

DeltaForce®

Horsch Maestro 2022+ Installation Manual

 Precision Planting®

Horsch Maestro 2022+ Installation Manuel

Horsch Maestro 2022+ Hardware Kit 712117

Quantity	Part Number	Part Name	Description
1	712371	Hardware Kit	DF-Horsch Maestro 2022+
1	712390	Weldment	Maestro 2022+ Lower
1	729314	Hardware Kit	DF Cylinder pin
2	712366	Plate	Upper Cylinder Mount

Hardware Kit P/N: 712371

Quantity	Part Number	Part Name	Description
6	11115278	Carriage Bolt	M12–1.75x40 Carriage Bolt ZN
4	38761	Bolt	M16x2x50 Full Thread Hex Head Cap Screw ZN
4	712164	Bushing	0.632 ID x 1.000 OD x0.75 Long
6	90683	Nut	Fastenal M12x1.75 Locknut
4	90684	Nut	M16 Top Locknut ZN

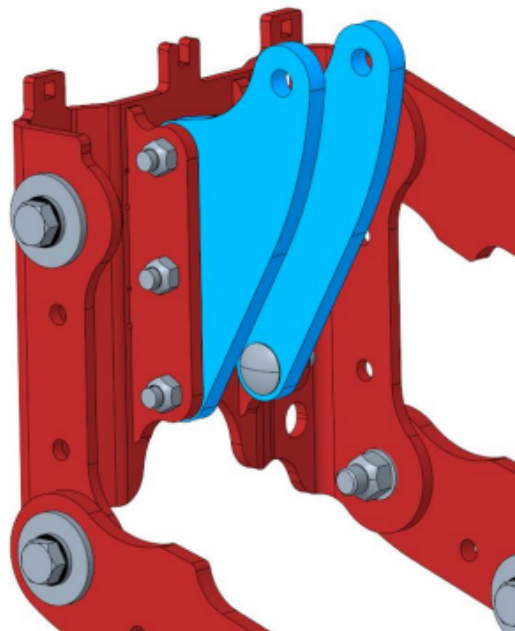
Hardware Kit P/N: 729314

Quantity	Part Number	Part Name	Description
2	729309	Pin	DF Cylinder-Long
2	65104	Cotter Pin	5/32x1/4" ZN

Note: Remove the current DownForce System from the planter. Secure the row unit by using an engine hoist or a fork truck.

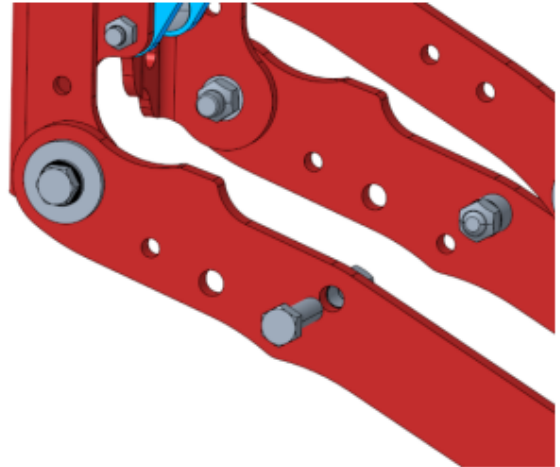
Step 1:

Use the six supplied M12x40 bolts and M12 locknuts to attach the upper cylinder mounting plates P/N: 712366.

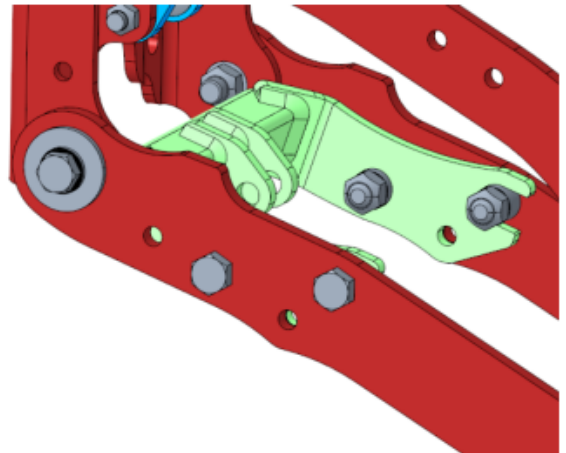


Step 2:

Install two supplied M16x50 bolts with two 0.632x1x0.75 bushing on the inside of the parallel arms and secure with M16 locknuts on the last hole on the lower parallel arms.

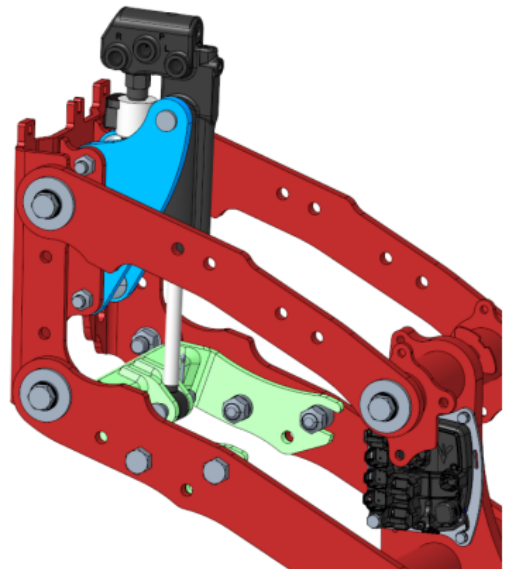
**Step 3:**

Slide the lower DeltaForce bracket on to the bushing from Step 3 and rotate down. Install two supplied M16x50 bolts with two 0.632x1x0.75 bushings on the inside of the lower DeltaForce bracket. Secure with M16 locknuts.

**Step 4:**

Install the hydraulic cylinder P/N: 729602 to the W-mount cylinder plates using a cylinder pin and cotter pin. Use a Zip Tie to secure the lower section of the cylinder to the tabs on the parallel arm bracket. Set aside the second cylinder pin and cotter pin. These will be installed after the air purge test has been completed.

Note: The DeltaForce cylinder should be installed with the solenoid facing the toolbar (as shown).



Horsch Maestro Load Sensor

Horsch Load Sensor Kit P/N: 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.

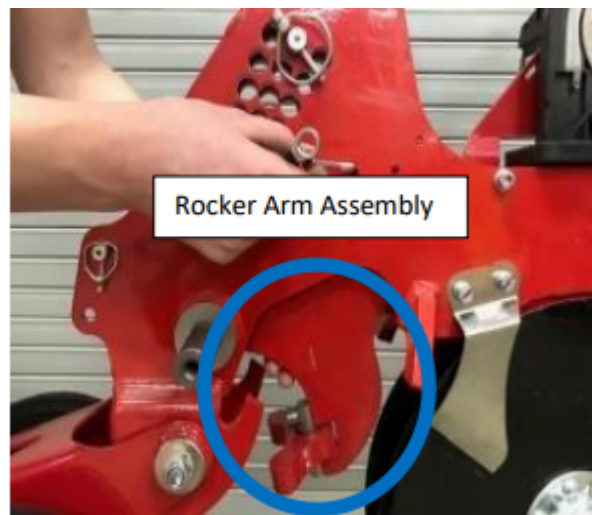
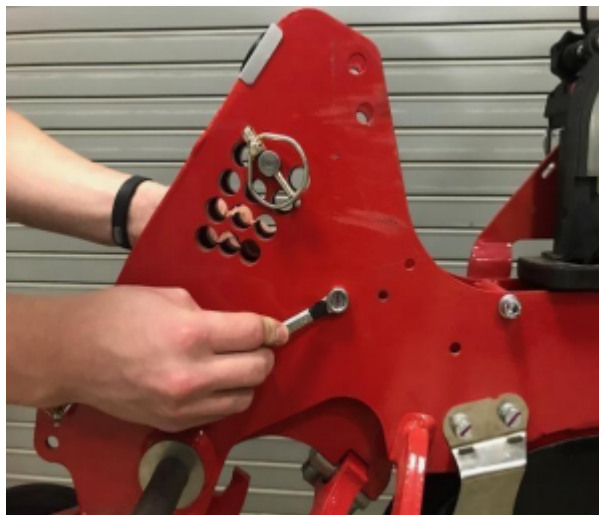


Step 2:

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. Do not remove the gauge wheel arm axle yet, but if it cannot slide freely in the shank, it may require a rubber mallet and/or a brass punch to hammer out in a later step.

**Step 3:**

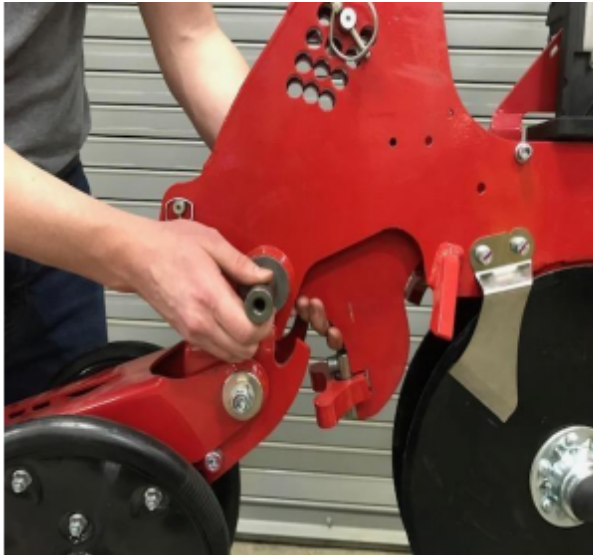
Using a 10MM combination wrench or socket wrench, remove the bolt in the middle of the row unit shank, as seen in the picture below. When removing the bolt, the rocker arm assembly will pivot or drop down as shown below.



Note: 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 Allen wrench.



Step 6:

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

**Step 7:**

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 8:**

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.

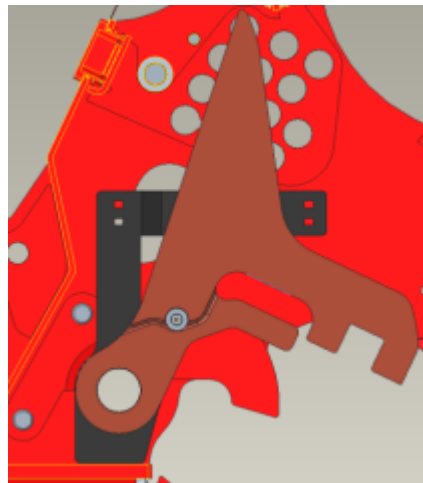


Step 9:

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

**Step 10:**

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

**Step 11:**

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.

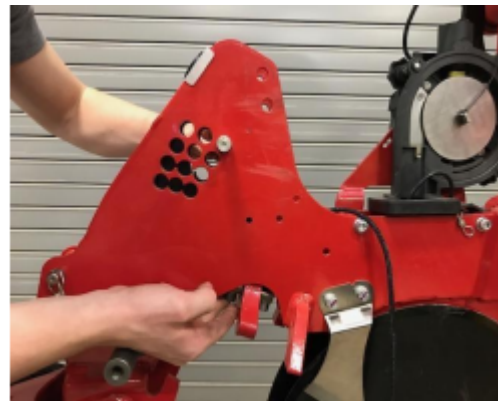


Step 12:

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.

**Step 13:**

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 14:**

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



Step 15:

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 16:**

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

**Step 17:**

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



Step 18:

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.

Note: The Cal Factor for the Horsch Load Sensor is 209.

