



GRAIN CART RETROFIT

5-POINT

SLIDE-IN-HITCH

SCALE SYSTEM



Instructions

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Anamosa, Iowa USA

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INTRODUCTION

Congratulations on the purchase of your new Scale-Tec Grain Cart scale system. This scale system is specifically designed to weigh the hopper on your Grain Cart. This scale kit is specifically designed for your make and model of Grain Cart. These instructions will guide you through general installation of the kit. The scale kit can be used to record and monitor seed weight going into or out of the grain cart.



This **SAFETY ALERT SYMBOL** indicates important safety messages in the manual. When you see this symbol, be alert to the possibility of PERSONAL INJURY and carefully read the message that follows.



NEVER OPERATE WITHOUT ALL COVERS, SHIELDS AND GUARDS IN PLACE. KEEPHANDS, FEET AND CLOTHING AWAY FROM MOVING PARTS. FAILURE TO HEED MAY RESULT IN SERIOUS PERSONAL INJURY OR DEATH.



Always use proper blocking techniques when lifting/jacking implement in the event of lifting device failure. Failure to utilize proper blocking techniques may result in serious injury or death should lifting device fail.

Some covers and guards have been removed for illustrative/photographic purposes only in this manual.

For information on ordering repair parts, refer to Parts Section in this book.

This supersedes all previous published instructions.

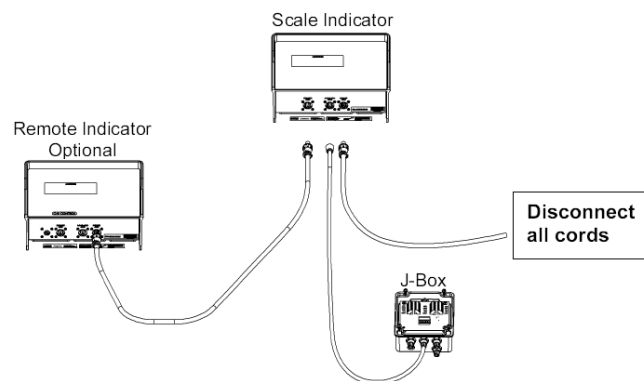


IMPORTANT!

Charging Battery and Welding

Disconnect all cables from the weighing indicator before charging the battery or welding on the machine. If cables are left connected, the weighing indicator and connected load cells could be damaged.

Important: Do not weld near indicator, load cells or cables; remove from area to be welded. Place ground close to area to be welded to prevent current from passing through electronic parts.



SCALE BRACKET AND LOAD CELL MOUNTING INSTALLATION

Scale Installation

The scale kit consists of mounting four axle support load cells, one hitch load cell, one J-box and a scale indicator to support the hopper.

1. Hitch Grain Cart to Tractor. Park the grain cart on a firm level surface. Ensure you set the parking brake and block the tires of the tractor and the grain cart. Shutoff the engine and remove the ignition key.
2. Raise the left side of the cart by lifting under the outer end of rear support on the hopper frame.



SAFETY!!! Ensure you properly block the Grain Cart to provide support in the event of a jack failure or lifting device failure. Only do one side at a time. Lifting both sides simultaneously will result in an unstable condition and result in injury or death.

3. Starting with the right side, loosen the four bolts that retain the hopper sub-frame to the two right side axle pin retaining brackets. Do not remove the hardware at this time. Refer to Figure one for location of bolts.
4. Remove the four bolts that retain the hopper sub-frame to the two left side axle shaft retaining brackets. Refer to Figure 1 for location.

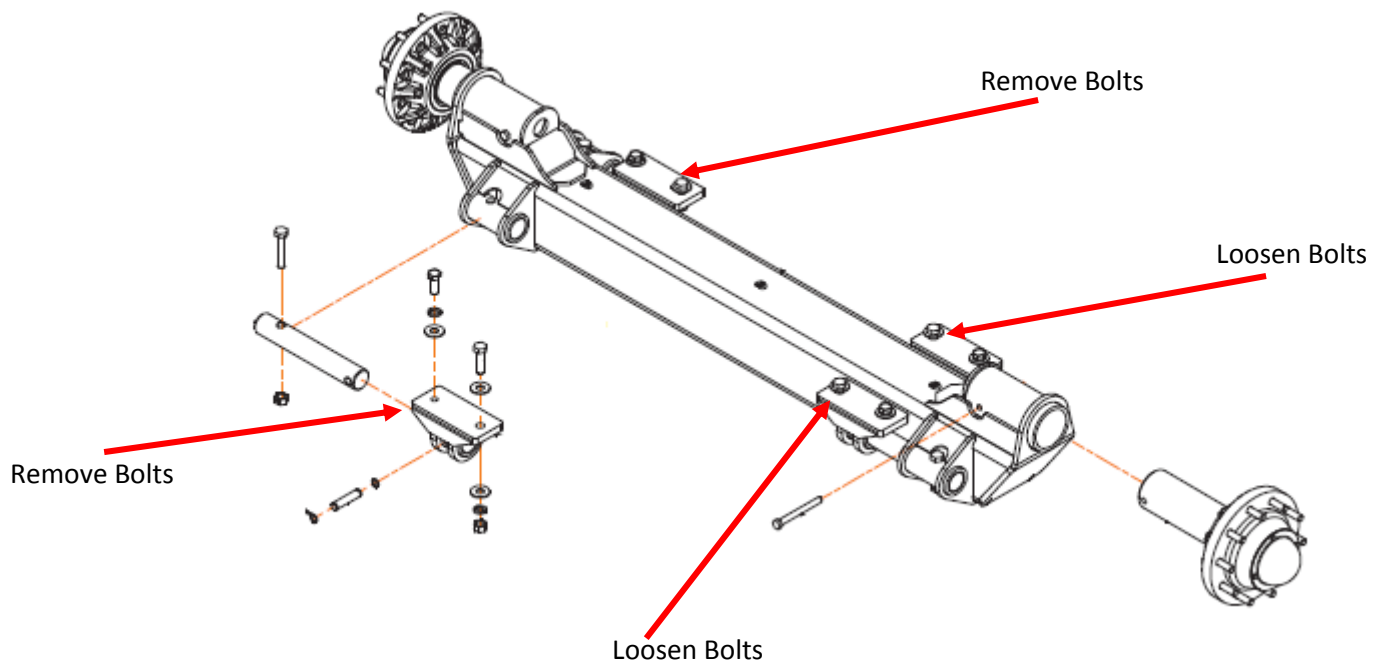


Fig. 1

5. Remove the bolts that retain the front and rear axle shafts to the frame of the axle assembly.
6. Remove the axle shafts and the axle shaft retaining brackets.
7. Remove the clevis pin and axle shaft retaining bracket from the axle shaft.

⚠ IMPORTANT! Ensure for Digi-Star Load Cells the arrow sticker is pointing down. Ensure for Avery Weigh-Tronix weigh-bars the TOP sticker is positioned to the bottom.

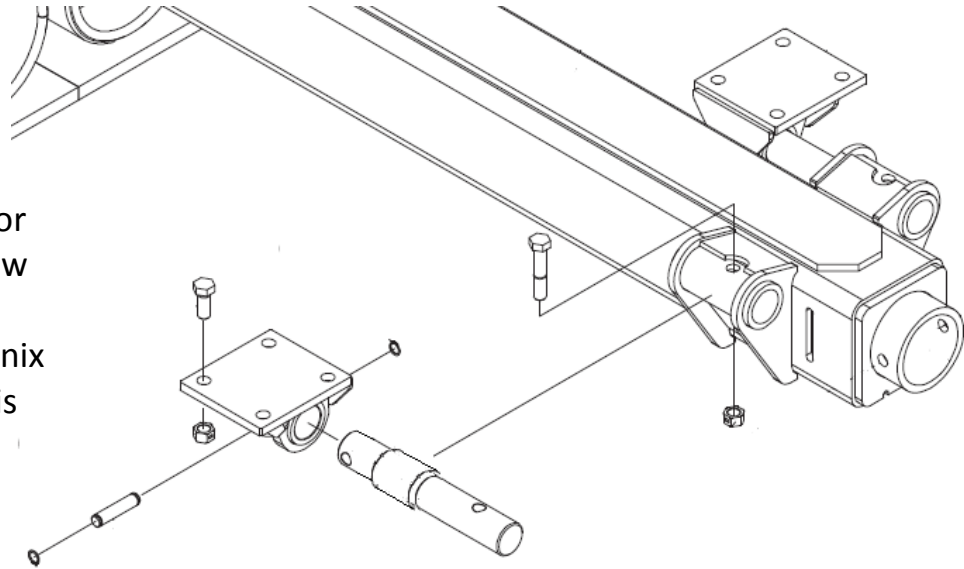
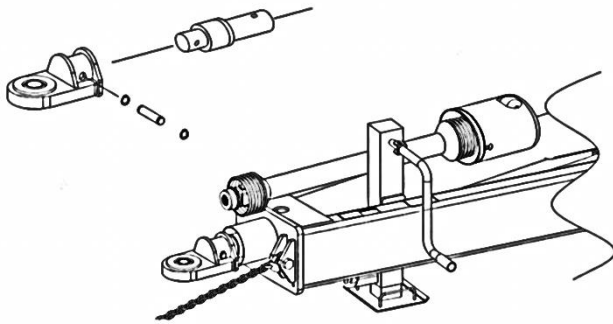


Fig. 2

8. Install the axle shaft retaining bracket onto the load cell and secure it with the clevis pin and snap rings. (Note: see **IMPORTANT** caution listed on figure two)
9. Install the rear portion of the load cell into the sleeve on the frame of the axle and secure it with a bolt.
10. Install the four bolts into the axle shaft retaining brackets and leave them loose.
11. Repeat steps 2-10 for installation of the opposite side.
12. After both left and right side load cells are installed and hopper is lowered, tighten all of the hardware.

13. Remove existing hitch and Install hitch load cell.



Refer to Fig. 3

- i. Remove the existing hitch assembly.
- ii. Install the load cell into the sleeve routing the cable through a hole located on front sleeve.
- iii. Install the vertical retaining bolt to hold the load-cell into place on rear sleeve.
- iv. Install the receiver on the load cell.
- v. Install the retaining bolt or clevis pin as required to secure the hitch receiver to the load cell.

⚠ IMPORTANT!! For Digi-Star load cells arrow sticker must be pointed up. For Weigh-Tronix weigh Bars "TOP" sticker must be positioned to the top.

Fig. 3

14. Route the cables to a central location on the grain cart and install the Junction Box. See Junction Box Mounting procedures for details.

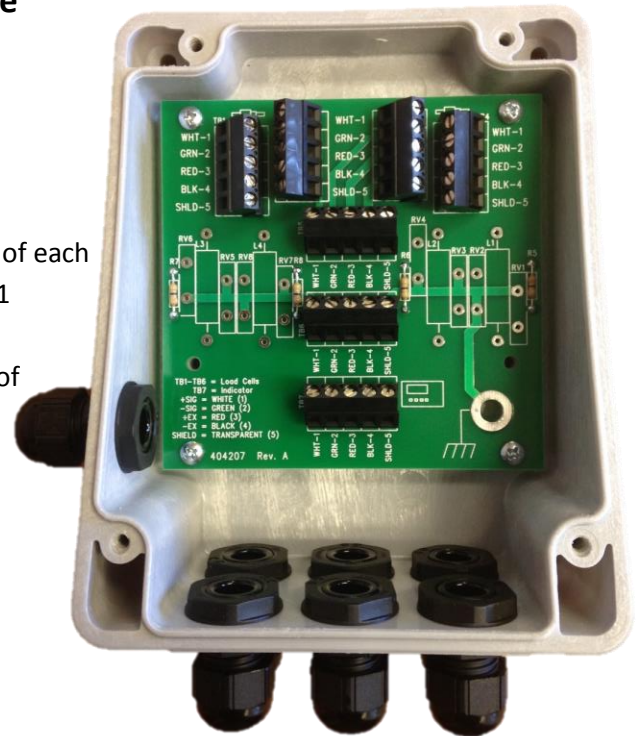
JUNCTION BOX MOUNTING

Six Hole Junction Box

The junction box is water resistant, not water-proof. It should be mounted to avoid submersion during wet weather and to avoid physical abuse. The junction box can be mounted on the frame of the grain cart. All load cell cables must reach the J-Box. Install by removing the double sided tapebacking and apply to cleaned surface.

Connect Load Cell and Indicator “J-Box” Cable

1. Route front and rear load cell cables to J-box location. Make sure they are not bound or pinched. Cable tie (customer provided) load cell cables in place.
2. Insert load cell and J-box cables through each of the water-tight strain-reliefs.
3. Connect the White, Green, Red, Black, and Shield wires of each Individual load cell cable into a terminal block. (Utilize TB1 through TB6) for the load cells.
4. Connect the White, Green, Red, Black and Shield wires of The Junction box cable to TB7.
6. Tighten nuts on the water-tight strain-reliefs.
7. Assure that gasket is properly installed in the cover.
8. Attach cover using 4 screws (provided).

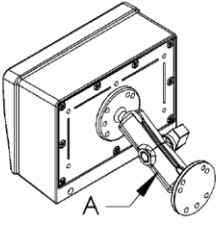
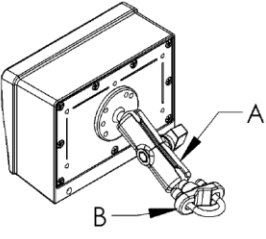
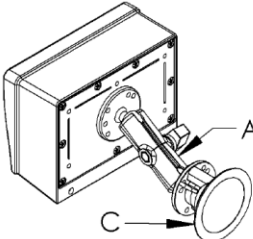


⚠ IMPORTANT! Do not cut the load cell cables to length at the junction box. This will affect the calibration. Tie up any remaining length of load cell cable and secure it to the frame with cable ties as necessary.

INDICATOR MOUNTING

RAM MOUNT

The scale indicator can be mounted in the tractor cab or on the grain cart with various mounting options. This particular instruction shows mounting with a “ram” type mount. Your particular kit may only come with a fixed mounting plate. Contact Scale-Tec for other mounting options for your need.

					
RAM MOUNT STANDARD		U-BOLT BASE		TWIST LOCK SUCTION CUP	
KEY	PART NUMBER	DESCRIPTION			
A	403180	RAM MOUNT			
B	403179	MOUNT BASE-1" BALL U-BOLT			
C	404230	RAM SUCTION CUP W/TWIST LOCK			

1. Bolt the readout directly to the ram mount utilizing the indicator mounting screws provided.
2. Install power cord to a 12-volt negative ground battery.
3. Route J-box cable to indicator and install to indicator bottom panel.

Power Connection:

The power cable should be connected directly to a vehicle battery or regulated power supply. The scale end of the power cable is attached to the J901 connector located on the bottom panel of the indicator.

Connect the RED wire from the power cable to +12 VDC and the BLACK wire to GROUND. The indicator is fused internally at 4 amps.

Power Cable Connections:


Wire Color	Wire Function
Red	Battery (+12 VDC)
Black	GROUND

Load Cell Connection:

The indicator is designed to operate with strain gage load cells. The indicator will normally be supplied with a “J-BOX” cable going between the scale and the load cell junction box.

Load Cell Wire	Digi-Star	Function
1	Red	+EX
2	Green	-SIG
3	White	+SIG
4	Black	-EX
5	Clear	SHIELD

TESTING AND TROUBLE SHOOTING

 **IMPORTANT** All bars need to weigh accurately before it will be beneficial to recalibrate your indicator

Inaccurate weights?

- 1) Measure the same person, or a 200 pound weight, on each of the weigh bars.
 - If one weighs negative, turn that weigh bar over. (An upside down bar will weigh negative.)
 - If one side is weighing 20% light, check for an obstruction. Is anything binding or any metal rubbing?
 - Could be a faulty weigh bar
 - If they are all even weights, but are weighing light or heavy, you need to adjust the calibration. If your scale is more than 5% off, call us for help, as your scale may have had the wrong calibration number put in it from the factory. 1-888-962-2344.
 - The hopper being weighed needs to be at least $\frac{3}{4}$ full for us to adjust calibration.
 - Check operator's manual or give us a call at 1-888-962-2344.

Erratic weights?

The following process needs to occur in an effort to eliminate one part at a time in an effort to find the problem! When you reconnect the faulty part you will have erratic readings again.

- 1) Disconnect the junction box cord from the indicator marked "load cells". The indicator should stabilize after 45 seconds. Try to zero out the indicator. IF the indicator won't zero out, the indicator is the problem.

IF it will zero out:

- 2) Connect the junction box back to the indicator. And then disconnect all of the load cells from the junction box.
- 3) Zero out the indicator. IF the indicator won't zero out the problem is the junction box or the junction box cable.

IF it will zero out:

- 4) Reconnect the load cells **ONE AT A TIME**, zeroing out the indicator each time. When you reconnect the faulty load cell, you will have erratic readings again.