

DeltaForce[®]

Load Pin Install Guide

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John Deere 7000/Kinze 2000 Load Pin Install

Deere 7000/Kinze 2000 Smart Pin Kit: 725581

Quantity	Part	Description
1	1/2" Load sensor Pin	
1	Bolt	1/4"-20 x 5/8", Hex
1	Washer	1/4" Lock Washer, Zn
1	Snap Ring	1/2" Snap Ring, External

Step 1:

Start by raising the planter bar to remove weight from the gauge wheels. Then, using snap ring pliers, remove the snap ring that secures the original depth adjustment pin.



Step 2:

Using the load cell, slide the original depth pin out of the shank from the right side to the left (standing at the back of the planter).



Step 3:

Thread the provided hex bolt and washer through the threaded portion of the top of the load cell bracket and into the front hole of the depth adjustment position. This will secure the load cell from rotating.



Step 4:

Install the snap ring on the load cell protruding from the left side of the shank.

Step 5:

Route the load cell harness through the depth adjustment slot, running the cable to the right side of the seed tube and up to the SRM or RUM. Connect the load cell to the SRM or RUM.



Step 6:

If necessary, zip tie any loose harnessing to avoid getting it pinched.

John Deere 7200/17X0 Load Pin Installation

Deere 7200/17X0 Smart Pin Kit: 725580

Item	Quantity	Description
1	1	5/8" Smart Pin
2	1	Pin Assembly Cover, Black (725060)
3	1	Bolt, 1/4-20 x 3/4", Hex
4	1	Lock Washer, 1/4"
5	1	5/8" Snap Ring, External
6	2	Washer, 5/8" ID x 1.00" OD x .09" Thick
7	2	Step Bushing, 5/8" to 3/4", 1.031" Flange

Step 1:

Start by raising the planter bar to remove weight from the gauge wheels. Then, using snap ring pliers, remove the snap ring that secures the original depth adjustment pin.

Step 2:

SHEET METAL ROW UNIT: Slide the load cell into the depth pin hole, forcing out the old pin. The load cell will install from the left-hand side of the row unit (from the back of the planter).

NOTE: A 5/8" washer (Item 6) should be installed on both sides of the load pin.



NOTE: If the depth adjustment pin hole is excessively worn (excessively 'egg-shaped'), drill out the hole with a 3/4" and insert supplied step bushing (Item 7) for more accurate load cell readings. DO NOT DO THIS ON CAST IRON ROW UNIT. SHEET METAL ROW UNIT ONLY.

CAST ROW UNIT: Slide the load cell into the depth pin hole, forcing out the old pin. The load cell will install from the left-hand side of the row unit (from the back of the planter).

NOTE: Do not drill out the cast row unit to use the step bushings. Also, it is not necessary to use the flat washers (Item 6) with a cast row unit.



NOTE: The provided bolt and lock washer (Item 3 and 4) should be installed through the bolt hole at the top of the load cell bracket. The bolt should then stick into the shallowest left-hand depth notch in the row unit shank. This will properly clock the load cell (see picture for reference).

Step 3:

Route the load cell cable through the depth adjustment slot, running the cable to the right side of the seed tube, up to the SRM or RUM. Connect the load cell to the SRM or RUM. Secure the load cell cable with a zip tie if necessary.

Step 4:

To install the black, plastic load pin assembly cover, adjust the depth T handle to the deepest setting (down). Slide the cover through the depth notches with the fin last and clip it into the open area under the T-handle.



John Deere 17X5, ME5, and Exact Emerge Planters load pin installation

Quantity	Part	Description
1	0.625 Load sensor Pin	
1	Bolt	M12x90
1	Washer	M12 extra thick
1	Snap Ring	5/8

Preparing for Installation

- Raise the planter to remove weight from gauge wheels.
- Identify location for installation of bolt & spacer. (Note: not used for installation if bracket for insecticide or 3 bu. Boxes is present)
- Remove the snap ring and pin from the depth adjustment mechanism.



Step 1

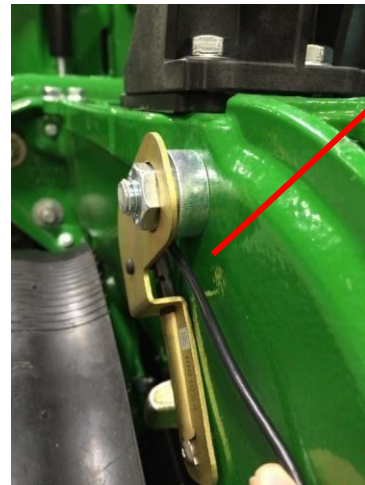
Insert the supplied bolt into the upper hole of the row unit from the right side, when looking at the row unit from behind. The spacer should be installed on the left side of the row unit between the row unit and the nut. This bolt prevents the load cell from rotating. Note: The load cell bracket is not under this bolt/nut.

Note: For installations with insecticide or 3 bu. boxes, use the existing bolt and ensure the nut is on the left side of the row unit. The supplied bolt will not be needed.



Step 2

Insert the load cell into the row unit and depth adjustment mechanism from the left side (when viewing the row unit from behind). Slide the circle cutout in the bracket over the nut installed in step 1. Ensure that the wire is not pinched between the bracket and the nut/washer.



Be careful to not pinch wire.

Step 3

Secure the load cell with the supplied snap ring.



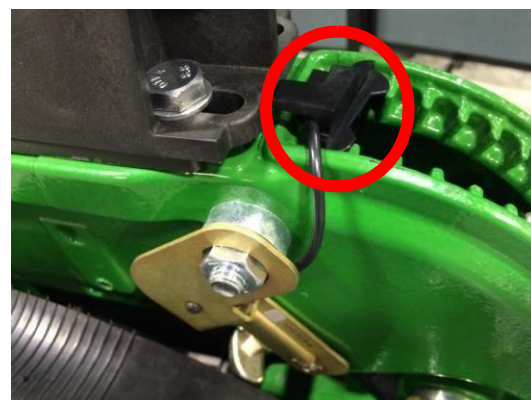
Step 4

Route the wire from the load cell through the row unit and above the cross brace inside the row unit.



Step 5

Use the supplied clip to secure the load cell wire in the top of the depth adjustment guide.



Step 6

Route the wire down the channel in the lift side of the row unit that allows the wire to run alongside the seed tube.



Step 7

Plug the connector into the Row Unit Module (RUM) or Single Row Module (SRM).



Picture of completed installation with John Deere bracket for insecticide or 3 bu. Box.



Kinze 3000/4900 Smart Link Installation

Quantity	Part	Description
1	725460	Kinze Link Assembly
1	725464	Bushing
1	13062	Bolt 5/16-18 x 2.25 Z5 HCS

Step 1:

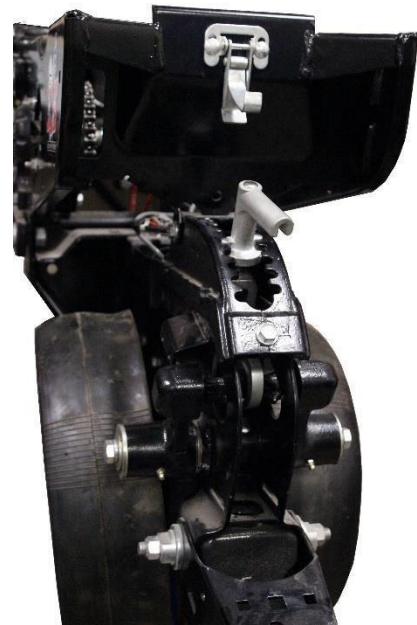
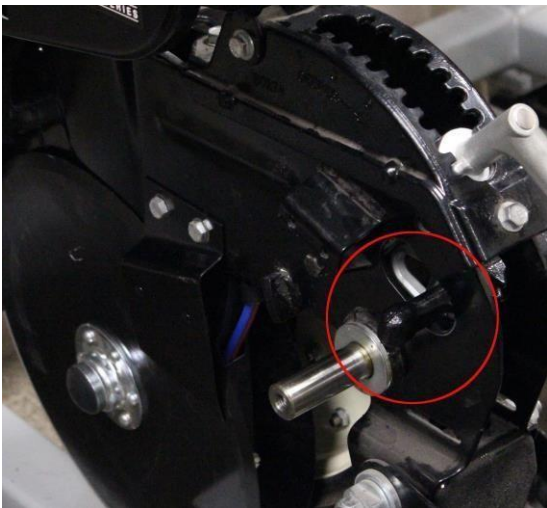
Prepare for Installation

a: Raise the planter to remove the weight from gauge wheels.

Step 2:

Load Cell Installation

a: Remove the gauge wheel and gauge wheel arm from one side of the planter row unit.



b: Remove the cross-bar that connects the top of both gauge wheel arms through the shank.



- c: Remove the bolt that holds the depth adjustment linkage. Once this is complete, separate the linkage from the depth adjustment handle and remove the handle from the shank. This is best accomplished by twisting the handle and pulling it out of the rear portion of the shank.
- d: Remove the depth adjustment linkage. This is best done by pulling the top shaft of the linkage partially through the top of the shank, then aligning the link with the linkage and pulling it out of



the back of the shank.

- e: Remove the Kinze link from the linkage. Knock out the original roll pin and install the load cell in its place. The thicker side of the load cell with the strain gauge installed will be pointed up. Reinsert the bushing into the linkage below the load cell.



- f: Reinsert the linkage with the load cell installed and the depth adjustment handle into the row unit and install the bolt through the side of the row unit into the bushing of the linkage.
- g: Route the cable through the row unit shank and to the right of the seed tube, plugging it into the RUM
- h: Plug the Load Cell into the RUM. Secure the load cell cable, any applicable AUX cable, and the seed tube cable to the ladder bracket using zip ties. Be cautious to ensure that there are no cables that could get pinched, and that the zip ties are not excessively tight.

Case IH 12xx Load Sensor Installation

Case Load Sensor Kit: 725875

Quantity	Part	Description
1	725876	Load cell
1	72505	P-clip
1	725506	Cable Mount

Step 1:

Remove the cotter pin on the depth adjustment handle. Remove the spacer in between the handle and the row unit shank.



Step 2:

Insert the load cell onto the depth adjustment shaft with the three divots towards the row unit shank and the harness pointed up. Reattach the depth adjustment handle.

NOTE: The load cell may rotate up to about 30 degrees in both directions; this does not affect performance in any way. The load cell harness will keep it in a relative vertical position.



Step 3:

Route the wire from the load cell through the gap at the bottom of the hopper support bracket. Secure it to the 1/4" bolt using the supplied P-clip, and route it along the bottom of the right hand hopper bracket, securing it every 6-8" with the adhesive cable mounts. Plug the Load Cell into the RUM.

**Step 4:**

Plug the Load Cell into the RUM. Secure the load cell cable, any applicable AUX cable, and the seed tube cable to the ladder bracket using zip ties. Be cautious to ensure that there are no cables that could get pinched, and that the zip ties are not excessively tight.

White 5000, 6000, and 8000 LOAD Cell Installation

White 5000 and 6000 Smart Link Kit: 725266

Quantity	Part	Description
1	2-9272-1449-1	Strain gage
1	28858	Screw
1	58805	Fitting
1	725255	White link
1	725406	washer

White 8000 Smart Link Kit: 725869

Quantity	Part	Description
1	58805	Fitting
1	725870	Link assembly

NOTE: Although the 5000 and 6000 kit has a different kit number than the 8000 the installation will remain the same.

Step 1:

Remove the bolt from the shank that holds the depth adjustment linkage and unscrew the depth adjustment handle from the linkage.



Step 2:

Insert the load cell into the shank with the cross section on top. Install the original bolt.

White 9XXX/Grey Row Unit #1 Smart Pin Installation

Quantity	Part	Description
1	725881	Pin assembly
1	729387	Mounting plate

Some White 9XXX Smart Pins 725887- May have a black sleeve (Shrink Wrap) around the pin. If this causes interference due to the diameter of the pin with the sleeve, it is OK to remove the black shrink wrap. To do this, using a razor knife, cut the back (opposite side of where the wires enter the Smart Pin) side of the Smart Pin to remove sleeve.

Preparing for Installation

- Raise the planter to remove weight from gauge wheels.
- Identify location for installation of 725887 White 9XXX Smart Pin
- Remove the snap ring and pin from the depth adjustment mechanism.



Step 1: It may be necessary to add washers (included with White 9XXX Smart Pin: 725887) behind the bolt heads so the weigh pin does not rotate in use.



Step 2: Remove cotter key from depth adjustment mechanism. Do not remove pin yet, this will be used to help guide the Smart Link through the depth adjustment mechanism.



Step 3: Use the pin mentioned in Step 2 to navigate the Smart Pin into location. This will act as a guide, making installation much easier.

The Smart Pin brackets will align with the bolts from the rear post (Picture is shown with vSet2 rear post). This eliminates the opportunity for the Smart Pin to rotate.



Step 4: Install Snap Ring to secure the Smart Pin into location.



Step 5: Route the wire through the row unit, under the equalizer arm, then under the depth adjustment mechanism

Next, route the wire around the right side of the seed tube

The supplied self-adhesive clips can be used to secure the wire. Pull any extra wire up towards the RUM/SRM to ensure it will not rub on the opener disks.



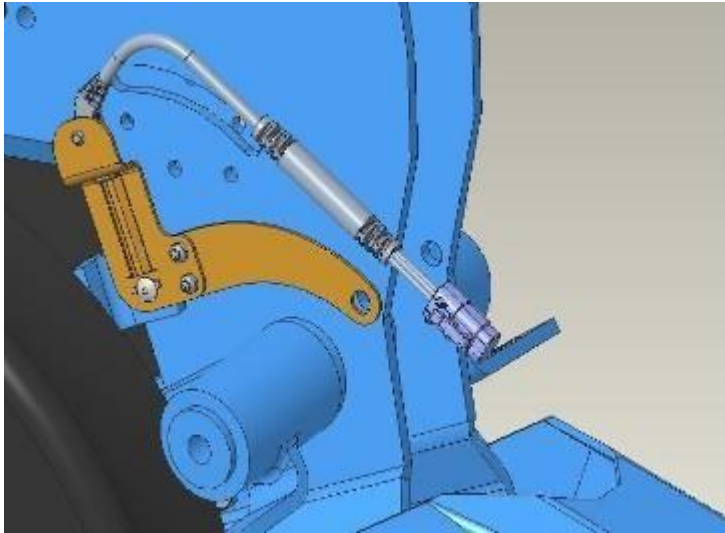
Monosem NG +3 and NG +4 Load Cell Install

Quantity	Part	Description
1	712045	Bracket Asmbly
1	712049	Load sensor
1	PP-5052	Screw
1	PP-5362-rev-2	Belly Pan

Step 1: Remove the existing cotter pin and depth handle pin from the row unit. These are indicated by the arrow to the right.



Step 2: Slide, from left, the (712003) Load Cell into the hole where the original pin was removed. Align the bracket so that the hole at the back of the bracket lines up with the hole just above the pivot arms for the gauge wheels. Use the picture to the right for reference.



Step 3: Install the provided snap ring on the end of the load cell pin. Then install the nut and bolt through the hole at the back of the load cell bracket. Use a washer between the bolt head and row unit and between the nut and row unit.



Step 4: Route the Load Pin harness behind the meter, under the rubber boot, and then push it down between the seed tube and the right side of the shank, so it comes to the front of the shank with the seed tube harness, as seen below. You can connect the load pin harness to the SRM at this point.



Great Plains Pin Installation

Step 1:

Prepare for Installation

- a: Raise the planter to remove the weight from gauge wheels.
- b: Remove the XP tab on the RUM. This ensures that the RUM stays vertical during the operation.

Step 2:

Load Cell Installation

- a: Using snap-ring pliers, remove the snap ring that secures the original depth adjustment pin.



- b: After sliding a washer onto the load cell, use the load cell to slide the original pin out of the shank from the right side to the left.
- c: Slide the remaining washer onto the load cell protruding from the right side of the shank, and install a snap ring to secure it.
- d: Thread the provided hex bolt through the nut on the top of the load cell bracket and into the front hole of the depth adjustment position. This will secure the load cell from rotating
- e: Route the cable through the row unit shank, to the left or right of the seed tube, and up the slot in the row unit ahead of the shank. Plug the load cell into the RUM.
- f: Secure the load cell cable, any applicable AUX cable, and the seed tube cable to the ladder bracket using zip ties. Be cautious to ensure that there are no cables that could get pinched, and that the zip ties are not excessively tight.

Horsch Maestro Load Sensor

Horsch Load Sensor Kit 712009

Quantity	Part Name	Description
1	Load Sensor	Horsch Maestro Load Sensor
1	Bracket	Horsch Maestro Load Sensor Harness Routing Bracket



Step 1

Begin by removing the bolt holding the gauge wheel arm and remove the arm and gauge wheel. This will need to be done on both sides of the row unit.



Step 2

Removing the gauge wheel arms will allow the installer to access two (2) hex-head set screws on the underside of the row unit shank. Using a 5MM Allen wrench, loosen these set screws until the gauge wheel arm axle can be slid freely in the shank. The set screws do not need to be removed, only loosened. **If the axle does not slide freely, use a rubber mallet and/or a brass punch to hammer out the axle.*



Step 3

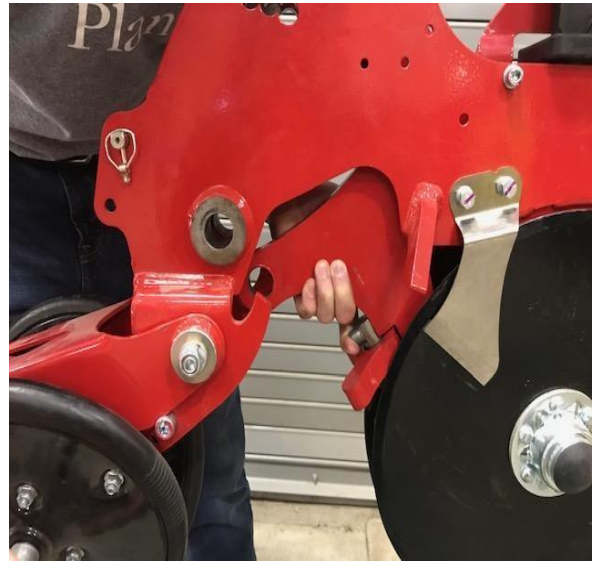
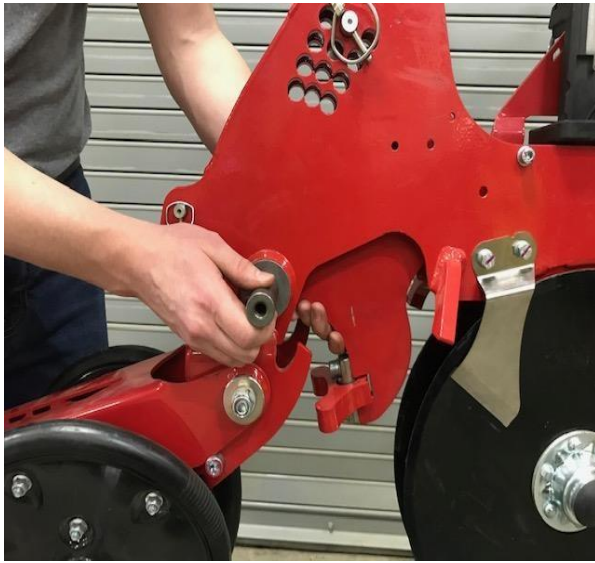
Using a 10MM combination wrench or socket wrench, remove the bolt in the middle of the row unit shank, as seen in the picture below. When removing the bolt, the rocker arm assembly will pivot or drop down as show below.

**In some row unit models, it may be necessary to also remove the opener disc scraper assembly in order to provide clearance for the rocker arm assembly to be removed.*



Step 4

Hold the rocker arm assembly with one hand and, with the other, pull the gauge wheel arm axle that slides through the row unit shank. **If the axle does not slide freely, use a rubber mallet and/or a brass punch to hammer out the axle.* Once the axle is removed, nothing will be holding the rocker arm assembly in place. To remove the rocker arm assembly, move it as far forward as possible between the opening disks, as shown in the right-hand picture below. Then, rotate the rocker arm assembly downward to remove the rocker arm assembly.



Step 5

Place the rocker arm assembly in a bench vise and remove the rocker arm and bolts with an 8MM hex-head socket or Allen wrench



Then, install the rocker arm onto the Precision Planting Load Sensor using the original pin, hex head bolts, and lock washers as seen on the right.



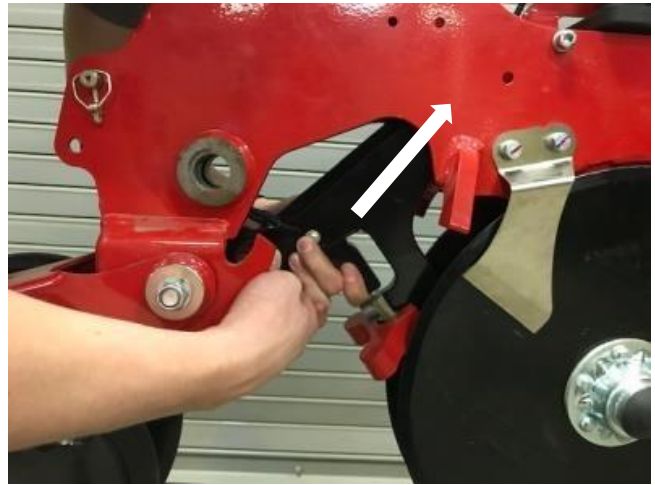
Step 6

Align the largest hole on the Harness Routing Bracket with the hole on the Precision Planting Load Sensor and lay the bracket flat against the Load Sensor. The bracket should be installed on the left hand side (from the back of the planter) of the Load Sensor. *Hold the load sensor and harness bracket as pictured during installation ->*



Step 7

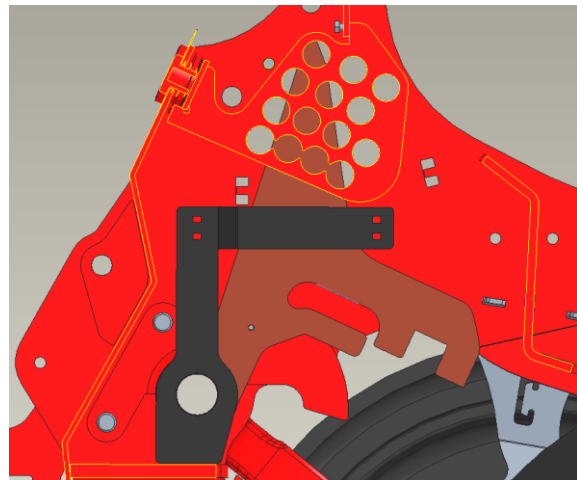
Install the Load Sensor back into the row unit shank, leading with the pointed end of Load Sensor first and sliding the sensor all the way forward (between the opening disks). Then rotate the end with the circular end into place without pinching the harness. Be sure to keep the hole in the harness bracket aligned with the hole in the load sensor.



Reinstall the gauge wheel arm axel into its original location, so that it goes through the Load Sensor and the Harness Routing Bracket.



When installed, the harness bracket should be positioned as pictured.



Step 8

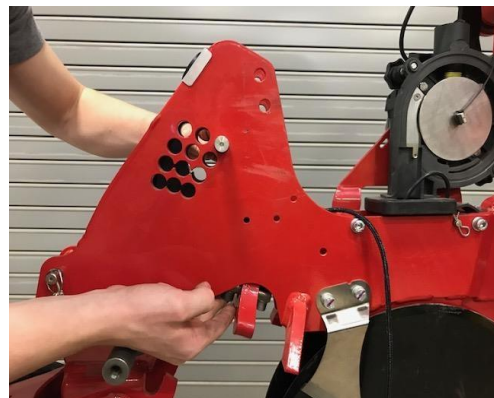
Route the harness to the SRM, ensuring the harness is not pulled too tightly, but tight enough that the harness will not get caught or pinched by any moving row unit components.



Remove the depth setting pin. And rotate the Load Sensor all the way back (toward the closing system) so the rocker arms contact the underside of the row unit shank.

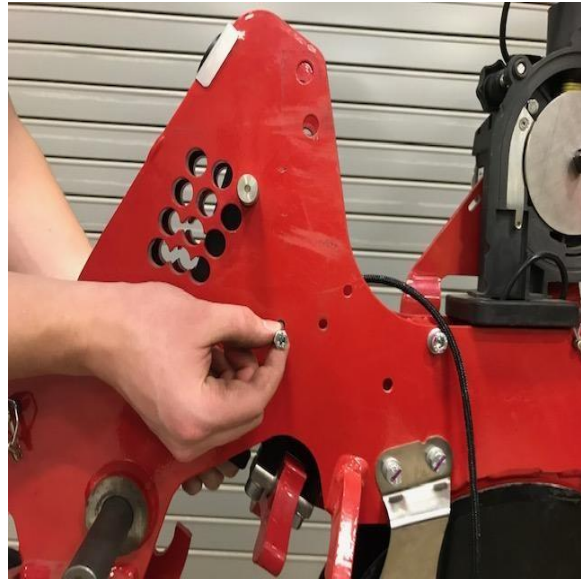


Reinsert the depth pin into the hole that is highest and closest to the planter bar. This will hold the Load Sensor out of the way for the next step.



Step 9

Install the 10 MM bolt and lock nut that was removed in Step 3. If applicable also reinstall the opening disc scraper assembly.



Step 10

While supporting the Precision Planting Load Sensor, (with one hand under the row unit shank) remove the depth pin. Allow the Load Sensor to rotate into its proper location. Reinsert the depth pin into the desired hole to set planting depth.



Step 11

Tighten the two hex-head bolts that were loosened in step 2.



Step 12

Reinstall the original shimming onto the gauge wheel arm axle before installing the gauge wheel arm back onto the row unit.



Step 13

Reinstall the gauge wheel arm and gauge wheel on both sides of the row unit, along with any shims or washers that were originally removed.



Vaderstad Tempo Row Unit Load Sensor Install (955949)

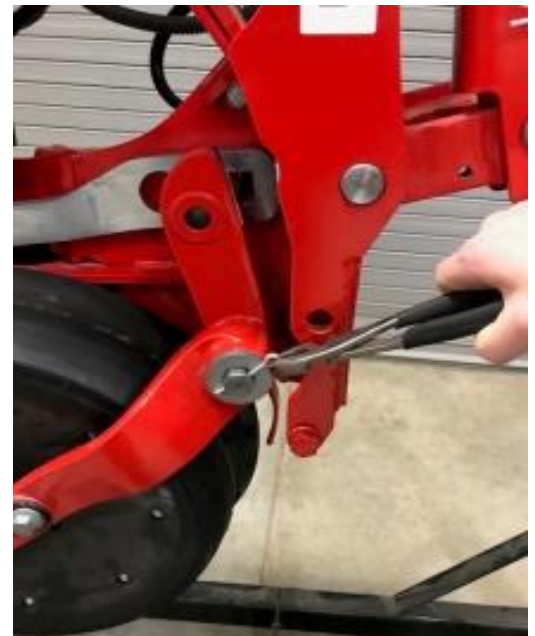
Vaderstad Load Sensor Kit 712017

Quantity	Part Name
1	Load Sensor
1	Compression Spring
1	Spring Cap
1	Clevis Pin
1	Cotter Pin



Step 1

The Vaderstad Load Sensor will install on the right-hand side of the row unit (standing behind the planter). Start by removing the cotter pin and washers holding the right-hand gauge wheel arm. Save the cotter pin and washer(s) as they will be reinstalled later.



Step 2

Slide the gauge wheel and gauge wheel arm off the mounting stud.



Step 3

Grab the rocker arm and depth assembly shank and pivot them out of place to uninstall. Save the rocker arm (indicated by red arrow) as it will be reused.



Step 4

Slide the spring cap onto the load sensor with the thicker side facing the same direction as harness routing nuts.



Step 6

With the spring cap slid rearward, reinstall the rocker arm with the grooves facing forward or toward the planter bar. Then slide the spring cap and rocker arm forward to the rocker arm's original position.



Step 7

Install the load sensor into the depth adjustment T-handle hook at the back of the row unit first. The following pictures outline how to get the sensor aligned with the T-handle hook properly and clevis pin installed.

- A. Slide the sensor so the t-handle hook passes through the back of the load sensor.



- B. When inserted properly, the hole in the load sensor will align with the T-handle hook as shown



C. Insert the clevis pin through the hole in the load sensor as shown.



D. When installed, the clevis pin will look as shown. If installed properly, the load sensor should not be able to pull away from the t-handle hook if the sensor is aligned with the direction of planter travel.



E. Insert the provided cotter pin through the hole in the clevis pin as shown.



- F. Bend the legs of the cotter pin around the clevis pin to hold the clevis pin in place.



G. When the clevis pin is completely installed, the back of the load sensor will look as shown.



H. Rotate the load sensor around so it is in line with shank. The rocker arm will be reinstalled where it was previously located. The harness should route upward with the routing nuts facing outward or away from the row unit shank.



Step 8

Place the provided compression spring over the rocker arm. The spring will recess into a groove in the spring cap.

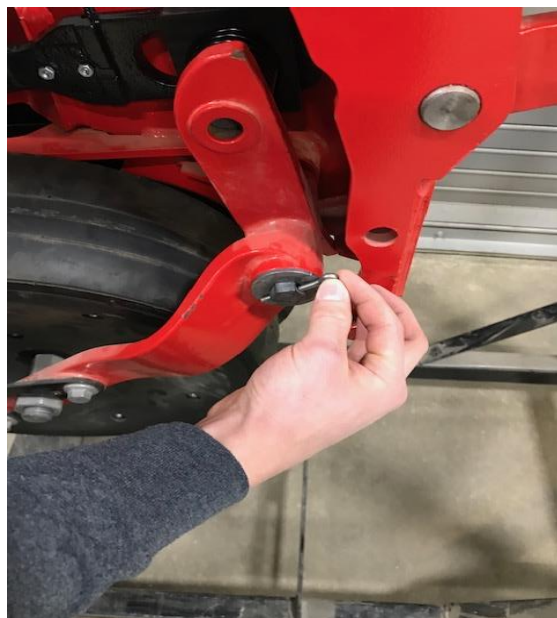
**Step 9**

Reinstall the gauge wheel arm assembly. The compression spring should fit over the inner gauge wheel arm post, as pictured.



Step 10

Reinstall the Vaderstad washer(s) and cotter pin that were removed in step one.

**Step 11**

Safely route the load sensor harness to the SRM. Any excess harness length can be lightly bound with a zip tie.

