

DeltaForce®

Vaderstad Tempo DeltaForce Install

 Precision Planting®

Vaderstad Tempo DeltaForce Install

Vaderstad Tempo Row Unit Install Kit: 712445

Quantity	Part Number	Part Name	Description
1	712446	Hardware Kit	See Box Below
1	712447	Cylinder Mount Bracket-Top	
1	712452	Lower Parallel Arm Bracket-Upper	
1	712458	Lower Parallel Arm Bracket- Lower	
1	712463	Top Stop Bracket	

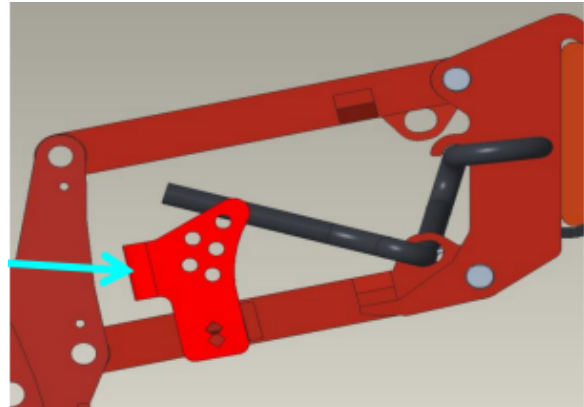
Vaderstad Tempo Hardware Kit: 712446

Quantity	Part Number	Part Name	Description
1	38714	Hex Cap Screw	M12 X 1.75 X 70 HEX HEAD CAP SCREW ZN
2	38772	Hex Cap Screw	M16 X 2 X 130 HEX HEAD CAP SCREW ZN
3	40359	Washer	M12.0 WASHER ZN
4	40361	Washer	M16.0 WASHER ZN
1	40364	Washer	M22.0 WASHER ZN
3	65104	Pin	5/32 X 1.25 COTTER ZN
2	90683	Nut	M12 TOP LOCK NUT ZN
2	90684	Nut	M16 TOP LOCK NUT ZN
1	0145165	Hex Cap Screw	M12 X 1.75 X 45 HEX HEAD CAP SCREW ZN
1	0162024	Pin	M5 X 45 COTTER ZN
1	712174	Pin	CYLINDER PIN
1	729309	Pin	DF CYLINDER — LONG

The row unit will need to be secured or lifted with an engine hoist or fork truck, make sure personal safety is insured during this process.

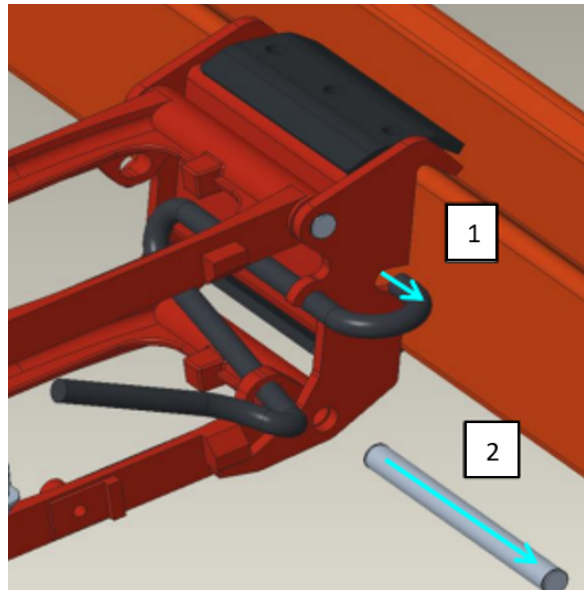
Step 1:

Remove the downforce setting bracket. Indicated by the blue arrow.



Step 2:

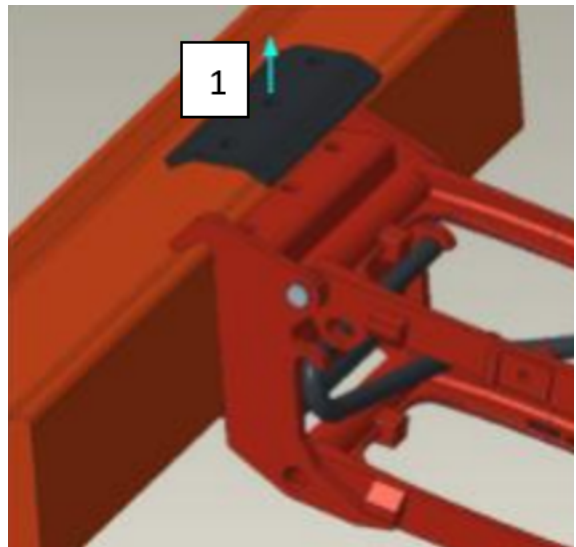
Disengage downforce rod spring (1) from W-Bracket. Pull from left to right (Standing at the rear of the planter). Then remove the front, lower parallel arm rod (2). Save this rod to be reinstalled later.



Step 3:

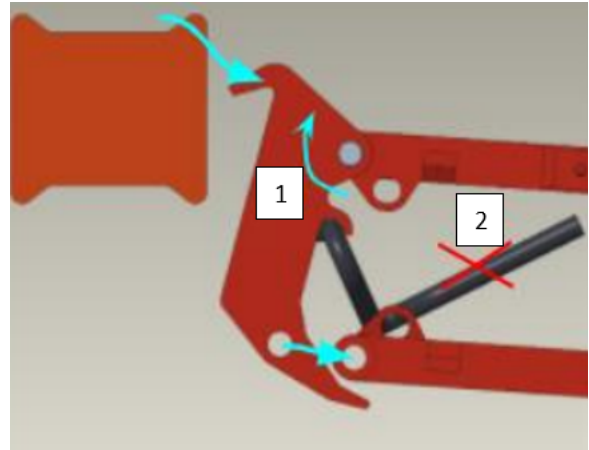
Secure the row unit with an engine hoist or fork truck. Remove the three nuts on the top flange (1) that is holding the row unit in place.

Note: There is a flange on the underside of the row unit that can be removed once the top flange is removed. Save the underside flange as it will be used later.



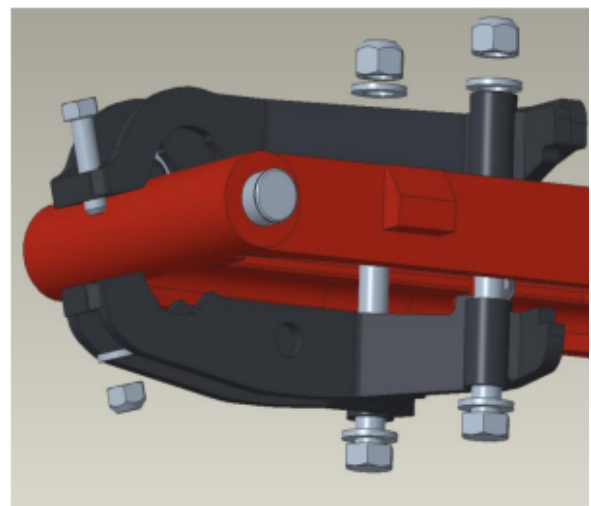
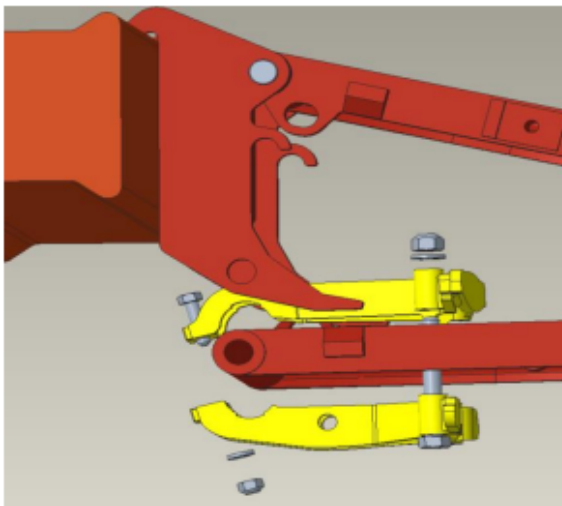
Step 4:

This step may require two people. Unhook the row unit from the toolbar and lower it. Disengage the lower parallel arm from the W-Bracket (1) by pivoting the W-Bracket and pulling the row unit forward. Once the lower arm is free from the W-Bracket, re-hook the W-Bracket onto the bar. It is not necessary to remove the upper parallel arm during this process. Remove the downforce spring from the lower parallel arm (2 with red X).

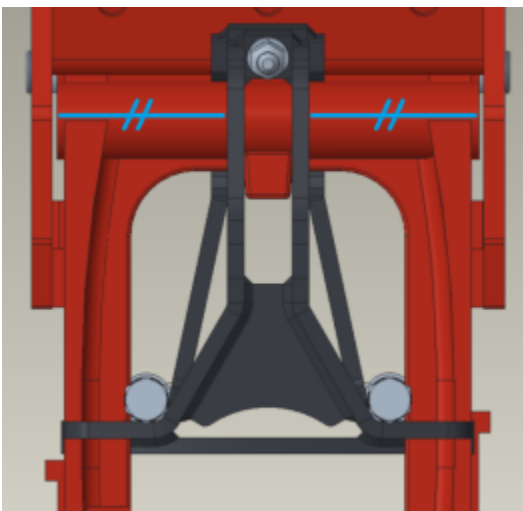


Step 5:

Install the lower parallel arm brackets, one above (712452) and one below (712458) the crossbeam on the lower parallel arm. Use the provided M16 bolts (2), nuts (2), and washers (4) and one M12 bolt, nut, and washer to install the brackets. The lower of the two brackets has the DeltaForce cylinder pin hole.

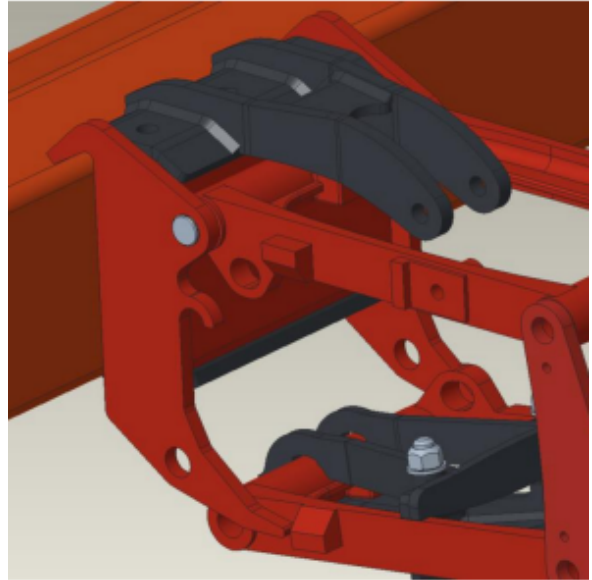


Note: To the right is an overhead picture of the brackets. Make sure both brackets are centered and then tighten all bolts.

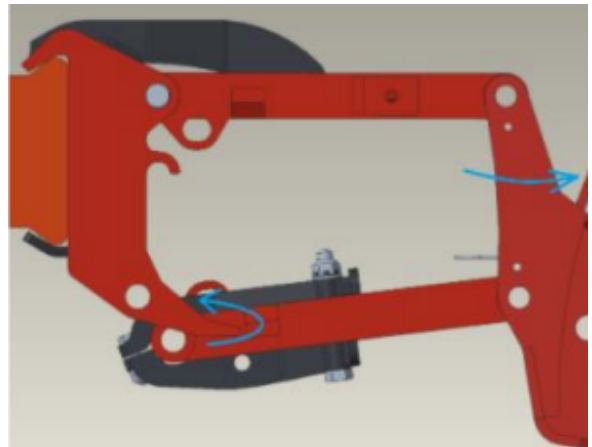


Step 6:

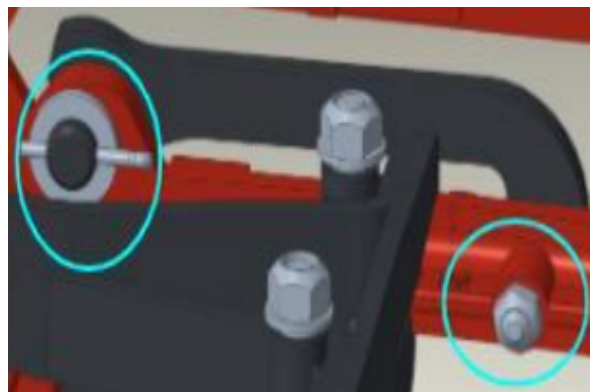
The top flange (shown in step 3) will be replaced by the upper cylinder bracket (Part Number 712447). The lower bracket that was originally on the planter can be reused.

**Step 7:**

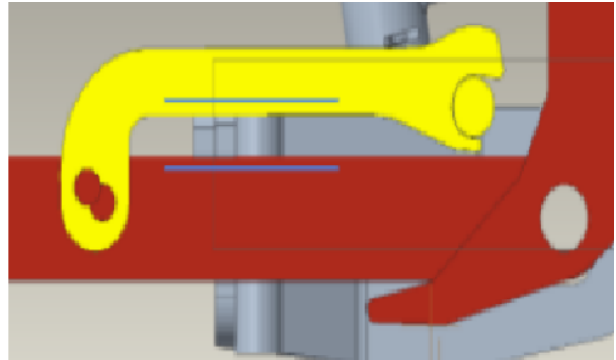
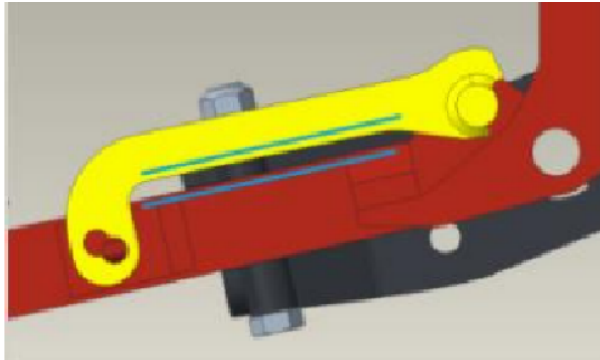
Reinstall the lower parallel arm rod. Pull the lower parallel arm closer to the bar to do so.

**Step 8:**

Using the M22 washer and a cotter pin (M5), install the Top Stop bracket on the right hand side of the lower parallel arm. Secure the bracket with a M12 bolt, M12 locknut, and M12 washer (2) in the end closer to the rear of the row unit. The bracket must be parallel with the lower arm as shown below.



Note: For 2016 and older row units (left) use the lower bracket hole. Newer row units (right) post 2016 will use the upper hole. See pictures for reference.

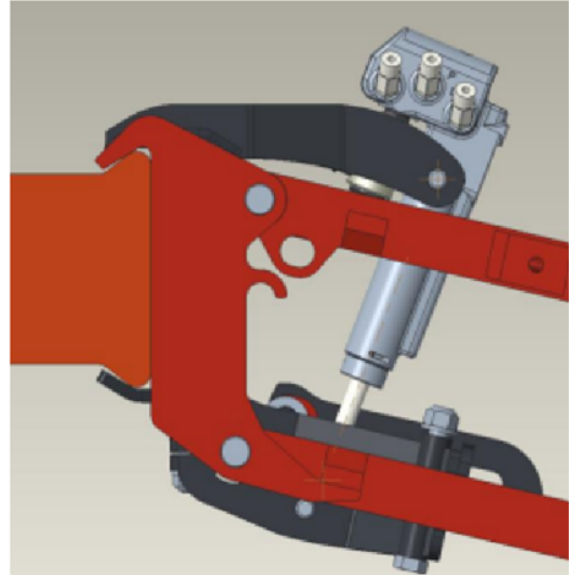
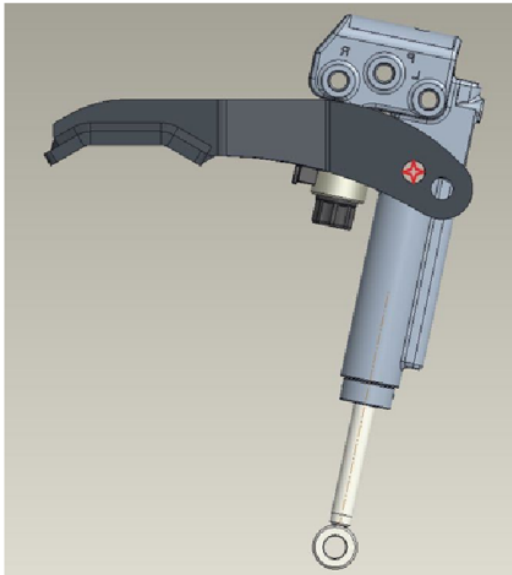


Step 9:

Install the DeltaForce cylinder, fittings, and upper cylinder pin (DF LONG PIN) and cotter pin (5/32X1.25 cotter). The lower cylinder pin and 2 cotter pins (5/32x1.25 cotter) will be installed after the completion of the Air Purge Test.

Note: When installing the Upper DeltaForce cylinder pin (DF LONG PIN) make sure you install it into the forward most hole closest to the planter bar.

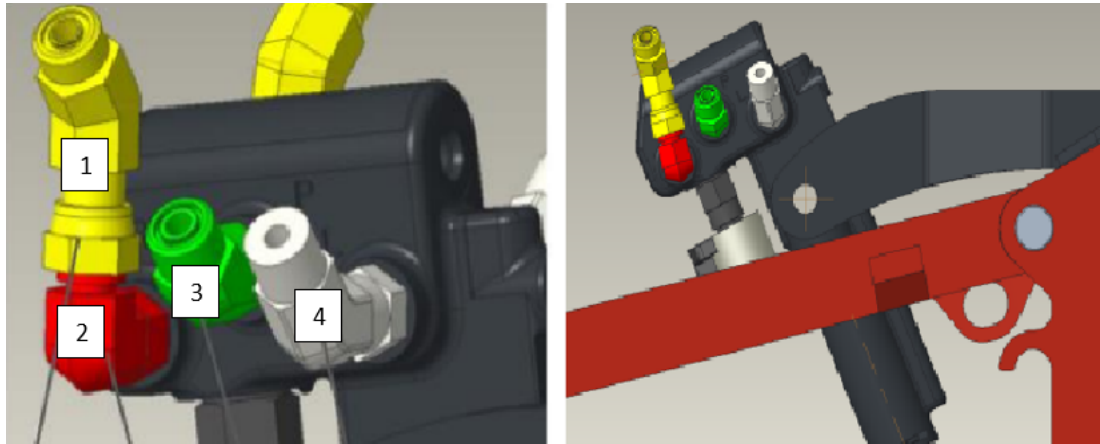
Note: If unable to install the cylinder due to interference with the Vaderstad air pressure system, see step 10.



Step 10:

Using the 729764 Vaderstad Tempo Tight Clearance Fitting Kit, use a 90 fitting (2) with a 45 adapter (1) on both sides of the cylinder in the **rear most hole**. Then use a short fitting (3) in the middle hole on both sides as pictured. The forward most hole will remain a standard fitting (4).

Note: Skip this step if there are no issues mounting the DeltaForce cylinder.

**Step 11:**

After the DeltaForce cylinder and brackets have been installed on all rows and all hydraulic lines connected, the Air Purge Test can be completed. After the completion of the test, the bottom of the DeltaForce cylinder can be pinned with the remaining 712174 cylinder pin and two cotter pins. For more information on the Air Purge Test see the note below.

Note: The Air Purge Test is a health check that is performed with the 20/20 monitor to verify all the air bubbles are purged from the hydraulic system. After the test is complete, the second cylinder pin and cotter pin can be installed. These are the final two steps on the install. Information on how to perform this test can be found in Section 9 of the DeltaForce Hardware Installation guide (955293)