



JOHN DEERE 4930-4940

Scale System

Installation Instructions

And

Repair Parts



Anamosa, Iowa USA

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INTRODUCTION

Congratulations on the purchase of your new scale system for your John Deere 4930/4940 Dry Applicator. This scale system is specifically designed to weigh the New Leader box on a 4930/4940 granular applicator. The scale system can be used to keep inventory of product and make in field calibration adjustments.



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.

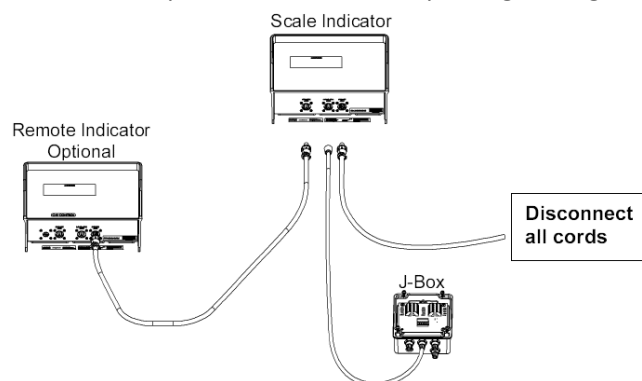


IMPORTANT!

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

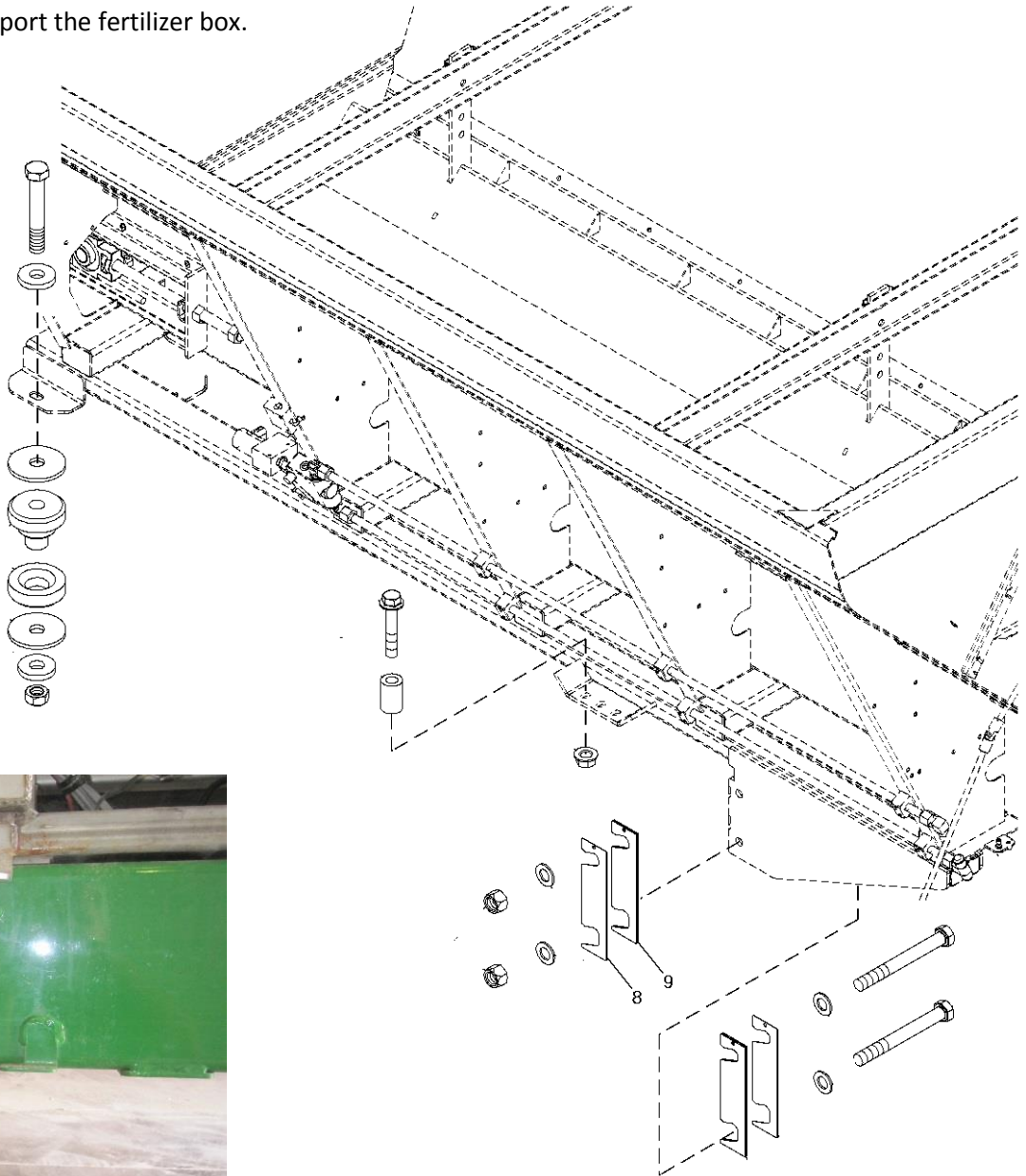
Scale Installation

The John Deere 4930/4940 Fertilizer Spreader Scale kit consists of mounting six load cells, a junction box and a scale indicator to support the fertilizer box.

Spreader Box Removal

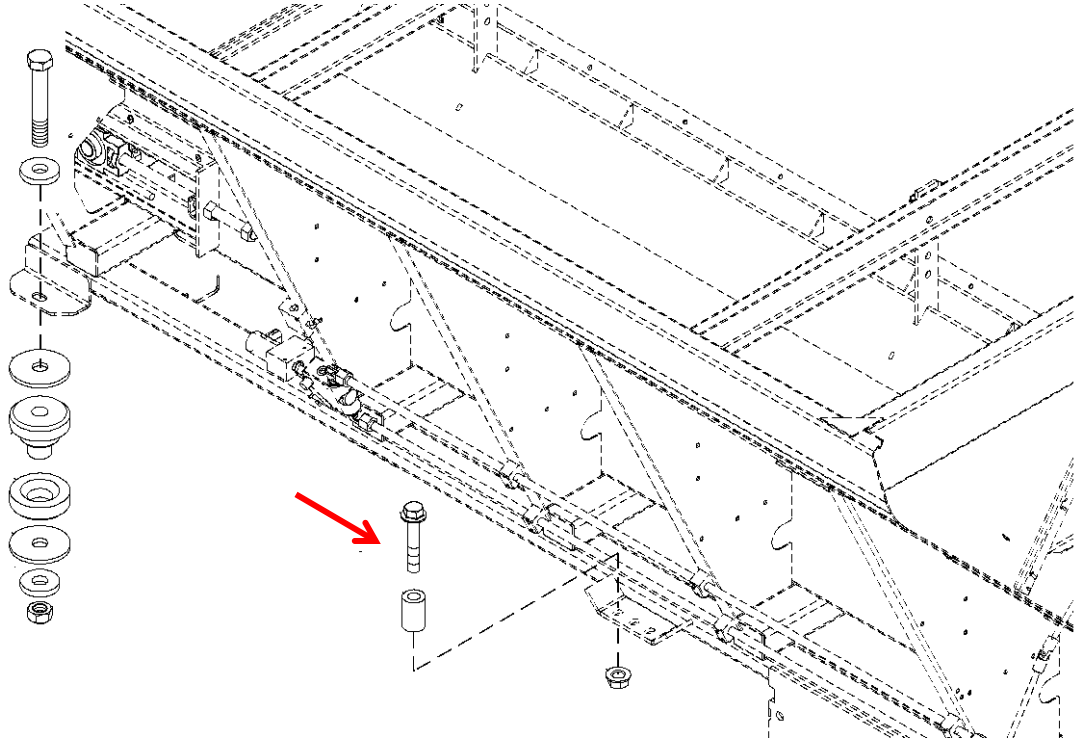


IMPORTANT: After removing the forward mounting points, a ratchet strap shall be installed to secure the front end of the box to the frame. Failure to strap the box down during removal of hardware may cause a crushing hazard due to an unbalanced weight ratio, as the rear end of the spreader box is heavier than the forward portion. Refer to photo below for proper position of the ratchet strap.

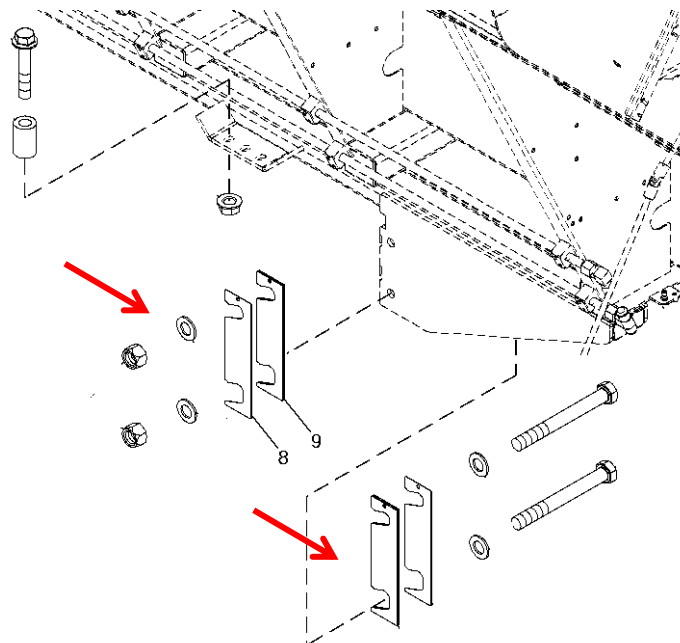


1. Remove forward left and forward right hardware and rubber mounts. Put these two bolts and shock mounts in a container for safe keeping.

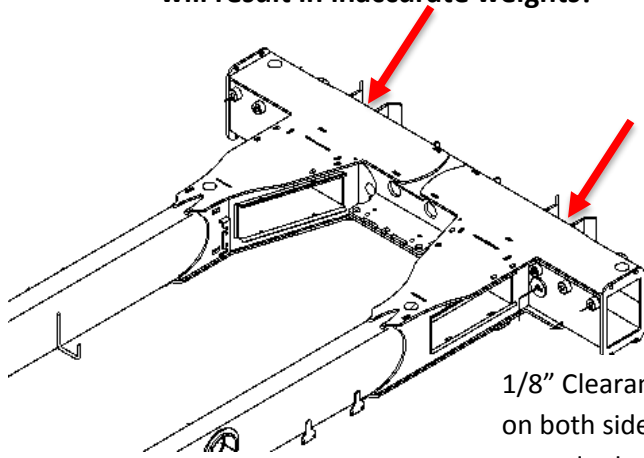
2. Remove the two bolts securing the center. It will be necessary to retain one of these bolts for re-installation in a later step. Remove the hardware on both the left center and right center locations. Keep remainder hardware for safe keeping.



3. Remove the hardware and retaining plates that secures the rear portion of the spreader box to the frame of the 4930/4940. It will be necessary to remove both the hardware and the plates.



1. Ensure the spreader box is not binding on the rear gussets. Failure to have clearance will result in inaccurate weights!



1/8" Clearance needed on both sides of spreader hopper leg.



NOTE: Utilize a porta-power and a small ram to spread the rear gussets apart, ensuring proper spacing to allow the spreader box to freely float and to not contact the gussets during operation.



2. Slide spreader box to the rear an 1 1/2" by utilizing a pry bar between the rear frame of the implement and the spreader box frame. Refer to the photo below left for proper use of pry bar location (This applies to both left and right sides). The spreader box will need to be moved rearward until the condition in the photo to the below right is shown.

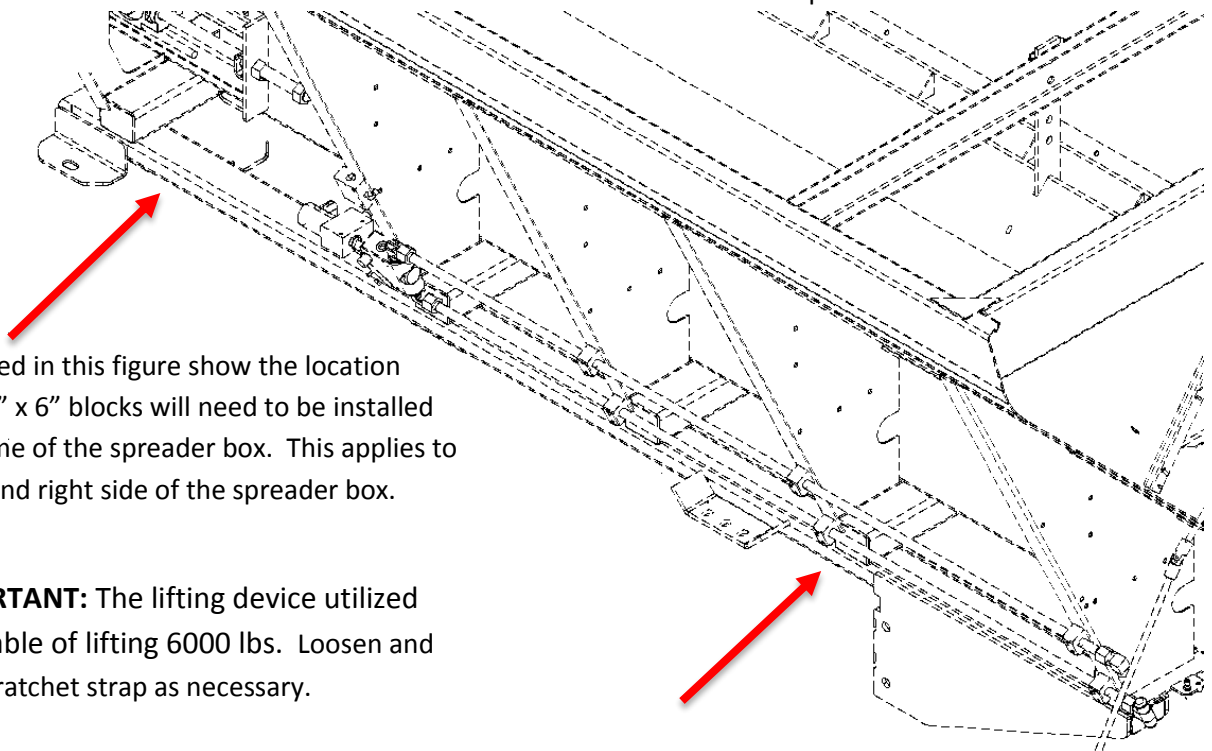


The box must be moved to the rear. The proper position is shown so the front of the hole on the spreader box is lined up with the rear of the hole on the axle gusset.

IMPORTANT: After rear shims are removed and the hopper is lowered, check clearance between the rear mounts of the spreader hopper and the rear chassis mount gussets. **It is necessary to have an 1/8" clearance between the hopper and the chassis gussets.** Typically the two inside gussets on the chassis need to be bent/moved inward.

Lifting and Blocking the Spreader Box

It will be necessary to raise the height of the spreader box to the frame to install the bracketing and load Cells. It is necessary to start at the rear of the spreader and work your way forward when raising the spreader box. Four 1.5" x 6" wooden blocks will be utilized to block the box in place.



Arrows depicted in this figure show the location where the 1.5" x 6" blocks will need to be installed under the frame of the spreader box. This applies to both the left and right side of the spreader box.



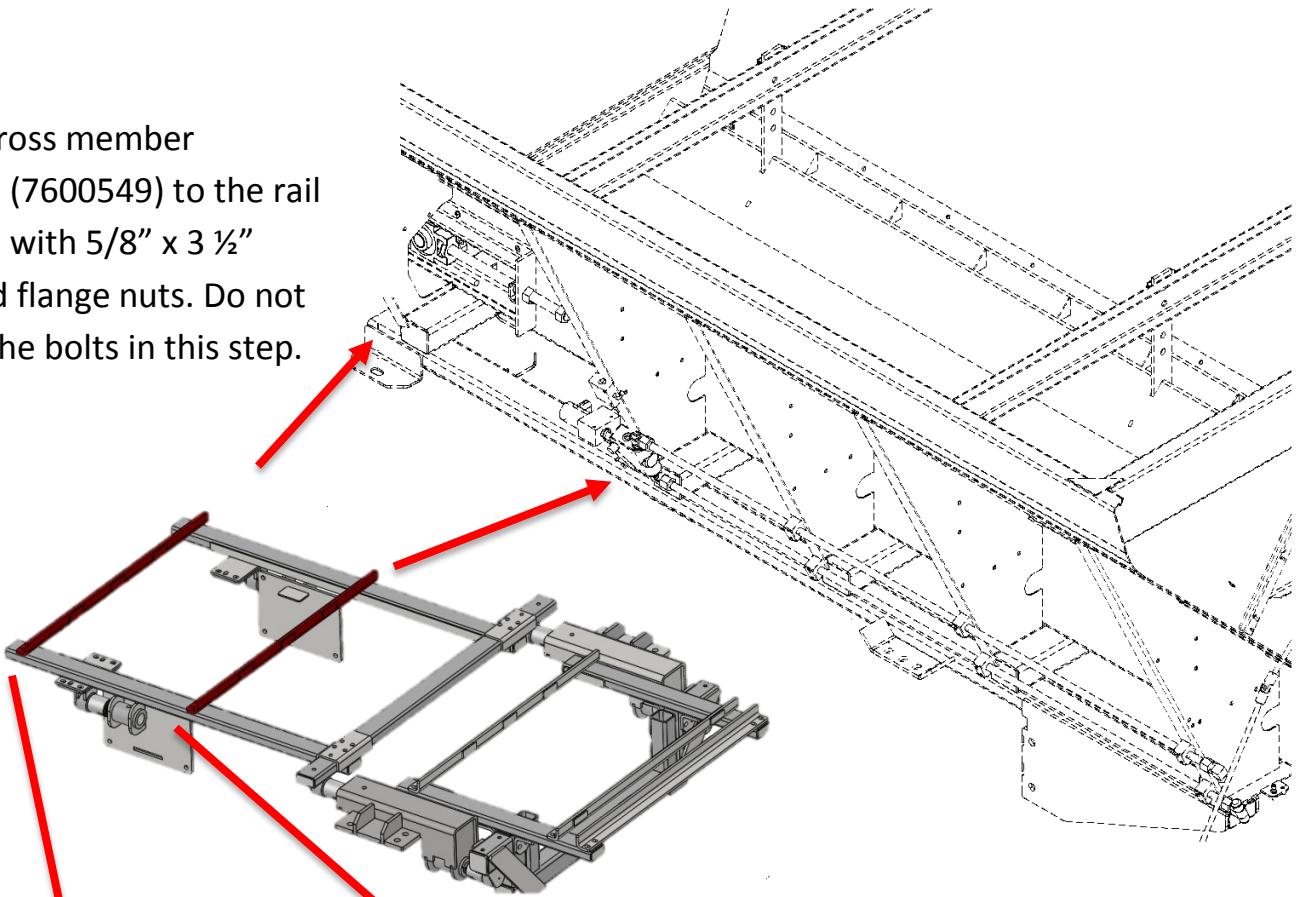
IMPORTANT: The lifting device utilized must be capable of lifting 6000 lbs. Loosen and retighten the ratchet strap as necessary.

Installation of Load Cells

1. Install two cross member supports (7600549) over the top of the front left and right frame rail supports (7600542 and 7600543). These cross members will be positioned over the top of the main frame support of the spreader box and in front of the front cross support on the spreader box, as well as in front of the second cross member on the spreader box (Refer to figure below).

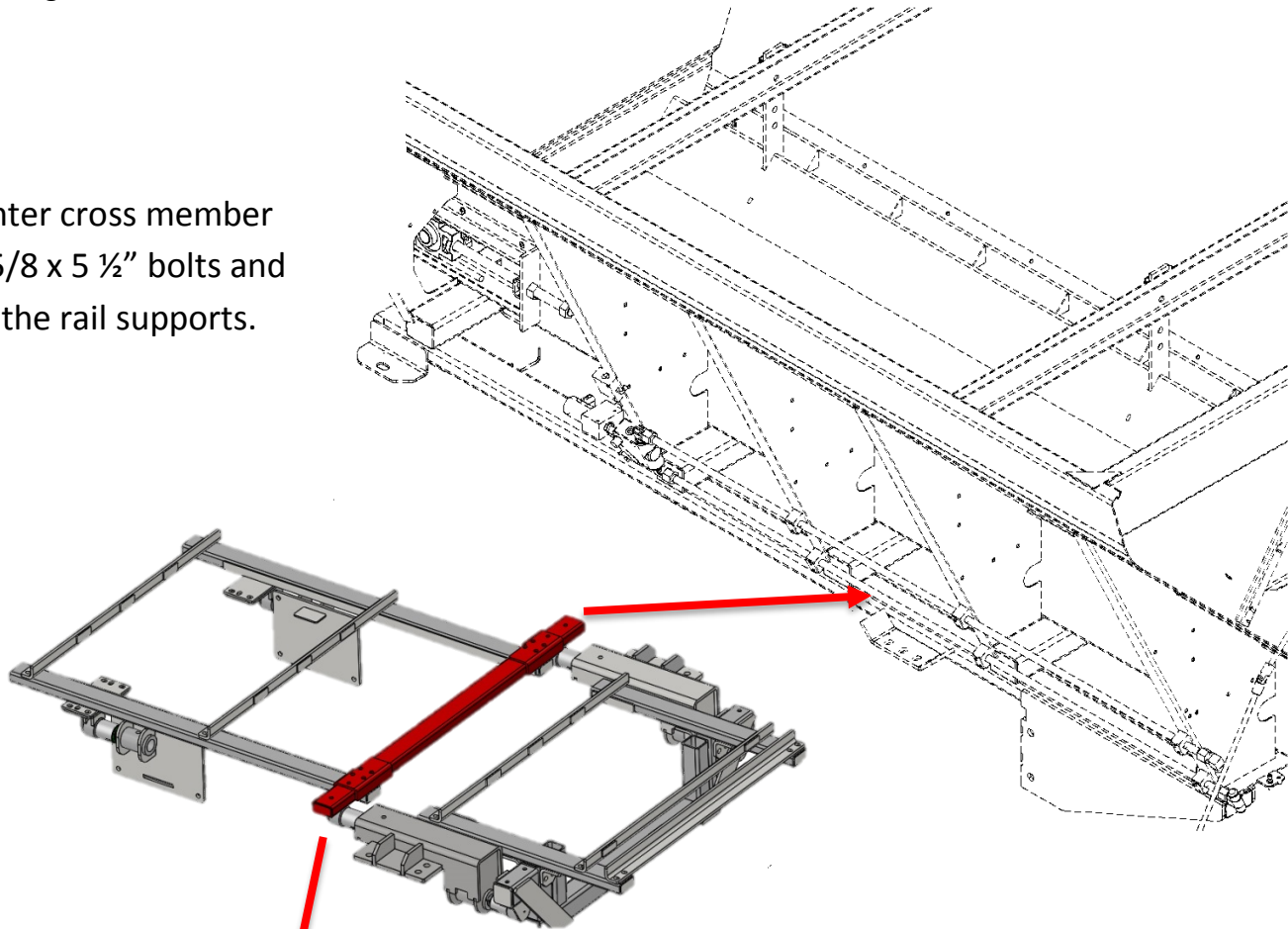
2. Secure the cross member supports to the rail supports. The rail supports will be installed adjacent to the main frame support with the “welded plate” on the bottom positioned toward the front of the spreader box and the long portion of the plate toward the center of the box.

Secure cross member supports (7600549) to the rail supports with 5/8” x 3 1/2” bolts and flange nuts. Do not tighten the bolts in this step.

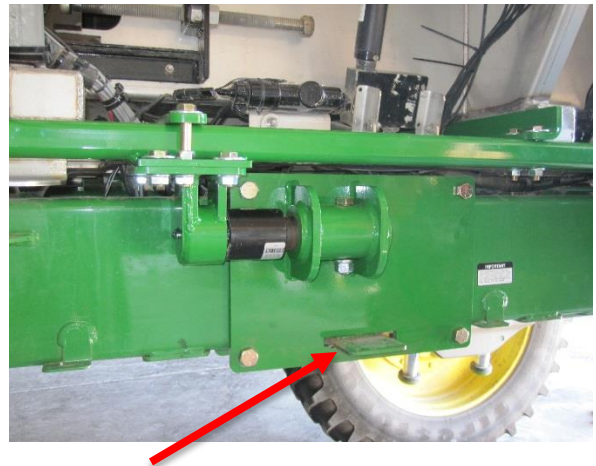
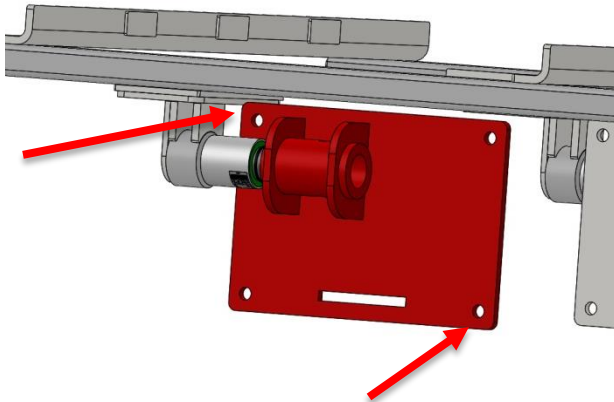


3. Install the third cross member (7600536). This cross member needs to be installed to the rear of the center lateral support on the spreader box. The notched portion of the reinforcement plate shall be installed facing the front of the spreader box (NOTE: the tubing must be flush with the span of the spreader box cross member).

Secure the center cross member support with 5/8 x 5 1/2" bolts and flange nuts to the rail supports.



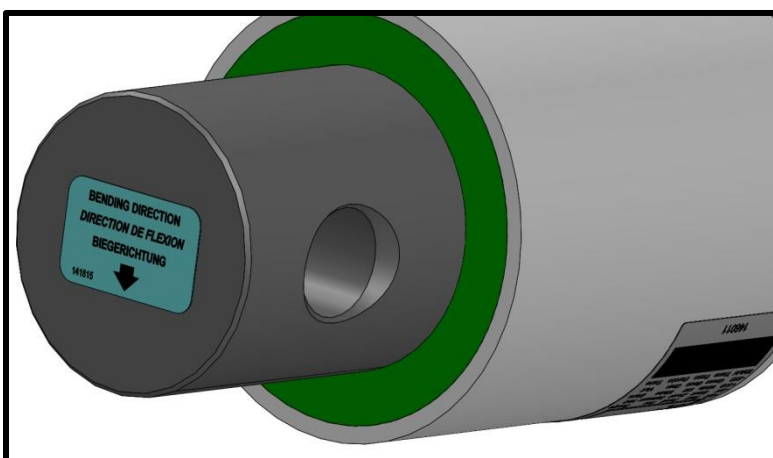
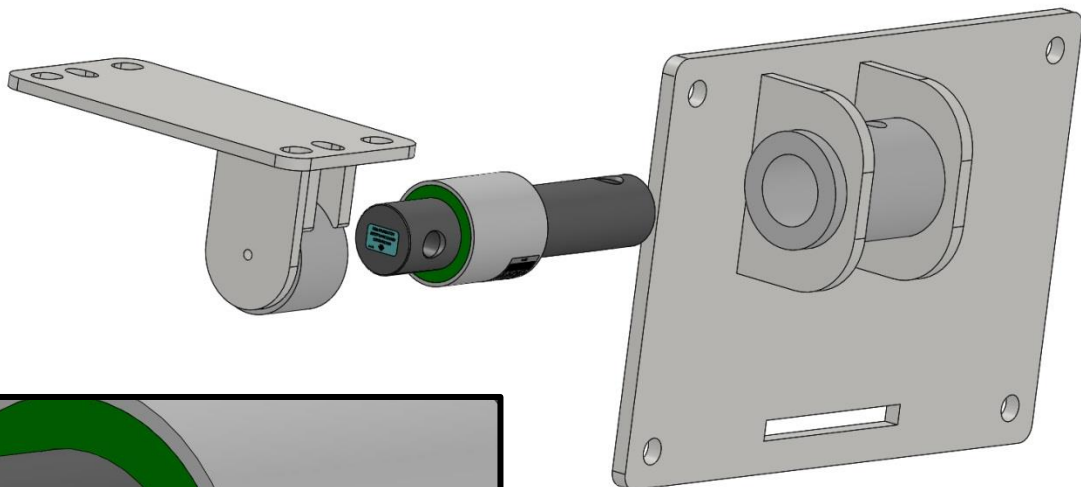
4. Install the left side base frame bracket (7600502) utilizing four of the (3/4 x 6 1/2" 4930) or 3/4" x 8 1/2" 4940) bolts and hardware. The left side base frame bracket is secured to the frame with the use of the strap brackets (9100266).



NOTE: For 4930 installations, utilize bushings on front top and bottom rear bolts for a tight fit to the frame of the chassis. **For 4940 installation utilize the inside holes with no bushings installed.**

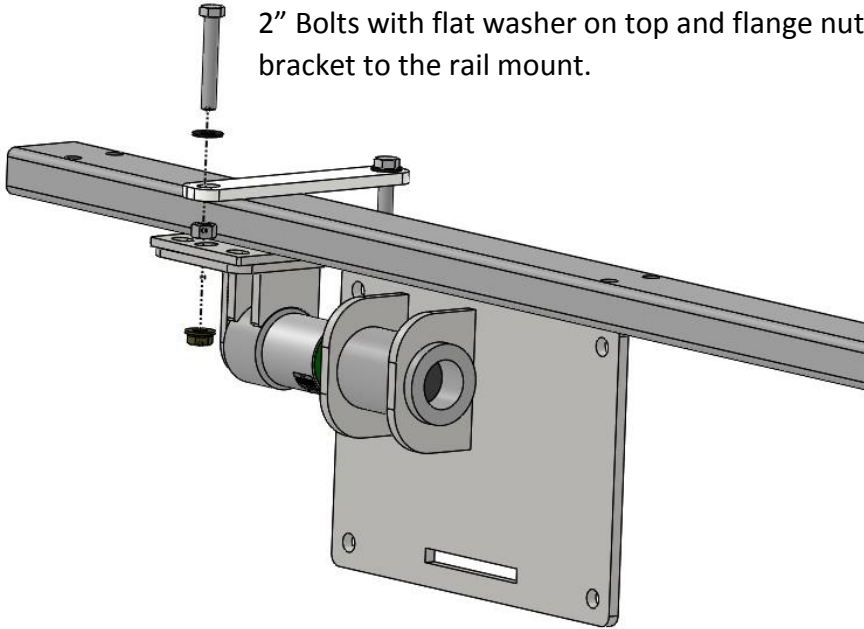
The left side bracket is slotted to allow for installation over the top of a tab on the frame of the implement.

5. Install the load cell (400061) into the sleeve of the left side base bracket. Secure the loadcell to the base bracket with a 3/4" x 4 1/2" bolt and hardware. Apply a good amount of anti-seeze to the load cell prior to installing it in the sleeve of the base bracket.

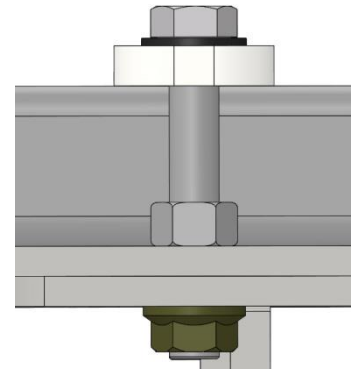


IMPORTANT: The load cell must be installed with the arrow sticker pointing down!

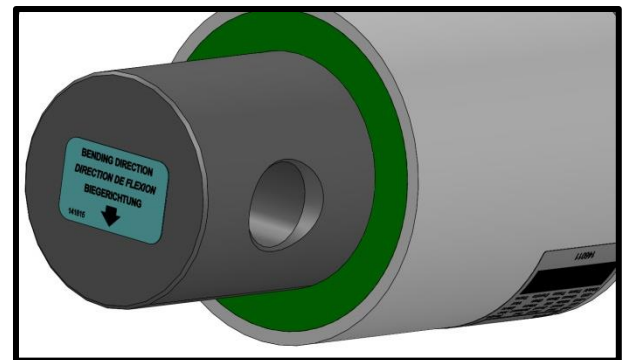
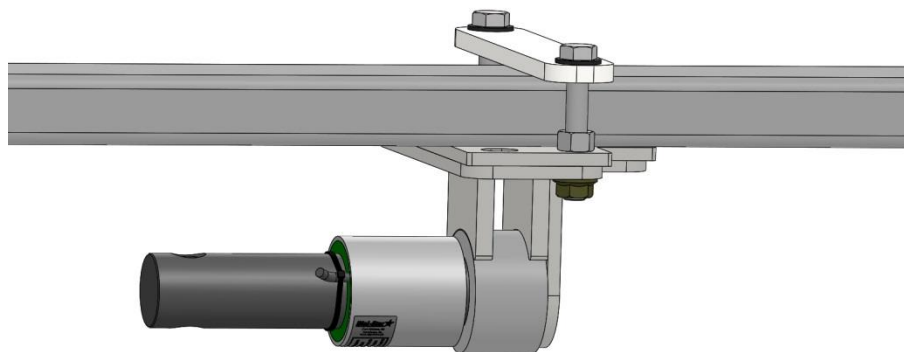
- Install the left side top bracket (7600514) onto the load cell (400061), securing it to the load cell with a $\frac{3}{4}$ x 4 $\frac{1}{2}$ " bolt and lock nut. Utilizing the strap plate (9100264) and a full threaded 5/8" x 4" bolt, secure the left side top bracket to the rail mount. It will be necessary to secure it first with the strap plate to allow for alignment of the remaining holes on the bracket. Once alignment is achieved, install the remaining hardware (5/8 x 2" Bolts with flat washer on top and flange nut on the bottom) to secure the top bracket to the rail mount.



Secure the top load cell bracket to the frame with a full threaded 5/8 x 4" bolt with a washer on top, a jam nut secured in center and a 5/8 flange nut on the bottom.



- Install the right side top bracket (7600511) onto the right side top rail mount. (NOTE: Installation of the right side will start at the top bracket, whereas the left side started at the base bracket). Again, utilize the strap plate (9100264) and a full threaded 5/8" x 4" bolt to secure the left side top bracket to the rail mount. Keep the hardware loose as minor adjustments may have to be made for alignment.

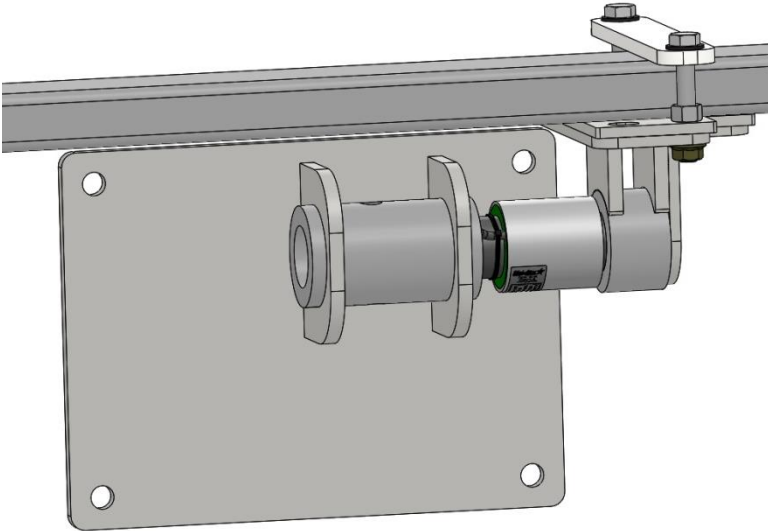


- Install the load cell (400061) into the sleeve of the top bracket and ensure the arrow sticker is pointing down.



IMPORTANT: The load cell must be installed with the arrow sticker pointing down!

9. Install the right side base bracket (7600498) onto the load cell, securing it to the load cell with a $\frac{3}{4}$ x 4 $\frac{1}{2}$ " Bolt and Lock Nut. Secure the right side base bracket to the frame with the two strap brackets (9100266) and four ($\frac{3}{4}$ x 6 $\frac{1}{2}$ " 4930) or ($\frac{3}{4}$ " x 8 $\frac{1}{2}$ " 4940) bolts and hardware. Tighten four bolts so the top of the bracket is level with the frame.

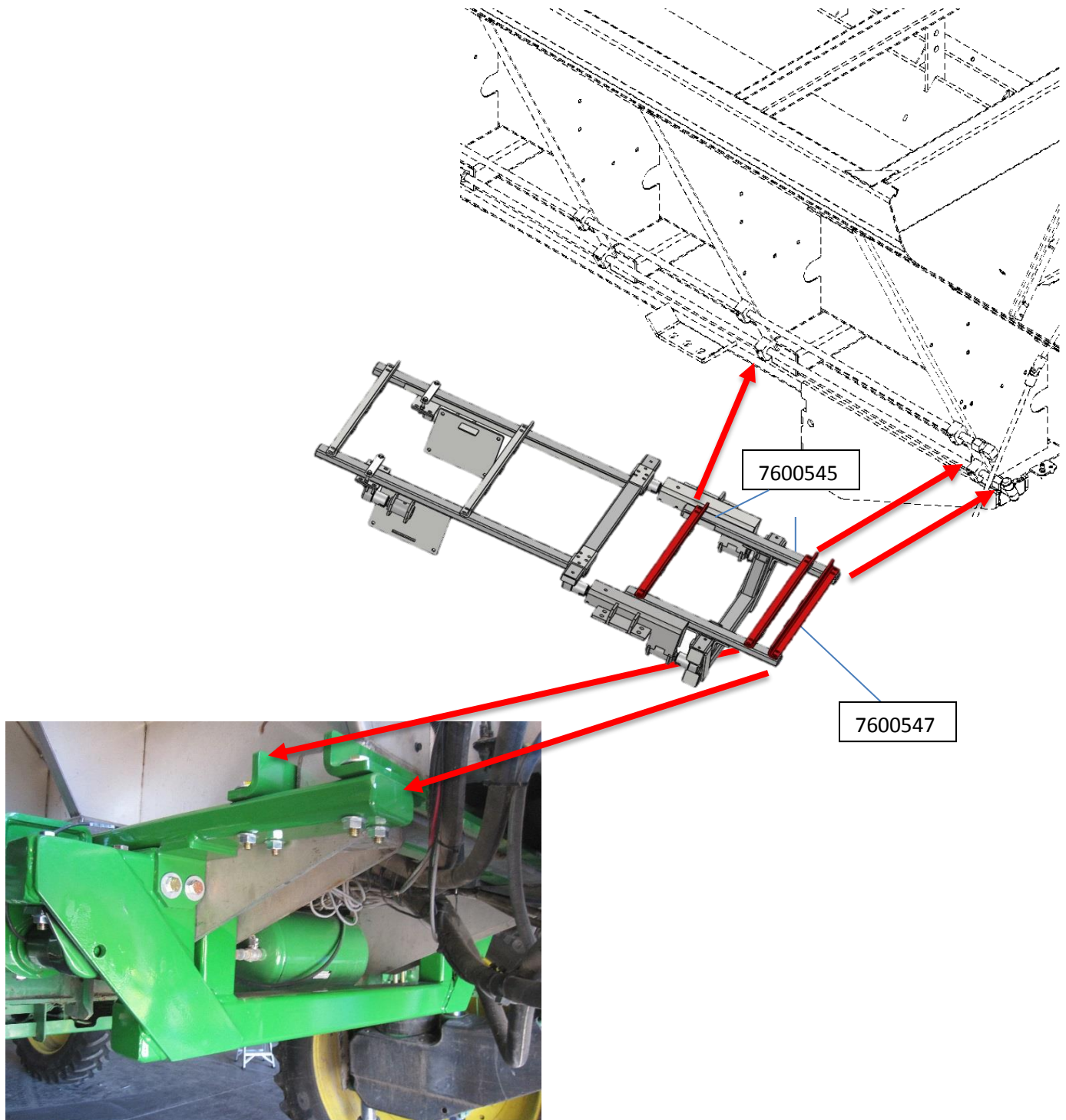


NOTE: For the 4930 install spacers on the front top and bottom rear bolts to ensure tight fit to the frame. **For 4940 installation utilize the inside holes with no bushings installed.**

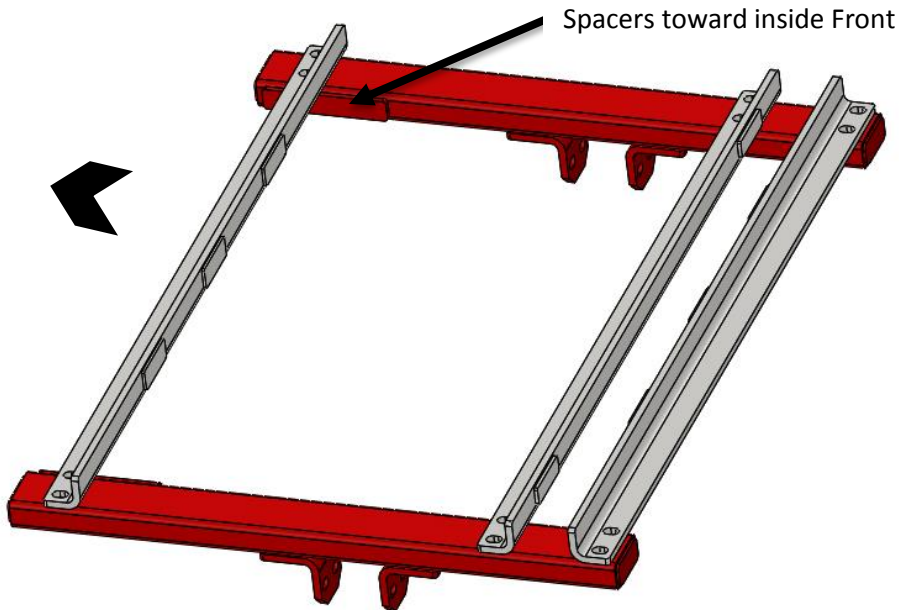
NOTE: It may be necessary to adjust a hydraulic line mount in order to correctly install the strap bracket to secure the right side base mount.

Rear Subframe and Load Cell Mounting

1. Position the rear cross member support (7600545) to the front of the second to last cross member and the front of the last cross member of the spreader box. Position the rear cross member support (7600547) to the rear of the last cross member support of the spreader box. See the depiction below for proper placement.

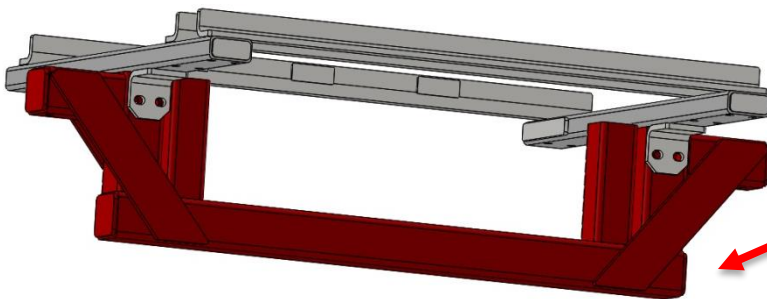


2. Install the rear left (7600550) and right (7600548) rail mounts. It is important that the gussets on the rail mount be facing the ground, and that they are positioned toward the rear of the spreader box. The spacers that are welded to the rail mounts should be facing toward the inside the front.



Secure cross member supports with 5/8 x 3 1/2" bolts and flange nuts to the rear rail supports. Do not tighten.

3. Install the rear support and secure it to the gussets on the rear rail supports.



NOTE: Lift the bottom support bracket and tighten bolts after blocks are removed.

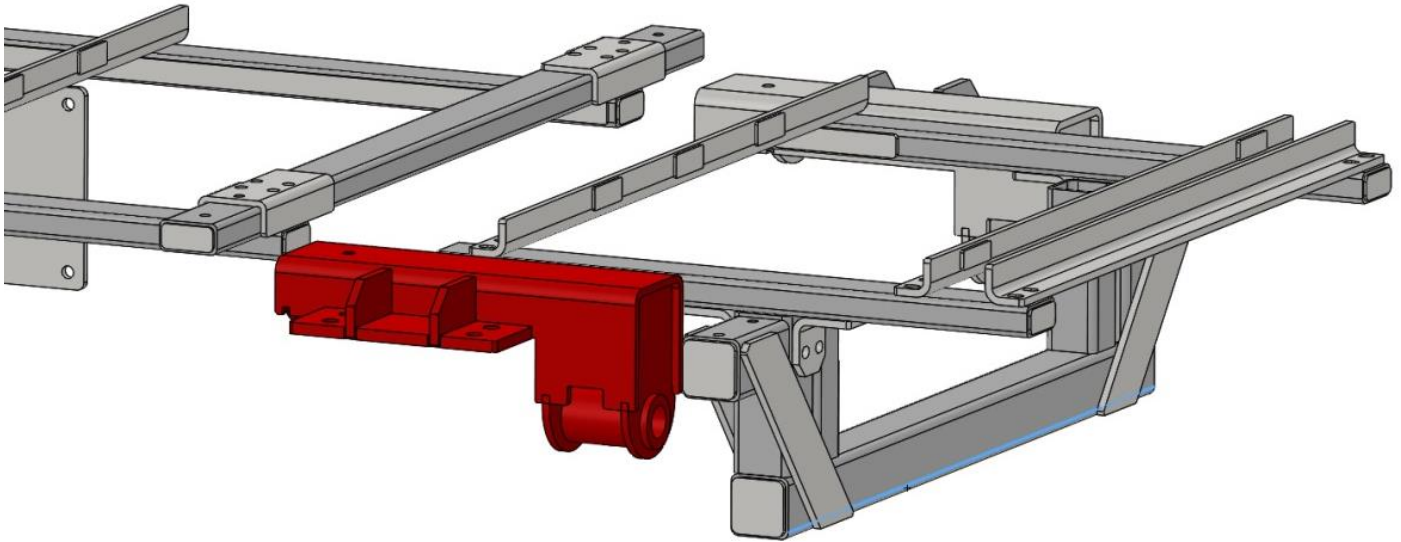
Secure cross member supports with 5/8 x 6" bolts, flat washers and flange nuts to the rear rail supports.

Slide the rail supports to the rear as much as possible. Ensure the cross member supports are fitting tight to the cross member supports on the spreader box.

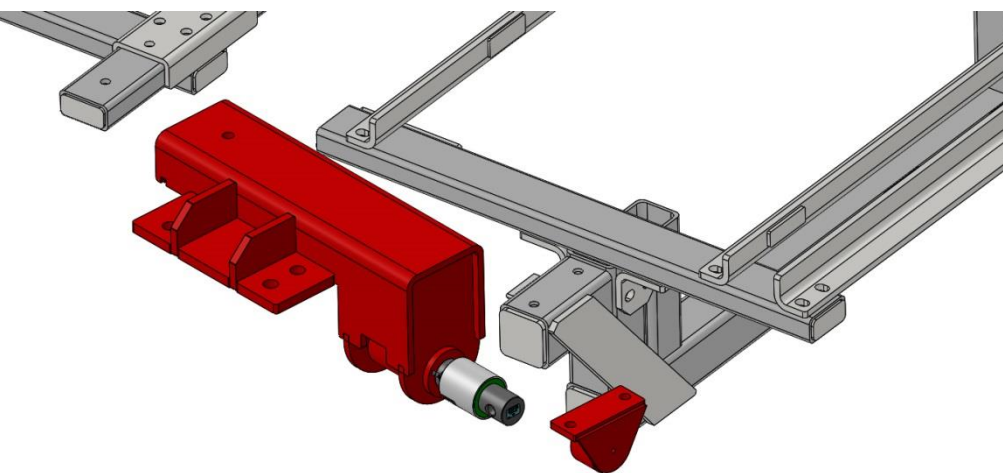
Leave the hardware loose to make adjustment.



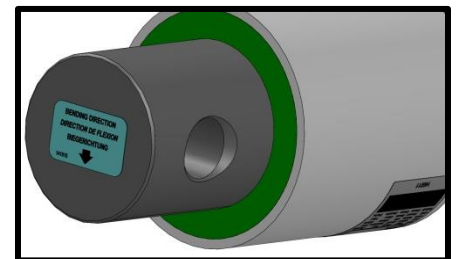
- Position the left axle bracket over the top of the axle frame of the implement. The correct position of the axle bracket will be with the large gusset toward the rear of the spreader box, and the sleeve facing the ground. **⚠ IMPORTANT:** Do not attach hardware in this step to secure the axle bracket to the frame of the implement. It is necessary to keep this unsecure for alignment purposes.



- Install the rear load cell (400061) into the sleeve of the left axle bracket. Secure the load cell with a $\frac{3}{4}$ " x $4\frac{1}{2}$ " bolt and hardware.
- Install the top load cell bracket onto the load cell. It may be necessary to rotate the rear portion of the axle bracket toward the tire in order to install the top load cell bracket. After rotating the axle bracket back into position, secure the top load cell bracket.

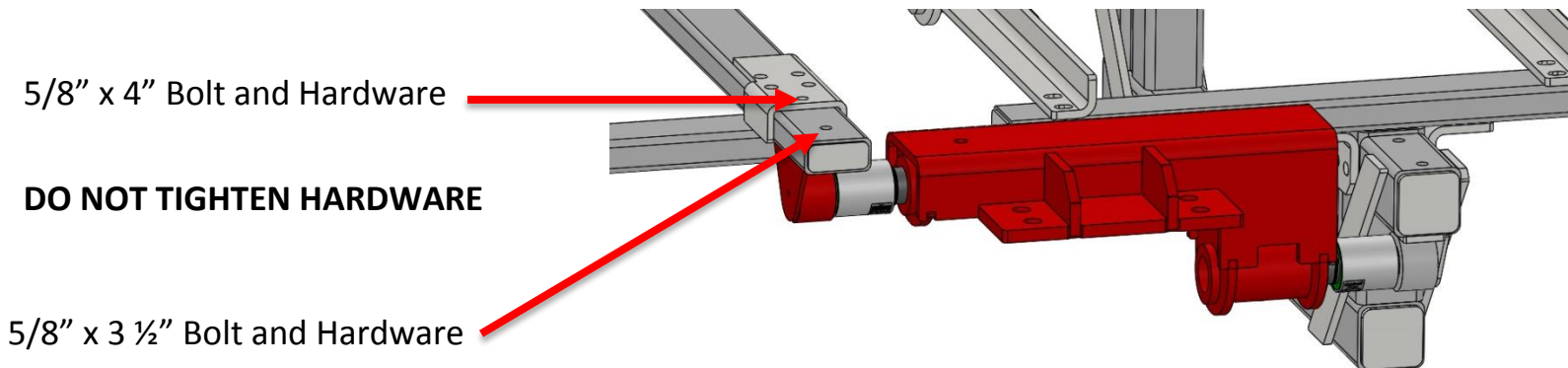


Secure the top load cell bracket with two $5/8$ " x $5\frac{1}{2}$ " bolts and hardware. Leave this hardware loose, it will be necessary to make adjustment in later steps.



⚠ IMPORTANT: The load cell must be installed with the arrow sticker pointing down!

7. Install the front loadcell (400061) into the front of the left rear axle bracket. NOTE: It may be necessary to raise the rear of the spreader box to provide clearance for the load cell and top bracket.
8. Install the top bracket onto the load cell and secure them to the front subframe center cross member support.



9. Repeat steps 4 through 8 of this section to install the right rear load cell assemblies.
10. Secure the rear axle brackets to the axle frame with four 1" x 14" bolts and lock nuts and strap plates. Do not tighten at this time.
11. Lower the hopper box slowly, allowing the hopper to rest on the subframe and all of the load cells have pressure applied to them.
12. Check again to ensure all load cells have pressure applied to them and the hopper is resting on the subframe evenly.
13. Ensure the top load cell brackets (7600303) are slid tight to the load cells.
14. Tighten all 5/8" hardware.
15. Tighten all 3/4" hardware.
16. Torque the 1"x14" bolts that strap the subframe to the axles to 600 ft/lbs.

NOTE: The top of the axle is crowned on the 4930/4940. It is necessary to tighten the hardware on the front side of the axle first then tighten the rear side.

NOTE: Prior to Tightening 1" hardware, ensure that there is clearance along the subframe and chassis, to allow the scale system to suspend the hopper.

17. Grease the fittings on the top load cell mounts (7600303) until you can visually see grease coming out of the sleeve.

18. Route cabling away from all moving parts and mount the junction box. Ensure you mount the junction box to the spreader hopper and tie all cabling to the hopper. This will facilitate easy removal of spreader system and keep the scale system separate from the chassis installation. See the following section for wiring the junction box.

JUNCTION BOX MOUNTING

6 Hole Junction Box

The 6-hole junction box has a circuit board with terminal blocks that sum the inputs of the load cells and send the signal to the indicator.

Connect Load Cells and Indicator Cable

1. Route 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 indicator cables through each of the water-tight strain-reliefs.
3. Loosen the screws on each terminal block.
4. When connecting the wires in the 6-hole junction box, each cable will get its own respective terminal block. (ie... the front left load cell will be wired into TB1, each wire connected into its respective labeling, red, white, black, green, and shield).
5. Wire each cable into its own respective TB.
Connect the indicator wire 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).



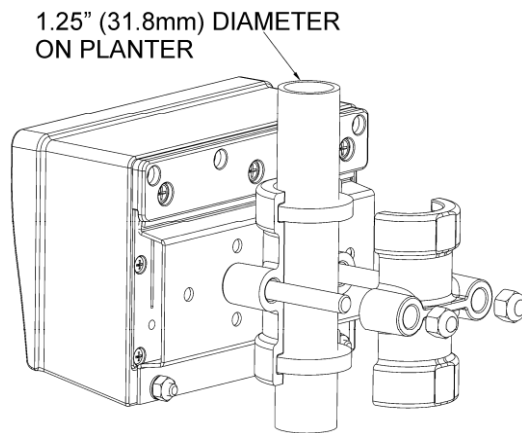
Fig. 23

INDICATOR MOUNTING

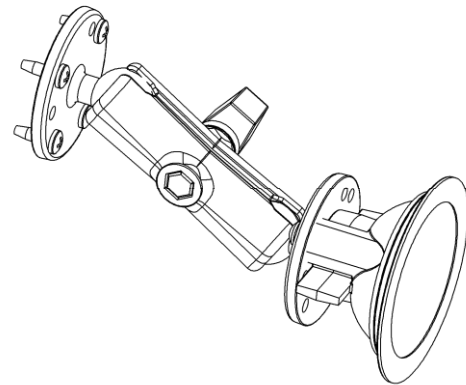
RAM MOUNT

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



PLANTER MOUNTING



TRACTOR CAB MOUNTING

1. Bolt the readout in the cab with the bracket, or mount the bracket in the front of the lift cylinder.
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

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.

OPERATING THE SCALE

Filling the Spreader

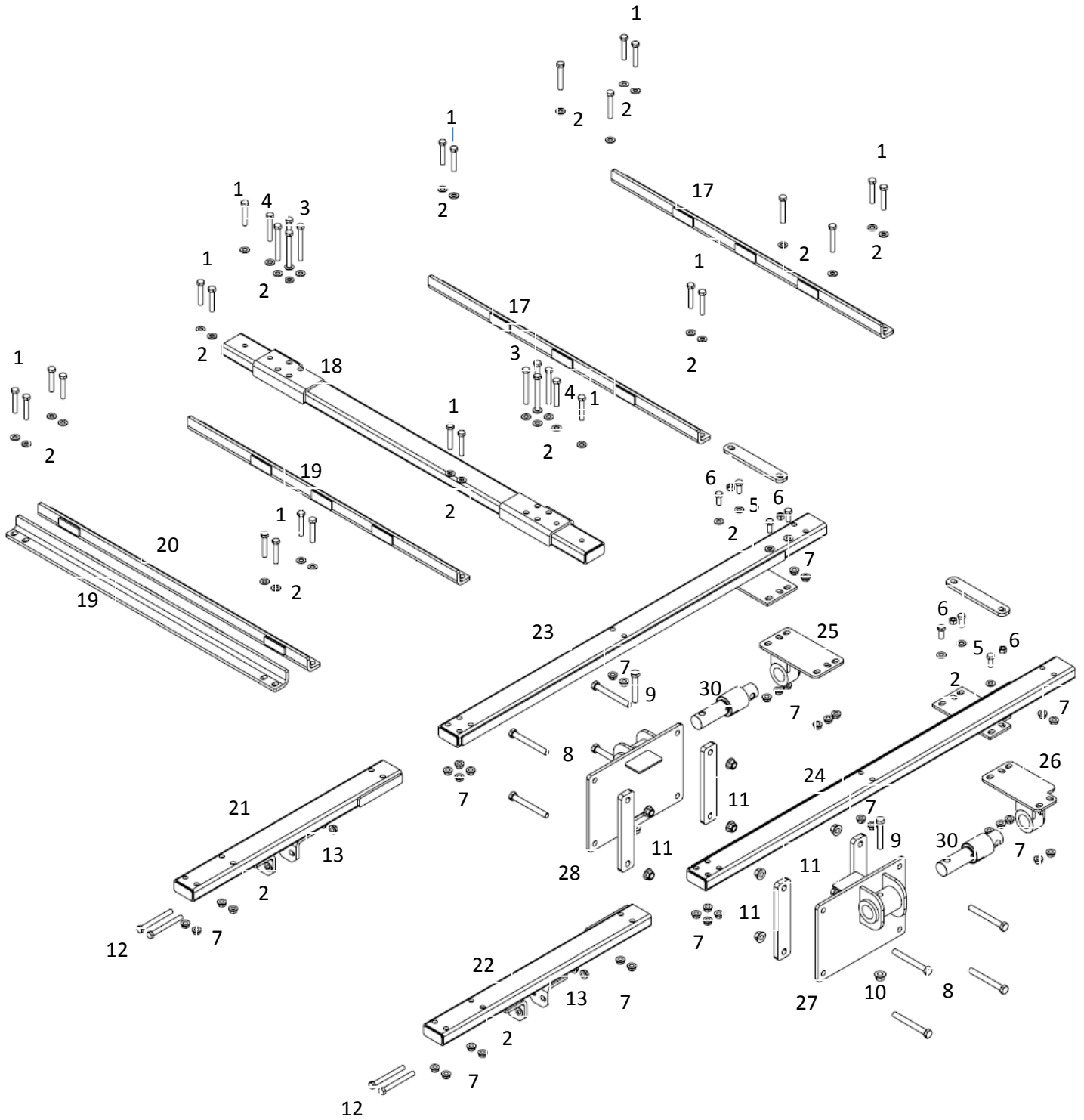
1. Push the "Start" button. The screen will show zero, and the arrow is now pointing to "Net" on the screen. This is a temporary zero point to start loading the hopper with seed.
2. Fill product into the fertilizer spreader hopper.
3. Note the weight of product filled into the spreader.
4. Push the "Stop" button, the weight will return to the Net inventory in the hopper.
5. If filling a second bin in the fertilizer hopper, push the "Start" button again. The screen will say zero again.
6. Fill the second hopper on the fertilizer spreader.
7. Note the weight of the product you filled into the second hopper.
4. Push "Stop" and the screen will now return to the Net inventory on the spreader (both products weighed together as one single weight).

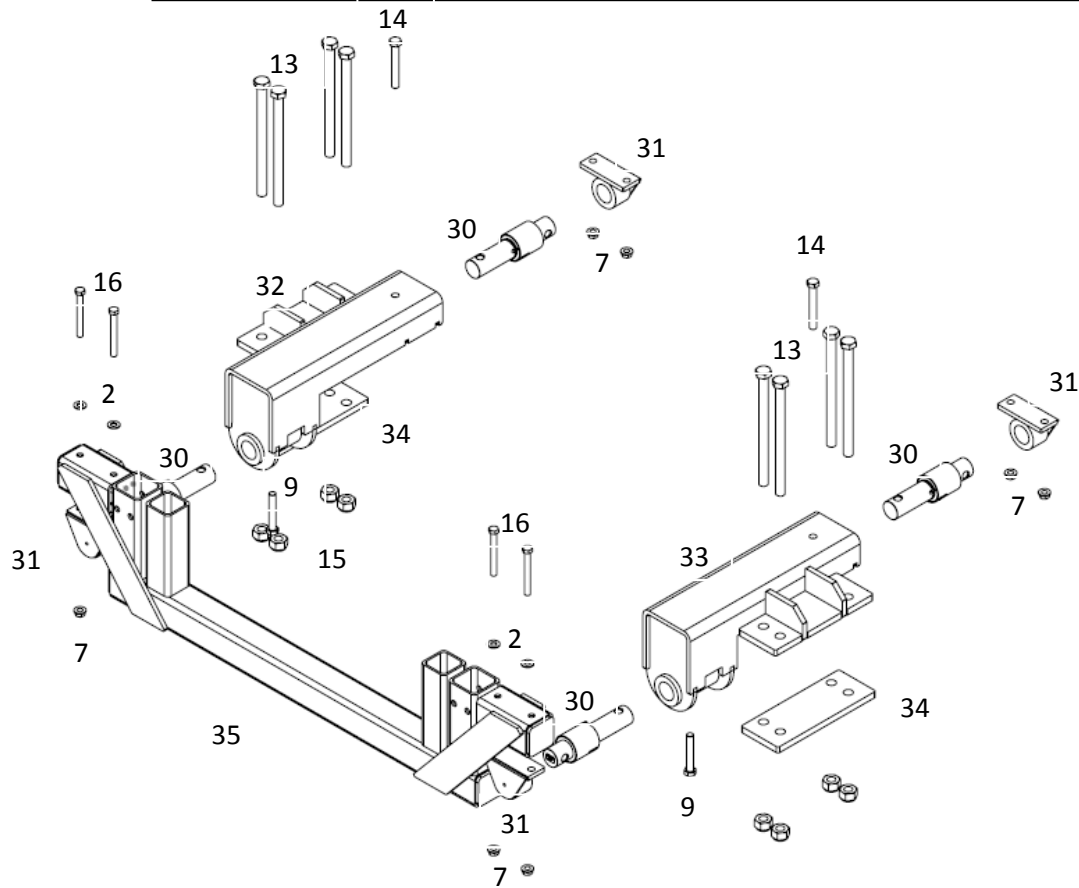
Monitoring your application rate

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

1. Prior spreading stop the implement in relatively level location.
3. Let the scale stabilize, after stabilization, press the "start" button.
4. Start spreading.
5. Spread a 3-5 acre area.
6. Stop the spreader in a relatively level position.
7. Let the scale stabilize, after stabilization note the weight displayed on the indicator. The weight displayed is the weight that was applied over the 3-5 acre area.
8. Adjust your dry rate controller as necessary.

REPAIR PARTS

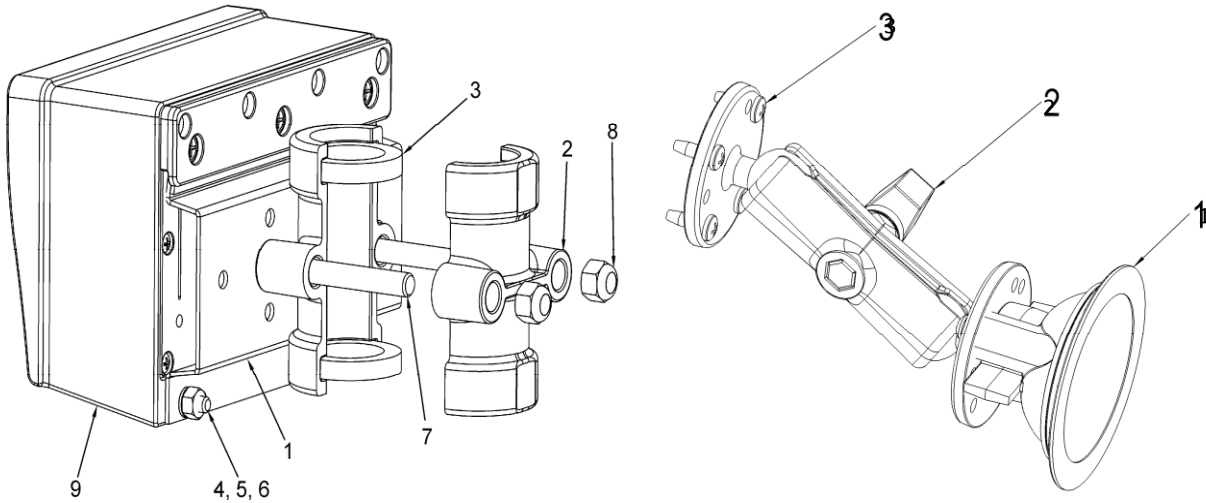




KEY	QTY.	PART NO.	DESCRIPTION	KEY	QTY	PART NO.	DESCRIPTION
1	22	STB5-8X31-2G8	Bolt 5/8 X 3 1/2 Grade 8	18	1	7600536	Support-Center Reinforced 4930
2	53	STW5-8	Washer Narrow 5/8	19	2	7600547	Cross Support Angle Rear 4930
3	12	STB5-8X51-2G8	Bolt 5/8 X 5 1/2 Grade 8	20	1	7600545	Cross Support Angle Mid Rear 4930
4	2	STB5-8X4G8	Bolt 5/8 X 4 Grade 8	21	1	7600550	Rail Support Rear Left 4930
5	7	STB5-8X2G8	Bolt 5/8 X 1 1/2 Grade 8	22	1	7600548	Rail Support Rear Right 4930
6	4	STN5-8	Nut-Hex 5/8 (Normal)	23	1	7600542	Rail Support Forward Left 4930
7	51	STSFN5-8	Nut Serrated Flange 5/8	24	1	7600543	Rail Support Forward Right 4930
8A	8	STB5-8X61-2G8	Bolt 5/8 X 6 1/2 Grade 8	25	1	7600514	Weld- Left Fwd LC Mount 4930
8B	4	7600745	Bolt 3/4 X 8 1/2 Grade 8	26	1	7600511	Weld- Right Fwd LC Mount 4930
9	4	STB3-4X41-2G8	Bolt 3/4 X 4 1/2 Grade 8	27	1	7600498	Weld-Right Fwd LC FRAME MOUNT
10	14	STN3-4	Nut-Hex 3/4"	28	1	7600502	Weld-Left Fwd LC Frame Mount
11	4	9100266	Plate-Clamp Frame 4930	29	3	SHIMS	Shim-LC MOUNTS NOT PICTURED
12	4	STB5-8X6G8	Bolt- 5/8 X 6 Grade 8	30	6	400061	Load Cell DB 2.125
13	8	STB1X14G8	Bolt 1 X 14 Grade 8	31	4	7600303	Weld-LC MOUNT SPREADER
14	2	STB3-4X51-2G8	Bolt- 3/4 X 5 1/2 Grade 8	32	1	7600527	Weld- Saddle Axle Right Mount 4930
15	8	STN1	Nut- 1"	33	1	7600523	Weld -Saddle Axle Left Mount 4930
16	4	STBFT5-8X4G5	Bolt 5/8 X 4 Full Threaded	34	2	9100262	Plate- Clamp Rear Axle 4930
17	2	7600549	Cross Support FRONT 4930	35	1	7605311	Weld- Rear Subframe Support 4930

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

Maintenance Requirements

25 hour Maintenance

Grease the 6 fittings on the spreader every 25 hours. Failure to grease fittings could result in inaccurate weights and may cause the load cells to seize and bind.

100 hour Maintenance

Check all hardware is tight.

Ensure the hardware on the axles (1" x 14" bolts) are tight and ensure they are torqued to 600 ft. Lbs

Check hardware for excessive corrosion and replace hardware as needed.