



Wallaby Spreaders

Operators Guide



Operator's Guide – Wal-Ag Spreader

Please read and understand before operating

If spreader is not attached to tractor or towing implement – load from the front (draw bar end).

CAUTION: Before test running machine check inside bin for additional components and/or foreign objects and remove immediately.

The following are recommendations for the safe and efficient operation of your Wal-Ag Wallaby Spreader. Anyone operating the spreader should read these instructions first. Figure A These instructions are supplied with your new spreader and are also available free from our office or on our website: - www.spreaders.com.au.

When contacting Wal-Ag please have the chassis number of your spreader handy. This may be found on either the Spreader drawbar, or on the compliance plate on the hydraulic reservoir.

SAFETY

Any persons operating the machine must have a high level of experience in tractors & agricultural implements. You must also have any relevant permits/licences under State & Federal laws, ie Work Covers Loaders Permit

No other person should be allowed closer than 50 metres to the spreader during operation or travel. Care must be taken that the operator does not enter the spread pattern by turning too sharply. When operating spreaders with multiple axles the turning circle should be as large as possible to minimize stress on tyres, wheels, axles and suspension components. Pasture damage will also be less if this precaution is observed.



Figure A

Whilst connecting and disconnecting the P.T.O. pump the tractor engine should be stopped and the tractor parking brake firmly applied. The P.T.O. and /or any other power source should be disconnected from the spreader before any maintenance or cleaning operations. This operation must be carried out on level ground with wheels chocked.

Before lifting the P.T.O. pump ensure that it can be done safely and in a position where the possibility of back strain is avoided.

The spreader must only be towed by a tractor of sufficient capacity to control the total mass of the spreader and its load.

The pin connecting the spreader to the tractor should also be capable of safely sustaining those forces involved and should be secured against accidental dislodgement.

The spreader with the side delivery attached must not be towed at an unsafe speed.



Figure 4



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Aircraft tyres and balloon tyres are for low speed off road use only. The terrain and prevailing conditions should be carefully assessed when determining a safe speed.



Figure 7

The safety chain must be used between the tractor and spreader at all times.



Figure 16

When parked, the spreader must be parked on level ground and secured from rolling away by chocking both wheels. The spreader could roll away during the loading operation if not correctly secured.

The landing leg on the machine is intended to support an empty machine only and **must not** be used to support a loaded spreader. Make sure this leg is raised to give maximum clearance between it and the ground before towing the machine.

Never stand or allow any other person to stand on the spinners at any time.



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Safety Warning

Before approaching the spreader to perform adjustments, maintenance or any other operation - Stop the tractor engine, secure the spreader against rolling movement and do not allow any other person access to the tractor or spreader controls. Do not climb or stand on any part of the spreader.

HAZARD IDENTIFICATION AND RISK ASSESSMENT

AS CIRCUMSTANCES CAN VARY CONSIDERABLY THIS IS A SAMPLE ONLY. YOU SHOULD PERFORM YOUR OWN HAZARD ASSESSMENT PRIOR TO COMMENCING EACH OPERATION

HAZARD	RISK		CONTROL MEASURE
	SEVERITY	PROBABILITY	
Injury by spreader moving unexpectedly	Death	Medium	Secure spreader from movement. Park & uncouple from tractor on level ground only. Chock wheels. Use tractor parking brake. Connect safety chain from spreader to tractor
Entanglement in moving parts	Death	Medium	Stop tractor engine or other power source before approaching spreader. Isolate power source. Remove & retain keys to tractor. Do not remove guards.
Impact from hard object in spreading stream	Death	Medium	Do not spread while turning. Do not allow approach to working spreader.
Dust exposure	Serious	Likely	Wear eye protection and dust mask when spreading dusty products
Exposure to sunlight – UV	Serious	Likely	Wear appropriate clothing, hat and sunscreen
Heat stroke, sun stroke, dehydration	Serious	Likely	Do not stay exposed to very hot conditions, seek ventilation and shade, drink plenty of water. Always wear a broad rim hat.
Infection from manure or other organic material	Serious	Low	Ensure operators have current vaccinations against possible diseases. Ensure proper hygiene is observed. Identify materials & possible microbial & viral agents. Investigate provenance (find out what it is & where it was sourced).
Allergic reaction to spread material	Serious	Low	Investigate allergy history of exposed persons and take appropriate action. Investigate provenance (find out what it is & where it comes from) of material to be spread. Cease work and seek medical help at first signs of reaction. Do not spread common allergens – eg peanut products or residue
Insect/rodent/arachnid /snake attack	Serious	Low	Take necessary precautions. Assess presence of living hazards in material & also in spreading area. Wear protective clothing. Avoid hazardous creatures.
Rollover	Serious	High	Do not spread on sloping ground, greater than 8 degrees transverse. Avoid potholes and obstacles. Use a tractor rated for towing the spreader when fully loaded. Do not spread transversely when slope exceeds 8 degrees.
Loss of control due to skidding	Serious	High	Do not spread on sloping ground. Do not spread in slippery conditions eg. After rain or in mud, snow or ice.
Injury from high pressure oil from hose or component failure	Serious	Low	Do not approach operating machine. Replace any worn or leaking hoses with correctly rated replacements. Never modify or tamper with hydraulic system.
Lifting injury	Serious	High	Do not lift any attachments, components or parts which are heavy enough to cause injury. Seek assistance, use lifting equipment if necessary.



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Maintenance

Never attempt to modify or alter the hydraulic system, including the relief valve.

SHOULD THE OPERATOR OR OWNER EXPERIENCE CHANGES IN SPEEDS ON THE CONVEYOR, SPINNERS OR ANY HYDRAULICALLY DRIVEN EQUIPMENT, (in the later models, the hydraulic system is fitted with pressure take off points, for the purpose of checking pressure levels) CONTACT WAL-AG FOR THE PROCEDURE FOR TESTING.

Caution: The hydraulic oil may become hot. Use gloves when removing the pump unit and use caution around the hydraulic components.



Figure 5



Figure 6

The top gauge on tank indicates the oil temperature. Return Filter Indicator Gauge, This gauge has been fitted to the filter and should be observed by the operator on a regular basis, the Green section indicates a healthy filter, however, when the needle moves into the red zone, the filter will require changing. Prior to making any changes, contact Wal-Ag for any advice. Hydraulic Oil Return Filter (Figure 5) and Oil Reservoir Temperature & Oil Level Indicator (Figure 6).

The recommended hydraulic oil is Atlantic Hy-Lube ISO 68. Figure 5 & 6 The level should be checked regularly and the capacity used is 43 Litres – up to a 7.70CM. – 72 Litres for 10 – 16CM.

NEVER OVER FILL THE OIL RESERVOIR AS THE ADDED VOLUME OF THE TANK IS TO ALLOW HEAT DISSIPATION.

The Speed Increaser Gear Box - Gear Box Oil used is Atlantic Gear Ex L 390 and 120ml is the capacity.

The pressure and condition of the tyres should be checked each day before operation. Unless otherwise advised the minimum pressure is 50 P.S.I 340KPA. Wheels should be removed and replaced by suitably qualified personnel only and the wheel nuts should be tensioned to the correct torque. If any doubt exists please contact Wal-Ag before using the machine after such an operation. Correct tension of the wheel nuts and axle mounting bolts should also be checked regularly. If the specifications for your machine do not appear please contact Wal-Ag.

Stud Type	Stud Diameter	Recommended Torque
Spider Wheel Nuts (Up to Model WS 580.16)	1/2"	87 – 93 ft/lb
	5/8"	150 – 175 ft/lb
11R - 22.5	3/4"	175 – 200 ft/lb
8 & 10 Stud Truck hubs (From WS 580.16)	3/4"	450 – 500 ft/lb
6 Stud 8.25 x 16	7/8"	450 – 500 ft/lb

Do not operate the machine at a greater PTO speed, oil flow or pressure than that for which it was designed. The aforementioned specifications can be obtained from Wal-Ag by indicating model and serial number.



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Figure 13 - Pre 2018 Manufacture



Figure 13.1 - 2018 Manufacture



Figure 14 - Pre 2018 Manufacture



Figure 14.1 - 2018 Manufacture

General Maintenance

All bearings should be greased before each day's use.

Conveyor Floor Chain Tensioner

The tension on the floor chain has been factory set and may not need any attention throughout the duration warranty period. However, should you have any queries as to the chain tension, or the operation, please contact Wal-Ag

The conveyor chain needs to be protected from corrosion. This should be done by storing the spreader under cover at all times when not in use. Ensure the bin is empty and clean before storing. Lubricate the conveyor drive train chains with spray lubricate provided

NOTE: Hosing of the main conveyor chain is not recommended as this embeds any remaining material in the chain and may cause it to rust. Water causes rust, so the chain should be kept dry. To remove remaining material from the spreader – leave the machine running with the door open after spreading is completed for approx 15 minutes. (Whilst driving back to the shed any remaining material will fall from the machine). If possible store the machine under cover. If it must be left outside, ensure one end of the machine is higher so any water will drain freely from the floor.

For all details on tensioning chain during and after warranty period, contact Wal-Ag Pty.



Figure 9

Conveyor Drive Chain

The conveyor floor drive train chains are fitted with spring loaded, self tensioning rollers. After a period of operation, these tensioners may need adjusting. To do so, follow the following procedure:

Isolate the machine, disconnect the hydraulics (by removing the pump from the PTO & placing in Park position) Figure 4.



Figure 10



Figure 4



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Conveyor Drive Chain CONTINUED.

Chock the wheels and place the tractor in park. Remove the rear guard from the conveyor drive train chain. Ensure that the rollers are in contact with the chain and are correctly tensioned should the tensioner need to be adjusted, remove the tension from the 2 M10 nuts on the side casing and push the static arm on the tensioning device forward, this will increase the tension on the springs. Lock the nuts, check all other nuts are fully tensioned; spray chain with lube provided and fit the rear guard with 6 x M6 screws provided. Follow this procedure for both chains – B12 Primary & B16 Secondary.

Both chain and sprockets B12 Primary & B16 Secondary should be maintained with Spray Lubricant (as supplied) Figure 14 – as supplied.

When machine is operating, keep a regular check that foreign material doesn't wrap around spinner shafts & cause damage. Foreign material can include baling twine, wire, Kikuyu runners etc that may be picked up from the ground when loading or already be present in material being spread. Warranty is void where care is not taken in this regard.



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Operation

The spreader should be only half loaded for the first 8 hours of operation.

The pump unit should be lifted from its bracket on the side of the draw bar and secured to the P.T.O. shaft by a spring loaded locking collar. The torque arm fitted to the pump casing is designed to lock the pump, preventing it from turning and should be in contact with draw bar or other fixed parts of the tractor and strong enough to withstand the force exerted by the pump. It is best to establish a routine where the pump is the last thing to be connected to the tractor and the first thing to be removed. The Pump is connected to the Tractor PTO using the quick release sliding coupling and the hoses are fitted with swivel hose ends for ease of movement to and from the PTO. Figure 2,3 & 4

The landing leg is intended to support load in a vertical plane only and side loading may cause failure. This can be avoided by chocking both wheels on both sides and loading on level ground only. Always make sure the leg is wound all the way up before towing the spreader. Figure 16 & 1

The spinner speed remains constant relative to the speed of the P.T.O. Slowing the tractor P.T.O. rpm will slow the spinners down.

Effective average spreading width is 9 metres but can vary with material spread.

The application rate can be varied by adjustment of the door opening and conveyor speed. The door opening is varied by adjustment of the chain between the door and the lifting arm at the rear of the spreader.



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Jammed Door

At times oversize material and foreign debris may be in the product you are loading into the spreader. This material may jamb between the conveyor flight bars and the door. Should this occur, follow this procedure.

- Find level ground
- Chock the spreader wheels
- Turn off the tractor
- Disconnect the pump
- If the door is jammed, disconnect and remove the shackle joining the door and chain.
- Using a bar, lift the door to give sufficient clearance, secure the door opened safely to prevent it from falling
- Remove the offending material
- There is some likelihood that the door is damaged due to excess force – if this is the case, door must be removed and replaced with a new part.
- Do not replace the door with anything stronger or heavier gauge material as this door is a part of the factor of safety designed into the operation of the machine.

SHOULD THIS ISSUE OCCUR, PLEASE CONTACT WAL-AG FOR ASSISTANCE PRIOR TO CARRYING OUT THE ABOVE MENTIONED PROCEDURES.

Both D Shackles on the door lifting apparatus have been moused and taped. Should adjustment be necessary, the tape and wire can be removed. The door height can then be adjusted, the shackles re installed and the pins tensioned with a spanner. After the tensioning is completed, the shackles should then be moused used soft tire wire – the wire will pass through the eye of the pin and the inside of the bow of the shackle and the wire twisted and folded over. When this completed, tape the wire to prevent any likelihood of the operator coming onto contact with sharp edges of the wire.



Figure 15

Hydraulic Flow Control Valve

The conveyor speed is controlled by adjustment of the hydraulic control valve at the right rear of the spreader.

The arm moves in an arc over graduations numbered 1 -10. 1 being stopped and 10 being the fastest speed. This arm is locked into position with the knurled screw, which passes through it. Travel speed also influences the application rate.

The following items will control your feed out rate of product. The first one is the speed of the tractor and the height of your door opening.



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The Draw Pin

The draw pin should have 10 – 15 mm clearance. Adjust this clearance with a suitable bush. Vertical clearance between the tractor draw bar clevis and the spreader draw eye should be 12 – 25 mm. Adjust this clearance with a suitable packing washer. Excess or reduced clearance in these areas greatly magnifies the stresses acting on the components and may cause damage to the spreader draw bar and / or tractor. Should the clearance be greater than what has is stated, it may cause damage to coupling and pin.

There's a likelihood that if clearance here is excessive, damage will occur. If the machine is damaged in this way, Wal-Ag will not accept any liability.

Spreaders becoming bogged

If the loaded spreader should become bogged or stuck in wheel ruts or wash outs, and the tractor will not remove it from the bog, then care should be taken. Under no circumstance should brute force be employed to remove it. For example, DO NOT tow the machine with multiple tractors or bulldozers etc. If the machine is full, some effort should be made to unload the spreader, to reduce the weight and reduce undue stress to the drawbar and/or axle assembly is avoided.

Calibration Guide

The types of bulk materials these spreaders are designed to apply can vary greatly in the way in which they flow through and are distributed by a spreader, so the following is offered as a guide only.

Moisture content will make a significant difference and can vary in different parts of a stockpile. Atmospheric conditions overnight may also change the water content enough to make an adjustment necessary.

Over application will waste a valuable resource and could cause environmental damage through nutrient run off.

Under application will limit positive results and may cause unnecessary soil compaction due to multiple application. This will waste time and fuel.

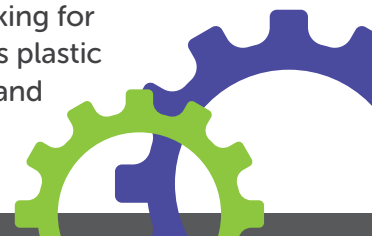
The three ways the operator has of varying the application rate are:-

1. Travel speed
2. Conveyor speed
3. Door opening distance

Generally, the travel speed should be as fast as is consistent with safe and efficient operation. If the material contains no large solid objects and does not bridge or pack up and is not heavy enough to cause undue strain on the conveyor then it is best to leave the conveyor on full speed and fully open door. This will give a more even spread.

To check the application rate and spread pattern.

Obtain a tarpaulin 3.162 metres square or fold a larger one that size. (3.162M x 3.162M = 10 square metres). Place it on the ground and travel the spreader past it. Measure the amount of material collected on it and multiply by 1,000. The result will be the application rate per HA. Repeat this procedure with the tarpaulin in different places across the width of the spread and average out the results. This will increase the accuracy of the calibration and also help establish an optimum distance between passes. Spread width can be influenced by P.T.O. rpm so keep this constant. Another way of checking for consistency across the spread pattern is to use a number of shallow dishes such as plastic pot plant bases all of the same dimensions. Place them across the spread pattern and compare the weight of material in each of them. The greater the number of containers and the number of repetitions the better the accuracy.



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Recommendations For Spreading Lime

Lime will move to the door in one mass and become very tightly compacted if the following procedure is not adhered to.

The conveyor speed should be set on number 5 position on the control valve. The door should be open 300mm or more. The desired effect is that the net amount of material reaching the door should be balanced by the amount of material passing through the aperture so that compaction does not occur.

The above settings are a guide only and slight variations may be required to suit different consistencies of lime.

It is strongly advised that a Baffle Plate is used when applying Lime, Super, Gypsum or material similar to reduce excessive loading from the back door.

You should not exceed 5 tonne in any spreader as compaction may occur.

Seed/Trace Element Box (Optional Extra)

For any question regarding operation of the Seed Box please contact Wal-Ag as research is currently being revised.

Poultry Litter Users

We advise you to obtain further information on the NSW Department of Primary Industries www.dpi.nsw.gov.au and download a copy of the Departmental Primefact 534 – “Best practice guidelines for using poultry litter on pasture.”

Spare Parts

If you require spare parts, even commonly available items, please give us a call, our prices are very competitive. Have the machine number handy to assist us in parts identification.

Repairs

If your spreader needs repairs that will be carried out at Wal-Ag please ensure the machine is fully cleaned of all material, otherwise you will be charged accordingly



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We will accept no liability for damage or loss, which in the opinion of Wal-Ag has been caused by overloading, misuse, overstressing or not following the instructions in this manual of the spreader or attachments.

Please feel free to call, e-mail or write for further information.

Warranty will be voided if unauthorised mechanical repairs or modification of the machine has taken place.

If you experience any problems or difficulties in operating this machine please contact Wal-Ag immediately.



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