



**John Deere/Orthman Mfg.  
JD1720 Deere CCS  
Planter Scale**

**Instructions  
And  
Repair Parts**



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## INTRODUCTION

Congratulations on the purchase of your new Digi-Star Planter Scale for John Deere/Orthman Mfg. 1720 DB series planter.

The scale system is specially designed to weigh the central commodity seed hopper. The scale will record and monitor seed weigh going into or out of the CCS 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 14).

**!** 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. KEEP HANDS, 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.

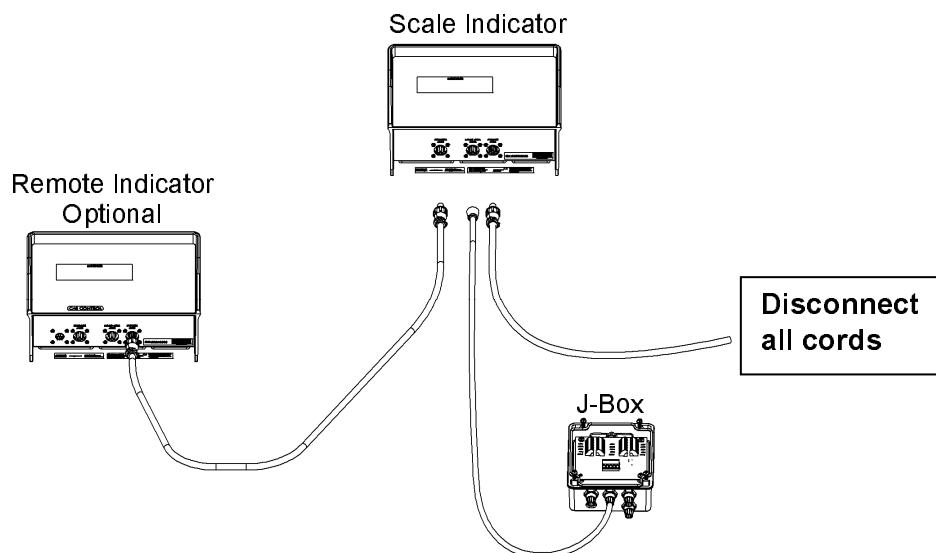
This supersedes all previous published instructions.

**!** **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

The John Deere/Orthman Mfg. planter scale kit consists of mounting three load cells. The illustration below highlights the location of each load cell.

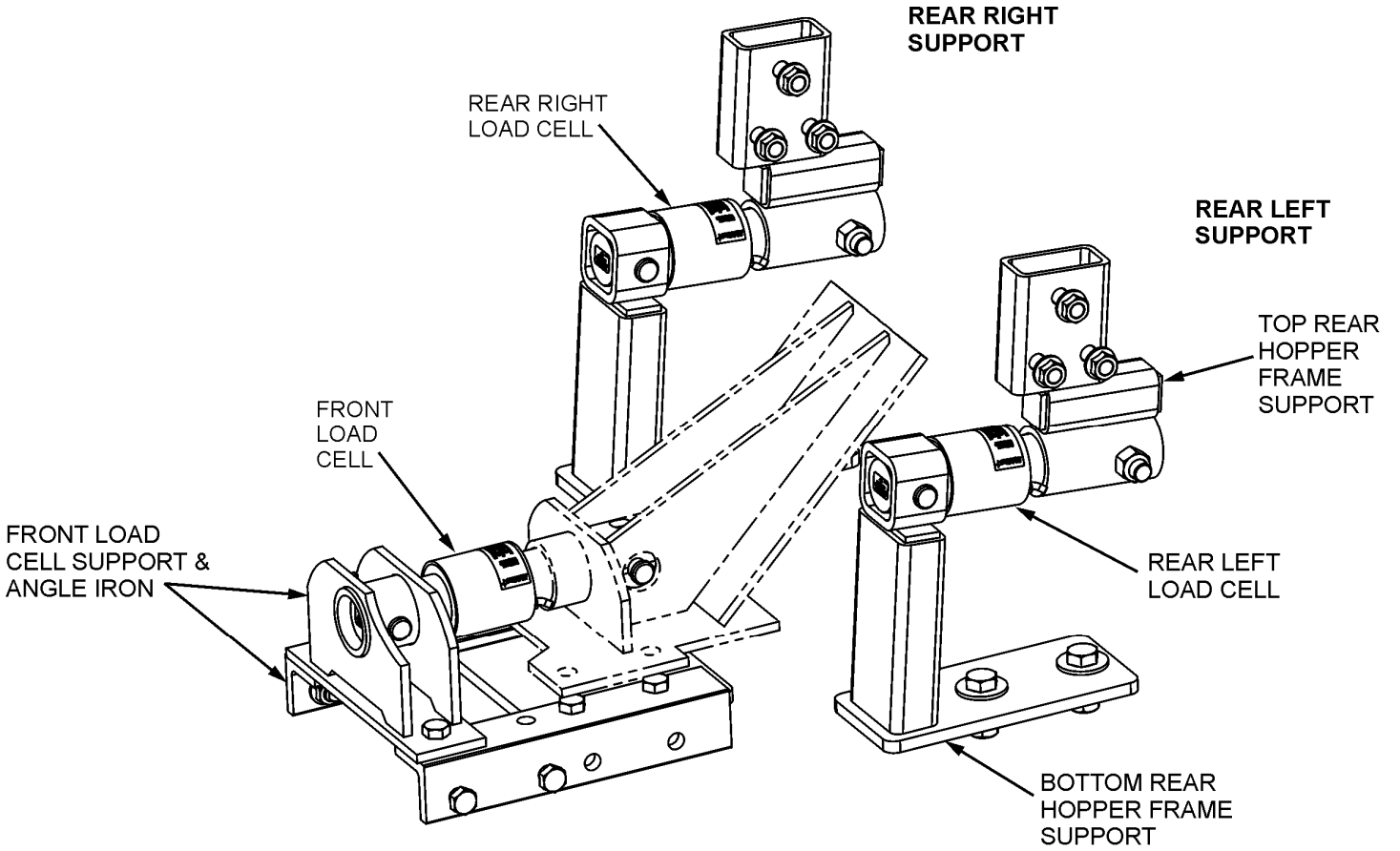


FIGURE 1

## Front Load Cell Assembly

1. Remove the four bolts from the front leg support. Lift or jack the support. **IMPORTANT:** The lifting chains, bucket attachments, loader/skid steer or winch must be capable of lifting and controlling 1000-1500 lbs.
2. Install the front angle-iron supports on top of the planter mounting plate. Secure with four 5/8 x .2.0 bolts and 5/8 top-lock flange nuts.
3. Install the long side of the load cell into the planter leg using 3/4 x 4.0 clevis pin and 5/32 x 1.0 cotter pin.  
**IMPORTANT:** Load cell arrow decal must point upward (see Detail A).
4. Slide weld-middle bracket onto front of load cell. Secure with 3/4 x 4.0 clevis pin and 5/32 x 1.0 cotter pin.
5. Bolt the weld-middle bracket to the front angle-iron support using 5/8 x 2.0 bolt and 5/8 top-lock flange nut.
6. Install the front hose support to the front angle-iron support using 5/8 x 1.5 bolts and 5/8 top-lock flange nuts.

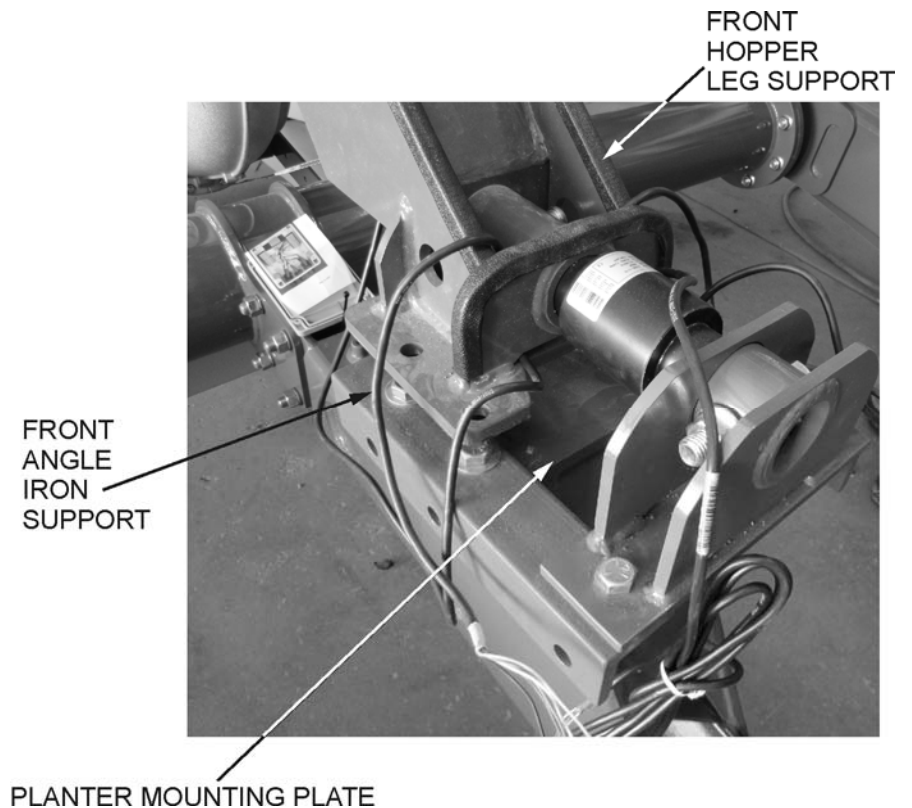


FIGURE 2

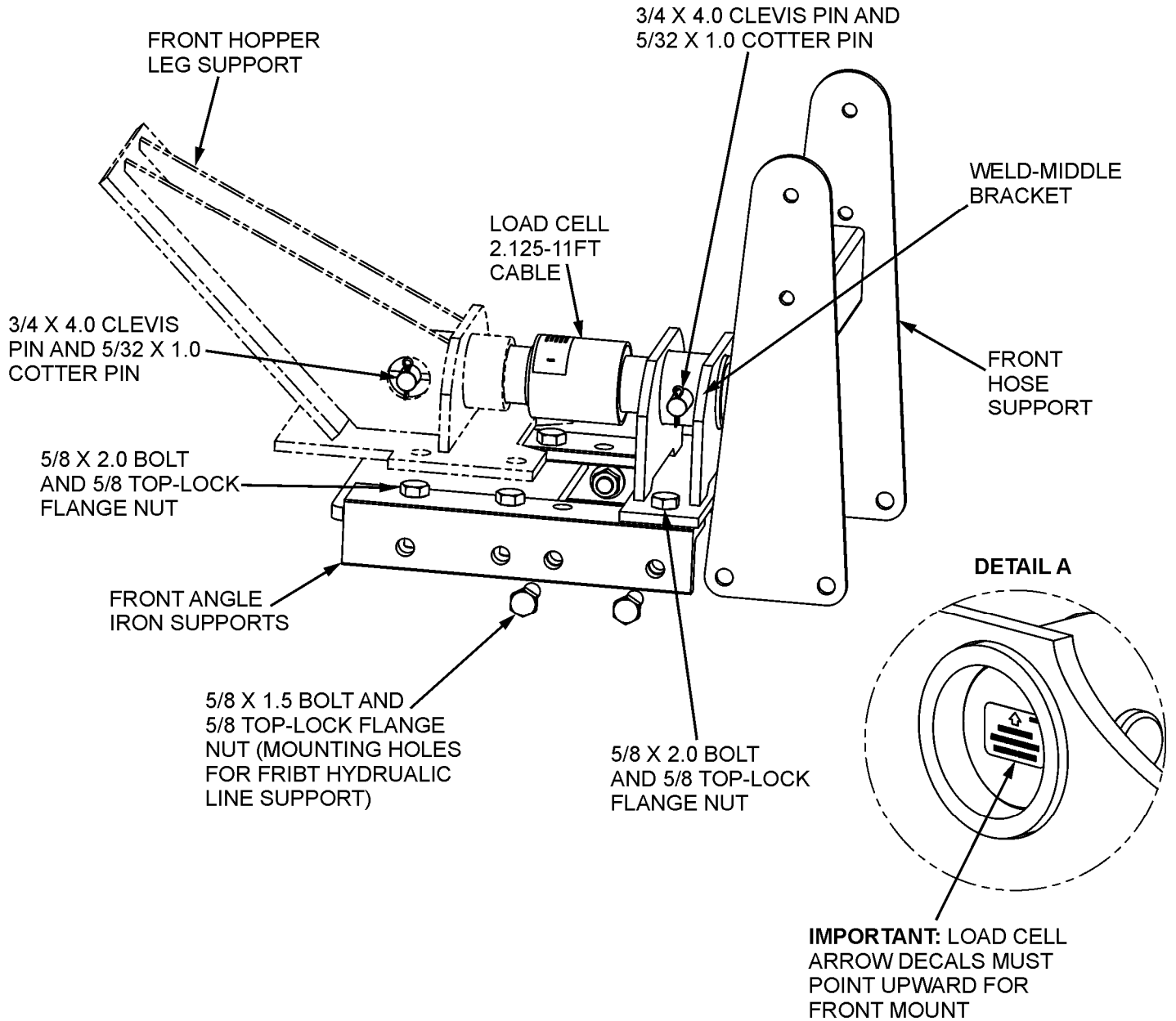


FIGURE 3

Rear Load Cell Assembly



Remove Existing Support

FIGURE 4



Remove Existing Rear Vertical Support

FIGURE 5

1. Jack and support hopper, either the right or left hand side. Figure 4 shows one method for supporting the hopper. **IMPORTANT:** The lifting chains, bucket attachments, loader/skid steer or winch or jack must be capable of lifting and controlling 1000-1500 lbs.

Unbolt and remove the existing rear supports to make room for new load cells and rear support assemblies.

If you are installing scale kit onto the following Planters:

- JD1720 30" or JD1720 38/40" row spacing use Figure 7.
- JD1720 22"/36" row spacing use Figure 8.



Seed Distributor Box

FIGURE 6

**JD1720 30" or 38"/40" Row Spacing**

2. Install weld-rear top into the existing hopper frame support. Install only the top bolt; leave the bottom two bolts and nuts. The load cell bracket should be free to swing up and back.
3. Swing the weld-rear top bracket up and back and insert the long end of the load cell into the top bracket. Secure with 3/4 x 4.0 bolt and 3/4 top lock nut, then slide the leg bracket on onto the load cell short end. Secure with 3/4 x 4.0 clevis pin and 5/32 x 1.0 cotter pin. Swing the entire assembly down again. **IMPORTANT:** Load cell arrow decal must point upward (see Detail B).
4. Install the additional 5/8 bolts and nuts to the weld-rear top support.
5. Secure weld-rear bottom to the rear main bottom frame with 3/4 x 2.0 bolt and 3/4 flat washer and 3/4 top-lock flange nut (see Figure 6).
6. Repeat steps 1 – 5 for other side.

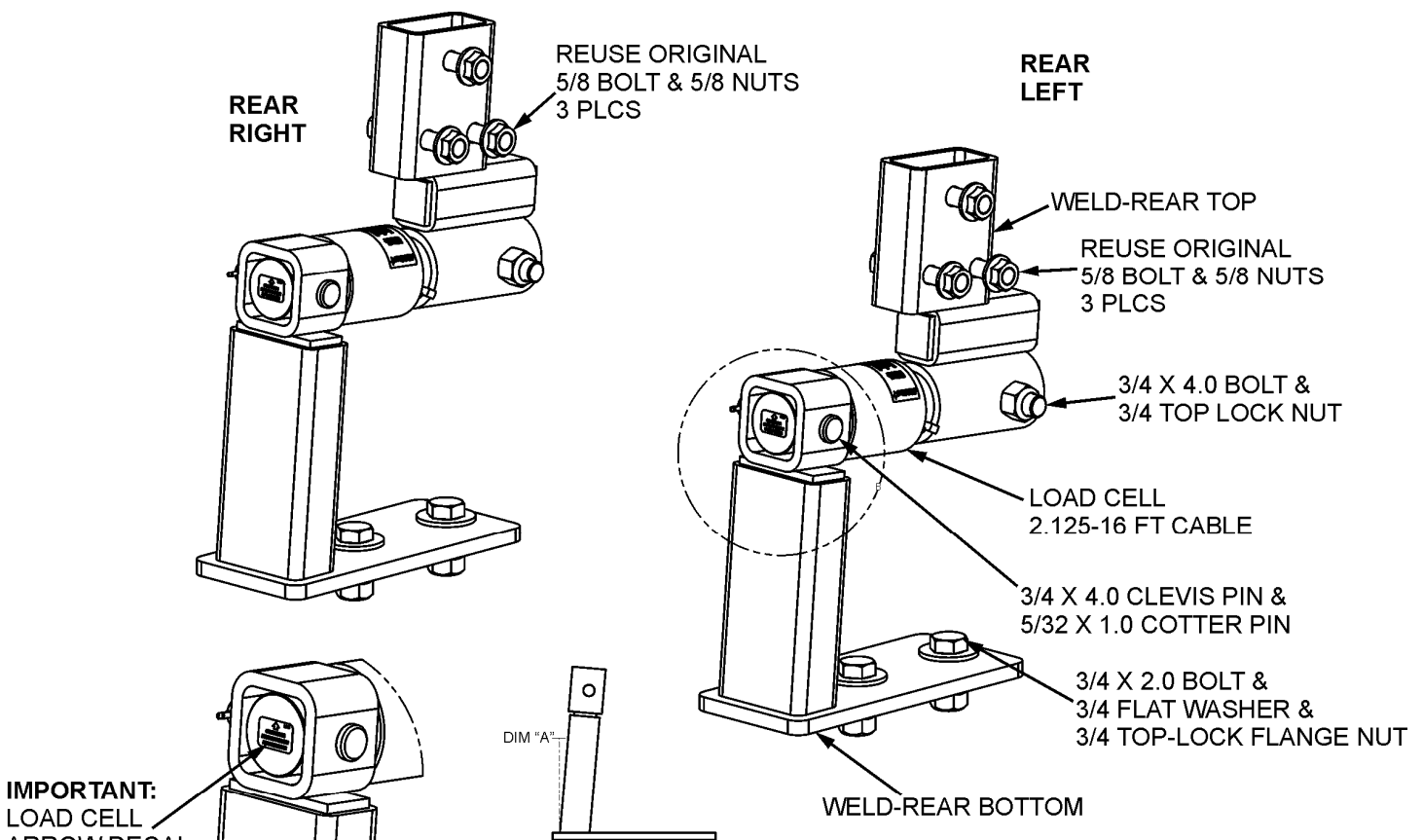


TABLE C REAR BOTTOM WELDMENT

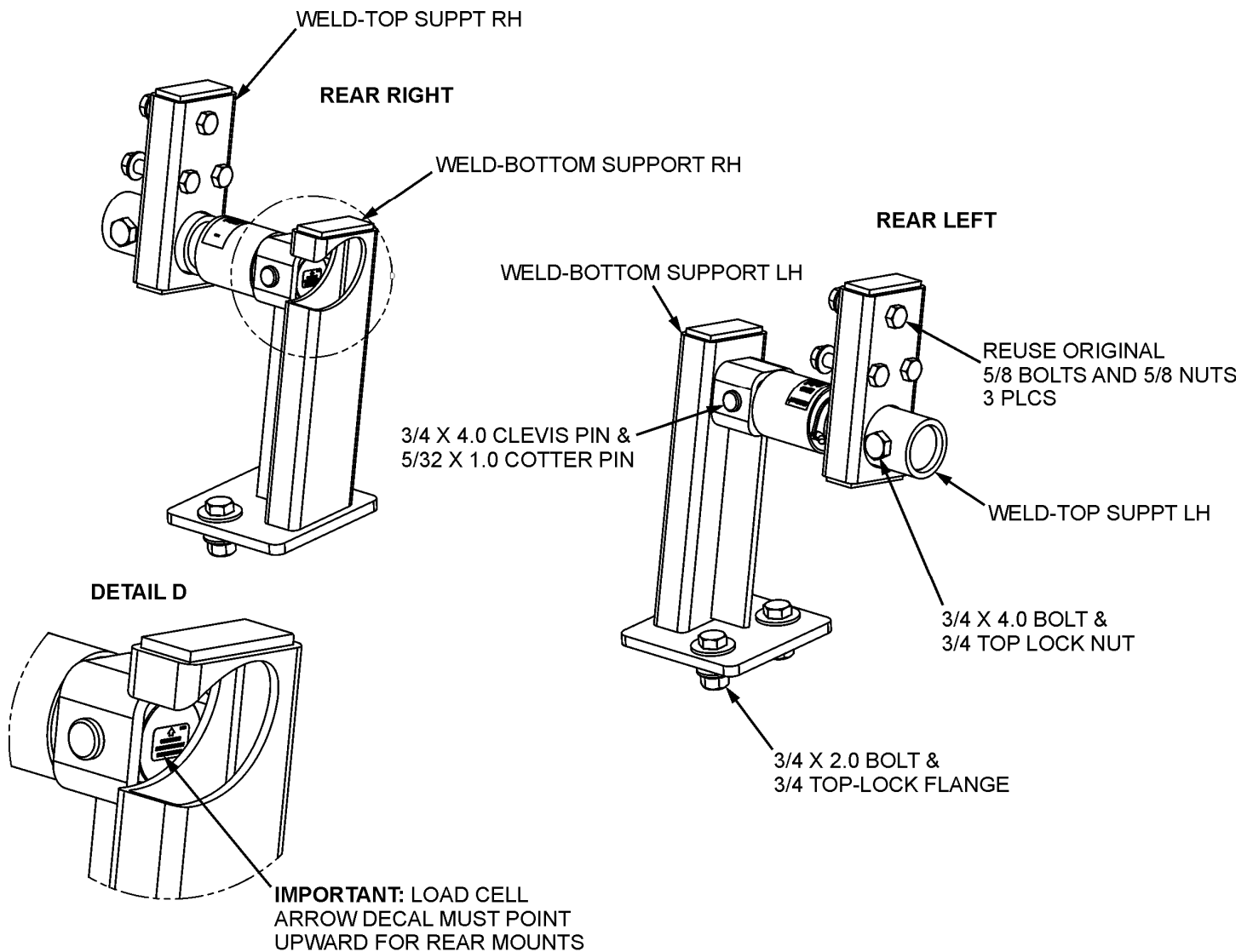
PART #	DESCRIPTION	DIM "A"	PLANTER MODEL
406500	WELD-REAR BOTTOM 5° (JD1720)	5°	JD1720 - 30" ROWS WITH 12.5L-15SL TIRES
406955	WELD-REAR BOTTOM 0° (JD1720)	0°	JD1720 - 30" ROWS WITH 16.5L-16SL TIRES
406722	WELD-REAR BOTTOM 12° (JD1720)	12°	JD1720 - 38"/40" ROWS

FIGURE 7



**JD1720 22”/36” Row Spacing**

2. Install weld-top support LH to the existing hopper frame support, after removing the rear “Dog-leg support”. Reuse the original 5/8 bolts and 5/8 nuts.
3. Insert the long end of the load cell into the top bracket. Secure with 3/4 x 4.0 bolt and 3/4 top-lock nut. Then slide the weld-bottom support LH onto the short end of the load cell. Secure with 3/4 x 4.0 clevis pin and 5/32 x 1.0 cotter pin. **IMPORTANT:** Load cell arrow decal must point upward for rear mounts (see Detail D).
4. Secure weld-bottom support LH to the planter frame with 3/4 x 2.0 bolt and 3/4 top-lock flange nut.
5. Repeat steps 2 – 4 for other side.



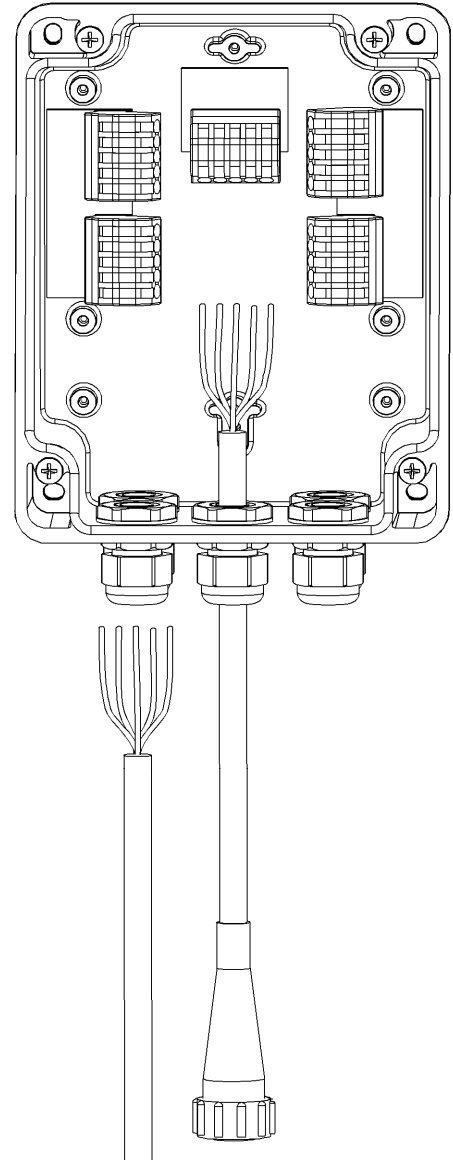
**FIGURE 8**

## JUNCTION BOX MOUNTING

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 on the front main hopper support.

### Connect Load Cell and 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. Remove each terminal block from the J-box.
4. Connect wires of the same color to the same terminal block. 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).*

Location of JD1720 John Deere/Orthman Mfg. planter J-Box

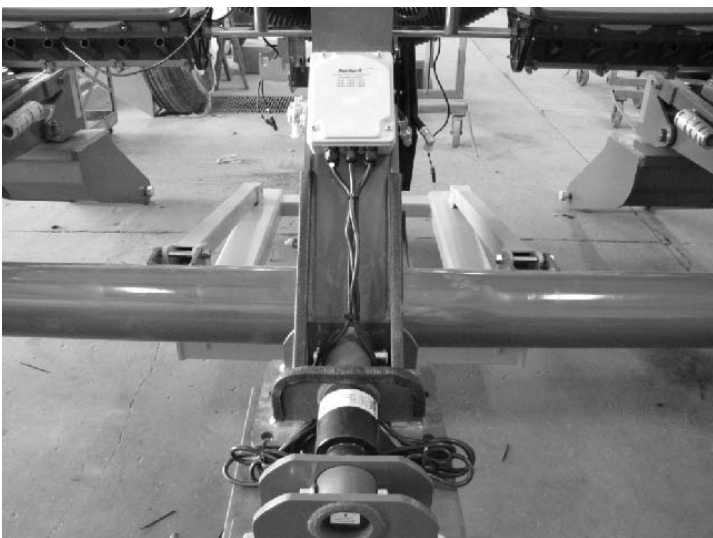


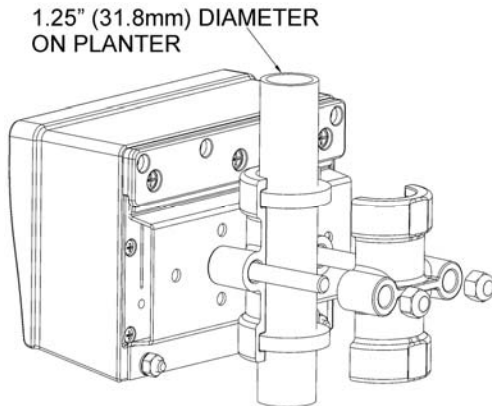
FIGURE 9

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

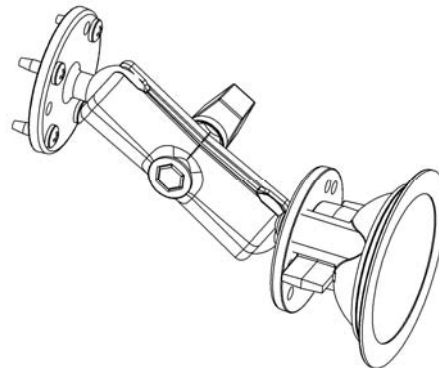
## INDICATOR MOUNTING

The scale indicator can be mounted in the tractor cab or on the drill, planter or seeder 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



PLANTER MOUNTING



TRACTOR CAB MOUNTING

1. Bolt the readout in the cab, or mount the swivel bracket on the drill, planter or seeder.
2. Install power cord to a 12-volt negative ground battery.
3. Route J-box cable to indicator and install to indicator bottom panel.
4. Program indicator with set-up #145035 and calibration #24200 for the John Deere/Orthman 1720 Series (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

### 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. Extension kits are available from your dealer in various lengths.

Load Cell Wire	Digi-Star	Function
1	RED	+EX
2	GREEN	-SIG
3	WHITE	+SIG
4	BLACK	-EX
5	CLEAR	SHIELD

## **TROUBLE SHOOTING**

### **How to Check the Drill Scale after Installation**

For the first test, lift the drill, planter or seeder all the way up, to a level area. Put 200-250 pounds of weight on the right side, then compare it to the left. Both sides should be within four to six pounds of each other.

- If the weight is not within the four to six pound range, inspect the scale system for loose or misalign mounts.

The second test is to lift the drill, planter or seeder to a level area and zero the scale. Lift the drill/planter/seeders up and down two to three times, checking to see if the scale zeros out. Each time the scale is in the up position, it should be within four to six pounds.

If further assistance is necessary, please call Digi-Star, LLC at 920-563-9700.

\*\*\*The example we are using is 2000 lbs of seed evenly filled in both hoppers. There is 25 lbs of seed left from the last fill.

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 1000 lbs of seed into the left hopper.

Push the "Stop" button, the readout now reads 1025 lbs of seed inventory.

Push the "Start" button again. The screen will say zero again. Load another 1000 lbs of seed into the right side.

Now push "Stop" and the screen will read 2025 lbs of seed. The numbers will work lower as the seed is planted.

# REPAIR PARTS

## 406957 Kit - Scale JD1720 30" or 38"/40" Row Spacing

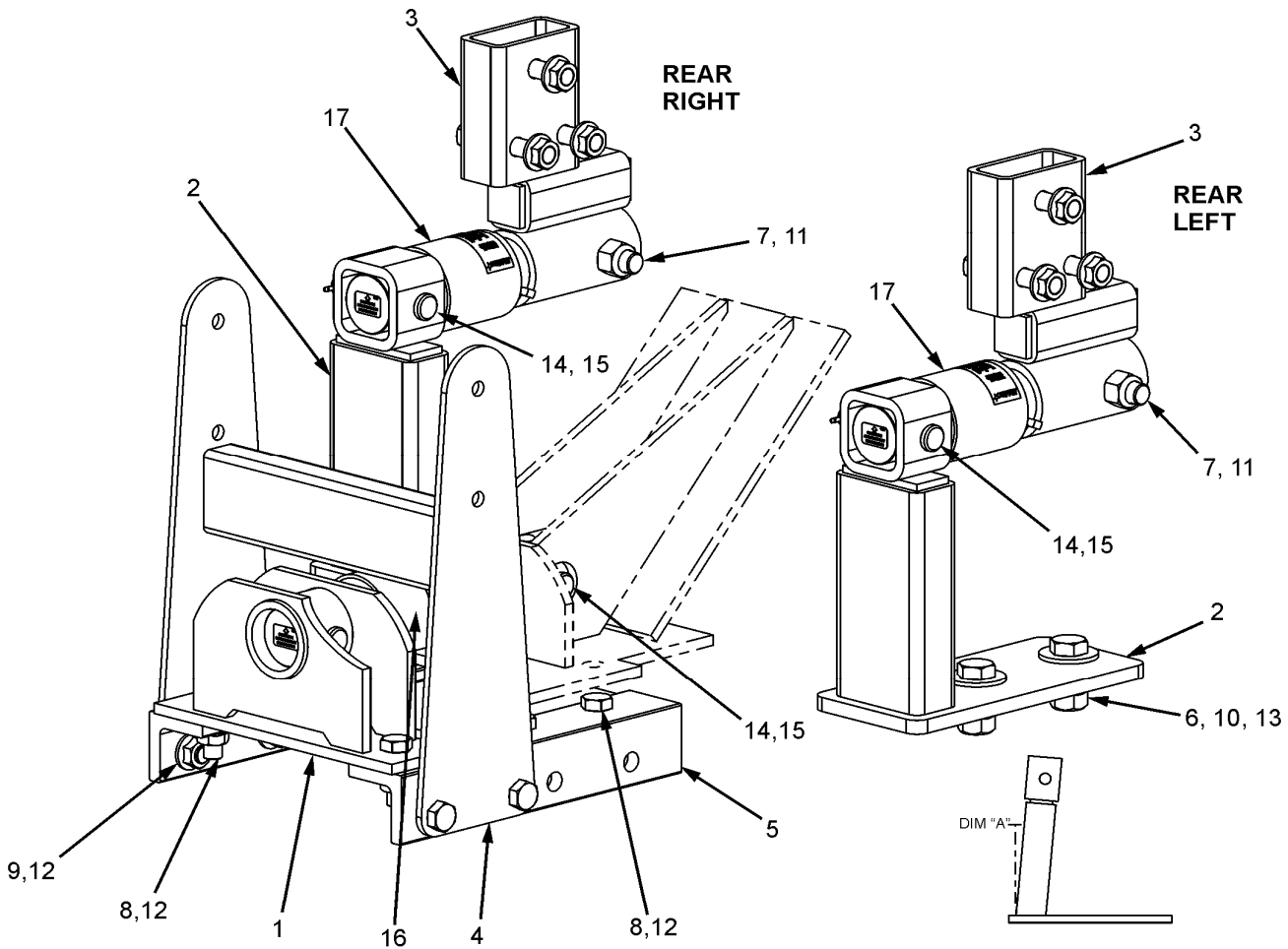
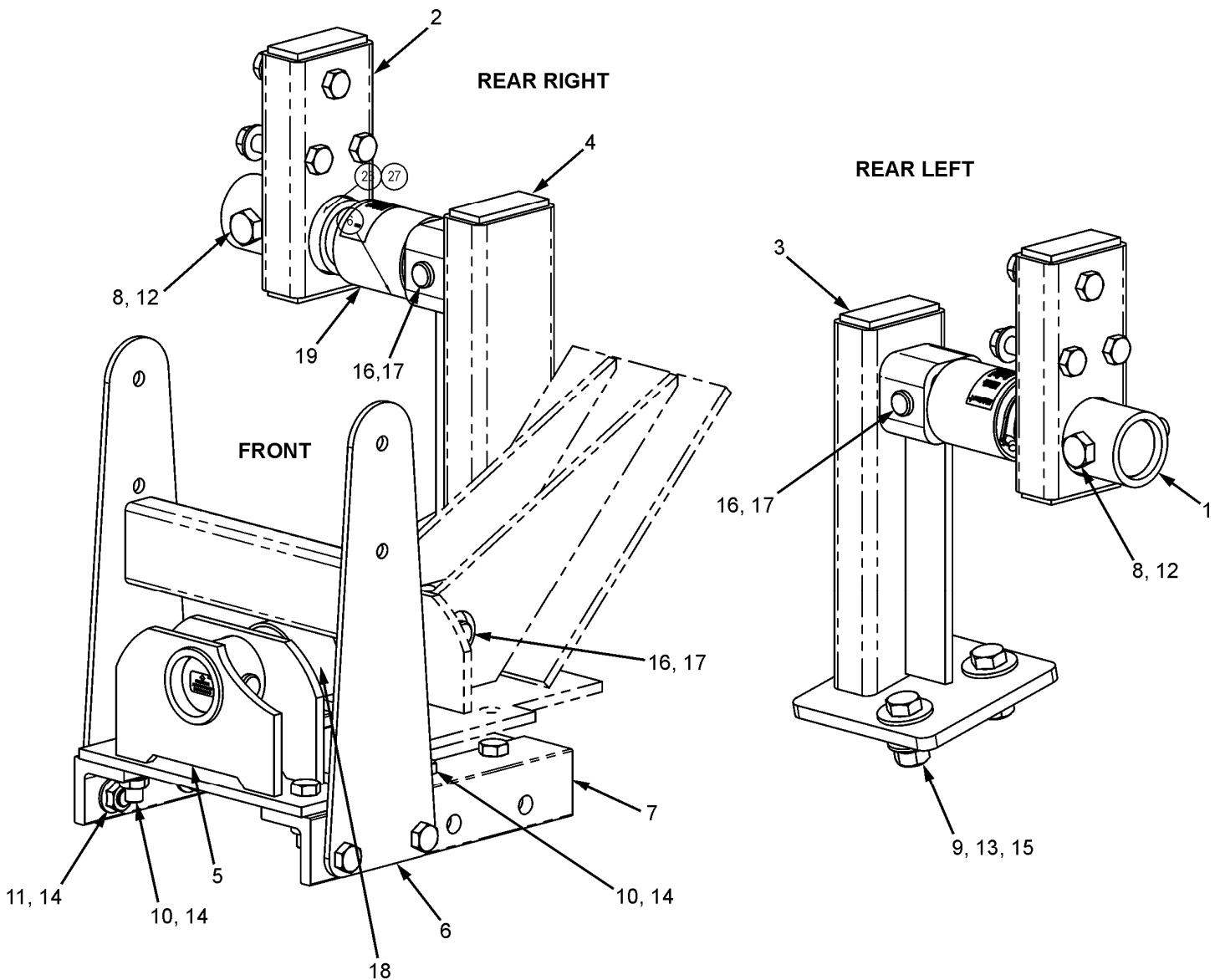


TABLE C REAR BOTTOM WELDMENT

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406955	WELD-REAR BOTTOM 0° (JD1720)	0°	JD1720 - 30" ROWS WITH 16.5L-16SL TIRES
406722	WELD-REAR BOTTOM 12° (JD1720)	12°	JD1720 - 38"/40" ROWS

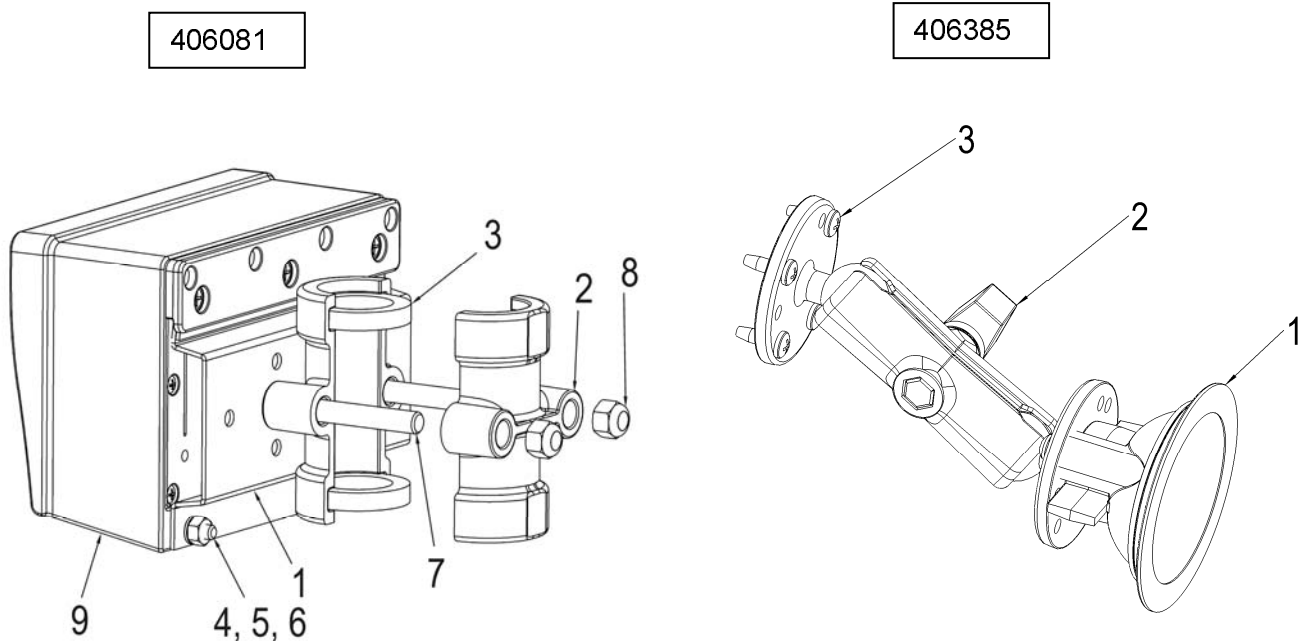
KEY	QTY.	PART NO.	DESCRIPTION	KEY	QTY.	PART NO.	DESCRIPTION
1	1	406492	Weld-Middle Brkt	9	4	406969	Scr-5/8-11x1.5 HHCS ZP GR5
2	2	406955	Weld-Rear Bottom 0° - 30"	10	4	405988	Nut-3/4-10 Top-Lock Flange ZP
	2	406500	Weld-Rear Bottom 5° - 30"	11	2	405921	Nut-3/4-10 Top Lock ZP
	2	406722	Weld-Rear Bottom 12° - 38"/40"	12	10	406070	Nut-5/8-11 Top-Lock Flange ZP
3	2	406495	Weld-Rear Top	13	4	405923	Wash-3/4 Flat ZP
4	1	406962	Weld-Hose Suppt	14	4	405897	Pin-Cotter 5/32x1.0 ZP
5	2	406499	Angle-Front Suppt	15	4	406148	Pin-Clevis 3/4x4.0 ZP
6	4	406301	Scr-3/4-10x2.0 HHCS ZP GR5	16	1	400525	Cell - 2.125 DB
7	2	405895	Scr-3/4-10x4.0 HHCS ZP GR5	17	2	140708	Cell - 2.125 DB 11.625LG
8	6	405896	Scr-5/8-11x2.0 HHCS ZP GR5				

**406678 Kit - Scale JD1720 22"/36" Row Spacing**



KEY	QTY.	PART NO.	DESCRIPTION	KEY	QTY.	PART NO.	DESCRIPTION
1	1	406688	Weld-Top Support LH	11	4	406969	Scr-5/8-11x1.5 HHCS ZP GR5
2	1	406632	Weld-Top Support RH	12	2	405921	Nut-3/4-10 Top-Lock ZP
3	1	406630	Weld-Bottom Support LH	13	4	405988	Nut-3/4-10 Top-Lock Flange ZP
4	1	406633	Weld-Bottom Support RH	14	10	406070	Nut-5/8-11 Top-Lock Flange ZP
5	1	406492	Weld-Middle Brkt	15	4	405923	Wash-3/4 Flat ZP
6	1	406962	Weld-Hose Suppt	16	4	406148	Pin-Clevis 3/4x4.0 ZP
7	2	406499	Angle-Front Suppt	17	4	405897	Pin-Cotter 5/32x1.0 ZP
8	2	405895	Scr-3/4-10x4.0 HHCS ZP GR5	18	1	400525	Cell - 2.125 DB
9	4	406301	Scr-3/4-10x2.0 HHCS ZP GR5	19	2	140708	Cell - 2.125 DB 11.625LG
10	6	405896	Scr-5/8-11x2.0 HHCS ZP GR5				

# INDICATOR SWIVEL MOUNT



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

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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.**