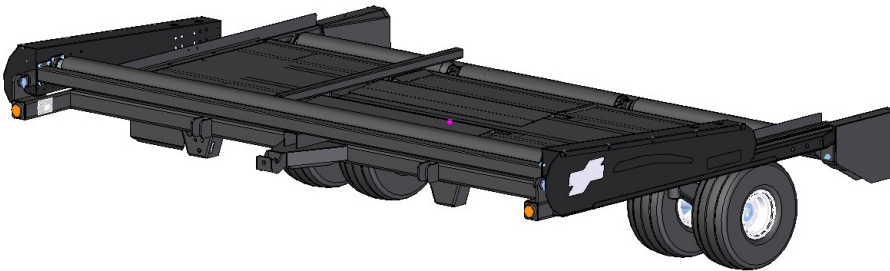


PhiBer Big Bale Accumulator



**Models: AC3108, AC3108x,
AC4108 & AC4108x**



INNOVATIONS FOR PROGRESSIVE PEOPLE

OPERATOR'S MANUAL

www.phiber.ca

Limitation of Liability

PhiBer® Manufacturing Inc. shall not be liable for special, incidental or consequential damages arising out of the use of, the misuse of, or the inability to use any product sold by PhiBer® Manufacturing Inc. including, but without limitation: damages or loss of other property or equipment, personal injury, loss of life, loss of profits or revenue, or claims of purchaser for any such damage or loss.

Warranty

PhiBer® Manufacturing Inc. warrants its products to be free from defect in factory workmanship and material under normal use and service, when set-up and operated according to factory instructions. Warranty should be handled through PhiBer® or an authorized selling dealer. Warranty is subject to the following conditions:

Warranty Claims: Must be completed within 30 days of replacement of part(s). Claim must include serial number of accumulator, date of delivery, explanation of problem and all other necessary particulars.

Warranty Parts: Must be kept for PhiBer's® inspection unless otherwise specified.

Warranty Labor: PhiBer® must authorize any labor subject to warranty. PhiBer® Manufacturing Inc. reserves the right to set the labor rate and time required to complete a warranty repair.

Warranty Limitations: Warranty will not be granted on any accumulator that has been misused, altered, or modified in any way. Diagnostic and service calls are not covered by warranty. Warranty covers only the cost of repair and parts; it does not include shop supplies, mileage and freight costs.

Government Legislation: Warranty terms and conditions are subject to provincial or state legislation and laws.

Warranty on cylinders, hydraulic components, electronic components, and other trade accessories are limited to the warranties made by the respective manufacturers and not by PhiBer® Manufacturing Inc.

The following table shows the available warranty:

Item	Time from Purchase
Frame and other structural components	One (1) Year
Electronic components	One (1) Year
Hydraulic components	One (1) Year
Hydraulic cylinders	One (1) Year

Table of Contents

<i>LIMITATION OF LIABILITY</i>	<i>I</i>
<i>WARRANTY</i>	<i>I</i>
TABLE OF CONTENTS	III
INTRODUCTION	1
DESCRIPTION OF THE MACHINE	2
<i>BALE PACKAGING MODES</i>	<i>2</i>
ILLUSTRATION OF THE MACHINE	3
<i>LARGE SQUARE BALE ACCUMULATOR ASSEMBLY</i>	<i>3</i>
<i>SERIAL NUMBER LOCATION</i>	<i>3</i>
SAFETY	4
SAFETY ALERT SYMBOLS	4
SIGNAL WORDS	4
OPERATOR RESPONSIBILITY	5
GENERAL SAFETY PRACTICES	5
MAINTENANCE SAFETY	7
HYDRAULIC SAFETY	8
INSTALLATION SAFETY	8
TRANSPORT SAFETY	9
STORAGE SAFETY	10
TIRE SAFETY	10
SAFETY SIGNS	11
<i>SAFETY SIGN LOCATION</i>	<i>11</i>
<i>SAFETY SIGN EXPLANATION</i>	<i>11</i>
<i>ROAD SAFETY SIGN LOCATION</i>	<i>12</i>
<i>ROAD SAFETY SIGN EXPLANATION</i>	<i>12</i>
<i>SAFETY SIGN MAINTENANCE</i>	<i>13</i>
<i>EMERGENCY STOP</i>	<i>13</i>
SPECIFICATIONS	14
BALE ACCUMULATOR	14
TRACTOR REQUIREMENTS	14
HARDWARE TORQUE	15
OPERATION	16
HYDRAULIC SET-UP	16
COMPONENT CYCLE TIMES	16
CYCLE INITIATION	16
CYCLE MODE SELECTION	17
<i>HYDRAULIC TIME-OUT</i>	<i>17</i>
START-UP PROCEDURE	18

FIELD OPERATION.....	18
<i>AUTOMATIC BALE EJECTION.....</i>	18
<i>MANUAL BALE EJECTION.....</i>	18
<i>SOLID BALES REQUIRED.....</i>	19
<i>HOLD MODE.....</i>	19
<i>ISOBUS SOFTWARE.....</i>	19
<i>ICON GUIDE.....</i>	20
<i>START-UP.....</i>	20
<i>HOME PAGE.....</i>	21
<i>ACCUMULATOR SETUP PAGE.....</i>	21
<i>SCALE PAGE.....</i>	22
<i>DIAGNOSTIC PAGE.....</i>	22
<i>MANUAL MODE HOME PAGE.....</i>	22
PHIBER ACCUMULATOR APP.....	23
<i>PLANNING MODE.....</i>	23
<i>HOW THE ZONES WORK.....</i>	24
<i>BALE EJECT MODE.....</i>	24
<i>BLUETOOTH AND WIFI CONNECTION.....</i>	24
<i>REMOTE CONTROL.....</i>	25
<i>MANUAL EJECT.....</i>	25
<i>UPDATING ACCUMULATOR SOFTWARE THROUGH APP.....</i>	25
<i>DOWNLOADING AND SENDING LOG FILES.....</i>	25
BALE TRIGGER ADJUSTMENT.....	26
<i>BALE TRIGGER VERTICAL ADJUSTMENT.....</i>	26
<i>BALE TRIGGER HORIZONTAL ADJUSTMENT.....</i>	26
TRANSPORTING.....	26
STORAGE.....	27
RECOMMENDED SETTINGS.....	28
MAINTENANCE.....	29
<i>LIMIT SWITCHES.....</i>	30
<i>WHEEL LUG NUTS.....</i>	30
<i>ROLLER BEARINGS.....</i>	30
<i>HITCH PIVOT.....</i>	31
<i>BALE TRIGGER SPRING TENSION.....</i>	31
<i>WHEEL BEARINGS.....</i>	31
<i>HYDRAULIC CYLINDER REPLACEMENT.....</i>	32
HYDRAULIC SCHEMATIC.....	33
ELECTRICAL SCHEMATIC.....	34
LIGHTS.....	36
TROUBLESHOOTING.....	37
INSTALLATION.....	39
HITCH KIT MOUNTING GUIDELINES.....	39
<i>PREPARE TRACTOR AND BALER.....</i>	39

<i>GENERAL INSTALLATION TIPS</i>	40
INDEX	41

Introduction

Congratulations on your purchase of the PhiBer® Large Square Bale Accumulator. The PhiBer® Bale Accumulator offers the agricultural industry a machine for uniformly arranging bales into a desired package that can be handled more efficiently.

All persons authorized to operate this equipment should read and understand the contents of this Operator's Manual, especially the *Safety* section. The owner or operator should seek assistance from the dealer, distributor or PhiBer® for any information not fully understood regarding the safe operation, adjustment, maintenance or repair of this equipment.

Keep this Operator's Manual in a clean, dry place that is easily accessible for reference when more detailed information is required to perform tasks related to the operation, adjustment, maintenance or repair of this equipment. It is further recommended that the contents of this Operator's Manual be reviewed at least annually by persons operating, adjusting, maintaining or repairing this PhiBer® Bale Accumulator and any time a new person is assigned to any of the above-mentioned tasks.

Any information in this Operator's Manual that is not fully understood should be clarified by contacting the dealer, distributor or manufacturer.

The contents of this Operator's Manual are accurate up to the time of printing.

PhiBer® reserves the right to make design changes without prior notice to the end user.

Description of the Machine

The operator can choose from four different automatic discharge patterns or manually eject the bales. With the PhiBer® Large Square Bale Accumulator you can select the desired bale packaging mode that will compliment the preferred method of bale handling in the field.

There are two options of control: automatic unloading and manual unloading. Automatic unloading is recommended. Choose manual or automatic in the setup page on the monitor.

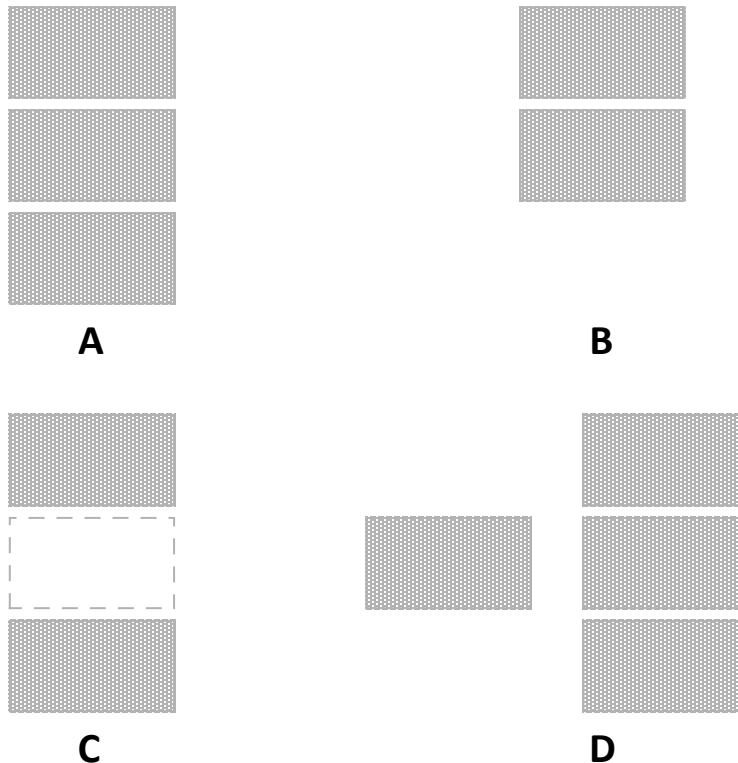


Fig. 1.1

Bale Packaging Modes* (Figure 1.1)

**shown from top view*

- A. Three (3) Bales (side-by-side)
- B. Two (2) Bales (side-by-side)
- C. Two (2) Bales (with gap)
- D. One (1) + Three (3) Bales (hold mode)

Illustration of the Machine

IMPORTANT! All references to “LEFT” and “RIGHT”, as used throughout this Operator’s Manual, are determined by facing the direction of forward travel when in use.

Large Square Bale Accumulator Assembly

Right Side View (shield removed) (Figure 1.2)

1. Push-off Truck
2. Push-off Roller
3. Master Cylinder
4. Push-off Limit Switch

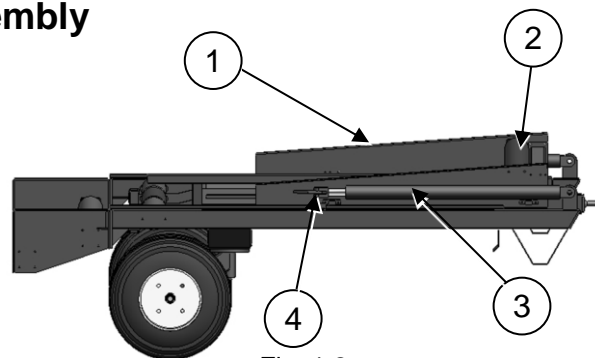


Fig. 1.2

Left Corner View (shield removed) (Figure 1.3)

1. Accumulator Deck
2. Side-shift Truck
3. Bale Trigger Button
4. Slave Cylinder
5. Track

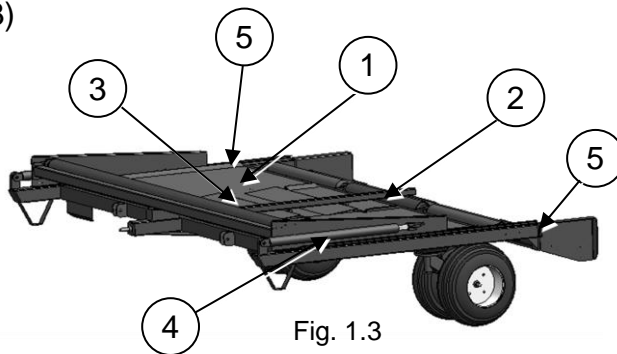


Fig. 1.3

Virtual Terminal

This accumulator uses a standard ISOBUS (ISO11783) terminal.

Serial Number Location

The serial number plate (Figure 1.4) is located on the front of the frame, on the inside.

Record the machine Model and Serial Number in the spaces provided below. Use these numbers when contacting the dealer for repair parts or service assistance.

Model Number: _____

Serial Number: _____

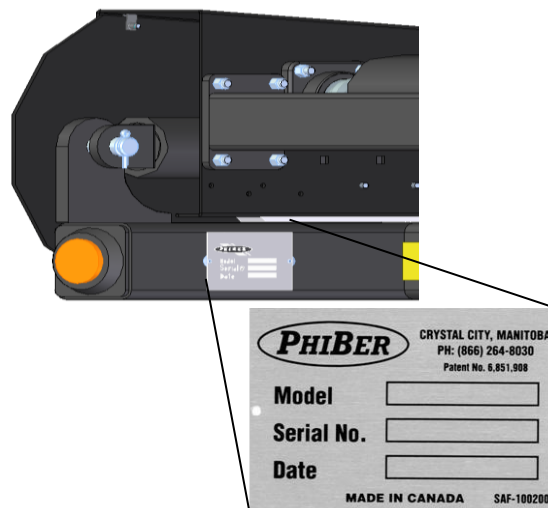


Fig. 1.4

Safety

Safety Alert Symbols

Safety Alert Symbols are intended to draw attention of the machine operator to important safety information both published in the Operator's Manual and applied to the machine. Whenever a Safety Alert Symbol is seen, it means that associated information is provided for recognizing, responding appropriately to and avoiding potentially hazardous situations.

An equilateral triangle surrounding an exclamation point or a double line equilateral triangle surrounding symbols or graphics indicates a potentially hazardous situation. Information included on a safety sign or printed in the Operator's Manual describes the hazardous situation and indicates appropriate response and/or avoidance procedures.

Remember:

**ACCIDENTS DISABLE AND KILL
ACCIDENTS ARE COSTLY
ACCIDENTS CAN BE AVOIDED**



Signal Words

DANGER

Indicates an imminently hazardous situation that, if not avoided, **WILL** result in death or serious injury if proper precautions are not taken.



WARNING

Indicates a potentially hazardous situation that, if not avoided, **COULD** result in death or serious injury if proper precautions are not taken.



CAUTION

Indicates a potentially hazardous situation that, if not avoided, **MAY** result in minor or moderate injury if proper precautions are not taken, or it serves as a reminder to follow appropriate safety practices.



Operator Responsibility

Remember, YOU, the operator, are responsible for the safe operation, adjustment, maintenance and repair of this PhiBer® Large Square Bale Accumulator. It is the responsibility of the owner, or authorized person in charge, to ensure that all persons who operate, adjust, maintain and/or repair this implement are familiar with the information provided in this Operator's Manual.

A safe operator is the key to safety. Good safety practices not only protect you, but also persons who may be in the vicinity of the accumulator. Make good safety practices a part of your farming operation. Ensure that all persons operating, adjusting, maintaining and/or repairing this equipment are familiar with the procedures recommended in this Operator's Manual.

Always heed safety warnings and follow recommended safety precautions to avoid hazardous situations. Do not risk personal injury or death by ignoring safety warnings and safety precautions.

Key Safety Reminders:

- The most important safety device is a safe and qualified operator.
- A safe operator is one who has read and understood the contents of this Operator's Manual prior to performing any tasks related to the machine.
- Owners have a responsibility to provide training to persons who may operate, adjust, maintain and/or repair the equipment prior to performing any of these tasks.
- Do not perform any unauthorized modifications to the accumulator or use the accumulator for any purpose other than what is described in the contents of this Operator's Manual.
- Plan tasks and work schedules to reduce exposure to unnecessary stress and fatigue.
- Observe all workplace safety and health requirements.

General Safety Practices

- Read and understand the contents of this Operator's Manual prior to operating, adjusting, maintaining and/or repairing the bale accumulator.

- Locate, read and understand all safety signs applied to the accumulator before performing any tasks.
- Review the contents of this Operator's Manual at least annually, and any time a new person is assigned to perform any task with the accumulator.
- Press emergency stop button and ensure that all bystanders, especially small children, are kept at a safe distance while performing any tasks with the accumulator.
- Do not allow riders on any part of the accumulator.
- Ensure all guards and shields are intact and in place prior to operating the accumulator.
- Keep hands, feet, hair and loose clothing away from moving and/or rotating parts.
- Stop the engine, lower the equipment, set the parking brake, remove the ignition key and allow time for moving parts to stop prior to adjusting, maintaining or repairing the equipment.
- Ensure that all equipment lighting and marking is intact, clean and operating properly prior to traveling on public roads. Check with local highway authorities to confirm that the accumulator is properly equipped for highway travel.
- Provide a fully stocked First-Aid kit in a highly visible and easily accessible location.
- Keep a fully charged fire extinguisher in a highly visible and easily accessible location.
- Ensure that the accumulator is securely blocked and supported prior to working underneath (if it needs to be raised for repair).
- Ensure that all persons operating, adjusting, maintaining and/or repairing the accumulator know how to seek or summon medical assistance should an injury occur.

Maintenance Safety

- Read and understand all of the information provided in this Operator's Manual covering the operation, adjustment, maintenance and repair prior to performing any of these tasks.
- Ensure proper tools, equipment and personal protective equipment is available prior to working on the accumulator.
- Wear appropriate clothing when performing tasks around the accumulator. Ill-fitting and/or frayed clothing as well as loose or dangling items should not be worn when working near the equipment.
- Stop the engine, lower the equipment, set the parking brake, remove the ignition key and allow time for moving parts to stop prior to adjusting, maintaining or repairing the equipment.
- Ensure that all moving parts have come to a complete stop before performing adjustments, maintenance or repairs.
- Securely block main frame if adjustment, maintenance or repair is required for wheels and tires.
- Prior to operating equipment, ensure that all guards and shields are intact and in place after performing adjustment, maintenance or repairs.
- Check for bushing wear and weldment fatigue on moving parts.
- Store flammable fluids in approved containers and store out of access by unauthorized persons, especially children.
- Wear personal protective equipment, such as gloves, eye protection, etc. when inspecting hydraulic system for leaks. Use a small piece of cardboard or wood to detect leaks.
- Ensure that hydraulic oil pressure in hoses, lines and components is fully relieved prior to performing maintenance or repairs to the hydraulic system.

Hydraulic Safety

- Ensure that all hydraulic system components are kept clean and in proper working condition.
- Periodically inspect condition of hydraulic hoses, lines and components. Remove and replace any parts showing damage or deterioration.
- Use only repair or replacement parts specified by the manufacturer.
- Follow instructions provided by the manufacturer when making repairs.
- Wear appropriate personal protective equipment when unsure if residual pressure may exist in hydraulic components during trouble-shooting and/or making repairs.
- Use a piece of cardboard or wood to check for hydraulic leaks. Hydraulic fluid under pressure can penetrate human skin.
- Ensure all fittings, couplings and other hydraulic connections are intact and properly tightened before operating hydraulics.
- Store flammable fluids in approved containers and store out of reach by unauthorized persons, especially children.
- Ensure that hydraulic oil pressure in hoses, lines and components is fully relieved prior to performing maintenance or repairs to the hydraulic system.
- Ensure that all persons operating, adjusting, maintaining and/or repairing the accumulator know how to seek or summon medical assistance should an injury occur.

Installation Safety

- Read, review and understand all bale accumulator installation instructions before attempting to attach accumulator to baler.
- Ensure the baler is properly hitched to the tractor and that the baler is lowered fully to the ground.

- Ensure that tractor engine is shut off, key is removed from the ignition and the parking brake is set and/or wheels blocked.
- Block bale accumulator tires and support the front end of the bale accumulator frame until the accumulator is securely attached to the baler.

Transport Safety

- Ensure that the accumulator is attached to the baler properly.
- Ensure the drawbar hitch pin retainer for baler is in place and engaged properly.
- Ensure the safety tow chain is securely attached between baler and tractor.
- Ensure all lighting and implement marking devices are intact and visible.
- Ensure equipment is properly marked according to local road regulations and heed all local traffic regulations.
- The accumulator adds length to baler and covers a wide path when making turns.
- Ensure the accumulator is fully unloaded before road travel.
- Do not exceed 20 mph (32 km/h).
- Reduce travel speed on rough roads and surfaces.
- Do not allow riders on the accumulator at any time.



NOTE:

- Avoid travelling across steep inclines, particularly when accumulator is partially loaded.
- This accumulator makes wide turns.
- Come on and off approaches or roads slowly.

Storage Safety

- Store the accumulator away from areas of human activity.
- Do not allow children to play on or around accumulator.

Tire Safety

- Ensure tire inflation pressure is maintained per specifications.
- Follow proper procedures for tire repairs, especially when mounting tire to rim.
- Seek assistance from a trained person for tire repairs or mounting, especially if special equipment is required.

Safety Signs

Safety Sign Location

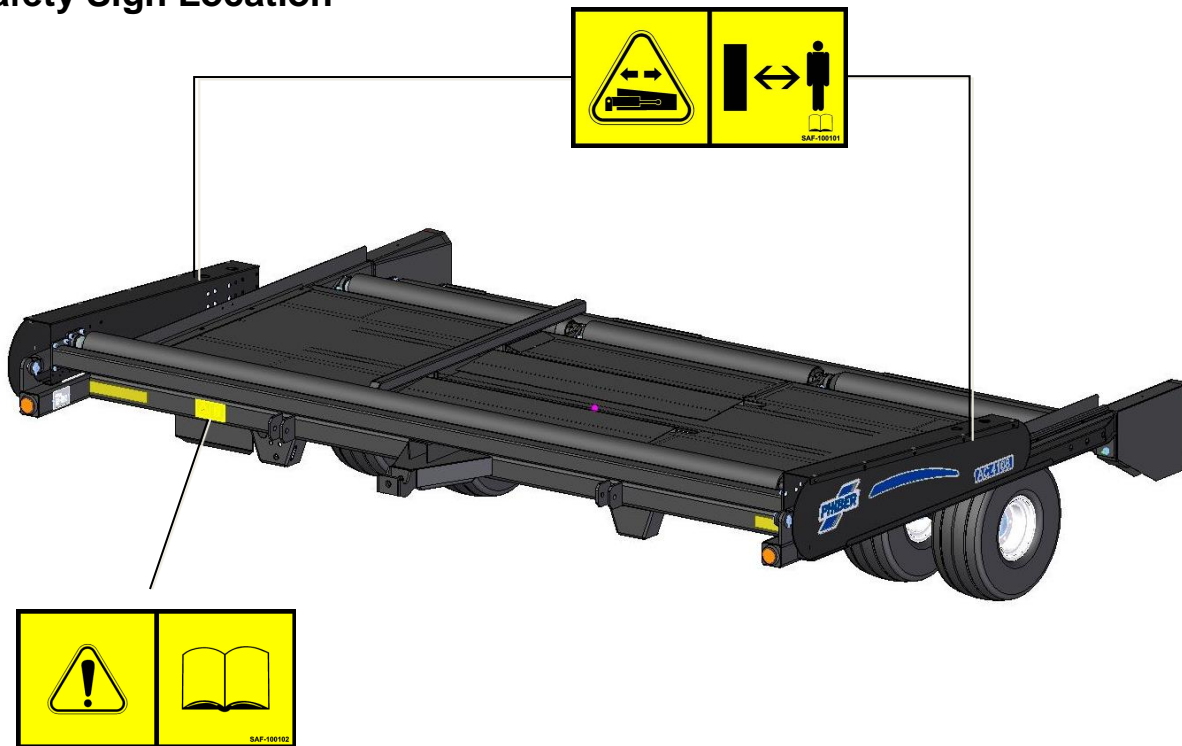


Fig. 2.1

Safety Sign Explanation

Read the Operator's Manual (Figure 2.2)

! WARNING! Read and understand the contents of this Operator's Manual before performing any tasks related to the operation, adjustment, maintenance or repair of the machine.

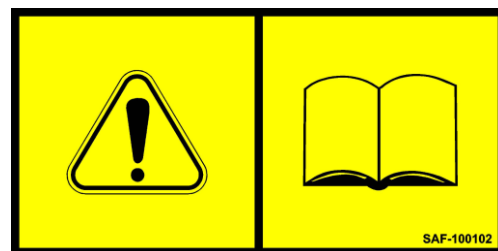


Fig. 2.2

Moving Part Hazard (Figure 2.3)

** under shield*

! WARNING! MOVING PART HAZARD. Keep all persons at a safe distance while machine is in operation or when making adjustments and/or repairs.

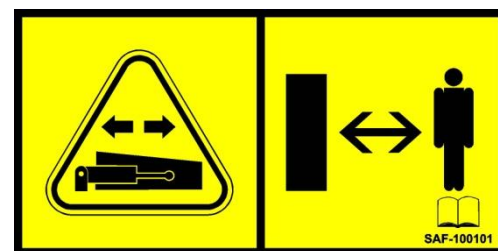


Fig. 2.3

Road Safety Sign Location



Fig. 2.4

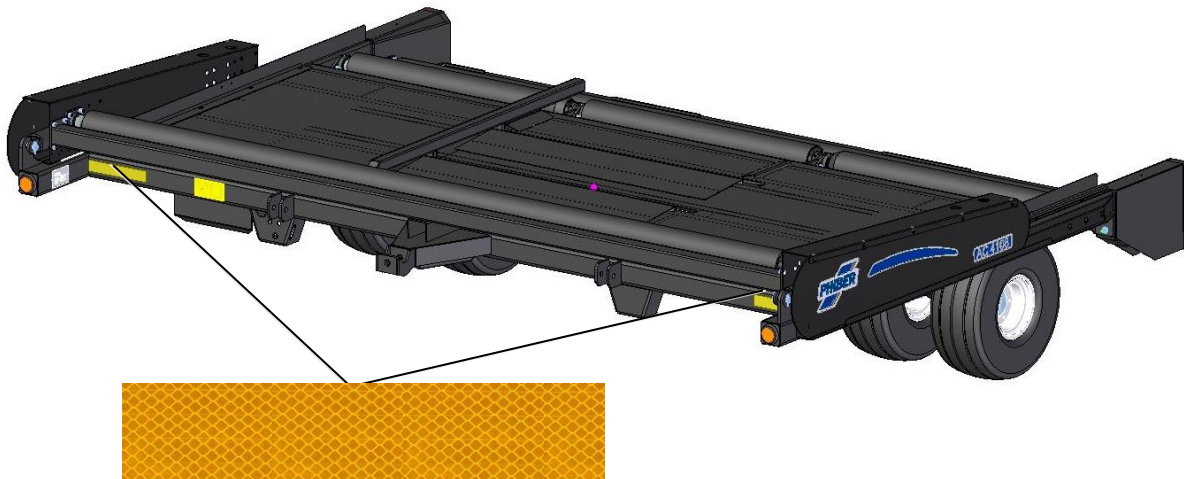


Fig. 2.5

Road Safety Sign Explanation

RED/AMBER CONSPICUITY TAPE (Figure 2.6)

Tape serves as reflectors to render vehicle visible in low light or dark driving conditions.



Fig. 2.6

Safety Sign Maintenance

Safety Sign Legibility

All safety signs applied to the accumulator must be visible and legible. Keep dust and dirt cleared from safety signs and ensure that visibility is not obscured.

Damaged or Deteriorated Safety Signs

Remove and replace any safety signs that have been damaged or show signs of deterioration.

Safety Sign Replacement

Replacement safety signs may be ordered through your dealer or distributor. Contact PhiBer® if you are unable to obtain replacement safety signs from a dealer or distributor.

Safety Signs on Replacement Parts

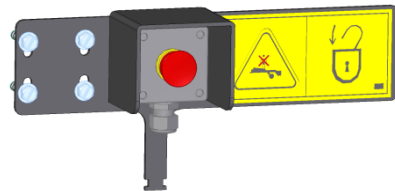
Ensure that replaced parts or components on the accumulator, that had a safety sign attached originally, include a safety sign when they are shipped to you.


Affixing Safety Signs to Machine

1. Ensure proper position and orientation before installing.
2. Ensure installation area is clean and dry.
3. Ensure ambient temperature is above 50° F (10° C).
4. Remove backing material to expose label adhesive.
5. Place one edge of label to machine surface.
6. Slowly press the label onto the surface.
7. Ensure no air pockets exist under surface of the label.

Emergency Stop

An emergency stop button has been supplied with this machine. Please mount in a convenient place on the back of the baler, with easy access. In the event of use, it cuts all electrical power to the hydraulic valve immediately stopping any movement. If it is necessary to climb onto the deck of the machine, be sure the emergency stop button has been pressed. To resume motion, twist button.



 **DANGER!** DO NOT CLIMB ON MACHINE while it is running.

Specifications

Bale Accumulator

	<u>AC 3108</u>	<u>AC 4108</u>
Bale Capacity	3	3
Bale Size	32 in (0.81 m)	48 in (1.22 m)
Bale Ejection	Manual or Automatic	Manual or Automatic
Width	118 in (2.99 m)	164 in (4.17 m)
Length	121 in (3.07 m)	121 in (3.07 m)
Height	43.5 in (1.10 m)	43.5 in (1.10 m)
Tire Size	4 - 26x12.00-12NHS	4 - 26x12.00-12NHS
Weight	2,500 lbs (1,134 kg)	2,800 lbs (1,270 kg)
Electrical Power Supply	12 V	12 V
Hydraulics	10 US gal/min (37.8 L/min) continuous flow	10 US gal/min (37.8 L/min) continuous flow
Bale Length (range)	6 - 9 ft (1.83 - 2.74 m)	6 - 9 ft (1.83 - 2.74 m)
Silage Bale Handling Baleage Option Length	Yes (with Baleage option) 4.5 – 8 ft (1.37 – 2.44 m)	Yes (with Baleage option) 4.5 – 8 ft (1.37 – 2.44 m)

Tractor Requirements

Hydraulics	
# of circuits required	1
hydraulic flow	10 - 12 US gal/min (37.8 – 45.4 L/min)
Electrical Power Supply	12 V @ 5 amps
ISOBUS	ISO Compatible Tractor or Baler

Hardware Torque

SAE

Bolt Diameter	Bolt Torque		
inches	SAE 2 n·m (lb-ft)	SAE 5 n·m (lb-ft)	SAE 8 n·m (lb-ft)
1/4	8 (6)	12 (9)	19 (12)
5/16	13 (10)	25 (19)	36 (27)
3/8	27 (20)	45 (33)	63 (45)
7/16	41 (30)	72 (53)	100 (75)
1/2	61 (45)	110 (80)	155 (115)
9/16	95 (70)	155 (115)	220 (165)
5/8	128 (95)	215 (160)	305 (220)
3/4	225 (165)	390 (290)	540 (400)
7/8	230 (170)	570 (420)	880 (650)
1	345 (225)	850 (630)	1320 (970)

Metric

Bolt Diameter	Bolt Torque	
mm	8.8 n·m (lb-ft)	10.9 n·m (lb-ft)
M3	0.5 (0.4)	1.8 (1.3)
M4	3 (2.2)	4.5 (3.3)
M5	6 (4)	9 (7)
M6	10 (7)	15 (11)
M8	25 (18)	35 (26)
M10	50 (37)	70 (52)
M12	90 (66)	125 (92)
M14	140 (103)	200 (148)
M16	225 (166)	310 (229)
M20	435 (324)	610 (450)
M24	750 (555)	1050 (774)
M30	1495 (1103)	2100 (1550)
M36	2600 (1917)	3675 (2710)

Flare-Type Tube Fittings

Tube Size OD	Nut Size across flats	Torque	Recommended # Turns (after finger tightening) turns (flats)
in	in	n·m (lb-ft)	
3/16	7/16	8 (6)	1/6 (1)
1/4	9/16	12 (9)	1/6 (1)
5/16	5/8	16 (12)	1/6 (1)
3/8	11/16	24 (18)	1/6 (1)
1/2	7/8	46 (34)	1/6 (1)
5/8	1	62 (46)	1/6 (1)
3/4	1-1/4	102 (75)	1/8 (0.75)
7/8	1-3/8	122 (90)	1/8 (0.75)

NOTE: Torque values listed are based on lubricated connections in reassembly.

Operation

Hydraulic Set-up

Proper set-up of tractor hydraulics ensures optimum operation of the PhiBer® Large Square Bale Accumulator and will greatly increase system reliability. The hydraulic system on your accumulator is designed to function with open-center, closed-center and closed-center load-sensing tractor hydraulic systems. For tractors configured with closed-center hydraulic systems, some adaptation may be required to achieve optimum performance. Contact your dealer or PhiBer® for assistance.

There are two crucial elements that must be heeded to ensure optimum Bale Accumulator performance:

1. Tractor hydraulic output flow must be set between 10 - 12 US gal/min (37.8 - 45.4 L/min) and be in a continuous operating mode.

NOTE: Hydraulic oil flow in excess of 12 US gal/min (45.4 L/min) may cause hydraulic lock up of the system. Flow rates below 10 US gal/min (37.8 L/min) will cause lower cycle times and can impede productivity.

2. The low pressure tank return line must discharge directly into the tractor hydraulic reservoir with negligible system back pressure.

NOTE:

This accumulator is sent with a non-locking Pioneer tip that can be plugged into the remote, when hose kit option is ordered.

Component Cycle Times

Component / Action	3108 (sec.)	4108 (sec.)
12 US gal/min (45.4 L/min) flow rate		
Side Truck: RH side to LH side	4	6
Side Truck: LH side to RH side	4	5
Push off Truck: Extend and retract	7 (4 ext / 3 ret)	7 (4 ext / 3 ret)

Cycle Initiation

This start-up or cycle initiation procedure ensures that both the bale eject and bale side shift trucks are in their respective “home” positions and hydraulic cylinders are fully retracted before operating the Bale Accumulator in the field.

WARNING!

⚠ MOVING PART HAZARD. Ensure that the deck of the accumulator is clear of any foreign objects and that all bystanders are at a safe distance before starting the tractor, baler and the Bale Accumulator. Distances to be given: 21 ft (6.4 m) back and 12 ft (3.7m) to the sides.

1. Start tractor engine and activate tractor hydraulic system.
2. Is machine safe? Yes or no.
3. Allow 10 seconds to elapse before using the Bale Accumulator to ensure both the push off and side shift trucks have returned to their “home” positions.

Cycle Mode Selection

The PhiBer® Large Square Bale Accumulator allows the operator to select one of three bale ejection modes (Figure 4.1):

- A. A. Three (3) Bales (side-by-side)
- B. Two (2) Bales (side-by-side)
- C. Two (2) Bales (with gap)
- D. One (1) + Three (3) Bales (hold mode)

To select bale ejection mode, refer to the setup screen on the monitor. The hold mode may be enabled to each of the three modes, and can be enabled right from the accumulator home screen.

NOTE: In order to change bale ejection mode, a re-start is required.

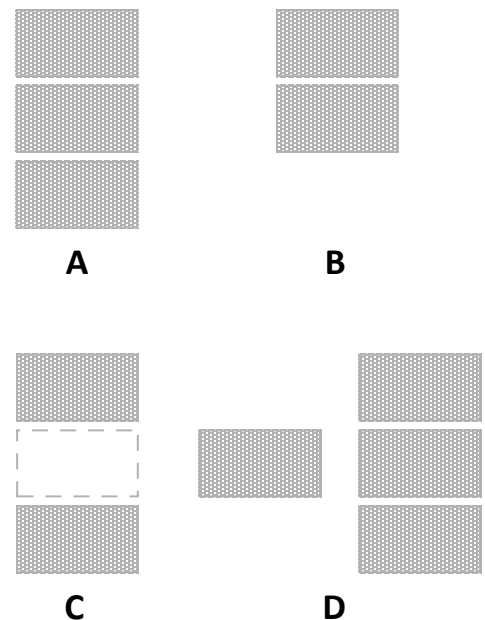


Fig. 4.1

Hydraulic Time-out

A hydraulic time-out safety is provided to prevent damage to the machine in case of a machine error. The hydraulic time-out will be activated if function is not completed within a preset time; an error will appear. The hydraulic time-out safety will prevent any further automatic operations.



WARNING Stop baler immediately

In case of a hydraulic time-out, baling must be stopped immediately.

Proceed as Follows

1. Stop tractor and baler.
2. Locate problem.
3. Use manual mode to clear accumulator if necessary.
4. Engage hydraulics to accumulator.
5. Use manual control to eject bales as needed to free trapped material.

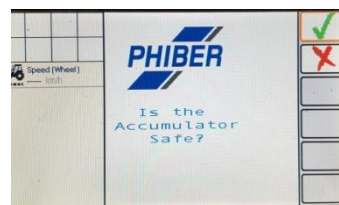
Start-up Procedure

The *Start-up Procedure* ensures that there are no bales in the accumulator, and that the bale lift mechanism and tail gate are in their respective “home” positions before operating the PhiBer® Large Square Bale Accumulator in the field. During the start-up procedure any remaining bales in the accumulator will be ejected.



WARNING! MOVING PART HAZARD.

BALES MAY EJECT. Ensure the accumulator is clear of any foreign objects and all bystanders are at a safe distance before starting the tractor, baler and the Bale Accumulator. Distances to be given: 21 ft (6.4 m) back and 12 ft (3.7m) to the sides.



Field Operation

Automatic Bale Ejection.

Once the Bale Accumulator has been started, cycle and bale ejection mode selected, the accumulator will function automatically. If the chamber on the baler is empty at the beginning of the baling process, stop the accumulator. As soon as a solidly formed bale has formed in the chamber, re-enable automatic operation. The bale ejection mode can be modified by the operator at any time on the Home Page of your monitor.

Manual Bale Ejection

Windrow Formation

The operator can form rows of bale packages at any desired place in the field by pressing the *eject bales* button at the desired drop location. The Bale Accumulator will unload all finished bales on the deck at this point. Automatic accumulation will resume after the *eject bales* button is pressed.

Bales Ejected at Headlands

Bales can be placed at the ends of a field by pressing the *eject bales* button before or after turning at headlands. Do not eject while turning. The *hold mode* can be used when gathering bales at headlands. In this mode the Bale Accumulator will fill up but not eject immediately. What can happen is the fourth bale coming out will eventually push the third bale on the deck, off of the accumulator. If *eject bales* has not been pressed by the time the fourth bale completely lands on deck, the accumulator will eject all bales and return to the home position. This mode may conveniently be used in irrigated fields, where gathering bales at headlands is critical. The hold mode gives operators more time to carry bales before they automatically eject at headlands or desired location.

Solid Bales Required

Solid bales are required for proper operation of accumulator. Allow soft or deformed bales to clear accumulator deck before starting the accumulator in automatic mode.

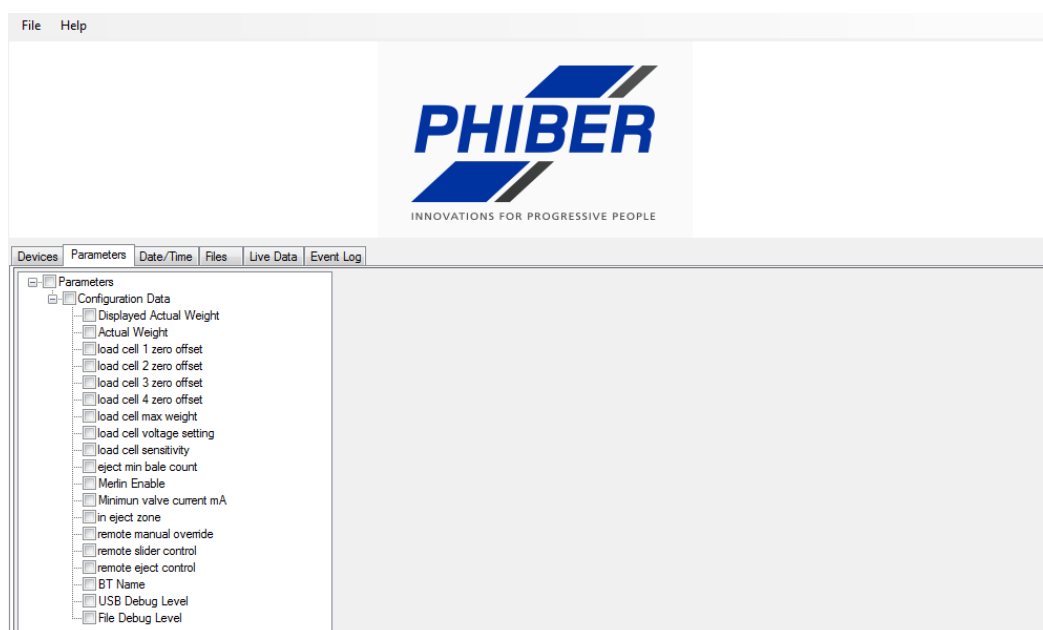
Hold Mode

If hold mode is enabled, the accumulator will not eject a full deck until the operator presses manual eject or the accumulator detects the next incoming bale.

ISOBUS Software

Updating Software and Advanced Configuration
















Each machine is shipped with a USB cable located in the Operator's Manual holder on the machine. There is an application for windows computers available from PhiBer® that is used for machine software updated and advanced configuration of the accumulators. User instructions are provided with the software application.







Icon Guide


Flat Icon Guide

STANDARD ICONS

	Start Operation		Reset Current Job
	Do Not Start Operation		Scale Setup
	change to/re-enable Automatic Mode	ZERO	Zero Weight
	change to/re-enable Manual Mode		More Options
	Stop Machine		Back to Previous
	Enable Hold Mode		Save & Exit
	Calibration/Setup		Exit
	Diagnostics		Home Screen

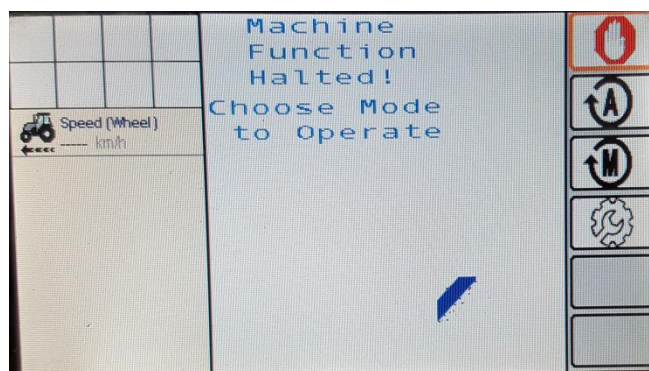
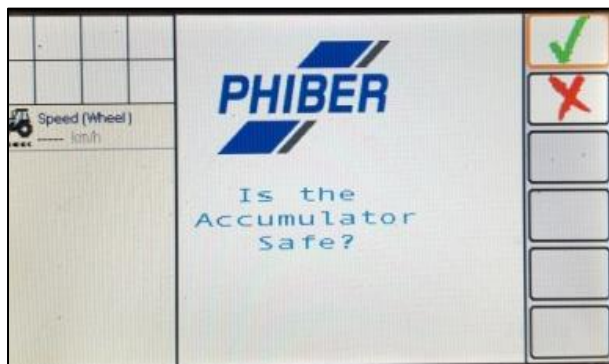
ACCUMULATOR ICONS

	Eject Bales
	Push-off Bar Return
	Side-shift Truck Left
	Side-shift Truck Right



Start-up

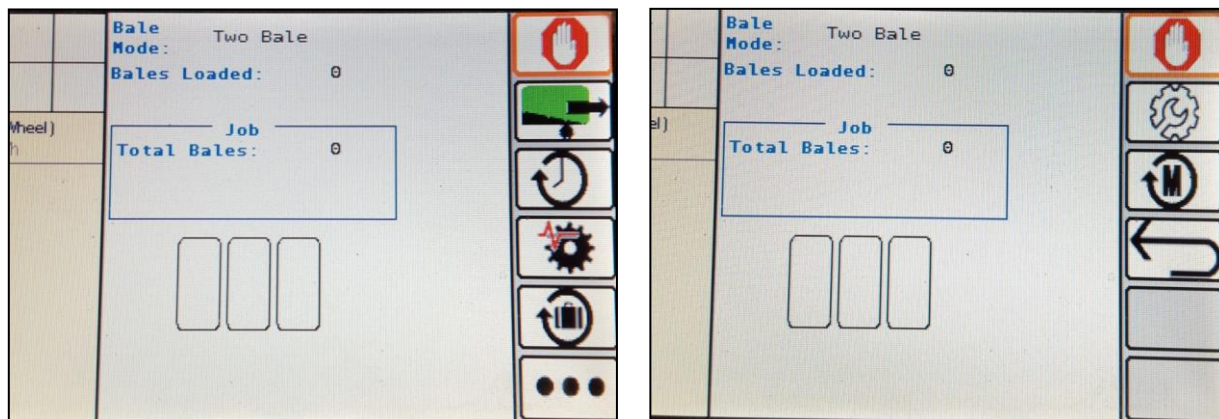
Upon startup, the PhiBer Bale Accumulator will always ask “Is the accumulator safe?”. Ensure no one is near the machine and it is safe to begin operation. Before pressing *Start Operation* (the green check mark icon), make sure the accumulator has hydraulic pressure supplied. The accumulator will then go through the startup procedure.



Selecting the Red X brings the operator to this second screen offering Automatic or Manual operation modes.

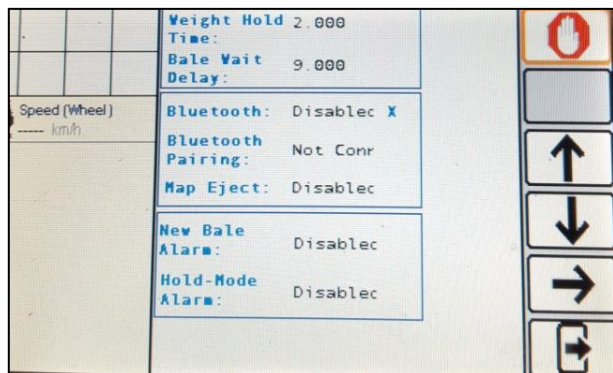
Home Page

After selecting *Start Operation*, the home page in automatic mode will be displayed. From here the operator can see how many bales are on the accumulator, be able to eject bales and access other features of the software. These other features can be viewed by selecting the three dots icon, this will display the next screen as shown. To change the Bale Mode setting press *Calibration/Setup*.



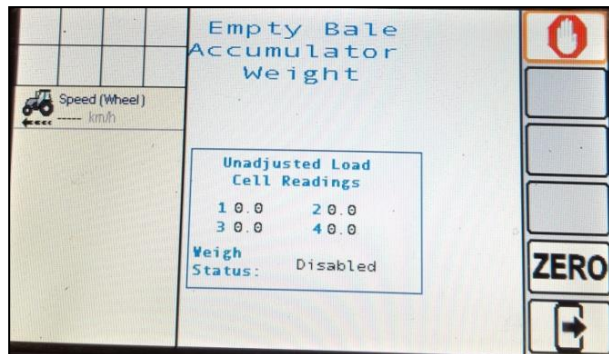
Accumulator Setup Page

There are several various function setups on this page. The Weight Hold Time is the time the scale needs to accurately weigh a bale if the accumulator is equipped with a scale. The Bale Wait Delay is there to prevent false hits on the incoming bale hitting the bale button when going through steep ditches. Increase the time if the operator is getting false hits. Also on this page are the settings to enable the Bluetooth to control the accumulator with a Bluetooth device and a Map Eject can be enabled to help row the ejected bales.



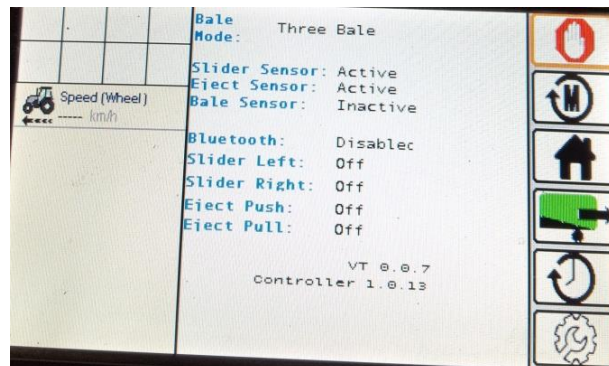
Scale Page

This page shows the information for the scale. The scale should be zeroed out periodically using the *Zero Weight* button.



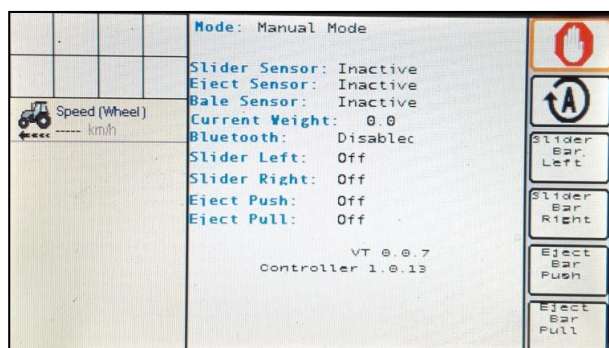
Diagnostic Page

In the automatic mode operators can see what is happening during operation. The operator can see the status of all inputs and outputs.



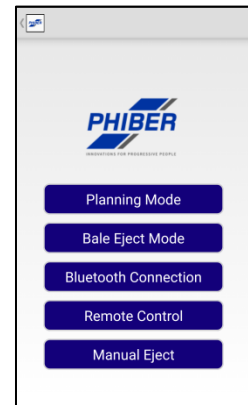
Manual Mode Home Page

In manual mode the operator can move any hydraulic functions manually. This is mostly used for testing purposes or to manually move bales on the deck.




PhiBer Accumulator App

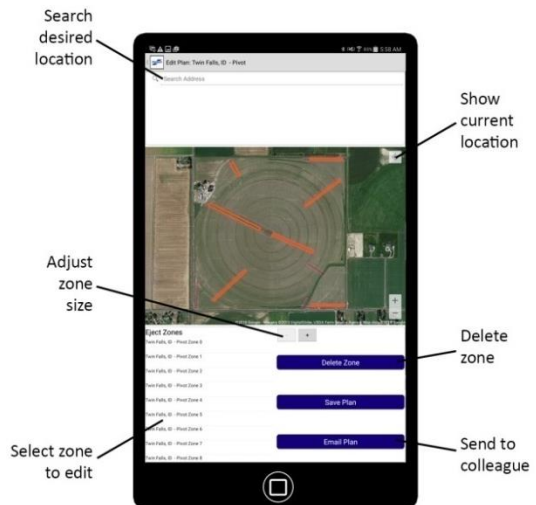
PhiBer® has created an app for a phone or tablet to help maximize efficiency when handling large square bales. With this app the operator can plan ahead of time where to eject the bales and then to automatically drop them in those locations during baling. The App is called *PhiBer Accumulator*.



Planning Mode.

The operator has two planning options; choose from *Create New Plan* or edit a plan in *Existing Plans*. To create new, choose the *Planning Mode* button, name the plan and then tap *Create New Plan*. PhiBer is utilizing Google satellite images to view the field. To find the field there are two options.

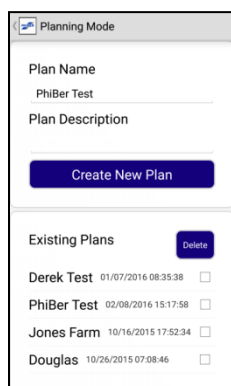
- A. With GPS enabled click the GPS icon  in the top right hand corner of the map and it will show the current location.
- B. In the search bar, type in desired location.



Once the desired field can be viewed on the map, create the eject zones. A zone is created between two dropped pins. To drop a pin, press and hold in the desired location and a pin will appear. On the other end of the zone press and hold to drop a second pin, your zone will immediately appear as a green line. A zone has now been created between the two pins. To change the size of the zones, use the plus and minus buttons above the *Delete Zone* button.

Tip: The closer you zoom in on your screen, the more accurate your pins will be.

Note: The plus and minus buttons located on the map are used for zooming in and out, these do not change the size of the zone.



To add more zones, repeat the process of dropping pins in desired locations. If more than one zone has been created, only the active zone will appear green, all others will be pink. All zones created are listed in the bottom left corner of the screen, tap chosen zone to make it active. To delete a zone, select zone and press *Delete Zone*. When field is complete, tap *Save Plan*. Plan can be emailed to colleagues by tapping *Email Plan*, it will then prompt to default email program.

Tip: Create zones in such a way that you are never leaving a zone

How the Zones Work

As the handheld device enters into a zone, it will send a signal to the accumulator to eject the bales. If the accumulator is not full it will wait to eject bales. The purpose of this is to maximize the number of bales in the desired package. A second eject signal is sent from the device when leaving the zone, forcing an immediate eject if possible.

Tip: Create small zones if location is important (ie, flood irrigation). Create larger zones if bale grouping is important for faster handling (ie, dry land or

Note: Data connectivity is required when planning fields. While the map is running, connectivity is not required; the App saves the GPS coordinates and will eject based on coordinates.

Bale Eject Mode.

To run the automatic eject mode, the handheld device has to be paired with the accumulator. See *Bluetooth Connection*. Select *Bale Eject Mode*, then choose from the list of existing plans, enable automatic eject.

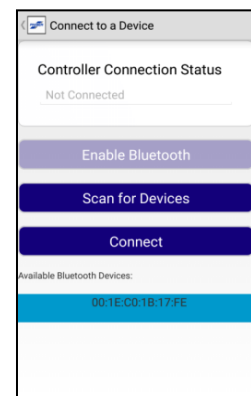


Bluetooth and Wifi Connection

Identifying Connection Type: Your machine will be Wifi enabled if it has a Wifi decal on the front of the frame.

Connecting to Wifi: Open your devices Wifi configuration page and select the PhiBer network, enter password 12345678. Then open app.

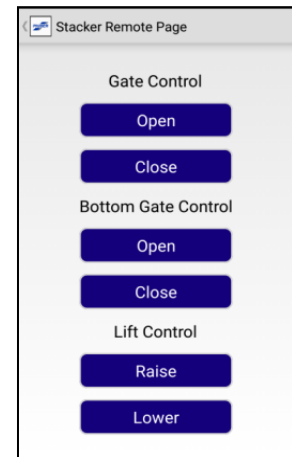
Connecting to Bluetooth: Tap *Connection Settings*, Switch To *Bluetooth* and then scan for devices (in the App). If Bluetooth is not already enabled on the device, tap *Enable Bluetooth*. It will list all available Bluetooth devices, select desired accumulator and tap *Connect*.



Note: The pairing to Bluetooth is done through the App, not through the device Bluetooth configuration

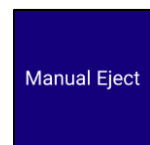
Remote Control

To run the *Remote Control Mode*, the device has to be paired with the accumulator. Once paired, operators can manually override any hydraulic function. In the remote control mode the VT Terminal will be locked out so that only one operator has access to this feature for safety reasons.



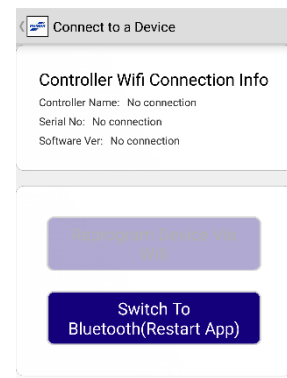
Manual Eject

Tap *Manual Eject* to unload current bales on accumulator.



Updating Accumulator Software Through App

Tap *Connection Settings*, and then tap *Reprogram Device Via Wifi*



Downloading and Sending Log Files

Log files allow the manufacturer to better help diagnosis service calls. Tap *Connection Settings*, and then tap *Download Log Files*. To send files first disconnect from Wifi, than tap *Email Log Files*.

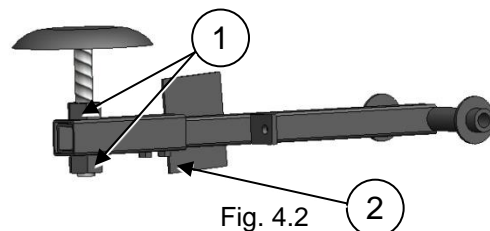


Bale Trigger Adjustment

The bale trigger mechanism senses a bale entering the accumulator deck from the baler and activates the side shift truck function. The side shift truck may cycle prematurely if the bale trigger spring tension is set too loose, the bale trigger button is set too high or the bale trigger button is set too close to the baler.

Bale Trigger Vertical Adjustment

1. Loosen nuts, 1 (Figure 4.2) on threaded rod.
2. Turn bale trigger button and threaded rod until reaching desired vertical position.
3. Tighten nuts on threaded rod.



Bale Trigger Horizontal Adjustment

1. Loosen nuts, 2 (Figure 4.2) on telescoping tube.
2. Slide tube forward or rearward to desired position.
3. Tighten nuts.

NOTE: Loosely packed or silage bales may sag and contact bale trigger button causing the side shift truck to cycle prematurely.

Transporting



WARNING! Unload all bales from accumulator deck before traveling on public roads.

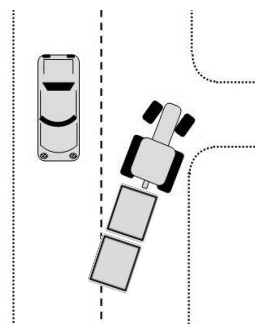
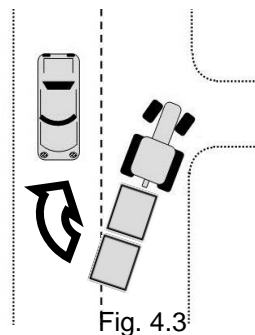


WARNING! WIDE TURNING PATH

Ensure that all oncoming and/or overtaking traffic is clear before making turns on public roads. Slow down and look for both oncoming and overtaking traffic before making turns.

Allow oncoming and overtaking traffic to clear before making turns when traveling on public roads (Figure 4.3).

Always travel on public roads with the Bale Accumulator within the lane of travel (Figure 4.4).



Storage



WARNING! Store Bale Accumulator away from human activity. DO NOT allow children to play on the Bale Accumulator at any time.

To ensure optimum operation of the Bale Accumulator for the next season:

1. Clean all crop material and dirt from Bale Accumulator frame and deck.
2. Retract hydraulic cylinders fully.
3. Lubricate casters to prevent rusting.
4. Lubricate bearings in rollers.

Recommended Settings

Below is a chart to use as reference for proper flow settings. The cycle times below should be achieved if the flow on the tractor going to the accumulator is set at **12gpm.**

Model	Action	Proper Cycle Time
3108	Side shift: Right side to Left side	4 sec.
3108	Side shift: Left side to Right side	4 sec.
3108	Push off & Retract	7 sec. (4 sec. push/3 sec. retract)
4108	Side shift: Right side to Left side	6 sec.
4108	Side shift: Left side to Right side	5 sec.
4108	Push off & Retract	7 sec. (4 sec. push/3 sec. retract)

- **Hitch Height:** Set a straight edge along the bottom of bale chamber and set hitch height so that the top of the front roller is 1" higher than the straight edge line (interference). If the baler is too high to achieve interference or the front of the accumulator is higher than the back, the hitch height has to be lowered to keep bales from sliding off.
- For **bales <7'** the three short rear rollers can be moved ahead to facilitate dumping.
- For **bales <6'** the front push off roller and push off bar with bale support springs can be moved back to further facilitate dumping.
- For very short bales, the accumulator must be ordered with a silage kit.
- **Silage Bales:** PhiBer recommends an extra deck roller in the center of the accumulator (Balage Accumulator).
- **Hills:** If bales are sliding off on hills, the front hitch can be lowered by 1 hole in the center hitch.

CAUTION: Lowering the front too much causes the castors to run on one wheel when making turns.

Maintenance

Proper maintenance of the accumulator will result in more reliable performance. Please refer to the chart below for recommended maintenance information:

Key			Maintenance Record											
✓	check	hours												
●	lubricate	by												
◇	clean	date												
▲	change													
12 ⌘														
✓	Limit Switches													
✓	Wheel Lug Nuts													
50 ⌘														
●	Roller Bearings													
●	Hitch Pivot													
✓	Bale Trigger Spring Tension													
1000 ⌘														
✓	Wheel Lug Nuts													
●	Wheel Bearings													

Limit Switches

Check the limit switches (Figure 6.1) daily to ensure they are clear of accumulation of foreign material.

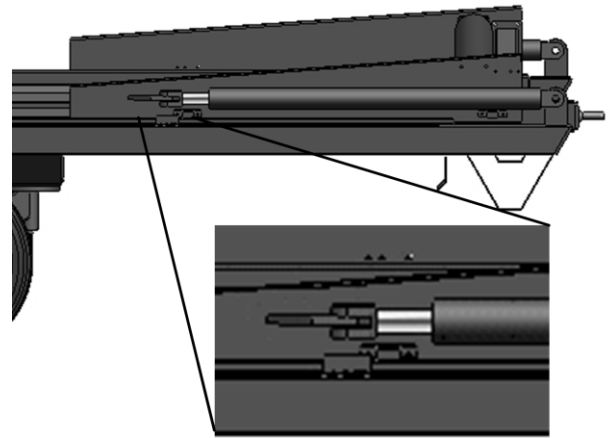


Fig. 6.1

Wheel Lug Nuts

Check wheel lug nut tightness (Figure 6.2) after the first two (2) hours of operation, again after the first ten (10) hours, then periodically.

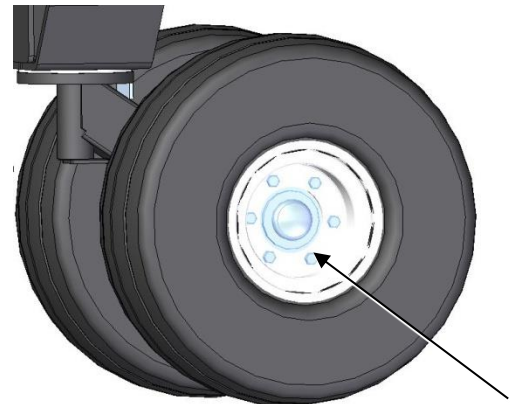


Fig. 6.2

Roller Bearings

Grease roller bearings (Figure 6.3) every 50 hours or monthly (12 fittings plus 2 additional fittings if front roller option is installed).

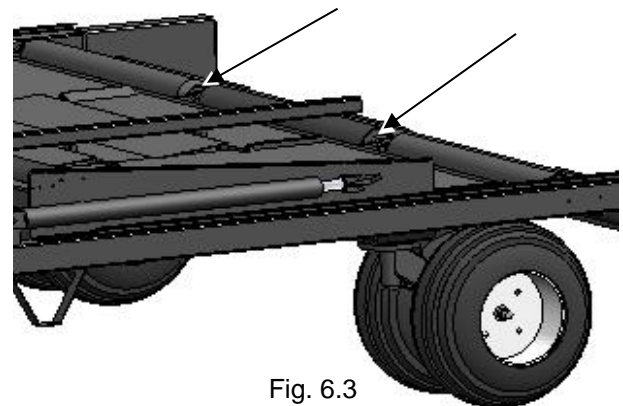


Fig. 6.3

Hitch Pivot

Grease hitch pivot (Figure 6.4) every 50 hours or weekly.

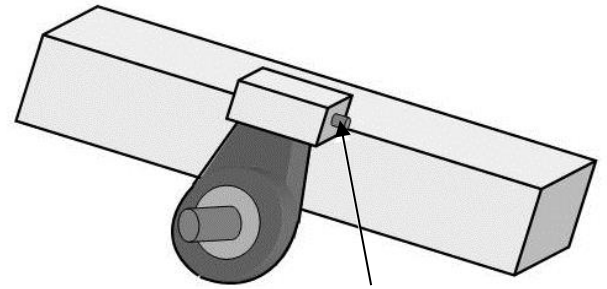


Fig. 6.4

Bale Trigger Spring Tension

Check bale trigger spring tension (Figure 6.5) every 50 hours or weekly. Adjust, if necessary.

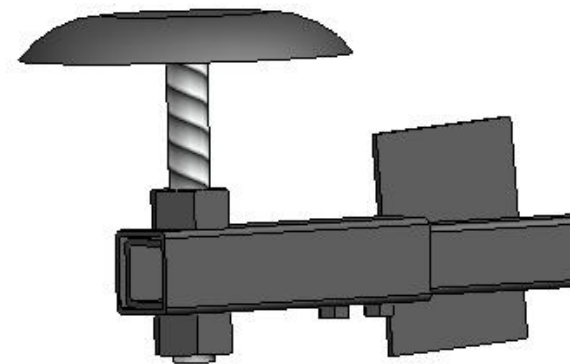


Fig. 6.5

Wheel Bearings

Remove, clean and re-pack wheel bearings (Figure 6.6) every 1000 hours or annually.

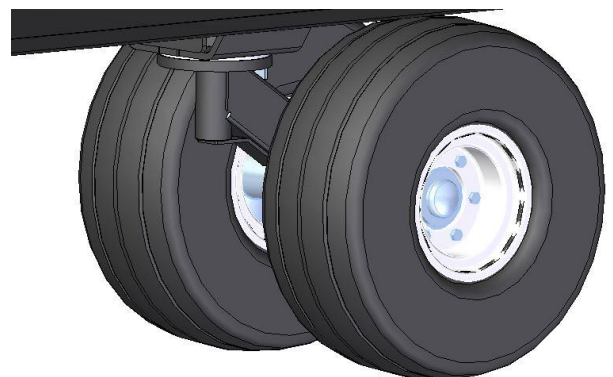


Fig. 6.6

Hydraulic Cylinder Replacement



NOTE: The following procedure must be followed in order to remove air from the hydraulic system if a hydraulic cylinder is ever removed and replaced.



WARNING!

UNEXPECTED MOTION HAZARD. Ensure all bystanders are clear of the deck and tracks during this air removal procedure.

1. Disconnect rear pin from push-off master and slave cylinder and support cylinders away from push-off truck.
2. Activate hydraulic control valve to allow oil to flow.
3. Enable accumulator in manual mode.
4. Press extend hold on monitor until both cylinders are at full stroke. Master cylinder will begin to fill followed by the slave cylinder.
5. Retract cylinders. Repeat step 4 until cylinders extend and retract evenly.
6. Retract to home position and turn power off.
7. Connect cylinders to push-off sides.

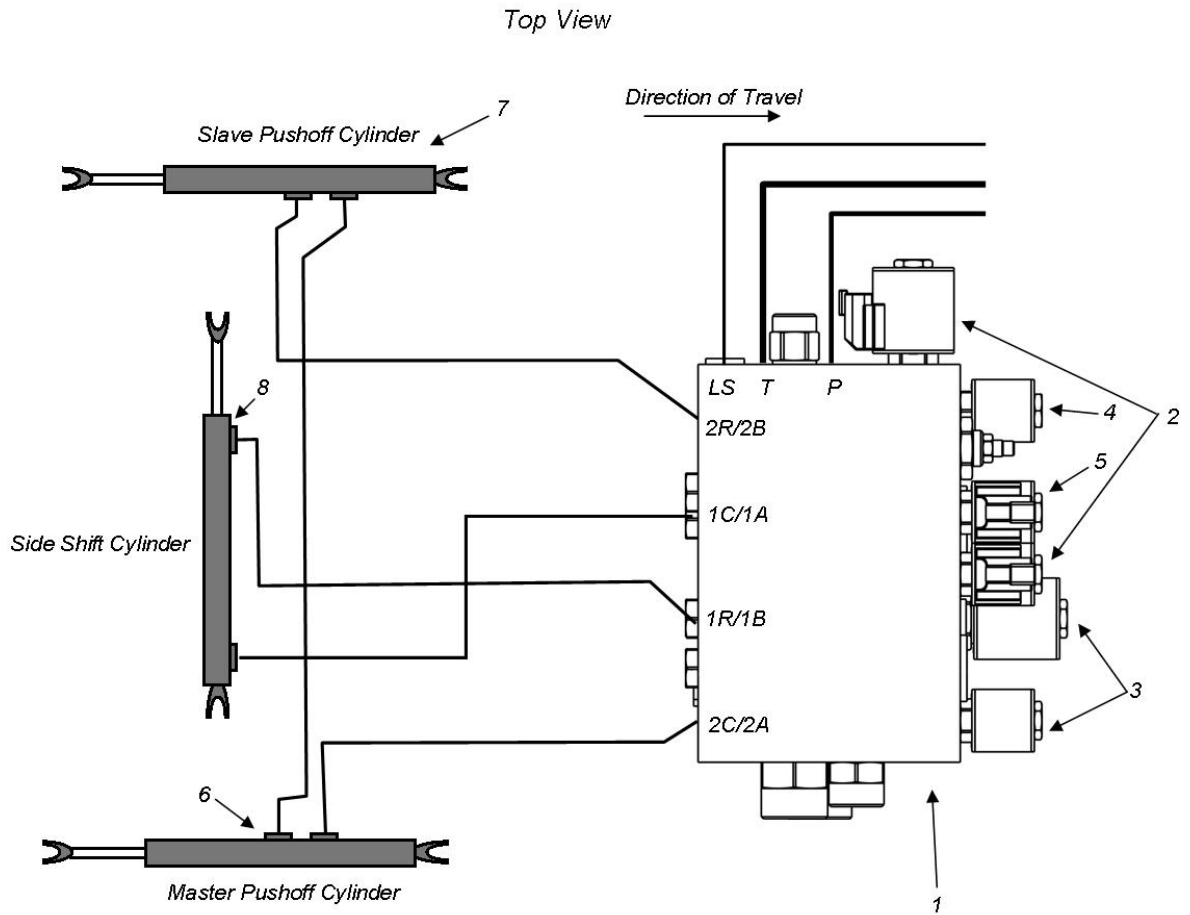


WARNING!

UNEXPECTED MOTION HAZARD. Ensure power is off before re-attaching hydraulic cylinder.

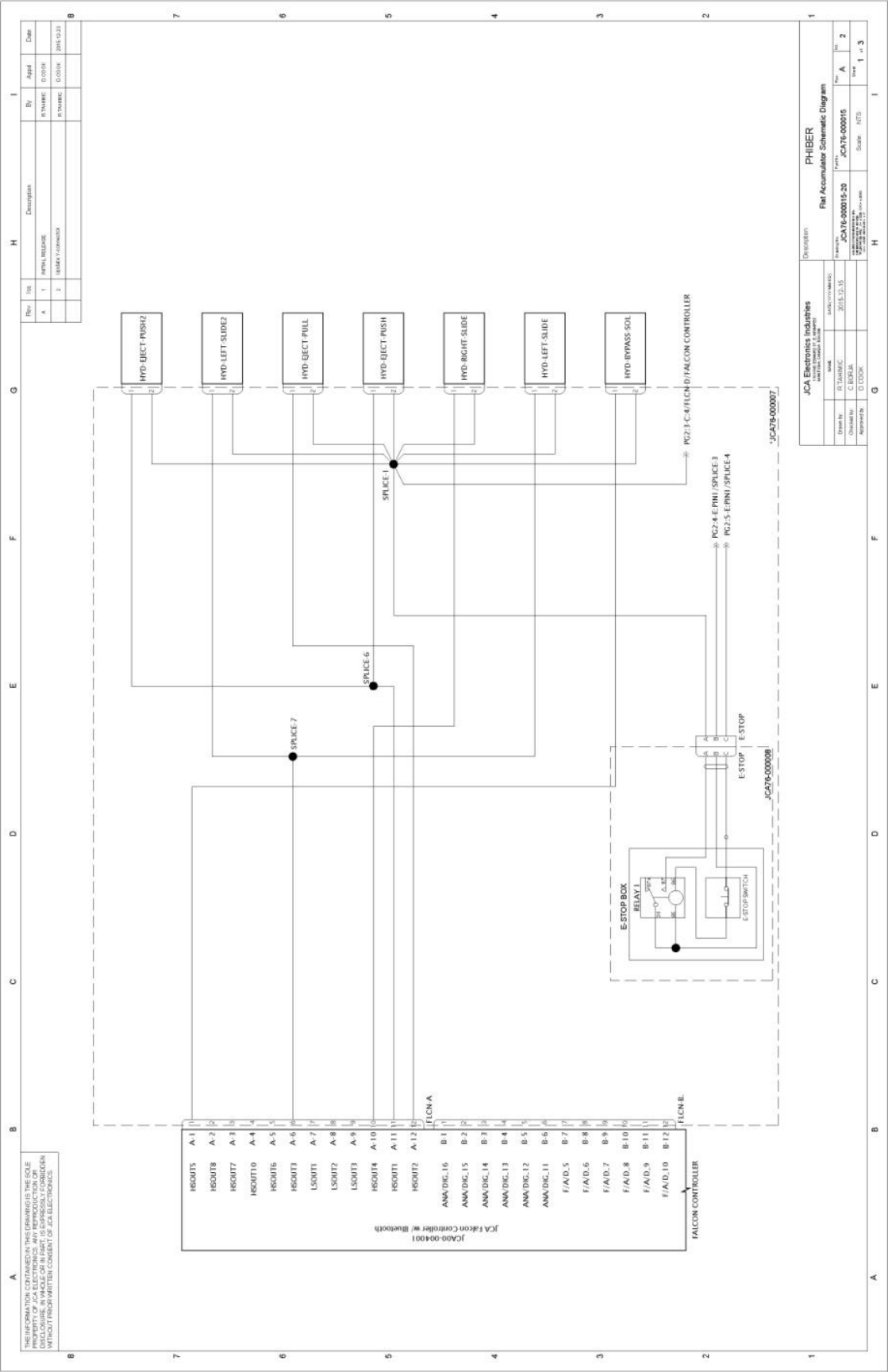
8. Replace push-off cylinder rear pins connecting them to the push-off truck.

Hydraulic Schematic

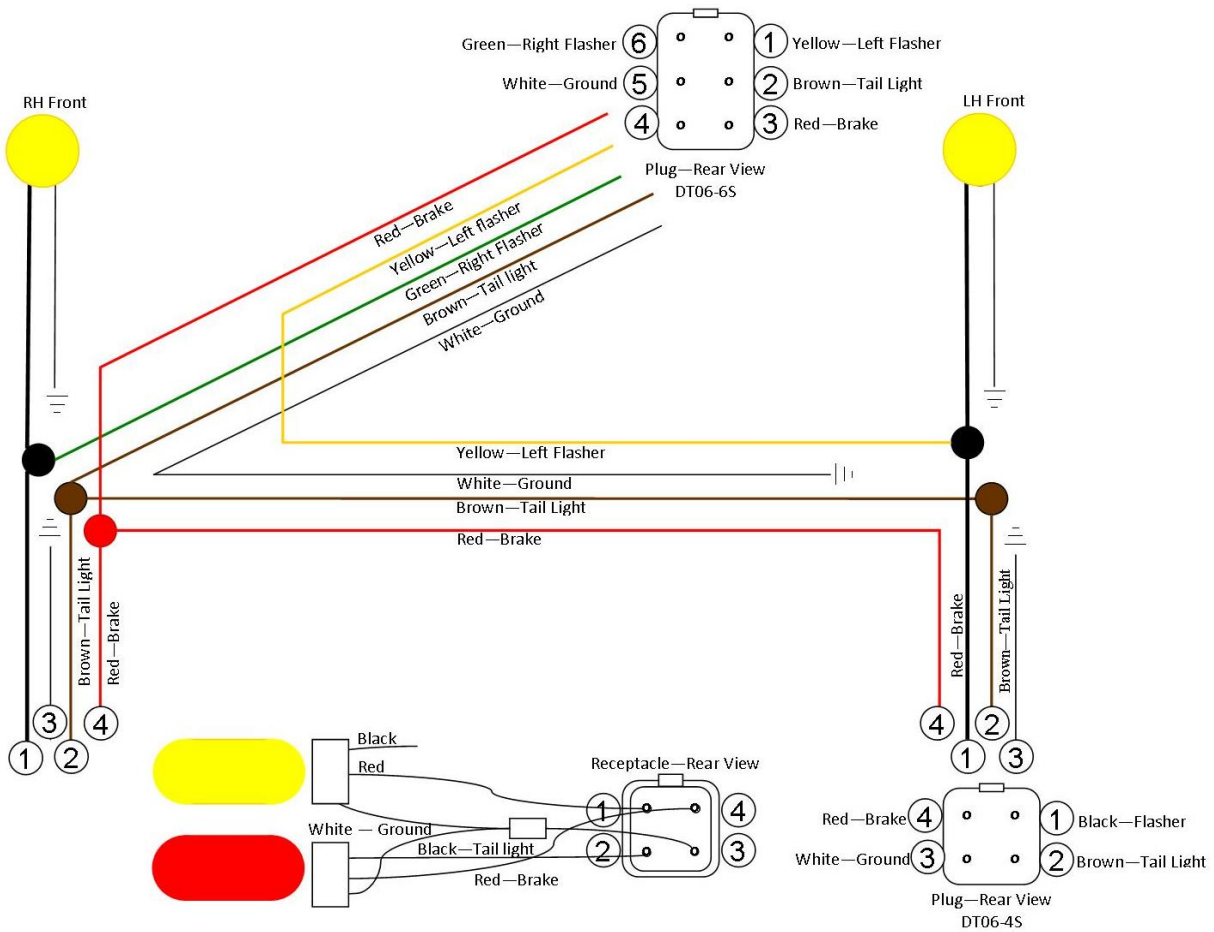


Item	Description
1	Solenoid Control Valve
2	Eject Extend Solenoid
3	Side Shift Extend Solenoid
4	Side Shift Retract Solenoid
5	Eject Retract Solenoid
6	Eject Cylinder – Master
7	Eject Cylinder – Slave
8	Side Shift Cylinder
P	“Pressure” port on valve
T	“Tank” port on valve
LS	“Load Sense” port

Electrical Schematic



Lights



Troubleshooting

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Accumulator does not work.	Emergency Stop Switch pushed in	Turn clockwise to reset.
Side shift and push off trucks do not move when tractor hydraulic lever actuated.	Hydraulic hose connections reversed. Poor electrical connection. Fuse blown. Improper limit switch setting. Electronic monitor malfunction.	Change hose connections at tractor hydraulic quick couplers. Inspect the wiring harness coupling and clean, if necessary. Remove and replace 7 A fuse on monitor in tractor cab. Check settings on limit switches for side shift and push off modes. Adjust, if necessary. Toggle power switch to "OFF", then press and hold "EJECT" button for 3 seconds to clear and reset memory. Indicator lights will strobe when power is resumed to indicate proper operation.
Side shift operates prematurely.	Bale trigger bounces on rough terrain. Bales sag as they leave the chamber on the baler.	Tighten spring on bale trigger. Adjust bale trigger downward to make less sensitive. Adjust bale trigger forward for haylage bales. Raise front of accumulator.
Push off truck moves slightly after resetting accumulator even if other tractor hydraulics appear to be functioning properly.	Hydraulic lock.	Place tractor hydraulic control lever in float position or disconnect return hydraulic hose coupler to drain off excessive oil. Push center pins of main valve until all pins move freely. Re-connect hydraulic hose coupler. Ensure that return oil is discharging into tractor hydraulic reservoir. Reduce tractor hydraulic flow to accumulator to 12 gal-US/min (45.4 L/min) or less.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Bale trigger does not activate side shift truck.	Gap between proximity switch and trigger plate is too large.	Measure gap between proximity switch and trigger plate. Adjust gap, if necessary. Proper gap setting is between 3/16 - 1/8" (1.5 - 3 mm).
Electronic system appears inactive. Indicator lights do not strobe at start-up.	Blown fuse on circuit board.	Toggle power switch to "OFF". Open control box under deck of accumulator, remove and replace 800 mA fuse. Toggle power switch back to "ON".
Tractor hydraulic oil overheating.	<p>Tractor hydraulic oil flow set too high.</p> <p>Low pressure return oil flow is not discharging into tank properly.</p>	<p>Reduce tractor hydraulic oil flow setting.</p> <p>Ensure that low pressure return flow is discharging directly into the tractor hydraulic reservoir. Newer tractor hydraulic systems have provisions for setting oil flow return directly into the tractor reservoir. With older model tractors, it may be necessary to plumb return flow to a port or fitting to allow direct discharge into the reservoir.</p> <p>Remove and inspect check valve. Clean out any debris and replace check valve.</p> <p>Inspect quick coupler tips for proper action and/or blockage.</p>
Fuse	Blown fuse on power cord	Check fuse.
Machine Function Halted	<p>Hydraulic flow not turned on</p> <p>Hydraulic time out due to sensor failure</p>	<p>Enable remote on tractor.</p> <p>Check all sensors on diagnostics page.</p>

Installation

Hitch Kit Mounting Guidelines

All PhiBer® Bale Accumulator hitch kits are similar in design, but each specific baler make and model require certain specific hitch parts. All hitch kits consist of three main sets of components:

1. Center mount hitch assembly that carries the weight of the accumulator.
2. Pair of link arms with associated hardware for towing the accumulator.
3. Bale support system that supports oncoming bales during bale ejection.

NOTE: All PhiBer® Bale Accumulator hitch kits are shipped with a complete set of installation instructions. Refer to the provided install instructions first. The information provided here are some guidelines for preparing the baler for installation of the Bale Accumulator.

Read, understand and follow all installation instructions prior to installing the Bale Accumulator onto the baler. Failure to follow these instructions may result in improper Bale Accumulator installation and the Bale Accumulator may not perform as intended.

Prepare Tractor and Baler

1. Hitch baler to tractor per instructions found in baler Operator's Manual.
2. Park tractor and baler on firm, level surface.
3. Shut tractor engine off and remove key from ignition.
4. Set tractor parking brake.
5. Support bale chute securely and remove retaining hardware.
6. Carefully lower bale chute to the ground and move it away from the baler.

General Installation Tips

Accumulator Placement

Ensure that the Bale Accumulator, 1, is mounted squarely to the rear of the baler 2 (Figure 8.1). Begin installation procedures with Bale Accumulator set on a firm, level surface behind the baler. The deck should be evenly spaced behind the baler.

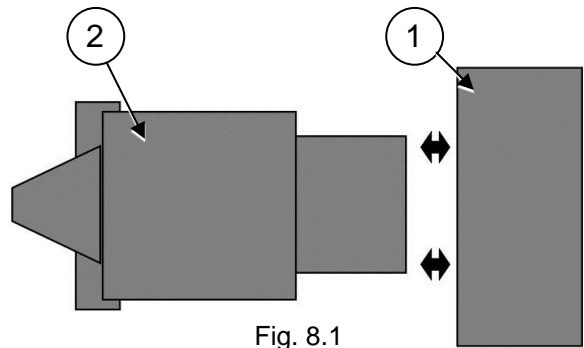


Fig. 8.1

After-Market Baler Attachments

Check for potential interference with any after-market baler attachments such as bale ejectors, preservative tanks, etc. Contact PhiBer® if any modifications are necessary.

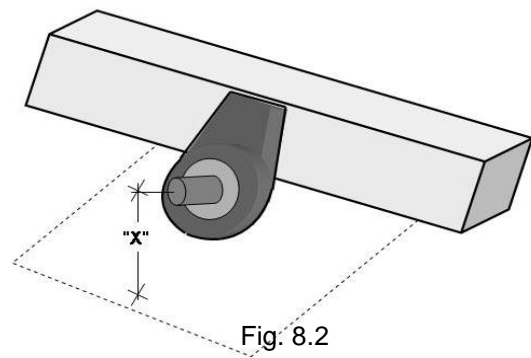


Fig. 8.2

Optimum Hitch Height

The optimum hitch height is 25 in (635 mm) from the ground (Figure 8.2). This is important so that the leaf springs, 1, (Figure 8.3) do not become over stressed as indicated by the dashed line.

NOTE: Hitch height may range from 22 in (559 mm) to 29 in (737 mm) to allow for differences in baler makes and models. Balers are equipped with 26x12x12 tires.

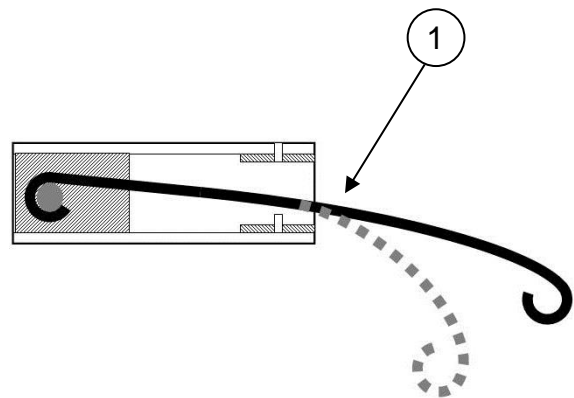


Fig. 8.3

Index

A

Accumulator Phone App	
Bale Eject Mode	24
Bluetooth and WiFi Connection	24
Downloading and Sending Log Files	25
Remote Control	25
Updating Accumulator Software Through App	25
Zone Planning	23
Assembly Illustration	3

B

Bale Eject	
Automatic	18
Manual	18, 25
Bale Hold Mode.....	19
Bale Length Settings	14, 28
Bale Packaging Modes	2
Bale Trigger Adjustment.....	26
Bale Zones-Planning/ Pinning	24
Bluetooth Connection.....	24

C

Closed Center Hydraulic	16
Component Cycle Times.....	16, 28
Cycle Mode Selection	17

G

GPS Turn On/Off.....	23
----------------------	----

H

Hitch Kit	
Accumulator Placement	40
After-Market Baler Attachments	40
Hitch Height.....	40
Installation	39
Preparing Tractor and Baler	39
Hydraulic Flow.....	16
Hydraulic Set-up.....	16
Hydraulic Time-out.....	17

I

Icon Guide.....	20
ISOBUS	
Software	19

Virtual Terminal	3
------------------------	---

M

Maintenance	
Bale Trigger Spring Tension.....	31
Hitch Pivot	31
Hourly Record	29
Hydraulic Cylinder Replacement	32
Limit Switch	30
Roller Bearings.....	30
Wheel Bearings	31
Wheel Lug Nuts.....	30
Monitor	
Diagnostics Page	22
Home Page	21
Manual Mode Page	22
Scale Page	22
Setup Page.....	21
Start-up Page	20

O

Open Center Hydraulic.....	16
Operation	16
Cycle Mode Selection.....	17
Field	18
Hold Mode	19
Making Solid Bales.....	19
Safety	4
Start-up Procedure	18

P

PhiBer Accumulator App See Accumulator Phone App	
--	--

S

Safety	
Alert Symbols	4
General Safety Practices.....	5
Hydraulic Safety	8
Installation Safety	8
Maintenance Safety.....	7
Operator Responsibility	5
Safety Sign Maintenance	13
Signs	11
Storage Safety.....	10
Tire Safety	10
Transport Safety.....	9

Schematic	
Electric	34
Hydraulic	33
Lights.....	36
Serial Number Plate	3
Specifications	14
Storage	27

T

Torque Specifications.....	15
----------------------------	----

Tractor Requirements	14
Transporting.....	26
Troubleshooting	37

W

Warranty	i
WiFi Connection.....	24



PhiBer Manufacturing Inc.
Box 58 Crystal City, MB
Canada R0K 0N0