UM/PM-WS

October 22, 2015

BALZER

GRAIN CART WEIGH SYSTEM
USER & PARTS MANUAL

www.balzerinc.com County Rd. 27, Box 458, Mountain Lake, MN 56159 800.795.8551

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 merchantability 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 judgment or Balzer Inc. to have adversely affected the material or workmanship of this Product.

NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED 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

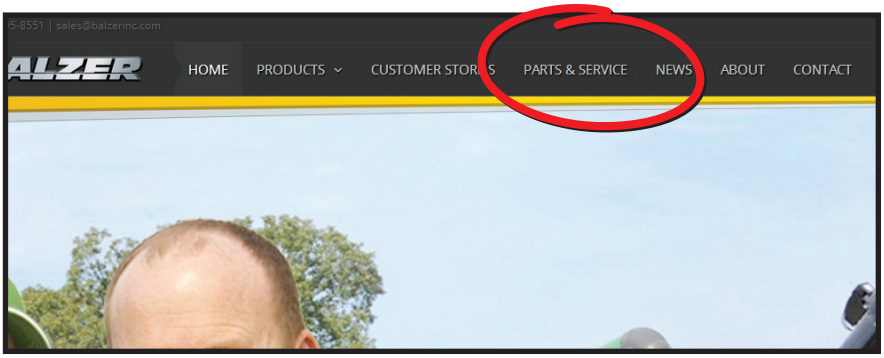
Telephone Numbers	Toll-Free:	(800) 795-8551
		(800) 727-3133
	Outside North America:	(507) 427-3133
	Fax:	(507) 427-3640
Mailing/Shipping	Balzer Inc. County Road 27 East PO Box 458 Mountain Lake, MN 56159	
Website	www.balzerinc.com	

Warranty Registration

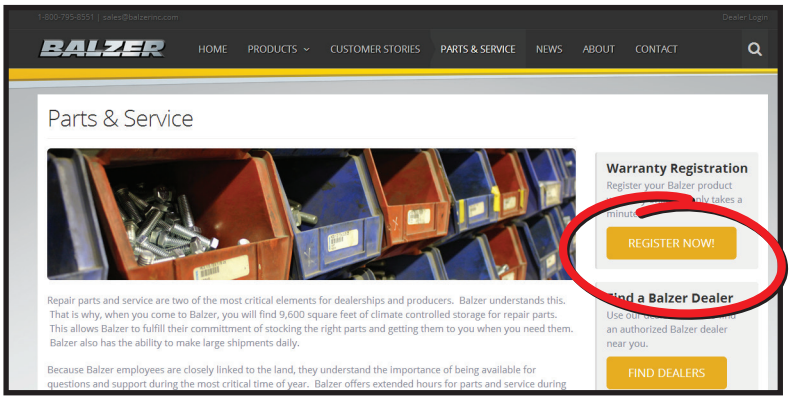
As of June 1, 2014, all warranty registration must be completed online to be valid. Registering online is fast and easy.

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

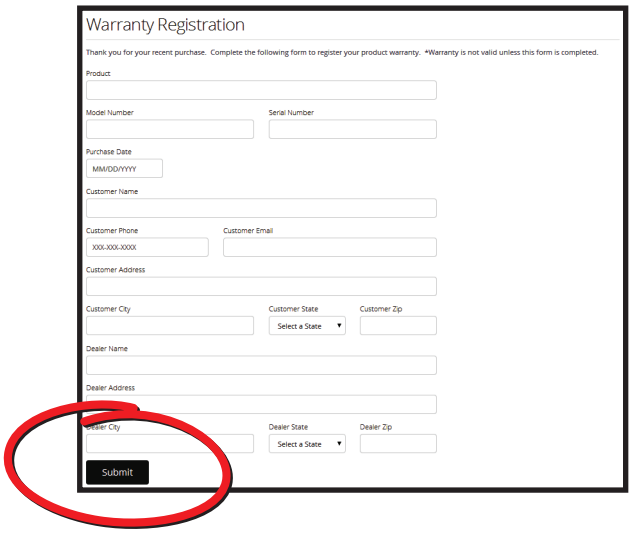
Go to the Balzer website at www.balzerinc.com and click on “Parts and Service”.



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 judgment, 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 at 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 traveling 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.

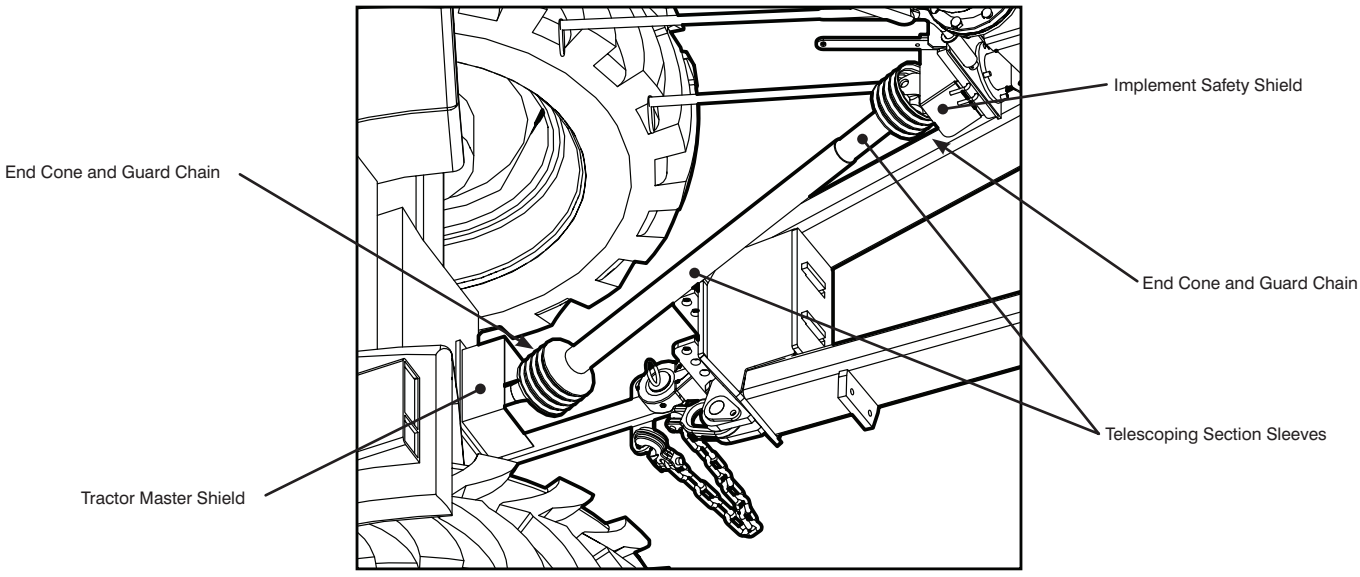
Never exceed the recommended operating speed (PTO and drive) for the particular equipment in use.

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



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.

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.

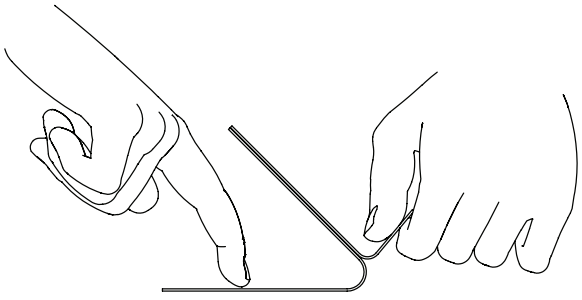
Most decals have a split backing which is meant to be removed from the split outward. To apply decals, follow these steps:

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 2

FIGURE 3



Operation

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 4**).

FIGURE 4

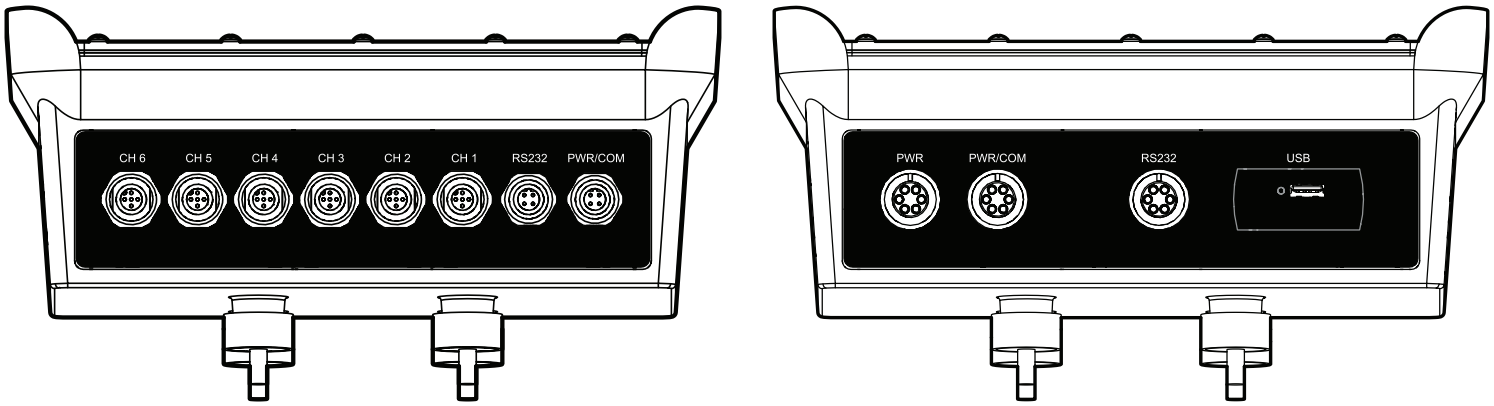
Load Cell | Digital Data Receiver | Digital Host Indicator

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 5**).

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.

FIGURE 5



Bottom Connections of Scale Indicator | Bottom Connections of Host Indicator

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 6**.

Load Cells 1, 2, and 3 are connected to the Scale Indicator using three (3) 12’ cables (**Figure 7**). Load Cells 4, 5, and 6 are connected to the Scale Indicator using three (3) 28’ cables (**Figure 8**).

The Scale Indicator is connected to the Host Indicator using the 50’ Interface Communication Cable (**Figure 9**) and the Host Indicator is connected to a 12 VDC power source using the Host Indicator Power Cable (**Figure 10**).

Grain Cart Weigh System (Continued)

FIGURE 6

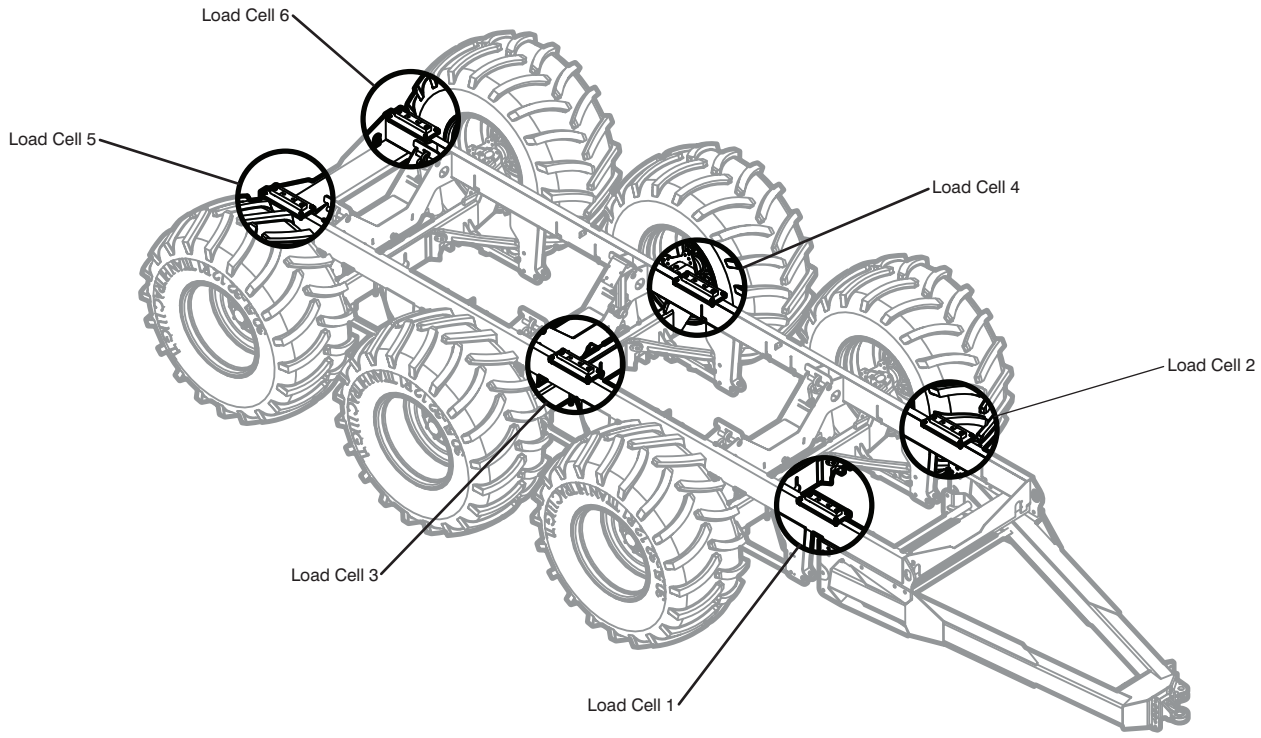


FIGURE 7

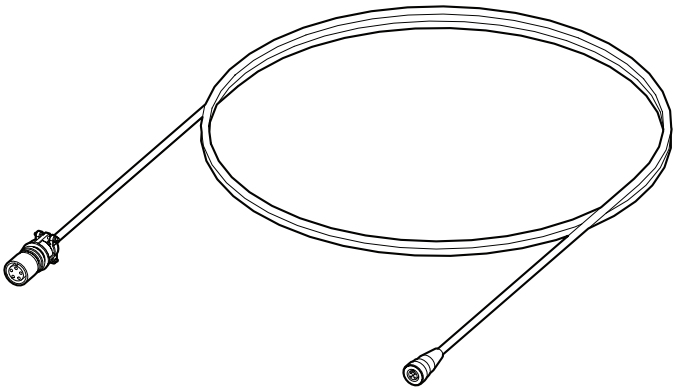


FIGURE 8

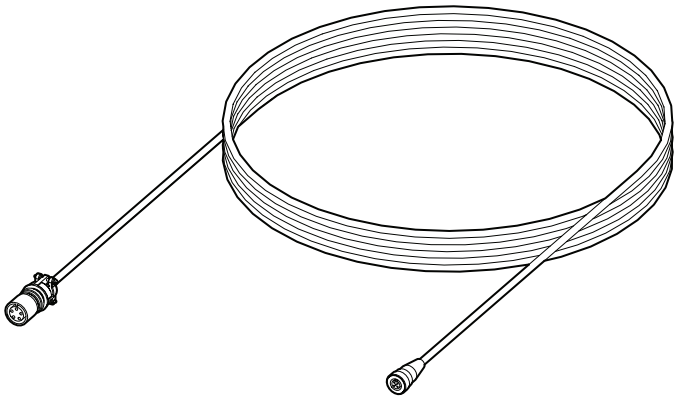


FIGURE 9

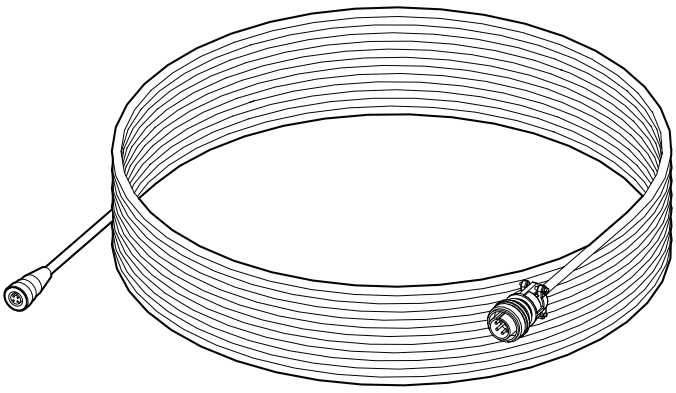
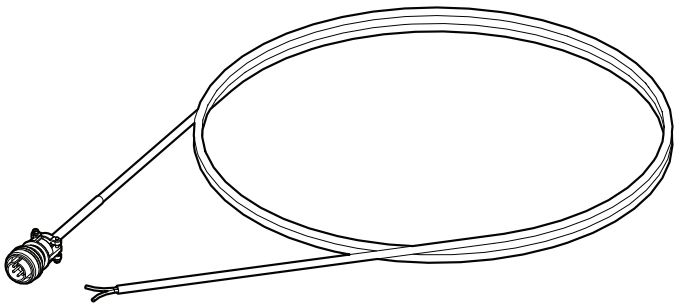


FIGURE 10

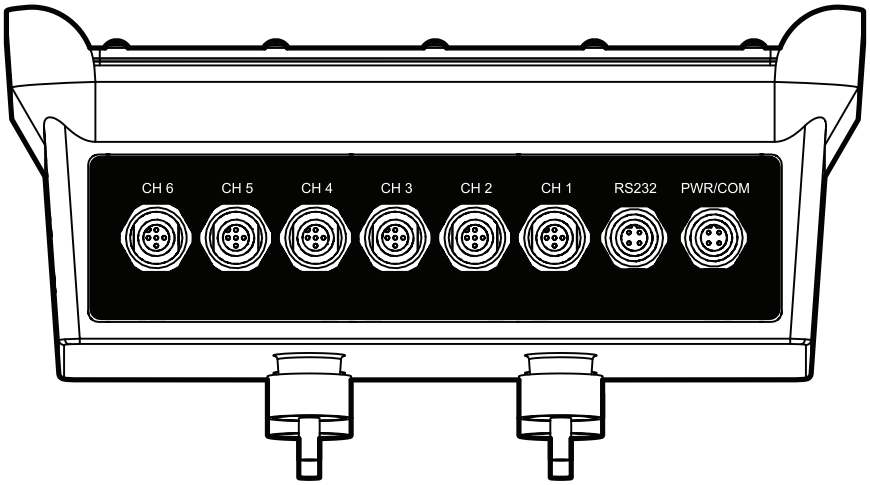


Grain Cart Weigh System Operation

System Connections

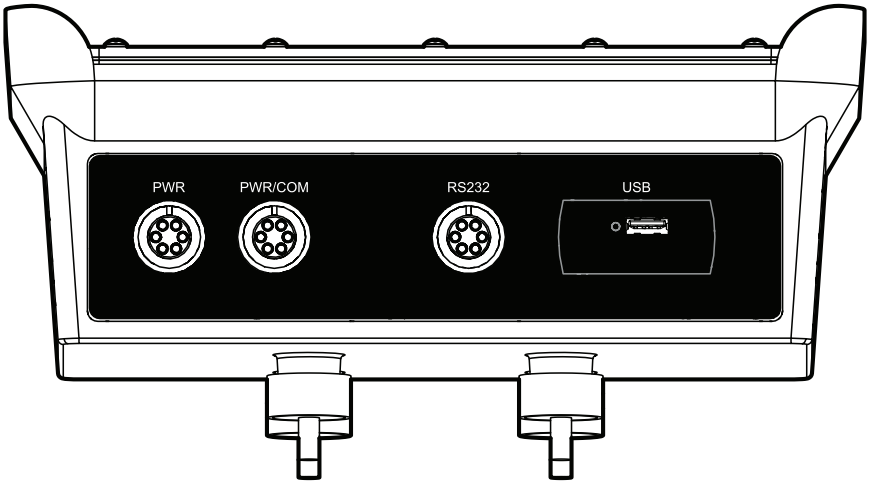
The bottom of the scale indicator has six channel connections. One for each of the load cells. It also has an RS232 data connection for use with an external display board (not typical of field operational use), and a Power/Communication (PWR/COM) port for connecting to the host indicator (**Figure 11**).

FIGURE 11



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 12**).

FIGURE 12



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 13 shows the front panel layout.

FIGURE 13

The  turns the indicator on or off. If the scale

The  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  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  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  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  and the  at the

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 23.

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 24.

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 14**). 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 15**). 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 14

Host Indicator Power Up		
Button Press	**Screen Display**	**Description**
	LocO2	Displays the last memory location used.
	corn	Displays the memory location name.
	ACOOS	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 15

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

Zero Scale with Tare Weight Set		
Button Press	**Screen Display**	**Description**
➡0⬅	ZEro	
	- - -	
	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 16**).

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 16

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.

Troubleshooting

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.
d iSP	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.

Scale Indicator Not Working/Error Codes (Continued)

Display	Problem	Definition
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 – – –
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 17** shows the pin configuration of the load cell connector.

Using an ohm meter, first measure the resistance between Pin A and Pin C. This reading should be 700 ohms ±4 ohms (**Figure 18**).

Then measure the resistance between Pin B and Pin D. This reading should be 775 ohms ±5 ohms (**Figure 19**).

Scale Indicator Not Working/Error Codes (Continued)

FIGURE 17

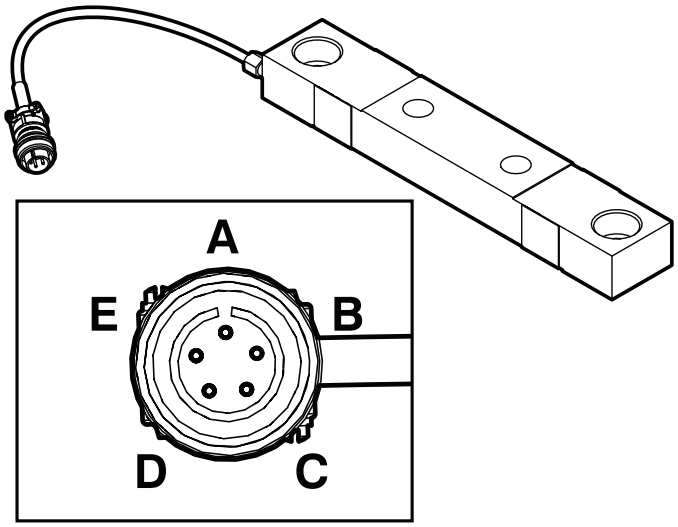


FIGURE 18

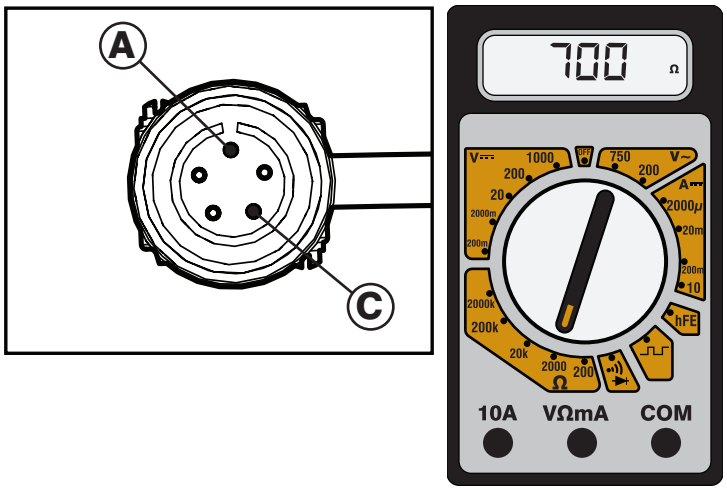
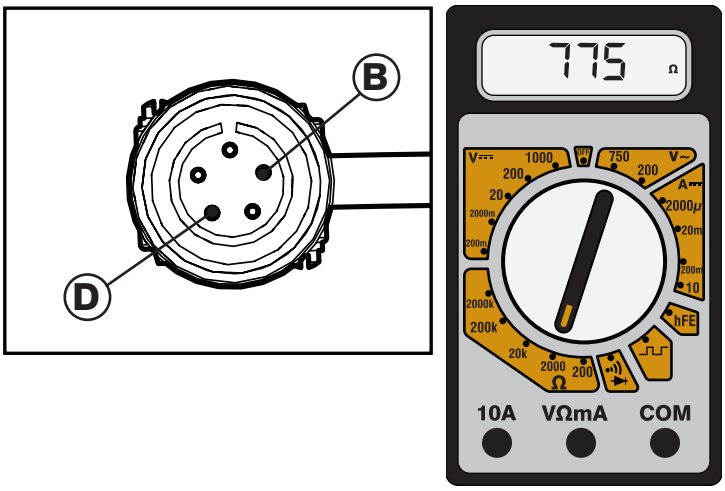


FIGURE 19



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 20**).

FIGURE 20

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	LocO2	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

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.
	LocO2	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	LocO2	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	LocO2	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	LocO2	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 21** shows how the data will appear for the export of a single memory location.

FIGURE 21

```
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 22** shows how the data will appear for the export of all memory locations.

FIGURE 22

```
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	LocO2	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	LocO2	Press and hold.
	[Lr	Held buttons can be released.
	LocO2	Display shows memory location.
	Corn	Display shows name of memory location.
	[Lr	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

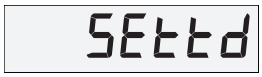
The following steps will allow you to select which menu system you want to access:

Step	Button	Entry Option	Display
Access Menu system	MENU SETUP		ṁodE
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)

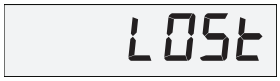
Main Menu System

The following options are accessible through the main menu system:

Display	Function	Definition
	Clear All	Clear stored data and custom settings.
	Set Time and Date	Sets Time and Date for exported data.
	LCD Display Backlight	Sets the backlight mode for the LCD display. The red oval above the display is a light sensor.
	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.
	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.
	Auto Off	Amount of time (in minutes) before the weigh system turns off from inactivity.
	Hold Enable	Activates or deactivates the capability of locking the currently displayed weight.
	Print Continuous	Output the display continuously to an external display board or other device connected to the RS232 port.
	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

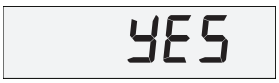
The following steps will clear saved weight accumulations in memory locations or resets ALL stored data and custom settings to their default values.

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

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			
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	
	HOLD	Switch display selection to Yes to change the time and date - display will be flashing	
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	
Enter 2-digit year		Default is current year when unit initially set up. Enter 10-99 for years 2010 to 2099	
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	
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	
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	
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	
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	
To change between AM or PM	HOLD	Switch display selection between AM and PM - display will be flashing	
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	

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			Un itS
Select weighing unit options	MENU SETUP	The default selection is pounds (lbs) - lbs display will be flashing	lb Un itS
	▲ HOLD	Switch to kilograms (kg) - kg display will be flashing	kg Un itS
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		

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.
rAd io	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.
AZt	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		SAvE

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		SAvE

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		SAvE

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		SAvE

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		SAvE

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		SAvE

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		SAvE

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		
Enter menu system code	MENU SETUP	The default selection is for the main menu	
		Enter 477 to access the Calibration menu	
Continue to selected menu system	MENU SETUP		

Main Menu System

The following options are accessible through the main menu system:

Display	Function	Definition
	Not used with Grain Carts	
	LCD Display Backlight	Sets the backlight mode for the LCD display. The red oval above the display is a light sensor.
	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.
	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.
	Auto Off	Amount of time (in minutes) before the weigh system turns off from inactivity.
	Hold Enable	Activates or deactivates the capability of locking the currently displayed weight.
	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 31 in Host Indicator Programming.

Set Weighing Units

To set the scale indicator's Weighing Units see "Set Weighing Units" on Page 31 in Host Indicator Programming.

Adjust Average Rate

To set the scale indicator's Average Rate see "Adjust Average Rate" on Page 31 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 32 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 32 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 33 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.
rAd io	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.
AZt	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 34 in Host Indicator Programming.

Set Radio Channel

To set the scale indicator's Radio Channel see "Set Radio Channel" on Page 34 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 35 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 35 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 35 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 36 in Host Indicator Programming.

Set Auto Zero Tracking

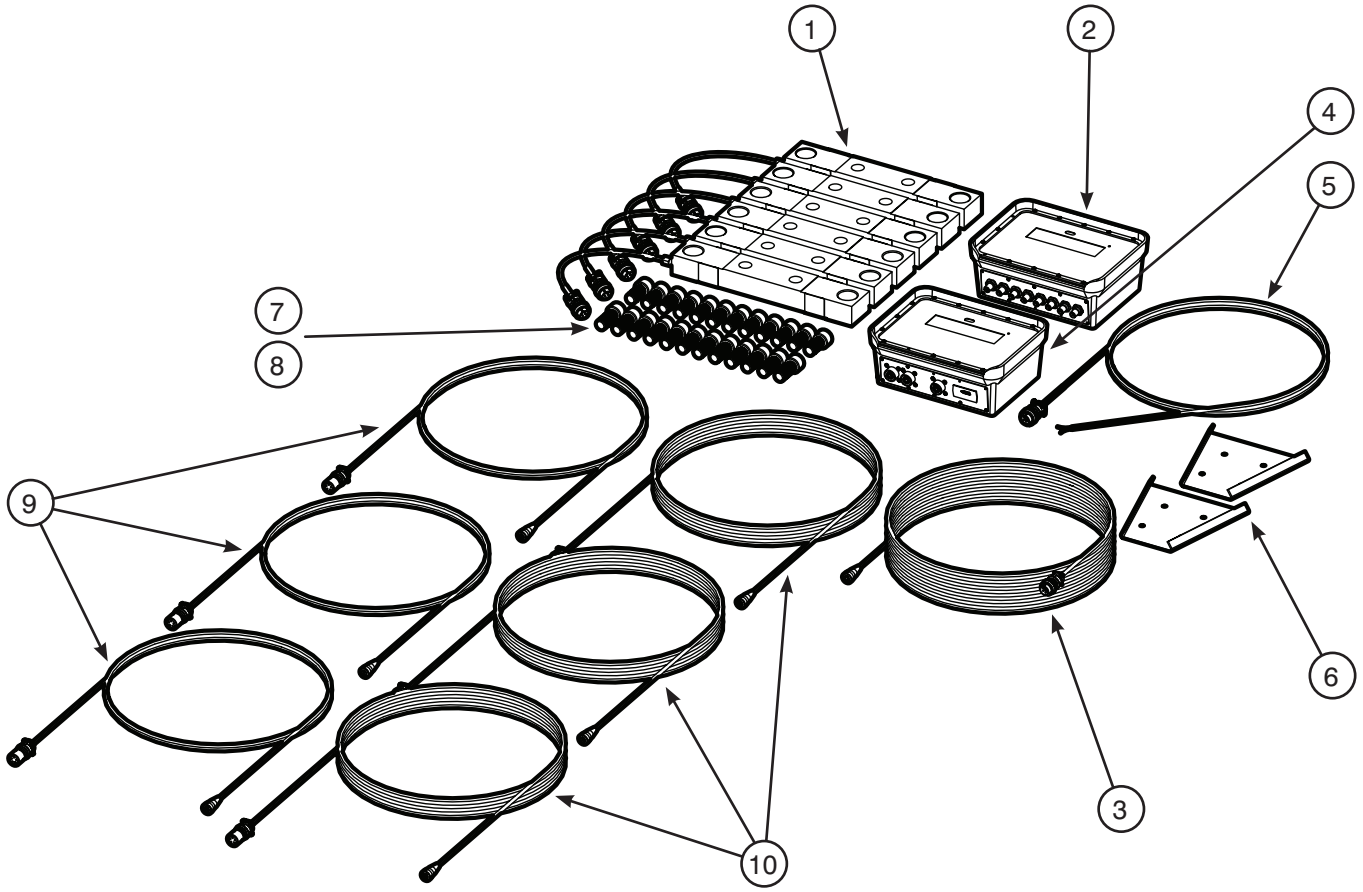
To set the scale indicator's Auto Zero Tracking see "Set Auto Zero Tracking" on Page 36 in Host Indicator Programming.

Set Graduation Size

To set the scale indicator's Graduation Size see "Set Graduation Size" on Page 36 in Host Indicator Programming.

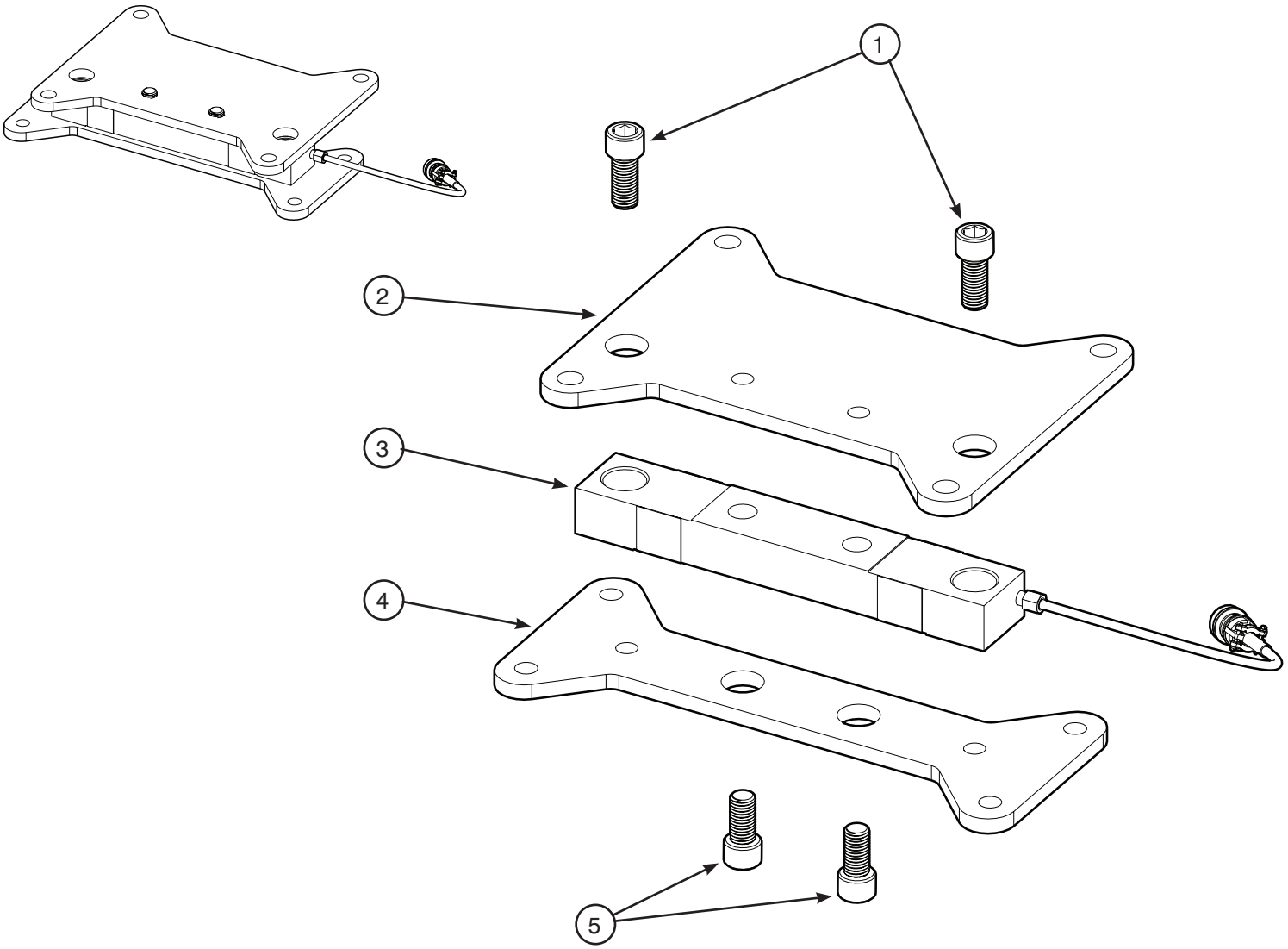
Parts

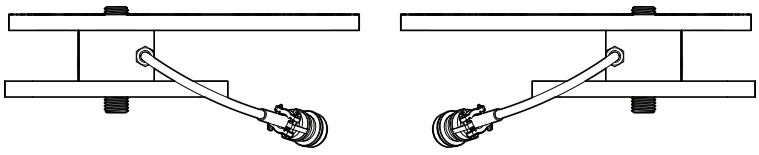
Weigh System Kit



Item	Description	Quantity	Part Number
	Weigh System Kit (Pictured Above)		863080
1	Flat Compression Load Cell	6	863081
2	Scale Indicator	1	863082
3	Interface Communication Cable, 50’	1	863083
4	Host Indicator	1	863084
5	Host Indicator Power Supply Cable	1	863085
6	Wedge Mount Bracket	2	863086
7	Socket Cap Bolt, 3/4” x 1 3/4”	12	863087
8	Socket Cap Bolt, 3/4” x 1 1/2”	12	863088
9	Load Cell Cable, 12’	3	863089
10	Load Cell Cable, 28’	3	863090
11	CP103 Printer Cable (Not Pictured)		863091

Load Cell Assembly





Right Side Assembly

Left Side Assembly

Item	Description	Quantity	Part Number
1	Socket Cap Bolt, 3/4” x 1 3/4”	2	863087
2	Upper Load Cell Plate	1	204136
3	Flat Compression Load Cell	1	863081
4	Lower Load Cell Plate	1	204229
5	Socket Cap Bolt, 3/4” x 1 1/2”	2	863088

Notes

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Date	Notes

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Date	Notes

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Date	Notes

BALZER

Grain Cart Weigh System

User & Parts Manual

UM/PM-WS

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