GRAIN CART RETROFIT

J-M 5 POINT

w/Hitch Bracket

SCALE SYSTEM

Instructions

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.

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

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.

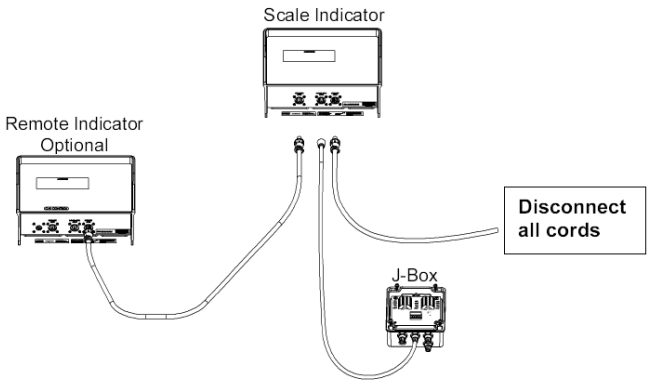
This supersedes all previous published instructions.

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 diameter bar load cells, one hitch load cell, one J-box and a scale indicator to support the grain cart.

1. Loosen the bolts that retain the hopper to the right side axle frame assembly. Refer to figure one for location of the four bolts retaining the hopper to the axle assembly. Remove the four bolts on the opposite left side of the grain cart. (you will need to keep one side loos to maintain proper position of the axle while lifting one side.

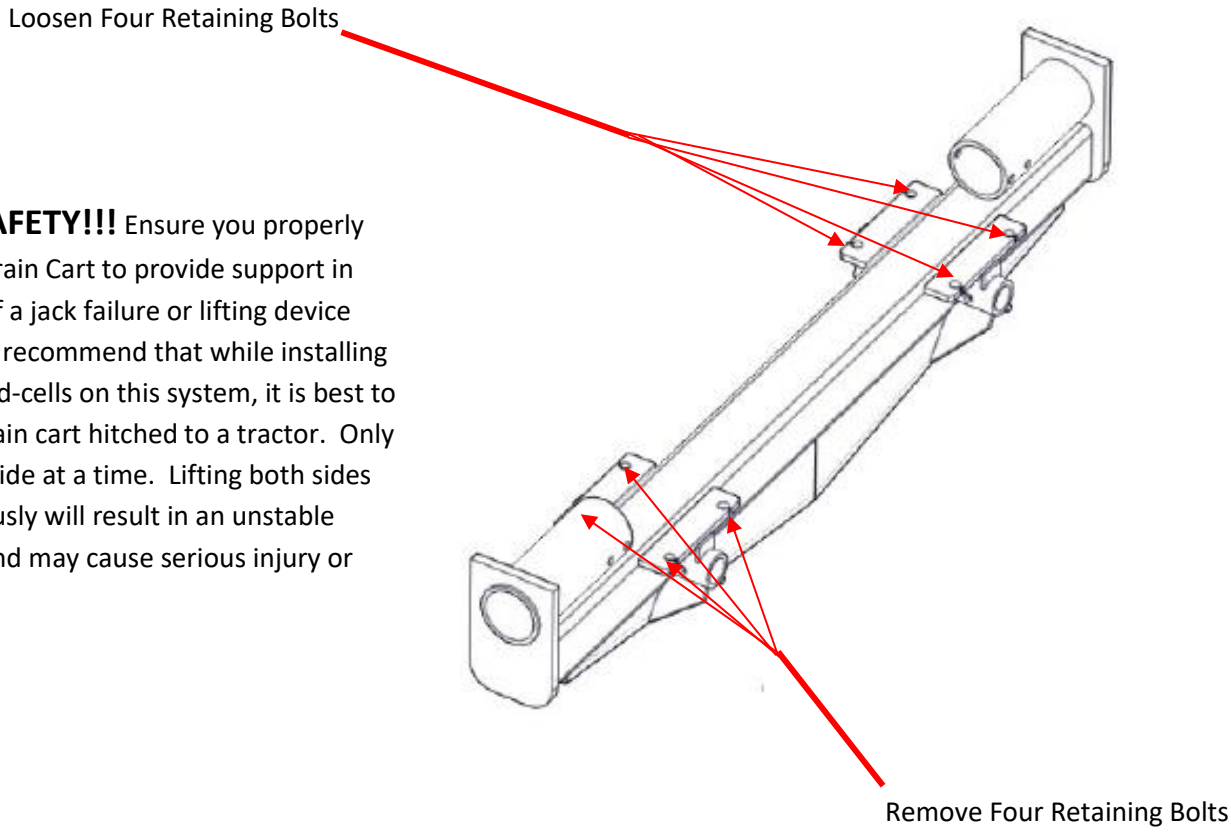


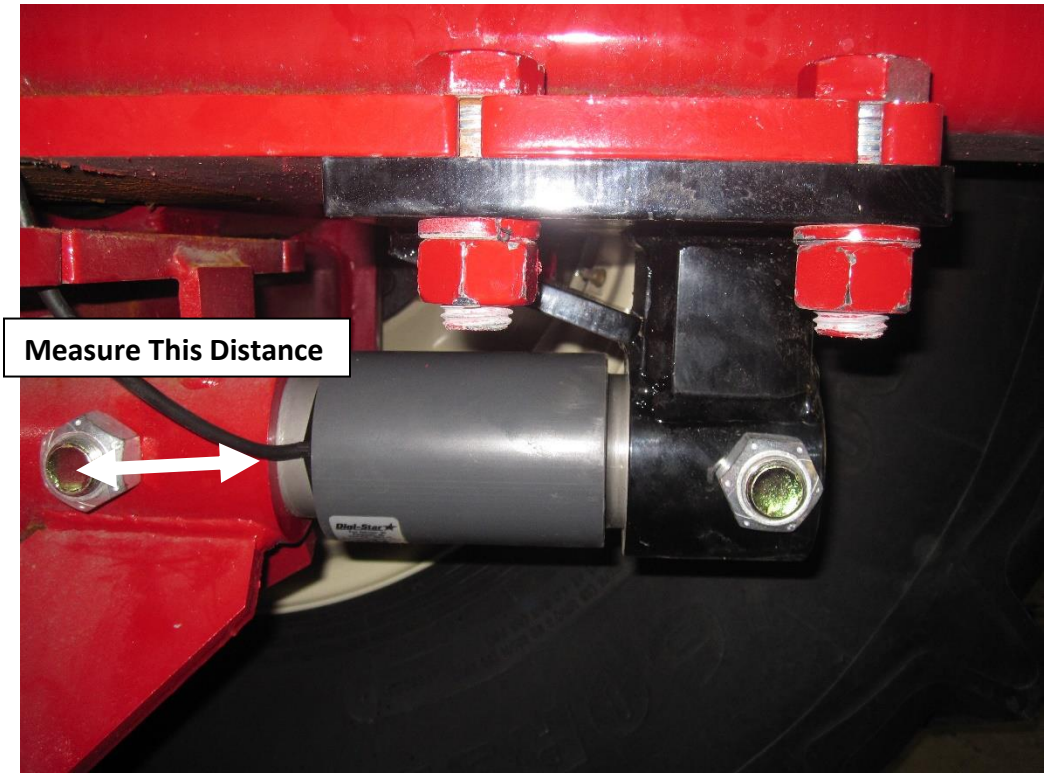
FIG. 1

SAFETY!!! Ensure you properly block the Grain Cart to provide support in the event of a jack failure or lifting device failure. We recommend that while installing the rear load-cells on this system, it is best to have the grain cart hitched to a tractor. Only install one side at a time. Lifting both sides simultaneously will result in an unstable condition and may cause serious injury or death.

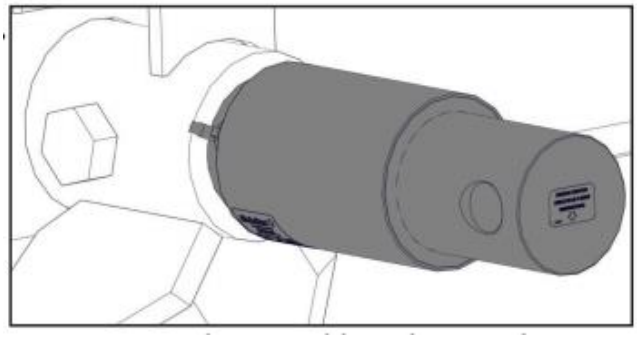
2. Raise the left side of the Grain Cart at least 2 inches.

Determine which style J&M Grain Cart

There are different kits that correspond to each of the two styles. Style can be identified by measuring from the edge of the sleeve on the axle assembly to the center of the bolt hole in the sleeve.



Old Style – 3”



Kit Includes P/N: 700201 &7000202

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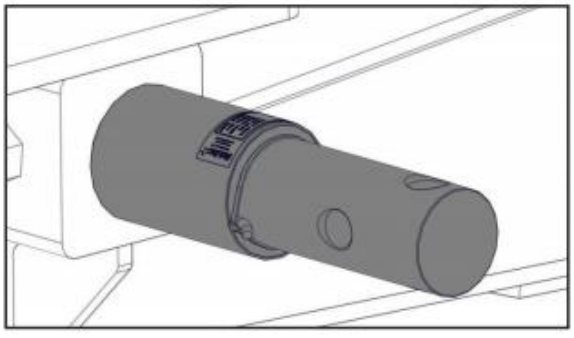
New Style – 2¼”



Kit Includes P/N: 7600480 &7600476

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3. Install load cell assemblies as depicted in Figure 2. Leave the hardware loose, do not tighten.

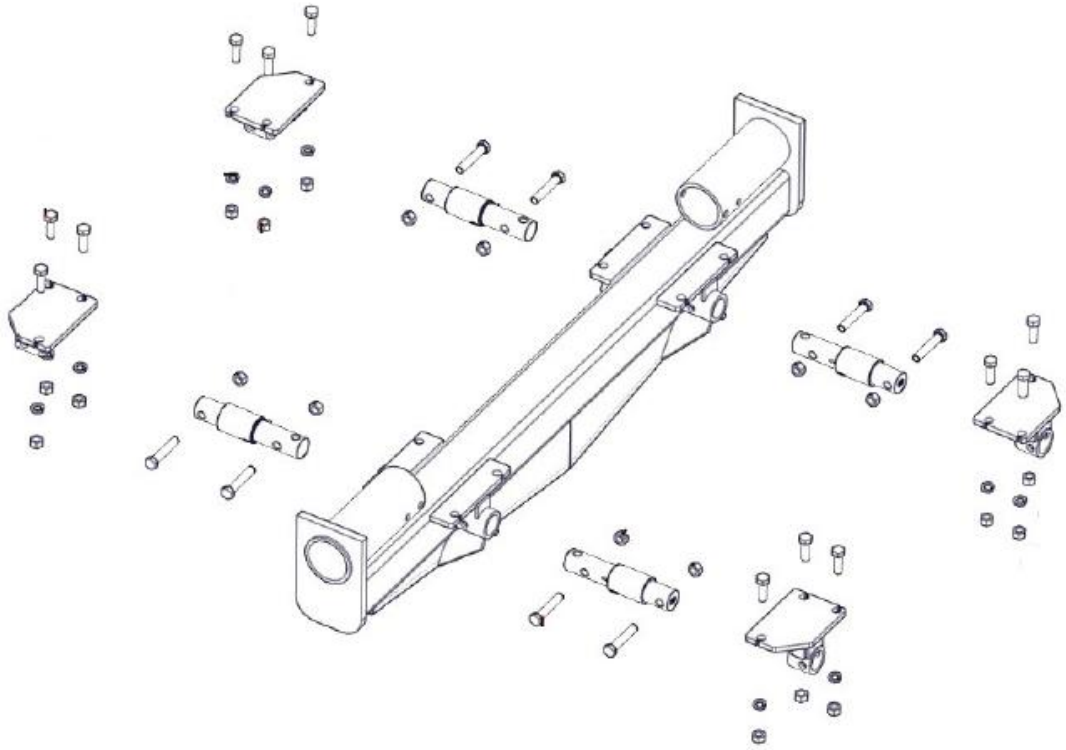


Fig. 2

Refer to Fig. 2
To install the load cell….

i. Install the load cell into the sleeve provided on the axle assembly. Secure the load cell with the bolt/locknut provided.

ii. Install the appropriate corner bracket to the load cell. Fasten the bracket to the load cell with the bolt/locknut provided.

iii. Secure the corner bracket to the frame of the hopper with the three bolts/lock nuts provided.

⚠ **IMPORTANT! INSTALL ALL FOUR AXLE ASSEMBLY DIGI-STAR LOAD CELLS WITH THE ARROW STICKER POINTING DOWN! OR FOR WEIGH-TRONIX WEIGH-BARS THE TOP STICKER POSITIONED TO THE BOTTOM.**

4. Lower the left side of the cart.

5. Remove the bolts from the right side of the cart and raise the right side of the cart 2”.

6. Repeat steps three and four.

7. Tighten all bolts.

3. Install load cell assemblies as depicted in Figure 3. Leave the hardware loose, do not tighten.

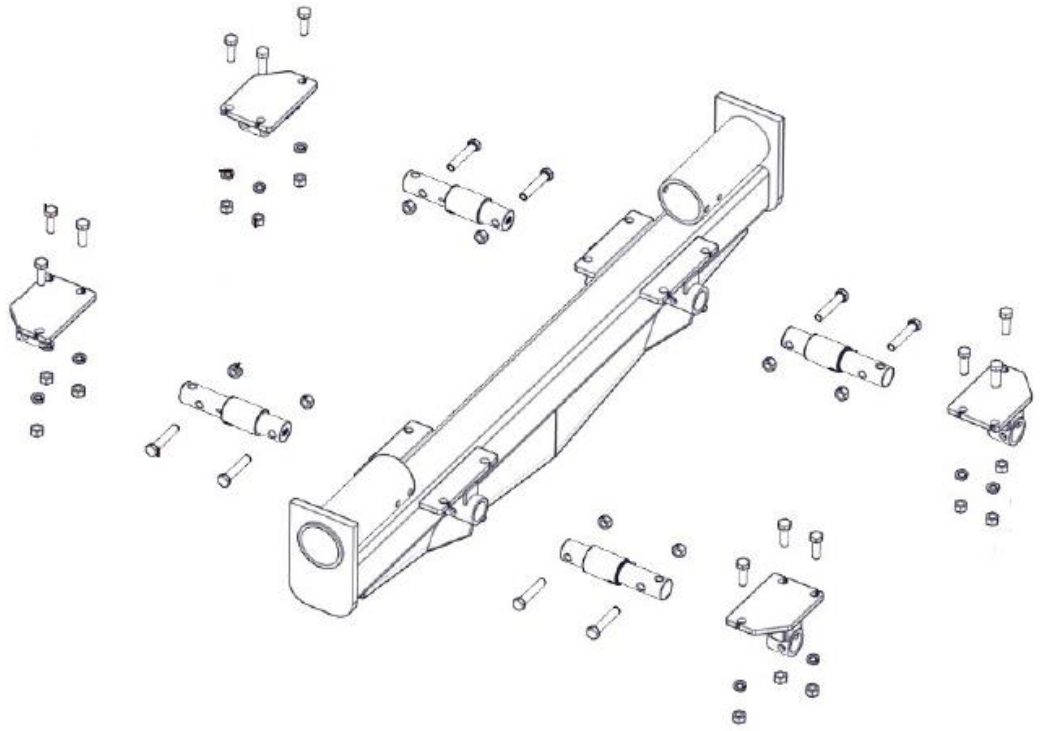


Fig. 3

Refer to Fig. 3
To install the load cell….

iv. Install the load cell into the sleeve provided on the axle assembly. Secure the load cell with the bolt/locknut provided.

v. Install the appropriate corner bracket to the load cell. Fasten the bracket to the load cell with the bolt/locknut provided.

vi. Secure the corner bracket to the frame of the hopper with the three bolts/lock nuts provided.

⚠ **IMPORTANT! INSTALL ALL FOUR AXLE ASSEMBLY DIGI-STAR LOAD CELLS WITH THE ARROW STICKER POINTING UP! OR FOR WEIGH-TRONIX WEIGH-BARS THE TOP STICKER POSITIONED TO THE TOP.**

4. Lower the left side of the cart.

5. Remove the bolts from the right side of the cart and raise the right side of the cart 2”.

6. Repeat steps three and four.

7. Tighten all bolts.

8. Remove existing hitch

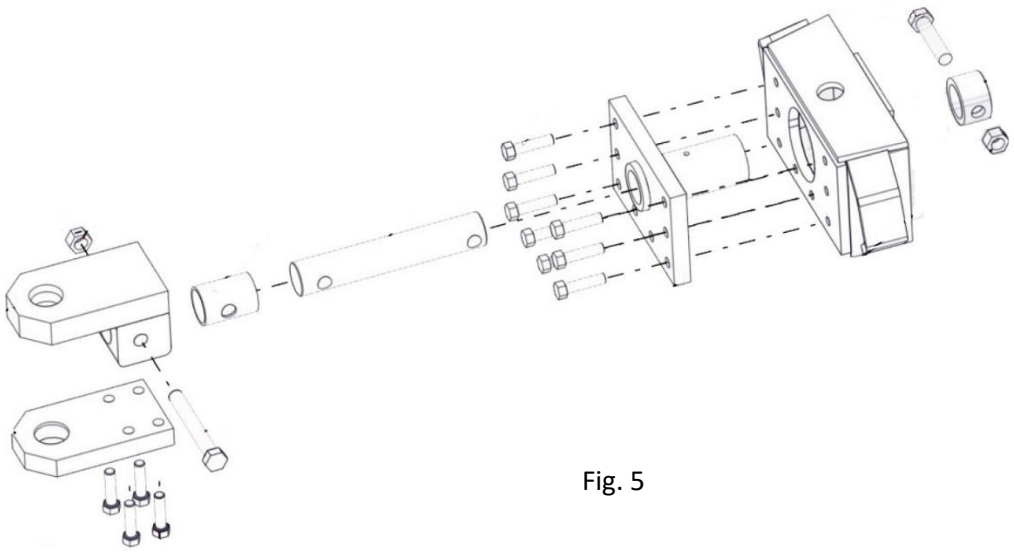


Fig. 5

Refer to Fig. 5

i. Remove the hitch receiver from the cart by removing the retaining bolt.
ii. Remove the "swivel collar" located on the rear of the hitch area.
iii. Remove the hitch shaft from the endcap sleeve.
iv. Unbolt the 8 retaining bolts (fine threaded) from the endcap. It will be necessary to re-use 4 of these bolts on the installation of the load cell. Do not discard!
v. Remove the End-Cap sleeve assembly.

9. Install hitch load-cell.

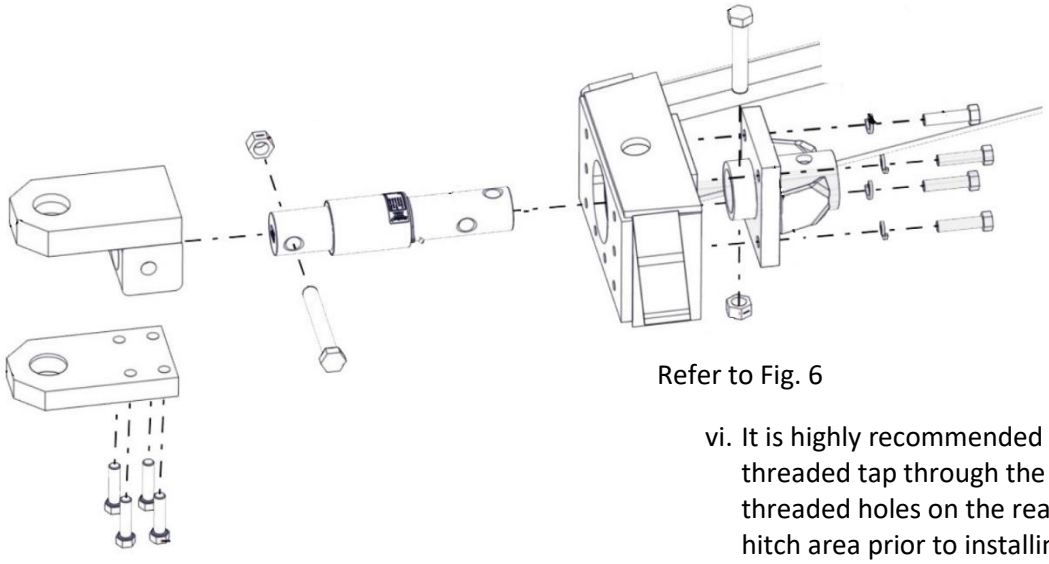


Fig. 6

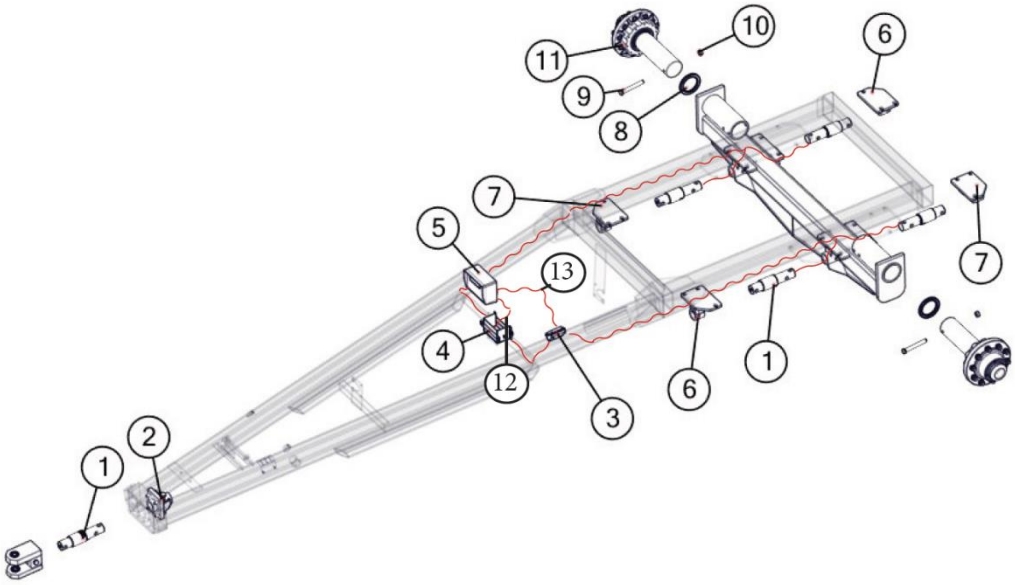
Refer to Fig. 6

vi. It is highly recommended to run a fine threaded tap through the four threaded holes on the rear of the hitch area prior to installing the hitch weldment.
vii. Install the hitch weldment by securing it with the four fine threaded bolts removed from step 6. Install with the narrow end of the plate down.
viii. Install the load cell into the hitch weldment sleeve, and secure it with the hardware provided. Ensure the arrow sticker is pointing "UP."
ix. Install the hitch receiver on to the load cell and ensure and secure it with a horizontal bolt and locknut.

⚠ **IMPORTANT –Install the hitch load cell with the Arrow Sticker Pointing UP!**

10. Route Cabling and Mount Junction Box (see junction box section for proper installation).

Complete Scale Layout and Wire Diagram:



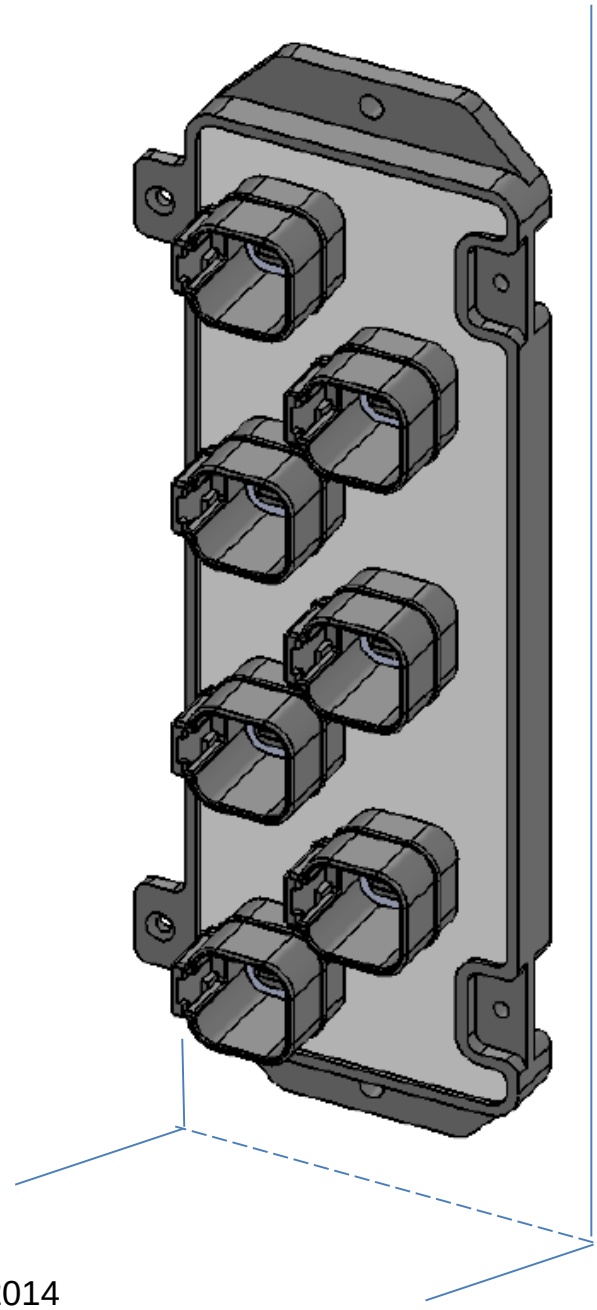
1	Hitch Load Cell
2	Hitch Weldment
3	Junction Box
4	Battery Tray (not available and not provided with kits)
5	Indicator (Tractor Mounting Option Provided with Kit)
6	Left Front/Right Rear Corner Weldment
7	Right Front/Left Rear Corner Weldment

JUNCTION BANK MOUNTING

DT06 Junction Bank

The junction bank is water resistant, not water-proof. It should be mounted to avoid submersion during wet weather and to avoid physical abuse. The junction bank can be mounted on the front or rear of the drill, planter or seeder. All load cell cables must reach the junction bank. Install by removing the double sided VHB tape backing and apply to a cleaned surface.

Connect Load Cell and Junction Box Cable



1. Route front and rear load cell cables to Junction Bank location. Make sure they are not bound or pinched. Cable tie (Customer provided) load cell cables in place.

2. Insert the load cell cables DT06 connector J-box cables into each available port of the Junction Bank.

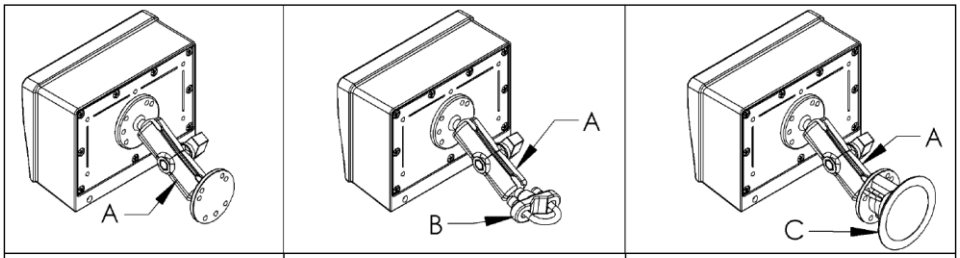
NOTE: There are six available ports for loadcells with a seventh position utilized for the interface cable to the indicator or scale controller device.

3. Ensure any remaining unused ports on the junction box are filled with the plugs provided within the kit.

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

⚠ IMPROTANT 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 (body 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 ¾ 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.