



**John Deere**  
**JD1770 12/16/24 Row CCS**  
**JD1770 Refuge Option**  
**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 1770 planter in 12, 16 and 24 rows.

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 11).

**!** 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.

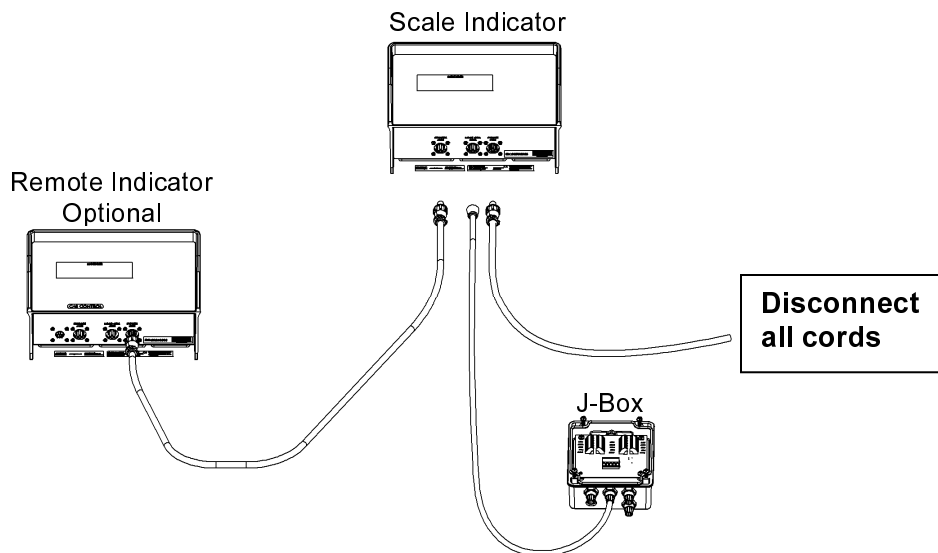
This supersedes all previous published instructions.

**!** **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.

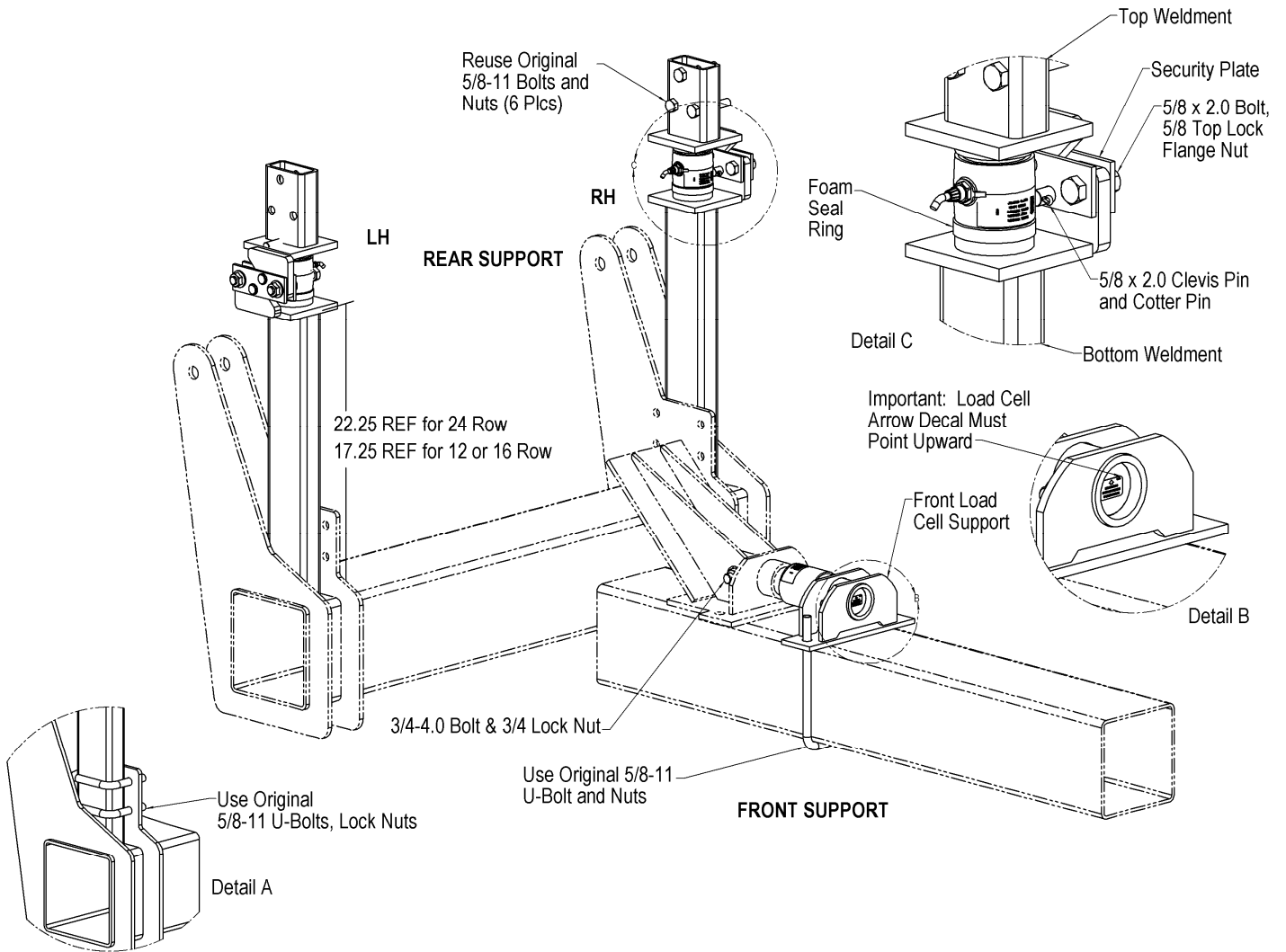
**Important:** Do not weld near indicator, load cells or cables; remove from area to be welded. Place ground close to area to be welded to prevent current from passing through electronic parts.



## SCALE BRACKET AND LOAD CELL MOUNTING INSTALLATION

1. With the planter wings folded in, lift one side of the hopper and remove the rear leg support.  
Important: The lifting chains, bucket attachment, loader/skid steer or winch must be capable of lifting and controlling 1000 lbs.





2. Assemble both the left/right hand rear leg assembly. Place the CT Load Cell between the top and bottom legs. Use the 5/8" x 2" bolts on the outside two holes of the security plates. On the center holes of the security plates, use the clevis pins to secure the plate. Tighten 5/8" bolts until the bolt is snug. See Detail C.
3. Replace the rear two legs with the new leg assembly. Install the new leg assembly with the scissor plates to the outside of the machine. Reuse the original 5/8-11 bolts, nuts and U-bolt for installing the top and bottom load cell weldments. After installing the new leg, loosen the lock nut on the bolts that hold the security plates together, so the bolts themselves can be turned by hand.
4. Front Mount Assembly: Remove the bolts to the front load cell bracket and frame. Lift front leg up 3/4" and install the weigh bar into the sleeve of the front leg. Use the 3/4" x 4" bolt and locknut.

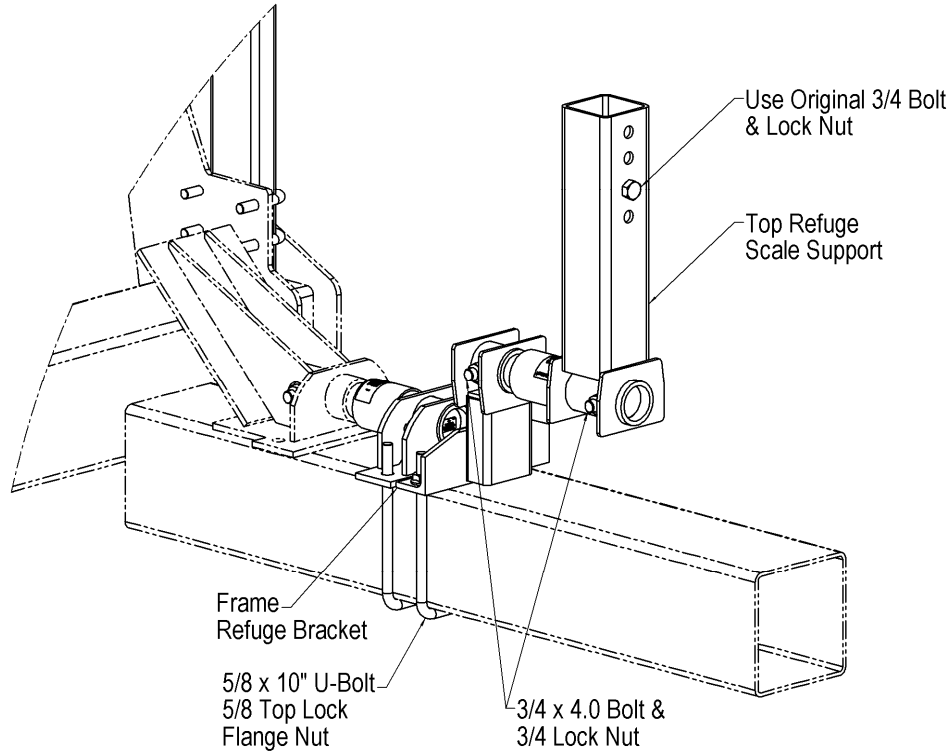
Note: It is important that the load cell arrow, located on the end of the load cell, must be pointed up.

Install the front load cell mount bracket by using the 3/4" x 4" bolt and locknuts.

Let the hopper down and use the existing bolts to hold the end bracket to the frame. Make sure you have clearance between the main bracket and the frame. The holes are slotted on the end bracket. You may need to adjust the bracket before tightening bolts.

## SCALE BRACKET AND LOAD CELL MOUNTING INSTALLATION FOR REFUGE HOPPER

A Refuge Option on a planter is a planter fitted with a third hopper located on the front of the planter. An extra load cell and brackets are required to weigh the extra third hopper.



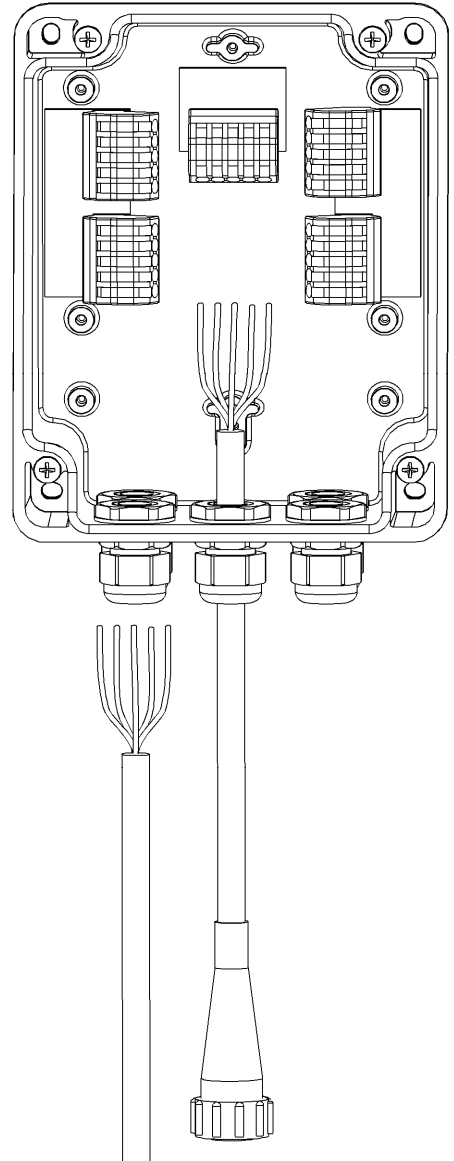
Remove the refuge hopper leg and bolt in the new top scale support. Reuse original 3/4 bolt and lock nut. Slide load cell into top support (Load cell arrow decal must point upward) and secure with 3/4 x 4.0 bolt and 3/4 lock nut. Mount frame refuge bracket and secure with 5/8 x 4.0 bolt and 5/8 lock nut. Bolt frame refuge bracket with 5/8 x 10" U-bolt, lock nuts. Use the 5" x 3/4" bolts to hold weigh bar in place. Bolt the top bracket to the frame with the 18" x 9-1/2" U-bolt.

## 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.

### 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 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.

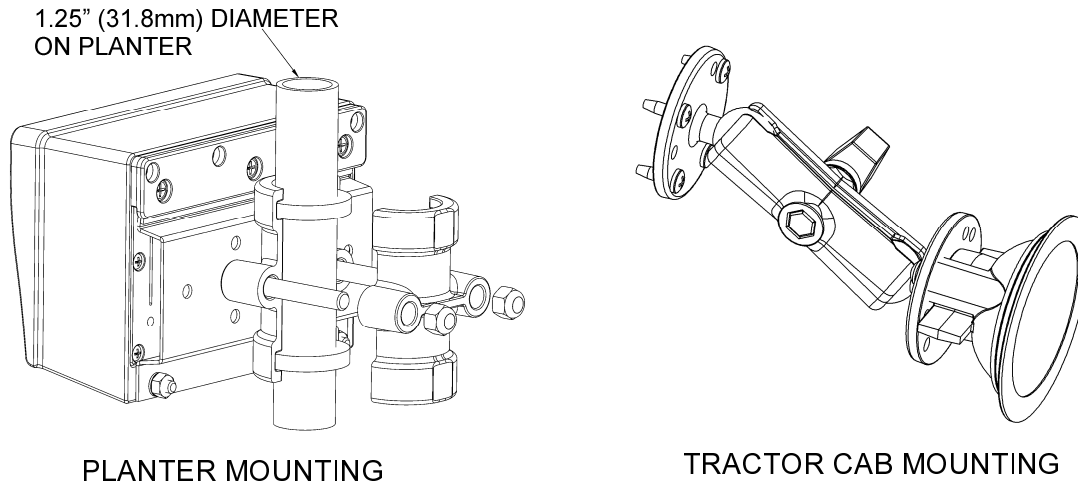
Note: Wire strip length is 7/16" (11mm).

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

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



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 1770, and set-up #145035 and calibration #32890 for the John Deere 1770 with Refuge Option (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/seeder 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.

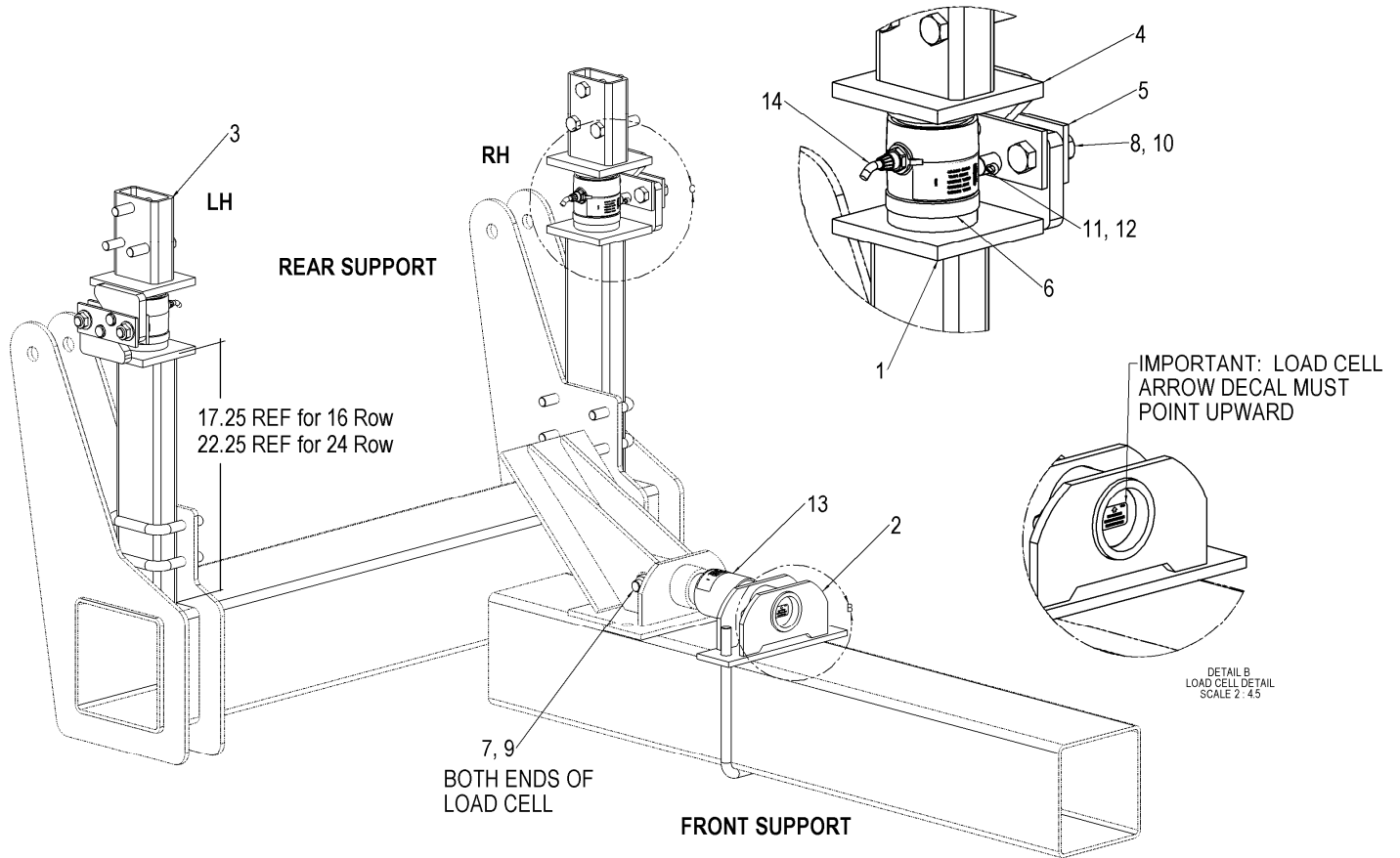
## REPAIR PARTS

**405933 Kit – Scale JD1770, 16 Row**

**405934 Kit – Scale JD1770, 16 Row, Indicator in Tractor Cab**

**406138 Kit – Scale JD1770, 24 Row**

**406139 Kit – Scale JD1770, 24 Row, Indicator in Tractor Cab**



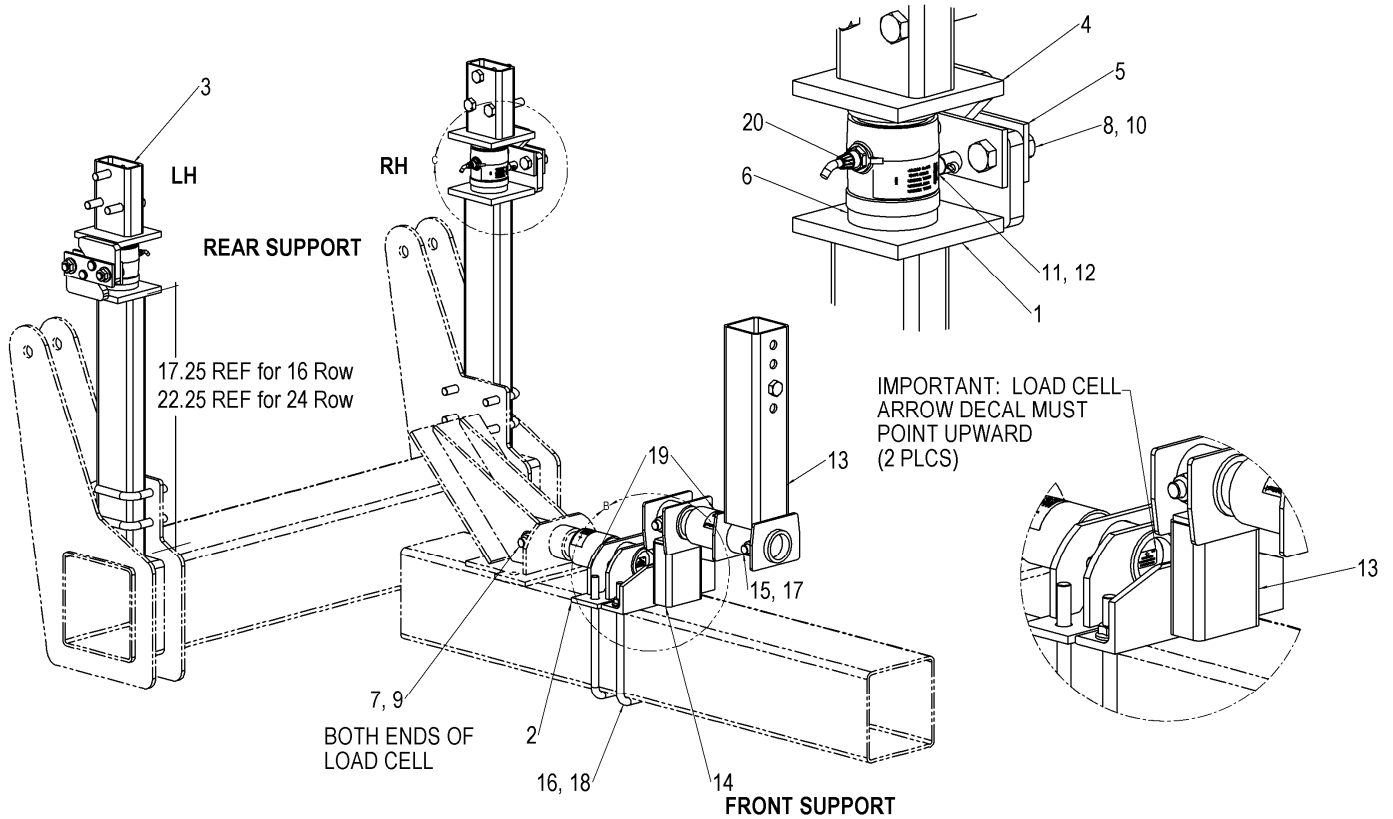
KEY	QTY.	PART NO.	DESCRIPTION
1	2	405931	Weld – Bottom Leg 16R (JD1770)
	2	405891	Weld – Bottom Leg 24R (JD1770)
2	1	405991	Weld – Middle Brkt (JD1770-03)
3	1	405887	Weld – LH Rear Leg (JD1770-01)
4	1	405888	Weld – RH Rear Leg (JD1770-06)
5	4	406040	Plate – CT Mount ZP
6	2	830409	Ring – Sealing 1/2" Sponge
7	2	405895	Scr – 3/4-10 x 5.0 HHCS ZP Grd 5
8	4	405896	Scr – 5/8-11 x 2.0 HHCS Zp Grd 5
9	2	405921	Nut – 3/4-10 Top Lock ZP
10	4	406070	Nut – 5/8-11 Top-Lock Flange ZP
11	4	404577	Pin – Clevis 5/8 x 2.0 ZP
12	4	405897	Pin – Cotter 5/32 x 1.0 ZP
13	1	400525	Cell – 2.125 DB
14	2	404172	Cell – CT 50KTC

**405935 Kit – Scale JD1770, 16 Row, Refuge**

**405936 Kit – Scale JD1770, 16 Row, Refuge, Indicator in Tractor Cab**

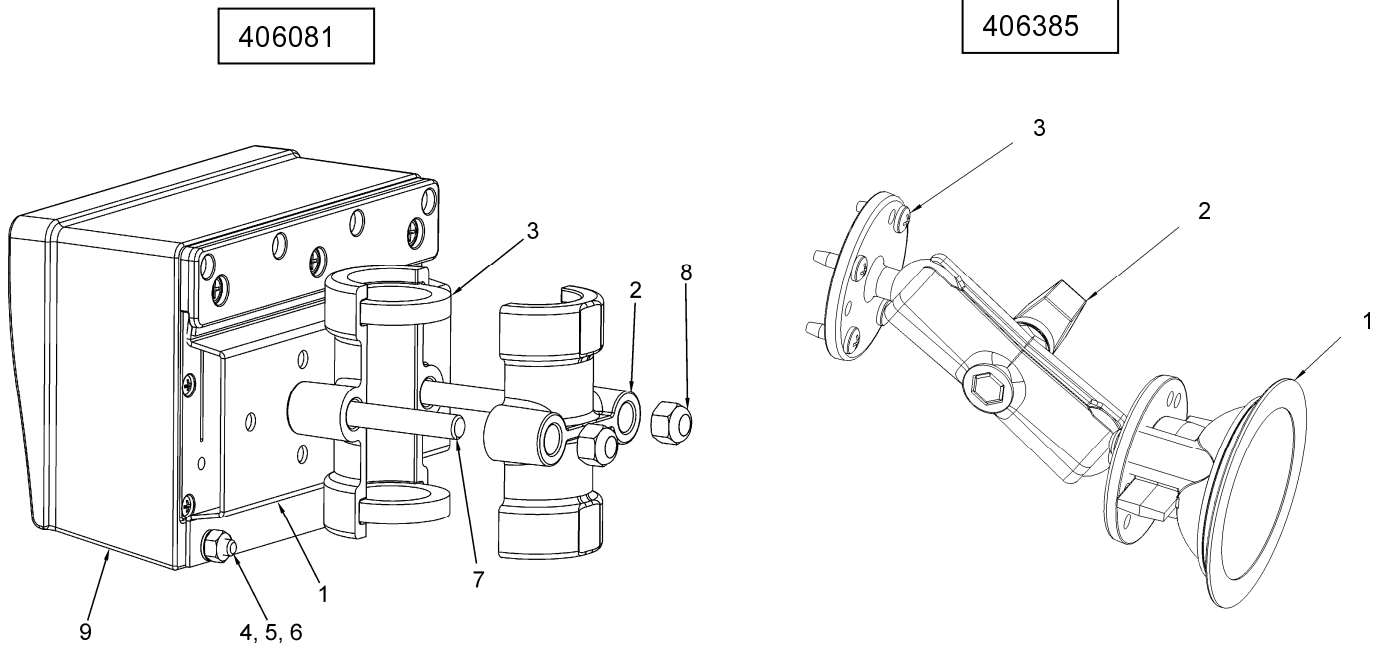
**406136 Kit – Scale JD1770, 24 Row, Refuge**

**406137 Kit – Scale JD1770, 24 Row, Refuge, Indicator in Tractor Cab**



KEY	QTY.	PART NO.	DESCRIPTION
1	2	405931	Weld – Bottom Leg 16R (JD1770)
	2	405891	Weld – Bottom Leg 24R (JD1770)
2	1	405991	Weld – Middle Brkt (JD1770-03)
3	1	405887	Weld – LH Rear Leg (JD1770-01)
4	1	405888	Weld – RH Rear Leg (JD1770-06)
5	4	406040	Plate – CT Mount ZP
6	2	830409	Ring – Sealing 1/2" Sponge
7	2	405895	Scr – 3/4-10 x 4.0 HHCS ZP Grd 5
8	4	405896	Scr – 5/8-11 x 2.0 HHCS Zp Grd 5
9	2	405921	Nut – 3/4-10 Top Lock ZP
10	4	406070	Nut – 5/8-11 Top-Lock Flange ZP
11	4	404577	Pin – Clevis 5/8 x 2.0 ZP
12	4	405897	Pin – Cotter 5/32 x 1.0 ZP
13	1	406011	Weld – Leg Brkt (JDR-02)
14	1	406026	Weld – Middle Brkt (JDR-01)
15	2	405895	Scr – 3/4-10 x 4.0 HHCS ZP Grd 5
16	1	406025	Bolt-U 5/8-11 x 8.75W x 10.0L Grd 8 ZP
17	2	405921	Nut – 3/4-10 Top Lock ZP
18	2	406070	Nut – 5/8-11 Top-Lock Flange ZP
19	2	400525	Cell – 2.125 DB
20	2	404172	Cell – CT 50KTC – 30'

**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

## 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.**

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- 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.
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- 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.
- 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.
- 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.
- 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.
- 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.**