



Bushel Plus
MAD Concaves



MAD CONCAVES INSTALLATION GUIDE

John Deere X9 Combines



Thank you for choosing Bushel Plus MAD Concaves!

We understand the issues farmers face when it comes to rotor loss, grain quality, and the difficult process of installing and removing heavy, awkward concaves – we've been there!

MAD Concaves™ are designed by farmers for farmers. We define success as helping you achieve the highest levels of yield and quality possible, while increasing your efficiency and profitability through our innovative concaves.

GETTING STARTED

DISCLAIMER

- Please read instructions in full before beginning the install process.
- Ensure proper personal protective equipment (PPE) is worn at all times. This includes CSA approved steel-toe boots, gloves, goggles, pants, and a long sleeve shirt.
- Refer to the manufacturer's operation and service manuals for information on specific calibration and installation/removal procedures.
- When removing and installing concaves, ensure proper lifting techniques are used.

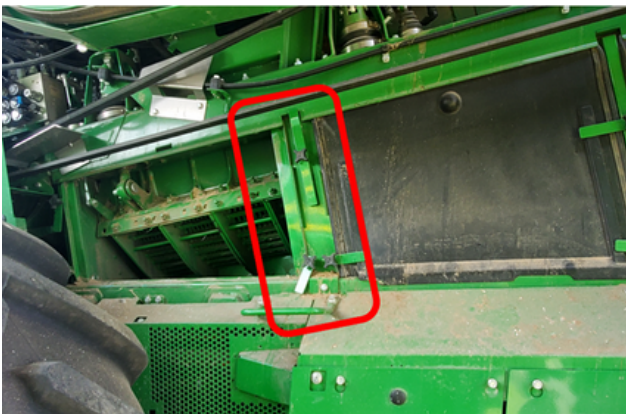
INSTALLATION PROCESS

Tools Required

- Socket sets (metric and imperial)
- Torque wrench

Concave Removal and Installation

- Keep all existing hardware (bolts, etc.) for install of MAD Concaves, but use new nuts.
- Put the rotor gear into Neutral.
- Take the plastic rotor covers off and remove the support post (marked in red square in picture). between the rotor covers



Installation Continued

If you're doing a complete swap:

Start on left side of combine

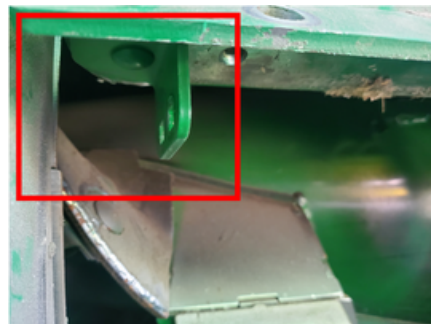
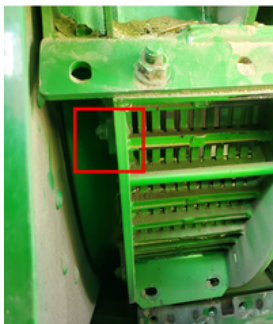
Step 1: Remove the 3rd and 4th position OEM concaves first (this is important for easier installation).

- Remove the two small 1/4" bolts that join the 3rd and 4th position OEM concaves together.
- Remove the four bolts (marked with red circles in picture) from the center locking mechanism (marked with white arrow in picture below) beneath the concave (marked with red dotted square in picture), then remove all bolts from the Z-bar (frame where the concaves are bolted onto).
- Watch out - once the bolts on the Z-bar are loose, the concave is "loose" and can come down/fall down towards the grain pan. Take the concaves out carefully. However, you may have to pry them out of their position if there is dirt in between the concaves or the concaves are deformed. For easier removal, we designed a special bracket on the MAD X9 concaves, that a pry bar can be attached to.



Step 2 - Remove the 1st and 2nd position OEM concaves.

- Follow the instructions set out in step 1 used to remove the 3rd and 4th position concaves to remove the 1st and 2nd position OEM concaves safely. The first position concave has one additional L-shape bracket bolted onto it and the Z-bar from the factory (shown in red square in pictures below). To take the concave out of the first position, the bolt on the concave needs to come out, the bolt which holds the bracket to the Z-bar can stay attached, but may have to be loosened to re-position it and get it back into place.



Installation Continued

Step 3 - Remove the transition lip (read pro tip below before taking it off) from the 1st position OEM concave and install it on the new 1st position MAD Concave.

Pro Tip: The X9 transition lip bracket has slotted holes. Draw a line with a black marker on the OEM concave where the transition lip was sitting. Use that mark to make sure it goes onto the MAD Concave in the same position. The left and right transition lip are different designs and therefore have different part numbers from the OEM.

Step 4 - Install the 1st and 2nd position MAD Concaves.

Step 5 - Re-install the center locking mechanism with 4 bolts.

Step 6 - Re-install the ¼" bolts between 1st and 2nd position concaves.

Step 7 - Re-install the bolt(s) on the L-shape bracket.

Step 8 - Re-install the bolts on Z-bar.

Important: Position 1 and 2 should have concaves installed to keep alignment of the combine concave mounts before you can either change the 3rd and 4th or 5th and 6th position OEM concaves.

Step 9 - Remove the 5th and 6th position OEM concaves.

- Follow the instructions set out in step 1 used to remove the 3rd and 4th position concaves to remove the 5th and 6th position OEM concaves safely.

Step 10 - Install the 5th and 6th position MAD Concaves.

Step 11 - Re-install the center locking mechanism with 4 bolts.

Step 12 - Re-install the ¼" bolts between 5th and 6th position concaves.

Step 13 - Re-install bolts on Z-bar.

Step 14 - Re-install 3rd and 4th position MAD Concaves.

Step 14 - Re-install center locking mechanism with 4 bolts.

Step 15 - Re-install the ¼" bolts between 3rd and 4th position concaves.

Step 16 - Re-install the bolts on Z-bar.

Step 17 - Re-install the support post between the rotor covers

Move to right side of combine

Repeat steps 1-17 above to remove the OEM concaves and install MAD Concaves on the right side of the combine.

Calibration (zero out the concave)

To calibrate, refer to the combine user manual/operator's service manual.



OUR GUARANTEE

Your MAD Concaves have a 12-month guarantee against all defects in materials and workmanship; excluding damage from foreign objects and normal wear of operation.

Questions? We're happy to answer them.

Contact your local Bushel Plus dealer or reach out to one of our specialists.

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