



Grassland Harrows

Models 824g & 826g

Instruction Manual
& Operating Guide



EC Declaration of Conformity

in accordance with BS EN ISO/IEC 17050-1:2004

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

declare that:

Equipment: **Grassland Harrow**
Model No: **824g - 826g**
Serial No:

in accordance with the following directive:

2006/42/EC Conforms with the essential requirements of the Machinery Directive and its amending directives

has been designed and manufactured to the following specifications:

BS EN ISO 12100 -1: 2003 Safety of Machinery - Basic concepts, general principals for design - Basic terminology, methodology.


BS EN ISO 12100 -2: 2003 Safety of Machinery - Basic concepts, general principals for design - technical principals and specifications.

BS EN 982: 1996
Safety of machinery. Safety requirements for fluid power systems and their components - Hydraulics

BS EN ISO 4254-1:2009
Agricultural machinery - Safety - Part 1: General requirements

BS EN ISO 13857:2008
Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs.

BS EN ISO 14121-1: 2007
Safety of machinery - Risk assessment - Part 1: Principles

Signed:- 

Robert Ritchie Al agr E
Agricultural Sales Director

at:- David Ritchie Implements Ltd. Forfar, UK
on:- 29th January 2010

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Safety Notes and Warnings

- Allow only experienced tractor drivers to operate this machine.
- The machine is recommended for use with a 4 wheel drive tractor.
- Only operate this machine from the tractor seat (work station).
- Operate only when bystanders are at a safe distance away.
- When unhitching the machine from the 3 point linkage, ensure that the machine is set down on a firm and level area.
- Care must be taken on steep ground when lifting the machine out of work.
- Lower the implement to the ground and switch off the tractor engine before approaching the working zone of the implement.
- Before attempting any maintenance or making any adjustments, turn off the tractor engine and remove keys. Release any residual hydraulic pressure by operating the spool valve lever in both directions.
- Take particular care when folding or unfolding the Harrow frame. Do not stand, or allow others to stand in the vicinity around the framework.
- **Warning:** Take care when coupling / uncoupling the hydraulic hoses to the tractor. Hydraulic fluid under pressure can penetrate the skin or eyes and cause serious personal injury or blindness. Fluid leaks, under pressure, may not be visible. Use a piece of cardboard or wood to find leaks.
DO NOT use your bare hand. Wear safety goggles for eye protection. If any fluid is injected into the skin, it MUST be surgically removed within a few hours by a doctor familiar with this type of injury.

Operating in the field

- Use the machine when conditions allow, i.e. Not too wet or too dry.
- Working speed 3 - 4.5 mph (5 - 7 kph).



Introduction and Intended Use

Ritchie Grassland Harrows - models 824g and 826g have been designed for, and are intended to be used for the renovation of pasture land.

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

Features

- Robust steel construction with replaceable high quality tri-spike castings offering two tine lengths and two tine angles.
- Floating top link to cope with uneven ground.
- Fitted with category 2 - 3 point linkage.
- Hydraulic folding frame (model 826g).
- Hot Dipped Galvanised frame.

Specifications

Model	Transport Width Folded (mm)	Transport Height Folded (mm)	Transport / Working Length (mm)
824g	2150	890	1800
826g	2800	1940	1840

Model	Working Width over Frame (mm)	Working Height (mm)	Weight (kg)
824g	4000	850	325
826g	6100	940	600

Model	Linkage	Tractor Requirements	Folding Frame
824g	Cat 2	75 hp	Manual
826g	Cat 2	90 hp	Hydraulic



Attaching to the Tractor

The machine is fitted with standard category 2 three point linkage. This linkage combines the Grassland Harrow and the Tractor into a single working unit. Lift and position are controlled hydraulically.

Consult the Tractor Operator's manual for instructions on mounting implements and for rear hitch adjustments.

Fit the tractor lower links to the Harrow lower link pins and secure with the lynch pins provided.

Stop the tractor and remove the ignition key!

Connect the tractor top link to the Harrow headstock using the pin and lynch pin provided.

Adjust the top link to ensure the three point linkage is square to the ground.

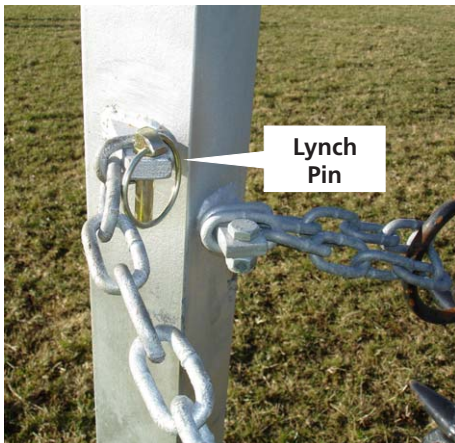


Fig 1

Hydraulic Connections (Model 826g only)

Before connecting the hydraulic hoses check to ensure the quick release couplings and plugs are clean.

Fit the hose quick release couplings to the tractor auxiliary block.

Warn all bystanders to keep clear of the machine.

Remove the road transport chain connecting the folding frames by withdrawing the lynch pins from their holders, Fig 1.



IMPORTANT

When the machine is first supplied the hydraulic system is dry. Activation of the spool lever in the tractor cab will charge the system with oil, but will cause the folding frame to drop rapidly in the first instance.

Run the system through a few cycles to 'bleed off' any air from the system and to check movement of the spool valve lever in the tractor cab corresponds with the desired movement of the framework. Rotate the supply hoses if required.

Model 824g

The Harrow frame work is folded and unfolded manually. No hydraulics are fitted.

Occasionally Model 824g may be supplied in kit form for transport purposes. If it is to be built up - Open both folding frames to the horizontal position. Pivot the headstock to the vertical position and attach the stays provided to the headstock and to the brackets on the cross members. Check nuts and bolts for tightness prior to use.

Machine Settings

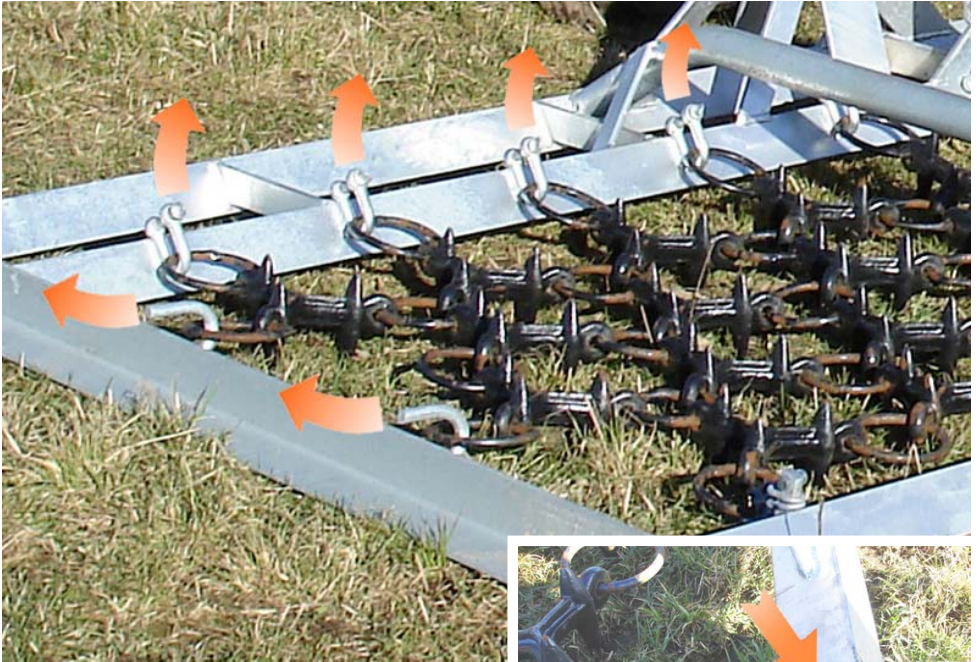


Fig 2

The Harrows are fitted with a unique 'tri-spike casting offering 2 tine lengths and two tine angles.

The harrow mat can be easily reversed to utilise either the long or the short tine.

To reverse the Harrow Mat:-

With the Harrow attached to the tractor and framework lowered into working position - Release the Harrow Rings from the D-shackles at the front of the framework, Fig 2, and lift rings off the hooks along the sides of the frame.

Raise the Harrow on the tractor 3 point linkage and drive forward a short distance to turn the mat onto the reverse side.

Lower the Harrow again to ground level.

Remove the chain retaining bolts, Fig 3, and slide the chain links off the holders.

The mat should now be completely free of the Harrow.



Fig 3

Reverse the tractor until the Harrow is positioned above the mat.

Completely remove the chains and reposition them in the corresponding rings at the rear of the mat.

Attach chain links to the holder securing with the bolt provided. Repeat for each chain.

Finally re-attach front rings to D-shackles and side rings over hooks on framework.

The mat has now been reversed and is ready for use.

Maintenance and Servicing

Lubrication

Grease Nipples are provided at either end of the hydraulic ram to aid lubrication, (model 826g only). See Figures 4 and 5 (arrowed). Grease weekly during operation of the machine.

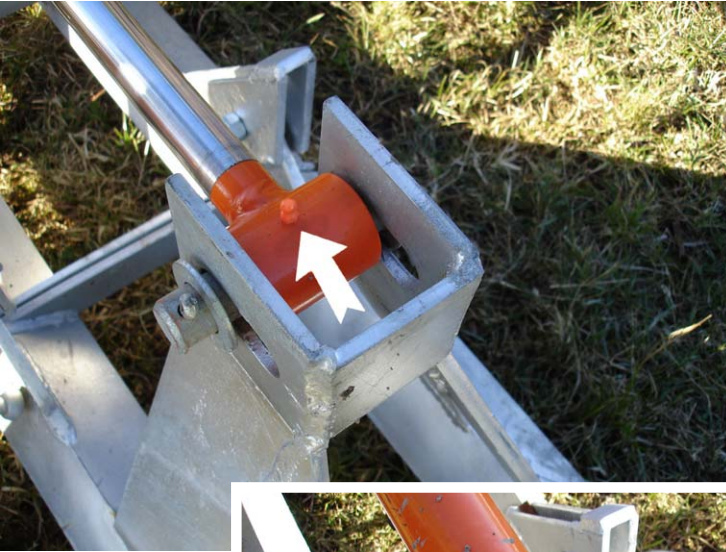


Fig 4



Fig 5



Maintenance and Servicing



If service is required to the underside of the machine ensure adequate supporting devices are in place to prevent sudden lowering of the machine.

When replacing equipment on the machine always use original spare parts.

Hydraulic System Check

The hydraulic system should be checked for leaks prior to each use of the machine.

Read safety instructions on page 4.

The hoses on the machine must be replaced every 5 years even if signs of wear or damage is not apparent.

Hose Rating -

SAE 100 R2 AT • DIN EN 853 2SN

Working Pressure - 330 bar (4800 psi)

Min. Burst Pressure - 1320 bar (19150 psi)

Hose Replacement

It is advisable to wear eye protection when replacing hoses or when working on the hydraulic system.



Before replacing hoses always fold the Harrow out into the working position, or fit the Road Transport Chain.

Release any residual pressure in the hydraulic system by operating the tractor spool valves in both directions.

Place a suitable container below the hose to allow the hydraulic oil to be drained.

Detach and drain the first hose end followed by the opposite end to ensure any remaining oil is drained completely.

Repeat procedure for all hoses to be replaced.

With hose ends reconnected, charge the system with oil via the tractor spool valves putting the service through a few cycles to allow the tractor hydraulic system to bleed out any trapped air.

Always dispose of oil responsibly with due consideration to the environment.

Cleaning

Use a high pressure water jet to remove residue from the machine at the end of each working day.

Disassembly (at end of service life)

Careful maintenance and adherence to the instructions contained in this manual should ensure many years of trouble free service.

At the time of decommissioning the machine however or replacing parts on the machine - all waste metals, rubber, plastics and used oils should be delivered to suitable recycling centres.



Spare Parts



Tri-spike
Part No. 814-27



Harrow Ring
Part No. 814-9

Replacement Harrow Mat (4m) - Part No. 824-500p
Replacement Harrow Mat (6m) - Part No. 826-500p





Model 826g





Model 824g

the perfect partner

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