

DeltaForce®

Monosem NG+ 3 & 4 Monoshox Row Unit Installation

 Precision Planting®

Monosem NG+ 3 & 4 Monoshox Row Unit Installation

Monosem NG+ 3 & 4 Monoshox Row Unit Kit: 712106

QTY	PART NUMBER	PART NAME	DESCRIPTION
1	712190	CYLINDER MOUNT BRACKET	
1	712195	LOWER PARALLEL ARM BRACKET	
1	712196	UPPER PARALLEL ARM BRACKET	
1	712198	MONOSHOX HARDWARE KIT	SEE BOX BELOW

Monosem NG+ 3 & Monoshox Hardware Kit: 712198

QTY	PART NUMBER	PART NAME	DESCRIPTION
1	38717	HEX CAP SCREW	M12 X 1.75 X 90 HEX HEAD CAP SCREW ZN
4	65104	PIN	5/32 X 1.25 COTTER ZN
1	90683	NUT	M12 TOP LOCK NUT ZN
2	712174	PIN	CYLINDER PIN
1	712197	BUSHING	0.75 OD X 0.50 ID X 0.725
2	712202	BUSHING	1.0 OD X 0.50 ID X 0.275



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 existing down force system (Monoshox spring). If the metering system is chain drive, remove the drive chain. It may be beneficial to read through row unit Install instructions as some parts of the Monosem row unit may be used for installing DeltaForce.



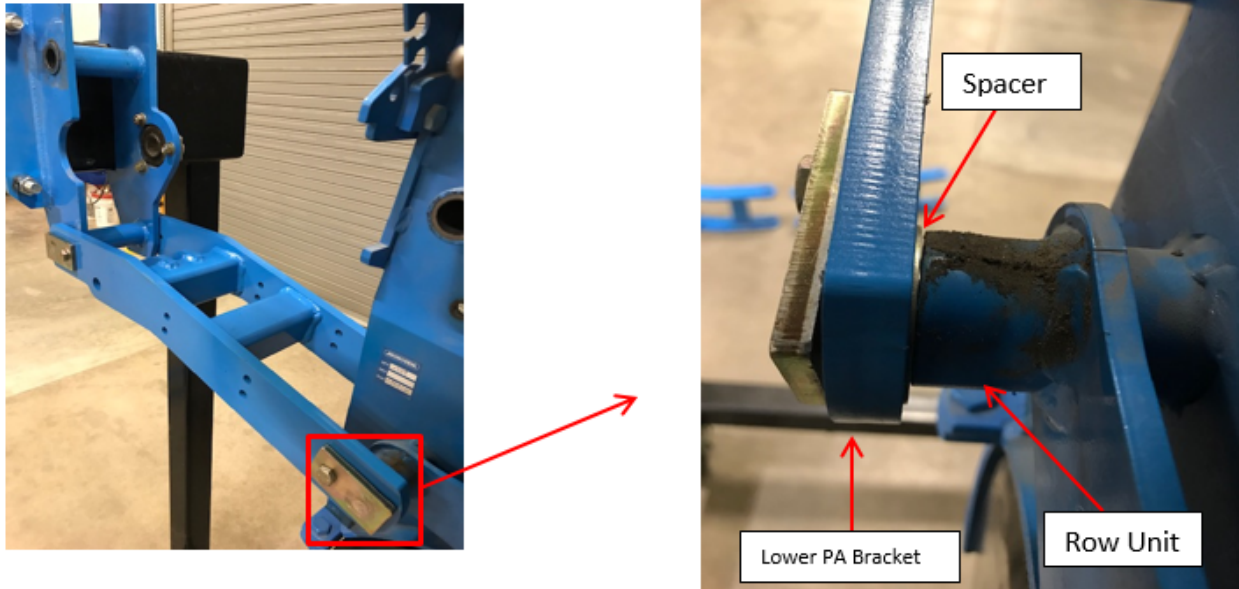
Step 2:

Using an engine hoist or a fork truck, secure the row unit and remove the Monosem lower parallel arm bracket. Save both Monosem parallel arm pins, bolts, and spacers that come out. These parts will also need to be saved when removing the Monosem upper parallel arm bracket. All parts pictured will be reused.



Step 3:

Install the 712195 Deltaforce Lower Parallel Arm Bracket using two of the Monosem pins, four spacers, and two pin bolts that were removed. At the front of the lower parallel arm bracket (closer to bar), the spacer will install between the bracket and Monosem w-plate on both sides. Toward the back of the bracket the spacer will go between the bracket and the row unit on both sides.



Note: It may be easier to remove the entire row unit, except for the w-plate, and lay it on its side to install the bracketing and then reinstall the entire row unit onto the w-plate.

Note: The Deltaforce Lower Parallel Arm Bracket should be installed with the bend in the bracket facing up and closer to the planter bar, just like the picture to the right.



Step 4:

Remove the Monosem upper parallel arm bracket and replace with the 712196 DeltaForce Upper Parallel Arm Bracket. Use the remaining (2) Monosem parallel arm pins, (4) spacers, and (2) bolts. On the end of the bracket closer to the bar, install the spacers between the w-plate and upper parallel arm bracket on both sides of the w-plate. At the opposite end of the bracket (connecting to row unit) the spacers will install between the upper parallel arm bracket and row unit on both sides.



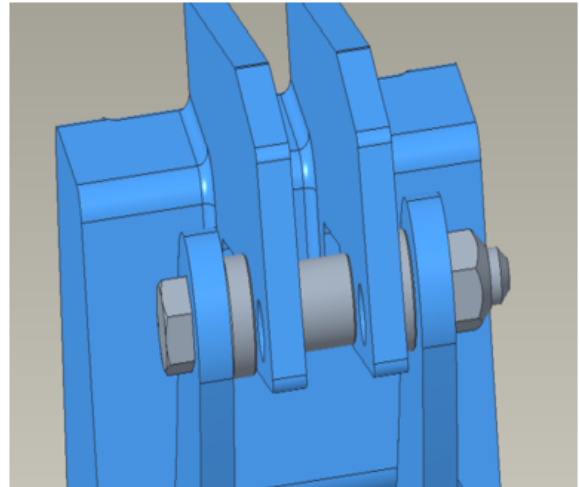
Note: Install the Deltaforce Upper Parallel Arm Bracket with the dip in the bracket facing up and closer to the planter bar.

Step 5:

The hooks on the 712190 Deltaforce Cylinder Mount Bracket will install on the top bar that runs across the w-plate. Install the top of the Cylinder Mount Bracket into the forward most hole (closer to bar) on the w-plate, near where the Monoshox spring was installed. Use the provided M12 bolt, M12 nut, (1) Wider bushing (712197), and (2) Thinner bushings (712202) to complete this step. See the note on this step for orientation of hardware at the top of the bracket. See pictures below for cylinder mount bracket installation.



Note: To install the Cylinder Mount Bracket, the wider bushing will install between the w-plate bracket. The narrower bushings will install between the Cylinder Mount Bracket and w-plate bracket on both sides. See picture on right for reference.



Step 6:

Using one of the 712174 cylinder pins, install the top of the Deltaforce cylinder to the 712190 Cylinder Mount Bracket. The solenoid must be facing the bar to protect it from damage during row unit travel. A cotter pin will be installed on both sides of the cylinder pin. Set aside the other cylinder pin and cotter pins. They will be installed after the air purge test.



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 of the install. Information on how to perform this test can be found in Section 9 of the DeltaForce Hardware Installation Guide (955293).