

820QUAD

ATV QUAD Harrow

**Original Instruction Manual
& Operating Guide**

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Revisions:

Rev 0 - 07/03/2025



EU Declaration of Conformity

In accordance with BS EN ISO/IEC 17050-1:2010

David Ritchie (Implements) Ltd.,
Carseview Road, Forfar, Scotland DD8 3BT



Equipment: ATV/QUAD HARROW
Model No.: 820QUAD
Serial No.: From 1007645 onwards (DOM 03/05/2024 onwards)

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Is compliant with the following directives:

- 2006/42/EC – Conforms with the essential requirements of the regulations and its amending regulations.

Has been designed and manufactured to the following Harmonized Standard:

- BS EN ISO 12100:2010 Safety of Machinery – Basic concepts, general principles for design – basic terminology and methodology.

Signed:

A handwritten signature in black ink that reads "A Edwards".

Andrew Edwards
Managing Director at David Ritchie Implements Ltd. Forfar UK
03rd May 2024



Safety Notes & Warnings:

- All personnel who are to be involved with the operation and maintenance of the trailer, must have read and understood the Operator Instruction manual. Before attempting to work on or use of the trailer.
- The health and safety of the operator is paramount.
- Anyone in the vicinity, must observe a safe distance of 3m from the trailer, whilst it is in operation.
- Incorrect use or mishandling of the trailer can lead to injury of the operator, other persons or animals, and/or damage to the trailer itself.
- Ensure that the trailer is correctly and securely attached to the ATV.
- Always fit the brake away cable/secondary coupling.
- Always ensure that the trailer is stable, positioned on safe and level ground before detaching from the ATV.
- When the trailer is not in use or being stored. The ram **MUST BE FULLY RETRACTED** to protect the rod.
- Never operate the ATV and trailer on ground where it will cause the trailer to become unstable. For example on sloping ground.
- Wear gloves when operating and when in contact with the trailer.
- Wear suitable footwear whilst operating the trailer.
- Keep hands and limbs well away from the moving parts of the trailer when adjusting the harrow mat height.
- Never operate the trailer if feeling unwell or under the influence of drugs or alcohol.
- Visually check the trailer before each use.
- The trailer is **NOT** road legal and should be used off road only.
- Maximum tire pressure = **36 PSI (2.5 Bar)**
- Maximum trailer speed = **19 MPH (30 KPH)**

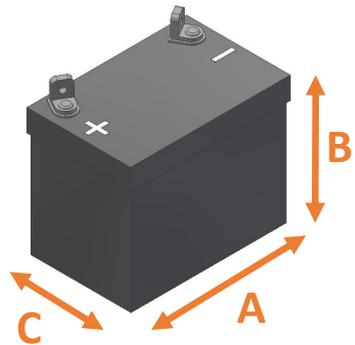


Safety Notes & Warnings Continued:

- Do not operate the trailer when removing or fitting locking pins.
- Do not operate the trailer if the battery is not secure.
- Do not operate the trailer if there is any damage to the hydraulic system.
- Do not open the hydraulic system unless qualified to do so.
- Never feel for leaks around the hydraulic system with hands.
- Always ensure that the locking pins are fully engaged and secured before driving with the trailer.

Battery Information:

- Battery must be 12 Volt
- Battery dimensions must **NOT** exceed:
210mm (A) wide.
190mm (B) tall, including terminals.
135mm (C) deep.
- Ensure the battery is fully charged before starting work with the trailer.



Remote Control Information:

- CE marked.
- 433MHz operating frequency.
- 200m (656 feet) range.
- Press and hold 'Up' button (1) to extend ram, lifting the harrow mat.
- Press and hold 'Down' button (2) to retract ram, lowering the harrow mat.



Installing the 9V Battery in the Remote Control:

- 1) Remove the protective outer rubber case.



Installing the 9V Battery in the Remote Control Continued:

- 2) Un-do the 4 screws and remove the back.



- 3) Fit the connector to the battery. Place the battery into the slot located on the inside of the back.



Installing the 9V Battery in the Remote Control Continued:

- 4) Carefully put the two halves together, ensuring no wires are trapped. Re-install the screws.



- 5) Lift the silicone cover up. Push the switch to the right to turn on the remote control. Left to turn it off. Push the silicone cover back down. Ensure it is properly seated. When fitted correctly the cover is flat with no bumps.



Installing the 9V Battery in the Remote Control Continued:

- 6) Turn over the remote control and check that the green light illuminates when the buttons are pressed.



- 7) Place the remote control back into the protective rubber case.



Trouble Shooting:

- Trailer does not operate when I press the buttons on the remote control?
 - 1) Check to see if locking pins have been removed to allow operation.
 - 2) Check the charge on the trailer battery.
 - 3) Check connections at the battery terminals and to the electrical box.
 - 4) Replace battery in remote control.
 - 5) Does ATV need to be turned on to supply power.
 - 6) Is the trailer out of range.
 - 7) Ensure all moving joints are greased.

If the above does not solve the issue. Please contact your local Ritchie supplier.



Introduction and Intended Use:

The Ritchie ATV / Quad Harrow is a versatile trailer-mounted harrow designed for use with ATVs and quad bikes equipped with a standard tow ball. This implement is ideal for levelling, aerating, and conditioning soil in fields, paddocks, and other agricultural environments.

The harrow features a reversible harrow mat with:

- Teeth side for aggressive soil penetration and aeration.
- Levelling side for smoothing and finishing surfaces.

Key Features

- ✓ Replaceable cast tri-spike tines for durability and extended use.
- ✓ Simple-to-use remote control for convenient operation.
- ✓ All-in-one electric hydraulic ram for efficient lifting and lowering.
- ✓ Plug-and-play functionality for quick setup.
- ✓ Fully hot-dip galvanized frame for long-lasting protection against corrosion.
- ✓ Compatible with standard tow balls for easy attachment.
- ✓ Wiring for battery or direct ATV operation for flexible power options.

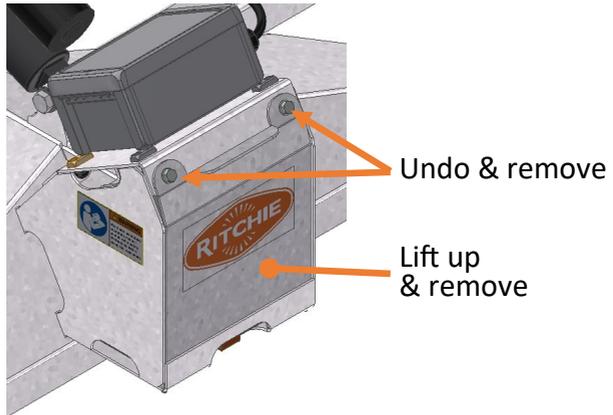
This manual provides detailed instructions on the safe assembly, operation, and maintenance of the Ritchie ATV / Quad Harrow to ensure optimal performance and longevity.

Deviations from the intended use should not take place without the notice and approval of David Ritchie (Implements) Ltd.



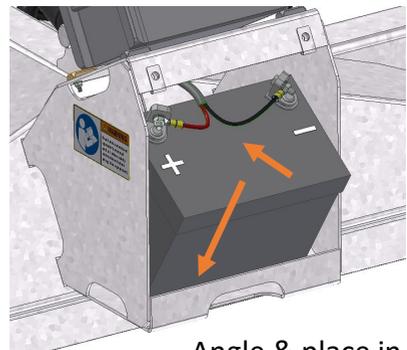
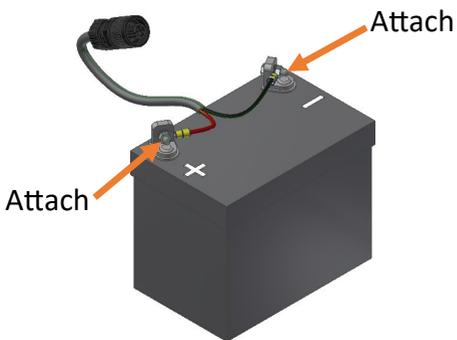
Setting up the Trailer:

- 1) If using a battery:
- 2) Undo and remove the screws & washers. Lift up the lid and remove.



- 3) Remove the accessories.
- 4) Connect the short electrical cable to the battery terminals. Red to positive & Black to negative.
- 5) Insulating the terminals will help protect the battery and electrical box from accidentally shorting out the electrical system.
- 6) Carefully place the battery into the box.

!!! INSULATING THE TERMINALS IS IMPORTANT !!!

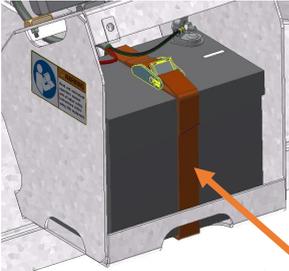


Angle & place in,
Tilt backwards

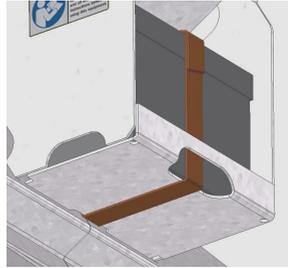


Setting up the Trailer Continued:

- 5) Pass the cam lock strap over the battery, through the slot in the base at the back of the box. Route under the box and up through the slot in to the cam lock. Tension the strap to hold the battery in place.

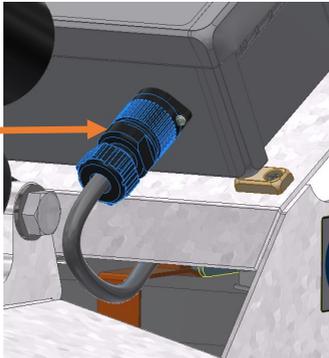


Cam lock strap



- 6) Route the electrical cable out through the back of the box and connect to the electrical box on top of the battery box.

Connect to
Electrical box



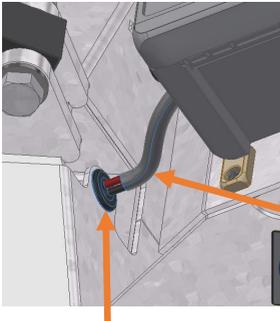
- 7) Place the battery box lid back into the locating holes. Then secure & tighten using the screws & washers.



Setting up the Trailer Continued:

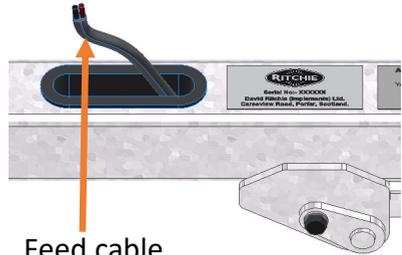
8) If using ATV or Quad:

Select the longer electrical cable. Push the non plug end through the rubber grommet at the end of the spine of the trailer. Feed the cable up the spine and out of the slot near the hitch.

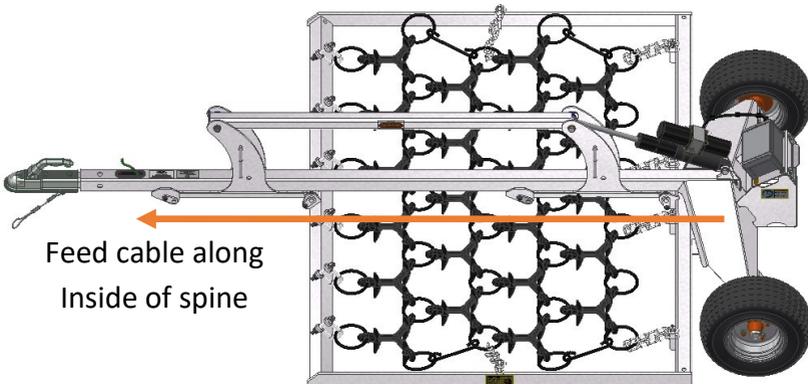


Grommet

Feed cable along spine



Feed cable out of slot

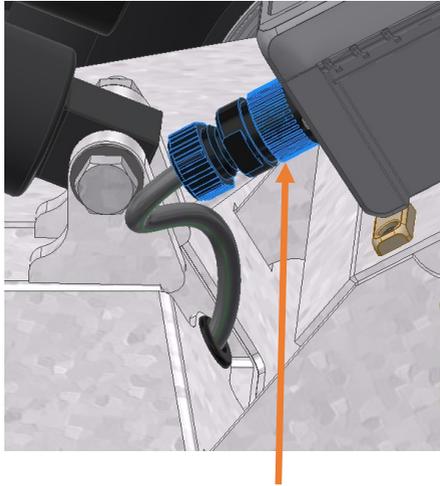


Feed cable along
Inside of spine



Setting up the Trailer Continued:

- 9) Attach the required plug/adaptor to the end of the cable. That will allow the ATV to power the trailer. Connect the cable to the ATV.
- 10) Route the other end of the cable to the side of the ram and attach to the plug in the back of the electrical box.

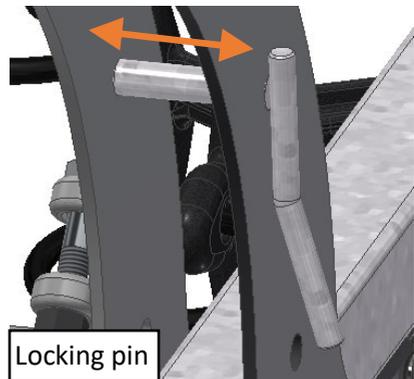
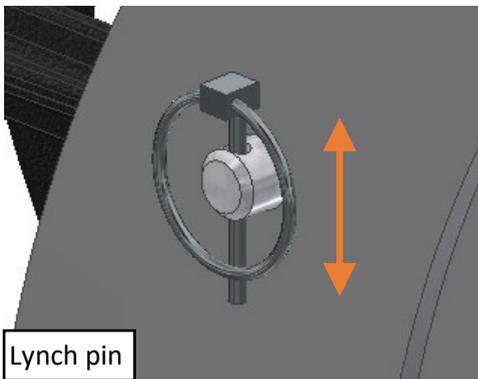


Connect to
Electrical box



Attaching the Trailer:

- 1) Ensure all safety notes have been read and understood before attaching or using the trailer.
- 2) Carefully reverse the ATV until the trailer can be attached to the tow ball.
- 3) If the trailer is powered by the ATV. Connect the electrical cable from the trailer to the ATV. If powered by a battery ensure its fully charged and connected correctly. Refer to the Setting up Trailer section.
- 4) Now that the trailer has power. Check that the lynch pins & locking pins have been removed. Lower the trailer onto the ATV hitch and the trailer wheels. Continue until the trailer is in the transport position.

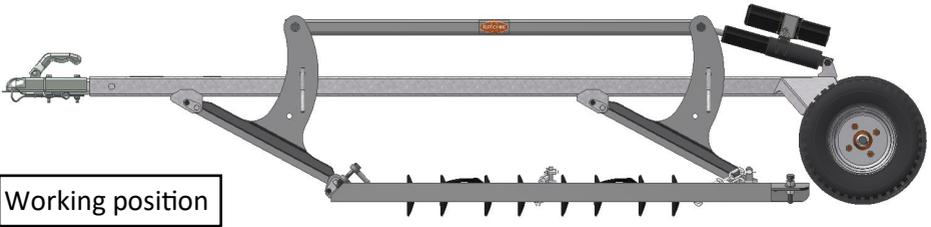


- 5) Attach the secondary coupling to the ATV.
- 6) Ensure the locking pins are properly engaged and locked with lynch pins, in the lower set of holes.



Using the Trailer:

- 1) Ensure that the trailer is correctly and securely fitted to the ATV before operating.
- 2) When at the desired area to use the trailer. Stop the ATV on safe level ground. Remove the lynch pins & locking pins. Use the remote control to lower the trailer to the working position.

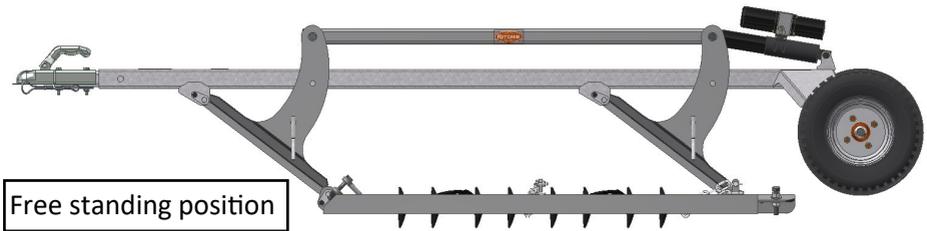


- 3) Re-insert the locking pins and the lynch pins in the upper set of holes. Stow the remote control away safely.
- 4) The trailer is now ready to use.

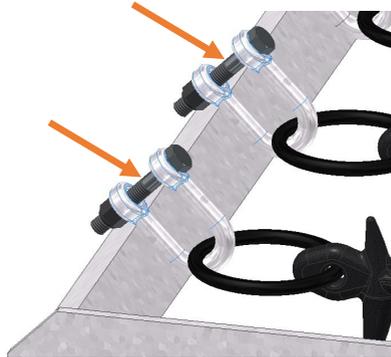


Reversing the Harrow Mat:

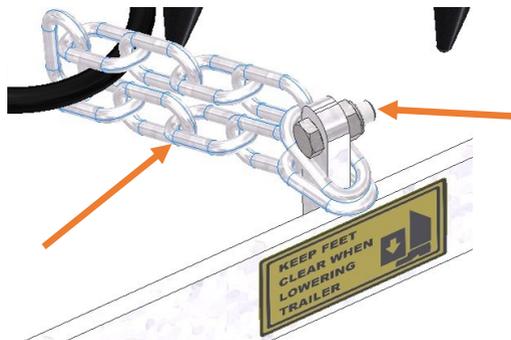
- 1) Put the trailer into the free standing position.



- 2) Un-do and remove the shackle pins from the mat frame.



- 3) Remove the nuts, bolts & chains from the frame and mat.



Reversing the Harrow Mat Continued:

- 4) Un-hook the mat from the shackles and place on the ground.
- 5) Raise the trailer up to the transport position and move it away from the mat.
- 6) Turn the mat over. Using a machine is the easiest way. e.g. a forklift.
- 7) Bring the trailer back over the mat and lower to the free standing position.
- 8) Hook the mat back over the shackles on the frame and secure with pins.
- 9) Pass the chains back through the rings. Tension the mat by passing the chain link over flat bar protruding up on the frame. Secure with the nuts and bolts.

Maintenance:

Although the ATV / Quad Harrow has been designed to be low maintenance. The following points should be noted:

- Check all of the fasteners to ensure none have come loose over time.
- Ensure all hinge points are greased regularly.
- If any parts are worn or damaged replace immediately before using again.
- Ensure all warning stickers are kept clean and in good condition.
- Any maintenance should be carried out by suitably qualified / competent persons.
- David Ritchies will not be held accountable for any damages or injuries caused by unauthorised repairs, alterations or misuse of the Trailer.

Note: Before any maintenance the trailer should be parked on level ground in the free standing position or with the wheels chocked to prevent movement.



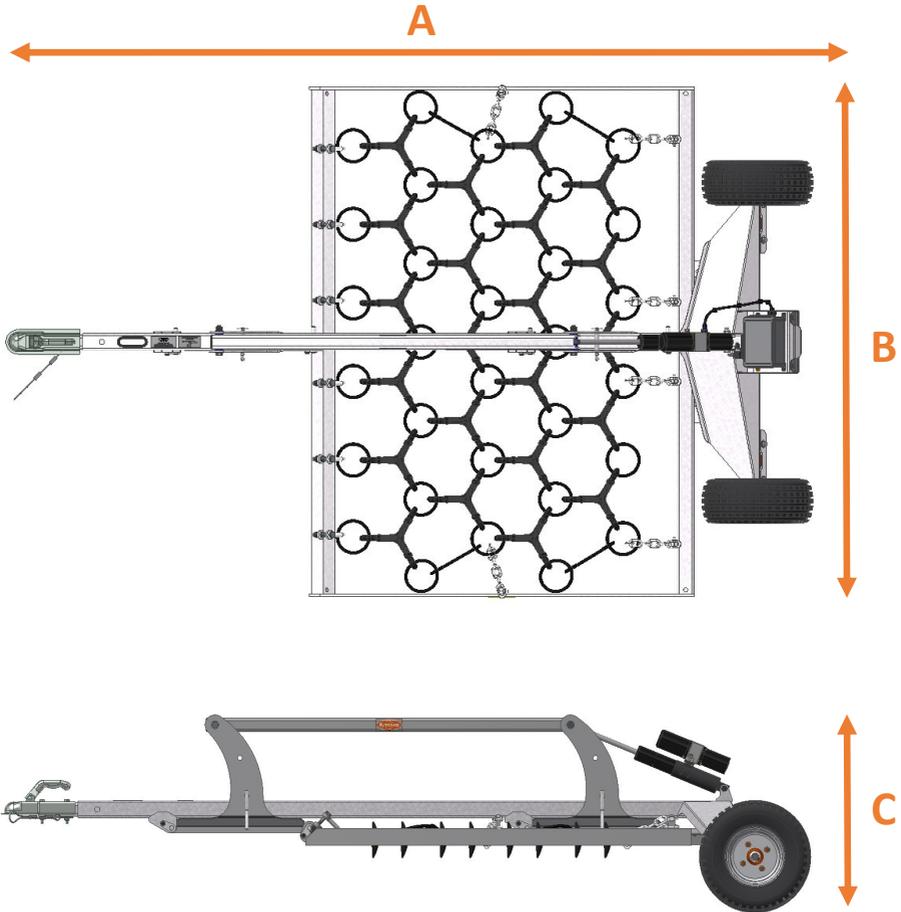
Specifications:

Length (A) 2939mm

Width (B) 1850mm

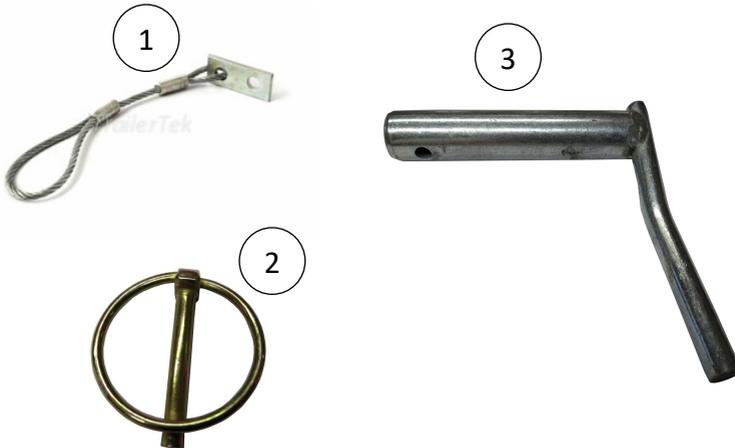
Height (C) Transport / Working / Free Standing 713 / 633 / 664mm

Weight 220 Kg



Spare Parts:

<u>Item</u>	<u>Description</u>	<u>Rictchie Part No.</u>
1	Secondary Coupling	SECONDARYCOUPLING01
2	Lynch pin	LYNCHPIN4MM
3	Locking pin	9789G-A08
4	Wheel Assembly	WHEEL855604
5	Chain	814-23
6	Harrow mat	9789G-A10
7	Electrical Control Box	9789G-A11





ATV / Quad Harrow

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