



AGCO

8831/9831

## Planter Scale System

Instructions





Anamosa, Iowa USA

TABLE OF CONTENTS

INTRODUCTION ..... 3  
    Charging Battery and Welding ..... 3  
SCALE BRACKET AND LOAD CELL MOUNTING INSTALLATION ..... 4  
    Scale Installation ..... 4  
JUNCTION BOX MOUNTING ..... 11  
    Four Hole Junction Box ..... 11  
INDICATOR MOUNTING ..... 12  
    RAM MOUNT..... 12  
TESTING AND TROUBLE SHOOTING ..... 13  
    Inaccurate weights? ..... 13  
    Erratic weights?..... 13  
OPERATING THE SCALE ..... 14  
    Filling the Central Fill..... 14  
    Monitoring your seed population ..... 14  
REPAIR PARTS..... 15  
LICENSE AGREEMENT..... 17

## INTRODUCTION

Congratulations on the purchase of your new Digi-Star Planter Scale System. This scale system is specifically designed to weigh the seed hopper on an Agco 8831/9831 Planter. The scale kit can be used to record and monitor seed weight going into or out of the seed hopper.

This scale system is covered by the following US patents: 6732667, 7059258 and 7273017. The single-use license is included with this document (see page 12).



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.**

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.

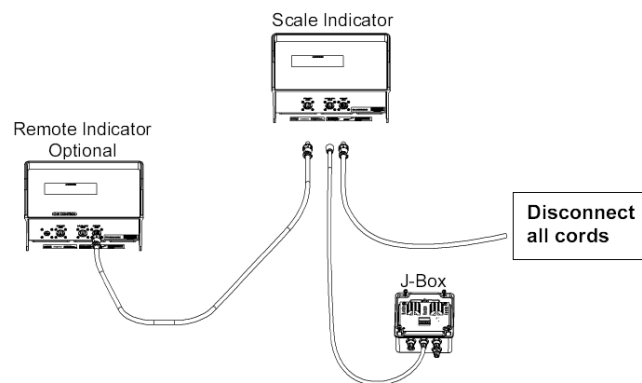


### IMPORTANT!

## 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 AGCO 8831/9831 Scale Kit consists of mounting four load cells. The illustration below highlights the location of each load cell refer to figure 1:

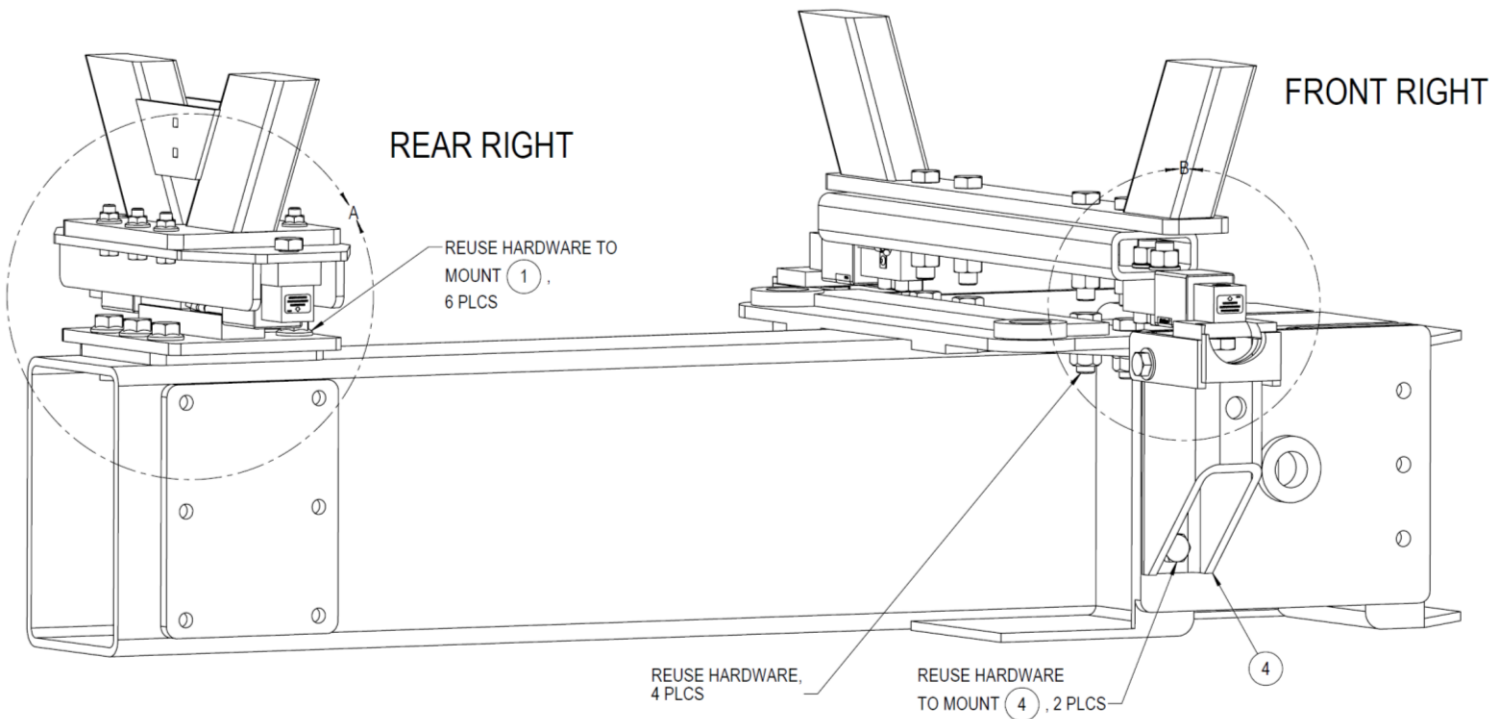


Fig. 1

1. Assemble the load cells to the top front tube. Utilize four  $\frac{3}{4}$  x 3" Bolts to secure the rear portion of the load cell (404284) to the top front tube support (408264) on each side. Bolt the two tube supports to the load cell utilizing the fine threaded  $\frac{3}{4}$ " x 2  $\frac{1}{4}$ " bolt. Leave a  $\frac{1}{16}$ " gap between the head of the fine threaded bolt and the plate. Utilize thread sealant to secure the bolt in place. Refer to Figure 2.

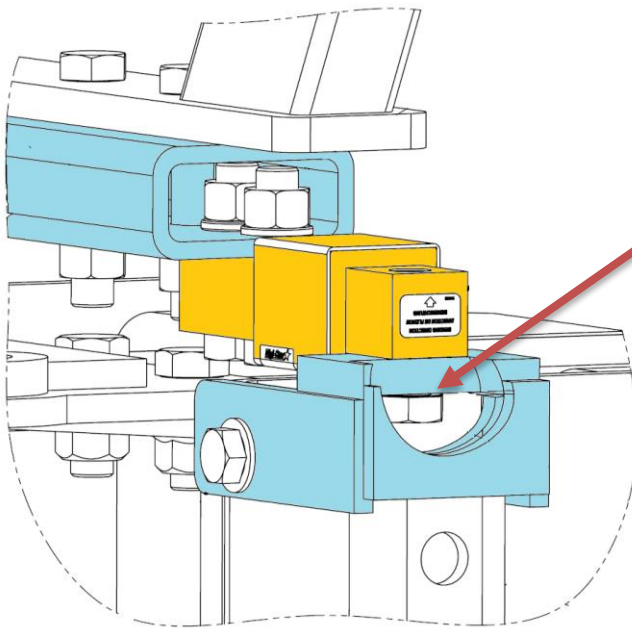


Fig. 2

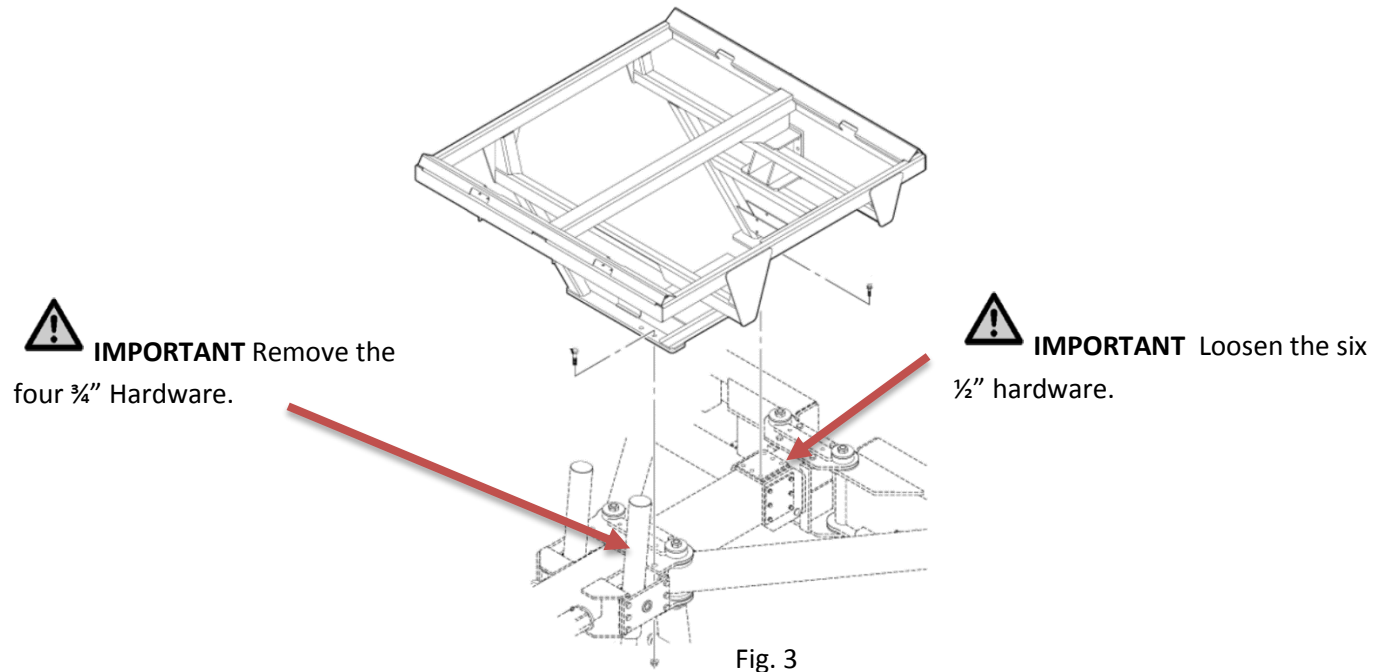


**IMPORTANT!** Ensure that when tightening the fine threaded bolt, you utilize thread sealant and leave approximately  $\frac{1}{16}$ " gap between the head of the bolt and the support bracket.



**IMPORTANT!** Ensure that load cell is oriented so the arrow is pointed "UP"

2. Remove the hardware that secures the front leg to the planter frame (4 each). Keep this hardware you will need to reinstall the hardware to the frame of the planter. Refer to figure 3.



3. Loosen the six bolts that retain the rear leg to the frame of the planter. Refer to figure 3.



**IMPORTANT!**

Do not remove the six bolts on the rear leg, you need to ensure the bolts are in place to secure the hopper in place while installing load cells on the front leg.

4. Support the front side of the hopper unit. **IMPORTANT:** The jack, lifting chains, bucket attachments, loader/skid steer or winch must be capable of lifting and controlling 1000-1500 lbs. Lift the leg approximately 4-5 inches for clearance.

- Reinstall the four 3/4" hardware on the frame that you removed on the front leg. (Refer to figure 4).

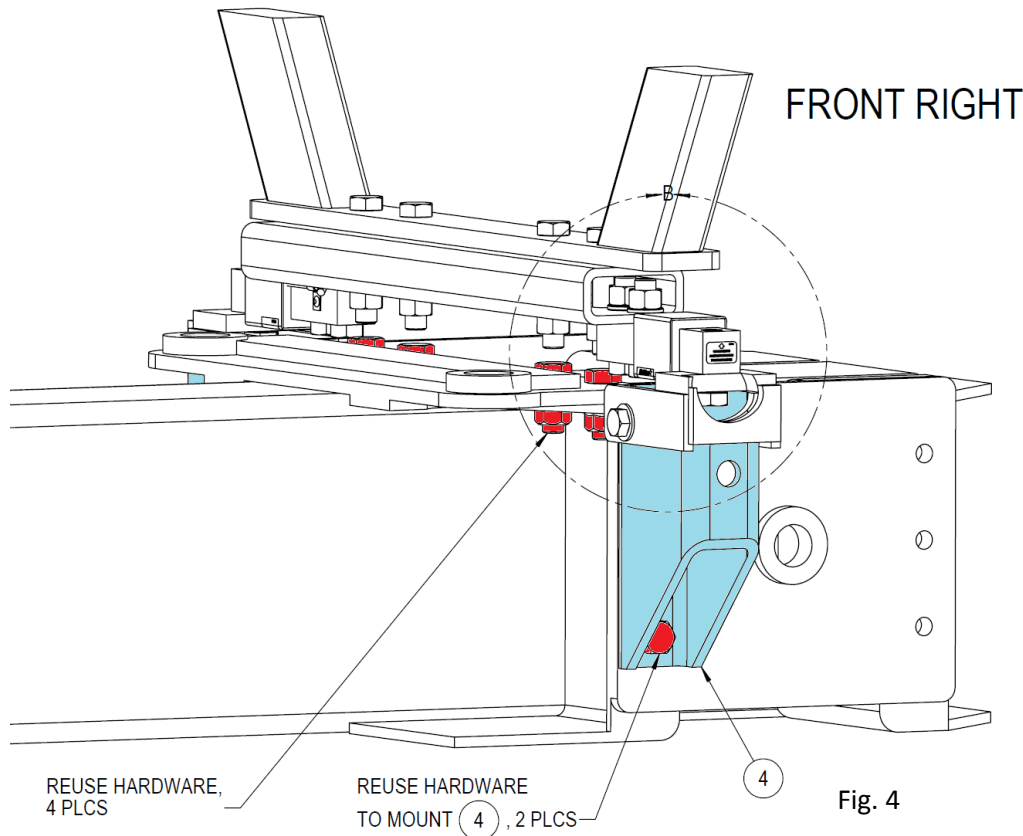


Fig. 4

- Install the front lower support (408766) on each side of the frame utilizing the existing hardware to bolt the support to the frame. (Refer to Figure 4) Tighten the bolts.

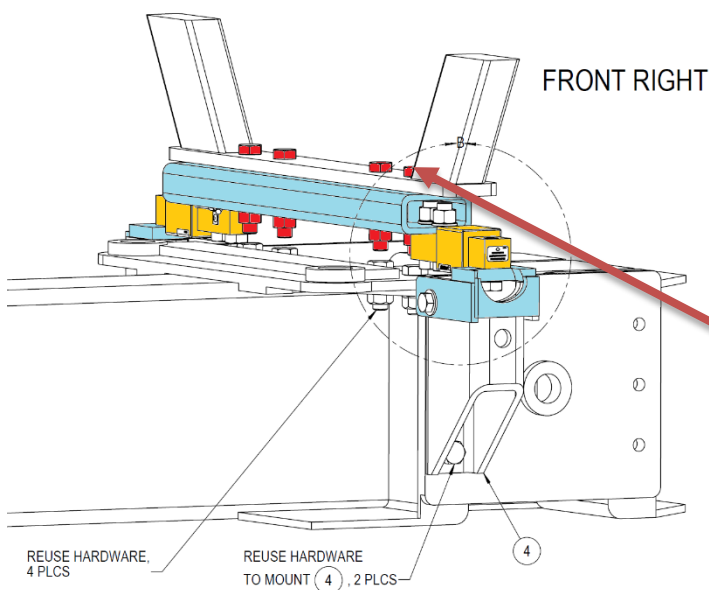


Fig. 5

- Install the Top Front Tube Support assembly onto the front leg. Utilize the 3/4" x 4" Bolts and associated hardware to secure the assembly to the front leg. Leave the four bolts loose. Refer to figure 5.



**IMPORTANT.** Leave the four bolts loose. This will provide flexibility while installing the rear leg bracketing and load cells.

8. Slowly lower the front leg, adjusting the bracket assembly as required to fit the over the front lower support. It may be necessary to utilize a pry bar to adjust the front leg front to back and side to side for proper fit. Refer to figure 6.

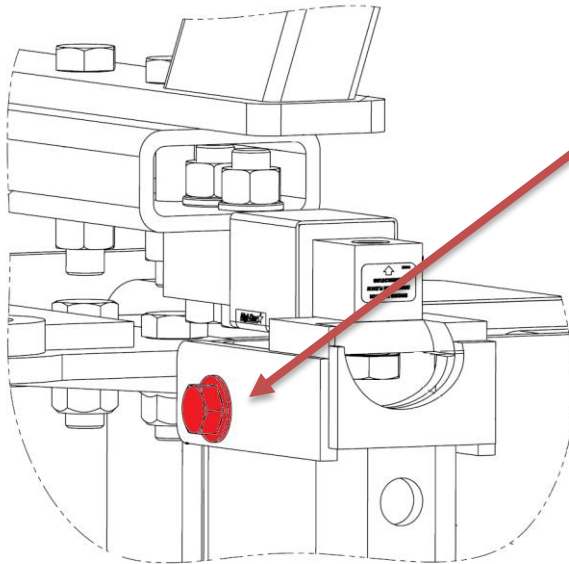


Fig. 6

9. Bolt the assembly to the front lower support utilizing the 5/8" x 5" bolts and hardware passing the bolt through the lower support and the upper support. Tighten bolts.

10. Assemble the rear bottom base bracket (408756) and the load cells utilizing the 3/4" x 3 1/2" bolts and lock nut with the head of the bolt being flush with the bottom of the bracket. Install the load cells with the arrow pointed down. Refer to Figure 7.

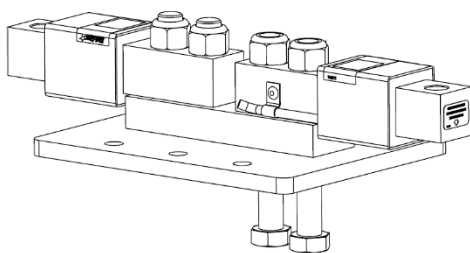


Fig. 7



**IMPORTANT!** Install the Load Cells with the arrow pointed down.



**IMPORTANT!** Ensure the bolt heads are flush with the bottom of the base bracket.



11. Bolt the rear top bracket (408774) to the load cells utilizing the  $\frac{3}{4}$ " x  $2\frac{1}{4}$ " fine thread bolts. Ensure that you leave approximately  $\frac{1}{16}$ " gap between the head of the bolt and the plate. Utilize thread sealant to secure the bolt in place. Refer to figure 8.

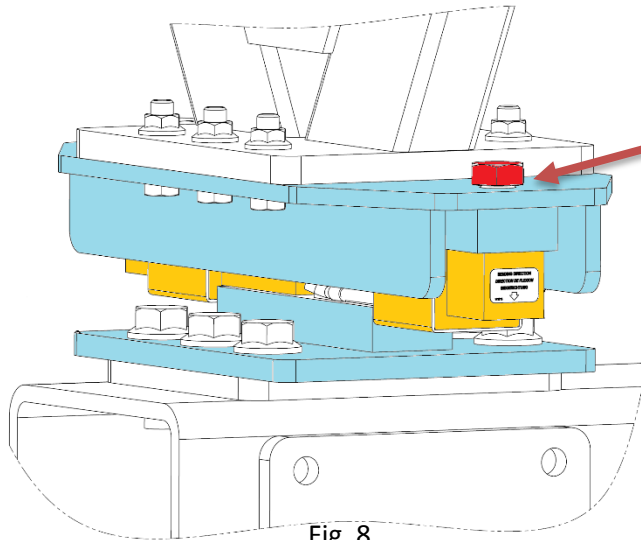


Fig. 8



**IMPORTANT!** Leave a  $\frac{1}{16}$ " gap between head of bolt and load cell.

12. Remove the six bolts and associated hardware on the rear leg. Do not discard the hardware you will need to reinstall the hardware in a later step.
13. Support the rear side of the hopper unit. **IMPORTANT:** The jack, lifting chains, bucket attachments, loader/skid steer or winch must be capable of lifting and controlling 1000-1500 lbs. Lift the leg approximately 4-5 inches for clearance. Refer to figure 9.

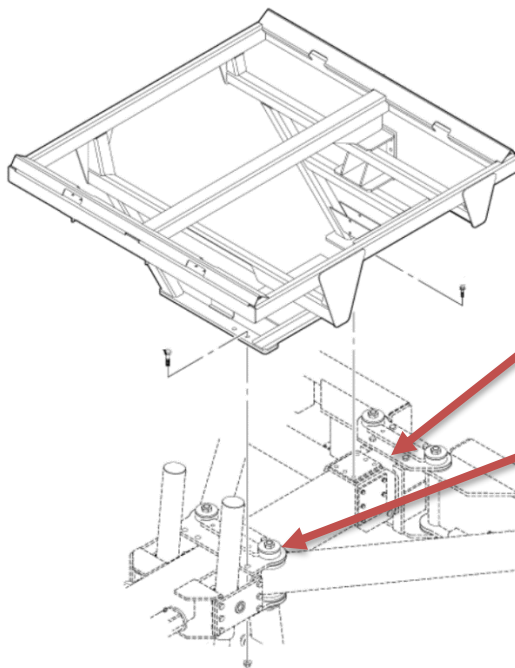


Fig. 9



**IMPORTANT!** Remove the six bolts retaining the rear leg.



**IMPORTANT!** Leave the 4 bolts loose on the front leg top front tube bracket.

14. Bolt the rear load cell assembly to the frame of the planter utilizing the existing hardware removed in step 12. Leave these bolts loose.
15. Slowly lower the hopper to the load cell assembly, aligning it with a pry bar if necessary for bolt hole alignment. Bolt the hopper to the load cell assembly utilizing the ½" X 1 ¾" bolts with associated flange nuts. Refer to figure 10.

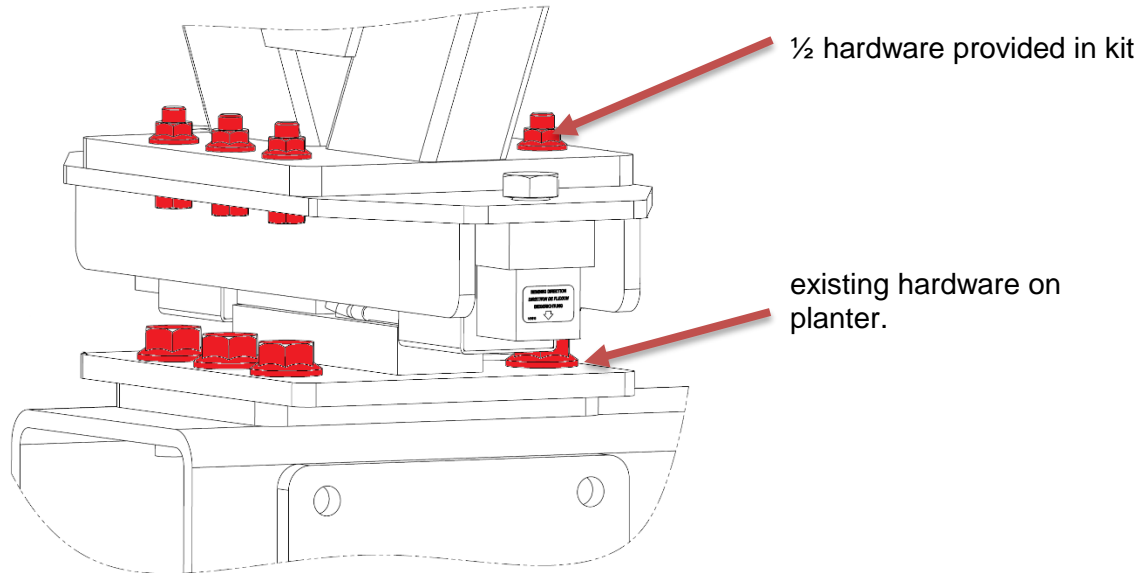


Fig. 10

16. Tighten the six bolts on the rear bottom base bracket, the six bolts on the rear top base bracket and the four bolts on the front top tube. Refer to figure 11.

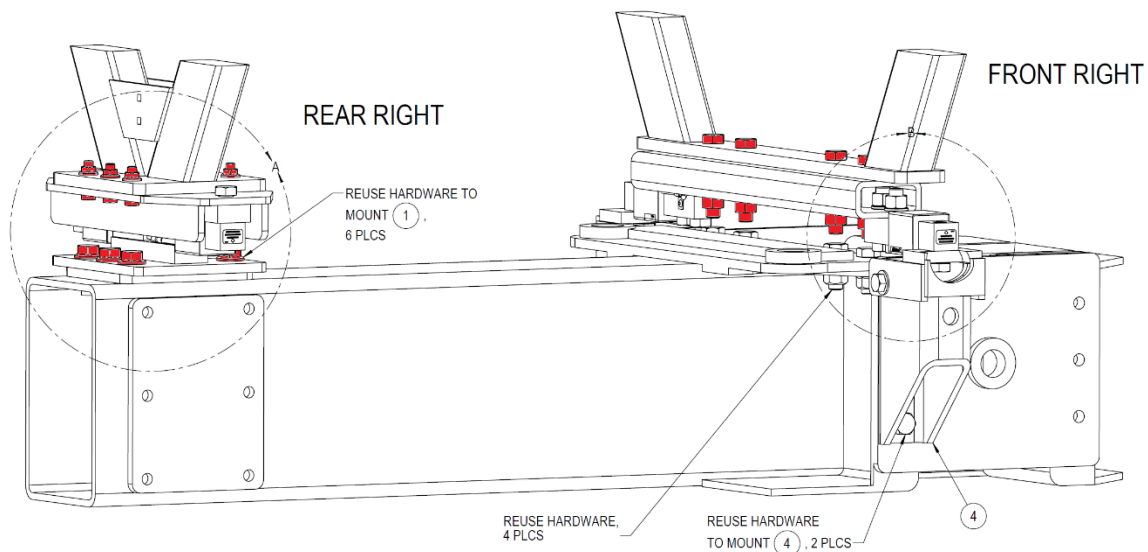


Fig. 11

17. Route cabling and mount junction box.

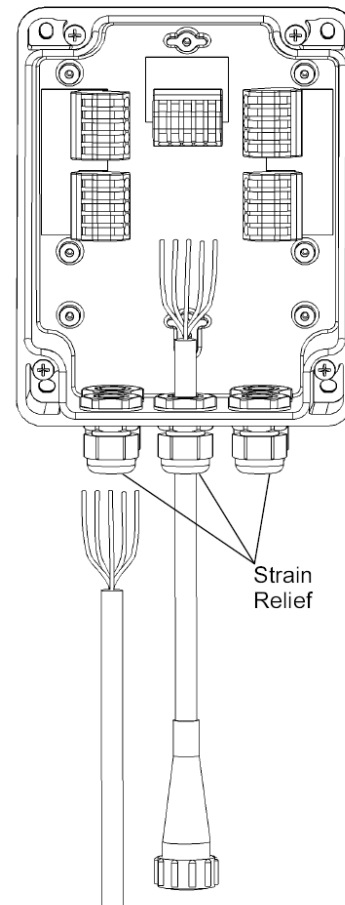
# JUNCTION BOX MOUNTING

## Four 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 front or rear of the drill, planter or seeder. All load cell cables must reach the J-Box. Install by removing the double sided tape backing and apply to cleaned surface.

### Connect Load Cell and Junction Box Cable

1. Route front and rear load cell cables of 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. Remove each terminal block from the J-box.
4. Connect wires of the same color to the same terminal block as shown above. See instructions below.
5. Install terminal block into the J-box as shown (location not important).
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).



### Installing Wires into Terminal Block

1. Open levers 90° to locked position.
  2. Insert individual wires into terminal.
  3. Close lever.
  4. Tug wire to assure solid connection.
- Note: Wire strip length is 7/16" (11mm).



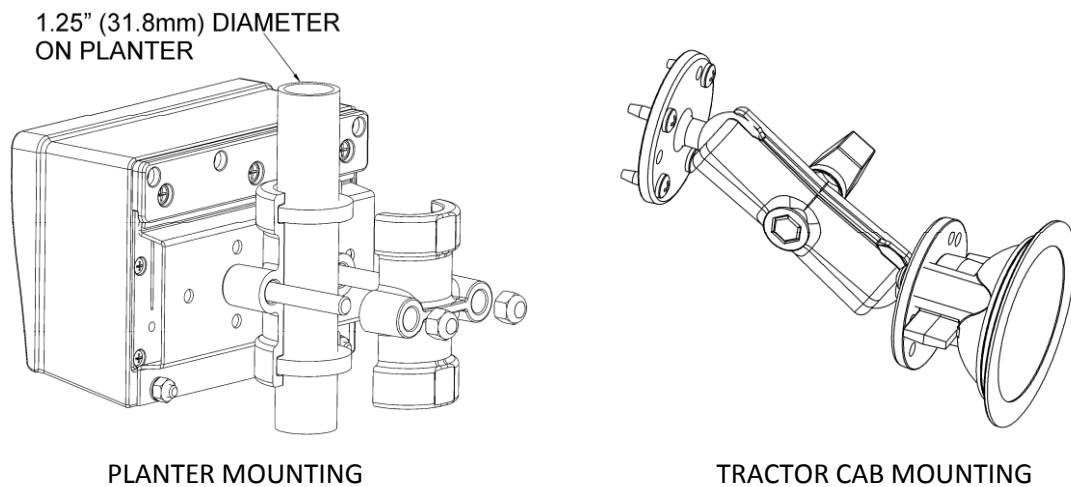
406232	J-Box Lever Nut 4Pt (Planter)
141837	Cable - 30Ft J-Box
406074	Cable - 45Ft J-Box
403335	Cable - Power 17Ft 2-Wire
406073	Cable - Power 36Ft 2-Wire
406072	Cable - Power 6Ft 2-Wire
824316	Cable - 15Ft-J-Box
145096	Cable - 70Ft-J-Box
406276	Cable - Power 65Ft 2-Wire

# INDICATOR MOUNTING

## RAM MOUNT

The scale indicator can be mounted in the tractor cab or on the drill with swivel mounting pack (406081). Two cables must be connected to the indicator bottom panel, J-Box and power cables. Refer to Indicator Manual D3831-US for details of indicator mounting options and connection of power cord.

### INDICATOR MOUNTINGS



- Bolt the readout in the cab with the bracket, or mount the bracket in the front of the lift cylinder.
- Install power cord to a 12-volt negative ground battery.
- Route J-box cable to indicator and install to indicator bottom panel.
- Program indicator with set-up #145015 and calibration #14000 (see Indicator Manual)


#### 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

## TESTING AND TROUBLE SHOOTING

 **IMPOTANT** 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 bag of seed, 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.



## OPERATING THE SCALE

### Filling the Central Fill

**NOTE:** The example given uses 2000 lbs of seed evenly filled in both hoppers. There is 25 lbs of seed left from the last fill.

1. Push the "Start" button. The screen will show zero, and the arrow is now pointing to "Net" on the screen. This is a temporary zero point to start loading the planter with seed. You will now fill 1000lbs of seed into the left hopper.
2. Push the "Stop" button, the readout will display 1025 lbs of seed inventory.
3. Push the "Start" button again. The screen will say zero again. Load another 1000 lbs of seed into the right side.
4. Now push "Stop" and the screen will read 2025 lbs of seed. As planting occurs the weight displayed will decrease.

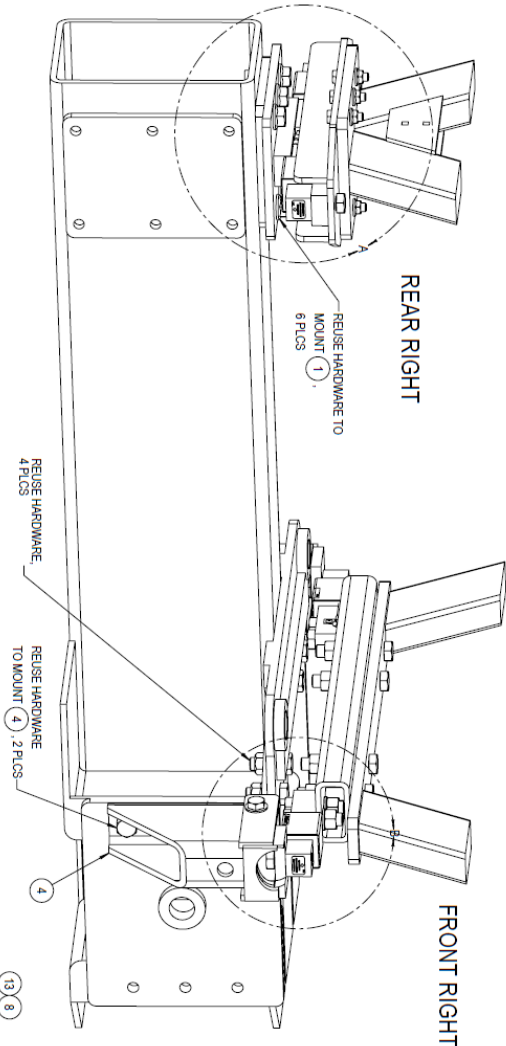
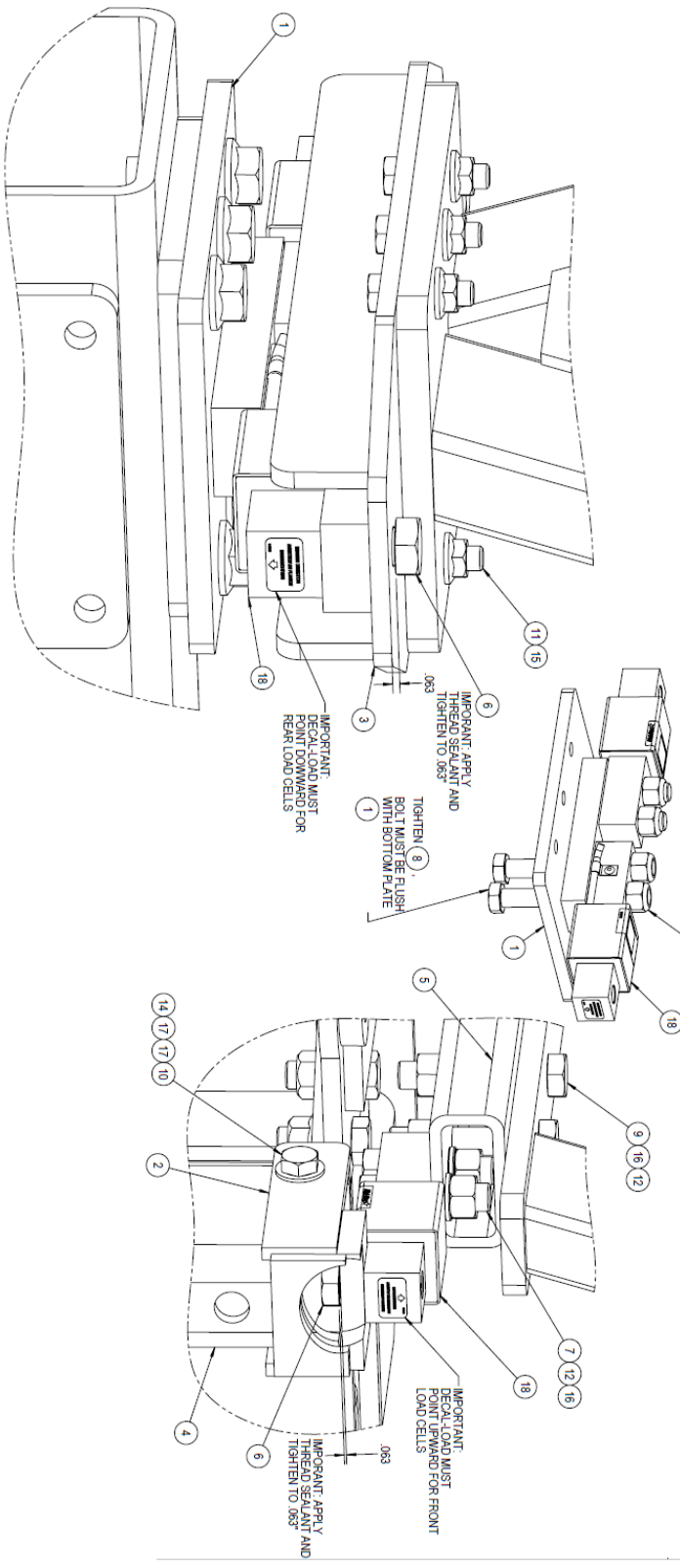
### Monitoring your seed population

**NOTE:** This procedure assumes all hoppers have been filled to some degree and you are ready to plant.

1. Prior planting stop the implement in relatively level location.
2. Ensure the planter is raised to the full up position.
3. Let the scale stabilize, after stabilization, press the "start" button.
4. Lower the planter and begin planting seed.
5. Plant 5-10 acres and come to a stop in a relatively level location.
6. Raise the planter to the full up position.
7. Let the scale stabilize, after stabilization note the weight displayed on the indicator. The weight displayed is the weight that was planted over the 5-10 acre area.
8. To determine your seed population follow the formula given:

$$\text{Acres} / \text{Weight} = \text{Population}$$

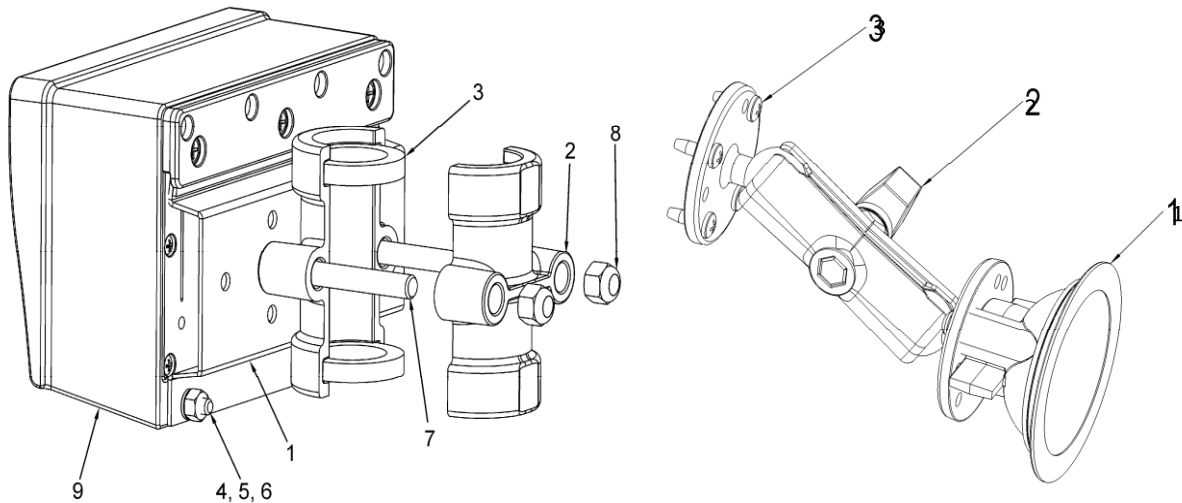
# REPAIR PARTS



KEY	P/N	QTY	DESCRIPTION
1	408756	1	Weld Bottom Base 8831
2	408766	2	Weld Front Lower Support
3	408774	1	Weld Rear Support 8831
4	408764	2	Tube-Front Support 8831
5	408780	1	Tube Support Front 8831
6	STFTB3-4X21-	4	Bolt Fine Thread ½ x 2 1/4
7	STB3-4X3G8	4	Bolt ¾ x 3
8	STB3-4X31-2	4	Bolt ¾ x 3 ½
9	STB3-4X4G5	4	Bolt ¾ x 4
10	STB5-8X5G8	2	Bolt 5/8 x 5
11	STB1-2X2G8	6	Bolt ½ x 2
12	STN3-4	8	Nut ¾
13	STLN3-4	4	Lock Nut ¾
14	STFN5-8	2	Flange Nut 5/8
15	STFN1-2	6	Flange Nut ½
16	STLW3-4	8	Lock Washer ¾
17	STW5-8	4	Washer 5/8
18	404284	4	Cell-1.5 SODB-21

406081

406385



406081			
KEY	QTY.	PART NO.	DESCRIPTION
1	1	403980	Brkt – Robo Mtg
2	2	406086	Brkt – Swivel Cast (JD H161618)
3	2	406087	Gasket – 1.813OD x 1.218 ID x .313 WID
4	2	400036	Scr – 1/4-20 x 3/4 HHCS ZP
5	2	400038	Washer – Lock 1/4 ZP
6	2	400035	Nut – 1/4-20 ZP
7	2	405989	Scr – 3/8-16 x 3.0 HHCS ZP Grd 5
8	2	404292	Nut – 3/8-16 Nyloc ZP
9	2	405612	GT400 Indicator (Not included in kit 406081)

406385			
KEY	QTY.	PART NO.	DESCRIPTION
1	1	404230	Ram Suction Cup with Twist Lock
2	2	403180	Assembly – 1” Ram Mount
3	2	403779	Scr - #10 x 5/8 PHSTS 48-2 Blk ZP





# LICENSE AGREEMENT

**IMPORTANT NOTICE:** Acceptance and use of the enclosed electronic scale products (hereinafter referred to as "Purchased Product") constitutes your agreement to the following terms and conditions. Please carefully read the following terms and conditions before using or reselling the Purchased Product.

1. **Limited License.** Digi-Star, LLC, a Wisconsin limited liability company ("Owner") is the owner of the following U.S. Patents related to grain drills: 6,732,667, 7,059,258, 7,273,017, 7,357,087, 7,448,335, 7,523,710 and any other patents which result from continuation applications thereof ("Patents"). Owner hereby grants to the customer ("Customer") a non-exclusive, non-transferable, revocable, limited license to use the technology described in the Patents to use the Purchased Product to assemble a seed planter product covered by the Patents ("Licensed Product"), and to sell and offer for sale one (1) unit of the Licensed Product in accordance with the terms and conditions set forth herein. Alternatively, Customer may resell the Purchased Product to another entity for the purpose of that entity assembling one (1) unit of a Licensed Product under a permitted sublicense from the Customer with the same terms as this Agreement. If Customer would like to assemble, use, sell or offer for sale more than one (1) Licensed Product, or resell more than one (1) Purchased Product, Customer understands and agrees that it must purchase another Purchased Product from Owner or acquire a separate license by requesting and purchasing another unit of the same SKU number that resulted in this purchase.

2. **Acceptance of Terms and Conditions.** Customer warrants that it has the authority to enter into this binding agreement. If Customer does not accept the terms and conditions, Customer shall not use the Purchased Product. Customer understands and agrees that if it uses the Purchased Product as permitted herein, it will be deemed to have accepted these terms and conditions and they shall become a binding agreement.

3. **Limitations on Use.** Customer agrees that it will use the Licensed Product only as expressly authorized in this Agreement, and that any use not expressly authorized in this Agreement is prohibited. Customer agrees that it will not: (i) loan, rent, lease, assign, sublicense, distribute or otherwise transfer its rights under this Agreement to a third party, other than to resell the Purchased Product to another entity for the purpose of that entity assembling one unit of a Licensed Product; (ii) copy or reproduce the Licensed Product; or (iii) grant any sublicenses other than to an end user of the Licensed Product, or to another entity for the purpose of that entity assembling one unit of a Licensed Product.

Customer agrees to use reasonable efforts to prevent any unauthorized use or copying of the Licensed Product and will notify Owner immediately upon learning of any such unauthorized use or copying. Customer's obligations under this section shall survive any termination of this Agreement or the license granted hereunder. Any unauthorized use of the Licensed Product will result in, among other things, the immediate termination of this license.

4. **Ownership of Proprietary Rights.** Customer acknowledges that the Licensed Product is covered intellectual and/or

proprietary rights, and that all such intellectual and proprietary rights are owned by Owner.

Customer hereby acknowledges that it has no rights in the foregoing except as expressly granted herein.

5. **NO WARRANTY.** Customer agrees to fully test and evaluate the Purchased Product and Customer acknowledges and agrees that Owner will not assume any product liability or any other liability for the Purchased Product or the Licensed Product. The Purchased Product is furnished to Customer "AS IS." Except as otherwise provided by separate documentation, OWNER MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PURCHASED PRODUCT. Customer agrees that Owner shall have no liability resulting from Customer's use of the Purchased Product for any indirect damages including consequential, incidental or special damages for loss of profit, good will or otherwise. Customer shall indemnify and hold Owner harmless from any and all losses, expenses, damages, costs or expenses of any kind, including but not limited to reasonable attorneys' fees, incurred by Owner resulting from Customer's use of the Purchased Product. **NO ORAL OR WRITTEN STATEMENTS MADE BY OWNER OR ITS EMPLOYEES INCLUDING BUT NOT LIMITED TO STATEMENTS REGARDING CAPACITY, SUITABILITY FOR USE, OR PERFORMANCE OF THE PURCHASED PRODUCT SHALL BE DEEMED A WARRANTY OR REPRESENTATION BY OWNER FOR ANY PURPOSE NOR GIVE RISE TO ANY LIABILITY OR OBLIGATION OF OWNER.**

6. **Remedies for Violations.** Owner reserves the right to seek all remedies available at law and in equity for violations of this Agreement, including but not limited to the right to recover the Licensed Product.

7. **Fees.** In consideration for the rights granted under this Agreement, Customer has paid a license fee that was included in the amount invoiced to the Customer for the sale of the Purchased Product.

8. **Entire Agreement.** Except as expressly stated herein to the contrary, this Agreement constitutes the entire agreement between the parties regarding the subject matter hereof, and no verbal or written prior statements or representations of any sort made by any party shall be effective or valid for any purpose whatsoever. This Agreement may be amended only upon the mutual consent of all parties in writing.

9. **Severability.** If any provision of this Agreement shall be held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. The failure of any party to enforce any provision of this Agreement shall not be considered a waiver thereof, nor shall such failure prevent the future enforcement of any such provision.

10. **Governing Law.** This Agreement and the relationship between the parties shall be governed in all respects by the laws of the State of Wisconsin and the United States of America. The parties consent to the jurisdiction and venue of the Wisconsin and United States courts located in Wisconsin for resolution of any dispute under to this Agreement.

Use or sale of the Licensed Product or of Purchased Product shall bind Customer to all terms and conditions herein without the necessity of signatures on this Agreement.