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McCONEl

ROBOCUT BUCKETS Hi-TIP & LOADER MODELS

Operation Manual



IMPORTANT

VERIFICATION OF WARRANTY REGISTRATION



DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

It is imperative that the selling dealer registers this machine with McConnel Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines go to the McConnel Limited web site at www.mcconnel.com, log onto 'Dealer Inside' and select the 'Machine Registration button' which can be found in the Service Section of the site. Confirm to the customer that the machine has been registered in the section below.

Should you experience any problems registering a machine in this manner please contact the McConnel Service Department on 01584 875848.

Registration Verification

Dealer Name:
Dealer Address:
Customer Name:
Date of Warranty Registration:/...../..... Dealer Signature:

NOTE TO CUSTOMER / OWNER

Please ensure that the above section above has been completed and signed by the selling dealer to verify that your machine has been registered with McConnel Limited.

IMPORTANT: During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – *refer to torque settings chart below*. The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machines general maintenance procedure.

CAUTION: DO NOT OVER TORQUE HYDRAULIC FITTINGS AND HOSES

TORQUE SETTINGS FOR HYDRAULIC FITTINGS

HYDRAULIC HOSE ENDS		
BSP	Setting	Metric
1/4"	18 Nm	19 mm
3/8"	31 Nm	22 mm
1/2"	49 Nm	27 mm
5/8"	60 Nm	30 mm
3/4"	80 Nm	32 mm
1"	125 Nm	41 mm
1.1/4"	190 Nm	50 mm
1.1/2"	250 Nm	55 mm
2"	420 Nm	70 mm

PORT ADAPTORS WITH BONDED SEALS		
BSP	Setting	Metric
1/4"	34 Nm	19 mm
3/8"	47 Nm	22 mm
1/2"	102 Nm	27 mm
5/8"	122 Nm	30 mm
3/4"	149 Nm	32 mm
1"	203 Nm	41 mm
1.1/4"	305 Nm	50 mm
1.1/2"	305 Nm	55 mm
2"	400 Nm	70 mm

WARRANTY POLICY

WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with McConnel Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

1. LIMITED WARRANTIES

- 1.01. *All mounted machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.*
All Self Propelled Machines supplied by McConnel Ltd are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months or 1500 hours. Engine warranty will be specific to the Manufacturer of that unit.
- 1.02. *All spare parts supplied by McConnel Ltd and purchased by the end user are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months. All parts warranty claims must be supported by a copy of the failed part invoice to the end user. We cannot consider claims for which sales invoices are not available.*
- 1.03. *The warranty offered by McConnel Ltd is limited to the making good by repair or replacement for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined. Pack the component(s) carefully so that any transit damage is avoided. All ports on hydraulic items should be drained of oil and securely plugged to prevent seepage and foreign body ingress. Certain other components, electrical items for example, may require particular care when packing to avoid damage in transit.*
- 1.04. *This warranty does not extend to any product from which McConnel Ltd's serial number plate has been removed or altered.*
- 1.05. *The warranty policy is valid for machines registered in line with the terms and conditions detailed and on the basis that the machines do not extend a period of 24 months or greater since their original purchase date, that is the original invoice date from McConnel Limited.*
Machines that are held in stock for more than 24 months cannot be registered for warranty.
- 1.06. *This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, belts, clutch linings, filter elements, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads, pneumatic tyres or tracks.*
- 1.07. *Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.*
- 1.08. *Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.*
- 1.09. *Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which McConnel Ltd cannot be held liable, and may have safety implications.*
- 1.10. *If in exceptional circumstances a non McConnel Ltd part is used to effect a repair, warranty reimbursement will be at no more than McConnel Ltd's standard dealer cost for the genuine part.*

- 1.11. *Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of McConnell Ltd.*
- 1.12. *For machine warranty periods in excess of 12 months the following additional exclusions shall apply:*
 - 1.12.1. *Hoses, exposed pipes and hydraulic tank breathers.*
 - 1.12.2. *Filters.*
 - 1.12.3. *Rubber mountings.*
 - 1.12.4. *External electric wiring.*
 - 1.12.5. *Bearings and seals*
 - 1.12.6. *External Cables, Linkages*
 - 1.12.7. *Loose/Corroded Connections, Light Units, LED's*
 - 1.12.8. *Comfort items such as Operator Seat, Ventilation, Audio Equipment*
- 1.13. *All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.*
- 1.14. *Repeat or additional repairs resulting from incorrect diagnosis or poor quality previous repair work are excluded from warranty.*

NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. McConnell Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.

2. REMEDIES AND PROCEDURES

- 2.01. *The warranty is not effective unless the Selling Dealer registers the machine, via the McConnell web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.*
- 2.02. *Any fault must be reported to an authorised McConnell Ltd dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which McConnell Ltd cannot be held liable.*
- 2.03. *Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by McConnell Ltd. Please note that failure by the customer to release the machine for repair will not be accepted as a reason for delay in repair or submitting warranty claims.*
- 2.04. *All claims must be submitted, by an authorised McConnell Ltd Service Dealer, within 30 days of the date of repair.*
- 2.05. *Following examination of the claim and parts, McConnell Ltd will pay, at their discretion, for any valid claim the invoiced cost of any parts supplied by McConnell Ltd and appropriate labour and mileage allowances if applicable.*
- 2.06. *The submission of a claim is not a guarantee of payment.*
- 2.07. *Any decision reached by McConnell Ltd. is final.*

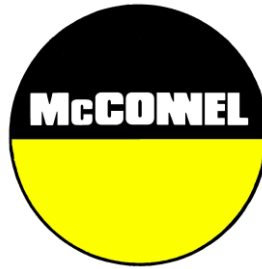
3. LIMITATION OF LIABILITY

- 3.01. *McConnell Ltd disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.*
- 3.02. *McConnell Ltd makes no warranty as to the design, capability, capacity or suitability for use of the goods.*
- 3.03. *Except as provided herein, McConnell Ltd shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.*
- 3.04. *No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.*

4. MISCELLANEOUS

- 4.01. McConnel Ltd may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.*
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.*
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.*

McConnel Limited



For Safety and Performance...

ALWAYS READ THE BOOK FIRST

McCONEL LIMITED

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▲ WARNING

Cancer and Reproductive Harm
www.P65Warnings.ca.gov

D960

Operating, servicing and maintaining this equipment can expose you to chemicals including gasoline, diesel fuel, lubricants, petroleum products, engine exhaust, carbon monoxide, and phthalates, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov. This website, operated by California's Office of Environmental Health Hazard Assessment, provides information about these chemicals and how individuals may be exposed to them.

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GENERAL INFORMATION

Always read this manual before attempting to operate the machine – whenever any doubt exists contact your dealer or the McConnel Service Department for advice and assistance.

Use only McConnel Genuine Service Parts on McConnel Equipment and Machines

DEFINITIONS – *The following definitions apply throughout this manual:*

WARNING

An operating procedure, technique etc., which –
can result in personal injury or loss of life if not observed carefully.

CAUTION

An operating procedure, technique etc., which –
can result in damage to either machine or equipment if not observed carefully.

NOTE

An operating procedure, technique etc., which is –
considered essential to emphasis.

LEFT AND RIGHT HAND

These terms are applicable to the machine when it is viewed from the rear facing forwards.

Note: The illustrations in this manual are for instructional purposes only and may on occasion not show some components in their entirety. In some instances an illustration may appear slightly different to that of your particular model but the general procedure will be the same. E&OA.

MACHINE & DEALER INFORMATION

Record the Serial Number of your machine on this page and always quote this number when ordering parts. Whenever information concerning the machine is requested remember also to state the make and model of tractor to which the machine is fitted.

Machine Serial Number:

Installation Date:

Machine Model details:

Dealer Name:

Dealer Address:

Dealer Telephone No:

Dealer Email Address:

INTRODUCTION

These buckets are designed for use on McConnel remote controlled machines. Hi-Tip buckets are designed for the ROBOCUT model and attach to the standard front toolbar of the machine. The Loader buckets are designed for both the ROBOLoad and the ROBOCUT models; in the case of the latter it is supplied as a retro-fit attachment. The lift arms for these buckets attach to a sub-frame assembly incorporated into the structure of the roll bar and the buckets are then attached to the lift arms using a quick-hitch system.

The Hi-TIP bucket is a 1.3m reinforced steel bucket available in either standard or heavy duty builds with maximum load capacities of 452kg and 516kg respectively, the buckets have been designed for use as rugged and reliable carrying tools for moving a wide range of materials from rubble and debris to loose earth and grass cuttings, enabling the user to safely transport materials in hazardous environments or locations where access is restricted.

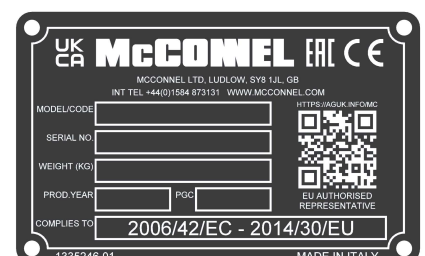
The loader type buckets that feature on the ROBOLoad machines are heavy-duty loader units capable of moving rubble, debris, and materials weighing up to 300kg making them the ideal tool for working in challenging environments such as quarries, building sites, and military installations.

These products must not be used to perform any tasks for which they are not specifically designed; use of the attachments for the wrong purpose will risk damage to the attachment and/or machine and may be highly dangerous to persons.

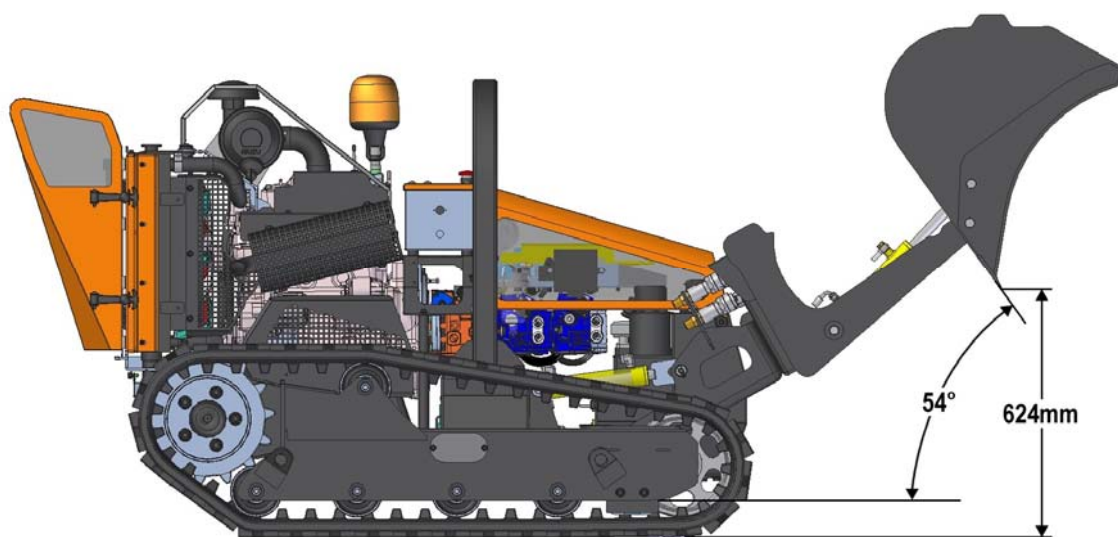
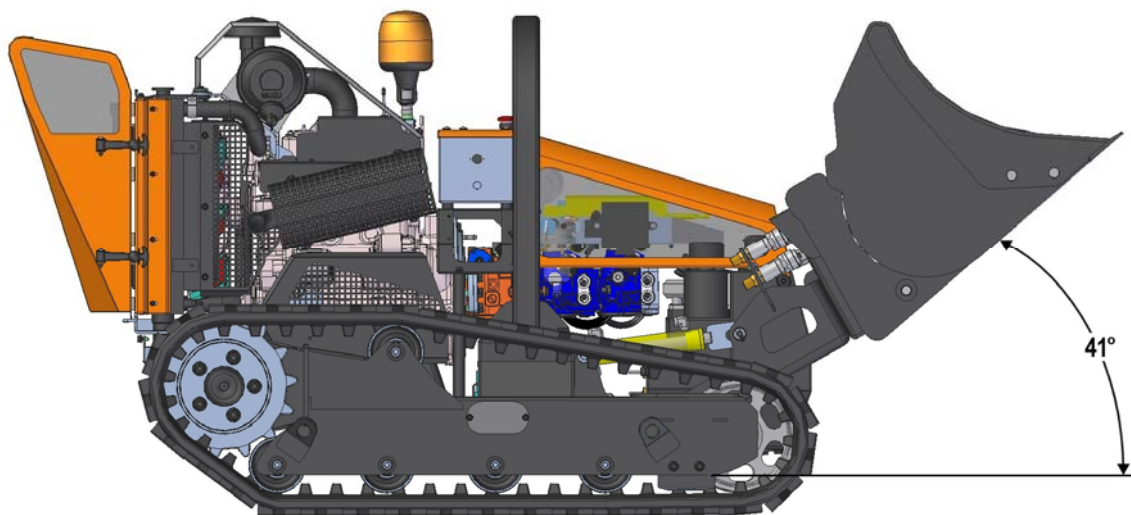
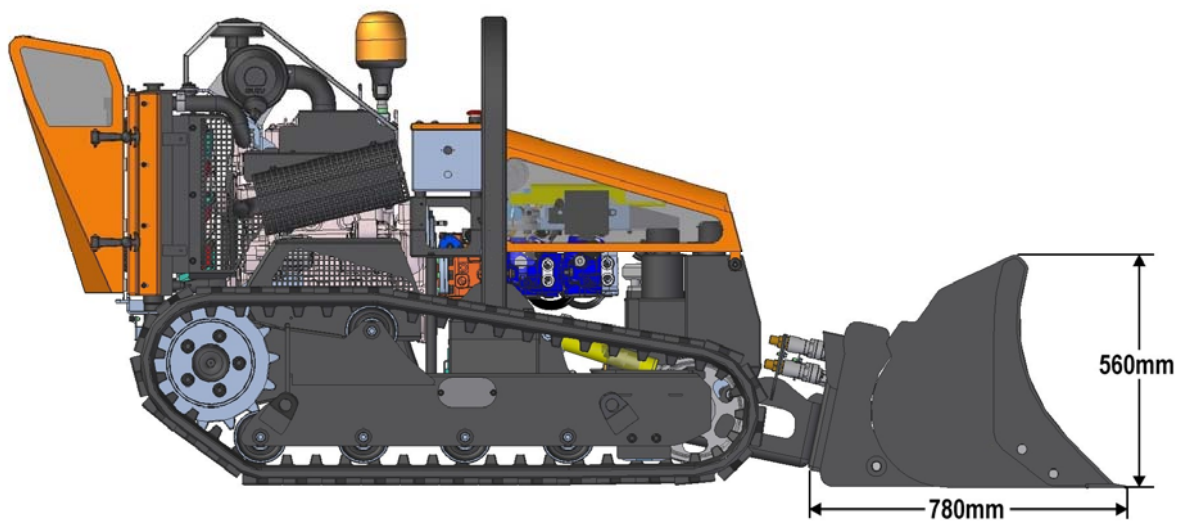


IDENTIFICATION PLATE

An identification plate is fitted to the product. Always quote the attachment type and serial number as stated on the identification plate when ordering replacement parts or requesting service information.



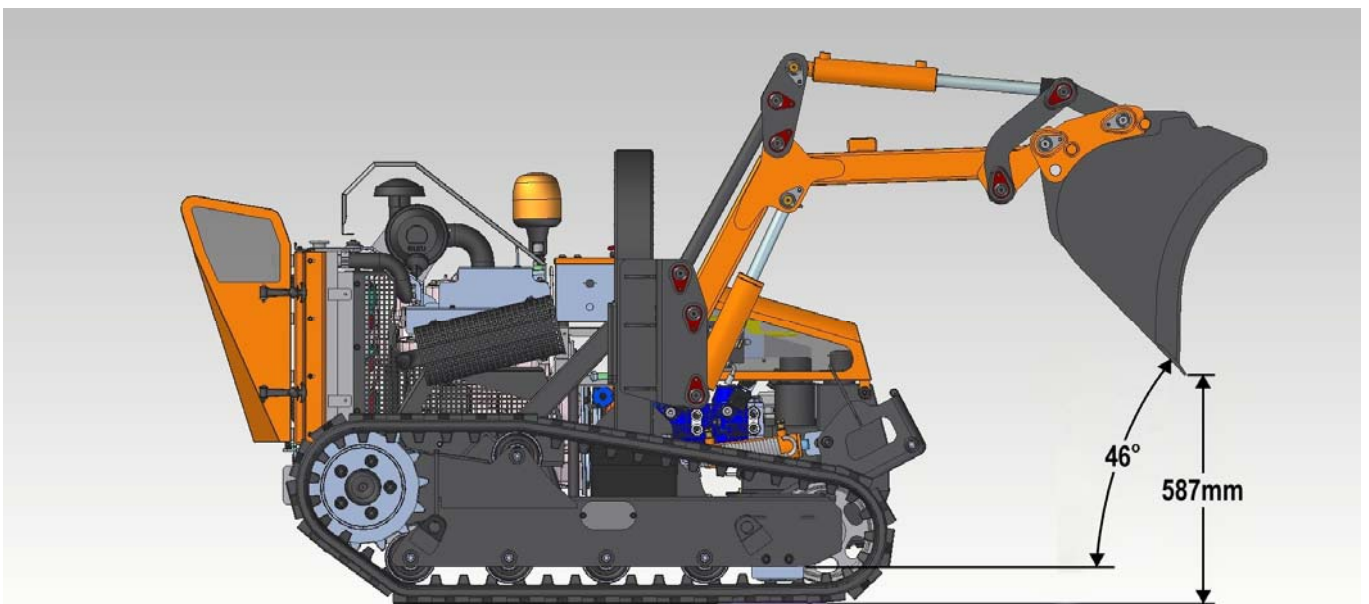
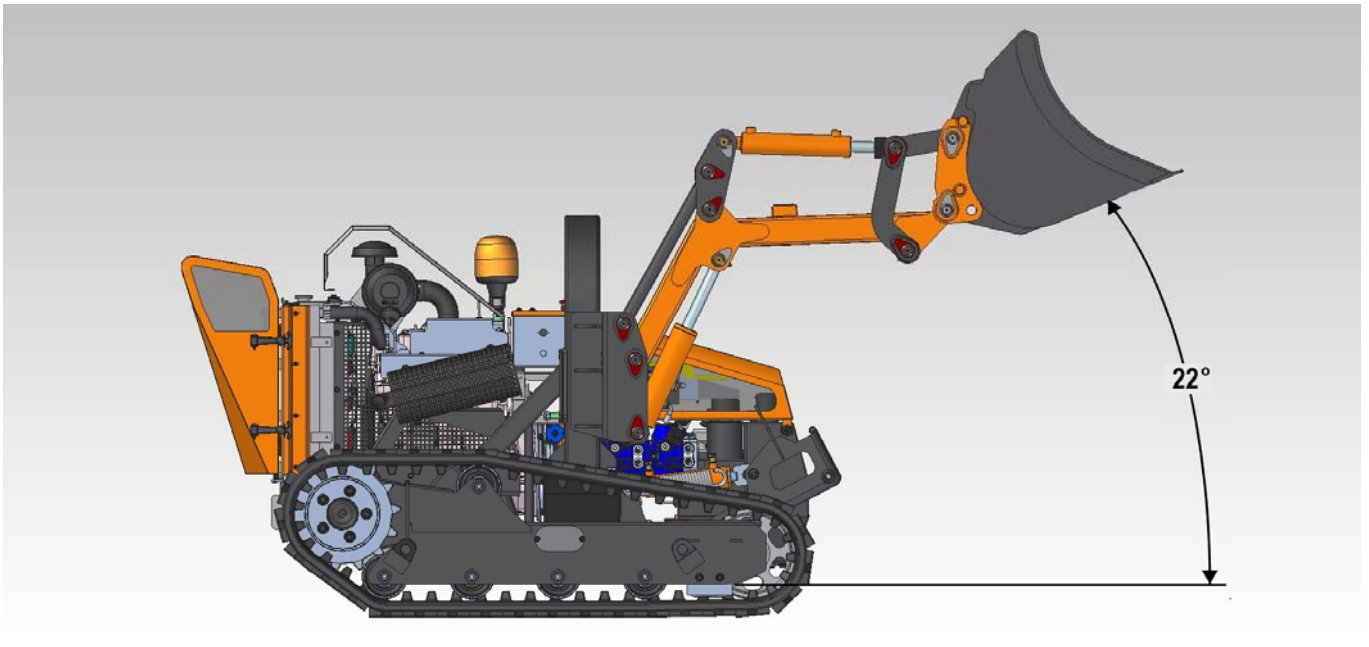
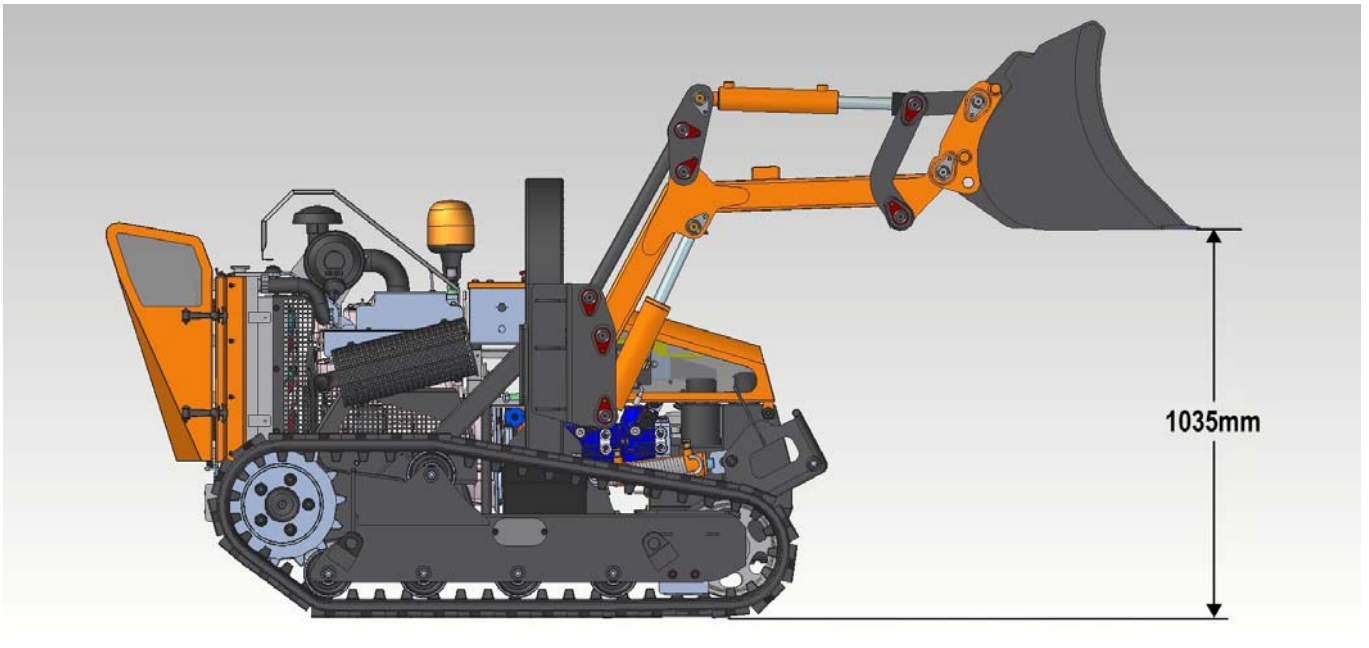
SPECIFICATIONS – HI-TIP BUCKETS



Load Capacities;

- Standard Model 452kg
- Heavy Duty Models 516kg

SPECIFICATIONS – LOADER BUCKETS



SAFETY INFORMATION



In addition to the general advice stated below, the main safety implications surrounding the use of this machine relate to the safe use of the Robocut machine; it is therefore vital that all users have read and understood all safety information in the operation manual provided with that machine.

Ensure that all users of this machine are trained in its safe use and have read the operation manual for both this machine and the Robocut Mower.

General Safety

- ▲ Never run or attempt to operate the machine with safety devices missing or removed.
- ▲ Never attempt to approach the machine whilst it is running or working.
- ▲ Never attempt to use the machine to perform any duties it is not designed for.
- ▲ Never attempt to lift or carry a weight in excess of the machines capability.
- ▲ Never attempt to lift or carry an unsafe or unbalanced load.
- ▲ Never allow persons to ride on the machine.
- ▲ Never attempt to use a machine with damaged or missing components; repair or replace the parts immediately.
- ▲ Never stand or allow others to stand under a raised load or a raised attachment.
- ▲ Never attempt to convert or physically alter the design of the attachment or the machine in any way.
- ▲ Always inspect the attachment and machine before and after use.
- ▲ Read and abide by all safety message decals displayed on the machine; they are there for your safety and the safety of others.
- ▲ Keep all persons and animal at a safe distance from the working machine.
- ▲ Stop the machine immediately if persons or animals enter into the working zone of the machine, do not restart operations until they are at a safe distance.
- ▲ Before performing any work on the machine, including cleaning and maintenance operations, stop the Robocut, turn off the engine and remove the security key from the radio control.
- ▲ Be aware of all safety decals on the machine; know their meaning and abide by the warnings stated.

ATTACHMENT – Hi-TIP BUCKETS

Attachment and removal the buckets must always be performed on a firm level site. Ensure bystanders are kept at a safe distance from the machines during the attachment process.

Attaching Procedure

Align the machine so that mounting plate **(A)** is centred and parallel to the bucket's mounting plate **(B)**.

Lower mounting plate **(A)** and move forwards slowly until the two plates are in contact with each other.

Raise the mounting plate **(A)** until the bucket's mounting plate is fully connected.

Turn off the Robocut and remove the security key from the controls.

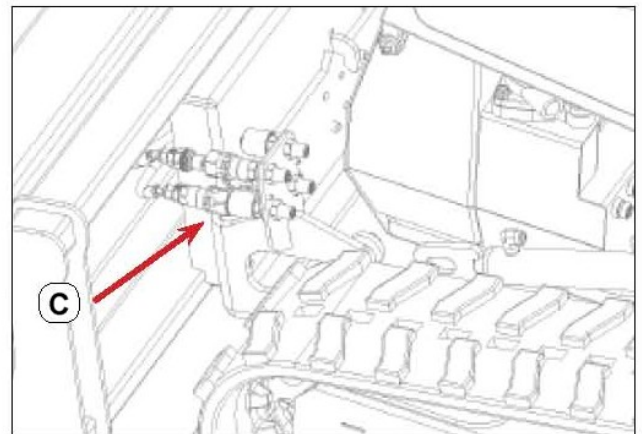
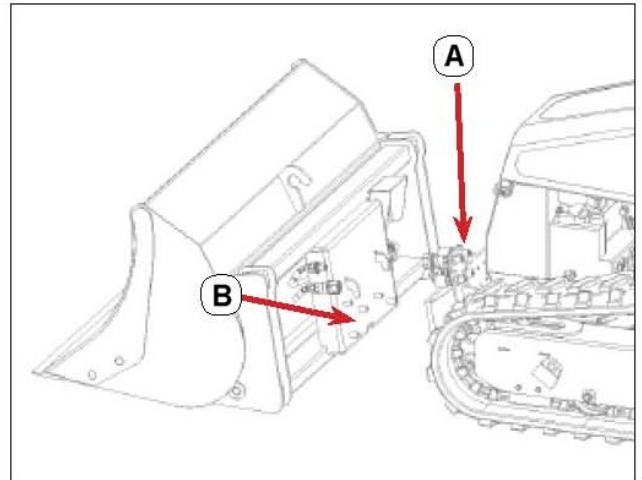
Fix mounting plate **(A)** to mounting plate **(B)** using the 6 screws in the location holes; secure in place with the self-locking nuts.

Connect the bucket's 'quick release' hoses to the Robocut's external connection points **(C)**.

Ensure that all connections are connected correctly.

Start the Robocut and carefully operate the controls to verify they correspond to their correct functions.

Ensure hydraulic connections are tightened fully before using the machine. Maximum torque 50 Nm.



Start the machine and slowly operate the bucket controls to ensure it functions correctly before attempting to put the machine into work.

Removal Procedure

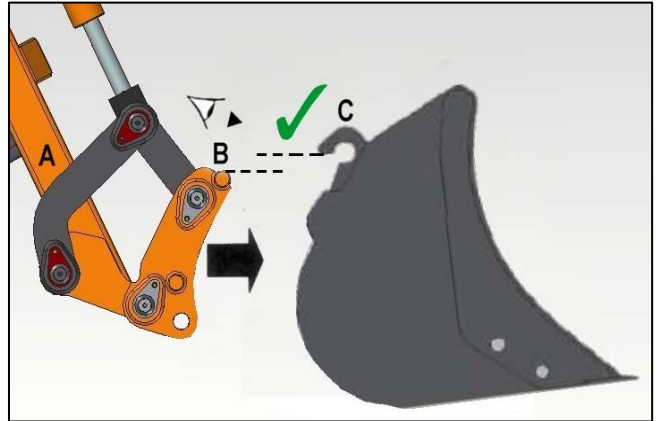
Removal of the bucket is basically a reversal of the attachment procedure. Ensure a firm level site is selected for removal of the bucket.

ATTACHMENT – LOADER BUCKETS

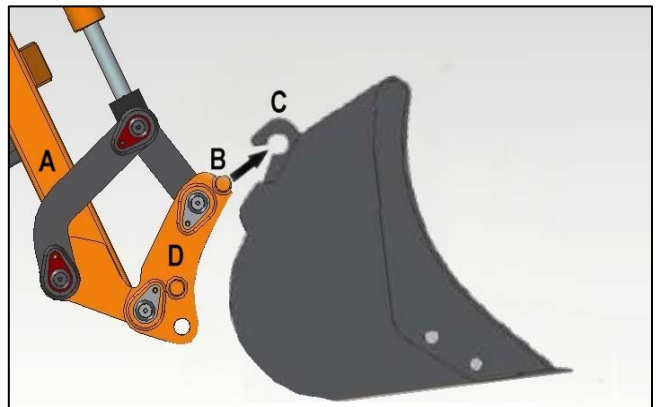
Attachment and removal the buckets must always be performed on a firm level site. Ensure bystanders are kept at a safe distance from the machines during the attachment process.

Attachment Procedure

Align the machines squarely and centrally to the bucket and position lift arms (A) at a height where upper attachment bar (B) is below the height of the bucket's top brackets (C).

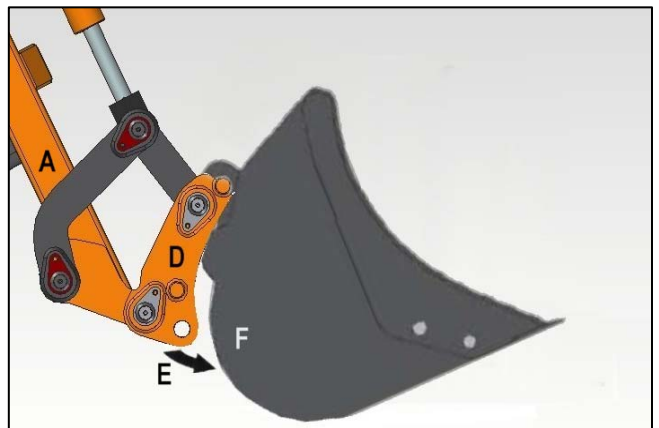


Operate lift arms (A) to position and locate upper attachment bar (B) in the bucket's top brackets (C); the angle of mechanism (D) may need to be adjusted on the controls to permit coupling.



Ensure the handle for operating the quick-attach pins is in the vertical position (pins retracted).

Operate lift arms (A) and/or the angling mechanism (D) to align the quick-attach pins (E) with their locating positions (F) on the rear of the bucket.

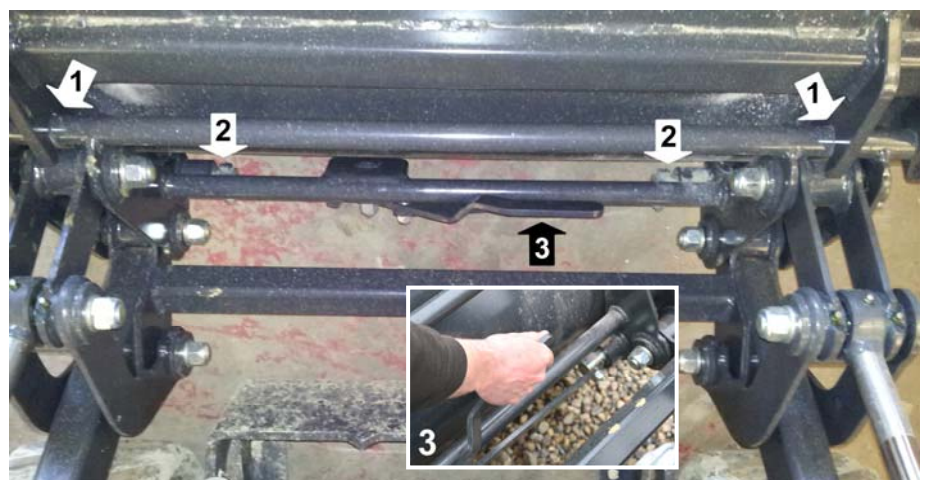


When pins (E) are fully aligned with their locating holes (F), lock the bucket in position by moving the quick-attach handle to the horizontal position. Ensure pins are fully located.

Attachment Components

1. Upper Attachment Points.
2. Quick-attach Pins.
3. Quick-attach Handle.

Start the machine and slowly operate the bucket controls to ensure it functions correctly before attempting to put the machine into work.



Removal Procedure

Removal of the bucket is basically a reversal of the attachment procedure. Ensure a firm level site is selected for removal of the bucket.

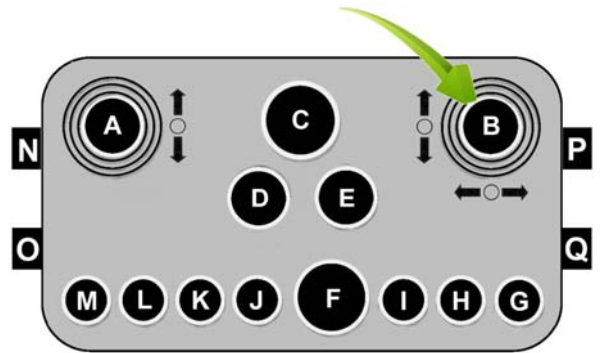
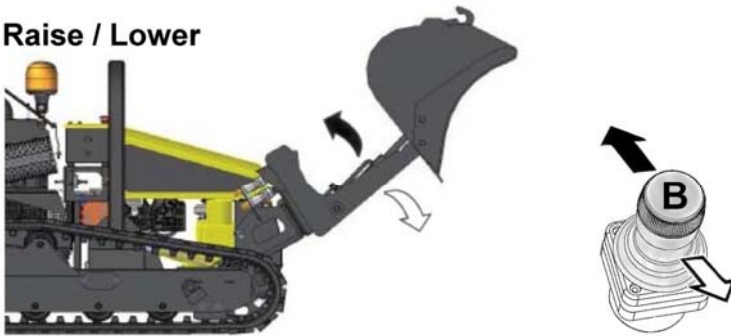
OPERATION

Machine Controls

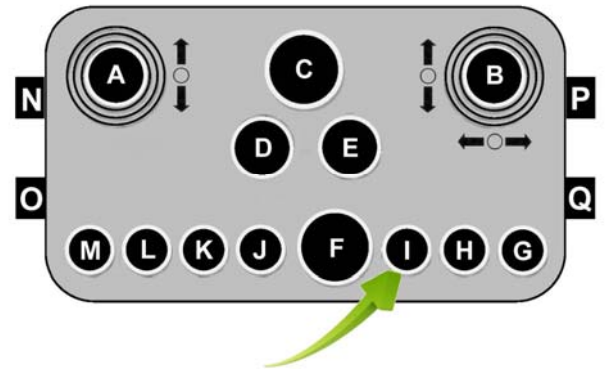
Refer to the operation manual provided with the machine for details of machine operation.

Bucket Controls

Raise / Lower



Crowding



Note: Hi-TIP bucket shown for illustration purposes; controls for operation of the Loader bucket are identical.

Operating Procedure

When learning to operate the machine with a bucket attachment fitted, it is advisable to practise operating the unit slowly and carefully in a clear safe area until experience of the functions and ability of the machine has been gained. Only begin using the unit for work when you are confident that you can control the machine in a safe manner. The following advice will help achieve a safe and efficient working procedure;

- Keep the travel distance as short as possible by using a safe direct route for transporting loads.
- Keep the work area small so the cycle time is short.
- Keep the work area as level as possible.
- Fill the bucket to its rated capacity.
- Turning is easier with a full load than with a partial load.
- Keep the loaded bucket as low to the ground as possible when transporting.
- Tilt the bucket as you raise the lift arms or drive a slope; this will prevent material from falling off the back of the bucket.
- Never drive across a slope; always go up or down a slope with the bucket of the loader facing uphill.

Filling the Bucket from a Pile

With the bucket positioned immediately in front of the material pile; lower the bucket to place its cutting edge on the ground. Drive the loader slowly forwards into the pile; as the bucket begins to fill gradually operate both controls to 'crowd' and raise the bucket until full before reversing away from the pile. Transport the load at the lowest suitable height.

To dump the load, raise the bucket using both control levers to ensure the bucket remains level; this will avoid materials falling off the back as it rises. When the bucket is at the correct height for dumping operate the control to lower the front of the bucket to dump the load.

Levelling & Backfilling

Spread soil on uneven ground by pulling on the joystick to raise the lift arms and push on the 'crowd' switch to tilt the bucket down as you drive forward.

To level the ground; raise the lift arms and tilt the bucket down. Push firmly on the joystick to lock the lift arms in the float position. The weight of the lift arms and bucket will hold the bucket on the ground. Drive backward to level material.

MAINTENANCE

WARNING: All maintenance, cleaning and repairing operations must be carried out when the engine is turned off and the starting key removed.

The machine should be inspected on a daily basis prior to work to ensure it is in good working condition, the following points should be addressed during routine inspections;

- Check tightness of nuts and bolts, retighten if required.
- Check for signs of wear and tear, replace components if excessive damage is observed.
- Check hydraulic hoses and hydraulic connections for signs of damage or leakage, replace any damaged components immediately.
- Lubricate machine at the required intervals.

Maintenance Schedule

Maintenance Task	Daily	Weekly
Lubricate grease points	•	
Check for hydraulic leaks	•	
Check nuts and bolts tightness	•	
Inspect buckets for signs of excessive wear, damage or cracks		•



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