



P15072 04/07/07



1. We, CHK plc declare under our sole responsibility that the product
2. Machine Name:           **SPREAD-A-BALE**
3. Machine Type:           **SBL 100, SBL 100R1.5, SBL 100R1.8, SBL 125**
4. Which falls under the provision of Article 8.2.a of the EC – Directive 98/37/CE, is in conformity with the relevant Essential Health and Safety Requirements of the above Council Directive on the approximation of the laws of the Member States relating to Machinery.
5. Conformity of the machine to the specification and by implication to the directives
6. Name:     Alan Pinkney
7. Position:   Managing Director
8. Address:   Pyms Lane, Crewe, Cheshire, CW1 3PJ, United Kingdom

## **WARRANTY**

### **TERMS AND CONDITIONS**

In this warranty Simba International Ltd., is referred to as “the Company”.

1. Subject to the provisions of this warranty the Company warrants each new machine sold by it to be sold free from any defect in material or workmanship for a period of 12 months from date of installation with the end-user.

Some specific items have additional warranty over and above the standard 12 months. Details of these can be obtained upon request directly from the distributor or Simba International Ltd.

2. If the machine or part thereof supplied by the Company is not in accordance with the warranty given in clause 1 the Company will at its option:
  - (a) make good the machine or part thereof at the Company’s expense, or
  - (b) make an allowance to the purchaser against the purchase price of the machine or part thereof, or
  - (c) accept the return of the machine and at the buyers option either:
    - I) repay or allow the buyer the invoice price of the machine or part thereof, or
    - II) replace the machine or part thereof as is reasonably practical.
3. This warranty shall not oblige the Company to make any payment in respect of loss of profit or other consequential loss or contingent liability of the Purchaser alleged to arise from any defect in the machine or impose any liability on the Company other than that contained in clause 2.
4. Any claim under this warranty must be notified to the Company in writing specifying the matters complained of within 14 days from the date of repair.
5. Any claim under this warranty must be made by the original purchaser of the machine and is not assignable to any third party.
6. If the purchaser hires out the machine to any third party the warranty shall apply only to matters notified to the Company in writing within 90 days of the date of delivery and clause 1 shall be read as if the period of 90 days were substituted for the period of 12 months.
7. The warranty will cease to apply if:
  - (a) any parts not made, supplied or approved in writing by the Company are fitted to the machine or
  - (b) any repair is carried out to the machine other than by or with the express written approval of the Company or
  - (c) any alterations not expressly authorized by the Company in writing are made to the machine or
  - (d) the machine is damaged by accident or
  - (e) the machine is abused or overloaded or used for a purpose or load beyond its design capabilities.
  - (f) any maintenance is not carried out in accordance with the service schedules in the operator’s manual.
  - (g) the Installation and Warranty Registration Certificate is not received by Simba International Ltd., Service Dept., Woodbridge Road, Sleaford, Lincolnshire, England, NG34 7EW, within 7 days of installing a new machine.

## Machine Identification

Enter the relevant data in the following list upon acceptance of the machine:

Serial Number	
Machine Model	
Year of Construction	
Delivery Date	
First Operation	
Accessories	

Operating Instructions/Spare Parts List: July 2007

Dealer Address:      Name: .....  
                          Street: .....  
                          Place: .....  
                          Tel.: .....

Dealer's Customer No.: .....

SIMBA Address:      SIMBA  
                          Woodbridge Road Ind. Est.  
                          Sleaford  
                          Lincolnshire  
                          NG34 7EW

Tel.:            01529 304654  
 Fax:            01529 413468  
 E-Mail:        simba.international@simba.co.uk

SIMBA Customer No.: .....

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## Introduction

### Foreword

This manual has been written to provide the owner and user with clear instructions on the operation and maintenance of the Spread-a-Bale unit.

By following the instructions in the manual you will not only get many years of service from your Spread-a-Bale, but you will make your work much easier.

If any part of this manual is not clear then please contact your dealer or the manufacturer for explanations. It is very important that you understand and comply with these instructions.

Use only authorised parts when replacements are required, you are strongly advised to purchase any spare parts from an authorised dealer or the manufacturer.

The variety of conditions and vehicles that this unit can be operated with means that Simba cannot provide up to date information on the performance and efficiency of the units it manufactures. The company therefore accepts no responsibility for loss or damage caused by its publications or any error or omission therein. Should the unit be used in particularly adverse conditions contact your local dealer for specific instructions.

Together with the Operating Instructions, you receive a Spare Parts List and a Machine Registration form. Field service technicians will instruct you in the operation and servicing of your machine. Following this, the Machine Registration form is to be returned to SIMBA. This confirms your formal acceptance of the machine. The warranty period begins on the date of installation.



We reserve the right to alter illustrations as well as technical data and weights contained in these Operating Instructions for the purpose of improving the Spread-A-Bale.

### Warranty Guidelines

1. The period of liability for material defects (warranty) relating to our products is 12 months. In the case of written deviations from the statutory provisions, these agreements shall apply.

They shall become effective upon installation of the machine with the end customer. All wear parts are excluded from the warranty.

2. Warranty claims must be submitted to the SIMBA Customer Service Department in Sleaford via your dealer. It is only possible to process claims which have been correctly completed and submitted no later than 14 days after the date of repair.

3. In the case of deliveries made under the warranty which are subject to the return of the old parts, the old parts must be returned to SIMBA within 28 days after the damage occurred.

4. In the case of deliveries made under the warranty which are not subject to the return of the old parts, these parts must be kept for the purpose of further decisions for a period of 3 months after receipt of the warranty claim.

5. Warranty repairs to be carried out by outside companies, or repairs which are expected to take more than 10 working hours, must be agreed upon in advance with the Customer Service Department.

# 1. Safety Data

The following warnings and safety instructions apply to all sections of these Operating Instructions.

## 1.1 Safety Symbols

### On the machine



### Operating Instructions:

The Operating Instructions distinguish between three different types of warning and safety instructions. The following graphic symbols are used:



Important!



Risk of injury!



Risk of fatal and serious injuries!

It is important that all the safety instructions contained in these Operating Instructions and all the warning signs on the machine are read carefully.

Ensure that the warning signs are legible. Replace any signs that are missing or damaged.

These instructions must be followed in order to prevent accidents. Inform other users of the warnings and safety instructions.

Do not carry out any operations which may affect safe use of the machine.

Leave all panels and guards in place, if any are removed to make repairs they must be replaced prior to operating the unit. Carry out any repair or maintenance activities with the unit isolated from any hydraulic power and the unit securely supported to prevent any inadvertent movement or damage.

## 1.2 Use for the Intended Purpose

The SIMBA Spread-A-Bale is built using the latest technology and in accordance with the relevant recognised safety regulations. However, risks of injury for the operator or third parties and impairment of the machine or other tangible assets can arise during use.

The machine is only to be operated when in a technically perfect condition and for the intended purpose, taking into consideration safety and risks and following the Operating Instructions. In particular, faults that can impair safety are to be remedied immediately.

Original parts and accessories from SIMBA have been specially designed for this machine. Spare parts and accessories not supplied by us have not been tested or authorised. Installation or use of non-original SIMBA products may have a detrimental effect on specific design features of the machine and affect the safety of machine operators and the machine itself. SIMBA will accept no liability for damage resulting from the use of non-original parts or accessories.

The SIMBA Spread-A-Bale is designed solely as a straw spreading implement. SIMBA will accept no liability for damage resulting from improper use. The risk will be borne solely by the operator.

## 1.3 Operational Safety

For safe operation only fully qualified and authorised operators are to use this equipment. To qualify as an operator you must understand the instructions in this manual, be able to assess the suitability of the loader you are going to use with the unit, be licensed to drive the loader and understand the relevant safety and work regulations. The actual requirements may vary depending on where you are and it is important that you ensure that you meet the local requirements regarding the use of such equipment before using a Spread-a-Bale unit.

Observe the following precautions:

- DO NOT use Spread-a-Bale as an access platform
- DO NOT Carry passengers whilst operating Spread-a-Bale
- DO NOT operate the equipment with anyone in the danger zone
- DO NOT modify any of the equipment
- Operate the unit smoothly with no sudden movements.
- Hitch only to the designated points
- Never alter or remove any part of the equipment
- Watch for overhead obstructions
- Ensure that the rated load capacity of the lifter used with the unit is not exceeded
- Keep others well clear of your work area
- Be careful of the welfare of the animals in any areas where you are operating Spread-a-Bale

## 1.4 No Liability for Consequential Damage

The Spread-A-Bale has been manufactured with great care. However, problems may still occur when it is used for the intended purpose. These may include:

- Worn wearing parts.
- Damage caused by external factors.
- Incorrect driving speeds.
- Incorrect setting of the unit (incorrect attachment, non-adherence to the Setting instructions).

Therefore, it is crucial to always check your machine before and during operation for correct operation.

Compensation claims for damage which has not occurred to the machine is excluded. This includes any consequential damage resulting from incorrect operation.

## 1.5 Accident Prevention

In addition to the Operating Instructions, it is important to observe the accident prevention regulations specified by agricultural trade associations.

## 1.6 Changing Equipment

- Use suitable supports to secure any raised frame sections suspended above you!
- Caution! Risk of injury due to projecting parts!



Never climb on to rotating parts such as the rotor blades. These parts may rotate causing you to slip and suffer serious injury!

## 1.7 Servicing & Maintenance

Ensure that regular checks and inspections are always carried out within the periods required by law or specified in these Operating Instructions.

When maintaining the Spread-a-Bale unit please observe the following.

1. Ensure that the unit is isolated from any hydraulic power source.
2. The unit is securely supported on a firm stable surface.
3. The rotor head is in the down position.

Prior to performing maintenance and servicing work, ensure that the machine is positioned on solid, level ground.

Before cleaning the machine with water, steam jets (high-pressure cleaning apparatus) or other cleaning agents, cover all openings into which, for reasons of safety or operation, no water, steam or cleaning agents are to penetrate (bearings, for instance).

Next, check all hydraulic lines for leaks, loose connections, chafe marks and damage. Remedy any deficiencies immediately!

When carrying out servicing and maintenance work, retighten any loose screw connections.

## 1.8 Operating Areas

The operating areas include the belt, hydraulic connections and rotors as well as all other operating points requiring maintenance.

All operating areas will be specified and described in detail in the following chapters on servicing and maintenance.

Observe all safety regulations included in the Section dealing with Safety, and in the subsequent sections.

## 1.9 Authorised Operators

Only those persons who have been authorised and instructed by the operator may operate the machine.

## 1.10 Protective Equipment

For operation and maintenance, you require:

- Tight fitting clothing.
- Strong protective gloves (to provide protection against sharp-edged machine components).
- Protective goggles (to stop dirt getting into your eyes).

## 1.11 Preparing for Work

Before starting the day's work complete the following with the Spread-a-Bale unit isolated from any hydraulic power source and securely supported. The head should be in the lowered position:

1. Check for mechanical and hydraulic pipe damage.
2. Check for any conveyor belt damage and that the bed has sufficient tension to operate.

3. The edge strip to the conveyors is in position with no damage.
4. Tine bolt tightness.
5. Lifting devices securely attached
6. Bearings are clear of debris and well greased.

If any problems are identified they should be corrected before the unit is used.



Hydraulic fluids under pressure can harm the skin and eyes and cause serious injury or death.

## 1.12 Starting Work

Ensure that the area is clear and warn any bystanders before powering up the unit. Anybody in the vicinity should be warned before the unit is started, particular care must be made to keep children well away from the unit.

Connection and disconnection of the hydraulics must be done with the unit on the floor and the power unit of the tractor or telescopic handler turned off and the key removed.

If testing the unit then ensure that all items have been checked for tightness and that no one is in the vicinity of the unit when any of the equipment is being tested.

Do not get out of the drivers seat when the unit is attached and the tractor or telescopic handler is powered up.

## 1.13 Working Safely



An unbalanced tractor or telescopic handler could tip or overturn causing serious injury. Make sure that the safe lifting limits are closely followed at all times. Operating conditions e.g. rough or sloping surfaces may affect the load carrying capacity considerably.

Ensure that the tractor or telescopic handler is ready for the task to be done with the Spread-a-Bale unit.

Follow safe practices:

- Operate the controls such that the tractor or telescopic handler is manoeuvred smoothly.
- Never get off when the unit is operational.
- When moving ensure that there is sufficient room all round and that visibility is good.
- Ensure front hood is down when moving.
- Ensure that the ground is sufficiently level to maintain stability.
- Before getting off the tractor or telescopic handler lower the unit to the ground, engage the parking brake, switch off the engine and remove the key.



Be careful of other people and never let any untrained or unskilled operator use the equipment.

- When working never let anyone pass or stand under a raised Spread-a-Bale unit.
- Never lift the unit unless it is securely fixed using the lifting attachments.
- When using the unit avoid sudden starts, stops and changes of direction. Let all moving parts stop before reversing oil flow.
- Keep the unit as close as possible to the ground when transporting.
- Ensure that there are no overhead obstructions when operating the unit.



Never attempt to unplug the hydraulic connections or adjust anything with the engine running. To do so could result in serious injury or death.

## 2.0 Installation

When carrying out installation and maintenance work there is a higher risk of injury. It is important that you familiarise yourself with the machine and read the Operating Instructions beforehand.

Operator instruction and initial installation of the machine are carried out by our service technicians or authorised distributors.

The machine must not be used in any way beforehand! The machine can only be released for operation after instructions have been provided by our service technicians or authorised distributors.

- If any modules or parts have been removed for transportation, these shall be mounted by our service technicians/authorised dealers before the instruction takes place.
- Check all important screw connections!
- Lubricate all nipples and joints!
- Check all hydraulic connections and lines for damage.

## 2.1 Attachment

The unit is attached to the loader by the lifting eyes at the end nearest the hydraulic controller.

Position the Loader facing the rear of the Spread-a-Bale and by a combination of driving forward and using the boom controls attach the Spread-a-bale in accordance with the Loader instructions, ensuring that the locking mechanism is correctly in place before moving off.

Once the unit has been attached and before any lifting takes place the hydraulics need to be connected with the engine switched off and the key removed. Ensure that the couplings are clean prior to connection.



Fig. 2.01: Attachment

## 3. Technical Data Spread-A-Bale

### Dimensions (Approx)

<b>Overall length</b>		3660 mm
<b>Overall width</b>		1660 mm
<b>Centre of mass</b>		1700 mm from lifting adapter
<b>Height:</b>	<b>Standard</b>	1150 mm
	<b>R1.8</b>	1250mm
	<b>Heston</b>	1450 mm
<b>Weights:</b>	<b>Standard</b>	approx 950 kg unladen
	<b>Heston</b>	approx 1010 kg unladen

Please note that the weights of bales can vary to over 600kg or more if wet.

### Hydraulics

Maximum Hydraulic Flow Rates and Pressures for the unit are as follows:

<b>Main Rotors</b>	50 litres per minute
<b>Belt Motor</b>	5 litres per minute
<b>Pressure</b>	175 Bar

It is important that these values are not exceeded as damage and unsafe running will result.

Rotor speed is factory set to a maximum of 600 RPM

### Bale Sizes

Spread-Bale handles bales size up to:

Model	SBL 100	SBL 125	SBL 100 R1.5
<b>Length</b>	2960 mm	2960 mm	2960 mm
<b>Width</b>	1550 mm	1550 mm	1550 mm
<b>Height</b>	970 mm	1350 mm	1350mm

### Noise Level

At 1 metre from the head the noise level for a new machine is 86 dB at maximum rotor speed.

## 4.0 Adjustment/Operation

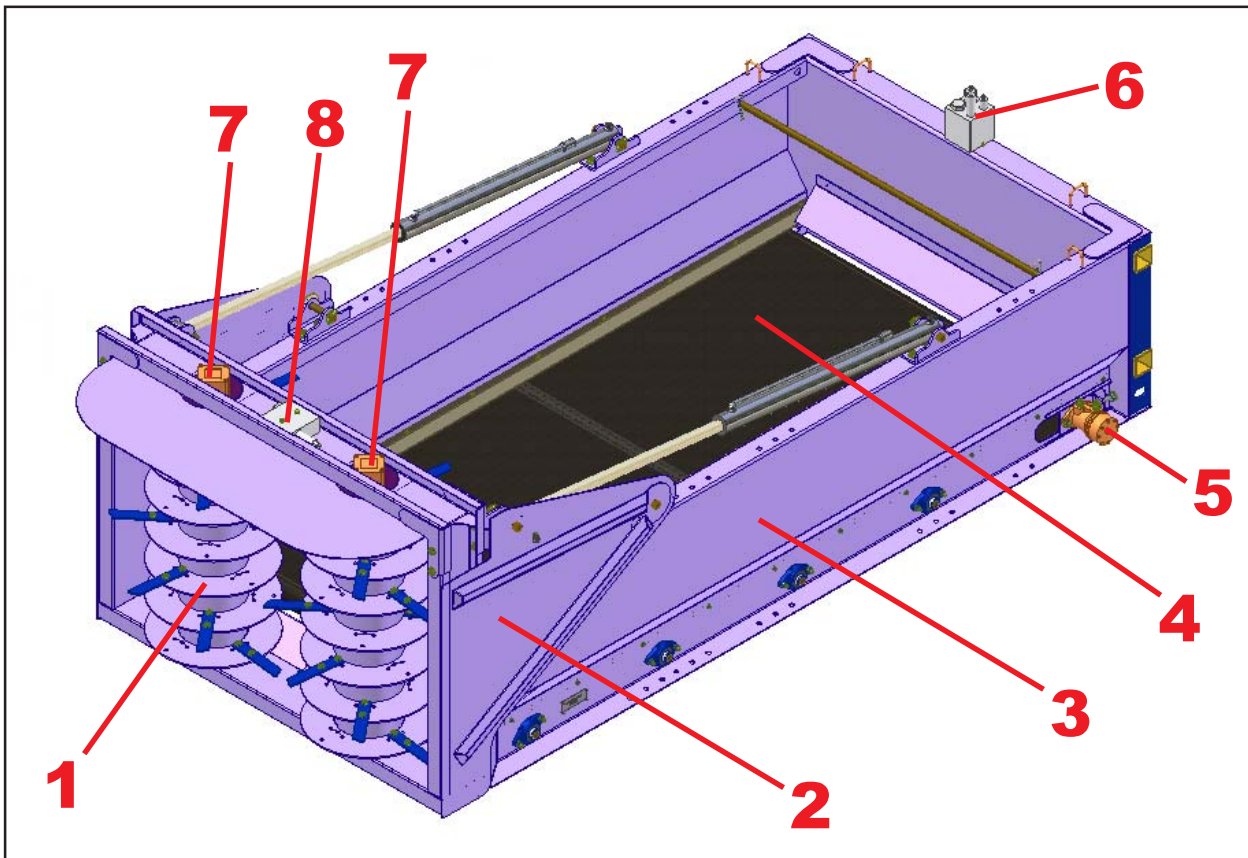


Fig. 4.01: Spread-A-Bale

### 4.1 Description

Spread-a-Bale is designed specifically for use with a Loader, to take rectangular or round straw bales and spread them evenly in a welfare friendly manner. It is self-loading from the bale stack and spreads straw evenly up to 8 meters from the unit. It does so without chopping and blowing the straw hence producing minimal dust and waste.

1. Rotors
2. Hood
3. Chamber
4. Belt
5. Belt Motor
6. Control Block
7. Rotor Motors
8. Head Block

## 4.2 Control

The Spread-a-Bale is powered and controlled via the external auxiliary double acting hydraulic service of the Loader.

With the Loader auxiliary hydraulic control in neutral the Spread-a-Bale unit is inactive.

At any time, reducing the engine revs and placing the Loader hydraulic control into neutral removes power to the Spread-a-Bale and all movement will cease after a short run-down period.



Always engage and disengage the hydraulic controls at engine tick over to prevent damage.

## 4.3 Loading Mode

With the Loader hydraulic control in Loading mode and the throttle just above idle the Rotor Head Assembly of the Spread-a-Bale lifts for loading and the belt reverses to load a bale.

The spreading rotors will rotate in reverse under power, which can be used to unblock rotors in the event of a blockage.



Do not increase the engine revolutions unduly as this may damage the unit.

## 4.4 Spreading Mode

With the loader hydraulic control in spreading mode and the throttle at idle the Rotor Head Assembly of the Spread-a-Bale lowers from its loading position.

As the throttle is increased the Spreading rotors rotate forwards at spreading speed.



The unit is designed for a maximum hydraulic flow rate of 50 litres per minute to the rotors and 5 litres per minute to the conveyor; many loaders can exceed this capacity so do not over rev the engine as damage may result to the unit.

## 4.5 First Operation

When using for the first time check the action of the auxiliary hydraulic control to establish the direction for Load Mode and Spread Mode. Always ensure moving parts have stopped before changing direction.

## 4.6 Loading a Bale

Prior provision should be made for the Loader and Spread-a-Bale to approach the bales in the bale stack end on. Subsequent bale/twine removal is aided if the bales are stacked with the twine knotted on the top face of the bale

Always load the bale with the strings top and bottom, never side to side. Load the bales into the unit from the top of the stack down, having due regard for the stability of the remaining bales in the stack.

Put the auxiliary hydraulic control into Load Mode and increase engine revolutions to just above idle. The rams controlling the Rotor Head Assembly will extend raising the Rotor Assembly into its loading position.

When in position reduce engine revs and move the auxiliary hydraulic control to neutral.

Using the boom controls position the Spread-a-Bale so that the three tapered dividers located at the front edge surround the chosen bale.

Slowly drive forward, pushing the Spread-a-Bale into the bale stack around the chosen bale. When the bale is surrounded move the auxiliary hydraulic control into Load Mode to start the belt reversing.

It may be necessary to drive the Loader forward until the reversing belt takes control of the bale.

When the bale reaches the rear face of the unit reduce engine revs and cut the auxiliary hydraulic control into neutral.

Lift the Spread-a-Bale clear of the remaining bales in the stack and reverse out.

Lower the Spread-a-Bale complete with bale flat to the ground, put the auxiliary hydraulic control into Spread Mode. The Rotor Head Assembly will descend gently into its spreading position. Finally turn off the engine and remove the key from the Loader.



The Rotor Head Assembly must NOT be approached whilst the Loader engine is running.



The stability of the unit has to be carefully monitored as bales can vary in weight particularly when wet and stacks can vary in height.



Fig. 4.02: Loading

## 4.7 Removing the Bale Twine or String

Ensure that the loader is stopped, the head is down and the key removed before reaching over, cutting and removing the twine or string from the bale to be spread. Ensure that all of the twine or string is removed before spreading takes place.

Dispose of the twine or string carefully.

## 4.8 Spreading

Position the Spread-a-Bale in front of the area to be covered, elevating and/or extending the Loader Boom as required. Put the auxiliary hydraulic control into Spread Mode and increase engine revs until spreading occurs.

Tilting the unit slightly upwards when spreading is important as it aids the free flow of the straw to the rotors.

Increasing or decreasing the throttle setting around the set engine speed controls the speed of the bale feed.

Always lower engine revs to tick over after spreading before disengaging auxiliary Hydraulic control.



Fig. 4.03: Spreading

## 4.9 Moving and Handling the Spread-a-Bale

Always handle the Spread-a-Bale by correct attachment to the loader.

As with all vehicle movements around the farm the route to be taken must be planned with account being taken of the length/weight of the combined Loader, the Spread-a-Bale, the terrain, overhead obstructions and the safety of other workers and animals.

It is important that the Spread-a-Bale is moved about the farm best positioned for the maximum all round vision and stability with the auxiliary hydraulic control in neutral.



Fig. 4.04: Moving and Handling

## 4.10 Detachment

It is important to clear the floor of the storage area of debris or projections that could damage the belt of the Spread-a-Bale.

Always park with the head lowered. Position the Spread-a-Bale flat on the floor of the storage areas.

Depressurise the hydraulic system and disconnect the two hydraulic lines to the boom.

Disconnect the head locking mechanism before detaching and driving away.

## 4.11 Adjustments

Varying the rotational speed of the rotors and the attack angle of the tines can influence the factory set approximate 8-meter arc spread range. Decreasing the speed of the rotors reduces the range of throw.

The control valves are nominally set at the factory and adjusted to suit the characteristics of the individual Loader by the commissioning engineer.

Before any adjustments are made the unit should be placed on the ground in a stable position and the power unit switched off with the key removed.

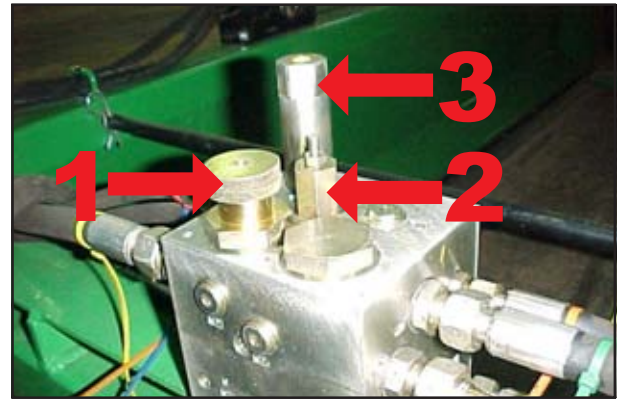


Fig. 4.05: Hydraulic Control Block

Only two valves may need to be adjusted for different bale characteristics:

### Valve 1 - Proportioner Valve



Turning this valve clockwise will divert all oil toward the rotors and away from the belt. Turning it fully clockwise will cause the belt to stop completely.



Turning this valve fully anticlockwise will divert oil away from the rotors and to the belt. This will allow you gain full belt speed.

Factory setting for the above is midway.

A good speed for the belt to travel is approx. 45 seconds for the joiner to travel the length of the floor.

All fasteners must be checked tight before hydraulic reconnection is made, see the table at the back for the correct bolt torques.

### Valve 2 - Flow Divertor Valve

This valve governs the amount of oil that goes to the belt motor.



Turning this valve fully clockwise will divert all oil to the belt. You might see here that the rotors struggle to move.



Turning this valve fully anticlockwise will divert all oil away from the belt motor. This may result in the belt not moving at all.

Start setting for this valve is fully anticlockwise then one and a half turns clockwise. This will leave approx. 10mm of thread showing above the lock nut.

Following adjustment the valves **MUST** be locked using the lock screws. Reductions in speed only are necessary to suit the characteristics of the straw and spread required. There is no need to exceed the maximum settings, see the warning at the end of this section.

Angling the tines in the direction of rotation increase the width of spread and conversely angling the tines opposite to the direction of rotation reduces the width of spread.

Usually if the straw is short then the arc spread is reduced and angling the tines in the direction of rotation can increase this. For long straw the arc spread is increased and in this situation the tines should be angled opposite to the direction of rotation to reduce the spread.



The speed of the rotors must not be increased above the commissioning setting without consulting the manufacturer. Such actions may invalidate rights to warranty claims and create a dangerous situation.

### 4.12 Checks

The working quality depends on the adjustments and checks made prior to and during work, as well as on regular servicing and maintenance of the machine.

Before beginning work it is therefore important to carry out any necessary servicing and to lubricate the machine as required.

## 5. Servicing and Maintenance



Follow the safety instructions for servicing and maintenance.

### 5.1 Servicing

Your machine has been designed and constructed for maximum performance, operational efficiency and operator friendliness under a wide variety of operating conditions.

Prior to delivery, your machine has been checked at the factory and by your authorised dealer to ensure that you receive a machine in optimum condition.



To ensure trouble-free operation, it is important that servicing and maintenance work is performed at the recommended intervals.

### 5.2 Cleaning

In order to ensure that the machine is always in operating condition and to achieve optimum performance, perform the cleaning and servicing work at regular intervals.

The housing, screwed connections and ball bearings are not watertight.

This section describes the operations to correctly service the Spread-a-Bale unit. These instructions are of an informative nature since they can vary due to climatic conditions and the type of work and frequency of operation of the unit.

For all maintenance activities the unit should be disconnected from any loader and placed on the ground in a secure stable manner.

Access underneath the unit may be required in certain circumstances and it is imperative that the unit is securely supported with no possibility of it either falling over or lowering. It is the responsibility of any maintenance personnel to assess the situation and ensure that this activity takes place safely.

Any maintenance activities should be planned with all the correct tools and equipment available. Taking the time to plan then working in a clean and tidy manner will allow any maintenance to be done quickly, safely and at minimum cost.

### 5.3 Lifting Attachment

In some cases the unit will be supplied with the attachments fitted, in others it will not. The type of attachment will depend on the handler that is to be used. In all cases the attachments are to be connected to the unit as shown in the diagram ensuring that they have adequate strength for the loadings shown in the technical specifications and any variation due to special circumstances such as wet bales.



Fig. 5.01: Lifting Attachments

The mounting is to be on the rails identified above either side of the unit vertical centre line using bolts capable of withstanding the maximum working load.



The unit will be lifted using these attachments and all bolts and lifting devices must be capable of taking the required loadings.

## 5.4 Preparing for Storage

Put the unit in a dry sheltered position. Clean down and grease all points provided with grease nipples. Clean and cover the hydraulic connections. Check conditions regularly to see that there has been no noticeable deterioration in the unit.

## 5.5 Greasing the Bearings

These are greased by use of the grease nipples provided using the appropriate grease. There are nine bearings on the belt rollers and one at the bottom of each of the spreading rotors. It is important not to over grease.

## 5.6 Changing a Hydraulic Hose

First of all depressurise the system by carefully loosening a connection ensuring that any oil is carefully mopped up. Remove and fit the new hose ensuring that the hydraulic connections are tight and that the hose is securely attached to the unit. When starting for the first time after changing a hose check for leaks. Dispose of any oil, old hydraulic pipes and cleaning equipment in a safe manner.



Hydraulic fluids under pressure can harm the skin and eyes and cause serious injury or death. If any fluid is injected into the skin it is important that you see a doctor immediately.

Follow the safety datasheet for the hydraulic oil supplied with the telescopic handler.

## 5.7 Changing a Control Unit

The basic process and safety requirements are the same as for a hydraulic hose. When refitting the unit ensure that all the bolts are tightened to the correct torque and the hydraulic connections are tight and do not leak.

## 5.8 Changing a Belt



Please read all instructions before commencing work.

1. Raise the spread a bale approximately 300mm from a level clean surface, preferably a concrete/workshop floor. Support spread a bale with suitable props. Ensure handler is switched off and key is removed.
2. Slacken off belt tension using the two adjusters at the rear until the drive roller is fully forward in its slot.
3. Using a sharp knife cut and remove the old/damaged belt.
4. Thread new belt from the top down around front and drive roller.
5. Position joiner clip in middle at the bottom of the machine. Using a piece of stiff fencing style wire make the temporary joint.
6. Using a flame, melt the end of the plastic coated joining cable to form a cone/point. Have an assistant draw the fencing wire back out through the joint whilst following through with the SAB joining cable.

7. Using pliers, crimp on of the washers supplied between 5 and 10mm in from one end of the cable. Ensure the plastic has been cut and the washer can not slide off. Continue to feed the joining cable through until the crimped washer is tight to one side of the belt. Crimp the second washer against the opposite side of the belt and the cut off excess cable.
8. With the cable fully through, both locking washers in place and excess cable removed the joint is complete.
9. Using the adjusters at the rear pull the belt back up to tension. NOTE: measure the centre to centre distance of the front and rear bearings when tensioning to ensure belt runs true, do not rely solely on the length of thread showing from the rear of the adjuster.

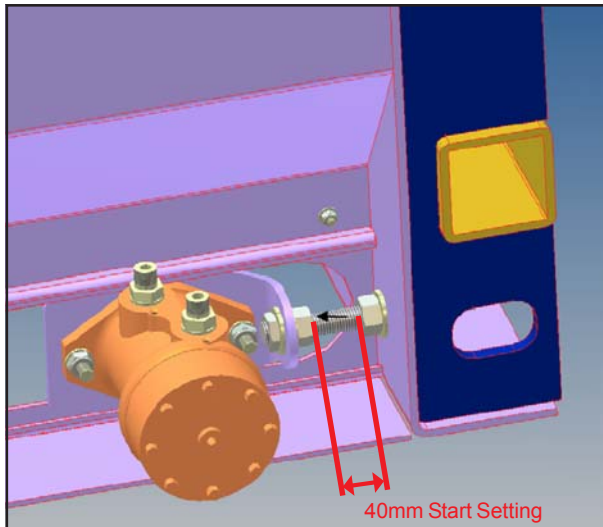


Fig. 5.02: Belt Tensioning

10. Lift the machine clear of any props, ensure all tools are removed and all fasteners are tight then run the machine and check belt. It may be necessary to adjust the belt once the machine has been run.

### Tips:



Melt the end of the joining cable to make a point to aid the end through the joint.



With the two halves of the new belt joint flat on the floor you will not have to worry about handling the weight of the belt and aligning the joining clips.



DO NOT use anything but the joining cable and locking washers to complete the joint. Anything else could result in severe damage to your machine.

## 5.9 Changing a Belt Bearing

Set up and release the belt tension as for changing a belt.

Undo the grub screws and remove and refit the bearing ensuring that the correct torque is used and the bearing is well greased.

Reset the belt tension as for changing a belt.

## 5.10 Changing a Belt Motor

Raise and secure the unit in a safe manner to give good access to the motor.

Depressurise the system as for changing a hydraulic hose. Disconnect the motor hydraulics, slacken the belt and unbolt the motor. It is important that cleanliness is maintained at all times.

Refit the new motor ensuring that it is securely bolted to the correct torques then reconnect the hydraulics checking that they are tight and to the correct inlet and outlet connections.

## 5.11 Changing a Rotor Motor

This is one of the more complex tasks that can be undertaken. The first stage is to secure the unit in a safe manner allowing access underneath. The next stage is to depressurise the hydraulic system safely as per previous instructions.

Then hydraulically disconnect both motors to allow the top of the head assembly to be unbolted and removed. Access to unbolt the motor is underneath where the rotors are attached. The assembly process is very much as for a belt motor with the added requirement of checking the rubber cushioned drive on the top of the rotor.

Once the motor has been fitted and all bolts checked for torque the head should be reassembled, again checking bolt torques, in the reverse order; the hydraulics reconnected and checked for tightness and that they are clear from trapping when the head is operated.

## 5.12 Changing a Rotor Bearing

Follow the instructions for changing a rotor motor except remove the rotors by lifting them out and then access to the bearings is now possible.

The procedure is then as for a belt bearing except in this case a grease line is attached to allow greasing to take place once the unit has been reassembled.

Assembly is the reverse process taking care to ensure that bolts are torqued up and the hydraulic connections are tight and clear of trapping.

## 5.13 Operator Support

If you have a problem, please contact your dealer. They will endeavour to solve any problems which may occur and provide you with support at all times.

In order to enable your dealer to deal with problems as quickly as possible, it helps if you can provide them with the following data. Always state the:

- Customer Number
- Name and Address
- Machine Model
- Serial Number of Machine
- Date of Purchase and Operating Hours
- Type of Problem

## 5.14 Maintenance Intervals

Apart from daily maintenance, the maintenance intervals are based on the number of operating hours and time data.

Keep a record of your operating hours to ensure that the specified maintenance intervals are adhered to as closely as possible.

Never use a machine that is due for maintenance. Ensure that all deficiencies found during regular checks are remedied immediately.



Avoid sharp-edged and pointed parts (rotor blades, etc.) when working on the machine.



Place the machine on suitable supports when working underneath! Do not work under a machine which is not supported!

## 5.15 Overview of Lubricating Points

Lubrication Points	Interval
Belt Bearings	50 hours
Rotor Bearings (underneath rotors)	50 hours

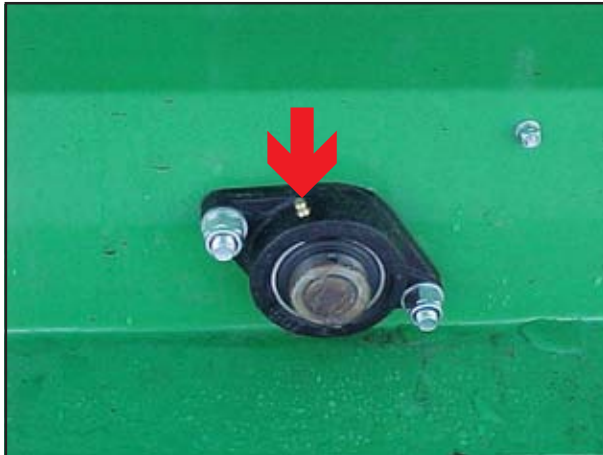


Fig. 5.03: Belt Bearing Grease Points

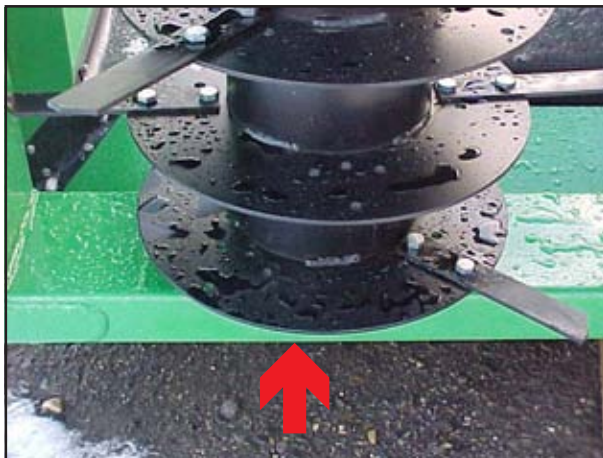


Fig. 5.04: Rotor Bearing Grease Points

## 5.16 Lubricating the Machine

Please read the section entitled "Using Lubricants" carefully before lubricating the machine.

The machine must be lubricated regularly in order for it to remain serviceable. Regular lubrication also contributes towards extending the service life of your machine.

The recommended lubricating intervals are specified in "Inspection" and "Maintenance Intervals".

After it has been washed using a high-pressure hose or steam cleaned, the machine should always be lubricated using a grease gun. Ensure that the universal joints and splined shafts are lubricated regularly.

## 5.17 Handling of Lubricants

Please ensure that you read the following instructions as well as the relevant information. This also applies to any of your employees who handle lubricants.

### Hygiene

Lubricants do not present a health hazard provided they are used for their specified purpose.

In the case of prolonged skin contact, lubricants - especially low-viscosity oils - may remove the natural layer of fat contained in the skin, resulting in dryness and possible irritation.

It is important to take extreme care when handling waste oil as it may contain other irritants.

Vapours given off by cleaning agents and oils are also a potential health hazard.

You should therefore not carry any oily cloths around. Change soiled work clothing as soon as possible.

Always exercise extreme care and observe the recommended hygiene rules when handling mineral oil products. Details of these handling regulations can be found in information provided by the health authorities.

### **Storage and Handling**

- Always store lubricants where they cannot be accessed by children.
- Never store lubricants in open or unlabelled containers.

### **Fresh Oil**

- Apart from taking the usual care and observing hygiene rules, there is no need to take any special precautions when handling fresh oil.

### **Waste Oil**

- Waste oil can contain harmful contaminants which may cause skin cancer, allergies and other illnesses.

### **Attention!**

Oil is a toxic substance. Should you swallow any oil, do not try to vomit. Contact a doctor immediately.

Protect your hands with barrier cream or wear gloves to avoid contact with the skin. Wash off any traces of oil thoroughly with soap and hot water.

- Wash your skin thoroughly with soap and water.
- Use special cleaning agents to clean any dirt off your hands.
- Never wash oil residue from your skin with petrol, diesel fuel or paraffin.
- Avoid skin contact with any oily clothing.
- Do not keep any oily rags in your pockets.
- Wash soiled clothing before wearing it again.
- Ensure that any oily footwear is disposed of in the proper manner.

### **Measures in case of injury through oil**

#### **Eyes:**

Should any oil be splashed into your eyes, rinse with water for 15 minutes. If the eye is still irritated, contact a doctor immediately

#### **If oil is swallowed**

If oil is swallowed, it is important not to induce vomiting. Contact a doctor immediately.

#### **Skin irritation caused by oil**

In case of prolonged skin contact, wash off the oil with soap and water.

#### **Oil Spills**

Use either sand or a suitable granular absorbent to soak up any spilt oil. Dispose of the oil-contaminated absorbent in the proper manner.

#### **Oil Fires**

Never use water to extinguish an oil fire. The oil will float on the water causing the fire to spread.

Burning oil-lubricant must be extinguished using a carbon dioxide powder or foam extinguisher. Always wear respiratory equipment when dealing with fires of this type.

### **Waste Oil Disposal**

Oil-contaminated waste and used oil must be disposed of in accordance with current legislation.

Waste oil must be collected and disposed of in accordance with local regulations. Never pour used oil into unsealed sewage systems or drains or onto the ground.

## 5.18 Hydraulic Oil Specifications

Please refer to your telescopic handler specifications; on supply the Spread-a-Bale unit will be filled with oil to the following specification:

Viscosity @ 40°C.....	59 cSt
Viscosity @ 100°C.....	9.4 cSt
Viscosity index.....	140
Density.....	0.89 g/cm <sup>3</sup>
Pour point.....	-40°C
Flash point.....	227°C

Depending on the circumstances, different oils may be used in the telescopic handler. Please consult the manufacturer of the handler if any changes are to be made.

## 5.19 Grease Specification

A heavy-duty lithium type grease with a temperature range of at least -30 °C to 140 °C, having good water and dust resistance, suitable for both plain and rolling bearings.

## 6. Faults and Remedies

### What to check for if there is a problem with the machine:

**CHECK OIL LEVEL IN HANDLER** – If there is low oil in the handler, even as little as 2/3 litres this can affect how the spread a bale works.

**CHECK THE QUICK RELEASE COUPLINGS** – Make sure that oil is getting back to the handler. If there is a problem with the coupling and oil can not free flow back then this will make the handler labour excessively.

**CHECK THE START SETTINGS ON SAB** – Always return to the above start settings. If the machine is not performing correctly reset all settings and begin adjustment again. Start by adjusting Valve 1 only. This is VERY sensitive, a ¼ turn here can make a big difference to the machine.

**BELT SPEED** – If the belt is not running fast enough the adjust Valve 2. Again this valve is very sensitive. It is possible to starve the rotors too much and make them look like they are stalling.

**ROUND BALES** – You may find that the belt needs to run a little faster for round bales. If you can not obtain this speed using valve 1 then return valve 1 to midway and adjust valve 2. Release locking nut and screw valve 2 in ¼ of a turn then lock the nut again. Bring machine up to working speed again.

**NO REV** – The pressure relief valves are very sensitive. When starting the machine leave it 5 seconds before using any throttle. DO NOT rev the machine. This usually results in the pressure relief valve blowing and poorer performance.

**WARM OIL** – make sure that the handler is warm before using the spread-a-bale. They hydraulic oil needs to be at working temperature before the Spread-a-bale will function correctly.