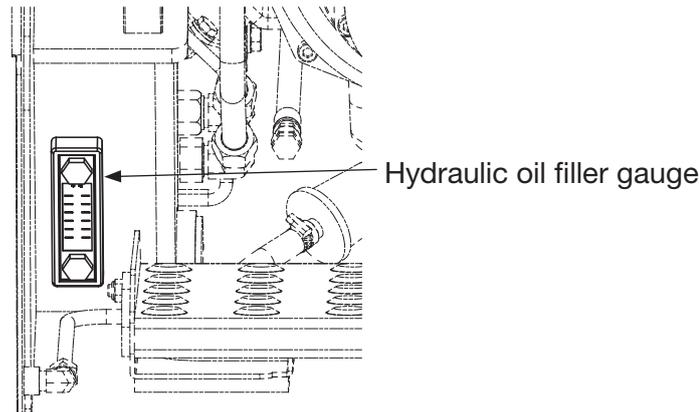
Check all three pressure settings every 200 hours and adjust if necessary.

Hydraulic Filter

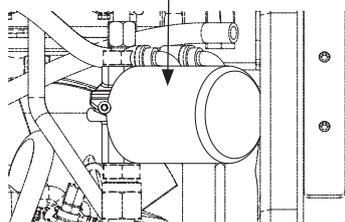
Replace the return line filter cartridge after every 200 operating hours.

Pressure Filter

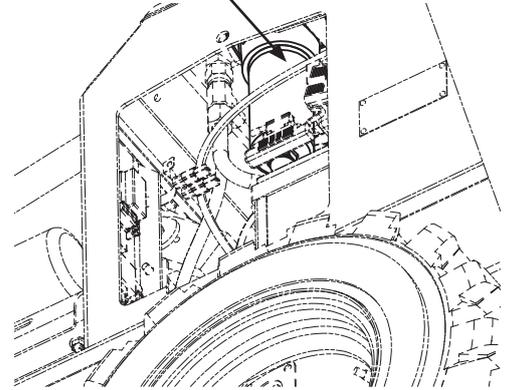
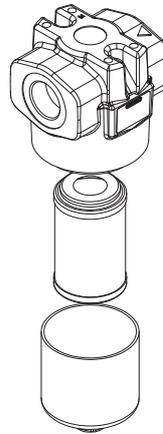
Replace inline filter cartridge after every 500 operating hours.



RETURN FILTER ELEMENT
Part Number **KA-000400**
(Illustration shows housing.)



PRESSURE FILTER ELEMENT
Part Number **KA-000400**
(Illustration shows housing.)



Service Tasks: Hydraulics (continued)

Hydraulic Pressure Settings

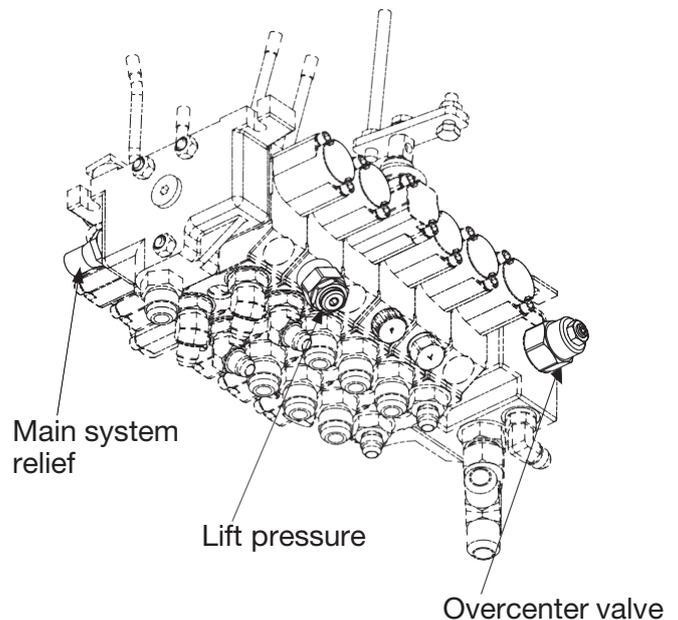
The hydraulic system has three pressure settings. These are referred to as the overcenter valve, the main system relief pressure, and the lift pressure.

Before any testing is carried out, run the engine and hydraulic system to warm the hydraulic oil. The oil cooler fan will engage at between 60 and 65°C (~145°F).

The pressure settings must be set as follows:

Note

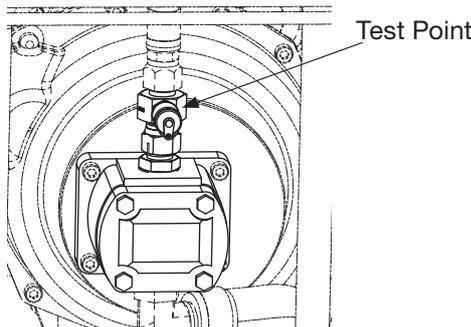
All pressure settings are performed with the oil cooler fan on and engine running at full speed (3,600 rpm).



1. Overcenter Valve

Connect an accurate pressure gauge with a range 0 – 300 bar (0 – 4300 PSI) to the test point. The pressure should be set at 34 – 41 bar (500 – 600 PSI) for the 11.3 cc pump.

If adjustment is required, slacken off the locknut. Using a 5mm hex key, wind the screw in to increase the pressure or out to reduce the pressure. Re-tighten the locknut when adjustments are complete.



2. Main System Relief Pressure

Connect an accurate pressure gauge with a range 0 – 300 bar (0 – 4300 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 207 bar (3000 PSI) for gasoline models and 220 bar (3200 PSI) for diesel models.

If adjustment is necessary, slacken off the locknut on the main pressure relief valve. Wind the screw in to increase the pressure or back off the screw to reduce the pressure. Re-tighten the locknut when adjustments are complete.

3. Lift Pressure

Connect an accurate pressure gauge with a range 0 – 300 bar (0 – 4300 PSI) to the test point. With the boom fully raised, check the pressure while pulling the arm control lever at the end of the ram's stroke. The pressure should be set at 165 bar (2400 PSI) for mid-range loaders.

If adjustment is necessary, unscrew the cap locknut on the lift pressure relief cartridge. Using an Allen key, wind the screw in to increase the pressure or back off the screw to reduce the pressure. Refit and tighten the locknut when adjustments are complete.

Hydraulic Fluid

Replace the hydraulic oil after every 1,000 operating

hours, using Hydraulic Oil ISO 68.

Hydraulic Oil

The viscosity of an oil is identified by its "ISO Viscosity Rating" The ISO viscosity rating can be found on the oil container's label.

OIL VISCOSITY	AMBIENT TEMPERATURE CELSIUS	AMBIENT TEMPERATURE FAHRENHEIT
ISO 46 A medium weight oil for mid-range conditions with local temperatures ranges	-4° to +21°C	+25° to +70°F
ISO 68 A heavier oil for warm weather conditions with local temperature ranges	+4° to +32°C	+40° to +90°F

The Kanga hydraulic system operates at a oil temperature between 60 - 80°C (140 - 176°F). Using a hydraulic oil that meets these requirements will help eliminate costly machine downtime and reduce the overall operating cost of your equipment. Failure to use the correct hydraulic oil could create problems and cost you time and money.

Kanga Recommends

For Australian conditions ISO 68

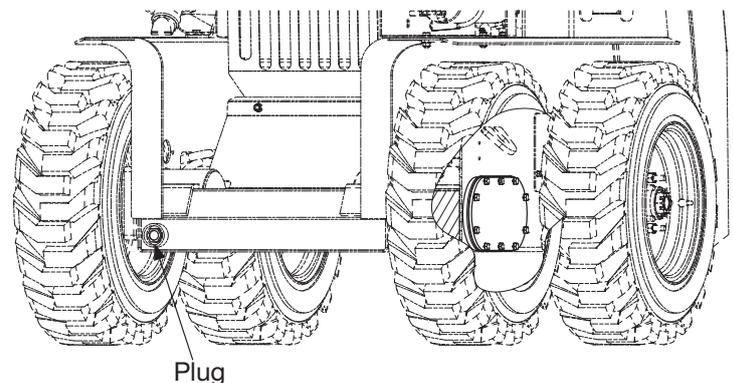
For colder American & European conditions ISO 46

IMPORTANT:

Check with your supplier before mixing hydraulic oils of different type, brand, or viscosity. Many oils are not compatible and damage to your hydraulic system could result. When changing oil viscosity, flush and clean the hydraulic system before adding new oil.

Hydraulic Oil Drain Plug

The hydraulic oil drain plug is located on the front side of the loader.



Service Tasks: Trenching Valve

Description

The trenching valve is specially designed to convert the Kanga Loader paired with a trencher attachment into a high-performance trenching machine. The valve provides load sensing to ensure the trencher travel speed stays balanced with the trencher cutting speed, regardless of the ground conditions.

The trencher valve assembly comprises a group of cartridges forming a complex circuit. Servicing and repair to the trencher valve is usually restricted to cartridge element replacement.

Circuit Description

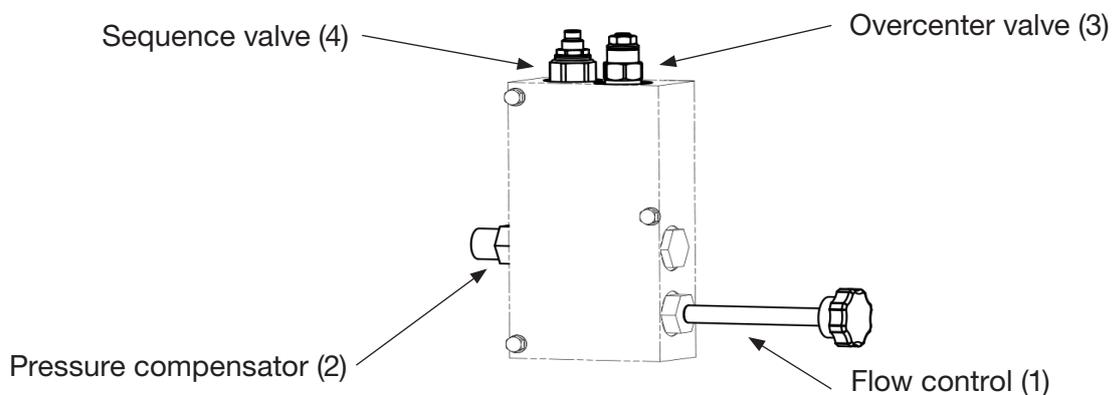
When starting the trenching chain (AUX lever down), oil is flowing to VLV A port of the trencher valve. Priority oil flows through the flow control valve (1) and pressure compensator (2) to VLV B port and back to the main control valve for use by the drive motors. Trenching travel speed is adjusted by the flow control valve (1), with speed being constant regardless of trenching and travel loads. Once the priority flow requirements are satisfied, excess flow is permitted to flow through the pressure compensator (2) to the A port and to the trencher motor.

Note

If the flow control valve (1) is fully closed, all flow is directed to the trencher motor and no oil can flow to the drive motors; no regulating occurs.

Return oil from the trencher motor flows through the C port and the overcenter valve (3) to the tank (T) port.

In the event of excessively hard trenching with the drive motor driving against the trenching chain, the drive circuit pressure will rise above the setting of the sequence valve (4) and oil will be diverted to the tank. In this condition, a constant load is held against the trenching chain by the drive motors. When reversing the trencher chain (AUX lever up), for example, to clear the chain from rocks or wood, oil flow is directed to port VLV B. System pressure will rise to the setting of the sequence valve (4) and flow will then be diverted to port C, reversing the trencher motor.

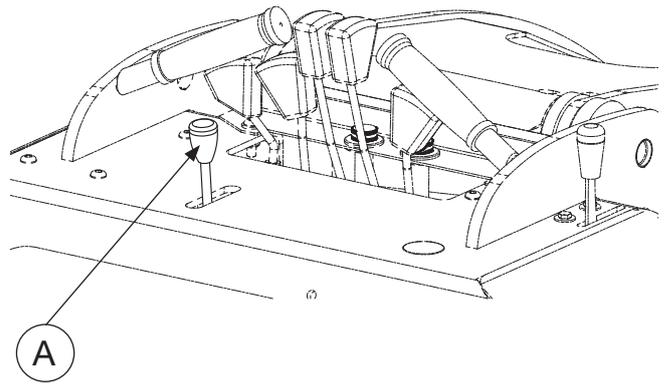


Service Tasks: Trenching Valve (continued)

Pressure Settings

Before adjusting any part of the trencher valve, check all main pressure settings as outlined in the “Service Tasks: Hydraulics” section of the Operator’s Manual.

With the same setup as outlined there—hydraulic oil warmed up, pressure gauge (0 – 300 bar/0 – 3400 PSI) plugged into test point, engine running at full speed (3600 rpm)—complete the following steps:



1. Overcenter Valve (3) Setting

Flow Control Valve (1) fully closed (turned clockwise).

AUX Lever (A) on main control valve down (trencher chain running forward).

The pressure should be set at 69 – 76 bar (1000 – 1100 PSI) on all models.

2. Sequence Valve (4) Setting

Flow Control Valve (1) fully closed (turned clockwise).

AUX Lever (A) on main control valve up (trencher chain running backwards).

The pressure should be set at 186 bar (2700 PSI) on mid-range gasoline models and 186 bar (2700 PSI) on mid-range diesel models.

3. Checking Trenching Valve Function

With the trencher above ground and the chain running forward (AUX Lever (A) down), pull both drive levers backward to reverse the loader. Begin opening Flow Control valve (1) slowly.

The loader should start moving backwards.

The more the valve is opened, the faster the loader should move.

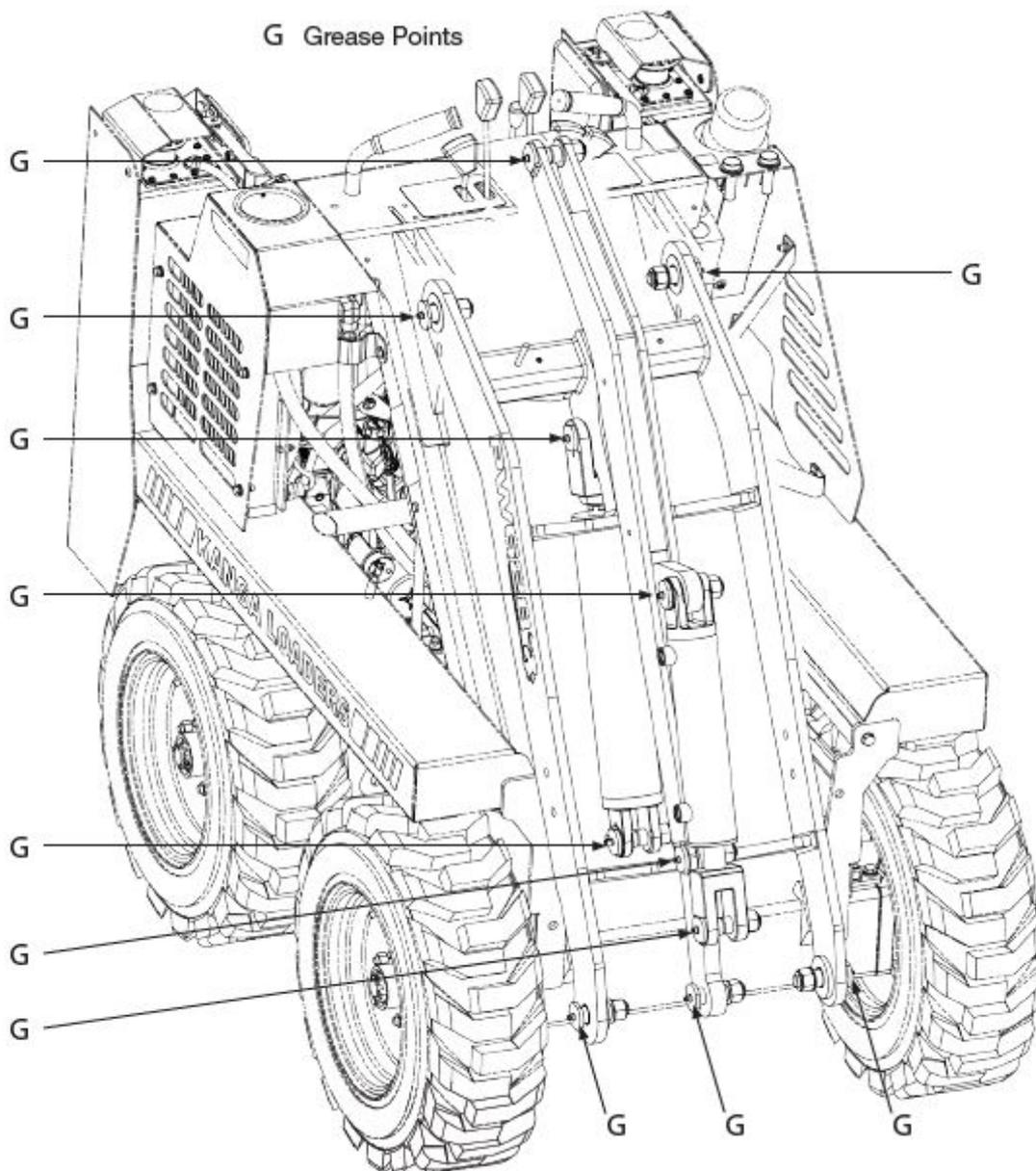
Service Tasks: Grease Nipples

Grease

After every 9-10 operating hours, grease each of the 13 linkage pins, using an appropriate grease (multi-purpose pin grease). During greasing, also inspect for wear.

! CAUTION

The frequency of re-greasing depends on the workload and the severity of the working conditions. Re-greasing during the day of operation may be necessary.



Service Tasks: Visual Inspection

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: Radiator (Diesel Engine)

Radiator hoses and connections should be checked on a regular basis for cracks and wear.

Check the radiator for leaks.

Change the radiator fluid every two years with a coolant to water ratio of 50:50.

Check the fan belt for wear and replace as required.



CAUTION

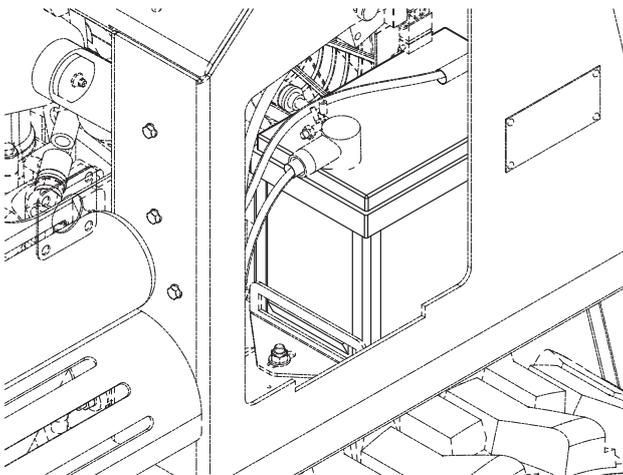
Do not remove radiator cap when hot.

Service Tasks: Battery

The battery provided with your loader is maintenance-free and may include an indicator at the top of the battery displays its condition according to a displayed colour. Ensure that the terminals are tight and that covers and battery leads are not damaged.

BATTERY – Part Number **DL-000605 (Australia)**.

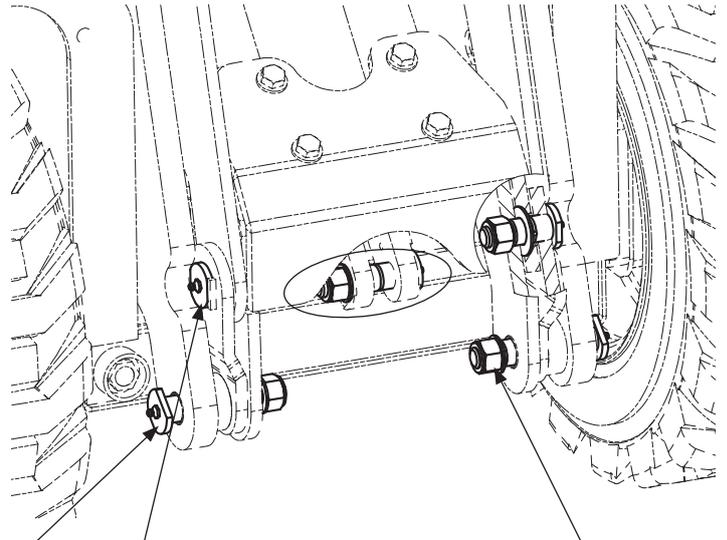
BATTERY – Part Number - For your specific region Contact your KANGA dealer.



Service Tasks: Pivot Pins

Bottom Pivot Pins

Before each use, visually inspect all pivot pins for signs of wear, damage, or failure. At every 200 operating hours, thoroughly inspect all pivot pins and bushes for wear and damage. Please refer to page 68 Service Task-Grease Nipples.



Part Number
0K10902

Part Number
0K10903

REPLACEMENT PARTS

LEVER ARM PIN (x2) - Part Number **DL-000516**

GREASE NIPPLE (Pin Kits) - Part Number **FA-000526**

PIN C (60MM) KIT (x 1) - Part Number **0K10900**

PIN E (96MM) KIT (x 2) - Part Number **0K10901**

PIN F (39MM) KIT (x 2) - Part Number **0K10902**

PIN G (65MM) KIT (x 1) - Part Number **0K10903**

PIN H (84MM) KIT (x 2) - Part Number **0K10903**

HARDENED BUSH IRB 1610 (x 2)
Part Number **DL-000222**

TOP BUSH IRB 1616 (x 6)
Part Number **DL-000158**

HARDENED BUSH IRB168 (x 4)
Part Number **DL-000448**



! WARNING

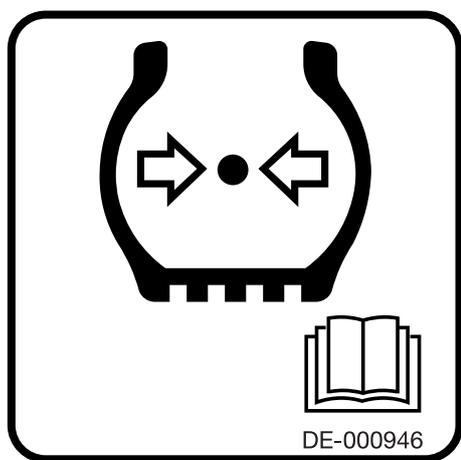
The 12V battery contains caustic liquid that may result in chemical burns to flesh and materials.

Service Tasks: Tires and Tire Pressure

Visually check tires on a daily basis. Check tire pressure every 50 operating hours, and check for wear and damage to tires and tracks.

Tire pressure must be maintained to the following specifications:

KANGA LOADER TIRE PRESSURE GROSS					
Tire	Size	Recommended Pressure		Gross weight Kgs (Water Filled)	Gross weight lbs (Water Filled)
		KPA	PSI		
Lug 23"	23 x 8.5 x 12	220	32	35	77
Turf 23"	23 x 10.5 x 12	152	22	35	77
Track Drive	5 x 10	379	55	N/A	N/A



CAUTION

Maintain correct tire pressure for all loader tires.

REPLACEMENT PARTS

TIRE 23 X 8.5 X 12 LUG TRELLEBORG
Part Number **DL-000624**

TIRE 23 TURF KENDA 23 X 10.5 X 12
Part Number **DL-001502**

TIRE TRACK DRIVE 5 X 10
Part Number **DL-002913**

TUBELESS VAL 10-12 RIM
Part Number **DL-000995**

12 X 7 RIM COMPLETE
Part Number **DL-004014-BL**

10 X 3 RIM COMPLETE
Part Number **DL-000469-BL**

NUTS WHEEL 7/16 UNF
Part Number **FA-000530**

STUD WHL 7/16 KNOCK-IN
Part Number **FA-000490**

Service Intervals and Records

MAINTENANCE INTERVAL	TYPE	MIN	MIN	INT	MIN	INT	MAJ	INT	MIN	INT	MIN	MAJ	MIN	INT	MIN	INT	MAJ	
	HOURS	20	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	
ENGINE OIL (DIESEL)		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
ENGINE OIL FILTER (DIESEL)		I	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
AIR FILTER ELEMENT *		I	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
FUEL FILTER *		I	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
IDLE SPEED (DIESEL)		I		A		A		A		A		A		A		A		
VALVE CLEARANCE (DIESEL)										A								
FAN BELT (DIESEL)		I	I	I	I	I	R	I	I	I	I	R	I	I	I	I	I	R
HYDRAULIC HOSE/TUBE		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
HYDRAULIC FLUID		I	I	I	I	I	I	I	I	I	I	R	I	I	I	I	I	I
HYDRAULIC RETURN FILTER				R		R		R		R		R		R		R		R
HYDRAULIC PRESSURE FILTER		I	I	I	I	I	R	I	I	I	I	R	I	I	I	I	I	R

DAILY	ITEMS TO BE CHECKED ON A DAILY BASIS																
	HOURS	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
PRECLEANER FOAM *		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
VISUAL CHECK (CRACKS, WEAR)		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
RADIATOR WATER LEVEL (DIESEL)		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
GREASE NIPPLES/PINS		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

TIRES/TIRE PRESSURE	ITEMS TO BE CHECKED AT REGULAR INTERVALS															
	HOURS	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
TIRES		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
TIRE PRESSURE		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I

Key

R	Replace
C	Clean as required
L	Lubricate as necessary
A	Adjust as necessary
I	Inspect, fill up, tighten, or replace as necessary

* Service may be required at more regular intervals if working in dusty conditions.

MAINTENANCE SCHEDULE

MODEL	DATE _____	SERVICE STAMP	MODEL	DATE _____	SERVICE STAMP
	DATE _____	SERVICE STAMP		DATE _____	SERVICE STAMP
	DATE _____	SERVICE STAMP		DATE _____	SERVICE STAMP
	DATE _____	SERVICE STAMP		DATE _____	SERVICE STAMP
	DATE _____	SERVICE STAMP		DATE _____	SERVICE STAMP
Mid Range		Mid Range			

MAINTENANCE SCHEDULE (Continued)

MODEL	DATE _____					
	SERVICE STAMP					
	Mid Range	DATE _____				
		SERVICE STAMP				
		DATE _____				
SERVICE STAMP						
MODEL	DATE _____					
SERVICE STAMP						
Mid Range	DATE _____					
SERVICE STAMP						

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.

* Denotes hydraulic oil and pressure filter require changing for 1000Hr services.

Troubleshooting Guide

This section contains troubleshooting 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 Rated Operating Capacity (ROC).
	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 lowers with control lever in neutral.	Worn control valve spool.	Repair or replace valve as required.
	Lift ram piston seal leaking.	Replace seals.
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.

Arms (continued)

TROUBLE	PROBABLE CAUSE	REMEDY
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.
	Malfunctioning pump.	Repair or replace hydraulic pump 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.

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.

Drive System

TROUBLE	PROBABLE CAUSE	REMEDY
Machine will not drive forward or backward.	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.

Drive System (continued)

TROUBLE	PROBABLE CAUSE	REMEDY
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.

Auxiliary Hydraulic

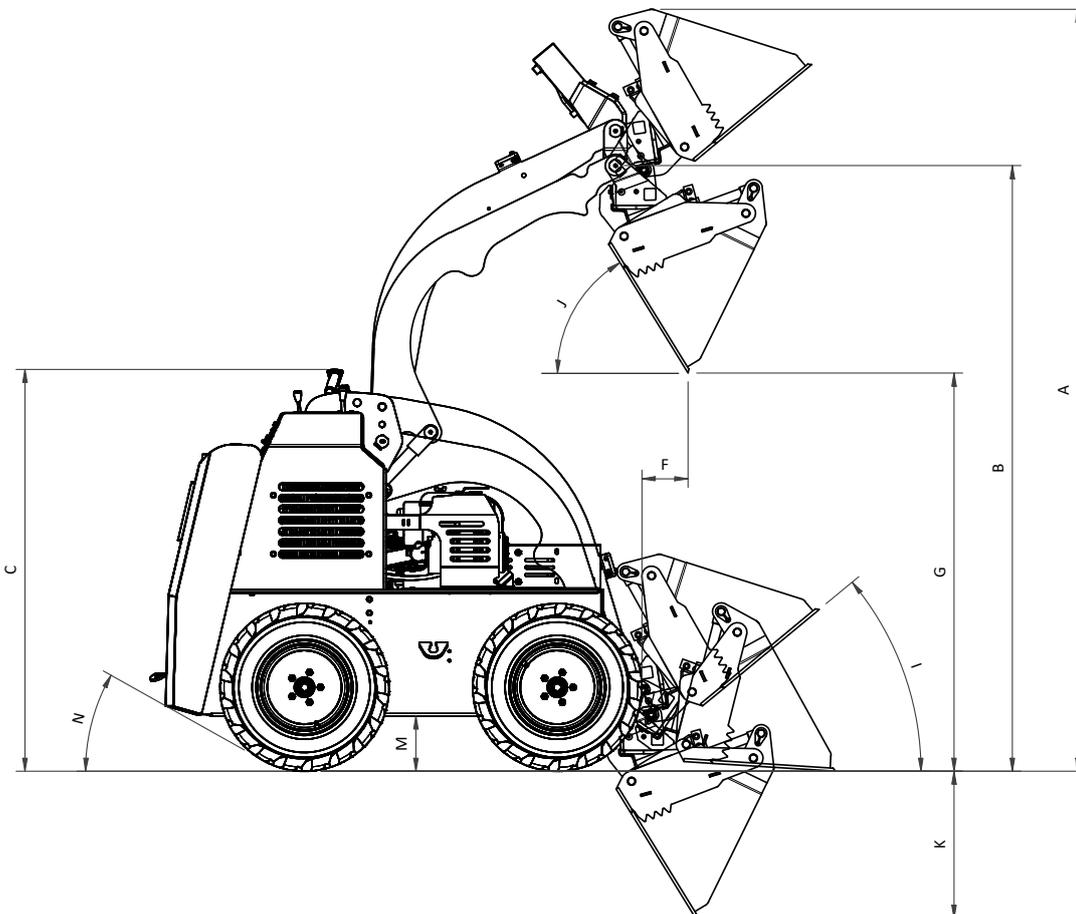
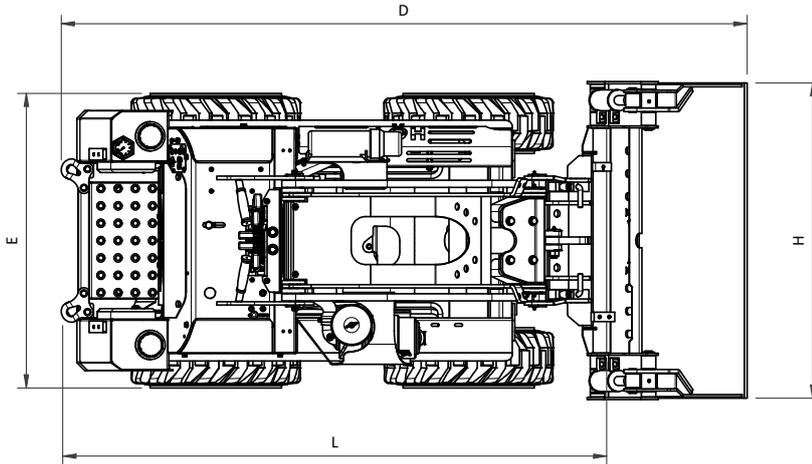
TROUBLE	PROBABLE CAUSE	REMEDY
Attachment is slow or will not function.	Hydraulic system oil low.	Check oil and replenish as necessary. Oil level should not change. Leaks may be present.
	Damaged or blocked line.	Remove line and remove any obstructions or replace line as necessary.
	Malfunctioning pump.	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

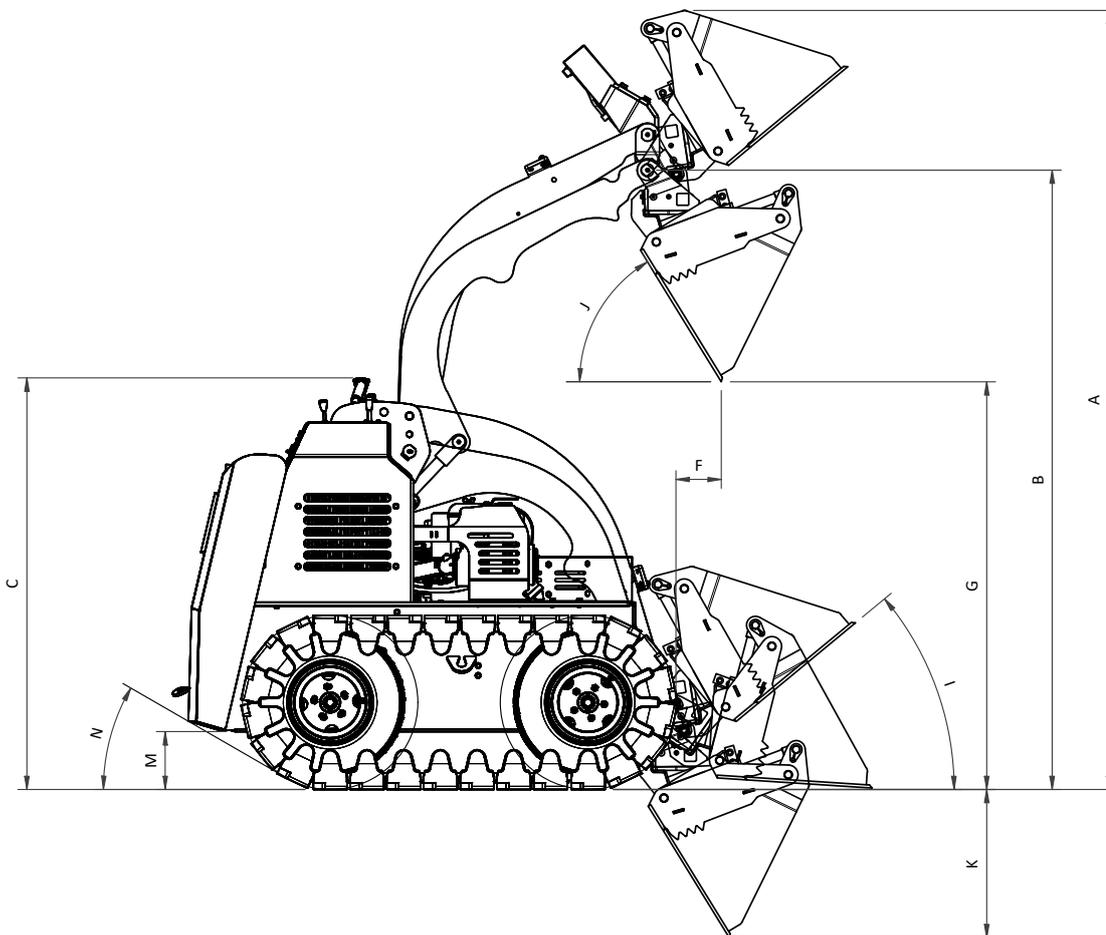
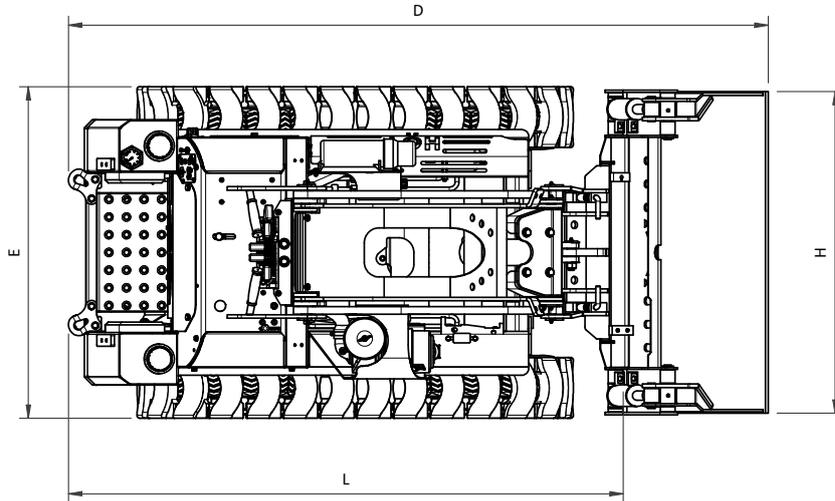
TROUBLE	PROBABLE CAUSE	REMEDY
Engine will not crank over.	Low battery output.	Recharge or replace battery.
	Loose, disconnected or broken battery cables.	Inspect cable(s) and tighten all connections. Repair or replace cables as necessary.
	Faulty starter.	Repair or replace starter.
	Faulty circuit wiring.	Check wiring continuity.
	Engine flooded (gasoline engines).	Remove spark plug and crank.
Engine cranks but does not fire.	No fuel in tank.	Refill fuel tank.
	Spark plug fouled (gasoline engines).	Check spark plug gap and clean or replace spark plug.
	Dirty fuel filter.	Clean or replace filter.
	Carburettor flood (gasoline engines).	Clear carburettor.
	Fuel valve closed.	Open valve.
Engine runs but stalls.	Spark plug fouled (gasoline engines).	Check spark plug gap and 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.

Loader Specifications and Decals

Schematic: Series 825 Loader With Wheels



Schematic: Series 825 Loader With Tracks



Specifications: Series 2 Loader With Wheels

PERFORMANCE		DW825	
Tipping Load ¹ (No Bucket)	539 kg	1186 lb	
Tipping Load ¹ (62kg Kanga GP bucket)	477 kg	1050 lb	
Tipping Load ¹ (84kg Kanga HD GP bucket)	455 kg	1001 lb	
Tipping Load ¹ (157kg Kanga 4in 1 GP bucket)	382 kg	841 lb	
Rated Operating Capacity (ROC) ¹ (No bucket)	270 kg	593 lb	
Maximum Travel Speed (Default Mode)	7 km/hr	4.35 m/h	
Maximum Travel Speed (Fast Mode)	N/A	N/A	
Fuel Capacity (Diesel)	43 L	11.4 US gal	
Loader Mass ²	1095 kg	2414 lb	
ENGINE			
Manufacturer	Kubota D902		
Rated Power ³	17.5 KW	23.5 hp	
DRIVE SYSTEM			
Drive Control	Soft Touch Hand Levers		
Throttle Control	Hand Levers		
Tracks/Wheels with Direct Drive Hydraulic Motor	Wheels		
HYDRAULICS			
Gear Pump Displacement	11.3 cc/rev	0.69 cu in/rev	
Pump Output	40.6 L/min	10.73 US gal/min	
System Pressure	220 bar	3200 PSI	
Hydraulic Reservoir Capacity	92 L	24.3 US gal	
BUCKETS			
GP Bucket Capacity (heaped / struck) ⁴	0.12 m ³ / 0.09 m ³	4.24 cu ft / 3.21 cu ft	
HD 4-in-1 Bucket Capacity (heaped / struck) ⁴	0.13 m ³ / 0.095 m ³	4.59 cu ft / 3.36 cu ft	
DIMENSIONS			
A Max Operating Height with 4in1 1100 HD Bucket	2634 mm	103.70"	
B Height to Hinge Pin	2093 mm	82.40"	
C Overall Height (No Warning Lights)	1389 mm	54.69"	
D Overall Length With 4in1 1100 HD Bucket	2352 mm	92.60"	
E Overall Track or Wheel Width	1018 mm	40.08"	
F Bucket Reach at 40° (4in1 1100 HD Bucket)	158 mm	6.22"	
G Dump Height (4in1 1100 HD Bucket)	1376 mm	54.17"	
H Bucket Width (4in1 1100 HD Bucket)	1090 mm	42.91"	
I Bucket Max Roll Back	40°		
J Bucket Max Dump Angle	59°		
K Ground Penetration (4in1 1100 HD Bucket)	507 mm	19.96"	
L Overall Length Less Bucket	1866 mm	73.46"	
M Ground Clearance	191 mm	7.52"	
N Angle of Departure	29°		
Approach Angle With No Bucket	90°		
Approach Angle With Bucket Rolled back	28.39°		

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. Loader mass is the mass of the loader and fluids only. Specifically, this is the operating mass without the operator or bucket mass.

3. Power Rating is the net 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.

Specifications: Series 2 Loader With Tracks

PERFORMANCE		DT825	
Tipping Load ¹ (No Bucket)	552 kg	1214 lb	
Tipping Load ¹ (62kg Kanga GP bucket)	490 kg	1078 lb	
Tipping Load ¹ (84kg Kanga HD GP bucket)	468 kg	1029 lb	
Tipping Load ¹ (157kg Kanga 4in 1 GP bucket)	395 kg	869 lb	
Rated Operating Capacity (ROC) ¹ (No bucket)	248 kg	546 lbs	
Maximum Travel Speed (Default Mode)	5.4 km/hr	3.4 m/h	
Maximum Travel Speed (Fast Mode)	9.3 km/hr	5.8 m/h	
Fuel Capacity (Diesel)	43 L	11.4 gal	
Loader Mass ²	1056 kg	2328 lb	
ENGINE			
Manufacturer	Kubota D902		
Rated Power ³	17.5KW	23.5hp	
DRIVE SYSTEM			
Drive Control	Soft Touch Hand Levers		
Throttle Control	Hand Levers		
Tracks/Wheels with Direct Drive Hydraulic Motor	Tracks		
HYDRAULICS			
Gear Pump Displacement	11.3 cc/rev	0.69 cu in/rev	
Pump Output	40.6 L/min	10.73 US gal/min	
System Pressure	220 bar	3200 PSI	
Hydraulic Reservoir Capacity	92 L	24.3 US gal	
BUCKETS			
GP Bucket Capacity (heaped / struck) ⁴	0.12 m ³ / 0.09 m ³	4.24 cu ft / 3.21 cu ft	
HD 4-in-1 Bucket Capacity (heaped / struck) ⁴	0.13 m ³ / 0.095 m ³	4.59 cu ft / 3.36 cu ft	
DIMENSIONS			
A Max Operating Height with 4in1 1100 HD Bucket	2639 mm	10.3.90"	
B Height to Hinge Pin	2098 mm	82.60"	
C Overall Height (No Warning Lights)	1394 mm	54.88"	
D Overall Length With 4in1 1100 HD Bucket	2353 mm	92.64"	
E Overall Track or Wheel Width	1123 mm	44.21"	
F Bucket Reach at 40° (4in1 1100 HD Bucket)	153 mm	6.02"	
G Dump Height (4in1 1100 HD Bucket)	1381 mm	54.37"	
H Bucket Width (4in1 1100 HD Bucket)	1090 mm	42.91"	
I Bucket Max Roll Back	40°		
J Bucket Max Dump Angle	59°		
K Ground Penetration (4in1 1100 HD Bucket)	502 mm	19.76"	
L Overall Length Less Bucket	1865 mm	73.42"	
M Ground Clearance	196 mm	7.71"	
N Angle of Departure	30°		
Approach Angle With No Bucket	90°		
Approach Angle With Bucket Rolled back	29.09°		

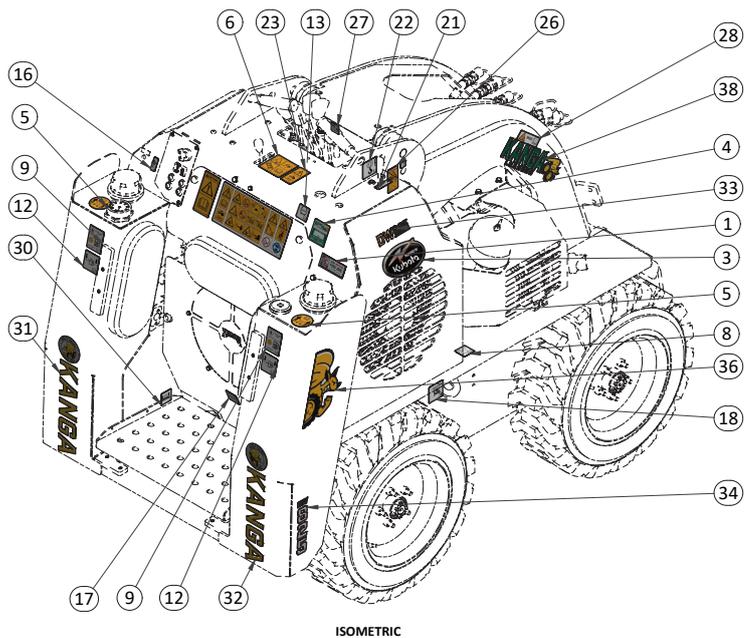
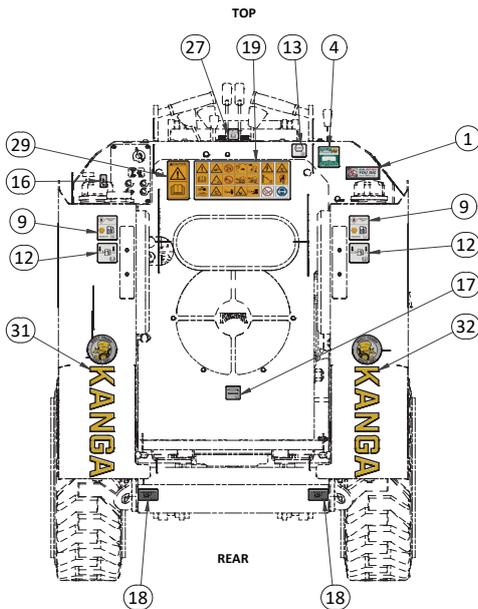
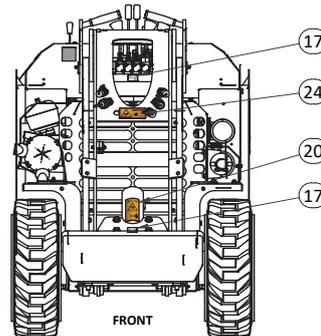
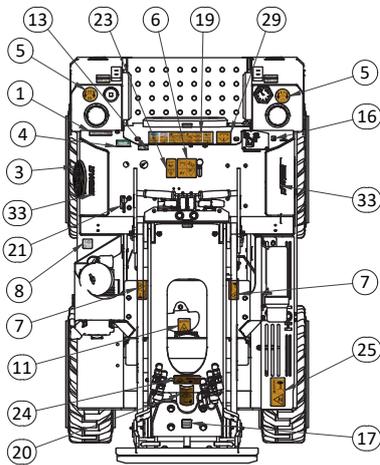
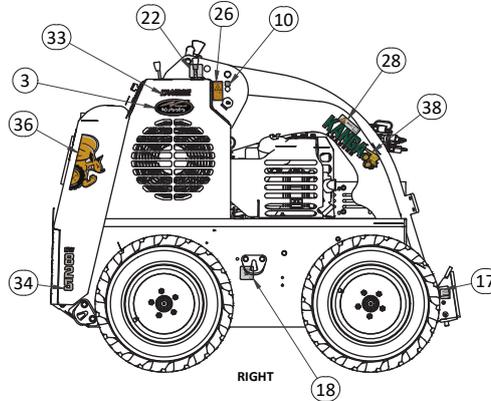
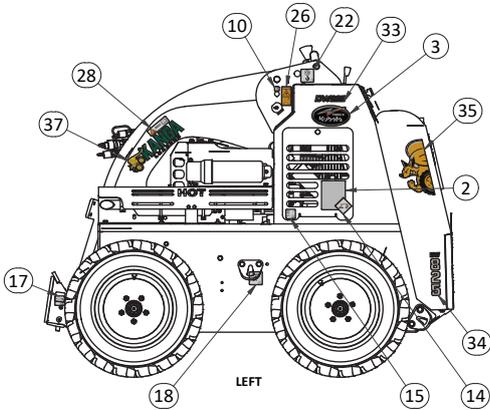
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4. Volumes based on ISO 7546:1983.

Decals: KK216V Loader (Aus)



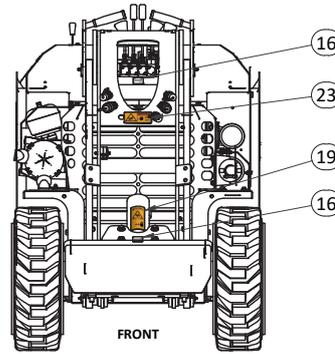
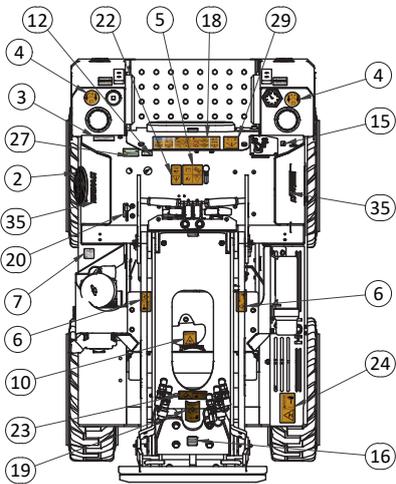
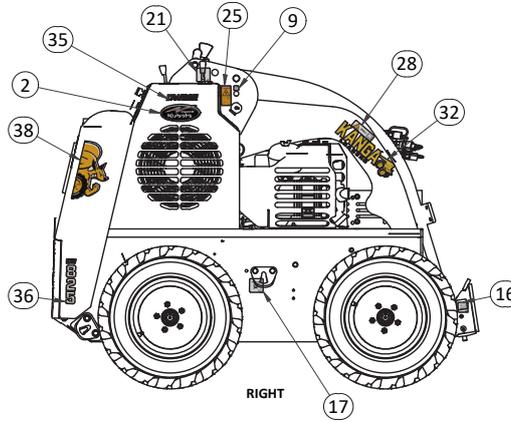
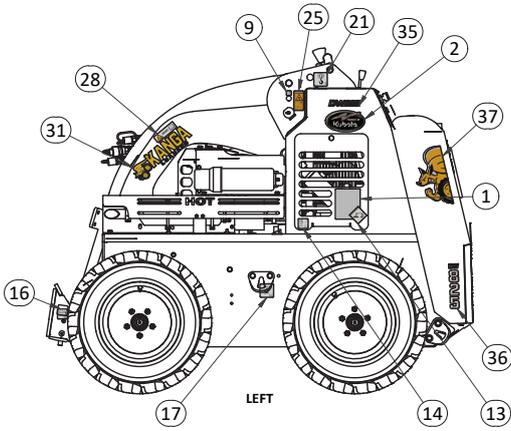
* Branding decals may vary in different countries. Contact your local branch before ordering.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	DE-000046	DECAL (DIAL 1100) - SMALL - 90MM x 35MM
2	1	DE-000211	DECAL - LOADER - FUSE 8 SERIES B MODEL
3	2	DE-000221	DECAL - POWERED BY KUBOTA
4	1	DE-000731	DECAL - KANGA SERVICE AND SPARES
5	2	DE-000777	DECAL - FILL BOTH FUEL TANKS
6	1	DE-000930	DECAL ISO KANGA UNI SAFE CONNECTION
7	2	DE-000933	DECAL ISO CRUSHED HAND SMALL
8	1	DE-000934	DECAL ISO ENGINE OIL DIPSTICK
9	2	DE-000935	DECAL ISO COMBUSTABLE LIQUID
10	2	DE-000936	DECAL ISO UNLOCKING ARM SAFETY PIN
11	1	DE-000937	DECAL ISO HOT FLUID UNDER PRESSURE
12	2	DE-000945	DECAL ISO MAX FILL LEVEL
13	1	DE-000946	DECAL ISO TYRE PRESSURE
14	1	DE-000947	DECAL ISO CORROSIVE
15	1	DE-000950	DECAL ISO HYDRAULIC OIL
16	1	DE-000952	DECAL ISO HEADLIGHT CONTROL
17	5	DE-000953	DECAL ISO GREASE POINT
18	4	DE-000954	DECAL ISO LASHING POINT
19	1	DE-000955	DECAL ISO MULTI SAFETY PANEL
20	1	DE-000957	DECAL ISO CRUSHED HAND LARGE
21	1	DE-000958	DECAL ISO THROTTLE CONTROL
22	2	DE-000959	DECAL ISO LIFTING POINT
23	1	DE-000960	DECAL ISO CAUTION REMOVE KEY BEFORE MAINTENANCE
24	1	DE-000961	DECAL ISO CAUTION FLUID UNDER PRESSURE
25	1	DE-000962	DECAL ISO HOT EXHAUST
26	2	DE-000964	DECAL ISO 8 SERIES LIFT PIN
27	1	DE-000965	DECAL ISO COMMON LIFT PIN STORAGE LOCATION
28	2	DE-000981	DECAL ISO RATED OPERATING CAPACITY REFER TO MANUAL
29	1	DE-002064	DECAL ISO CAUTION READ MANUAL BEFORE USE
30	1	DE-002074	DECAL ISO HYDRAULIC OIL MAX FILL LEVEL
31	1	DE-002147-L	KANGA REAR TANK (LEFT SIDE)
32	1	DE-002147-R	KANGA REAR TANK (RIGHT SIDE)
33	2	DE-002155	DW825 MODEL NUMBER - UPPER
34	2	DE-002168	DECAL - DW825 MODEL NUMBER LOWER WHITE
35	1	DE-002172-L	KANGAROO SIDE TANK (LEFT SIDE)
36	1	DE-002172-R	KANGAROO SIDE TANK (RIGHT SIDE)
37	1	DE-002175-L	KANGA LOGO - ARMS (LEFT SIDE)
38	1	DE-002175-R	KANGA LOGO - ARMS (RIGHT SIDE)

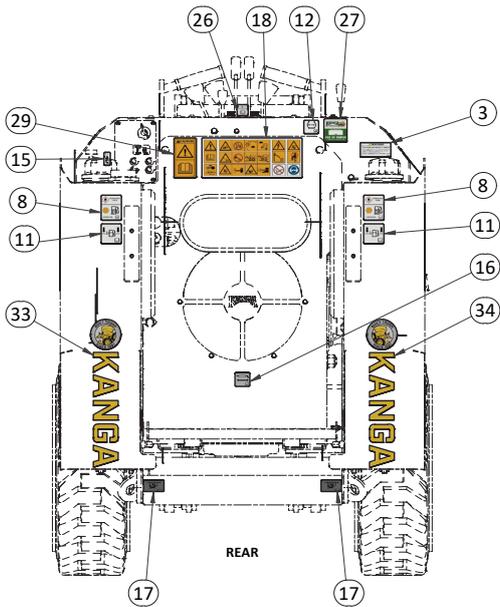
Note

The above figures and table show typical safety decal labels location. The actual position and quantity of the labels on your product may differ.

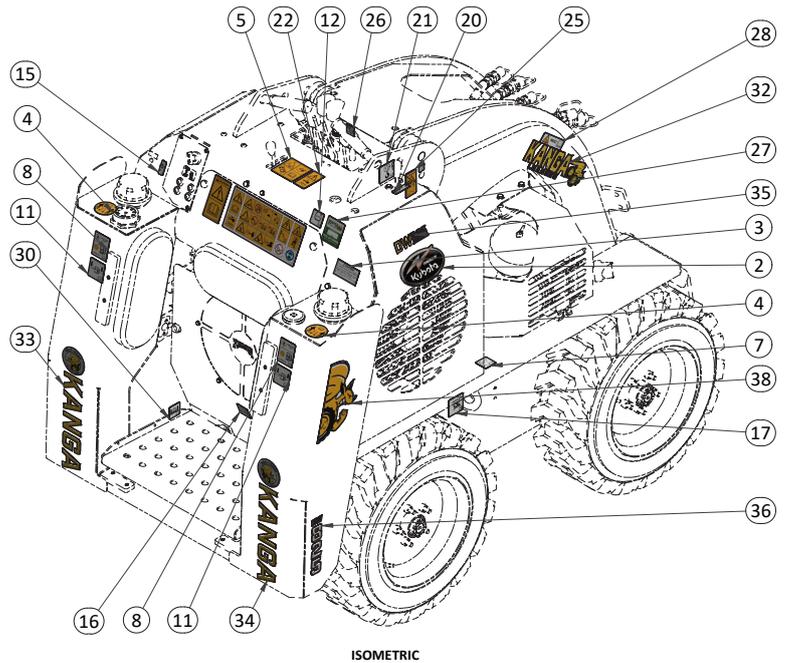
Decals: DW825 Loader (USA)



TOP



REAR



ISOMETRIC

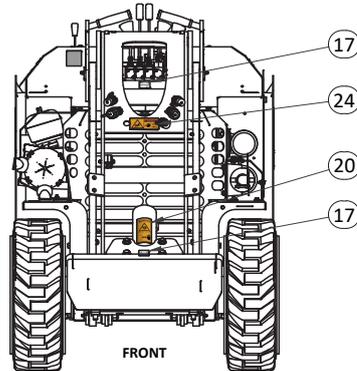
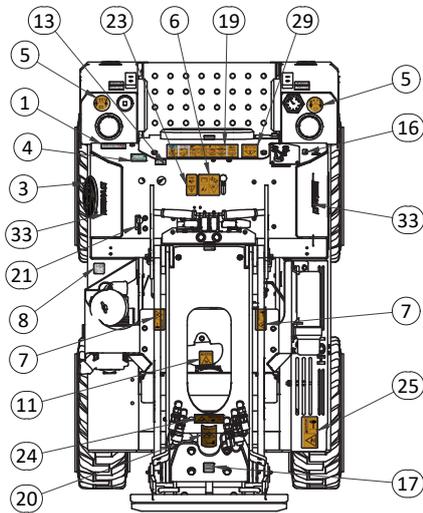
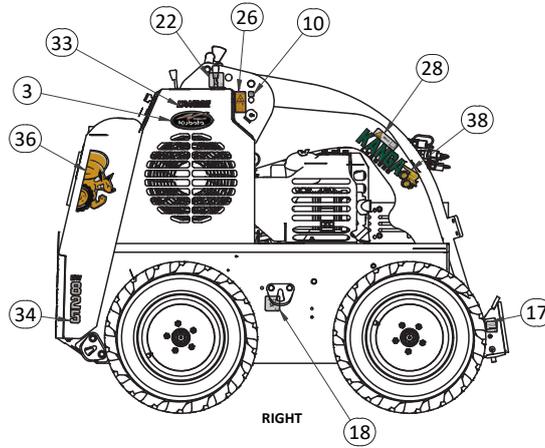
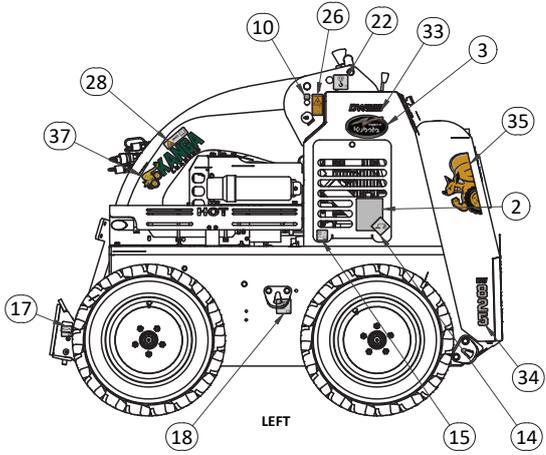
* Branding decals may vary in different countries. Contact your local branch before ordering.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	DE-000211	DECAL - LOADER - FUSE 8 SERIES B MODEL
2	2	DE-000221	DECAL - POWERED BY KUBOTA
3	1	DE-000538	DECAL - P65 WARNING - 82MM x 43MM
4	2	DE-000777	DECAL - FILL BOTH FUEL TANKS
5	1	DE-000930	DECAL ISO KANGA UNI SAFE CONNECTION
6	2	DE-000933	DECAL ISO CRUSHED HAND SMALL
7	1	DE-000934	DECAL ISO ENGINE OIL DIPSTICK
8	2	DE-000935	DECAL ISO COMBUSTABLE LIQUID
9	2	DE-000936	DECAL ISO UNLOCKING ARM SAFETY PIN
10	1	DE-000937	DECAL ISO HOT FLUID UNDER PRESSURE
11	2	DE-000945	DECAL ISO MAX FILL LEVEL
12	1	DE-000946	DECAL ISO TYRE PRESSURE
13	1	DE-000947	DECAL ISO CORROSIVE
14	1	DE-000950	DECAL ISO HYDRAULIC OIL
15	1	DE-000952	DECAL ISO HEADLIGHT CONTROL
16	5	DE-000953	DECAL ISO GREASE POINT
17	4	DE-000954	DECAL ISO LASHING POINT
18	1	DE-000955	DECAL ISO MULTI SAFETY PANEL
19	1	DE-000957	DECAL ISO CRUSHED HAND LARGE
20	1	DE-000958	DECAL ISO THROTTLE CONTROL
21	2	DE-000959	DECAL ISO LIFTING POINT
22	1	DE-000960	DECAL ISO CAUTION REMOVE KEY BEFORE MAINTENANCE
23	1	DE-000961	DECAL ISO CAUTION FLUID UNDER PRESSURE
24	1	DE-000962	DECAL ISO HOT EXHAUST
25	2	DE-000964	DECAL ISO 8 SERIES LIFT PIN
26	1	DE-000965	DECAL ISO COMMON LIFT PIN STORAGE LOCATION
27	1	DE-000980	DECAL USA SERVICE REPAIRS AND SPARES
28	2	DE-000981	DECAL ISO RATED OPERATING CAPACITY REFER TO MANUAL
29	1	DE-002064	DECAL ISO CAUTION READ MANUAL BEFORE USE
30	1	DE-002074	DECAL ISO HYDRAULIC OIL MAX FILL LEVEL
31	1	DE-002146-L	KANGA LOGO - ARMS (LEFT SIDE)
32	1	DE-002146-R	KANGA LOGO - ARMS (RIGHT SIDE)
33	1	DE-002147-L	KANGA REAR TANK (LEFT SIDE)
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38	1	DE-002172-R	KANGAROO SIDE TANK (RIGHT SIDE)

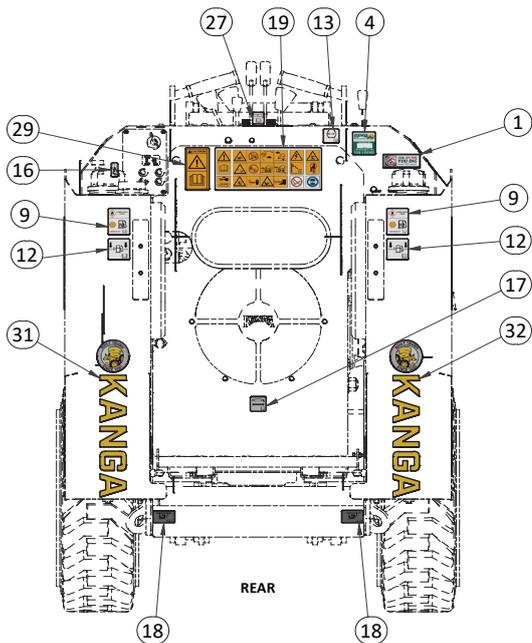
Note

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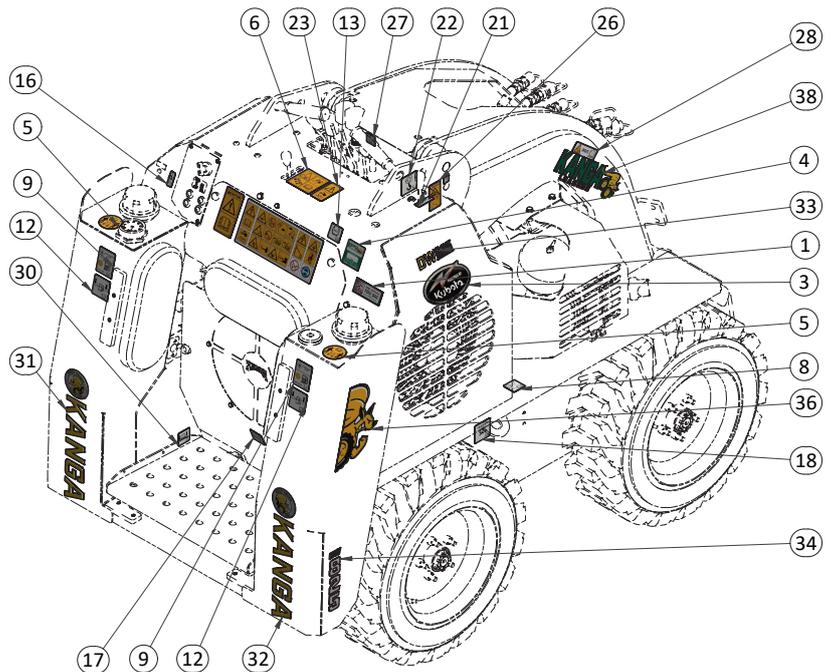
Decals: DT825 Loader (Aus)



TOP



REAR



ISOMETRIC

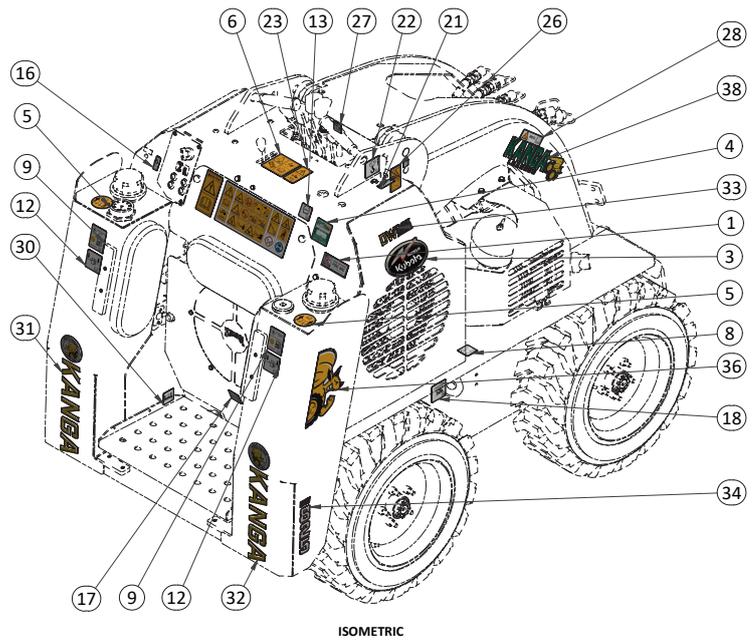
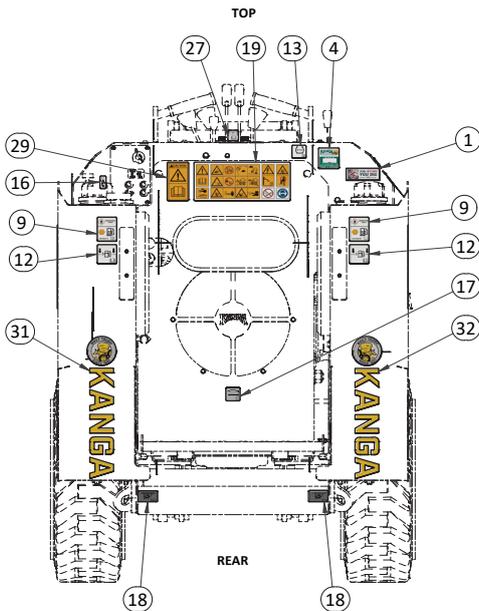
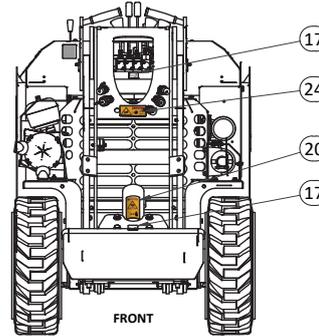
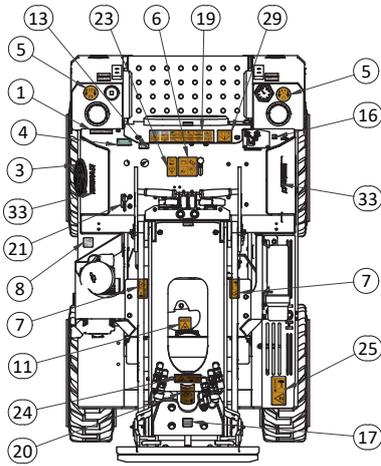
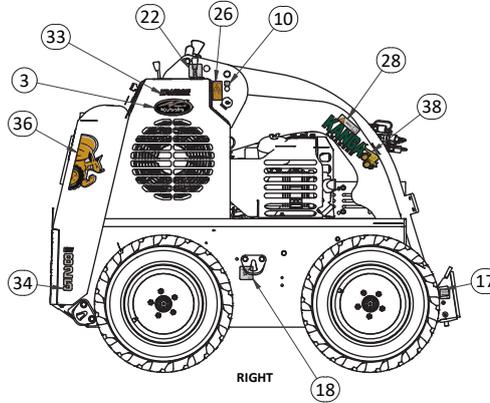
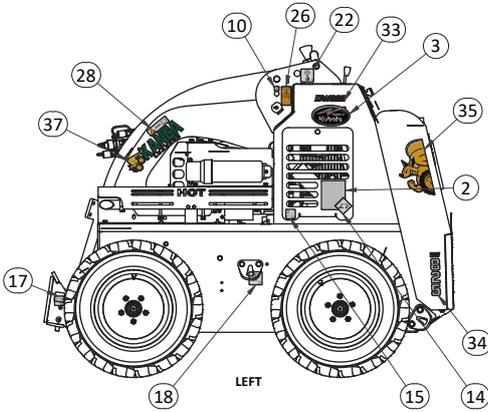
* Branding decals may vary in different countries. Contact your local branch before ordering.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	DE-000046	DECAL (DIAL 1100) - SMALL - 90MM x 35MM
2	1	DE-000211	DECAL - LOADER - FUSE 8 SERIES B MODEL
3	2	DE-000221	DECAL - POWERED BY KUBOTA
4	1	DE-000731	DECAL - KANGA SERVICE AND SPARES
5	2	DE-000777	DECAL - FILL BOTH FUEL TANKS
6	1	DE-000930	DECAL ISO KANGA UNI SAFE CONNECTION
7	2	DE-000933	DECAL ISO CRUSHED HAND SMALL
8	1	DE-000934	DECAL ISO ENGINE OIL DIPSTICK
9	2	DE-000935	DECAL ISO COMBUSTABLE LIQUID
10	2	DE-000936	DECAL ISO UNLOCKING ARM SAFETY PIN
11	1	DE-000937	DECAL ISO HOT FLUID UNDER PRESSURE
12	2	DE-000945	DECAL ISO MAX FILL LEVEL
13	1	DE-000946	DECAL ISO TYRE PRESSURE
14	1	DE-000947	DECAL ISO CORROSIVE
15	1	DE-000950	DECAL ISO HYDRAULIC OIL
16	1	DE-000952	DECAL ISO HEADLIGHT CONTROL
17	5	DE-000953	DECAL ISO GREASE POINT
18	4	DE-000954	DECAL ISO LASHING POINT
19	1	DE-000955	DECAL ISO MULTI SAFETY PANEL
20	1	DE-000957	DECAL ISO CRUSHED HAND LARGE
21	1	DE-000958	DECAL ISO THROTTLE CONTROL
22	2	DE-000959	DECAL ISO LIFTING POINT
23	1	DE-000960	DECAL ISO CAUTION REMOVE KEY BEFORE MAINTENANCE
24	1	DE-000961	DECAL ISO CAUTION FLUID UNDER PRESSURE
25	1	DE-000962	DECAL ISO HOT EXHAUST
26	2	DE-000964	DECAL ISO 8 SERIES LIFT PIN
27	1	DE-000965	DECAL ISO COMMON LIFT PIN STORAGE LOCATION
28	2	DE-000981	DECAL ISO RATED OPERATING CAPACITY REFER TO MANUAL
29	1	DE-002064	DECAL ISO CAUTION READ MANUAL BEFORE USE
30	1	DE-002074	DECAL ISO HYDRAULIC OIL MAX FILL LEVEL
31	1	DE-002147-L	KANGA REAR TANK (LEFT SIDE)
32	1	DE-002147-R	KANGA REAR TANK (RIGHT SIDE)
33	2	DE-002156	DT825 MODEL NUMBER - UPPER
34	2	DE-002169	DECAL - DT825- SIDE TANK -(Size 38mm x 182mm H).
35	1	DE-002172-L	KANGAROO SIDE TANK (LEFT SIDE)
36	1	DE-002172-R	KANGAROO SIDE TANK (RIGHT SIDE)
37	1	DE-002175-L	KANGA LOGO - ARMS (LEFT SIDE)
38	1	DE-002175-R	KANGA LOGO - ARMS (RIGHT SIDE)

Note

The above figures and table show typical safety decal labels location. The actual position and quantity of the labels on your product may differ.

Decals: DT825 Loader (USA)



* Branding decals may vary in different countries. Contact your local branch before ordering.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	DE-000211	DECAL - LOADER - FUSE 8 SERIES B MODEL
2	2	DE-000221	DECAL - POWERED BY KUBOTA
3	1	DE-000538	DECAL - P65 WARNING - 82MM x 43MM
4	2	DE-000777	DECAL - FILL BOTH FUEL TANKS
5	1	DE-000930	DECAL ISO KANGA UNI SAFE CONNECTION
6	2	DE-000933	DECAL ISO CRUSHED HAND SMALL
7	1	DE-000934	DECAL ISO ENGINE OIL DIPSTICK
8	2	DE-000935	DECAL ISO COMBUSTABLE LIQUID
9	2	DE-000936	DECAL ISO UNLOCKING ARM SAFETY PIN
10	1	DE-000937	DECAL ISO HOT FLUID UNDER PRESSURE
11	2	DE-000945	DECAL ISO MAX FILL LEVEL
12	1	DE-000946	DECAL ISO TYRE PRESSURE
13	1	DE-000947	DECAL ISO CORROSIVE
14	1	DE-000950	DECAL ISO HYDRAULIC OIL
15	1	DE-000952	DECAL ISO HEADLIGHT CONTROL
16	5	DE-000953	DECAL ISO GREASE POINT
17	4	DE-000954	DECAL ISO LASHING POINT
18	1	DE-000955	DECAL ISO MULTI SAFETY PANEL
19	1	DE-000957	DECAL ISO CRUSHED HAND LARGE
20	1	DE-000958	DECAL ISO THROTTLE CONTROL
21	2	DE-000959	DECAL ISO LIFTING POINT
22	1	DE-000960	DECAL ISO CAUTION REMOVE KEY BEFORE MAINTENANCE
23	1	DE-000961	DECAL ISO CAUTION FLUID UNDER PRESSURE
24	1	DE-000962	DECAL ISO HOT EXHAUST
25	2	DE-000964	DECAL ISO 8 SERIES LIFT PIN
26	1	DE-000965	DECAL ISO COMMON LIFT PIN STORAGE LOCATION
27	1	DE-000980	DECAL USA SERVICE REPAIRS AND SPARES
28	2	DE-000981	DECAL ISO RATED OPERATING CAPACITY REFER TO MANUAL
29	1	DE-002064	DECAL ISO CAUTION READ MANUAL BEFORE USE
30	1	DE-002074	DECAL ISO HYDRAULIC OIL MAX FILL LEVEL
31	1	DE-002146-L	KANGA LOGO - ARMS (LEFT SIDE)
32	1	DE-002146-R	KANGA LOGO - ARMS (RIGHT SIDE)
33	1	DE-002147-L	KANGA REAR TANK (LEFT SIDE)
34	1	DE-002147-R	KANGA REAR TANK (RIGHT SIDE)
35	2	DE-002156	DT825 MODEL NUMBER - UPPER
36	2	DE-002169	DECAL - DT825- SIDE TANK -(Size 38mm x 182mm H).
37	1	DE-002172-L	KANGAROO SIDE TANK (LEFT SIDE)
38	1	DE-002172-R	KANGAROO SIDE TANK (RIGHT SIDE)

Note

The above figures and table show typical safety decal labels location. The actual position and quantity of the labels on your product may differ.

Understand Your Warranty

Terms and Conditions

Kanga

5 years - Loader chassis warranty against structural fault.

12 months/or 1000 hours - Warranty for all other loader components.

Honda

36 months - Limited engine warranty for motors released after 1/4/10.

12 months/or 1000 hours - Warranty for engine accessories (fuel, starter, and charging system).

Kubota

24 months/or 2000 hours - Limited engine warranty.

12 months/or 1000 hours - Warranty for engine accessories (fuel, starter, and charging systems).

Purchaser's Responsibilities

The purchaser must ensure maintenance and 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 organize 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 authorized Kanga dealer. For details, phone.

AUSTRALIA:

Phone: +61 (0)7 3441 9222

NORTH AMERICA:

Phone: +1 833 305 2642

EUROPE:

Phone: +44 116 260 2601

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, tires, 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.

Terms and Conditions (continued)

Note

The standard engine manufacturer's warranty is for two (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

The liability of Kanga Loaders 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

Terms and Conditions

Kanga Loaders 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 tires, tubes, and S 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 recognized 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 manufacturer's 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 recognized.

Contact Information

For spare parts, service and support please contact one of our Kanga offices below.

KANGA LOADERS

AUSTRALIA & EUROPE:

Sales · +61 (0)7 3441 9222

Spare Parts Website · spares.kangaloader.com

Spares Email · info@kangaloader.com

Service Bookings Email · info@kangaloader.com

Visit Our Website · www.kangaloader.com

UNITED STATES:

Sales · +1 833 305 2642

Spare Parts Website · spares.kangaloaderusa.com

Spares Email · infous@kangaloader.com

Service Bookings Email · infous@kangaloader.com

Visit Our Website · www.kangaloaderusa.com

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