BALZER

FIELD FLOATER 7
USER MANUAL

Serial Number: _____

Date of Purchase: _____

Purchased From: _____

Dealer's Address: _____

Dealer's Telephone: _____

INDEX

COMPANY STATEMENTS

Accuracy

Balzer Incorporated is dedicated to providing the most reliable and durable agricultural related products available. We have made every attempt to provide the most accurate and readily understandable information on our equipment. Due to our continuing efforts to produce the best products available, updates and improvements to our equipment may precede updates to this and other manuals. Therefore, the contents of this manual are based on the information in effect at the time of publication and are subject to change without notice.

It is the policy of Balzer Incorporated to constantly improve its products whenever it is practical to do so. Therefore, Balzer Incorporated reserves the right to redesign or change its equipment or component parts thereof without incurring the obligation to install or furnish such changes on equipment manufactured prior to date of redesign or change.

To the Purchaser

This is the safety alert symbol. It is used to alert the operator to an instruction concerning the personal safety and risk factor of this equipment. Always observe and heed these very important instructions to promote a safe operation with good preventive maintenance habits.

This Balzer product is designed and manufactured to provide years of dependable service when used for the purpose for which it is intended, and when properly maintained.

NEVER OPERATE THIS EQUIPMENT AT SPEEDS OVER 2O MPH.

NEVER OPERATE THIS EQUIPMENT UNTIL USER FULLY UNDERSTANDS THE COMPLETE CONTENTS OF THIS MANUAL. FOR OWNERS WHO DO NOT OPERATE THIS EQUIPMENT, IT IS THE OWNER'S RESPONSIBILITY TO ENSURE ALL USERS ARE PROPERLY INSTRUCTED AND FULLY AWARE OF THIS MANUAL'S CONTENTS.

This is important in the safe handing of this equipment and promoting an efficient operation. If there are any questions about areas in this manual, it is important to contact your dealer for clarification.

This machine is warranted as stated below. Registration of this equipment is to be completed online as soon as possible. This will provide a ready reference to help you in securing warranty and in answering questions that you may have at some later date.

Operating instructions and parts manuals are shipped with this machine. If parts of these manuals are missing or become unreadable, contact your dealer for a replacement manual.

The serial number and identification tag is located to the front of the frame. Please refer to these numbers when parts or warranty communication is necessary.

Warranty Manufacture: The Dealer or Distributor understands and agrees the Manufacturer extends only

the following Warranty to customers. In the event a Dealer or Distributor extends any additional warranty (such as by enlarging the scope or period of warranty or undertaking a warranty of **merchant-ability** or fitness for any particular purpose) or any other obligation whatsoever, the Dealer or Distributor shall: (1) be solely responsible therefore; (2) have no recourse against the Manufacturer thereof; and (3) defend, indemnify, and hold the Manufacturer harmless against any claim or cause of action whatsoever arising out of, or occasioned by, the Dealer's or Distributor's extension of said additional warranty or obligation.

Certificate of General Equipment Warranty: Balzer Inc. warrants new Products sold by

it to be free from defects in material and/or workmanship for a period of one (1) year after the date of delivery to the first user and is subject to the following conditions:

1. Balzer Inc.'s obligation and liability under this Warranty is expressly limited to repairing or replacing at Balzer Inc.'s option any parts which, upon inspection by Balzer Inc., to have been defective in material or workmanship. Such parts shall be provided at no cost to the user and shall be delivered to the business establishment of the authorized Balzer Inc. dealer or distributor of the Product during that dealer's or distributor's regular working hours.
2. This Warranty shall NOT apply to component parts or accessories of Products not manufactured by Balzer Inc. and which carry the warranty of the manufacturer thereof, or to normal maintenance (such as tune-up) or normal maintenance parts (such as oil filters).
3. Replacement or repair parts installed in this Product covered by this Warranty are warranted only for the remainder of this Warranty if such parts replaced were original components of said Product.

Certificate of General Equipment Warranty (Continued)

BALZER INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Balzer Inc.'s obligation under this Warranty shall not include any transportation charges, cost of installation, duty taxes, or any other charges whatsoever, or any liability for direct, indirect, incidental, or consequential damage or delay. If requested by Balzer Inc., products or parts for which a warranty claim is made are to be returned transportation prepaid to Balzer Inc. This Warranty shall become void under, but not limited to, any of the following conditions: any improper use, including operation after discovery of defective or worn parts, operation beyond rated capacity, or operation for a use other than this Product's intended design; substitution of parts not approved by Balzer Inc.; or modifications or repairs by others that are done in a manner as determined by the judgement or Balzer Inc. to have adversely affected the material or workmanship of this Product.

NO EMPLOYEE OR REPRESENTATIVE IS AUTHORISED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY AN OFFICER OF BALZER INC. AT ITS HOME OFFICE.

Liability for Delays

No liability shall attach to Manufacturer direct or indirect for incidental or consequential damages or expenses due to loss, damage, detention of, or delay in delivery of Products resulting from acts or delays beyond its control.

Contact Information

Telephone Numbers	Toll-Free:	(800) 795-8551
		(800) 727-3133
	Outside North America:	(507) 427-3133
	Fax:	(507) 427-3640

Mailing/Shipping

Balzer Inc.
County Road 27 East
PO Box 458
Mountain Lake, MN 56159

Website   www.balzerinc.com

Warranty Registration

As of June 1, 2014, all warranty registration must be completed online to be valid. Registering online is fast and easy.

If you are viewing this manual on a device connected to the Internet, click here: **REGISTER NOW!**

Go to the Balzer website at www.balzerinc.com and click on "Parts and Service".
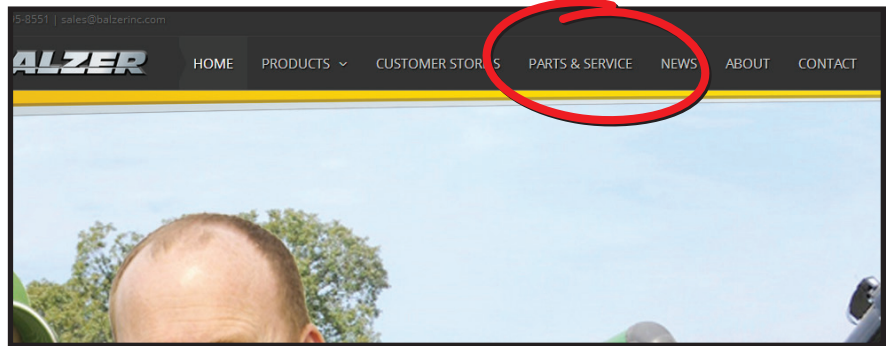
Then, on the right side of the website, click on the "Register Now" button under "Warranty Registration".
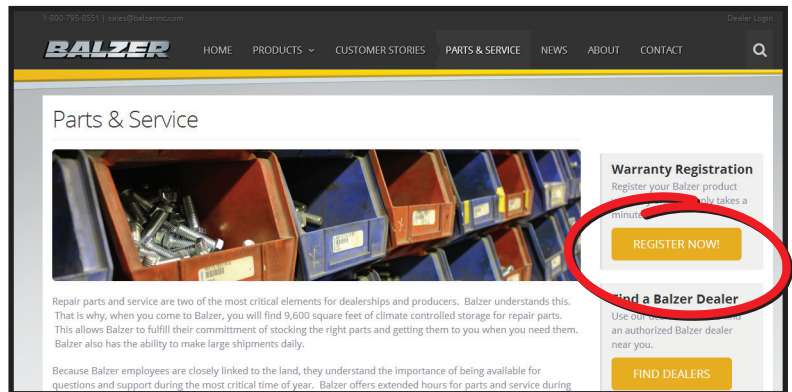
Complete the online form and click "Submit".

Balzer Inc. is committed to our customers and their privacy. Balzer Inc. will only use the information you give us to provide prompt warranty claims and services to you. Balzer Inc. uses appropriate safeguards which reasonably and appropriately protect the information that Balzer Inc. creates, receives, maintains, or transmits on behalf of our customers. Any personally identifiable information obtained will not be sold, rented, shared, or made available to third parties.

Safety

The following Safety Alert Symbols mean **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!** They stress an attitude of **"HEADS UP FOR SAFETY"** and can be found throughout this manual and on the equipment itself.

BEFORE YOU ATTEMPT TO OPERATE, MAINTAIN, OR SERVICE THIS EQUIPMENT, READ AND STUDY THE FOLLOWING SAFETY INFORMATION. IN ADDITION, MAKE SURE THAT EVERY INDIVIDUAL WHO OPERATES, WORKS WITH, OR OTHERWISE USES THIS EQUIPMENT IS FAMILIAR WITH THESE SAFETY PRECAUTIONS.

Our company **ALWAYS** takes operator safety into consideration when designing its machinery, guards, and exposed moving parts for operator protection. However, some areas can **NOT** be guarded or shielded in order to assure proper operation. In addition to this manual, decals on the machine warn of further danger and should be read and observed closely.

READ and **FOLLOW** the instructions on all decals.

REMEMBER it is the owner's responsibility for communicating all information on the safe use and proper maintenance of this machine! This includes providing understandable interpretation of these instructions for operators who are not fluent in reading or understanding English.

⚠️	**DANGER**	DANGER indicates an imminently hazardous situation which if not avoided will result in serious injury or death or irreparable damage to the machine.

⚠️	**WARNING**	WARNING indicates a potentially hazardous situation which if not avoided may result in serious injury or death or moderate to severe damage to the machine.

⚠️	**CAUTION**	CAUTION indicates a potentially hazardous situation which if not avoided may result in minor to moderate injury or minor to moderate damage to the machine.

Mandatory Safety Shutdown Procedure

BEFORE cleaning, adjusting, lubricating, or servicing this equipment:

1. Remove the ignition key from the power unit engine.
2. Make sure ALL movement throughout this equipment has ceased! ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedure may lead to serious injury or death.
3. Properly attach the jack to this equipment and raise up to transfer weight to the jack.
4. Keep the hitch pin attached to help prevent this equipment from moving.
5. Disconnect the PTO shaft from the power unit.

Additional Safety Reminders

USER/OPERATOR SAFETY PRACTICES are included in this manual and are intended to promote SAFE OPERATION of this equipment.

These guidelines do not preclude the use of good judgement, care, and common sense as may be indicated by the particular job site work conditions.

It is essential that all operators be physically and mentally free of any mind altering drugs and chemicals and thoroughly trained in the safe operation of this equipment. Such training should be presented completely to all new operators and **NOT** condensed for those claiming previous experience.

FOR ILLUSTRATION PURPOSES ONLY some photographs and images in this manual may show doors, guards, and shields open or removed. **BE SURE** all doors, guards, and shields are in their proper operating positions **BEFORE** operating this equipment. **NEVER** operate this equipment with any guards or shields damaged or not in place. **REPLACE** any damaged or missing guards and shields.

KEEP HANDS AND FEET AWAY FROM ALL MOVING PARTS!

The operator **MUST** know the capabilities and work applications for this equipment and operate it at speeds slow enough to ensure complete control at all times. When working on uneven ground or near the edge of roadbeds there is no substitute for good judgment and only operators with sufficient experience should attempt such work.**NEVER** assume everyone is as safety conscious as you are**.**

Personal Safety

NEVER allow minors and/or any unqualified personnel to operate or be near this equipment unless properly supervised.

NEVER allow anyone to ride on this equipment at any time.

NEVER leave this equipment running unattended.

NEVER wear loose or torn clothing while working around moving parts.

NEVER step on the PTO drive shaft at any time.

ALWAYS wear appropriate personal safety equipment and gear as called for by the job or working conditions.

ALWAYS be aware of pinch point areas on this equipment.

ALWAYS keep hands, feet, hair, and clothing away from moving parts.

ALWAYS stop and disengage the PTO and shut off the tractor before doing any adjusting or servicing to this equipment.

Towing Safety

THE MAXIMUM SPEED FOR TOWING THIS EQUIPMENT IS 20 MPH.

Observe the recommended maximum road speed limit, local speed limit, or maximum recommended towing speed whichever is the lesser speed.

ALWAYS MOVE THIS EQUIPMENT WITH A FARM TRACTOR ONLY.

Always engage power steering (on equipment with steering capabilities) before turning with a load.

DO NOT DISENGAGE power steering (on equipment with steering capabilities) before the turning process is completed.

Tractor must be heavy and powerful enough and have adequate braking power for the towed load.

STOPPING DISTANCE increases with speed and weight of towed loads and on slopes. Towed loads, with or without brakes, which are too heavy for the tractor or are towed too fast can cause loss of control. Consider the total weight of all equipment and the load.

Use additional caution when towing loads under adverse surface conditions (ice, mud, loose gravel, etc.), turning, or slopes.

DO NOT ATTACH safety chain to any point higher than the drawbar.

Operation Safety

Before each tow check the electrical connection, tail lights, brake lights, and turn signals. Damaged lights or improper electrical connection between the tractor and this equipment will result in inoperable lights and/or inoperable electric brakes.

Do not operate on public roads after dark without warning lights. Be alert and avoid loose, soft, or icy surface conditions which could cause tipping or loss of control.

Be sure the rear of this equipment has a visible and clean "Slow Moving Vehicle" emblem properly displayed. If towing at speeds less than 20 MPH on any public roadway at night, proper warning and running lights are necessary as required by state law! **MAXIMUM TOWING SPEED IS 20 MPH.**

DO NOT pull this equipment without having safety chains securing this equipment to the tractor. Refer to local transportation laws for regulation on safety chain use.

The tractor must be of sufficient size to maintain vehicle stability when this equipment is fully loaded. Never use a tractor that is not recommended for this equipment's application.

ALWAYS use a hitch pin which has a safety clip pin!

Check braking system oil level and braking capacity with a full load before operating or moving this equipment.

Check the wheel lug bolts and lug nuts daily and tighten as needed.

Replace any parts showing signs of excessive wear, cracking, or likelihood of failure with original equipment service parts.

Be familiar with all valves, doors, gates, and hydraulic controls.

BEFORE USE make sure this equipment does **NOT** have any foreign objects or materials which can cause equipment damage or personal injury.

NEVER ENTER THIS EQUIPMENT UNLESS ABSOLUTELY NECESSARY! If entry is necessary, take proper safety precautions to include but not limited to:

- Additional person on site and on the outside near the point of entry
- Safety harness and ropes where appropriate or required by law
- Proper life support system where appropriate or required by law
- Mechanical and electrical power disconnected
- Contacting your Balzer dealer for more information before entering

Check that the PTO slides freely, is not damaged, and is properly secured to the tractor and this equipment. Make sure there is approximately 1/3 overlap of engagement.

When possible, travel straight up or down a slope. Avoid travelling along side of hills, ditches, or other sloped surfaces. Slow down prior to going down any steep grade. Never take tractor out of gear when going up or down a hill. Always check the job site for hazardous terrain (including loose, soft, or icy surfaces), obstructions, or bystanders.

Do not exceed the maximum weight carrying capacity of the equipment or the tractor manufacturer's maximum towing capacity, whichever is the lesser weight. If you have any questions, contact your Balzer dealer.

Do not stand in front, behind, or along side this equipment when it is in operation or in motion. When parking this equipment,

securely block the wheels before unhitching from the tractor.

Vertical Auger Safety

The vertical auger on this unit can extend upward and outward away from the unit. Before extending the vertical auger, check surrounding area, including above the unit, for any electrical power sources or lines. Electrocution can result if unit comes into contact with electrical power sources.

Before moving this unit, make sure vertical auger is properly retracted. Moving this unit with the vertical auger extended can result in damage to the unit, other equipment, or buildings. It could also create an unbalanced load which could lead to the unit rolling onto its side.

⚠	**DANGER**	**ELECTROCUTION can result if unit comes into contact with electrical power sources or lines. Check overhead and surrounding areas to make sure unit is clear of any possible electrical source contact.**

Hydraulic System Safety

DO NOT smoke when working on hydraulic systems.

NEVER use your hand to search for hydraulic fluid leaks. Escaping fluid under pressure can be invisible and can penetrate the skin causing serious injury and other health hazards. Escaping fluid can also be extremely hot causing severe burns.

Use a scrap piece of cardboard to check for leaks.

IF ANY FLUID IS INJECTED INTO YOUR SKIN, SEEK MEDICAL ATTENTION IMMEDIATELY! Notify medical staff that there is an injection injury with hydraulic fluid. Injected fluid must be surgically removed by a doctor familiar with this type of injury or gangrene may result.

DO NOT attempt to loosen or disconnect any lines, hoses, or fittings without first relieving hydraulic circuit pressure. Be careful not to touch any hydraulic components recently in operation because they can be extremely hot.

ALWAYS replace hydraulic components with manufacturer recommended replacement parts. Improperly rated components may result in system failure and/or injuries.

Contact your local Balzer dealer to order replacement parts.
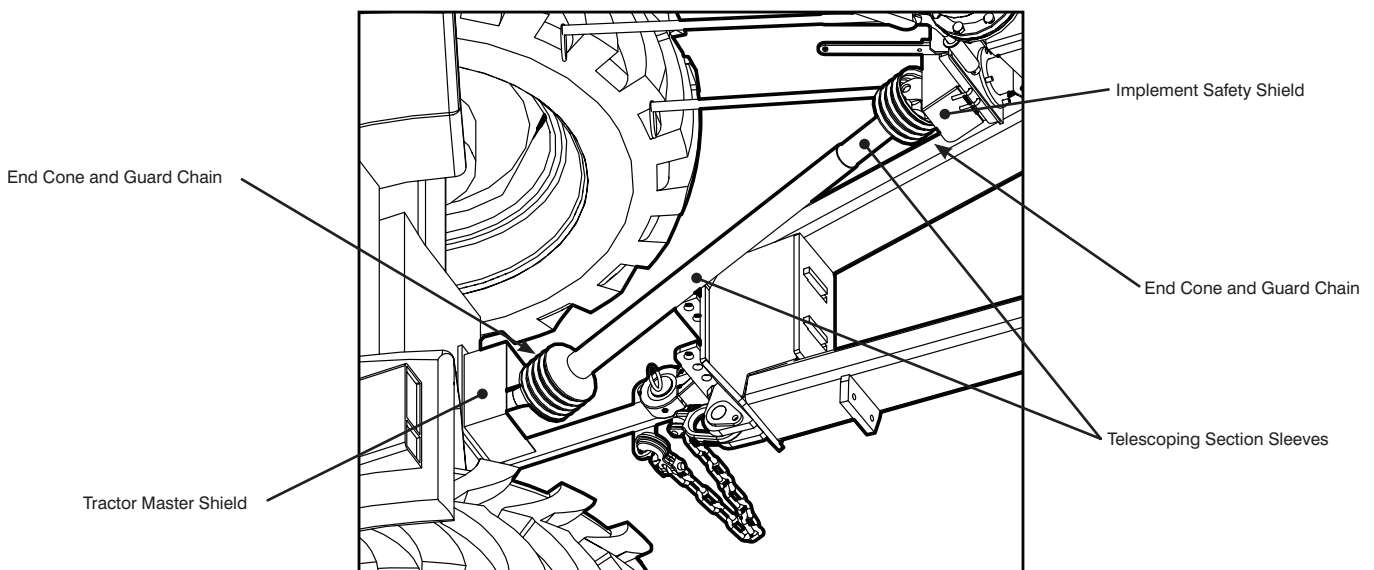
PTO Operation Safety

Do not wear loose fitting clothing or have long, free-hanging hair when operating the PTO (Power Take Off) or near ANY rotating equipment.
Never exceed the recommended operating speed (PTO and drive) for the particular equipment in use.
When operating stationary PTO driven equipment, always apply the tractor's parking brake lock and block the rear wheels front and back.

⚠️ **WARNING** PTO mounted drive shafts must only be used for their intended purpose.

FIGURE 1

End Cone and Guard Chain
Tractor Master Shield
Implement Safety Shield
End Cone and Guard Chain
Telescoping Section Sleeves

⚠️ **DANGER** DO NOT operate PTO without all guards in place and in safe operating condition.

PTO Operation Safety (Continued)

To avoid injury, do not clean, adjust, unclog, or service PTO driven equipment when the tractor engine is running.

When finished with the operation of PTO driven equipment, shift the PTO control to neutral, shut off the engine, remove the key, and wait until the PTO stops before exiting the tractor.

Implement input drivelines, clutches, and freewheels are designed for specific machine types and power requirements. They must not be replaced by any shaft other than that recommended by the implement manufacturer. Note the Operating Instructions from both the tractor manufacturer and the implement manufacturer. Ensure the implement driveline is securely connected at both ends.

Only use a completely guarded drive system (**Figure 1**). PTO drive systems with complete guarding include: the tractor master shield, the implement driveline guard (end cones, telescoping section sleeves, guard chain), and the implement safety shield. These safety devices must be installed at all times.

If any component of the guarding system has been removed for any reason, it must be repaired or replaced prior to operation of the machine.

Safety Signs and Decals

Safety signs or decals provide very important information and instructions designed to alert you to dangers and hazards which can be present during operation of this equipment. These safety signs and decals MUST be read, understood, and followed to be effective.

FIGURE 2

Replacement of Safety Signs and Decals

Safety signs and decals must be kept clean and readable. If they become unreadable for any reason, they must be replaced with an identical replacement sign or decal. Safety signs and decals must also be replaced if damaged when repairing this equipment or if not included with the replacement part.

Application of Safety Decals

Surface preparation is very important for the safety decals to properly adhere. Grease, oil, and dirt must be removed and the surface must be smooth and dry. After wiping the surface clean, use an ammonia-free window cleaner to provide the best surface for decal adherence.

Most decals have a split backing which is meant to be removed from the split outward. To apply decals, follow these steps:

1. Position the decal in the proper location and hold firmly over the largest portion of the backing.
2. Use one hand to hold the decal in position. With the other hand, carefully roll the loose end over and peel the backing outward. When the backing is removed as shown in **Figure 3** and with even and gradual pulling, the decal will roll onto the surface smooth and wrinkle free,
3. With the smallest portion of the decal attached, the repeat Step 2 for the other half of the decal.

When the decal has been attached in place, use a cloth or soft paper towel to burnish the decal onto the cleaned surface. Work gently from the middle outwards to avoid creating any wrinkles and to remove any air bubbles.
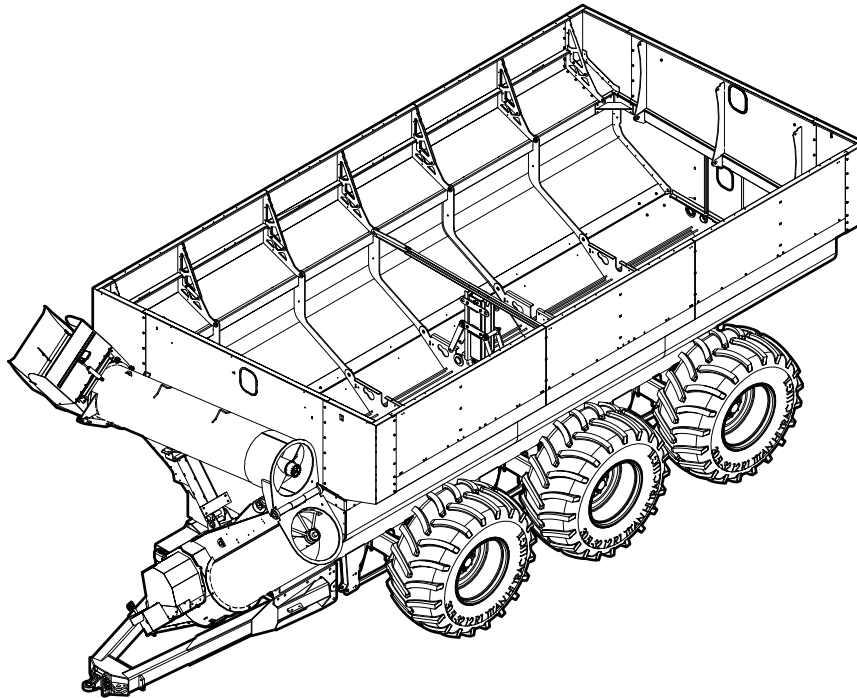
FIGURE 3
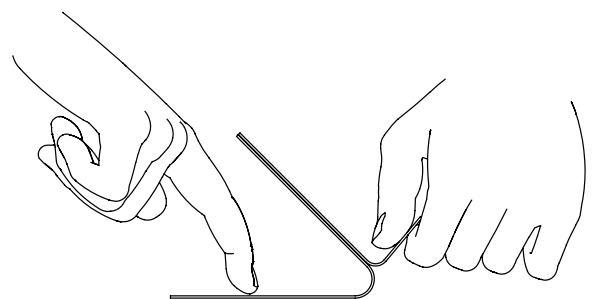
Technical Data

Specifications

FIGURE 4

Dimensions	
	See"Dimensions" on Page 13

Tire Pressure

28LR26 R3	54 PSI (372 kPa)
30.5 X 32 R1	33 PSI (228 kPa)
30.5 X 32 R3	33 PSI (228 kPa)
30.5LR32 R1	52 PSI (359 kPa)
30.5LR32 R3	52 PSI (359 kPa)
850/50 30.5	37 PSI (256 kPa)
900/60 32 R1	35 PSI (241 kPa)

|	
Lug Nuts	Torque to 450 FT/LBS
Brake Type	Disc
Hydraulic Operating Pressure	Up to 3000 PSI (20.68 MPa)
Electrical System	12 VDC
Electrical Connection	7-Way Receptacle
Maximum Tow Speed	20 MPH (32 KPH)

TRACTOR REQUIREMENTS

Tractor Horsepower

1550 Bushel	250 hp
1725 Bushel	250 hp
2150 Bushel	300 hp
2550 Bushel	400 hp
2850 Bushel	450 hp

PTO Horsepower Minimum	250 hp
PTO Speed	1000 RPM
Drawbar Max. Vertical Load	4,100 lbs (CAT-3) (1860 kgs)
Drawbar Clevis Pin Diameter	2" (5 cm)
PTO to Drawbar Distance	16" to 20" (40 cm to 50 cm)
Drawbar to Ground Height Distance	15" to 22" (38 cm to 56 cm)

Tractor Hydraulic Flow

PTO	10 GPM (37.8 LPM)
Hydraulic Control Block	10 GPM (37.8 LPM)

Tractor Hydraulic Pressure	Up to 3,000 PSI (20.68 MPa)
Tractor Hydraulic Outlets	Min: 1 / Max: 2
Electrical Connection	7-pin Round

FIGURE 5
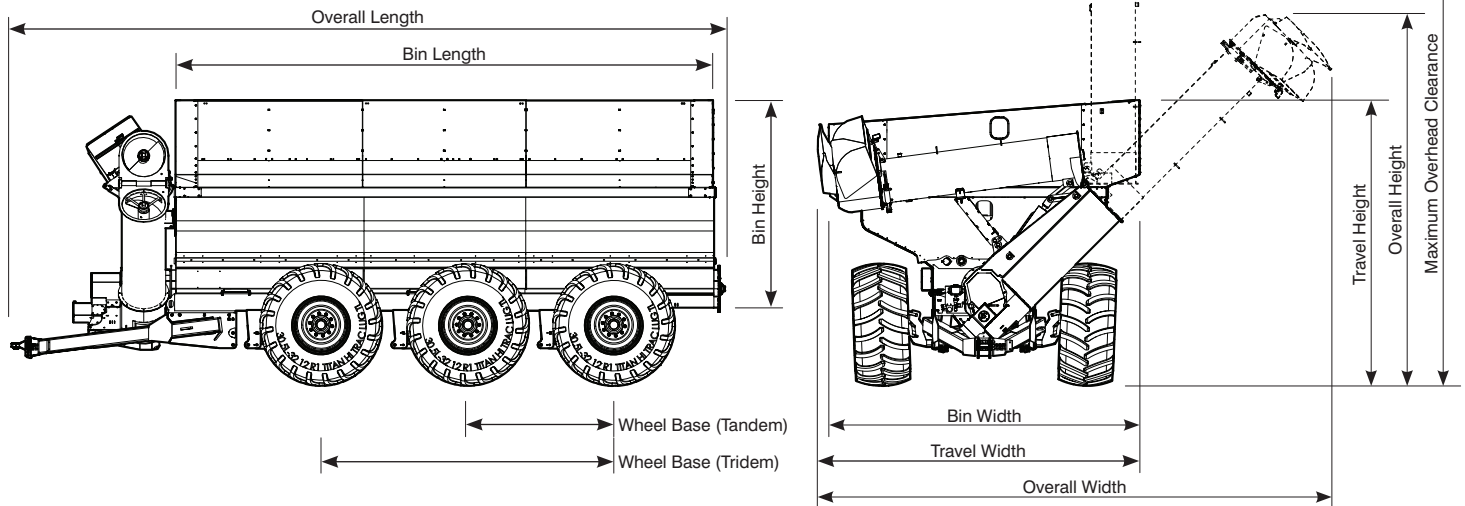
Field Floater 7 Grain Carts				
Specification	1550 (Tandem)	1725 (Tandem)	1725 (Tridem)	2150
Overall Length	36' 2" (1102 cm)	36' 2" (1102 cm)	36' 2" (1102 cm)	36' 2" (1102 cm)
Overall Width*	24' 7 1/8" (750 cm)	24' 7 1/8" (750 cm)	24' 7 1/8" (750 cm)	24' 7 1/8" (750 cm)
Overall Height**	18' 1 3/4" (553 cm)	18' 1 3/4" (553 cm)	18' 1 3/4" (553 cm)	18' 1 3/4" (553 cm)
Maximum OH Clearance**	22' 7 5/8" (690 cm)	22' 7 5/8" (690 cm)	22' 7 5/8" (690 cm)	22' 7 5/8" (690 cm)
Travel Width*	15' 9" (480 cm)	15' 9" (480 cm)	15' 9" (480 cm)	18' 9" (571 cm)
Travel Height**	13' 0" (344 cm)	13' 0" (344 cm)	13' 0" (375 cm)	13' 11 3/4" (426 cm)
Bin Length	27' 7" (840 cm)	27' 7" (840 cm)	27' 7" (840 cm)	27' 7" (840 cm)
Bin Width	15' 2 1/2" (464 cm)	15' 2 1/2" (464 cm)	15' 2 1/2" (464 cm)	18' 2 1/2" (555 cm)
Bin Height	7' 5 3/8" (227 cm)	7' 5 3/8" (227 cm)	8' 5 7/8" (259 cm)	10' 1 7/8" (310 cm)
Wheel Base	86" (218 cm)	86" (218 cm)	172" (437 cm)	172" (437 cm)
Ground Clearance*	19" (48 cm)	19" (48 cm)	19" (48 cm)	19" (48cm)
Capacity	1550 Bushels	1725 Bushels	1725 Bushels	2150 Bushels
Empty Weight	~30,000 lbs (~13600 kgs)	~32,000 lbs (~14514 kgs)	~34,300 lbs (~15560 kgs)	~35,000 lbs (15880 kgs)

*   This dimension does not include the increase in width due to the light kit since this can vary depending on the overall width of the tractor pulling this machine.

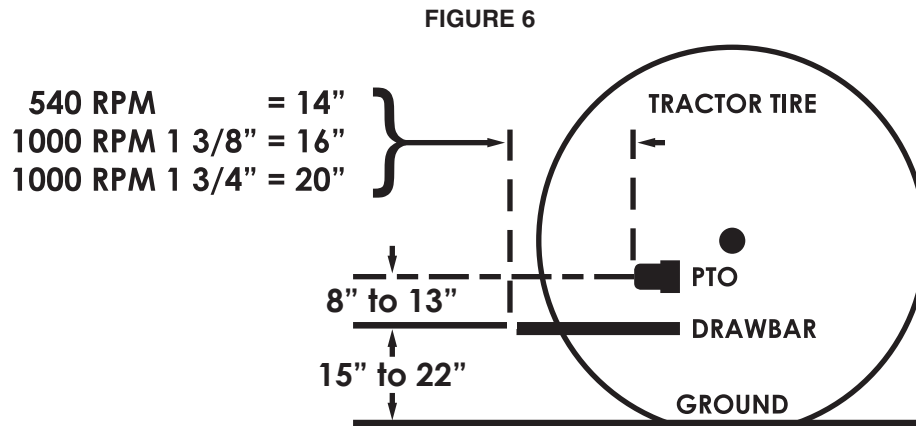**   This dimension can vary depending on the tire size used on this machine.

Operation

Pre-Operation Checks

Make sure all safety shields are in place and properly secured.

Make sure all moving components are free of solid, hard, or frozen material or other obstructions.

Make sure the tractor drawbar matches the standards shown in the Drawbar Adjustment diagram (**Figure 6**).

FIGURE 6

540 RPM = 14"
1000 RPM 1 3/8" = 16"
1000 RPM 1 3/4" = 20"

TRACTOR TIRE

PTO

8" to 13"

DRAWBAR

15" to 22"

GROUND

Suggested drawbar adjustments for PTO shaft size and speed.

⚠	WARNING	Improper PTO Length may damage the unit.

Hydraulic Hose Color Markings

Each hydraulic hose will have either one (1) color code stripe indicating it as a Return line or two (2) color code stripes indicating it is a Pressure line. The exception is for the Hydraulic Motor Zero Return line which has two stripes but only one of each color. The following color codes denote the operational purpose of the hydraulic hose lines.

RED - Brakes   **ORANGE** - Hydraulic Manifold
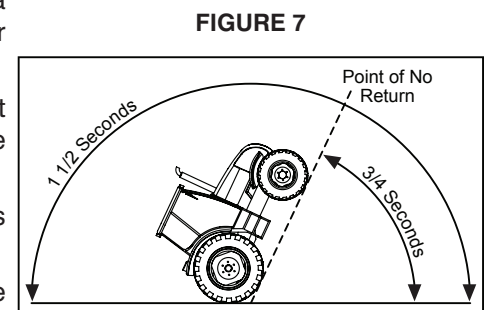
Attaching to Tractor

Attach the tractor's drawbar to the hitch using a properly sized hitch pin. The hitch pin should have a safety retainer to keep it from dislodging itself from the hitch.

Attach the safety chain to the drawbar of the tractor. Attaching the safety chain to a point higher than the drawbar can lead to a potential rollover causing serious injury or death (**Figure 7**).

Crank the trailer jack down to slowly place pressure on the drawbar. After the weight has been transferred to the tractor's drawbar and is no longer being supported by the jack, remove the jack and secure it in its storage location.

Check the tractor's Power Take Off (PTO) for any damage, that it slides freely, and is the proper size and connection for the PTO shaft on the tank.

Attach the PTO shaft to the tractor securely as required by its locking mechanism. The PTO should have approximately 1/3 overlap.

FIGURE 7

Point of No Return

1 1/2 Seconds

3/4 Seconds

⚠	DANGER	Attaching the safety chain to any point higher than the drawbar can cause tractor to rollover should this machine become unhitched from the tractor. Tractor rollover can cause serious injury or death!

Attaching to the Tractor (Continued)

Attach the hydraulic lines making sure the connectors are clean and in good repair. Connect according to the hydraulic hose color and striping pattern listed in the Hydraulic Hose Color Markings section on the previous page.

Connect the 7-Way electrical connector.

Connect the joystick control cable.

Initial Start Up

Never operate this machine if shields are missing, damaged, or improperly installed or if persons are in or on this machine or near any moving parts of this machine. Keep everyone away while operating this machine.

Do not leave the tractor seat.

Operate **ALL** hydraulic controls to become familiar with the function of each tractor lever and to visually see the machine is responding correctly. **NOTE: MAKE MENTAL AND/OR WRITTEN NOTES CONCERNING WHICH WAY TO MOVE THE LEVERS FOR THE DESIRED RESULTS.**

ENGAGE THE PTO SLOWLY with the tractor throttle at slow idle. Use maximum modulation on tractor PTO control.

Watch and listen to confirm the machine is operating properly. Run at fast idle for five (5) minutes, disengage the PTO, shut off the tractor engine, and remove the key from the ignition. Make all necessary adjustments before any further operation of this machine is attempted.

⚠	CAUTION	To prevent premature driveline failure, tractor turning should be limited to approximately 10° when driveline is rotating.

In-Field Procedure

Be sure the grain doors are closed before loading.

Always load the grain cart evenly, front to back, to avoid an unbalanced load or excessive tongue weight.

Always disengage the Straight Steer System when working in the field.

Always engage the PTO and cross auger clutch before opening the grain doors.

Always close the grain doors before disengaging the PTO.

Always engage the Straight Steer System before attempting to back up the grain cart.

⚠	WARNING	Always load the grain cart evenly, front to back. Failure to do so may result in an unbalanced load which can cause damage to the grain cart frame or to the tractor.

PTO Drive System

The PTO shaft will have the 1 3/4" 20 Spline connection on both ends. The implement side has a cam clutch to protect the gear box and drive line of the tractor's PTO from overload (**Figure 8**). The PTO must be engaged slowly, use maximum modulation on the tractor. *DO NOT SLAM ENGAGE THE PTO.*

FIGURE 8

Cam Clutch
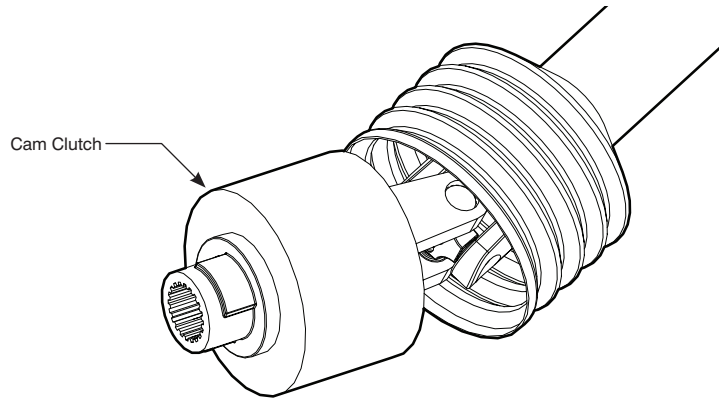
The PTO shaft should not be extended any more than half the length of the telescoping member overlap.

⚠	**WARNING**	DO NOT slam engage the PTO. Damage to the machine or the tractor may occur at any time during operation following a slam engagement of the PTO.

⚠	**DANGER**	DO NOT OPERATE this machine without all PTO shields and guards in place and properly secured.

Jack Storage

After the machine has been securely attached to the drawbar of the tractor and the jack is no longer supporting the weight of the tongue, finish raising the leg of the jack. Remove the two locking pins (**Figure 9**), move the jack to the storage location on the tongue, and re-insert the locking pins to secure the jack (**Figure 10**).
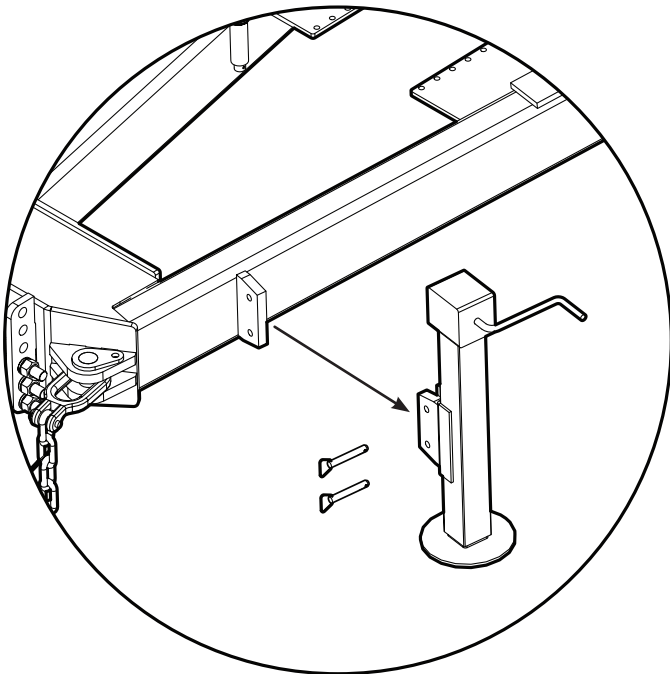
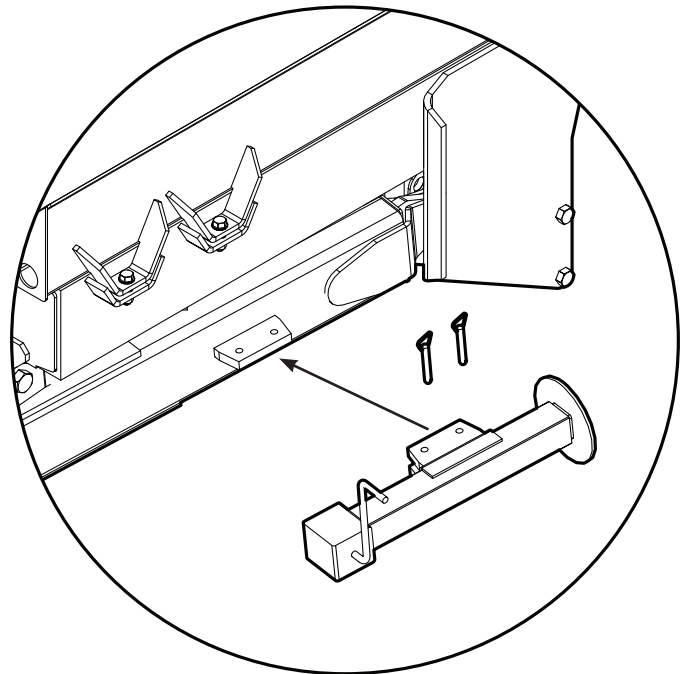| ⚠	**WARNING**	DO NOT move or operate this machine with the jack in the support position. Failure to move the jack to the storage position may result in damage to the jack and/or this machine.

⚠	**WARNING**	DO NOT use the jack in the support position unless the grain cart is empty.

FIGURE 9   FIGURE 10

Remove pins and pull the jack from the support tab.   Slide jack onto storage tab and re-insert pins.

Independent Cross Axle Steering System

The front axle on a Tandem and middle axle on a Tridem are the fixed axle. The steering on each of the other axles is operated by two main components:

- a tie rod
- a hydraulic cylinder

The steering axles are maintenance free, the kingpin uses poly bushings that require **no** lubrication.

The steering hydraulic cylinder is only used to bring the steering wheels inline with the straight axle for backing up.

Placing the Straight Steer switch on the joystick to the middle position allows the machine to steer. As the steering wheel of the tractor is turned, the wheels of the steering axle(s) will trail the tractor's direction from ground pressure allowing maneuverability (**Figure 12**). The rear axle of a tandem frame is the steering axle and the front and rear axles of a tridem frame are steering axles.

Pressing the Straight Steer switch on the joystick backward, the switch will stay in this position, sets the rod of the cylinder so that the steering wheels line up with those of the straight axle allowing the machine to be backed up with ease. Pressing the Straight Steer switch forward will straighten the steering wheels for as long as the switch is held in this position. When releasing the switch, the switch will return to the steering position. **Figure 13** shows the hydraulic connection schematic for the steering hydraulic cylinder.

Suspension Hydraulics

Each axle has two (2) hydraulic cylinders (**Figure 14**) to transfer the load from the frame to the axle. The axles are attached to the frame by four (4) parallel links, two (2) on each side of each axle, which stabilize the axles and do not support any weight. The hydraulic cylinders on the left side are connected together as are the hydraulic cylinders on the right side (**Figure 16**). This allows the left side suspension to carry 50% of the weight and the right side suspension to carry the remaining 50% of the weight.
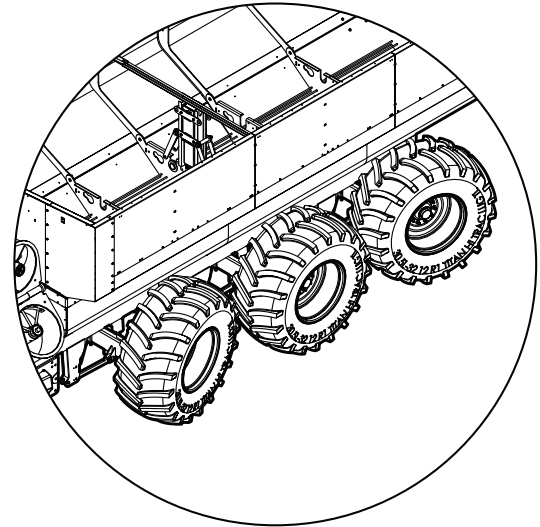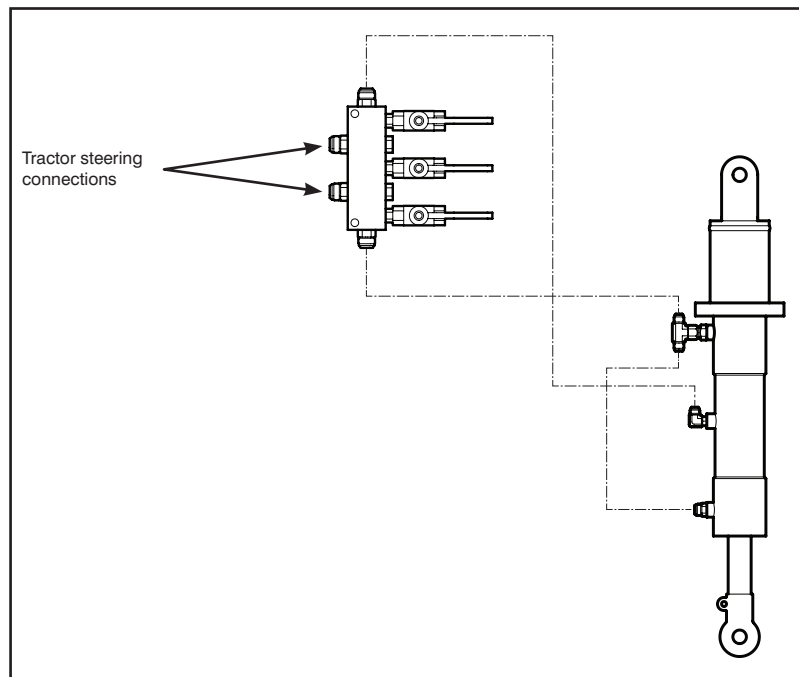
FIGURE 12

FIGURE 13

Tractor steering connections

Suspension Hydraulics (Continued)

On each side, the base end of the cylinders are hydraulically connected to each other. The base end of the left side suspension cylinders **DO NOT** connect to the base end of the right side suspension cylinders. Once each circuit is charged, the circuit is closed. With the left side cylinders connected to each other and the right side cylinders connected to each other (**Figure 16**), the hydraulic fluid can flow from one cylinder base to the other on the same side. This allows for the load to equalize and permit the axles to move up or down to negotiate ground variations and field approaches. The fast hydraulic fluid flow between cylinders assures each tire carries the same load as the next without spikes.

The rod ends of all suspension cylinders are connected to a low pressure source to keep them full for seal lubrication. Once filled, the valve is closed (**Figure 17**). The middle suspension cylinders are not used with a tandem frame.
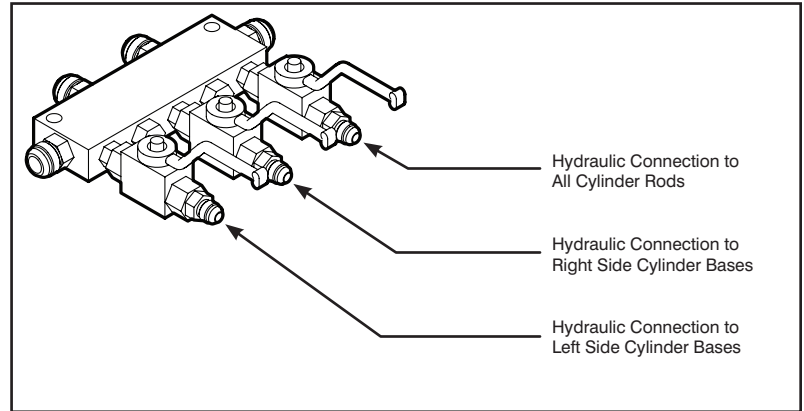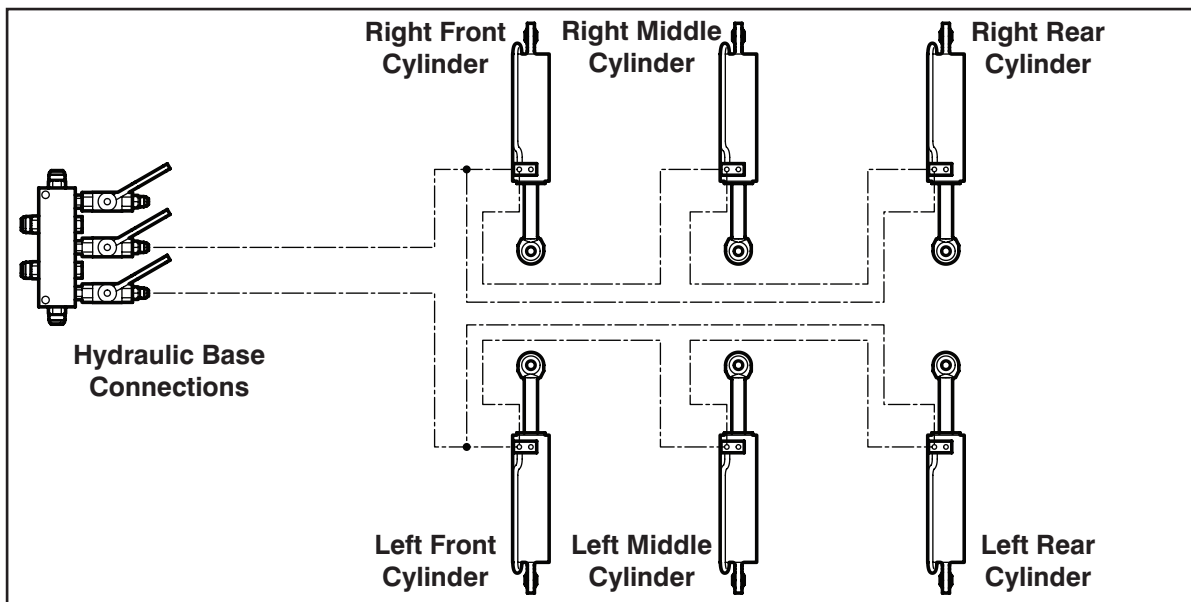
OPERATION

FIGURE 14

Cylinder Base Hydraulic Connection

Cylinder Rod Hydraulic Connection

FIGURE 15

Hydraulic Connection to
All Cylinder Rods

Hydraulic Connection to
Right Side Cylinder Bases

Hydraulic Connection to
Left Side Cylinder Bases

FIGURE 16

Right Front Cylinder **Right Middle Cylinder** **Right Rear Cylinder**

Hydraulic Base Connections

Left Front Cylinder **Left Middle Cylinder** **Left Rear Cylinder**

FIGURE 17

Right Front Cylinder **Right Middle Cylinder** **Right Rear Cylinder**

Hydraulic Rod Connections

Left Front Cylinder **Left Middle Cylinder** **Left Rear Cylinder**

Suspension Limits

Care must be taken to travel where the suspension system will not be pushed beyond its limits. Each tire can move up or down 7" (17.8 cm) from the center position. Do not exceed these limits or damage to the unit will occur. Promote safe operation and do not go through any deep ditches, over sharp knolls, or grades greater than 9° (15% or 12-2 pitch).

⚠	**DANGER**	DO NOT move this machine through deep ditches, over sharp knolls, or grades greater than 9° (15% or 12-2 pitch).

Braking System

 The hydraulic system on some tractors keep a small amount of pressure in the hydraulic lines even when the control lever is set to the "Float" position. The master cylinder on this machine has a pressure releasing spring which is used to counteract this hydraulic pressure coming from the tractor.

The master cylinder of the braking system is designed to create a vacuum in the hydraulic lines leading to the brake calipers. When the brakes are fully released, the vacuum created pulls on the pistons of the calipers causing them to fully retract which disengages the brakes on the machine. However, for this to happen, the master cylinder must never be full of hydraulic fluid when braking.

Brake Operation
Tractors with a "Closed Center" or "Open Center" hydraulic circuit:

1. To apply the brakes, the lever must be pulled fully backward.
2. To release the brakes, the lever must be pushed fully forward to the "Float" position.
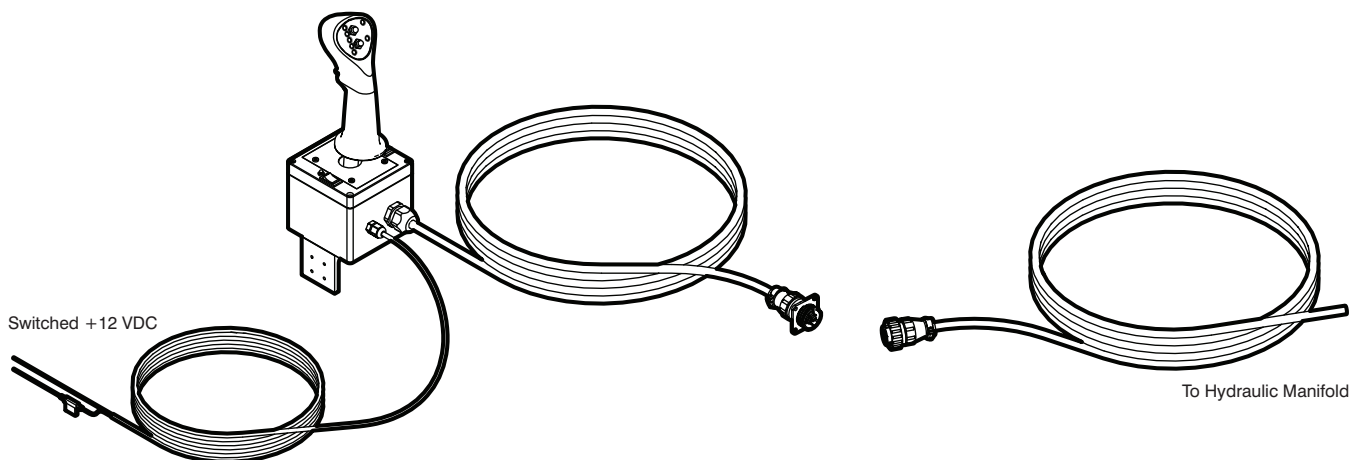
Brake Fluid Level Check
1. Apply brakes.
2. Measure the compression of the pressure release spring.
3. If the pressure release spring is compressed to 8" (20.3 cm) or less, hydraulic fluid must be added to the braking system (See "Brake System" on Page 22).

Joystick Control System

The joystick control connects to the hydraulic manifold via a 16-pin connector (**Figure 18**).

The joystick controls all of the mechanical operations of the grain cart: the extension/retraction of the vertical auger, the engagement/disengagement of the auger system, the positioning of the discharge spout, the opening/closing of the grain doors, and the grain cart's Straight Steer System (**Figure 19**).

FIGURE 18

Switched +12 VDC

To Hydraulic Manifold

Joystick Control System (Continued)

FIGURE 19

Open/Close Grain Doors

Trigger Controlled Auger Clutch

Discharge Spout Directional Control

Extend/Retract Vertical Auger

Straight Steer System

FIGURE 20

Grain Doors

Discharge Spout

Vertical Auger

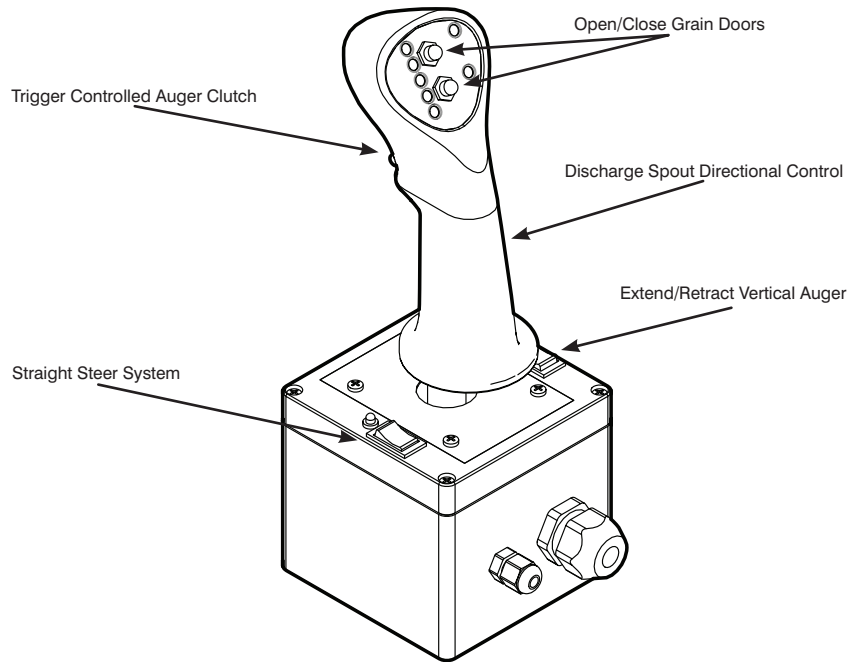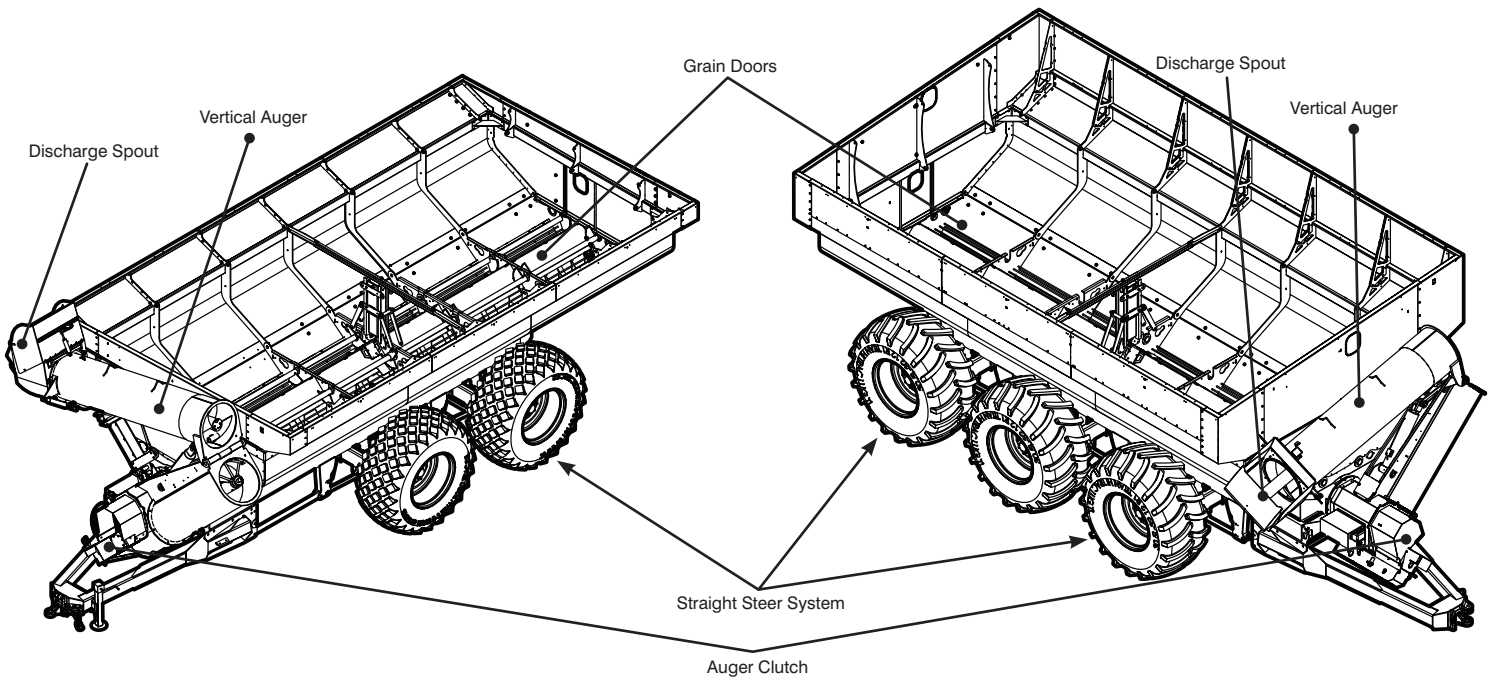Discharge Spout

Vertical Auger

Straight Steer System

Auger Clutch

Figure 20 identifies each area of the unit the joystick controls.

The Straight Steer switch on the joystick is a 3-position switch (**Figure 21**). In the middle, or neutral position, the Auto-Trail system is active and the grain cart will now trail the tractor. The grain cart will turn as the tractor turns reducing the disturbance of the ground being traveled over.

When the Straight Steer switch is pressed forward, the wheels of the steering axle will come into line with the wheels of the straight axle and will remain in the Straight Steer mode for as long as the switch is held in this position.

When the Straight Steer switch is pressed backward, the switch will lock into this position and the wheels of the steering axle will come into line with the wheels of the straight axle. The Straight Steer LED will illuminate to indicate the cart is in Straight Steer mode and ready for backing up. When backing up, avoid making sharp or excessive turns.

Joystick Control System (Continued)

FIGURE 21

Straight Steer
Indicator Light

Momentary
Straight Steer

Auto Trail Mode

Straight Steer
Lock

FIGURE 22

Extend Vertical Auger

Retract Vertical Auger
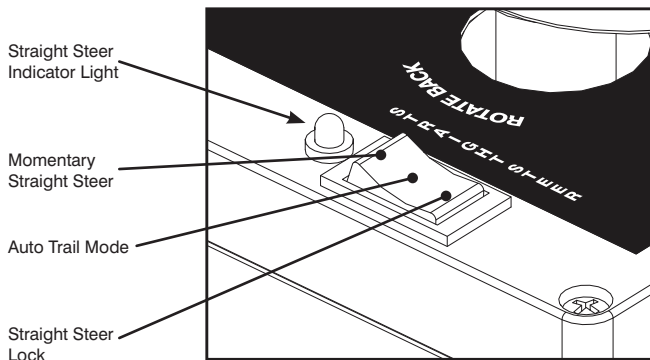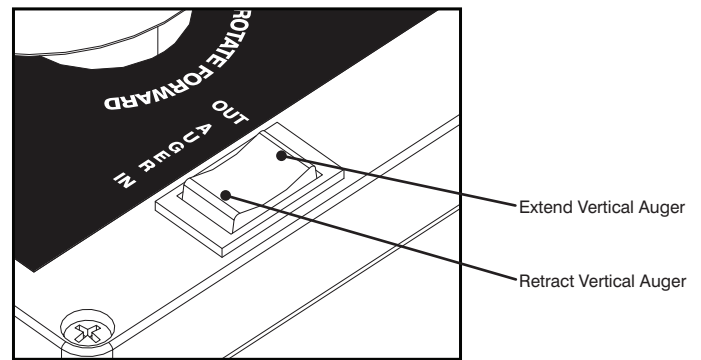
Do not try to turn while driving forward with the Straight Steer engaged. This could cause damage to the grain cart.

⚠	**DANGER**	Failure to engage Straight Steer when backing up may result in the wheels of the steering axle turning too sharp or this machine jackknifing. Either can cause sever damage to the machine, tractor, or both.
⚠	**DANGER**	Failure to disengage Straight Steer when turning while moving forward may result in excessive wear on the tires as well as excessive stress on the steering axles which may lead to damage of the grain cart.

The Auger switch (**Figure 22**) allows you to extend or retract the vertical auger. **BEFORE EXTENDING THE VERTICAL AUGER, LOOK OVERHEAD TO MAKE SURE THE AUGER WILL BE CLEAR OF ANY POWER LINES OR OTHER OBSTRUCTIONS.** The switch will need to be held in position to move the auger. Once the switch is released, it will return to the neutral position and the auger will lock into its current position. Make sure the vertical auger is fully extended before engaging the tractor's PTO. Once the PTO is engaged, the vertical auger will be engaged. **DO NOT** slam engage the tractor's PTO.

The Auger Clutch switch (**Figure 23**) engages and disengages the horizontal auger. When engaged, the Clutch On light on the joystick (**Figure 24**) will illuminate. This will let you know the horizontal auger is now operating. To disengage the horizontal auger, press the Auger Clutch switch again and the Clutch On light will turn off indicating the horizontal auger is no longer operating.

FIGURE 23
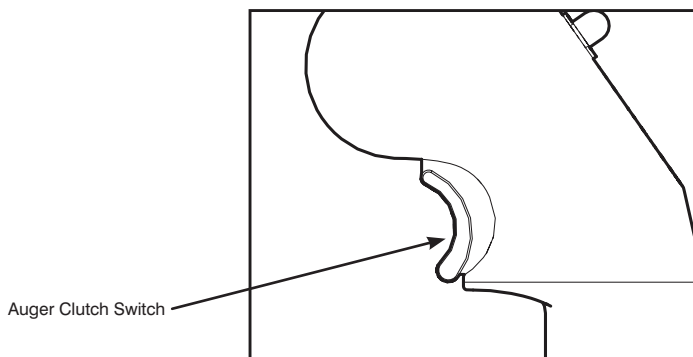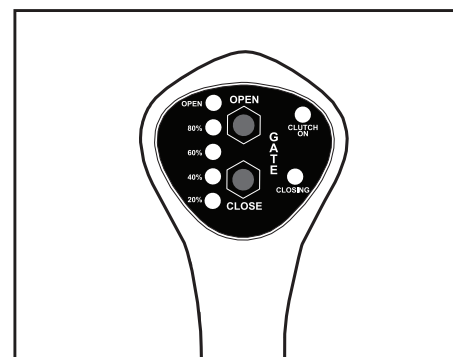
Auger Clutch Switch

FIGURE 24

With each press of the Auger Clutch Switch, the automatic oiler will inject oil onto the drive chains of the auger system. Repeated pressing of the Auger Clutch switch can result in excessive oiling of the chains and possible damage to the auger drive system.

Joystick Control System (Continued)

The grain doors inside the grain cart are controlled by the Open and Close buttons on the top of the joystick (**Figure 24**). With each press of the Open switch, the grain doors open at 20% increments. With each increment, a light on the top of the joystick will illuminate to show how far the grain doors have opened. This gives you full control over the discharge rate of the grain cart.

When the Close button is pressed, the grain doors will return to their fully closed position. The Closing light on the joystick will illuminate while the doors are closing and will turn off when the doors are fully closed.

Do not open the grain doors before engaging the auger system! This could cause the grain to overload the horizontal auger and lock it into place which could cause damage to the grain cart.

⚠	**WARNING**	Opening the grain doors before engaging the auger system may overload the augers resulting in the augers being locked in place and not able to operate.

To change the pitch of the discharge spout, move the joystick forward or backward (**Figure 25**). Moving the joystick forward increases the pitch of the discharge spout and pulling the joystick backward decreases the pitch of the discharge spout.

To change the rotation of the discharge spout, move the joystick to the left or right (**Figure 26**). The rotation of the discharge spout will also turn to the left or right.

Visually become aware of all the features and switches of the joystick. Failure to become familiar with the joystick before operating the grain cart may lead to personal injury or damage to the grain cart and other equipment and/or structures.
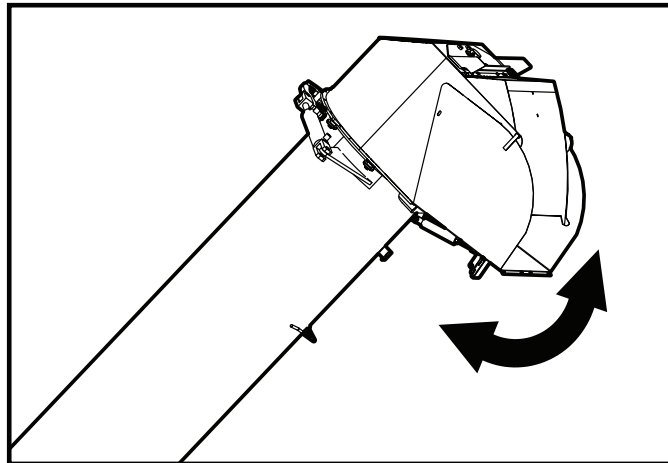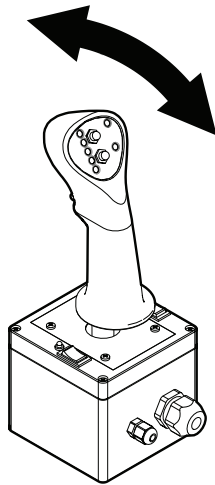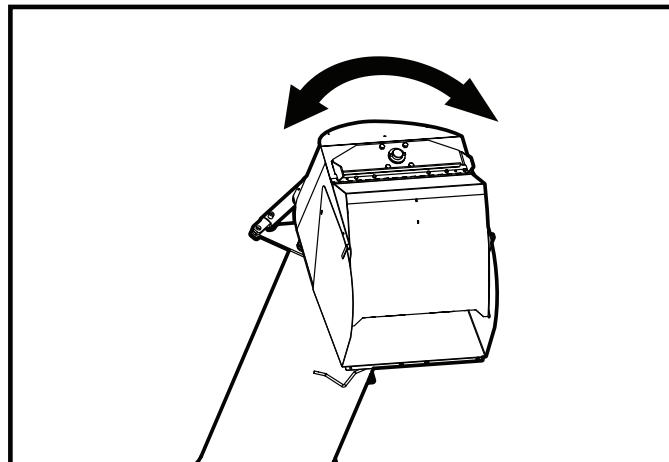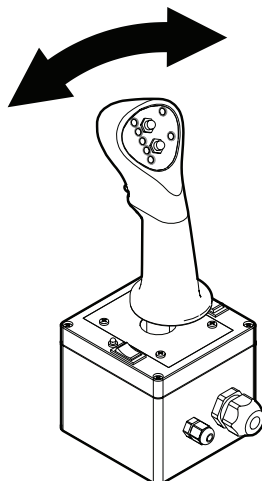
FIGURE 25

FIGURE 26

Unloading Grain Cart

When preparing to unload the grain cart, be sure to look above where the unloading will occur. Look for any objects, especially power lines, which may be low enough for the vertical auger to come into contact with. The vertical auger can reach a height of approximately 23' while being extended into the unloading position.

Use the following steps to maintain safe and long lasting operation of the grain cart:

1. Engage the tractor's hydraulics to feed in the right direction.
2. Press and hold the Auger switch to extend the vertical auger until it is fully extended and locks into position.

⚠	**DANGER**	Look overhead before extending the vertical auger into the unloading position. Electrocution, resulting in death or great bodily harm, may occur should the grain cart come into contact with power lines.

3. Engage the PTO slowly and use maximum modulation. Slam engaging the PTO can cause serious damage to the grain cart.

⚠	**WARNING**	DO NOT slam engage the PTO. Damage to the machine or the tractor may occur at any time during operation following a slam engagement of the PTO.

4. Press the joystick's trigger to engage the Auger Clutch and start the horizontal augers.
5. Allow the PTO to get up to speed.
6. Incrementally press the Open button on the joystick to control the initial flow of grain through the grain doors to the horizontal augers. This will allow the horizontal augers to adjust to the flow of grain.
7. If necessary, while the grain is flowing out of the discharge spout, use the left, right, forward, or backward movement of the joystick to place the grain where you need it.
8. If backing up is necessary during the unloading process, press the Straight Steer switch before backing up. Remember to return the Straight Steer switch back to the middle, neutral, position before moving forward where turning might be involved.
9. When unloading has completed, press the Close button on the joystick. This will close the grain doors.
10. Keep the PTO and Auger Clutch engaged to clean out the augers.
11. Once the augers have been cleaned out, press the joystick's trigger to disengage the horizontal auger.
12. Disengage the tractor's PTO.

| ⚠	**WARNING**	Failure to disengage the clutch prior to shutting down the tractor may cause a failure of the swivel fitting. Trapped oil in the clutch circuit can expand from warm temperatures causing the swivel fitting to fail.

⚠	**CAUTION**	Do not transport the grain cart with the vertical auger in the unloading position. This may cause structural damage to the vertical auger and the grain cart.

13. Press and hold the Auger switch to retract the vertical auger. Continue to hold the switch until the vertical auger is properly seated in the saddle. There is no need to rotate the discharge spout before retracting the vertical auger. This will automatically be done when the vertical auger is retracted.

Running Lights

Check daily to make sure the running lights are properly placed in their extended position (**Figure 27**). This will ensure the lights are visible to the front and back.

FIGURE 27
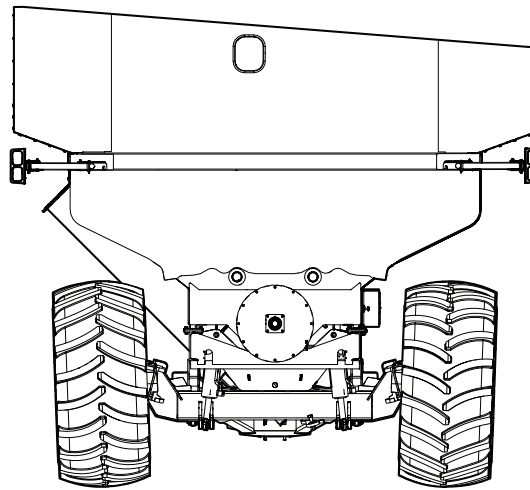
Grain Cart Weigh System

Your Balzer Grain Cart comes equipped with a digital weighing system. This system consists of six independent load cells, a scale indicator, and a host indicator (**Figure 28**).
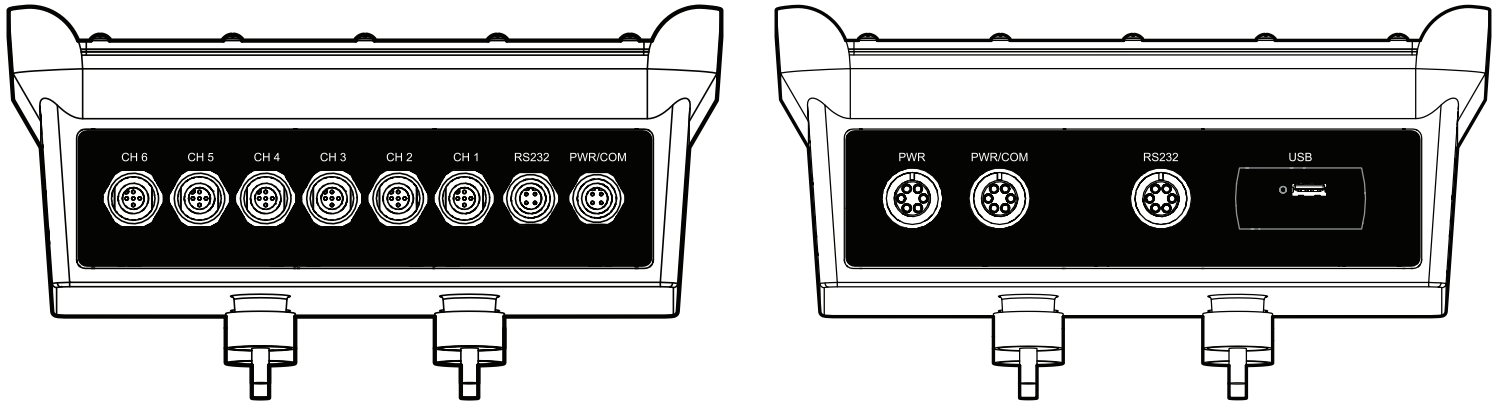
FIGURE 28

Load Cell   Digital Data Receiver   Digital Host Indicator

The front panels of the scale indicator and the host indicator are identical. The difference is in the connections located on the bottom of each unit (**Figure 29**). Each load cell is numbered and that number corresponds to the cable number and the input number on the scale indicator The six load cells are placed between the frame and the grain bin and are located as shown in **Figure 30**.

The scale indicator is located on right side of the grain cart in a steel enclosure to protect it. The host indicator is to be placed inside the tractor cab so the operator can monitor the system.

The scale is preset at the factory to display the weight in 10 lb/5 kg increments.

Grain Cart Weigh System (Continued)

FIGURE 29

CH 6 CH 5 CH 4 CH 3 CH 2 CH 1 RS232 PWR/COM

Bottom Connections of Scale Indicator

PWR PWR/COM RS232 USB

Bottom Connections of Host Indicator

FIGURE 30

Load Cell 6

Load Cell 5

Load Cell 4

Load Cell 2

Load Cell 3
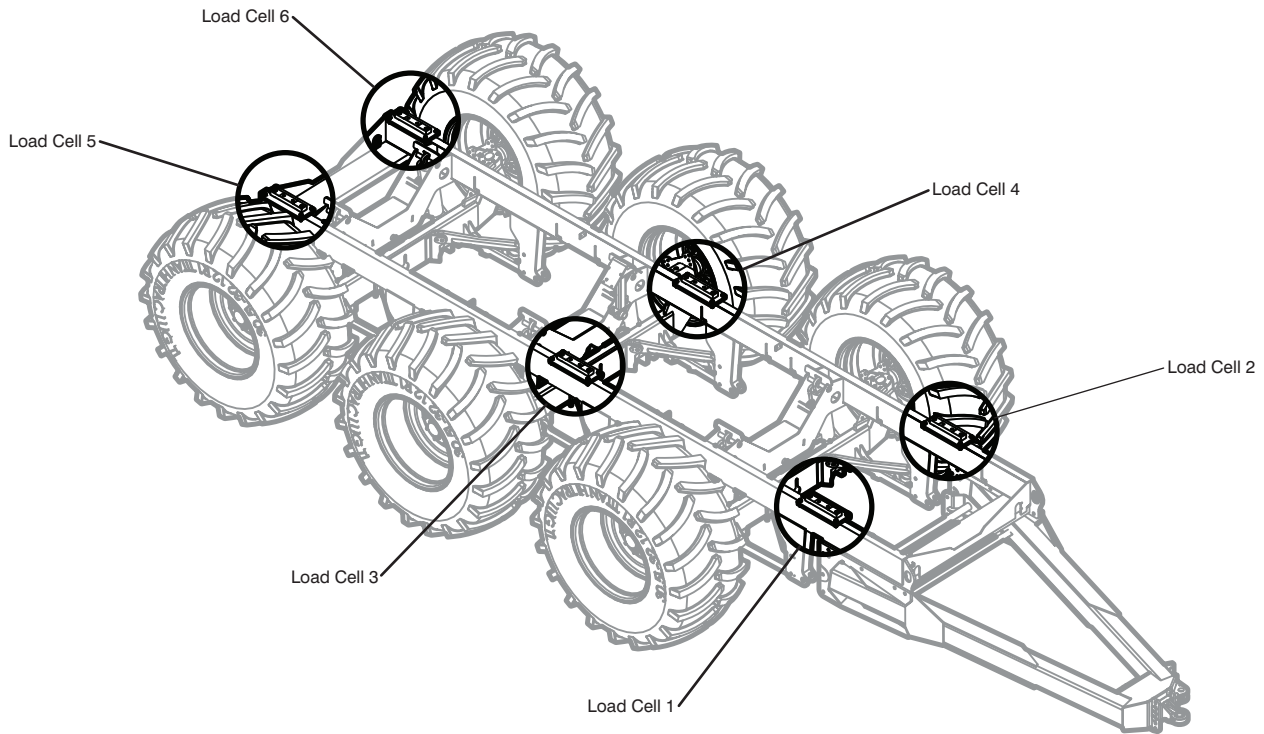
Load Cell 1

Grain Cart Weigh System Operation

System Connections

The bottom of the scale indicator has six channel connections. One for each of the load cells. It also has an RS232 data connection for use with an external display board (not typical of field operational use), and a Power/Communication (PWR/COM) port for connecting to the host indicator (**Figure 31**).

FIGURE 31
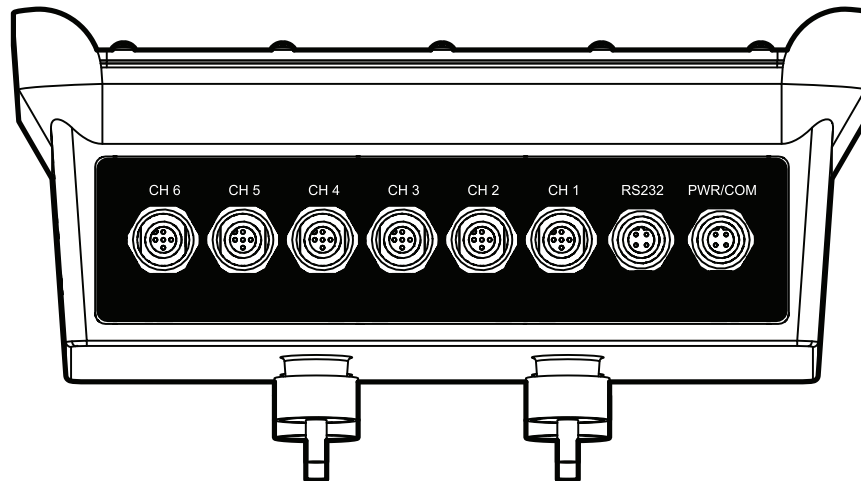
The bottom of the host indicator has a power connection (connected to a key switched 12 volt source on the tractor), a Power/Communication (PWR/COM) port for connecting to the scale indicator, an RS232 data connection for use with an external printer (available through your authorized Balzer dealer), and a USB port for exporting the stored data from the weigh system to a flash drive for use on a personal computer (**Figure 32**).

FIGURE 32
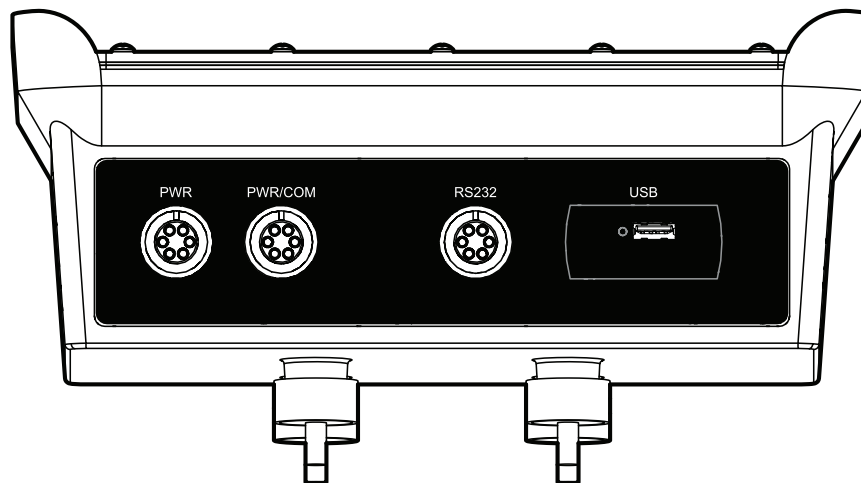
Check all connections to make sure they are hand tight. Do not over tighten.

Disconnect the cables connected to the Power (PWR) connection and the Power/Communication (PWR/COM) if needing to weld on the tractor or grain cart or if needing to jump start or charge the tractor's battery. Failure to do so can result in permanent damage to the weigh system.

⚠️ **WARNING** Disconnect the power connection to the host indicator and the Power/Communication connection between the host indicator and the scale indicator before welding, jump starting, or charging the battery.

Grain Cart Weigh System Operation

Front Panel Controls

The front panel controls operate the same for both the scale indicator and the host indicator. When the two units are connected, some changes made on one unit will make the same changes on the other unit. For example, if you wanted to display the weight in kilograms instead of pounds, you will only need to make the change on one unit. When the desired change is saved, it will make the same change on the other unit.

Figure 33 shows the front panel layout.

FIGURE 33
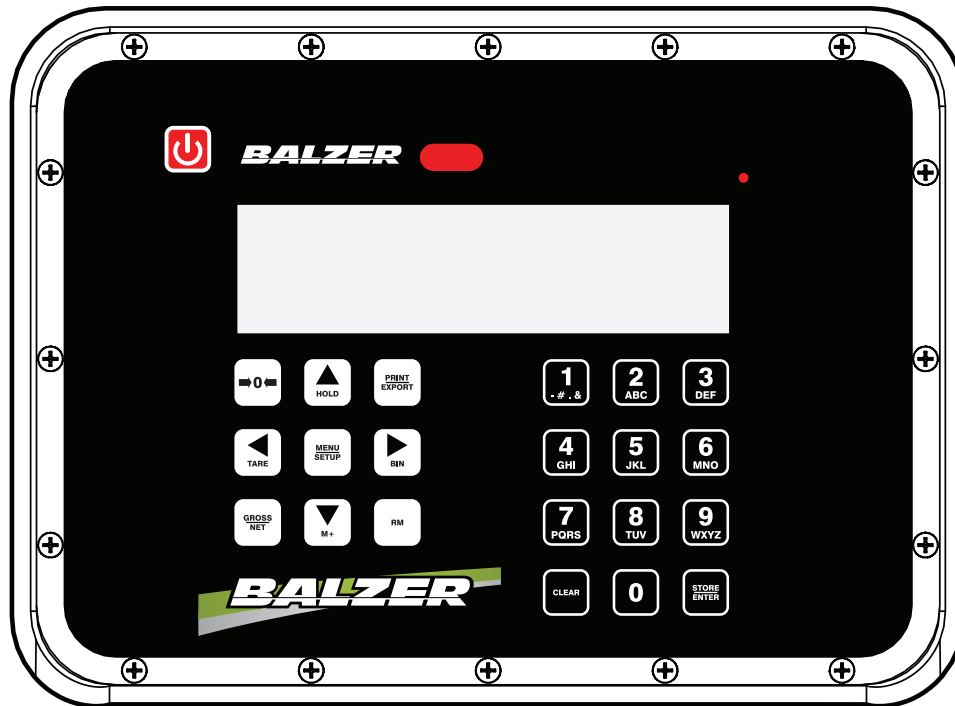
The ⏻ turns the indicator on or off.

The ⮕0⬅ will zero only the gross weight. To zero the scale, press and hold for two seconds. If this is done while there is some grain in the cart, when that grain is unloaded, the scale will display a negative weight. This will zero both indicators.

The HOLD has two uses. When in a data entry situation (menu selection, memory location, etc.), it will cycle through the available selections. Otherwise it will lock the displayed weight. **IF THE HOLD IS ENABLED AND USED TO LOCK THE WEIGHT, ANY GRAIN ADDED OR REMOVED FROM THE CART WILL NOT HAVE ITS WEIGHT RECORDED.** This feature is disabled by default.

The PRINT EXPORT will send the stored data to a display or printer device connected to the RS232 port and will also export the data as a text (.TXT) file to the USB port when a USB flash drive is inserted. Note: When inserting a USB flash drive into the USB port, make sure the LED next to the port lights green. If the LED does not light up, cycle the power on the host indicator.

The TARE will set the displayed weight as the TARE weight and change the display to showing the NET weight. This will only affect the indicator on which the TARE button was pressed. To clear a set tare weight, press the TARE and the CLEAR

Grain Cart Weigh System Operation (Continued)

same time. This will clear the saved TARE weight and return the scale to displaying only the GROSS weight.

The [MENU SETUP] will enter the different menus to change the settings to your desired configuration. See "Weigh System Programming" on Page 57.

The [BIN ►] is only used for the arrow function in this application.

The [GROSS NET] cycles the display between the GROSS weight and the NET weight when the TARE weight has been set.

The [M+ ▼] adds the currently displayed weight to the accumulated total for the selected memory location. The weigh system is capable of 99 separate memory locations. You can set the memory locations to represent different field locations, different grain crops, different seed varieties, etc. See "Using Memory Locations" on Page 58.

The [RM] will flash the name of the last memory location used on the display. To switch memory locations, press the up or down arrow to change by increments of one or the left or right arrow to change by increments of ten. Then press the RM button again to display the accumulated data for that location.

Quick Start Up and Use

On the host indicator, press the [⏻] to turn on both indicators. Both indicators will cycle through a start-up self test (**Figure 34**). Once the self test is complete, the indicator will display the current weight being applied to all load cells.

If the grain cart is empty, zero the scale so only the weight of the grain in the cart will be displayed when loading the grain cart.

To zero the scale, press and hold the [➡0⬅] key for two seconds (**Figure 35**). If a tare weight is set and the indicator is showing NET weight, the gross weight will zero and the indicator will show a NET weight negative number. This negative number is the GROSS weight (zero) less the TARE weight.

FIGURE 34

Host Indicator Power Up		
Button Press	Screen Display	Description
[⏻]	Loc02	Displays the last memory location used.
	corn	Displays the memory location name.
	AC005	Displays memory location total accumulations. If the location is empty, the display will show CLR.
	lb GROSS TOTAL 16080	Displays accumulated weight of memory location.
	- - -	
	lb GROSS 00	Current weight applied to all load cells.

Scale Indicator Power Up		
Button Press	Screen Display	Description
[⏻]	lb kg TARE NET GROSS TOTAL 888888	
	Gross	
	lb GROSS 00	Current weight applied to all load cells.

Grain Cart Weigh System Operation (Continued)

FIGURE 35

Zero Scale without Tare Weight Set		
Button Press	**Screen Display**	**Description**
➡0⬅	***2Ero***	
	- - -	
	lb GROSS ***00***	Scale GROSS weight set to zero.

Zero Scale with Tare Weight Set		
Button Press	**Screen Display**	**Description**
➡0⬅	***2Ero***	
	- - -	
	lb NET ***-3970***	Showing negative NET weight because NET weight is GROSS weight less TARE weight.

When you have filled the grain cart, should you want to unload a specific weight of grain, press the [◀ TARE]. This will set the gross weight as the tare weight and switch the display to NET with zero as the Net weight. The displayed net weight will show zero. As you unload the grain cart, the display will show a negative number. Stop unloading when the desired amount of grain has been removed from the grain cart (**Figure 36**).

Should you need to set the tare weight again, you will need to press [◀ TARE] and the [CLEAR] at the same time to clear the currently recorded tare weight, then press [◀ TARE] to set the new tare weight.

FIGURE 36

Set TARE Weight with Full Grain Cart		
Button Press	**Screen Display**	**Description**
	lb GROSS ***33500***	Weight of grain in cart.
[◀ TARE]	lb NET ***00***	NET weight zeroed with above weight set as TARE weight.
	lb NET ***-10000***	10,000 lbs of grain unloaded from cart.
[GROSS/NET]	lb GROSS ***23500***	Remaining weight of grain in cart.

Clear TARE Weight and Set New TARE Weight		
Button Press	**Screen Display**	**Description**
[◀ TARE] [CLEAR]	***GroSS***	TARE weight cleared and system changing to GROSS weight
	lb GROSS ***23500***	Weight of grain in cart.
[◀ TARE]	lb NET ***00***	NET weight zeroed with above weight set as TARE weight.

Optional Roll Top Cover

This Balzer Grain Cart may be equipped with a roll top cover to protect the loaded contents of the grain cart from wind and adverse weather.

Closing Roll Top Cover

Remove the crank handle from the crank retainer and hold away from the grain cart body at about a 45° angle (**Figure 37**).

Hold the crank handle firmly with both hands and roll the cover until it falls just under the latch plate (**Figure 38**).

Bring the crank arm perpendicular to the ground and parallel to the back of the grain cart to lock the crank arm and cover shaft (**Figure 39**).
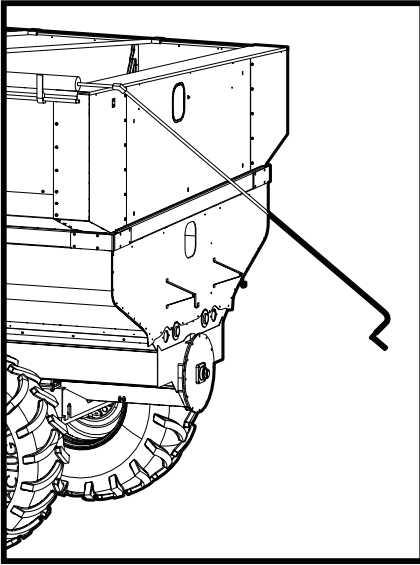
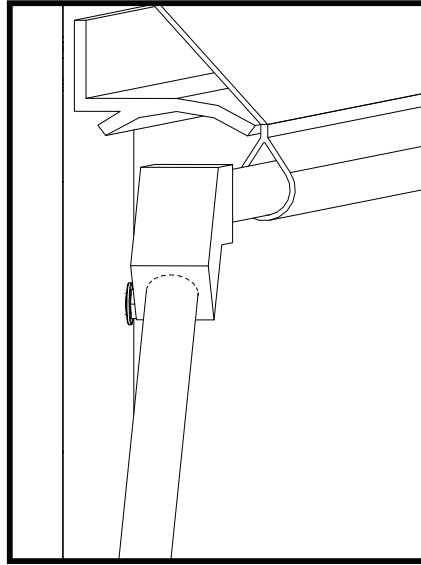# Optional Roll Top Cover (Continued)
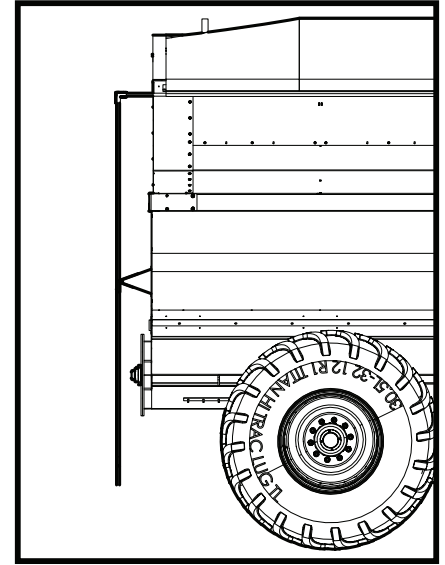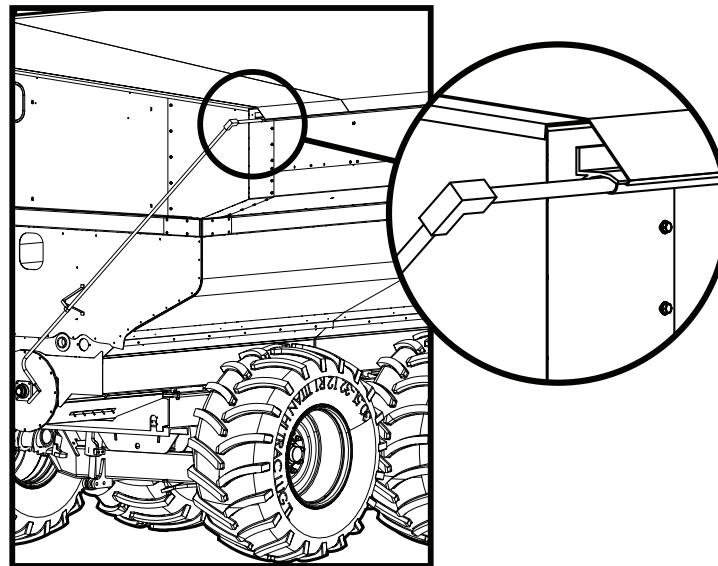
FIGURE 37

FIGURE 38

FIGURE 39

FIGURE 40

Keeping the crank arm parallel to the back of the grain cart, raise the crank arm until it can lock into the crank retainer (**Figure 40**). It should take about 40 to 60 pounds of pressure to bring the crank arm into the crank retainer. The crank arm should bend about 1/8". It is also normal for the cover to make stretching noises as the crank arm is raised into the crank retainer.

Opening Roll Top Cover

Remove the crank handle from the crank retainer and hold away from the grain cart body at about a 45° angle (**Figure 41**).

Hold the crank handle firmly with both hands and roll the cover until it rests on the cover stop (**Figure 42**).

Bring the crank arm perpendicular to the ground and parallel to the back of the grain cart to lock the crank arm and cover shaft (**Figure 43**).

Keeping the crank arm parallel to the back of the grain cart, raise the crank arm until it can lock into the crank retainer (**Figure 44**).

Optional Roll Top Cover (Continued)

FIGURE 41
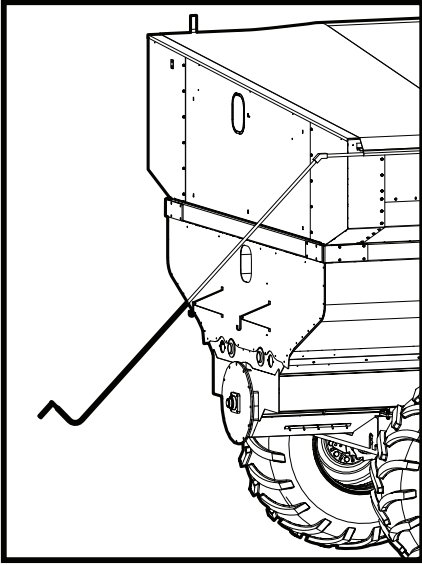
FIGURE 42
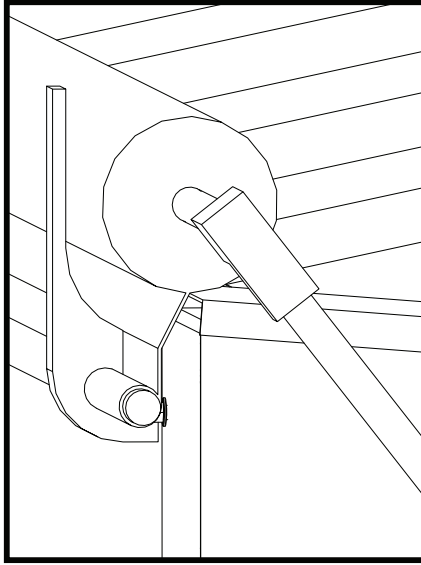
FIGURE 43
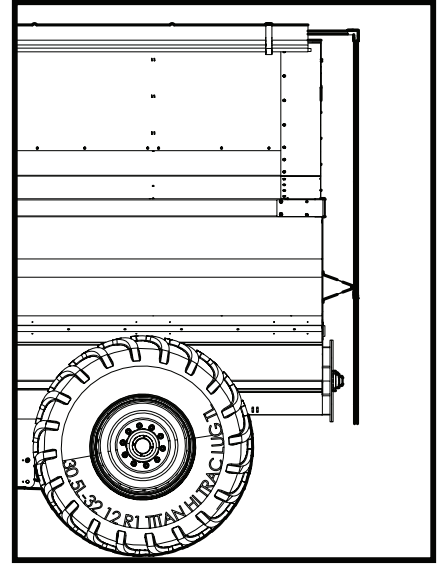
FIGURE 44
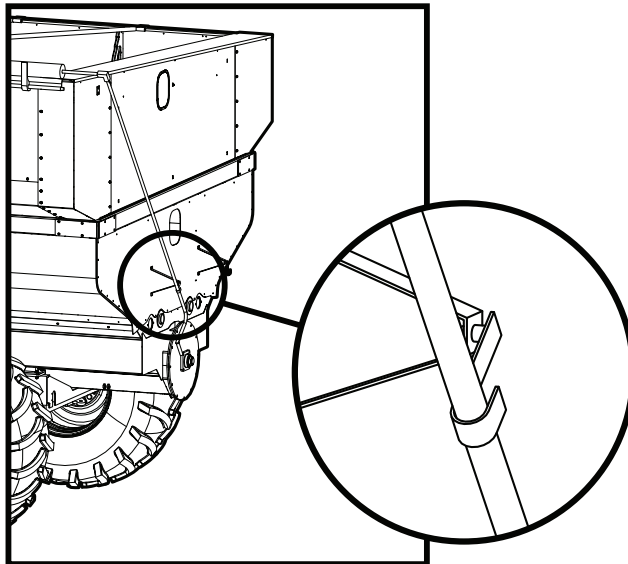
Maintenance

|	
⚠️ **CAUTION**	Before performing any maintenance on this machine, turn off the tractor, remove the ignition key, and relieve hydraulic pressure from the hydraulic systems unless otherwise noted.

Daily and Before Start of Season

Before Starting Tractor

1. Check tires for damage and proper air pressure. Repair or replace as needed. Tire air pressure should be as listed in **Figure 45** below (for future reference check the box next to the tires on your machine) :

FIGURE 45
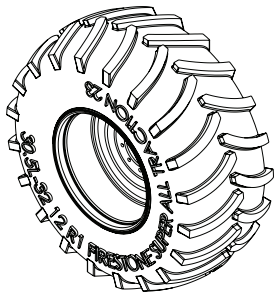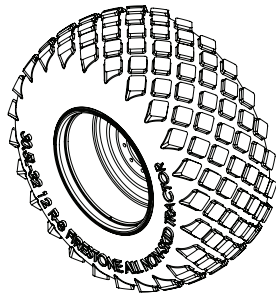
R1 - Lug   **R3 - Diamond**

Tire Description	Tire Pressure
☐ 28L X 26 R3 - 10 Bolt, 13 3/16" Bolt Circle	26 (180 kPa)
☐ 28LR26 R3 - 10 Bolt, 13 3/16" Bolt Circle	54 (372 kPa)
☐ 30.5x32 R1 - 10 Bolt, 13 3/16" Bolt Circle	33 (228 kPa)
☐ 30.5x32 R3 - 10 Bolt, 13 3/16" Bolt Circle	33 (228 kPa)
☐ 30.5LR32 R1 - 10 Bolt, 13 3/16" Bolt Circle	52 (359 kPa)
☐ 30.5LR32 R3 - 10 Bolt, 13 3/16" Bolt Circle	52 (359 kPa)
☐ 850/50 30.5 - 10 Bolt, 13 3/16" Bolt Circle, 10 Ply	37 (256 kPa)
☐ 900/60 32 R1 - 10 Bolt, 13 1/4" Bolt Circle	35 (241 kPa)

2. Torque all lug nuts to 450 ft/lbs (before first use after purchase, daily for the first five [5] days, before first use of season, and after replacing tires).
3. Inspect suspension system for damage. Repair or replace as needed.
4. Inspect all hoses, connections, and reservoirs for leaks. Repair or replace as needed.
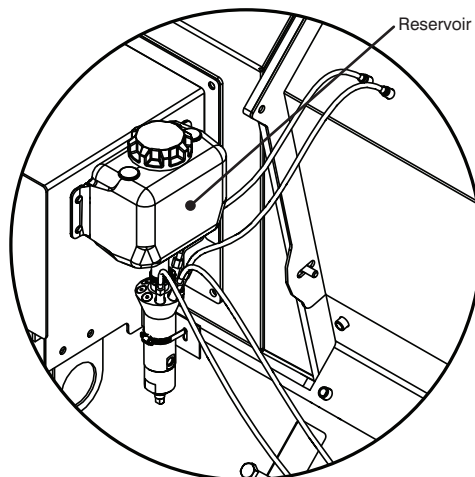
⚠️ **WARNING**	Using oils and fluids other than those approved and specified for each system may result in damage to the machine.

5. Check all oil and fluid reservoirs for proper levels. Fill to proper level with the oil or fluid approved for that system. **Figure 46** shows the reservoir for the automatic oiler. The automatic oiler uses SAE 30 motor oil.

FIGURE 46

Reservoir

Daily and Before Start of Season (Continued)

6. Inspect all moving components for damage or excessive wear. Repair or replace as needed.
7. Check braking system for damage or excessive wear. Repair or replace as needed.
8. Check for solid, hard, or frozen substances on all moving parts. Remove substance to avoid damaging the machine.
9. Grease all points shown in **Figure 47**. Grease steering system according to "Steering System Lubrication" on Page 39.

FIGURE 47
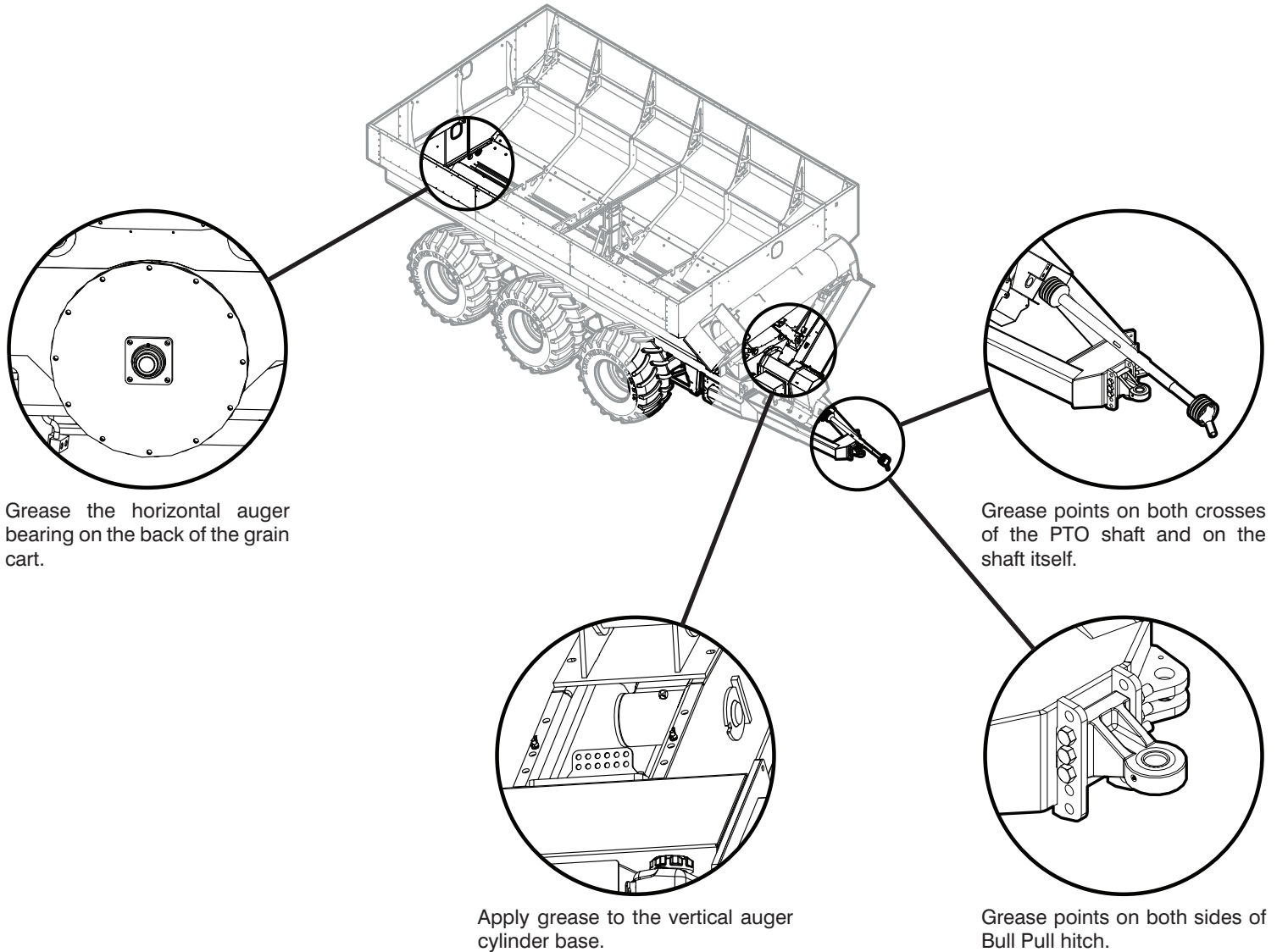
Grease the horizontal auger bearing on the back of the grain cart.

Grease points on both crosses of the PTO shaft and on the shaft itself.

Apply grease to the vertical auger cylinder base.

Grease points on both sides of Bull Pull hitch.

After Starting Tractor

10. Check braking system for proper working operation.
11. Recheck all hydraulic hoses and connections for leaks.
12. Check all lights for proper operation. Replace as needed.
13. Grease according operational requirements stated on the machine.

⚠️ **WARNING** Hydraulic and brake lines are under high pressure when tractor is running. Hydraulic fluids can become hot enough to cause serious burns. Use proper safety equipment when checking lines.

Every 40 Hours of Operation

1. Check all oil and fluid reservoirs for proper level. Fill as needed with correct oil or fluid.
2. Grease wheel bearings.
3. Torque lug nuts to 450 ft/lbs.

End of Season/Preparing for Storage

1. Change all oils and fluids with approved oils or fluids for that system. Fill the slurry pump oil reservoir to the middle of the site glass.
2. Grease all grease points.
3. Open all drain plugs and doors to completely empty the machine.
4. Clean exterior and interior of unit thoroughly with a high pressure washer.
5. Apply a thick coat of grease on all cylinder rods before storing the unit.
6. Perform a complete lubrication of the unit.
7. Check for any oil or fluid leaks. Repair or replace as needed.
8. Store unit indoors.

⚠	**CAUTION**	Thoroughly grease the steering system after pressure washing.

Steering System Lubrication

The kingpins of the steering axle use poly bushings and do not require any grease or lubrication on any kind.

Hub Lubrication

The wheel bearings should be checked for wear and/or damage annually (**Figure 48**). Repack with grease before first use of the season. Use an EP2 grease. The inside of the hub is filled about 75% with grease to allow for heat expansion.

After the wheel bearings have be greased and placed back on the spindle, grease the washer and place on the spindle, then thread the castle nut. Tighten the nut using a wrench and rotate the hub in the opposite direction. The wrench should not drag against the hub when tightening. Tighten until the hub doesn't rotate freely using one hand. Back the nut off 1/2 turn, retighten the nut to the next slot and insert the locking pin (either a roll pin or a split cotter pin). The hub should rotate with one hand and, depending on the speed of rotation, the radial momentum will keep the hub rotating for a partial (1/8 to 1/4) turn after letting go of it. This should provide for the desired preload. If using a split cotter pin, bend the ends to secure the pin, then replace the hub cap gasket and hub cap.

Recheck the preload after 5 to 10 hours of use.

Hitch Lubrication

The Bull Pull hitch has two (2) grease fittings, one on each side (**Figure 49**). These should be greased daily under normal conditions.
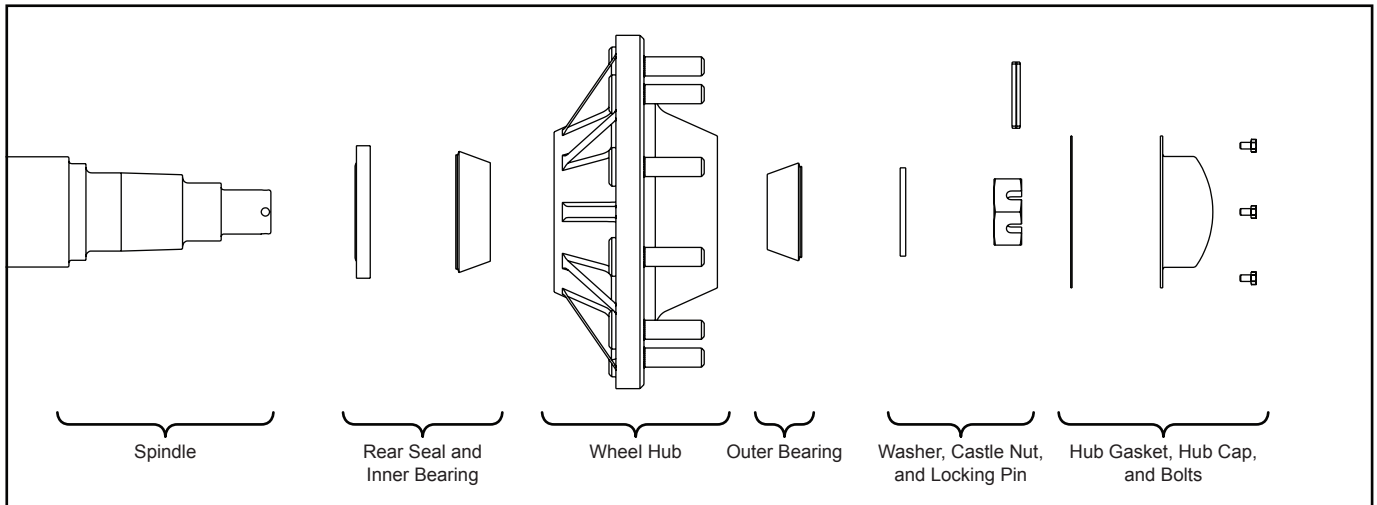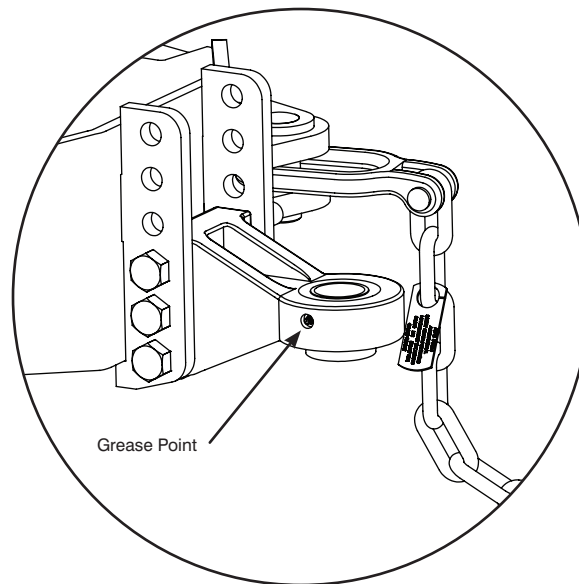
FIGURE 48

Spindle | Rear Seal and Inner Bearing | Wheel Hub | Outer Bearing | Washer, Castle Nut, and Locking Pin | Hub Gasket, Hub Cap, and Bolts

FIGURE 49

Grease Point

PTO Shaft Lubrication Specifications

Lubricate all fittings (**Figure 48**) with a quality EP lithium grease meeting the NLGI #2 specifications and containing no more than 1% molybdenum disulfide (ex. Shell Super Duty or equivalent).

An EP lithium grease meeting the NLGI #2 specification and containing 3% molybdenum disulfide may be substituted for the telescoping members only.

Grease Recommendations

Location	Interval	Amount
Cross and Bearing	Daily	1 Pump ea.
Telescoping Shaft	Daily	4-8 Pumps

Replacement parts must be lubricated at time of assembly. Use the amount of grease listed above per location then follow lube recommendations above for lubricating intervals.

Lubrication

Lubricate with approved quality grease daily before starting work (**Figure 50**). Clean and grease the implement input driveline before each prolonged period of non-use.

PTO Shaft Lubrication Specifications (Continued)

FIGURE 50   **FIGURE 51**

Grease Point for Crosses and Bearings
(one on each end of PTO)

Grease Point for Shaft
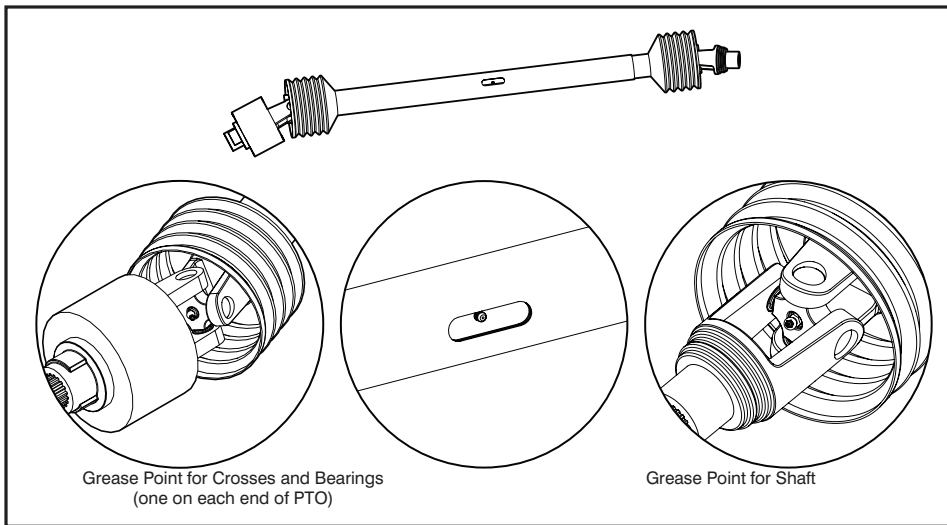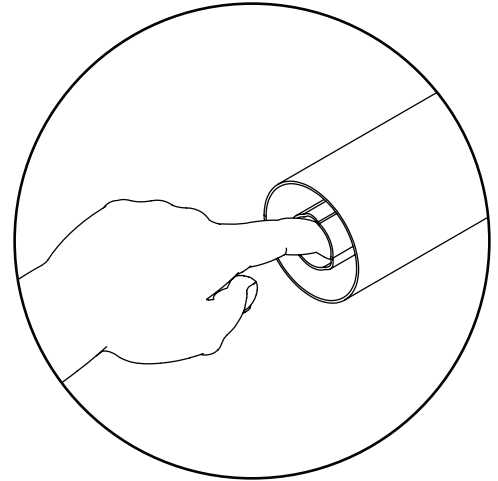
Telescoping members must have lubrication to operate successfully regardless if a grease fitting is provided for that purpose. Telescoping members without fittings should be pulled apart and grease added manually to the inside of the outer telescoping member (**Figure 51**).

For any additional maintenance of the PTO shaft, please refer to the manufacturer's book that came with the PTO shaft.

 DANGER REPLACEMENT PARTS ARE NOT LUBRICATED! Proper lubrication must be done at time of assembly.

Suspension Height Adjustment

1. Position the tractor and machine on level ground.
2. Connect the hydraulic hoses to the tractor and engaging tractor hydraulics.
3. Completely lower the machine by disengaging the straight steer function and opening all ball valves. Once the machine is completely lowered, close all ball valves.
4. Engage the straight steer function.
5. Open the Left Side Base End ball valve and the Rod End ball valve slowly and simultaneously (**Figure 53**). The cylinders can be filled by opening the valves a little. This will provide more control while filling the cylinders.
6. Raise the machine until
   A. TANDEM AXLES OR TRACKS: the measurement of both exposed rods of the left cylinders equals 14" (35.6 cm). This will leave the necessary average of 7" (17.8 cm) of exposed rod (**Figure 54**).
   B. TRIDEM AXLES: the measurement of the exposed rod of the left middle cylinder equals 7" (17.8 cm). This will provided the average of 7" (17.8 cm) of exposed rod for all left side cylinders.
7. Close both valves.
8. Repeat for the right side cylinders.

The machine now has the suspension properly adjusted for operation.

Steering Axle Toe Adjustment

At the start of each season the steering axle toe should be checked for proper adjustment. Follow these steps to check and, if necessary, adjust the toe of the steering axle.
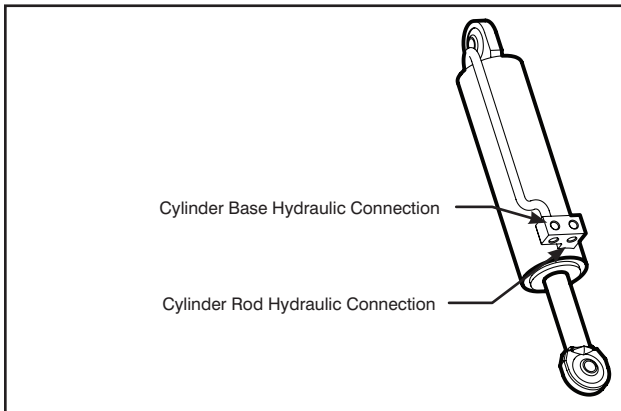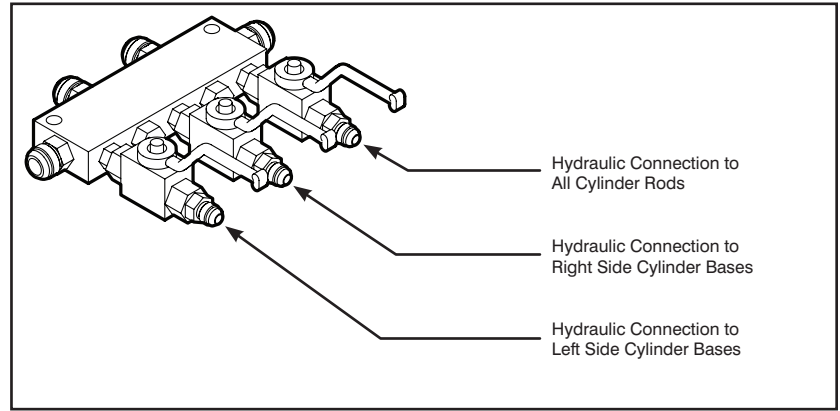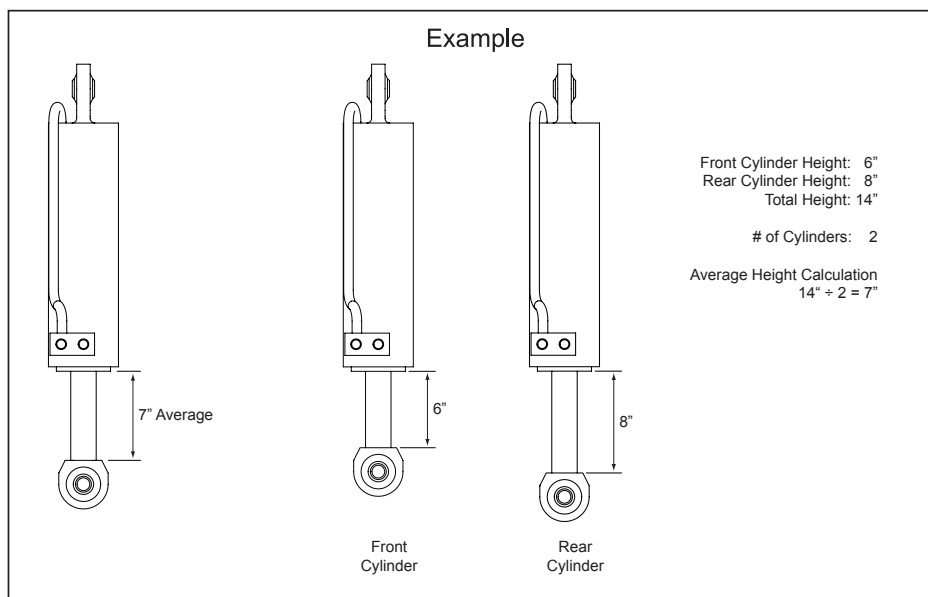
FIGURE 52

Cylinder Base Hydraulic Connection

Cylinder Rod Hydraulic Connection

FIGURE 53

Hydraulic Connection to
All Cylinder Rods

Hydraulic Connection to
Right Side Cylinder Bases

Hydraulic Connection to
Left Side Cylinder Bases

FIGURE 54

Example

Front Cylinder Height: 6"
Rear Cylinder Height: 8"
Total Height: 14"

# of Cylinders: 2

Average Height Calculation
14" ÷ 2 = 7"

7" Average

6"

8"

Front
Cylinder

Rear
Cylinder

Steering Axle Toe Adjustment (Continued)

1. Lock the straight steer so the steering axle wheels are inline with the straight axle wheels.
2. Raise the steering axle using a bottle jack or other device designed to safely lift the machine enough so both wheels of the steering axle are not touching the ground.
3. Before proceeding, place support items, such as jack stands with a sufficient weight rating, under the axle or the frame to support the machine. **The device lifting the machine should NOT be used as a support device. Place blocking or wheel chocks in front and back of each wheel of the straight axle to keep the machine from rolling.**
4. Measure the wheel attached to the steering hydraulic cylinder first. From the vertical center of the wheel, measure from the inside front of the rim to the frame. Then measure from the inside rear of the rim to the frame (**Figure 55**).
5. The inside front measurement should be 1/16" (1.6 mm) shorter than the inside rear measurement.
6. If adjustment is needed, loosen the steering hydraulic cylinder's clevis clamp nut and bolt. The clevis is threaded onto the rod of the cylinder. Using a wrench on the cylinder rod, rotate the rod for proper toe adjustment (**Figure 56**). Do not tighten the clevis clamp nut and bolt yet.
7. Measure the other steering wheel. From the vertical center of the wheel, measure from the inside front of the rim to the frame. Then measure from the inside rear of the rim to the frame (**Figure 57**).

⚠️ **DANGER**

DO NOT work under any part of this machine without proper support devices placed between the ground and the axles. Block the wheels to keep the machine from rolling.

FIGURE 55

Center Line of Rims

Front Rim Measurement

Rear Rim Measurement
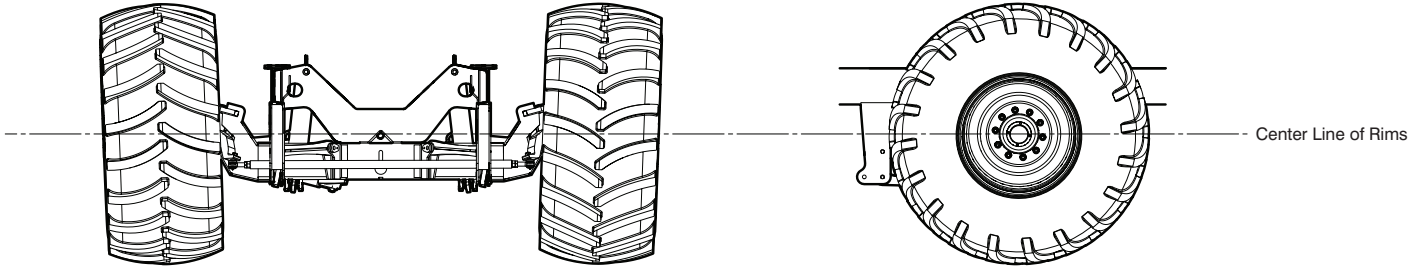
Front Rim Measurement should be 1/16" (1.6 mm) less than Rear Rim Measurement on the same rim.

Front Rim Measurement

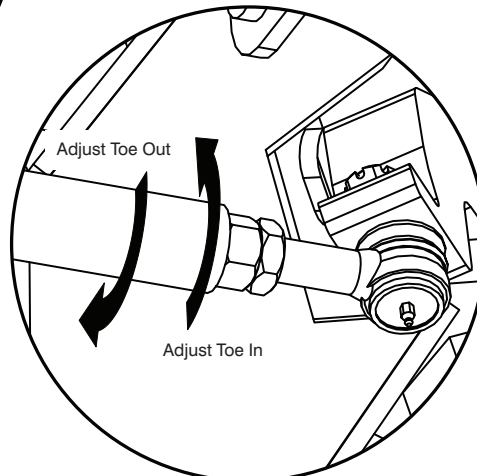Rear Rim Measurement

FIGURE 56

Clamp Nut and Bolt

FIGURE 57

Tie Rod Jamb Nuts

FIGURE 58

Adjust Toe Out

Adjust Toe In
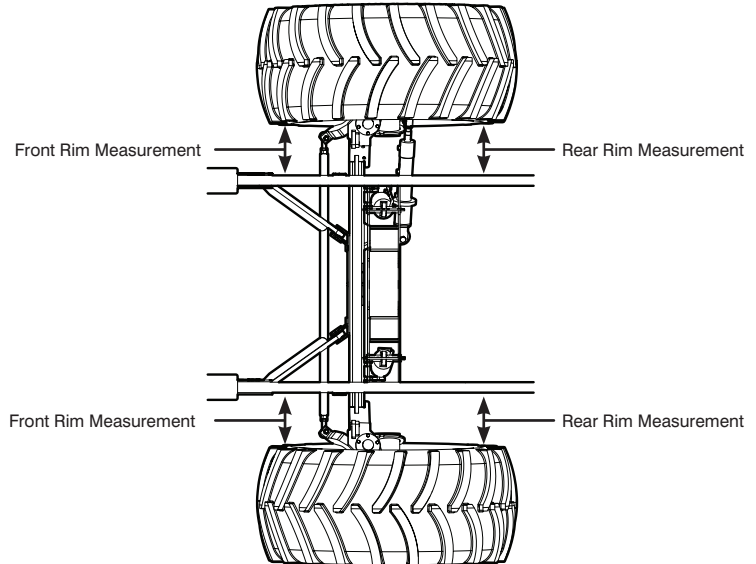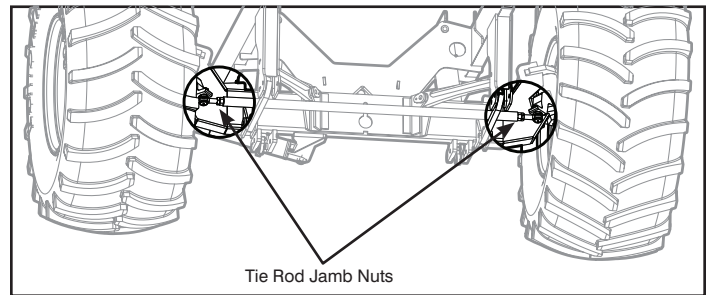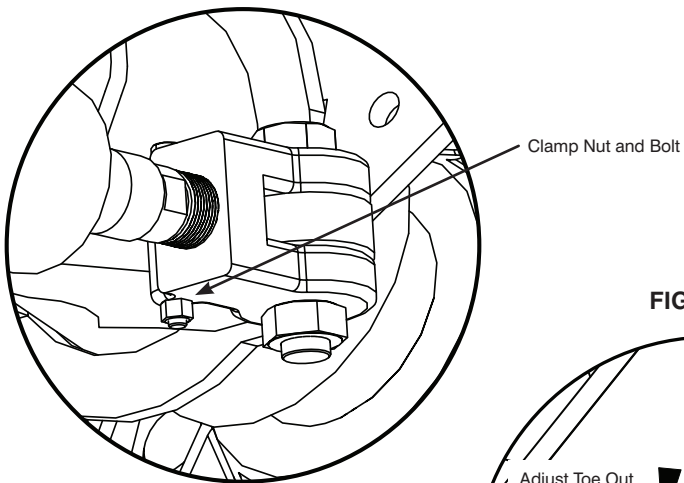
Steering Axle Toe Adjustment (Continued)

8. The inside front measurement should be 1/16" (1.6 mm) shorter than the inside rear measurement.
9. If adjustment is needed, loosen both jamb nuts on the tie rod (**Figure 57**). Rotate the direction needed to set the proper toe (**Figure 58**). Do not tighten the jamb nuts yet.
10. Measure both rims again for proper toe setting and readjust as necessary.
11. Tighten both jamb nuts on the tie rod and tighten the steering hydraulic cylinder's clevis clamp nut and bolt.

Brake System

Adding Brake Fluid

1. Attach the jumper hose (Part #: 72182) between "A" port and "B" port (**Figure 59** and **Figure 60**).
2. Connect the 1/4" hydraulic brake hoses (Red) to the tractor.
3. Open ball valve on jumper hose (**Figure 61**).
4. Apply and hold pressure to braking system from tractor hydraulics.
5. Relieve all pressure from the 1/4" hydraulic brake hoses (Hoses with Red stripes).
6. Close ball valve on jumper hose (**Figure 62**).
7. Remove jumper hose from "A" port and "B" port.
8. Apply and hold pressure to braking system.
9. Open bleeder screw on any brake caliper to adjust the brake master cylinder (**Figure 63**).
10. Allow the pressure releasing spring on the brake master cylinder to compress to 14" (35.6 cm) (**Figure 64**).

FIGURE 59
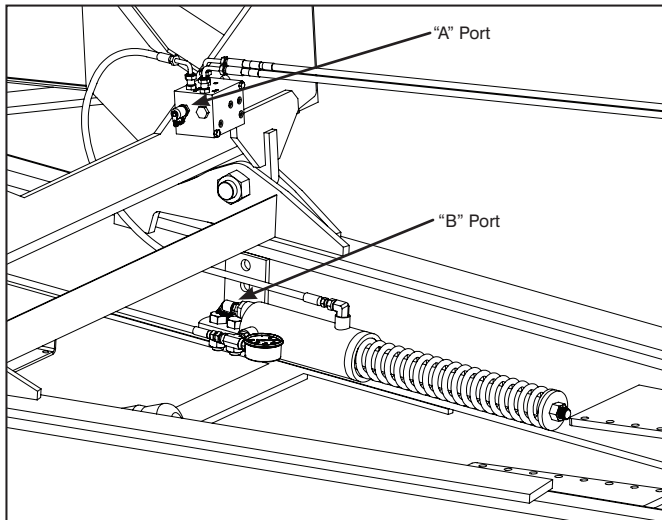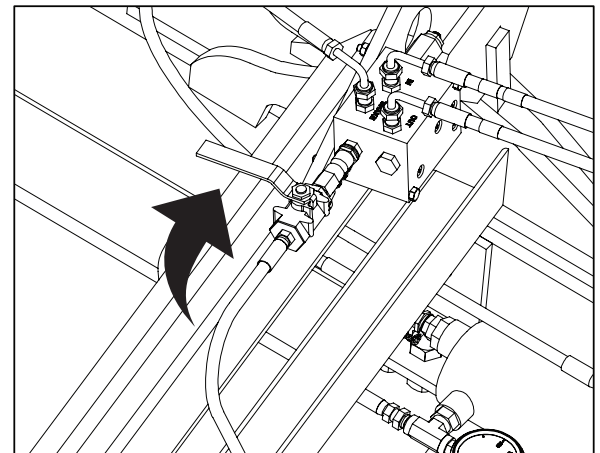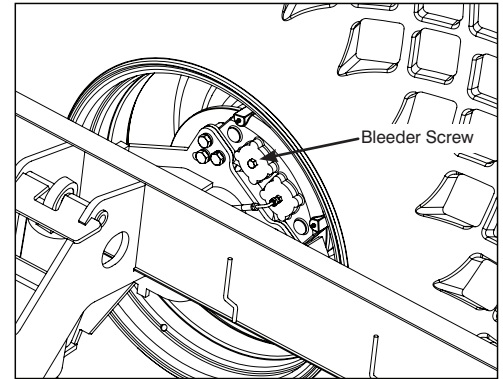
FIGURE 60
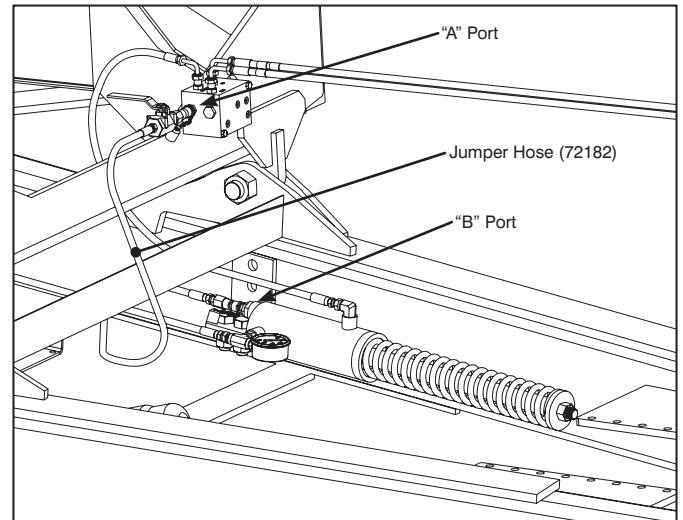
FIGURE 61
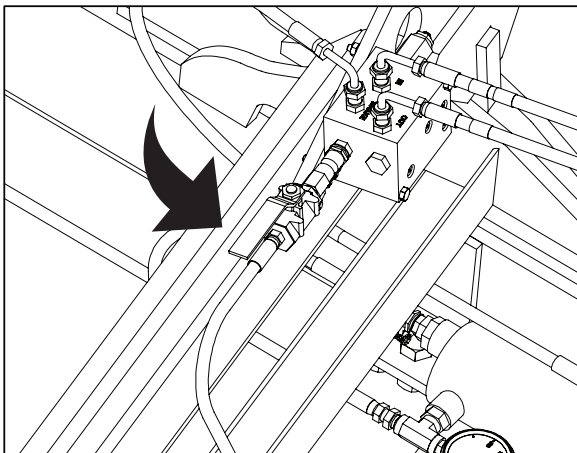
FIGURE 62

To open the ball valve on the Bleeder Hose, rotate the handle so that it is inline with the hose.

To close the ball valve on the Bleeder Hose, rotate the handle so that it is perpendicular with the hose.

Braking System (Continued)

Bleeding the Brake System

1. Attach the jumper hose (Part #: 72182) between "A" port and "B" port (**Figure 59** and **Figure 60**).
2. Connect the 1/4" hydraulic brake hoses (Red stripes) to the tractor.
3. Apply and hold pressure to braking system from tractor hydraulics.
4. Open ball valve on jumper hose (**Figure 61**).
5. Loosen bleeder screw on brake caliper closest to the brake master cylinder first (**Figure 63**).
6. After air bubbles have stopped, tighten bleeder screw.
7. Repeat Steps 5 and 6 until all brake calipers have been bled.
8. Relieve all pressure from the 1/4" hydraulic brake hoses (Red).
9. Close ball valve on jumper hose (**Figure 62**).
10. Remove jumper hose from "A" port and "B" port.
11. Apply and hold pressure to braking system.
12. Open bleeder screw on any brake caliper to adjust the brake master cylinder (**Figure 63**).
13. Allow the pressure releasing spring on the brake master cylinder to compress to 14" (35.6 cm) (**Figure 64**).

Figure 63 shows the schematic for the Brake System.

FIGURE 63

Bleeder Screw

FIGURE 64

Brakes have too little fluid and may not work properly.

8"

Brakes are not applied or have too much fluid and will not work properly.

16"

Brakes are applied, have correct amount of fluid and will work properly.

14"

FIGURE 65

Tractor Quick Connects for Brakes

Pressure Adjustment Screw

Set pressure to 1000 PSI at the Pressure Gauge

"A" Port

"B" Port

Jumper Hose (Part #: 72182)
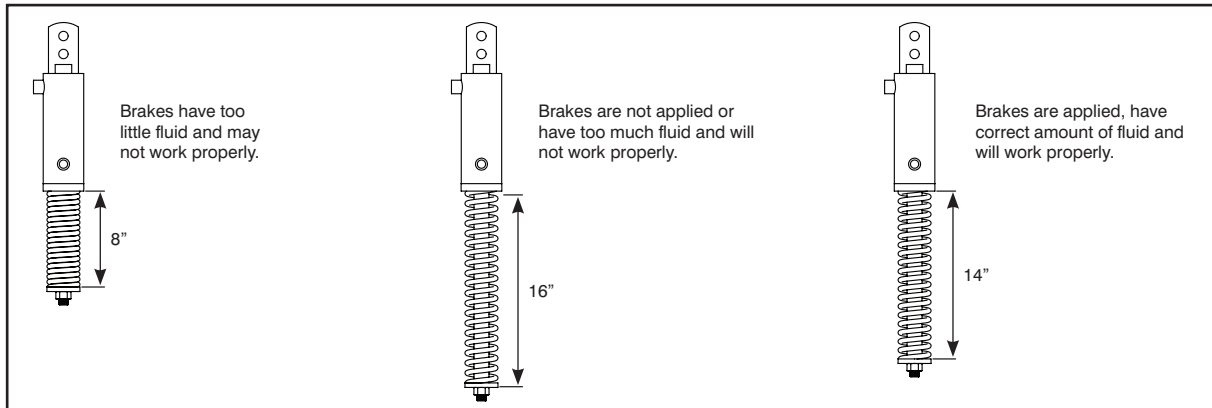
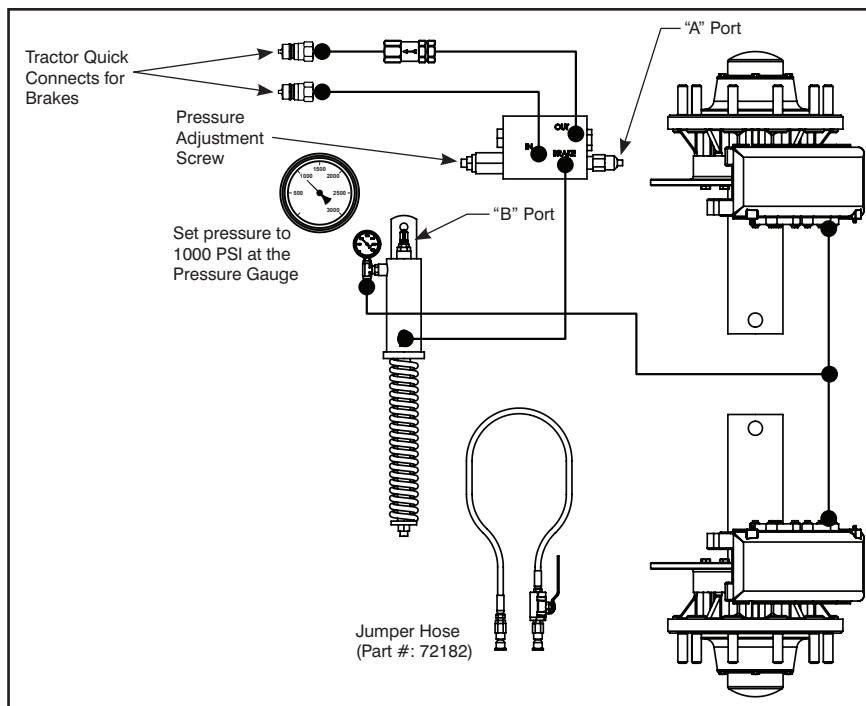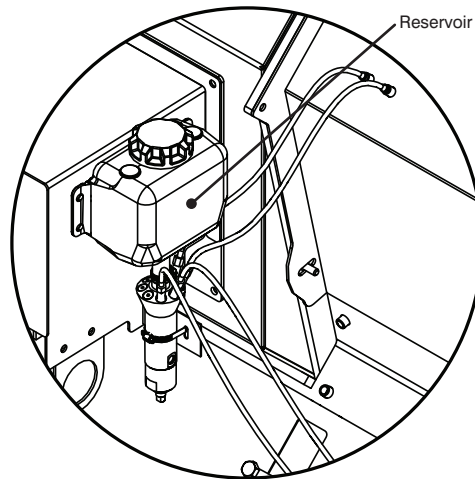## Automatic Oiler

Before Start of Season

1. Check the oil reservoir for any moisture or debris which may have accumulated during storage. If moisture or debris is in the reservoir, drain and clean the reservoir as best as possible to remove moisture and debris. When adding oil to a cleaned reservoir, slowly add 1/8 cup of new oil. This will allow the oil to enter the pump and air to escape the pump. Adding the oil too fast will result in air being trapped in the pump. See "Automatic Oiler Not Working" on Page 51 for steps in removing trapped air.
2. Check the oil level in the reservoir (**Figure 66**). Fill the oil reservoir with SAE 30 motor oil if necessary.

FIGURE 66

Reservoir

3. Start the tractor and engage the PTO. Once the PTO is up to speed, press the trigger on the joystick to engage the augers and to have the automatic oiler pump oil out to the gear box. Press the trigger again to disengage the augers and to have the automatic oiler pump oil out to the gear box again. Repeat this a couple of times to ensure the drive chains inside the gear box have received adequate oil.
4. Shut off the tractor and check the automatic oiler and oil lines for any leaks.

⚠	**DANGER**	Make sure tractor is turned off and the PTO is disconnected from the tractor before removing the auger drive chains covers and shields. Failure to do so may result in serious injury.

5. Remove the covers on the auger drive system to see that the drive chains have received fresh oil and that the oil brushes are touching the drive chains. If the brushes are not touching the drive chains, they need to be replaced.

Daily Maintenance Checks

1. Check the reservoir for any moisture or debris and remove as best as possible.
2. Check the oil level in the reservoir (**Figure 64**). The reservoir must not go empty otherwise damage to the oiler or the gear box may occur. Fill the reservoir if necessary using SAE 30 motor oil.
3. Check the automatic oiler and oil lines for any leaks, cracks, or kinks and replace if necessary.

End of Season/Preparing for Storage

Fill the reservoir at least half full, but not completely full, with SAE 30 motor oil. This will allow for expansion if it occurs.

Auger Drive System

Before Start of Season/Every 40 Hours of Use

1. Check the horizontal and vertical auger drive chains for proper tension (**Figure 67**). The tension should be adjusted for a maximum of 1/2" (12mm) deflection to the longest straight section of chain (**Figure 68**).

   A. To increase drive chain tension, loosen both the side bolt of the tensioner and the locking nut on the tension bolt, then turn the tension bolt clockwise until proper tension is obtained. Once proper tension is set, tighten both the side bolt and the locking nut. **DO NOT OVERTIGHTEN THE SIDE BOLT.**

   B. To decrease drive chain tension or to replace drive chain, loosen both the side bolt of the tensioner and the locking nut on the tension bolt, then turn the tension bolt counter-clockwise until proper tension is obtained. Once proper tension is set, tighten both the side bolt and the locking nut. **DO NOT OVERTIGHTEN THE SIDE BOLT.**

FIGURE 67

Horizontal Auger Drive Chain

Horizontal Drive Chain Tensioner

Vertical Auger Drive Chain

Vertical Drive Chain Tensioner

FIGURE 68

Maximum 1/2" Deflection

Rotate Tension Bolt Clockwise to Increase Tension on Drive Chains

Tensioner Locking Nut
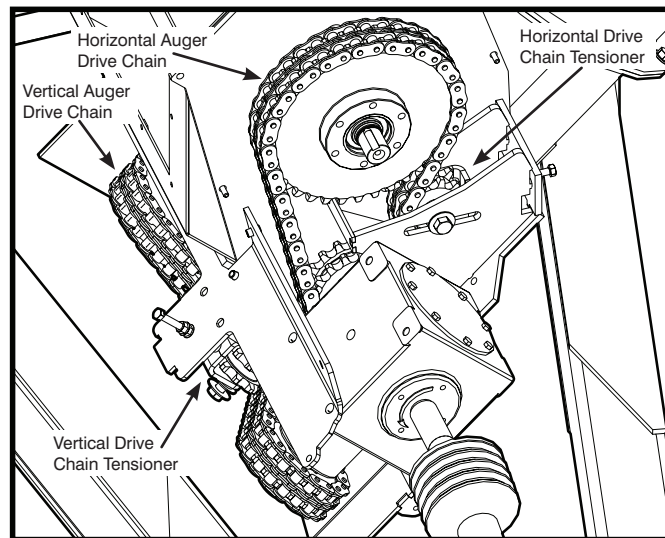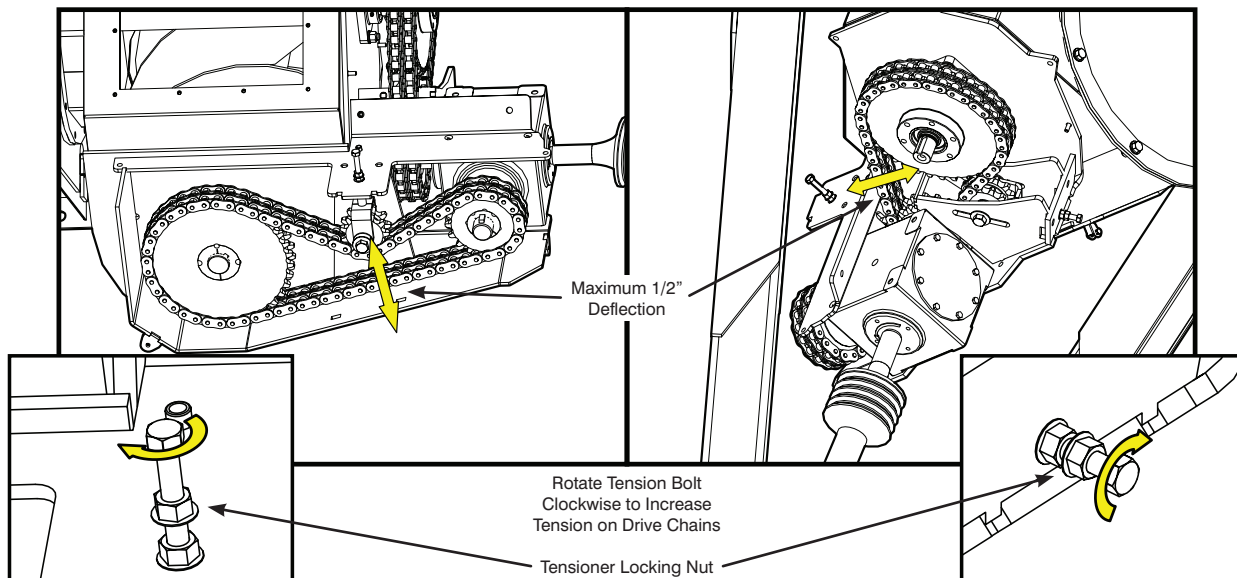
NOTE: The above images show the horizontal auger engagement system removed. This does not need to be done to adjust drive chain tension. It has been removed from these drawings to allow necessary detail to be visible.

Auger Drive System (Continued)

2. Check the drive chains for wear or damage and replace if necessary.
3. Check the drive sprockets for wear or damage and replace if necessary.
4. Check the auger gearbox oil level (**Figure 69**). The oil level should be about 1" to 2" below the vent/fill port. Use 80W90 oil to fill gearbox if necessary.

FIGURE 69

Gearbox Vent/ Fill Port
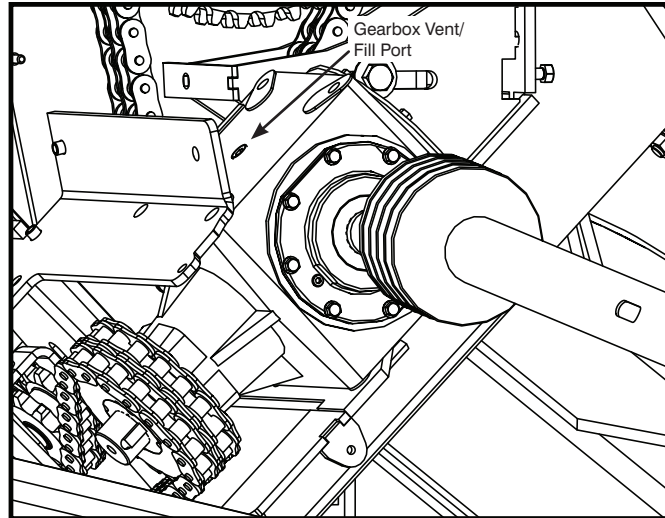
5. With an empty grain cart, open the front cleanout door on the vertical auger (**Figure 70**) and the bottom cleanout doors on the horizontal auger (**Figure 71**). **DO NOT INSERT ANY BODY PART OR TOOL INTO THE CLEANOUT OPENINGS WHILE THIS UNIT IS CONNECTED TO A TRACTOR. SERIOUS INJURY OR DAMAGE MAY OCCUR.**

FIGURE 70
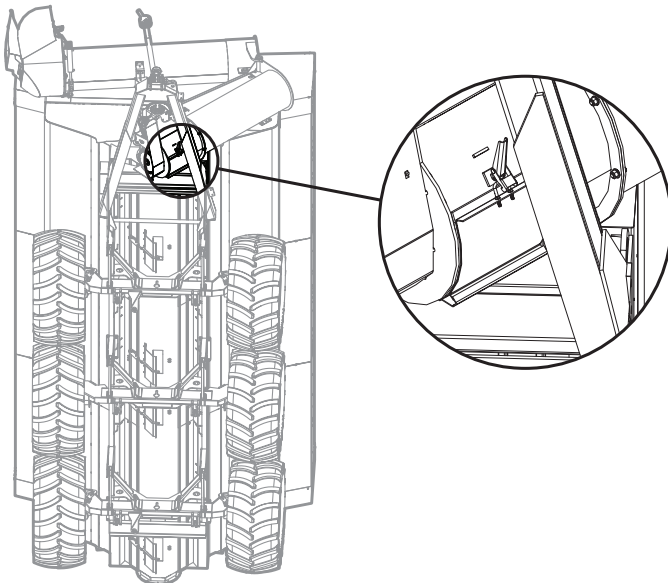
FIGURE 71
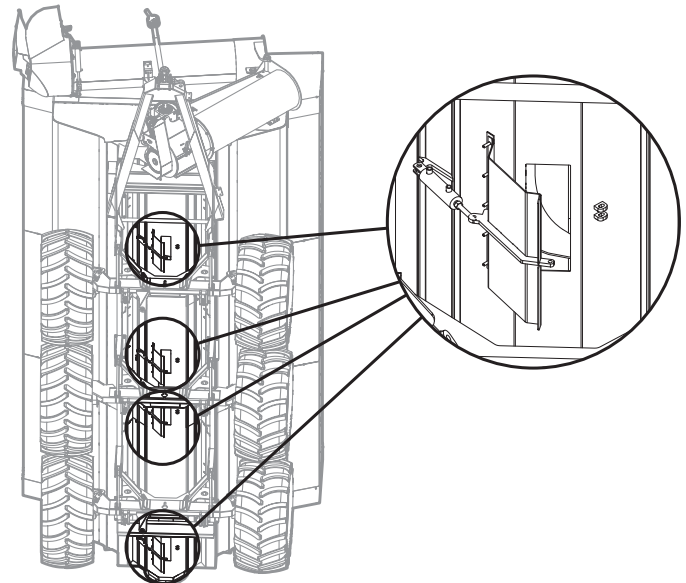
⚠ **DANGER** DO NOT insert any body part or tool into the cleanout openings while this unit is connected to a tractor. Serious bodily injury or damage to the unit may occur!

Field Floater 7 Grain Cart User Manual

Troubleshooting

Steering Not Working Correctly

1. Check Straight Steer switch position.
2. Check the hydraulic connections to the tractor. The YELLOW coded hoses should be connected to the right side of the tractor's hydraulic bank. The hose with one (1) stripe should be connected to the RETURN port and the hose with two (2) stripes should be connected to the PRESSURE port.
3. Grease the kingpins (if equipped with grease points) and the tie rod. Apply grease to the kingpins with the wheels straight and also with the wheels fully extended to each turning position. The kingpins and tie rod must be greased daily for proper steering system operation.
4. If the system is still not steering properly, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).

Backing Up and Steering Not Locked Straight

1. Check that the Straight Steer switch is placed to engage the Straight Steer hydraulics.
2. Check the hydraulic connections to the tractor.
3. If the system is still not locking the steering wheels straight, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).

Hydraulic Controls Not Working Properly

1. Check the hydraulic connections to the tractor:
   A. RED marked hose   Brakes
   B. ORANGE marked hose   Hydraulic Manifold
2. Check the tractor's hydraulic fluid levels.
3. Check the hydraulic system for leaks or hose line damage.
4. Attach the tractor to a different implement to identify if the problem is with the tractor or the implement.
5. If the problem is with the tractor, contact your local farm equipment service center.
6. If the problem is with the implement, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).

Brakes Not Working Properly

1. Apply brakes.
2. Measure the compression of the pressure release spring.
1. If the pressure release spring is compressed to 8" (20.3 cm) or less, hydraulic fluid must be added to the braking system (See "Brake System" on Page 52).

PTO Not Working

1. Check that the PTO drive lever on the tractor is engaged.
2. Disengage the PTO, shut off the tractor, and remove the key.
3. Check that the PTO is connected to the tractor.
4. Check the PTO shaft's shear bolt. If the shear bolt is broken, damaged, or missing, replace and attempt PTO operation again.
5. Disconnect the PTO from the tractor and engage the PTO drive on the tractor. Check to see that the tractor's PTO shaft is turning. If the tractor's PTO shaft is not turning, contact your local farm equipment service center.
6. For additional troubleshooting of the PTO shaft, see the manufacturer's book that came with the PTO shaft.
7. If PTO is still not working, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).

TROUBLESHOOTING
Automatic Oiler Not Working

1. If the reservoir was cleaned because of moisture or debris, the pump will need to be primed. To prime the pump:
   A. Slowly pour 1/8 cup SAE 30 motor oil into reservoir if no oil in reservoir.
   B. Remove a plug from the pump's manifold (**Figure 72**).
   C. Watch for oil to reach the top of the port hole.
   D. Replace the plug.
   E. Air bubbles in the oil lines will push out when the unit is in operation.

FIGURE 72
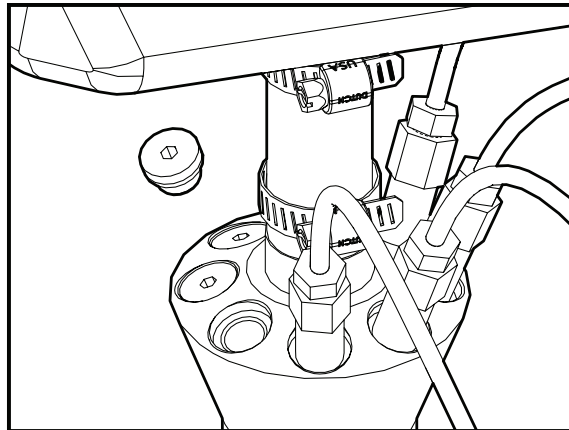
With the tractor running, watch the oil lines coming from the pump as you press the trigger on the joystick. With each press of the trigger, the lines should "twitch" indicating that oil is at least attempting to be pushed through the lines.

2. If the line(s) "twitch" but oil is not getting to the drive chains adequately:
   A. Check the oil lines for cracks, leaks, or kinks and replace if needed.
   B. Check the oil lines for debris which may be blocking or reducing oil flow and clear the debris if possible. If the debris is unable to be removed from the oil line, replace the oil line.
   C. Check the oiler brushes where they make contact with the drive chains for excessive wear and replace if needed.
   D. Adjust pump to increase oil output (**Figure 73**). Loosen the jamb nut and turn the oil adjustment screw counter-clockwise. **DO NOT EXCEED 15 TURNS IN EITHER DIRECTION WHEN ADJUSTING OIL FLOW!**

FIGURE 73

Jamb Nut

Rotate Oil Adjustment Screw counter-clockwise to increase oil flow out of pump.
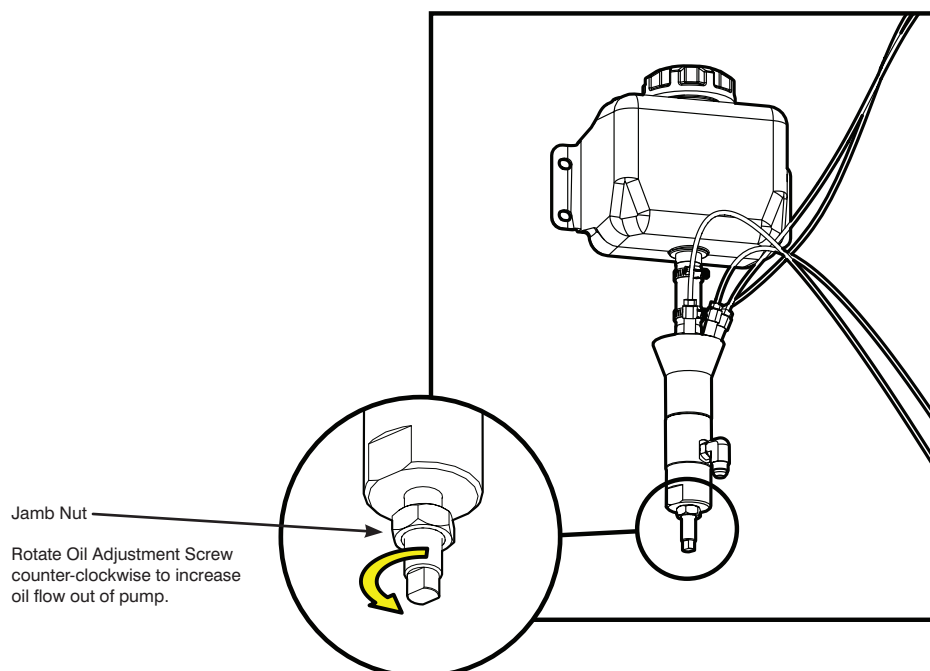
Automatic Oiler Not Working (Continued)

3. If the line(s) do not "twitch":
    A. Check to see if the tractor's hydraulics are engaged.
    B. Check the hydraulic connection to the pump for damage or leaks and replace if needed.
    C. Remove the manifold fitting from the pump and check for debris or damage (**Figure 74**). Have something ready to plug the port so excessive oil does not leak out the port.

FIGURE 74
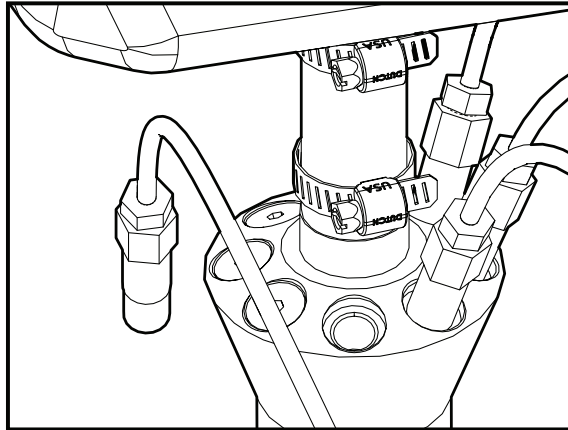
4. If the Automatic Oiler still is not working, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).
5. For replacement parts, call Balzer's Parts Department at 1-800-795-8551 Ext. 104 (or press 0 for the operator).

Abnormal Auger Vibrations When Unloading

1. Check the upper vertical auger to make sure it is fully extended (**Figure 75**). Any gap where the two halves come together may indicate the vertical auger drive couplers are not fully engaging each other, requiring the clevis on the hydraulic fold cylinder to be adjusted (**Figure 76**).

FIGURE 75

Upper Vertical Auger not fully extended.

FIGURE 76

Hydraulic Fold Cylinder Clevis
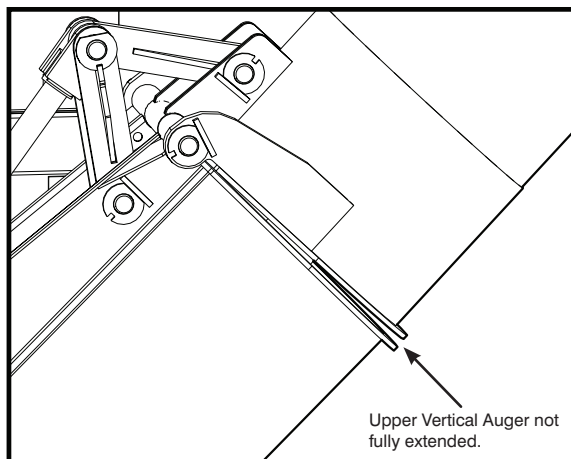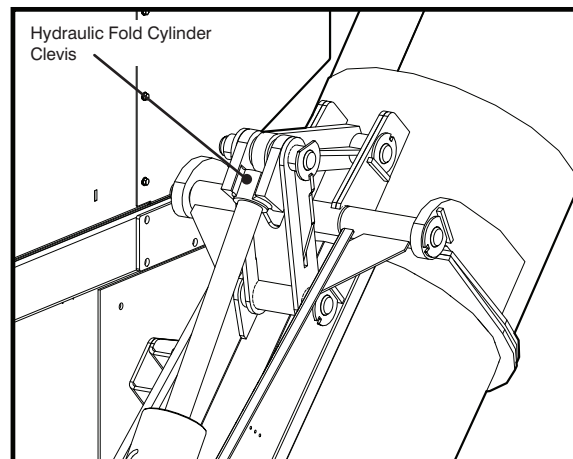
2. Check the drive chains for proper tension (see "Auger Drive System" on Page 46 for drive chain tension maintenance).
3. Check the drive chains and sprockets for damage and replace if necessary.
4. If the abnormal vibration is still occurring, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).

Upper Vertical Auger "Slams" Open

1. Fully extend the upper vertical auger.
2. On the rod end of the hydraulic fold cylinder is a bleeder screw. Open the screw a small amount to allow air to escape from the system.
3. After air has been bled from the system, close the bleeder screw tightly.
4. Retract and extend the upper vertical auger. If the upper vertical auger slams open again, open the bleeder screw to let more air out of the system. Retighten the bleeder screw and repeat.
5. If the upper vertical auger continues to slam open after several attempts to bleed air from the system, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).

Joystick Will Not Work

1. Check all cable connections.
2. Check the inline fuse on the power cable going to the joystick.
3. Check the voltage at the power connections. If the voltage is below 11 VDC, the joystick is not getting enough voltage to properly operate. **NOTE: MULTIPLE ELECTRONIC DEVICES TURNED ON AT THE SAME TIME MAY LOWER THE AVAILABLE VOLTAGE FROM THE TRACTOR—TRY TURNING OFF OTHER ELECTRONIC DEVICES TO SEE IF FUNCTIONALITY RETURNS TO THE JOYSTICK.**
4. If the joystick is still not working properly, call Balzer's Service Department at 1-800-795-8551 Ext. 134 (or press 0 for the operator).

Host Indicator Not Working/Error Codes

1. Host indicator does not want to power up after pressing the power button: check the Power Connection on the bottom of the indicator and check electrical connection at 12VDC switched source.
2. Host indicator showing error code:

Display	Problem	Definition
EEPE	Internal Programming Lost or Corrupted	Calibration programming is stored in a permanent memory area. This code indicates an error in the stored settings. Check both indicators to determine which has the error. Attempt to recalibrate the indicator having the error. If error still present after recalibration, the indicator will need to be replaced.
CAP	Weighing Capacity Error	The scale indicator data being sent to the host indicator is over the maximum weight capacity. This typically indicates either a load cell issue or a cable issue. Checking the scale indicator will determine which load cell(s) have lost communication with the scale indicator.
LobAt	Low Battery	The supply voltage to the indicator is below proper operating level. Check all power connections and source voltage.
diSP	Unable to Display Value	The number that is wanting to be displayed has too many characters for the display to show. The typical cause of this error is zeroing out the scale with a full load so when the load is emptied, the negative number has too many characters. Zeroing the scale will clear this error.
LOSt	Lost Communication with Scale Indicator	Communication between the host indicator and the scale indicator is no longer present. Check the PWR/COM cable between scale and host indicators. Check the power connection to the scale indicator. If using wireless communication, check all radio settings on both the host indicator and the scale indicator.
ScoFF	No Communication with Scale Indicator	The host indicator has not been able to establish communication with the scale indicator. Check the PWR/COM cable between scale and host indicators. Check the power connection to the scale indicator. If using wireless communication, check all radio settings on both the host indicator and the scale indicator.

Scale Indicator Not Working/Error Codes

1. Scale indicator does not want to power up after pressing the power button:
   A. Check that the host indicator is turned on
   B. Check the PWR/COM connection on the bottom of the indicator
   C. Check the PWR/COM connection on the bottom of the host indicator
   D. Check electrical connection at the 12VDC switched source
   E. Check the PWR/COM cable for any breaks or damage and replace if necessary
2. Scale indicator showing error code:

Display	Problem	Definition
EEPE	Internal Programming Lost or Corrupted	Calibration programming is stored in a permanent memory area. This code indicates an error in the stored settings. Attempt to recalibrate the indicator. If error still present after recalibration, the indicator will need to be replaced.
CAP	Weighing Capacity Error	The scale indicator is over the maximum weight capacity. This typically indicates either a load cell issue or a cable issue. Checking the scale indicator will determine which load cell(s) have lost communication with the scale indicator.
LobAt	Low Battery	The supply voltage to the indicator is below proper operating level. Check all power connections and source voltage.
diSP	Unable to Display Value	The number that is wanting to be displayed has too many characters for the display to show. The typical cause of this error is zeroing out the scale with a full load so when the load is emptied, the negative number has too many characters. Zeroing the scale will clear this error.
LCb 1	Load Cell Error Detected at Power Up	A load cell may have failed or a bad connection exists between the load cell and the scale. The number will show which cell(s) to check. See the Load Cell Conversion Chart below for cell failure code. Check cables and connections between indicated load cells.
LC 1	Load Cell Error Detected during Operation	A load cell may have failed or a bad connection exists between the load cell and the scale. The number will show which cell(s) to check. See the Load Cell Conversion Chart below for cell failure code. Check cables and connections between indicated load cells.
Ad1	Analog/Digital Circuit Board Failure	The analog to digital circuit board inside the indicator has failed and needs to be repaired or replaced.

Load Cell Conversion Chart

When receiving an LCb or an LC error, find the corresponding error code on the table below to identify the load cell(s) causing the error. A letter "E" below the Load Cell Number indicates that load cell is causing an error with the scale indicator and needs to be checked.

Error Code	Load Cell Number 6 5 4 3 2 1	Error Code	Load Cell Number 6 5 4 3 2 1	Error Code	Load Cell Number 6 5 4 3 2 1	Error Code	Load Cell Number 6 5 4 3 2 1
1	– – – – – E	0F	– – E E E E	21	E – – – – E	31	E E – – – E
2	– – – – E –	11	– E – – – E	22	E – – – E –	32	E E – – E –
3	– – – E – –	12	– E – – E –	23	E – – – E E	33	E E – – E E
4	– – E – – –	13	– E – – E E	24	E – – E – –	34	E E – E – –
5	– E – – – –	14	– E – E – –	25	E – – E – E	35	E E – E – E
6	E – – – – –	15	– E – E – E	26	E – – E E –	36	E E – E E –
03	– – – – E E	16	– E – E E –	27	E – – E E E	37	E E – E E E
05	– – – E – E	17	– E – E E E	28	E – E – – –	38	E E E – – –

Scale Indicator Not Working/Error Codes (Continued)

Error Code	Load Cell Number 6 5 4 3 2 1	Error Code	Load Cell Number 6 5 4 3 2 1	Error Code	Load Cell Number 6 5 4 3 2 1	Error Code	Load Cell Number 6 5 4 3 2 1
06	– – – E E –	18	– E E – – –	29	E – E – – E	39	E E E – – E
07	– – – E E E	19	– E E – – E	2A	E – E – E –	3A	E E E – E –
09	– – E – – E	1A	– E E – E –	2b	E – E – E E	3b	E E E – E E
0A	– – E – E –	1b	– E E – E E	2C	E – E E – –	3C	E E E E – –
0b	– – E – E E	1C	– E E E – –	2d	E – E E – E	3d	E E E E – E
0C	– – E E – –	1d	– E E E – E	2E	E – E E E –	3E	E E E E E –
0d	– – E E – E	1E	– E E E E –	2F	E – E E E E	3F	E E E E E E
0E	– – E E E –	1F	– E E E E E	30	E E – – – –		

If the error code is indicating a load cell issue, the load cell can be checked with an ohm meter to determine if it has failed and needs to be replaced. **Figure 77** shows the pin configuration of the load cell connector.

FIGURE 77
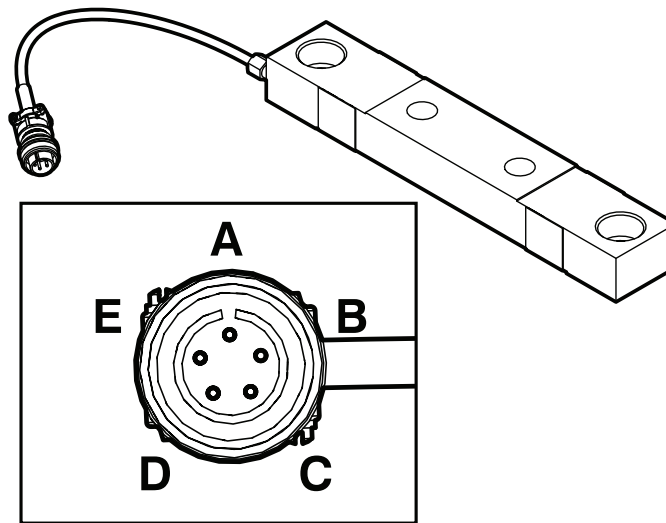
Using an ohm meter, first measure the resistance between Pin A and Pin C. This reading should be 700 ohms ±4 ohms (**Figure 78**).

Then measure the resistance between Pin B and Pin D. This reading should be 775 ohms ±5 ohms (**Figure 79**).

FIGURE 78
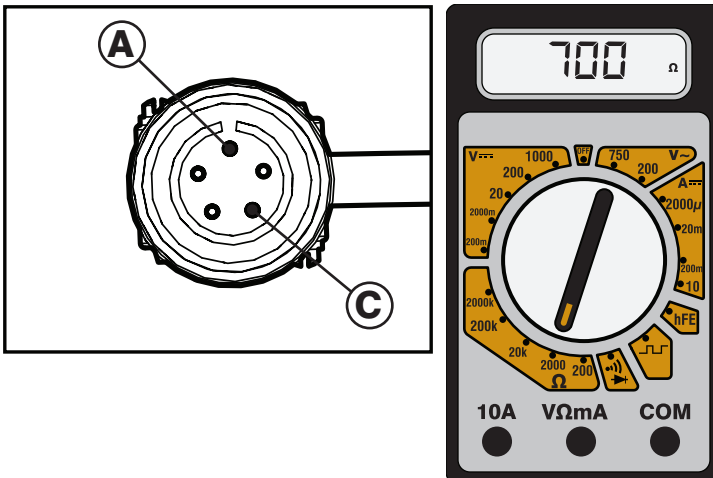
FIGURE 79
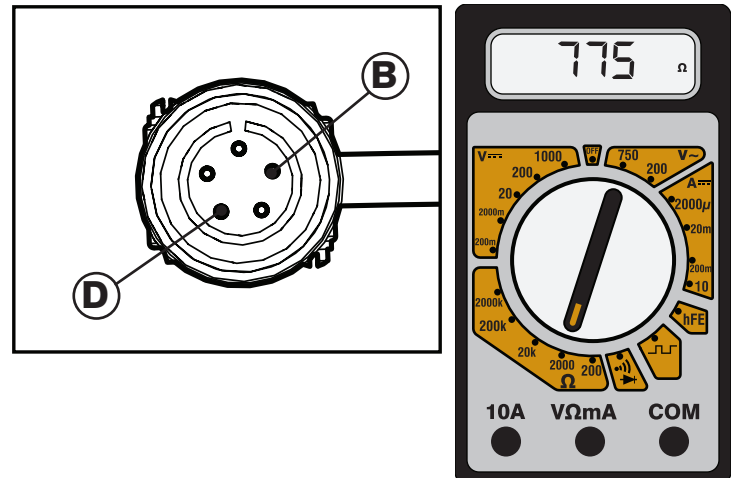
Weigh System Programming

Using Memory Locations

The weighing system is capable of 99 separate memory storage locations. These locations can be used to separate fields, seed varieties, grain type, or any reason you need.

The Alpha-Numeric keypad is used to set the names of memory locations or to enter specific numerical data into a menu setting (**Figure 80**).

FIGURE 80

Naming a Memory Location

When needing to enter letters or symbols, such as when setting the ID for a memory location, press the desired alpha-numeric key in rapid succession to cycle through the number/character until the desired character is displayed. The memory location ID is limited to five characters.

Program a Memory Location		
Button Press	**Screen Display**	**Description**
RM	Loc02	Display will flash.
▲ HOLD		Moves forward one memory location.
▼ M+		Moves backward one memory location.
▶ BIN		Moves forward ten memory locations.
◀ TARE		Moves backward ten memory locations.
MENU SETUP	_	Underline will be flashing indicating for you to enter the first letter of the location name.
2 ABC	C_	Press three times to get the letter C
6 MNO	Co_	Press three times to get the letter O
7 PQRS	Cor_	Press three times to get the letter R

WEIGH SYSTEM PROGRAMMING
Using Memory Locations (Continued)

Program a Memory Location		
Button Press	**Screen Display**	**Description**
6 MNO	`Corn_`	Press two times to get the letter N
STORE ENTER	`Loc02`	Displays for one second.
	`Corn`	Displays for one second.
	`CLr`	Displays for one second.
	`- - -`	Displays for one second before returning to main weigh screen.

Storing to a Memory Location

Program a Memory Location		
Button Press	**Screen Display**	**Description**
	lb GROSS `33500`	Current weight of grain in cart.
▼ M+	`Loc02`	Display shows currently selected memory location for one second.
	`Corn`	Display shows name of memory location for one second.
	`AC005`	Display shows number of accumulated weights stored to the memory location for one second.
	lb GROSS TOTAL `178330`	Display shows total weight stored to the memory location for two seconds.
	lb GROSS `33500`	Display returns to current weight of grain in cart.

Using Memory Locations (Continued)

Remove Weight from Memory Location

The weigh system gives you the opportunity to remove the most recent weight added to the current memory location. **THIS CAN ONLY HAPPEN WHEN NOTHING ELSE HAS BEEN DONE WITH THE WEIGH SYSTEM.**

Program a Memory Location		
Button Press	**Screen Display**	**Description**
	lb GROSS **33500**	Current weight of grain in cart.
RM		Press and hold button.
◀ TARE	**Undo**	Display shows action taken for one second.
	Loc02	Display shows memory location accumulated weight will be removed from.
	Corn	Display shows name of memory location.
	AC004	Display shows adjusted accumulation total.
	lb GROSS TOTAL **144830**	Display shows adjusted accumulation weight before returning to current weight of grain in cart.

Recall a Memory Location

Program a Memory Location		
Button Press	**Screen Display**	**Description**
RM	**Loc02**	Display will flash with current memory location. To select a different memory location, use the arrow keys as mentioned in Naming a Memory Location.
RM	**Loc02**	Display shows memory location accumulated weight will be removed from.
	Corn	Display shows name of memory location.
	AC004	Display shows adjusted accumulation total.
	lb GROSS TOTAL **144830**	Display shows adjusted accumulation weight before returning to current weight of grain in cart.

Using Memory Locations (Continued)

Export a Memory Location to USB

Insert a USB flash drive into the USB port on the host indicator. The green light on the USB port should light up.

Program a Memory Location		
Button Press	**Screen Display**	**Description**
RM	Loc02	The current memory location will flash on the display. Use the arrow keys to change memory locations to export.
PRINT EXPORT	- - -	The system will write the selected memory location to the USB flash drive, then return display to current weight of grain in cart.

When exporting the data from memory locations to the USB flash drive, the data will write a text (.TXT) file to the flash drive. Each additional export will add to that text file. **Figure 81** shows how the data will appear for the export of a single memory location.

FIGURE 81

```
APR 03, 2015 07:59am
MEM LOC#           2
ID:           CORN
TOTAL WEIGHT: 128270 lb
ACCUM COUNT:      05
AVG WEIGHT:    25654 lb
```

Export All Memory Locations to USB

Insert a USB flash drive into the USB port on the host indicator. The green light on the USB port should light up.

Program a Memory Location		
Button Press	**Screen Display**	**Description**
PRINT EXPORT	PrtAL	Press and hold until display shows that it is printing all memory locations.
	- - -	The system will write all memory locations to the USB flash drive, then return display to current weight of grain in cart.

When exporting the data from memory locations to the USB flash drive, the data will write a text (.TXT) file to the flash drive. Each additional export will add to that text file. **Figure 82** shows how the data will appear for the export of all memory locations.
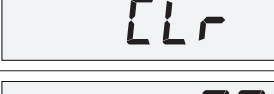
FIGURE 82
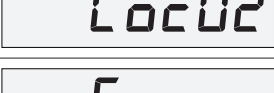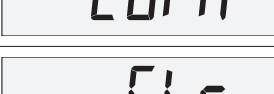
```
APR 03, 2015 08:06am

MEMLOC COUNT  AVGWT     TOTAL
CORN    05   25654 lb  128270 lb
BEANS   06   25112 lb  150670 lb


TOTAL   11   25358 lb   278940 lb
```

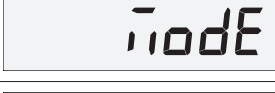## Using Memory Locations (Continued)

Clear a Memory Location

Program a Memory Location		
Button Press	**Screen Display**	**Description**
RM	Loc02	Display will flash with current memory location. To select a different memory location, use the arrow keys as mentioned in Naming a Memory Location.
CLEAR	Loc02	Press and hold.
	CLr	Held buttons can be released.
	Loc02	Display shows memory location.
	Corn	Display shows name of memory location.
	CLr	Display shows memory location is clear of weight accumulations, then returns to current weight of grain in cart.

Host Indicator Programming

If at any time you are accessing a menu location and are making a change to that setting which is either incorrectly being entered or shouldn't be changed, press the Power button ⏻. This will turn the unit off without making any changes to the current menu setting being accessed.

Menu System Selection

The following steps will allow you to select which menu system you want to access:

Step	Button	Entry Option	Display
Access Menu system	MENU SETUP		ﾮodE
Enter menu system code	MENU SETUP	The default selection is for the main menu	000
		Enter 477 to access the Calibration menu	477
Continue to selected menu system	MENU SETUP		

Host Indicator Programming (Continued)

Main Menu System

The following options are accessible through the main menu system:

Display	Function	Definition
CLrAL	Clear All	Clear stored data and custom settings.
SEttd	Set Time and Date	Sets Time and Date for exported data.
bL itE	LCD Display Backlight	Sets the backlight mode for the LCD display. The red oval above the display is a light sensor.
Un itS	Unit of Weight	Sets the weighing unit between pounds and kilograms. Changing units on the Host Indicator will also change the units on the Scale Indicator.
A rt	Average Rate	The rate at which the output of the load cells is read by the Scale Indicator. This is in 1/4 second increments. Changing the rate on the Host Indicator will also change the rate on the Scale Indicator.
A oFF	Auto Off	Amount of time (in minutes) before the weigh system turns off from inactivity.
HoLdE	Hold Enable	Activates or deactivates the capability of locking the currently displayed weight.
PCont	Print Continuous	Output the display continuously to an external display board or other device connected to the RS232 port.
PbAUd	Print Baud Rate	The rate the RS232 output occurs. This must match the rate of the device attached to the RS232 port.

Clear All Memory Locations

The following steps will clear saved weight accumulations in memory locations or resets ALL stored data and custom settings to their default values.

Step	Button	Entry Option	Display
Clear Memory			CLrAL
Enter clearing code	MENU SETUP	The default selection is for leaving the memory as it was last set.	000000
		Enter 9191 to clear all saved weight accumulations	009191
Select your entered clearing code	MENU SETUP		CLrAL
		Display will show Lost indicating the previously stored information has been changed	LOSt

Host Indicator Programming (Continued)

Set Time and Date

The following steps will set the time and date for your indicators. The system does not automatically change for Daylight Savings Time.

Step	Button	Entry Option	Display
Set Time and Date			**SEttd**
Select to change time and date	MENU SETUP	The default selection is for leaving the time and date as last set - display will be flashing	**no**
	▲ HOLD	Switch display selection to Yes to change the time and date - display will be flashing	**YES**
To select Yes or No	MENU SETUP	If No is selected, this will move to the next option in the menu list. If Yes is selected, display will change	**Yr 15**
Enter 2-digit year		Default is current year when unit initially set up. Enter 10-99 for years 2010 to 2099	**Yr 15**
To accept year as entered and move to Month	MENU SETUP	Default is current month when unit initially set up. Enter 1-12 for month January to December	**mon01**
To accept month as entered and move to day	MENU SETUP	Default is current day when unit initially set up. Enter 1-31 for day of month	**dd 28**
To accept day as entered and move to hour of the day	MENU SETUP	Default is current hour when unit initially set up. Enter 1-12 for the hour	**Hr 11**
To accept the hour of the day as entered and move to minutes of the hour	MENU SETUP	Default is current minute when unit initially set up. Enter 0-59 for the minutes past the hour	**min 13**
To accept the minutes of the hour and move to AM or PM	MENU SETUP	Default is current AM/PM when unit initially set up - display will be flashing	**Am**
To change between AM or PM	▲ HOLD	Switch display selection between AM and PM - display will be flashing	**Pm**
To accept AM/PM setting and finish setting the time and date	MENU SETUP	Display will show Lost indicating the previously stored information has been changed	**LOSt**

Host Indicator Programming (Continued)

Set Display Backlight
The following steps will set the backlight of the LCD display.

Step	Button	Entry Option	Display
Set LCD display backlight			**bL itE**
Select backlight option	MENU SETUP	The default selection is for leaving the backlight in Automatic. This uses a light sensor on the front of the panel to turn the backlight on or off - display will be flashing	**Auto**
	▲ HOLD	Backlight always Off	**oFF**
	▲ HOLD	Backlight always On	**on**
Select your backlight option	MENU SETUP		

Set Weighing Units
The following steps will set the weighing units for recorded and displayed data. The scale will read in 10 lbs/5 kg increments.

Step	Button	Entry Option	Display
Set Weighing Units			**Units**
Select weighing unit options	MENU SETUP	The default selection is pounds (lbs) - lbs display will be flashing	lb **Units**
	▲ HOLD	Switch to kilograms (kg) - kg display will be flashing	kg **Units**
Select your weighing unit option	MENU SETUP	Changing this setting will make the same change on the Scale Indicator	

Adjust Average Rate
The following steps will set the rate at which the Scale indicator takes a weight reading from each load cell. The rate number displayed is the number of 1/4 seconds between readings. The lower the number, the more frequently a reading is taken.

Step	Button	Entry Option	Display
Set Average Rate			**A rt**
Select Average Rate interval	MENU SETUP	The default selection is 10 - this will read each load cell every 2 1/2 seconds	**010**
Use numeric keypad to enter new rate		The scale indicator can accept a read rate from 1 to 120 (every 1/4 second to 30 seconds) - setting the rate to 1 may give the appearance of a constantly changing scale.	
Accept your new rate	MENU SETUP	Changing this setting will make the same change on the Scale Indicator	

Host Indicator Programming (Continued)

Set Auto Power Off for Host Indicator

The following steps will set the amount of time with no activity to the indicator before it turns itself off. **NOTE: THE INDICATOR WILL NOT AUTOMATICALLY TURN ON WHEN ACTIVITY RESUMES.**

Step	Button	Entry Option	Display
Set Auto Off time delay			A oFF
Select inactivity time delay	MENU SETUP	The default selection is 000 - this will leave the unit on until either manually turning off with the power button or power is shut off to the unit when the tractor is shut off.	000
Use numeric keypad to enter time delay		The scale indicator can accept a time delay from 1 to 240 (in minutes)	
Accept your time delay	MENU SETUP		

Set Hold Enable for Host Indicator

The following steps will activate or deactivate the ▲ HOLD button feature which will hold the current weight received from the load cells. When a HOLD is activated, the display will alternate between the word HOLD and the displayed weight. **NOTE: THE INDICATOR WILL NOT UPDATE OR RECORD NEW WEIGHT RECEIVED FROM LOAD CELLS.**

Step	Button	Entry Option	Display
Set Hold Enable			$HoLdE$
Select No or Yes	MENU SETUP	The default selection is No - display will be flashing	no
	▲ HOLD	Switch to Yes to activate the Hold Enable	YES
Accept your selection	MENU SETUP		

Set Print Continuous for Data Output

The following steps will set the indicator for continuous data output to the RS232 port.

Step	Button	Entry Option	Display
Set Print Continuous			$PCont$
Select No or Yes	MENU SETUP	The default selection is No - display will be flashing	no
	▲ HOLD	Switch to Yes to activate continuous data output	YES
Accept your selection	MENU SETUP		

WEIGH SYSTEM PROGRAMMING
Host Indicator Programming (Continued)

Set RS232 Port Baud Rate
The following steps will set the output data rate of the RS232 serial port to match that of an external display/reporting device.

Step	Button	Entry Option	Display
Set Baud Rate			**PbAUd**
Select Baud Rate	MENU SETUP	The default selection is 9600 - display will be flashing	**9600**
	▲ HOLD	Cycle through baud rate selections of 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200.	
Accept your selection	MENU SETUP		

Calibration Menu System
The following options are accessible through the calibration menu system:

Display	Function	Definition
StEP	Calibration Step Code	Default is 000. This continues through the main calibration menu. There are no user serviceable Calibration Sub menus.
rEAdo	Read Only Mode	This option is for when multiple host indicators are used with the same scale indicator. It is not applicable to this grain cart configuration as it is delivered.
rAdio	Radio Enable	Allows the host indicator to communication wirelessly with other compatible equipment and devices.
rF CH	Radio Channel	Sets the radio channel when the radio is enabled. There are 12 radio channels available.
rFPAn	Radio Network ID	Sets the radio's network identification (0-65534) for the radio channel being used.
rFECP	Radio Encryption Enable and Key	Turning on the radio encryption makes the transmitted signal unable to be decoded without the receiver having the same encryption key (encryption key value range: 0-65534). **NOTE: IF YOU FORGET THE ENCRYPTION KEY VALUE, YOU WILL NOT BE ABLE TO CONNECT A RECEIVING DEVICE.**
rFdEF	Restore Radio Defaults	Default is 0. This leaves the radio settings as they have been programmed. Entering 3 will restore the radio settings to their default values.
U EnA	Unit Switch Enable	Allows the changing of weighing units from pounds (lbs) to kilograms (kg) through the main menu.
A2t	Auto Zero Tracking	Automatic adjustment to the scale should the zero reading drift from the set zero of the scale.
GrAd	Graduation Size	Set weighing incremental count.

Host Indicator Programming (Continued)

Set for Read Only Mode

The following steps will set the indicator for read only when another device is being used as the main host indicator.

Step	Button	Entry Option	Display
Set Read Only mode			rEAdo
Select No or Yes	MENU SETUP	The default selection is No - display will be flashing	no
	▲ HOLD	Switch to Yes to set indicator to Read Only	YES
Accept your selection	MENU SETUP		

Set Radio Enable

The following steps will set the indicator for wireless transmission of information to another compatible device.

Step	Button	Entry Option	Display
Set Radio Enable			rAd io
Select No or Yes	MENU SETUP	The default selection is No - display will be flashing	no
	▲ HOLD	Switch to Yes to enable wireless transmission	YES
Accept your selection	MENU SETUP		

Set Radio Channel

The following steps will set the indicator for wireless transmission on a specific channel. All devices intended to communicate with this indicator, must be on the same channel.

Step	Button	Entry Option	Display
Set Radio Channel			rF CH
Select Channel	MENU SETUP	The default selection is 04 - display will be flashing. Use the numeric keypad to enter the radio channel number (1-12).	04
Accept your selection	STORE ENTER		SAuE

WEIGH SYSTEM PROGRAMMING
Host Indicator Programming (Continued)

Set Radio Channel Network ID
The following steps will set the radio channel to transmit through a specific personal network ID. This Network ID must be the same on all devices to be wirelessly connected with this indicator

Step	Button	Entry Option	Display
Set Radio Channel Network ID			rFPAn
Select Channel	MENU SETUP	The default selection is 08000 - display will be flashing. Use the numeric keypad to enter the personal network ID number (0-65534).	08000
Accept your selection	STORE ENTER		SAuE

Set Radio Channel Encryption Key
The following steps will set the indicator for encrypted wireless transmission. This Encryption Key must be the same on all devices to be wirelessly connected with this indicator. **NOTE: IF YOU FORGET THE ENCRYPTION KEY VALUE, YOU WILL NOT BE ABLE TO CONNECT A RECEIVING DEVICE AND WILL HAVE TO RESET THE RADIO TO ITS DEFAULT SETTINGS, THEN REPROGRAM THE RADIO CHANNEL.**

Step	Button	Entry Option	Display
Set Encryption Enable			rFECP
Select No or Yes	MENU SETUP	The default selection is no - display will be flashing.	no
If wanting to change to Yes	▲ HOLD		YES
Accept your selection	STORE ENTER	If Yes, display will show the default encryption key (000000). Use the numeric keypad to enter the encryption key (0-65534).	000000
Accept your encryption key	STORE ENTER		SAuE

Reset Radio to Default Settings
The following steps will reset the indicator radio settings to their default values.

Step	Button	Entry Option	Display
Reset Radio Defaults			rFdEF
	MENU SETUP	The default selection is 0 - display will be flashing. Use the numeric keypad to enter 3 to reset the radio channels to their default values.	0
Accept your selection	STORE ENTER		SAuE

Host Indicator Programming (Continued)

Set for Weigh Unit Changeable in Main Menu

The following steps will set the indicator so the weighing units (lbs or kg) can be switched in the main menu mode.

Step	Button	Entry Option	Display
Set Weigh Unit Changeable			U EnA
Select No or Yes	MENU SETUP	The default selection is Yes - display will be flashing	YES
	▲ HOLD	Switch to No to lock the weighing units	no
Accept your selection	MENU SETUP		SAuE

Set Auto Zero Tracking

The following steps will set the indicator to automatically adjust the zero of the scale should it drift within the set range from the set zero and hold that drift for a preset amount of time.

Example 1: AZT, by default, is set to 1 d (the "d" indicates the multiplier to the Graduation Size) and the Graduation Size, by default is set to 10. Should the empty weight, where you zeroed the scale, drift up to ±10 weighing units and hold that difference, the scale will automatically set that as the new zero weight.

Example 2: AZT is changed to be .5 d and the Graduation Size is set at 10, should the empty weight, where you zeroed the scale, drift up to ±5 weighing units and hold that difference, the scale will automatically set that as the new zero.

Step	Button	Entry Option	Display
Set Auto Zero Tracking Range			AZt
Select Range	MENU SETUP	The default selection is 1d - display will be flashing	1 d
	▲ HOLD	Cycle through available range options: 1 d, 3 d, .5 d, Off, or .6 d	
Accept your selection	MENU SETUP		SAuE

Set Graduation Size

The following steps will set the scale to weight increment to display.

Step	Button	Entry Option	Display
Set Graduation/Incremental Size			GrAd
Select Increment	MENU SETUP	The default selection is 10 - display will be flashing	lb d 10
	▲ HOLD	Cycle through available incremental amounts: 1, 2, 5, 10, 20, 50, or 100.	
Accept your selection	MENU SETUP		SAuE

Scale Indicator Programming

If at any time you are accessing a menu location and are making a change to that setting which is either incorrectly being

entered or shouldn't be changed, press the Power button [⏻]. This will turn the unit off without making any changes to the current menu setting being accessed.

Menu System Selection

The following steps will allow you to select which menu system you want to access:

Step	Button	Entry Option	Display
Access Menu system	MENU SETUP		**ⁱⁱodE**
Enter menu system code	MENU SETUP	The default selection is for the main menu	**000**
		Enter 477 to access the Calibration menu	**477**
Continue to selected menu system	MENU SETUP		

Main Menu System

The following options are accessible through the main menu system:

Display	Function	Definition
b inS	Not used with Grain Carts	
bL itE	LCD Display Backlight	Sets the backlight mode for the LCD display. The red oval above the display is a light sensor.
Un itS	Unit of Weight	Sets the weighing unit between pounds and kilograms. Changing units on the Host Indicator will also change the units on the Scale Indicator.
A rt	Average Rate	The rate at which the output of the load cells is read by the Scale Indicator. This is in 1/4 second increments. Changing the rate on the Host Indicator will also change the rate on the Scale Indicator.
A oFF	Auto Off	Amount of time (in minutes) before the weigh system turns off from inactivity.
HoLdE	Hold Enable	Activates or deactivates the capability of locking the currently displayed weight.
PbAUd	Print Baud Rate	The rate the RS232 output occurs. This must match the rate of the device attached to the RS232 port.

Set Display Backlight
To set the scale indicator's Display Backlight see "Set Display Backlight" on Page 65 in Host Indicator Programming.

Set Weighing Units
To set the scale indicator's Weighing Units see "Set Weighing Units" on Page 65 in Host Indicator Programming.

Adjust Average Rate
To set the scale indicator's Average Rate see "Adjust Average Rate" on Page 65 in Host Indicator Programming.

Scale Indicator Programming (Continued)

Set Auto Power Off for Scale Indicator

To set the scale indicator's Auto Power Off see "Set Auto Power Off for Host Indicator" on Page 66 in Host Indicator Programming.

Set Hold Enable for Scale Indicator

To set the scale indicator's Hold Enable see "Set Hold Enable for Host Indicator" on Page 66 in Host Indicator Programming.

Set RS232 Port Baud Rate

To set the scale indicator's RS232 Port Baud Rate see "Set RS232 Port Baud Rate" on Page 67 in Host Indicator Programming.

Calibration Menu System

The following options are accessible through the calibration menu system:

Display	Function	Definition
StEP	Calibration Step Code	Default is 000. This continues through the main calibration menu. There are no user serviceable Calibration Sub menus.
rAdio	Radio Enable	Allows the host indicator to communication wirelessly with other compatible equipment and devices.
rF CH	Radio Channel	Sets the radio channel when the radio is enabled. There are 12 radio channels available.
rFPAn	Radio Network ID	Sets the radio's network identification (0-65534) for the radio channel being used.
rFECP	Radio Encryption Enable and Key	Turning on the radio encryption makes the transmitted signal unable to be decoded without the receiver having the same encryption key (encryption key value range: 0-65534). **NOTE: IF YOU FORGET THE ENCRYPTION KEY VALUE, YOU WILL NOT BE ABLE TO CONNECT A RECEIVING DEVICE.**
rFdEF	Restore Radio Defaults	Default is 0. This leaves the radio settings as they have been programmed. Entering 3 will restore the radio settings to their default values.
U EnA	Unit Switch Enable	Allows the changing of weighing units from pounds (lbs) to kilograms (kg) through the main menu.
A2t	Auto Zero Tracking	Automatic adjustment to the scale should the zero reading drift from the set zero of the scale.
GrAd	Graduation Size	Set weighing incremental count. Available increments: 1, 2, 5, 10, 20, 50, and 100 units (lbs or kg).

Set Radio Enable

To set the scale indicator's Radio Enable see "Set Radio Enable" on Page 68 in Host Indicator Programming.

Set Radio Channel

To set the scale indicator's Radio Channel see "Set Radio Channel" on Page 68 in Host Indicator Programming.

Set Radio Channel Network ID

To set the scale indicator's Radio Channel Network ID see "Set Radio Channel Network ID" on Page 69 in Host Indicator Programming.

Scale Indicator Programming (Continued)

Set Radio Channel Encryption Key

To set the scale indicator's Radio Channel Encryption Key see "Set Radio Channel Encryption Key" on Page 69 in Host Indicator Programming.

Reset Radio to Default Settings

To reset the scale indicator's Radio Settings to Default see "Reset Radio to Default Settings" on Page 69 in Host Indicator Programming.

Set for Weigh Unit Changeable in Main Menu

To set the scale indicator's Weigh Unit Changeability see "Set for Weigh Unit Changeable in Main Menu" on Page 70 in Host Indicator Programming.

Set Auto Zero Tracking

To set the scale indicator's Auto Zero Tracking see "Set Auto Zero Tracking" on Page 70 in Host Indicator Programming.

Set Graduation Size

To set the scale indicator's Graduation Size see "Set Graduation Size" on Page 70 in Host Indicator Programming.

Notes

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Field Floater 7

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