

Conceal™

Conceal Installation

 Precision Planting®

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Overview

The installation of Conceal consists of the row unit mounting bracket and a single knife assembly and gauge wheel for single band systems or two knife assemblies and gauge wheels for dual band systems. The knife assembly and the gauge wheel are not side specific and can be installed on either side of the row unit.

General Installation Notes

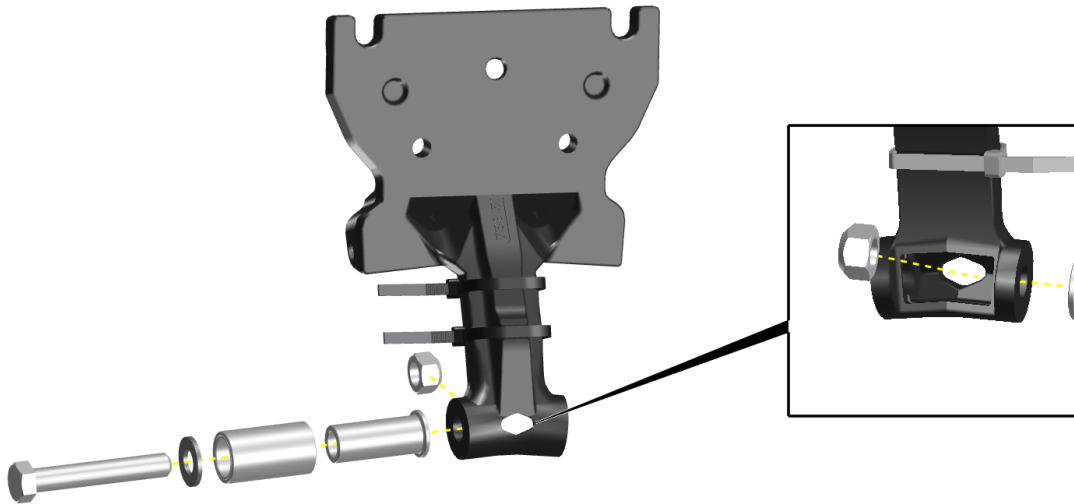
1. In single band installations, install the knife on the side of the row unit respective to the location of the row unit on the planter. (ie. Left side of row unit on left side of planter). This reduces uneven draft forces on the planter.
2. Run 3/8" hose to the faceplate area of the row unit to reduce pressure drop through the line and to improve knife serviceability. (1/4" tubing is required for the final run through the swingarm to the knife PTC fitting).
3. Use an orifice body splitter (758175) on dual band systems in order to split the flow evenly and prevent plugging.
4. Knife pivot assemblies and hose routing zip ties should be installed on the mounting bracket before installing the bracket to the row unit. Knife assemblies **must** be assembled before being installed on the row unit.
5. The alignment of the mounting bracket to row unit is **CRITICAL** to ensure proper alignment of the knife and gauge wheel assemblies. Use the horizontal surface of the "faceplate" as an alignment gauge when aligning the mounting bracket to the faceplate.
6. Complete the full installation and setup on a single row unit before continuing to the rest of the planter. This will allow for a rough depth setting for the Conceal system to be pre-set before installing the remaining rows, requiring only fine-tuning of depth after installation and reducing setup time. This will also help identify any potential clearance issues with other components or add-ons (such as row cleaners).

Mounting Bracket Pre-Assembly

758150, 758160, 758200, 758190, 758350 (Deere, Kinze, Agco, Harvest, PP Ready)

Step 1:

Using the M16 x 100mm bolt and washer, attach the pivot bushing and the hollow pivot shaft to the mounting bracket. Orient the shaft so that the flange is flush against the mounting bracket, not the bolt. Hardware for the pivot assembly is located in the Knife kit (758165).



Step 2:

Torque to 160 ft-lb.

Step 3:

If performing a dual band installation, install both sides. For single band systems, make sure that half the brackets have the pivot on the left and the other half is on the right.

Step 4:

Attach the zip ties from the hardware kit to the center of the bracket in the two recessed grooves to form a routing channel for the liquid line which will be installed later.

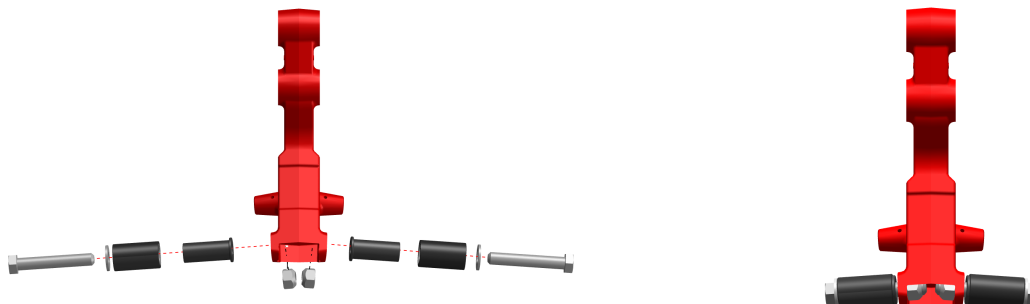
Step 5:

Tighten the zip ties and trim off the loose ends.

758400 (Case IH)

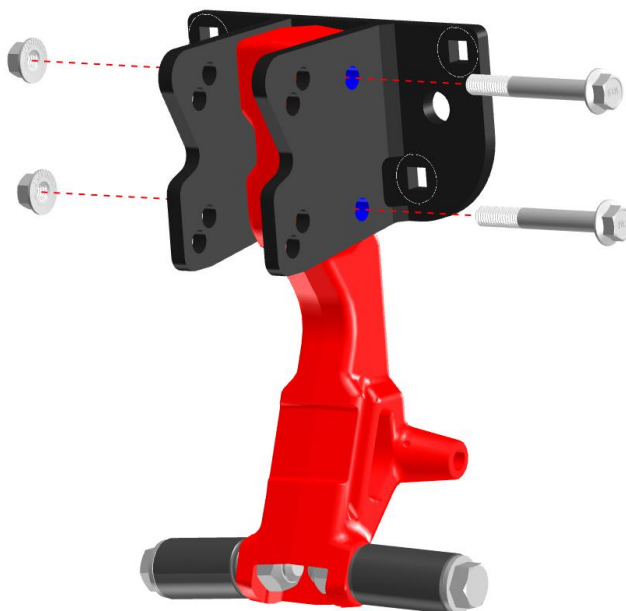
Step 1:

Install the pivot assemblies on to the Case IH Conceal Bracket. Orient the shaft so that the flat is against the bracket. Pivots are located in the 758165 kit. Torque to 160 ft-lb.



Step 2:

Mount the Conceal bracket to the Case IH Faceplate bracket (758402) using (2) of the supplied M12 x 90 flange bolts and nuts. **Do not tighten bolts at this time.** Do not reuse the Case faceplate bracket that was on the row unit.



Row Cleaner Adaptation Notes

YETTER 2967–029/013 ROW CLEANER ADAPTER

The revision of Yetter 2967–029/13 row cleaner that has been installed will determine what parts are needed to mount Conceal on the Planter.

1. “Yetter 2967– 029/013” : Original row cleaner. Does not have any CleanSweep brackets already built in.
 - a. Must use 758155 or 758174 adapter.
2. “Yetter 2967–029/013A” : “A” suffix indicates that the CleanSweep bracket has already been built into the row cleaner.
 - a. Can use 758155 or 758174 adapter
 - b. Can use 2966–2002 rear bracket from Yetter — converts “A” to “A-PP”
3. “Yetter 2967– 029/013A-PP” : “A-PP” suffix indicates that the CleanSweep bracket is included and the pivot has been moved forward to accommodate the Conceal bracket.
 - a. Nothing additional is needed. Row Cleaner is ready for Conceal

John Deere ME2, ME+, XP, ME5, Harvest International, Kinze 4000, and White 9000 will use the 758155 kit. Kinze 2000/3000, John Deere 7000, and White 8000 will use the 758174 kit. Follow the correct installation instructions based on which kit you have

Note: If installing new row cleaners, wait until after installing the Conceal mounting bracket to install the row cleaners.

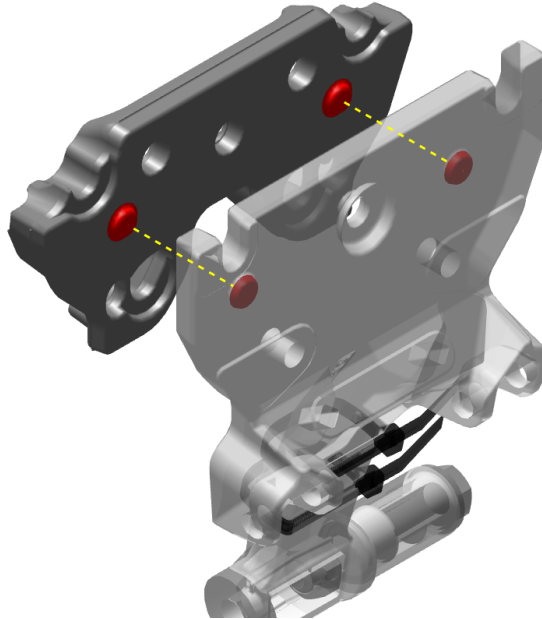
MARTIN ACCR

If installing Conceal with a Martin ACCR row cleaner, it may be necessary to add a cylinder repositioning bracket from Martin to move the cylinder forward. This should only be necessary on a 758161 bracket.

758155 Adapter (Used with 758150– JD, 758200– HI, 758190– Agco, 758160– Kinze 4000)

Step 1:

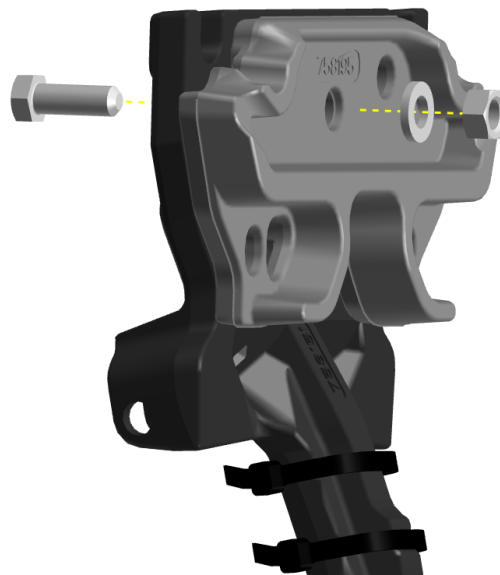
Install the 758155 Yetter adapter bracket onto the Conceal Mounting Bracket. Use the raised alignment pads on the 758155 to align the adapter bracket to the indentations on the Conceal mounting bracket.



Step 2:

Bolt the adapter bracket to the mounting bracket making sure to put the nut and washer on the side toward the row cleaner.

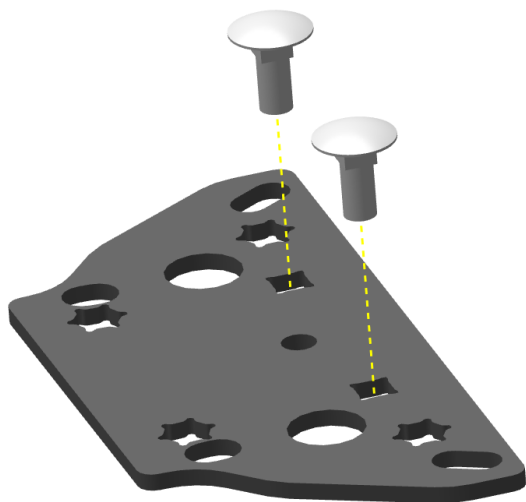
- The 758151 bracket will use the M12 x 35mm hex bolt. (**John Deere and Harvest International**)
- The 758161 bracket will use the flat head bolt. (**Kinze, John Deere 7000, and Agco**) The flat head bolt will fit in the pocket on the 758161 bracket.



758174 Adapter (Used with 758160– Kinze 2000/3000, John Deere 7000 and White 8000)

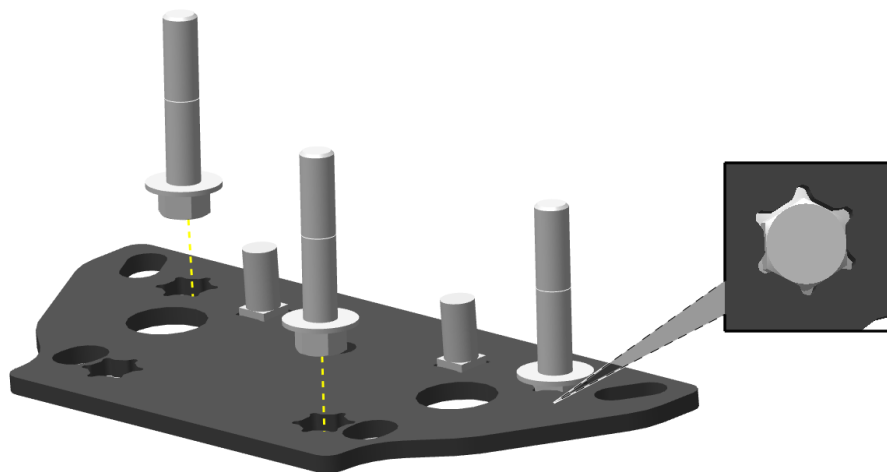
Step 1:

Install Carriage bolts into offset bolt plate and lay flat on work bench (carriage head down).



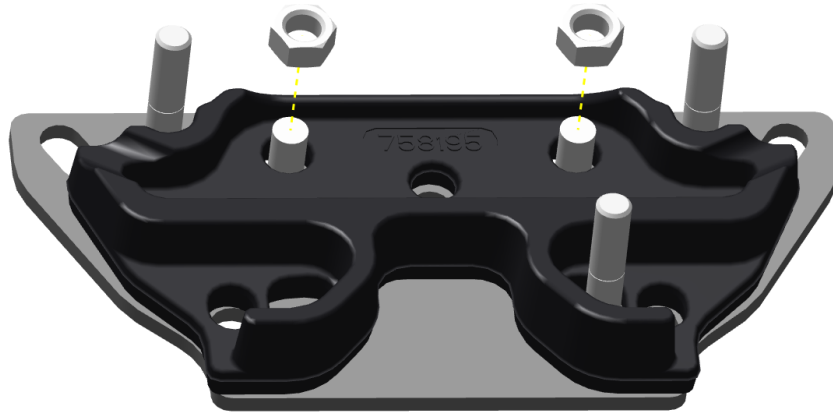
Step 2:

Install (3) M12 flange bolts into offset plate. Make sure that the hex head fits into the hex design of the hole in the plate.

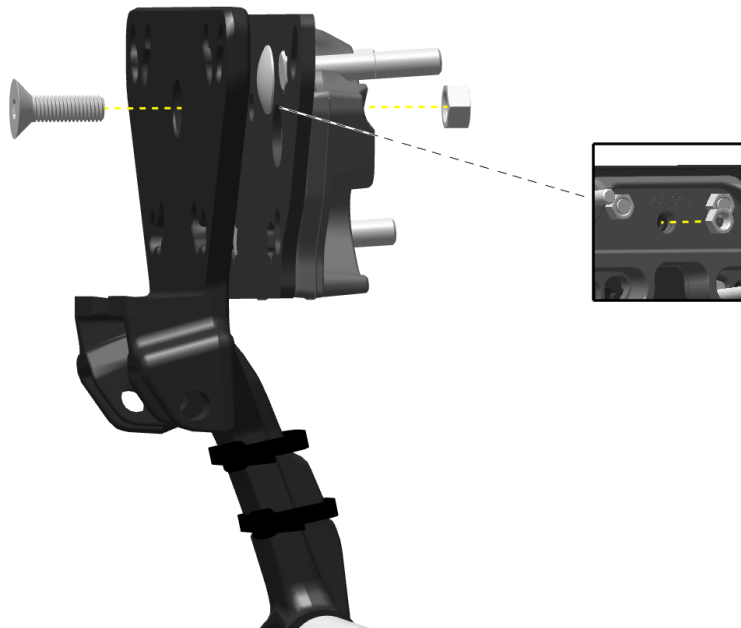


Step 3:

Install the 758195 adapter bracket onto the offset plate. Center on the 2 carriage bolts and tighten nuts.

**Step 4:**

Mount the 758174 assembly to the Conceal mounting bracket (758161) using the flat head bolt and standard nuts. The next step will be to install the bracket onto the row unit.

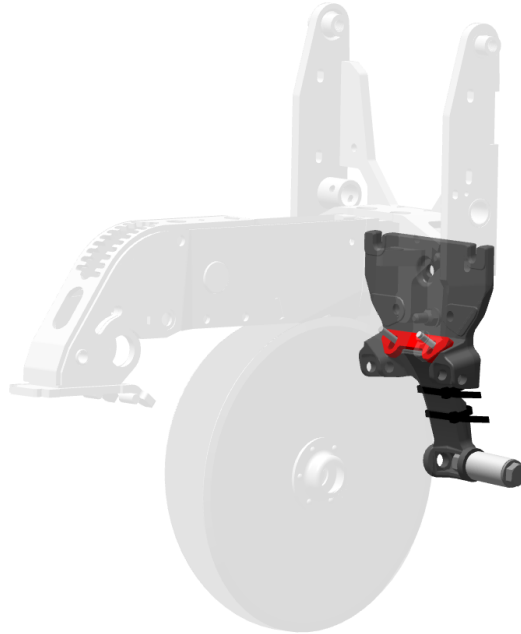


Mounting Bracket Installation

John Deere ME2, ME+, XP, ME5, & Harvest International

Deere and Harvest Bracket Notes

Note 1: Harvest International row units will use the guard shim between the Conceal mounting bracket and the row unit guard mount for all installs. The shim must be installed before installing the mounting bracket onto the row unit. The carriage bolts will hold the shim during install. Make sure to use the hardware that comes in the Conceal mounting bracket hardware kit.



Note 2: If installing Conceal with GFX/RowTech 360 row cleaners, it will be necessary to install the adapter bracket kit first before installing the Conceal bracket. See the GFX/RowTech Adapter install instructions and then come back to the “no row cleaner” install, since the GFX/ RowTechs are frame mounted and not faceplate mounted.

JOHN DEERE & HARVEST INTERNATIONAL — NO ROW CLEANER

Step 1:

Remove disc opener guard.

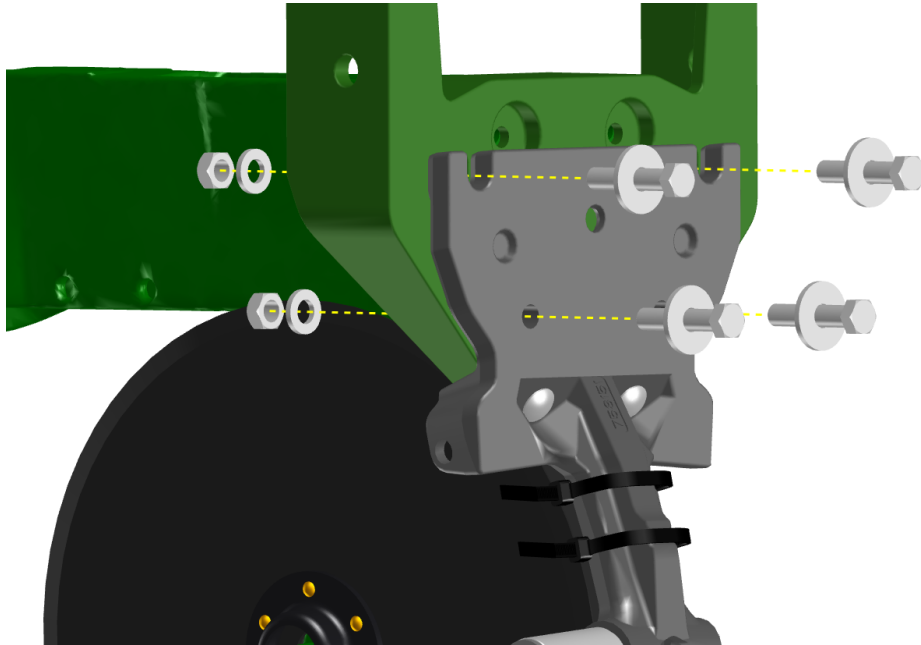
Step 2:

Use the M8 bolts (2) and nuts to mount the bracket to the faceplate of the row unit (John Deere and Harvest International use carriage bolts, Kinze, AGCO 8000, John Deere 7000/2000/3000 uses standard bolts). Start the nuts by hand. Do not fully tighten the nuts at this point. White 9000 and Kinze 4000 will reuse the bolts that held the disc opener guard.



Step 3:

Using the large fender washers, loosely install the four (4) M12 bolts into the faceplate. Use the small washers on the back side with the nuts. Ensure that you can still move the bracket.

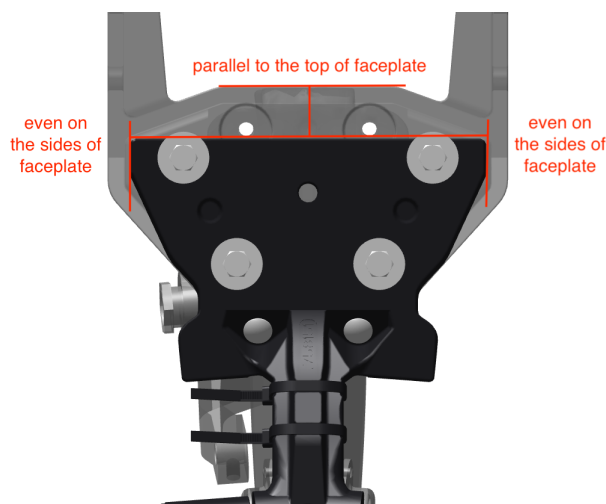


Step 4:

Proper alignment of the bracket on the row unit is CRITICAL to the function of the Conceal system. Use a ratchet to evenly tighten the M8 guard bolts. The mounting bracket must remain parallel to the top of the faceplate.

Step 5:

Verify the alignment of the mounting bracket and then evenly tighten all of the M12 mounting bolts. Verify final alignment. Once the alignment is verified, proceed to the gauge wheel install.



JOHN DEERE & HARVEST INTERNATIONAL — WITH ROW CLEANER

Step 1:

Remove the disc opener guard.

Step 2:

Remove the upper row cleaner mounting bolts. Leave the lower mounting bolts installed until step 4. (If you feel it is easier to completely remove the row cleaner or have not installed the row cleaner yet, you can skip ahead to Step 6.)

Step 3:

Loosely install the new M12 bolts from the hardware kit, leaving the bolts as loose as possible to allow the most clearance between the row cleaner and the row unit faceplate.

Note: If also installing the adapter bracket (758155), use the M12 bolts included in the adapter bracket hardware kit instead of the mounting bracket bolts. Use these for all M12 bolts in the faceplate.

Bolt Length Table

	John Deere	Harvest International	Hardware Located
Normal Install	M12 x 60mm	M12 x 75mm	Mounting Bracket Hardware
With Adapter 758155	M12 x 90mm	M12 x 110mm	Adapter Bracket Hardware

Step 4:

With the upper bolts loosely installed, remove the lower bolts from the row cleaner.

Step 5:

Pull the row cleaner away from the row unit faceplate and slide the Conceal mounting bracket between the row cleaner and the row unit faceplate from below. It may be helpful to have a second person to pull the row cleaner while the first person installs the Conceal bracket.

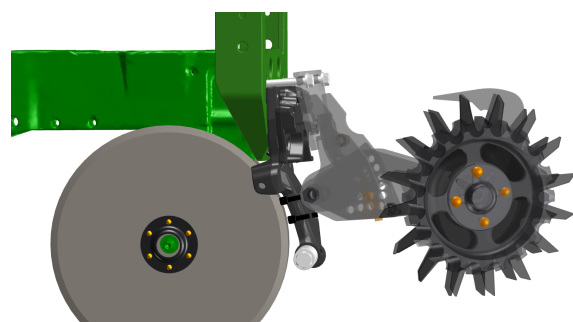


Figure 1.
Yetter 2967-029/013 with Adapter

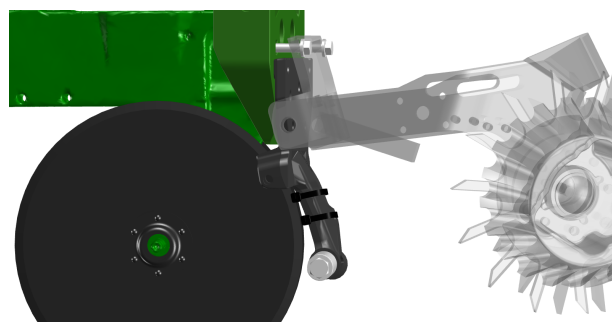


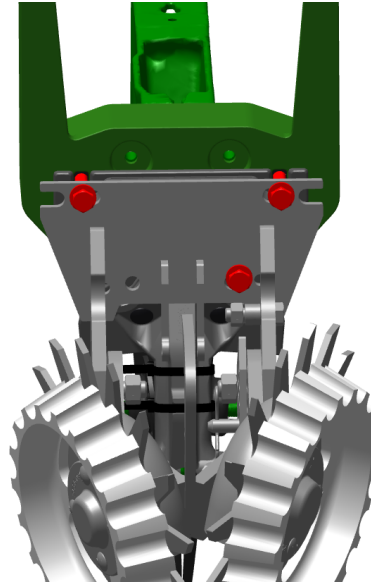
Figure 2.
Martin, or other row cleaners

Step 6:

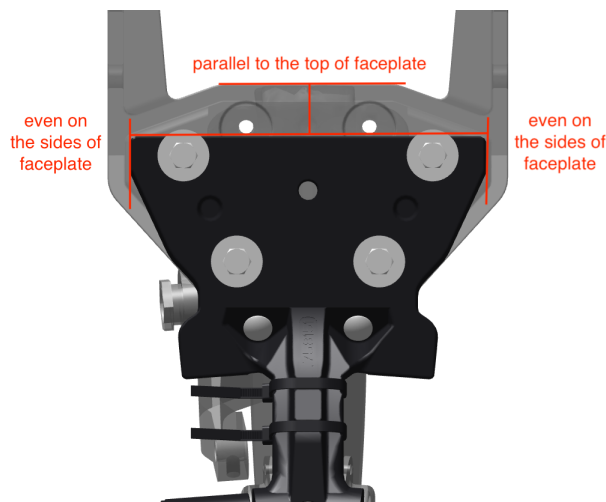
Once the mounting bracket is in position, loosely install the M8 bolts into the faceplate guard to hold the mounting bracket to the row unit. If the row cleaner has been removed, the M8 bolts will hold the Conceal bracket while mounting the row cleaner to the row unit. Do not tighten yet.

Step 7:

Loosely install the lower M12 bolts from the hardware kit. If row cleaner has been removed, reinstall using (4) M12 bolts unless the row cleaner only uses 3 bolts. Leave the bolts loose enough that the bracket can still be moved.

**Step 8:**

Proper alignment of the bracket on the row unit is CRITICAL to the function of the Conceal system. Use a ratchet to evenly tighten the M8 guard bolts. The mounting bracket must remain parallel to the top of the faceplate.

**Step 9:**

Verify the alignment of the mounting bracket and then evenly tighten all of the M12 mounting bolts. Verify final alignment. Once the alignment is verified, proceed to the gauge wheel install.

John Deere with AirAdjust Row Cleaner (758350)

2970-010 COULTER COMBO

Step 1:

Remove the current row cleaner assembly.

Step 2:

Attaching the Mounting Bracket

Mount the Conceal Mounting Bracket (758350) for Air Adjust to the row unit using the M8 serrated flange bolts (NOT the carriage bolts) and flange nuts. Use the ROUND holes BELOW the carriage holes. Do not tighten yet.

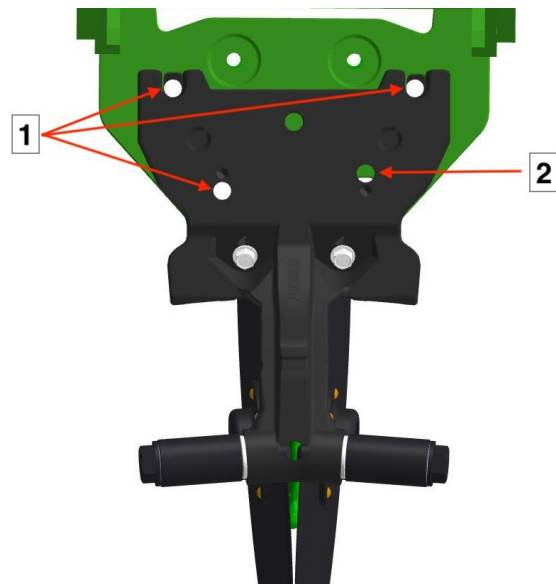


Step 3:

Align the Bracket

Align the bracket to the faceplate and make sure that the top 2 holes and the bottom left bolt holes line up with the row unit faceplate. The bottom right hole will not line up in this configuration and will not be used. Once the bracket is aligned, tighten up the guard bolts.

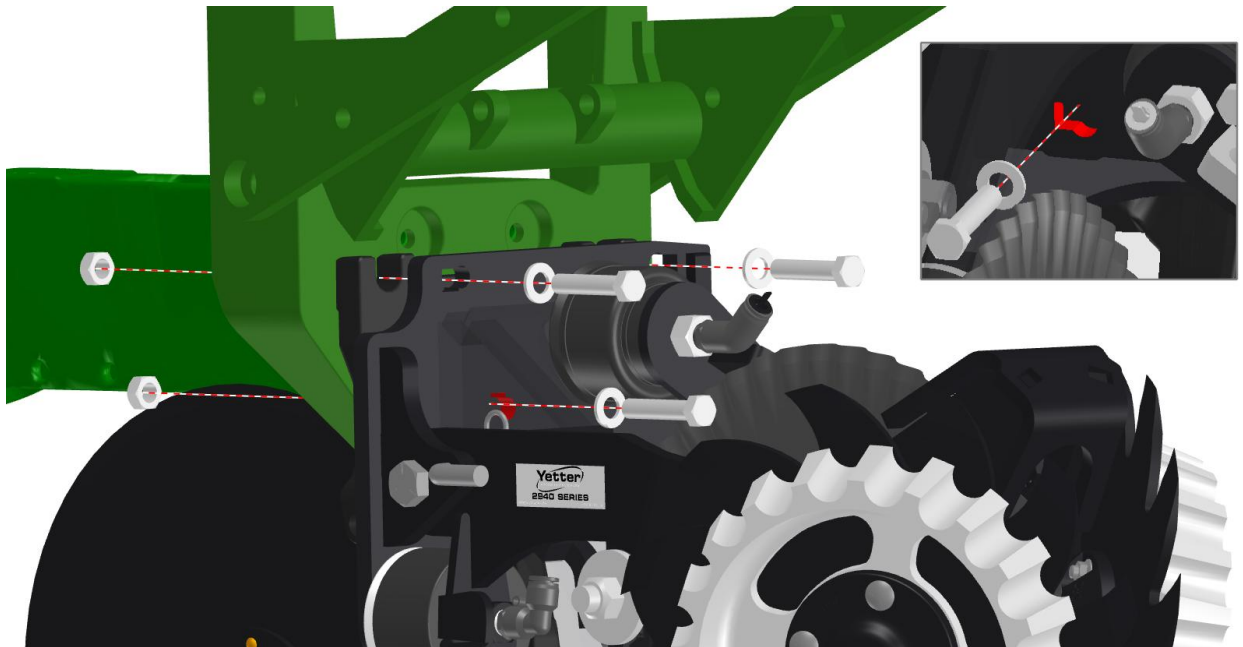
1. Top 2 and bottom left holes — used with the coulter combo install.
2. Bottom right hole does not line up — not used with coulter combo install.



Step 4:

Mount Row Cleaner

Using M12 x 60 bolts, remount the row cleaner to the Conceal mounting bracket and row unit. Use the top 2 and the bottom left bolts to hang the row unit. Check alignment and then tighten bolts. The bottom stop bolt from the row cleaner will need to be removed or replaced with a shorter version.



2940-001 NO COULTER (SHORT) — SHORT ROW UNIT PARALLEL ARMS

Step 1:

Attach Adapter to Mounting Bracket

Use the M12 x 35 bolt and attach the adapter bracket to the Conceal Mounting Bracket (PN 758351). Use the alignment tabs on the adapter bracket to ensure that the bracket sits correctly on the mounting bracket.

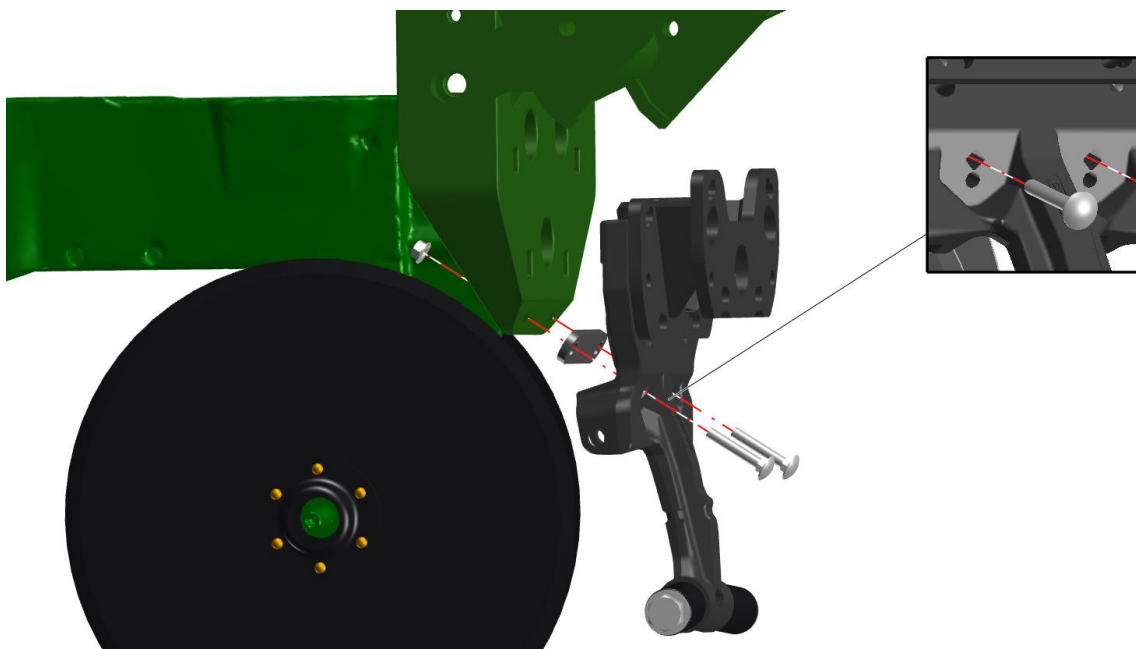


Step 2:

Mount Bracket to Row Unit

Using the M8 carriage bolts (supplied with the adapter bracket) and the guard shim, mount the bracket to the row bracket assembly to the row unit.

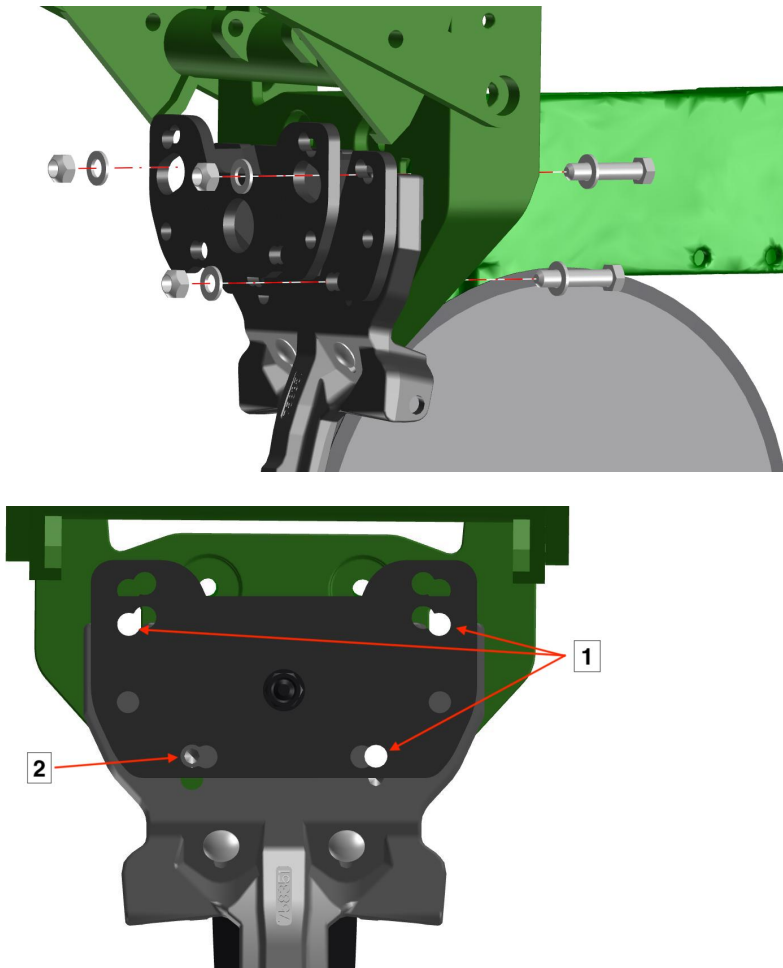
- Make sure the guard shim is position between the bracket and the guard surface of the row unit.
- Use the carriage bolt holes on the mounting bracket, not the round holes.
- Align bracket and tighten guard bolts.



Step 3:

Bolt Bracket to Row Unit

Use the M12 x 60 bolts supplied with the 758350 kit to bolt the bracket assembly to the row unit faceplate. Only use the top 2 and the bottom right holes. **The bottom left hole does not line up and is not used in this configuration.**

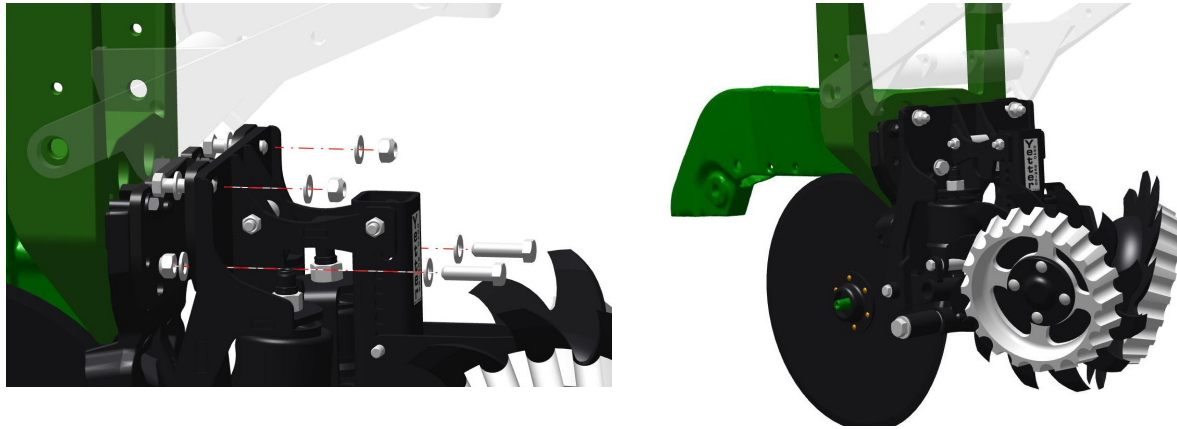


1. Top 2 and bottom right holes — used with the 2940–001 (No Coulter) Row Cleaner
2. Bottom left hole does not line up — not used with 2940–001 (No Coulter) Row Cleaner

Step 4:

Mount Row Cleaner

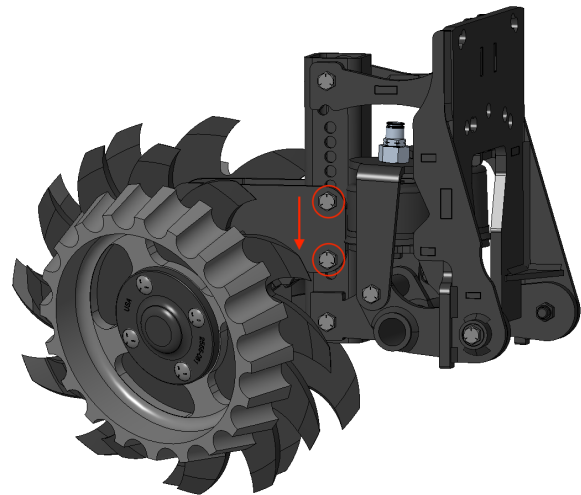
Use the M12 x 45 bolts supplied with the 758355 Adapter kit to mount the row cleaner to the adapter bracket. All 4 bolts will be used to hold the row cleaner on. Tighten when finished. Note the orientation of the bolts — top 2 bolts come from the back to the front with the nuts on the row cleaner side.



Step 5:

Row Cleaner Adjustment

It is recommended that the wheel mount of the row cleaner be moved down the adjustment tube by one set of holes from where it is currently installed. Remove both bolts and move them down one hole. This is because the back of the row cleaner has been moved up slightly.



2940-001 NO COULTER (SHORT) — LONG ROW UNIT PARALLEL ARMS

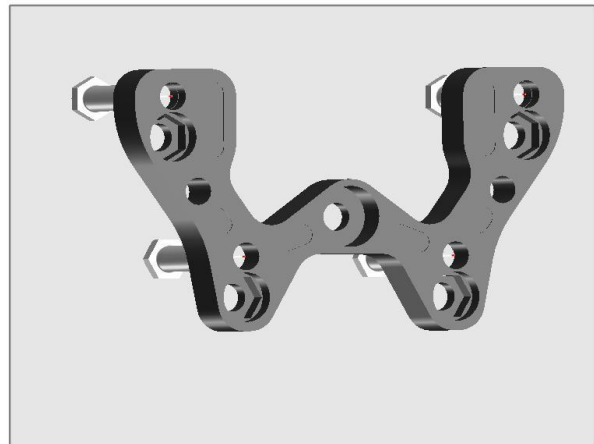
Step 1:

Long Parallel Arm Adapter Bracket

Insert 4 M12 x 45 bolts into the adapter bracket. Make sure to insert them into the bracket from the **back side** so the bolt heads will fit into the correct hex pocket. The back side of the bracket does not have the large cutout for the center bolt.



1



2

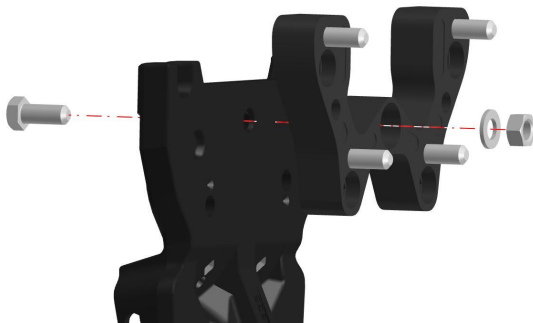
1. Back side

2. Front side

Step 2:

Attach Adapter to Mounting Bracket

Using the supplied M12 x 35 bolts, attach the adapter to the mounting bracket. Make sure the lower bolts stay into position and do not fall out of the hex pockets.

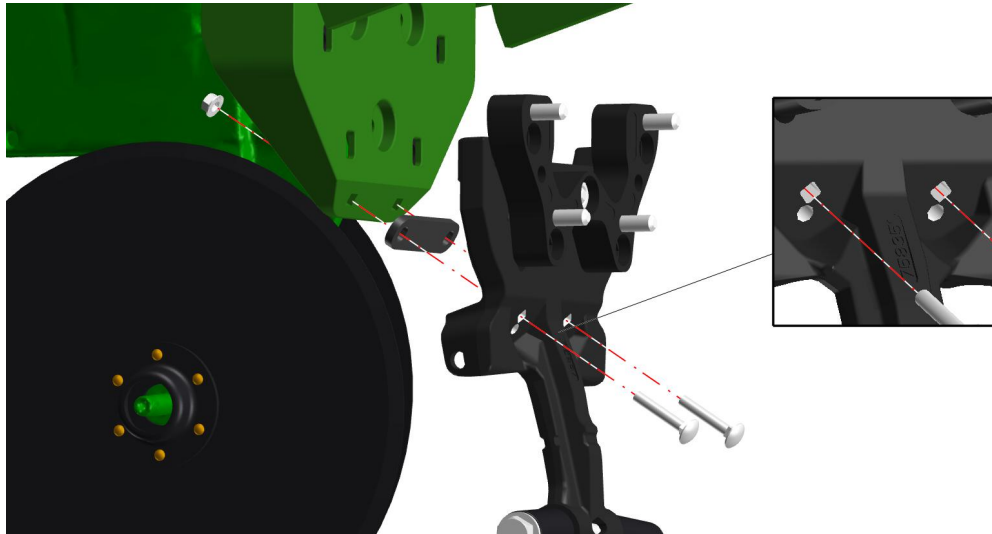


Step 3:

Mount Bracket to Row Unit

Using the M8 carriage bolts (supplied with the adapter bracket) and the guard shim, mount the bracket assembly to the row unit.

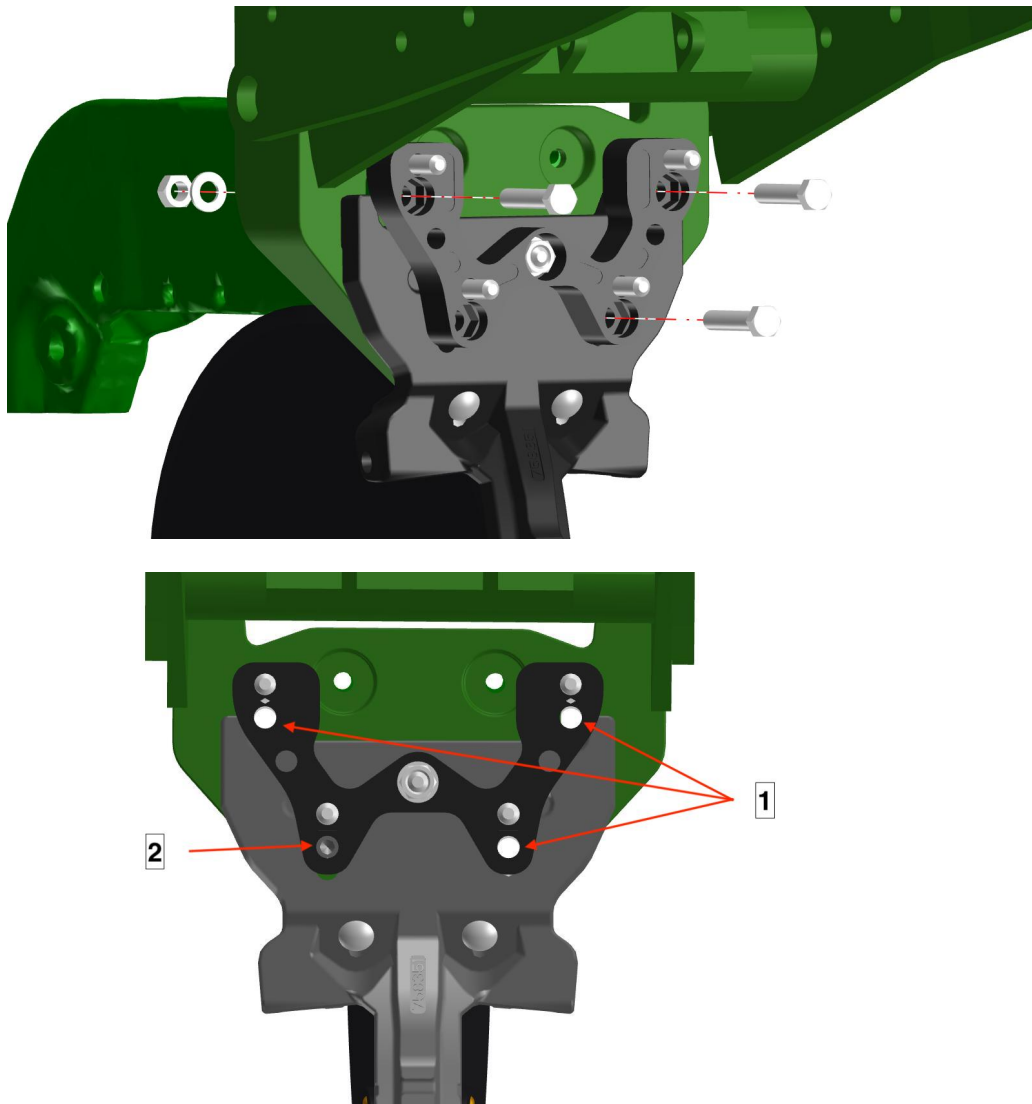
- **Make sure the guard shim is position between the bracket and the guard surface of the row unit.**
- **Use the carriage bolt holes on the mounting bracket, not the round holes.**
- **Align bracket and tighten guard bolts.**



Step 4:

Bolt Bracket to Row Unit

Use the M12 x 60 bolts supplied with the 758350 kit to bolt the bracket assembly to the row unit faceplate. Only use the top 2 and the bottom right holes. **The bottom left hole does not line up and is not used in this configuration.**

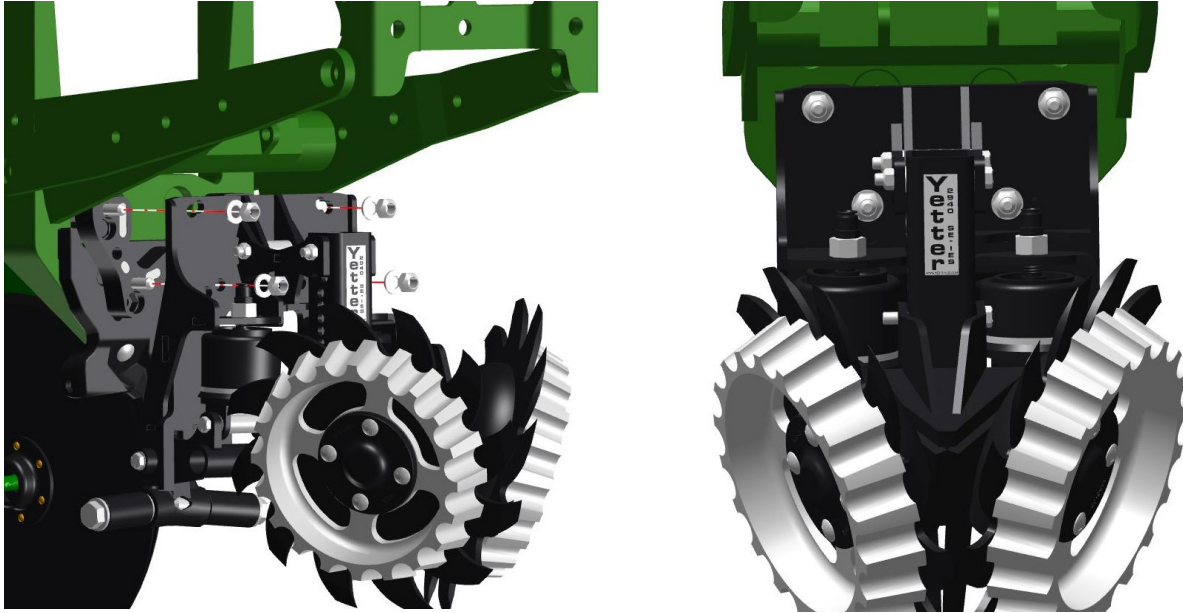


1. Top 2 and bottom right holes — used with the 2940–001 (No Coulter) Row Cleaner
2. Bottom left hole does not line up — not used with 2940–001 (No Coulter) Row Cleaner

Step 5:

Mount Row Cleaner

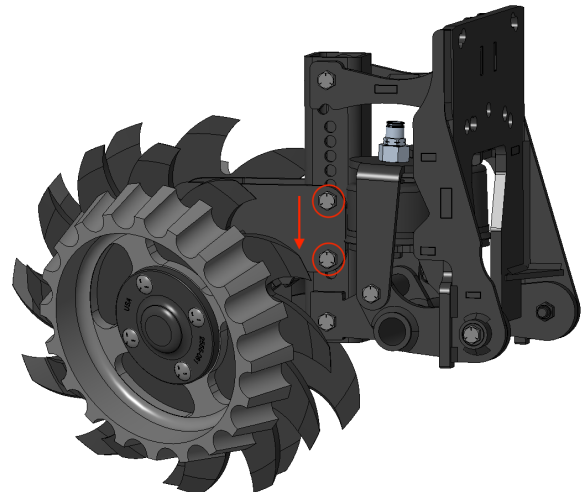
Use the 4 bolts that are sticking out of the adapter to mount the row cleaner on the row unit and tighten the bolts. Bolts should be locked in by the hex pockets and the nuts should be the only thing that turns.



Step 6:

Row Cleaner Adjustment

It is recommended that the wheel mount of the row cleaner be moved down the adjustment tube by one set of holes from where it is currently installed. Remove both bolts and move them down one hole. This is because the back of the row cleaner has been moved up slightly.



Kinze, White/Agco/PP Ready, John Deere 7000

KZ, WHITE/AGCO/PP READY, JD 7000 — NO ROW CLEANER

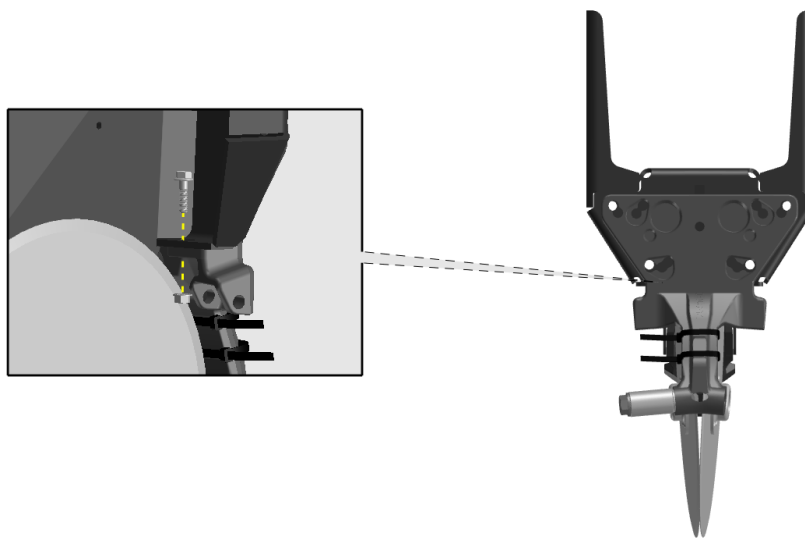
Note: If installing Conceal with GFX/RowTech 360 row cleaners, it will be necessary to install the adapter bracket kit first before installing the Conceal bracket. See the GFX/RowTech Adapter install instructions and then come back to the “no row cleaner” install, since the GFX/ RowTechs are frame mounted and not faceplate mounted.

Step 1:

Remove disc opener guard. **White 9000** and **Kinze 4000** — KEEP the bolts and nuts!

Step 2:

Use the M8 bolts (2) and nuts to mount the bracket to the faceplate of the row unit. Kinze 2000/3000, AGCO 8000, and John Deere 7000 will use the standard bolts in the mounting hardware kit. **White 9000** and **Kinze 4000** will reuse the bolts that held the disc opener guard. Start the nuts by hand. Do not fully tighten the nuts at this point .



Step 3:

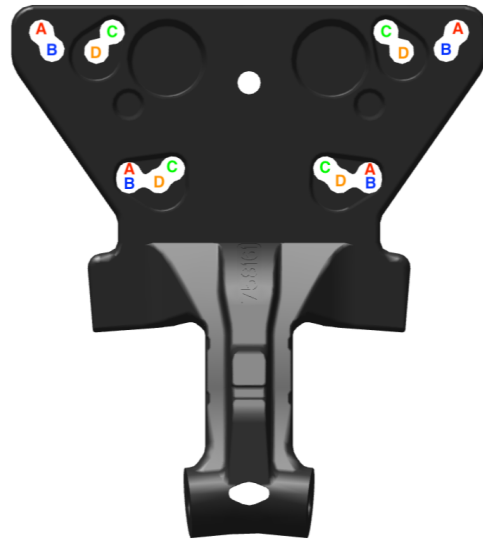
Using the large fender washers, loosely install the four (4) M12 bolts into the faceplate. Use the small washers on the back side with the nuts. Ensure that you can still move the bracket.

A: Kinze 3000

B: Agco 8000, John Deere 7000, Kinze 2000

C: Kinze 4000

D: Agco 9000



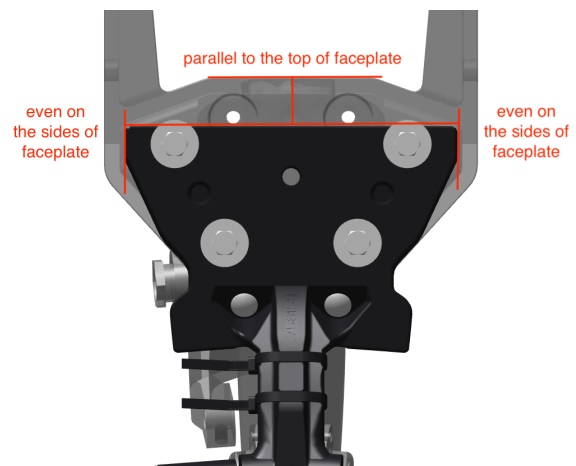
Step 4:

Proper alignment of the bracket on the row unit is **CRITICAL** to the function of the Conceal system. Use a ratchet to evenly tighten the M8 guard bolts. If tightening the M8 bolts tips the top of the mounting bracket too far away from the faceplate, leave the M8 bolts loose and remove them once the M12 bolts are installed and tight.

The mounting bracket must remain parallel to the top of the faceplate.

Step 5:

Verify the alignment of the mounting bracket and then evenly tighten all of the M12 mounting bolts. Verify final alignment. Once the alignment is verified, proceed to the gauge wheel install.



KZ, WHITE/AGCO/PP READY, JD 7000 — WITH ROW CLEANER

Step 1:

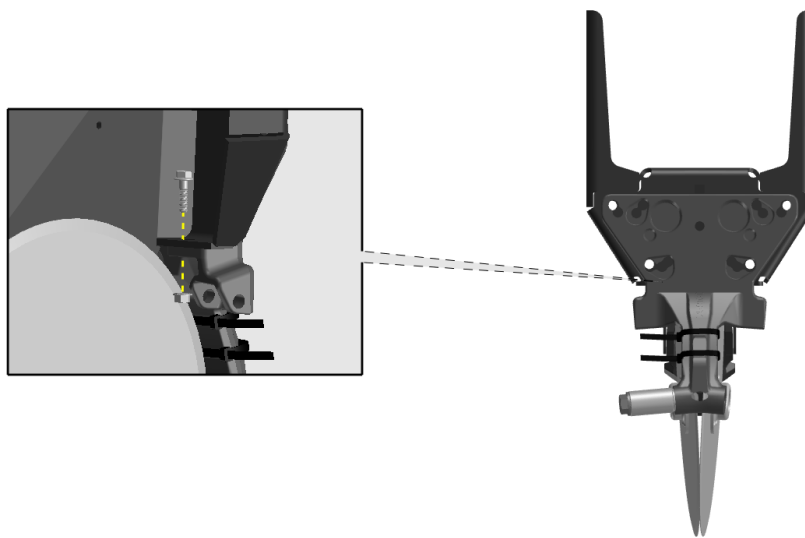
Remove the row cleaner.

Step 2:

Remove the disc opener guard. **White 9000** and **Kinze 4000** — KEEP the bolts and nuts!

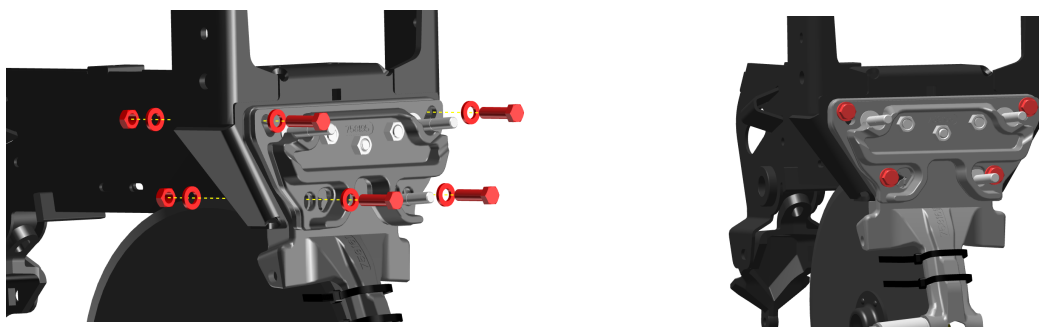
Step 3:

Use the M8 bolts (2) and nuts to mount the bracket to the faceplate of the row unit. Kinze 2000/3000, AGCO 8000, and John Deere 7000 will use the standard bolts in the mounting hardware kit. **White 9000** and **Kinze 4000** will reuse the bolts that held the disc opener guard. Start the nuts by hand. Do not fully tighten the nuts at this point .



Step 4:

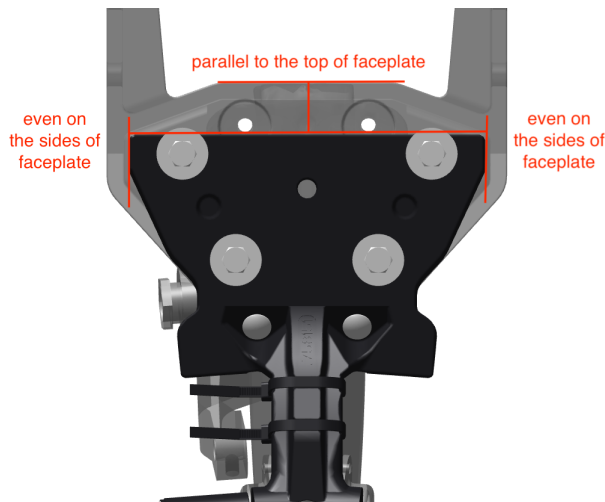
If the 758174 (for Yetter 2967–029/013) bracket is being used, leave the row cleaner off and install the (4) M12 bolts to hold the Conceal bracket to the row unit. If not using the 758174 adapter, install row cleaner on top of the Conceal bracket using (4) M12 bolts to hold the row cleaner and bracket to the row unit. Do not tighten any of the M12 bolts — bracket needs to be able to move at the end of this step.



Step 5:

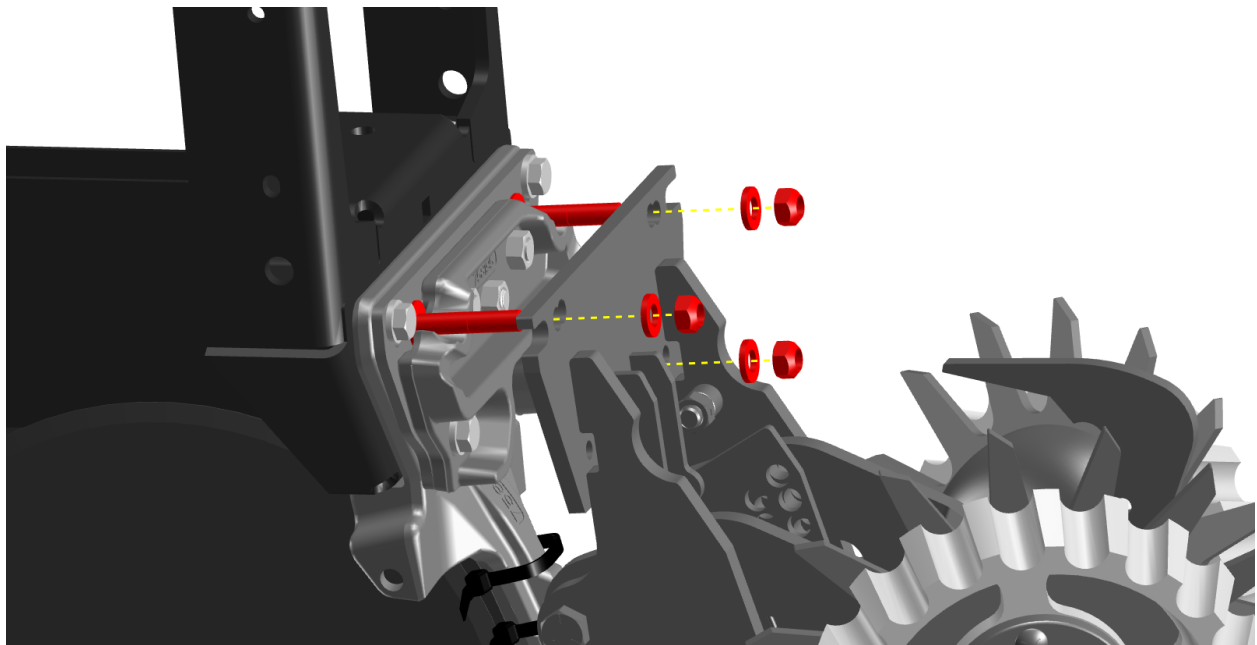
Proper alignment of the bracket on the row unit is **CRITICAL** to the function of the Conceal system. Use a ratchet to evenly tighten the M8 guard bolts. If tightening the M8 bolts tips the top of the mounting bracket too far away from the faceplate, leave the M8 bolts loose and remove them once the M12 bolts are installed and tight.

The mounting bracket must remain parallel to the top of the faceplate.



Step 6:

Verify the alignment of the mounting bracket and then evenly tighten all of the M12 mounting bolts. Verify final alignment. If using the 758174 and a Yetter 2967-029/013, install the row cleaner at this point using the 3 bolts that are sticking out of the bracket. Tighten as needed.



Case IH 12xx/21xx

Note 1:

Important Operation Note for Conceal on Case Row Units:

Less down force will need to be applied to the row unit when using the Standard Conceal Gauge wheel with the Case IH row unit. The Standard Conceal Gauge Wheel does not have the reduced inner diameter section and will hold the furrow profile a little tighter. Because of this, it does not need the additional downforce to hold the furrow open. **Running higher downforce makes it more difficult to close the furrow.** If running RID style Conceal wheels, use normal downforce settings.

Note 2: Make sure to keep all the pins and shims for the gauge wheel arms when they are removed. Thinner shims will come in the CNH knife adapter kit (758405) that will be used to tighten up the play in the gauge wheel arm. Make sure to use them as needed.

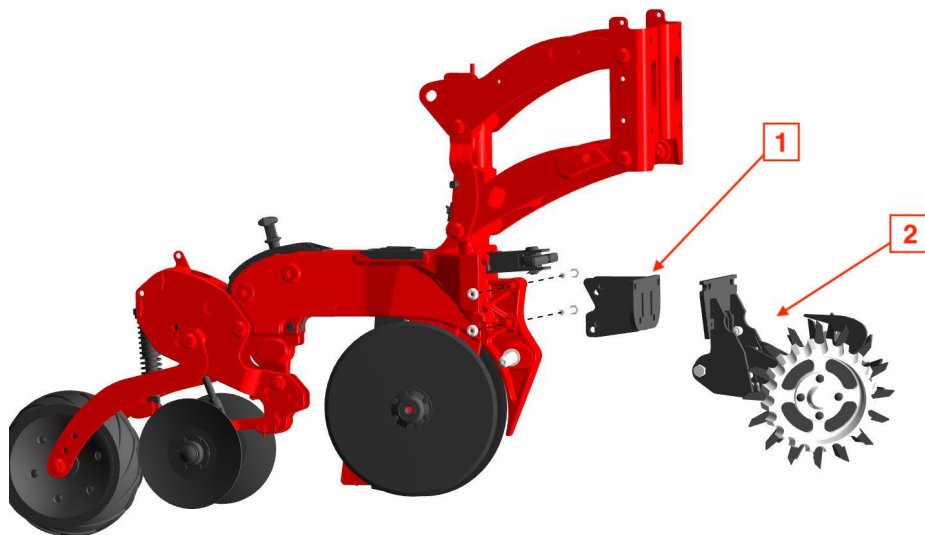
Note 3: if the knife will not align to the slot in the gauge wheel and all adjustments have been made to the mounting bracket and the wheel, then it is recommended to use the angled shim (758380) on the pivot assembly to set the correct knife angle to the slot in the gauge wheel.

ALL CASE IH 12xx/2100 INSTALLS

Step 1:

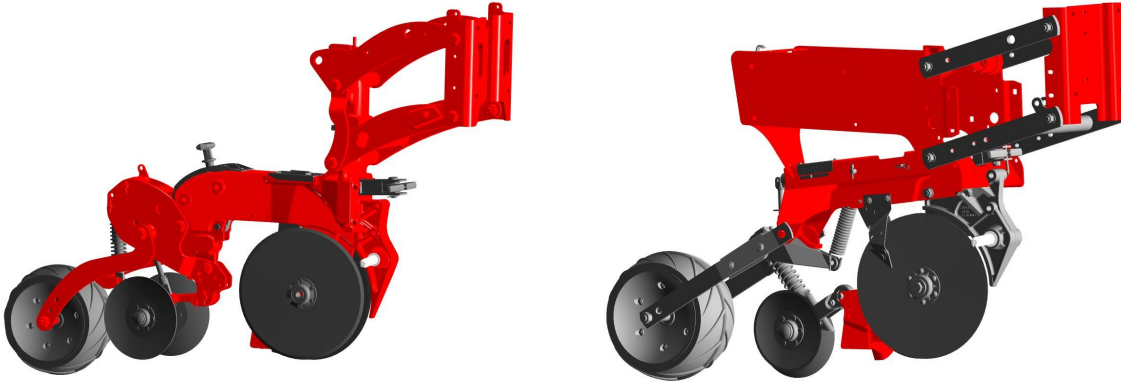
Row Unit Preparation

Remove the row cleaner and the gauge wheels (save pins and shims for reuse). If the row unit has a faceplate bracket and/or row cleaner, remove them as well.



1. Faceplate bracket
2. Row Cleaner

Note: Row units ready for Conceal install

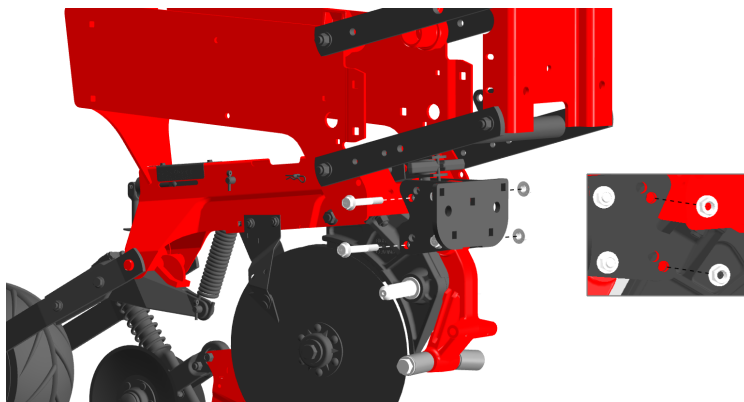
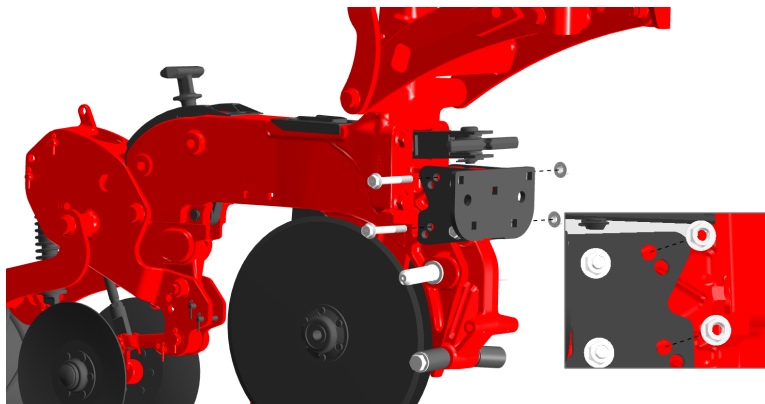
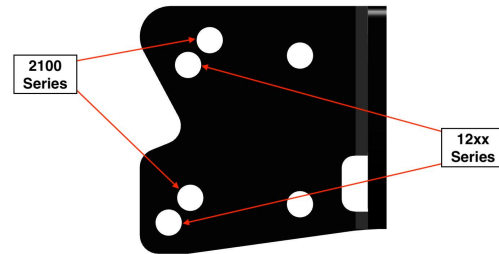


Step 2:

Mount Conceal Bracket to Row Unit

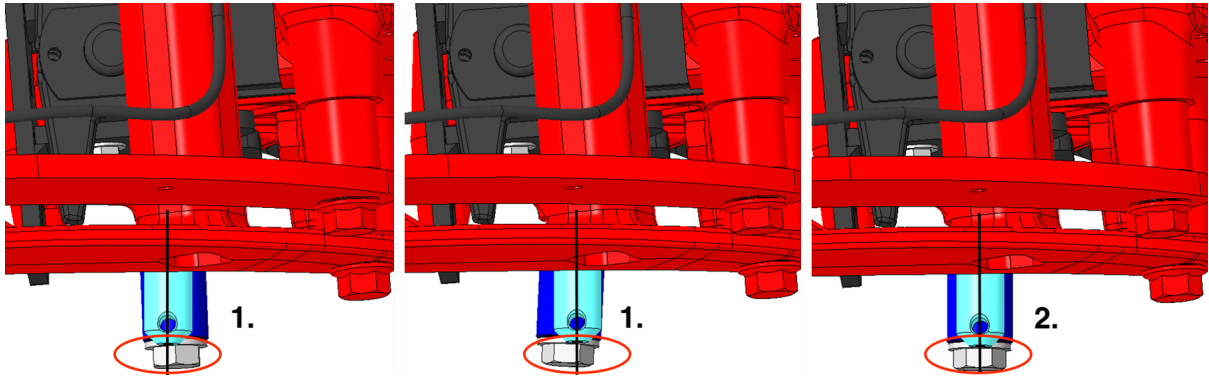
Attach the Conceal pivot mount from the Bracket Pre-Assembly using the supplied M12 x 90 flange bolts and serrated nuts. Do not tighten yet.

- Case 2000 – series planters will use the top bolt holes on the faceplate.
- Case 12xx - series planters will use the bottom holes on the faceplate.



CRITICAL!!

1. Pull the bottom of the bracket away from the disc openers and snug bolts up so that the bracket is held in position.
2. Check the bracket to make sure that is straight and square to the row unit. This can be verified by looking down (or up from the bottom) at the Case IH gauge wheel arm shaft and conceal pivot shaft. They should line up on the same plane.



1. INCORRECT

2. CORRECT

3. If the bracket has not moved and is still aligned, apply torque to the bolt head and tighten fully to 105 ft-lbs. Do NOT apply torque to the serrated nut.
4. Tighten the M12 bolts that hold the Conceal bracket to the faceplate.

Failure to install the bracket as specified may damage the faceplate bracket!

GFX / RowTech Adapter (758370)

GFX / ROWTECH NOTES:

Note 1: This bracket is not needed on long Parallel arm row units.

Note 2: This bracket will move the row cleaner forward roughly 7". Transport wheels in front of the tool bar often limit forward travel of the row cleaner. If the row cleaner cannot be moved forward, long parallel arms or a set back bracket will need to be installed on those rows.

Note 3: Make sure to fit one row up and check clearance before doing all rows. Make sure that all hydraulic hoses / air lines can accommodate the row cleaner shifting forward.

Step 1:

Remove GFX row cleaner from row unit bracket.

Don't remove the bracket that attaches to the W plate and parallel arms.



Step 2:

Mount adapter bracket

Mount the adapter bracket on each side, inserting the supplied carriage bolts from the outside. The small inset should be to the inside of each bracket.

GFX row cleaners will use 7/16" bolts

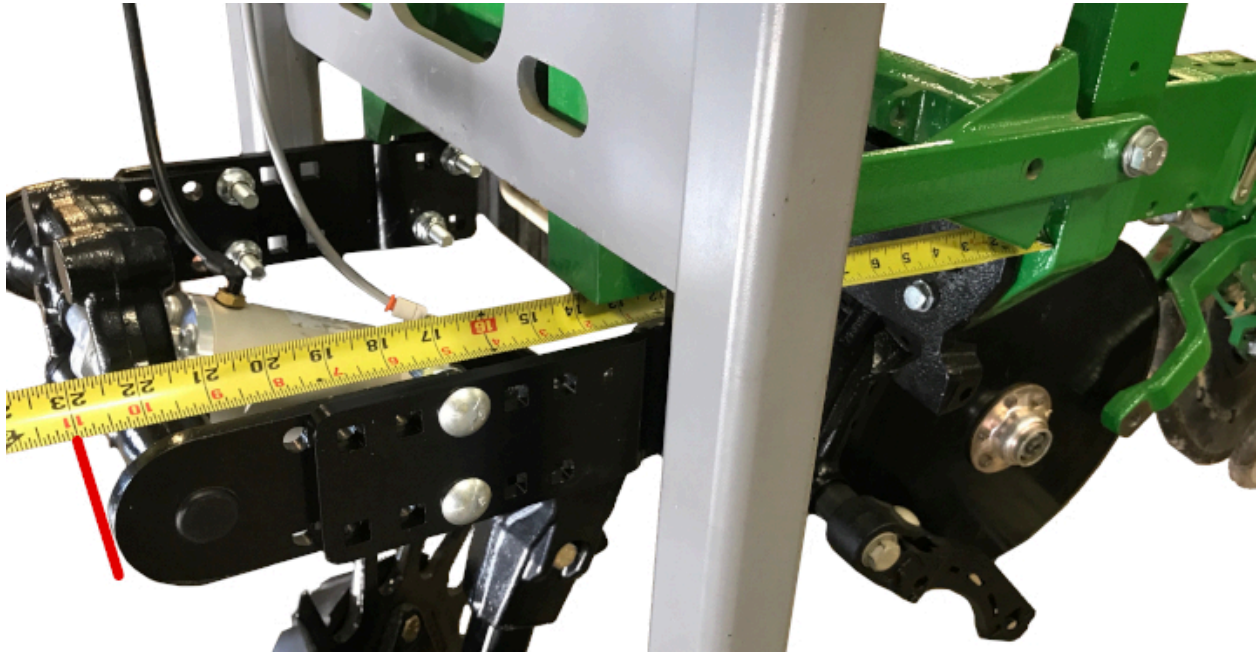
RowTech row cleaners will use 1/2" bolts.



Step 3:

Set row cleaner

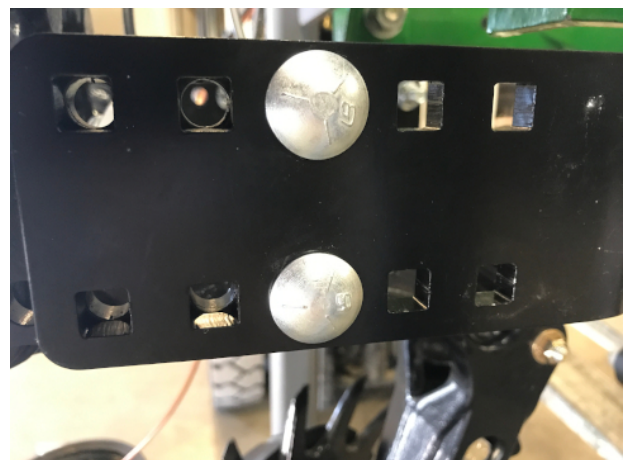
Position row cleaner between the adapter brackets and lay a tape measure from the faceplate to the front of the GFX/ RowTech row cleaner. You will need 23 inches to the front rounded edge of the row cleaner, with the row unit in planting position.



Step 4:

Bolt row cleaner to bracket

Bolt the row cleaner to the adapter bracket using the supplied carriage bolts. Generally you should be in the 3rd hole on the bracket and the last hole on the row cleaner.



Wheel Assembly

Gauge Wheel Installation

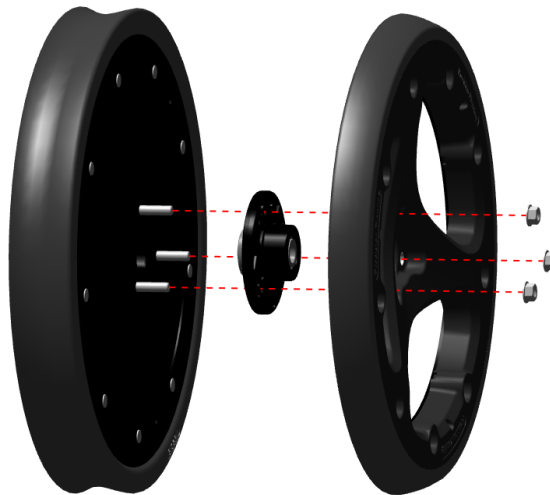
Step 1:

Remove the existing gauge wheels from the side(s) of the row unit on which a Conceal knife will be installed. The gauge wheel arm does not need to be removed. Do not lose the shims as they will be used when installing the Conceal Gauge wheel.

Step 2:

Install the new Conceal gauge wheels on the gauge wheel arms. Reinstall the shims as they were previously installed and verify that the new gauge wheels are correctly adjusted to the disc openers.

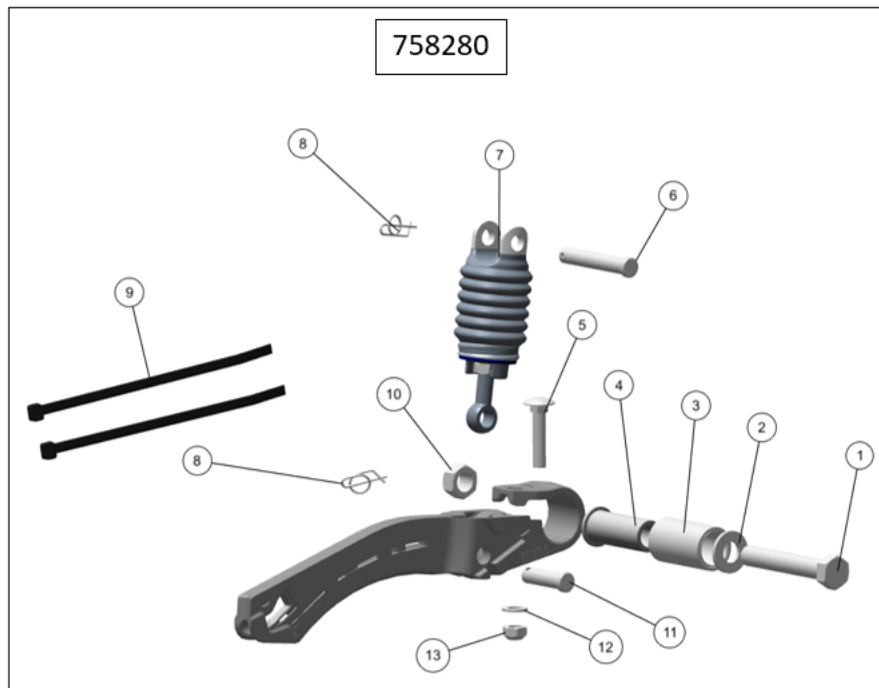
Note: If assembling gauge wheels, note the image below for the assembly process. This is the same for all styles of gauge wheels.



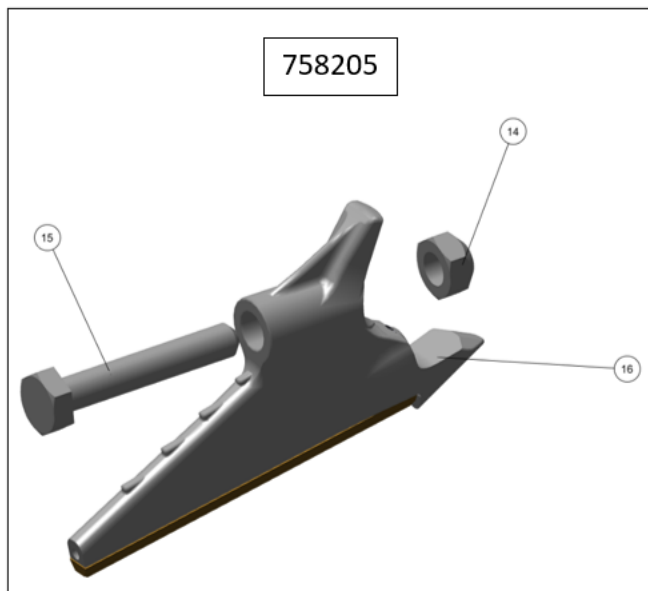
Torque nuts to 22 Ft-lbs.

Knife Assembly

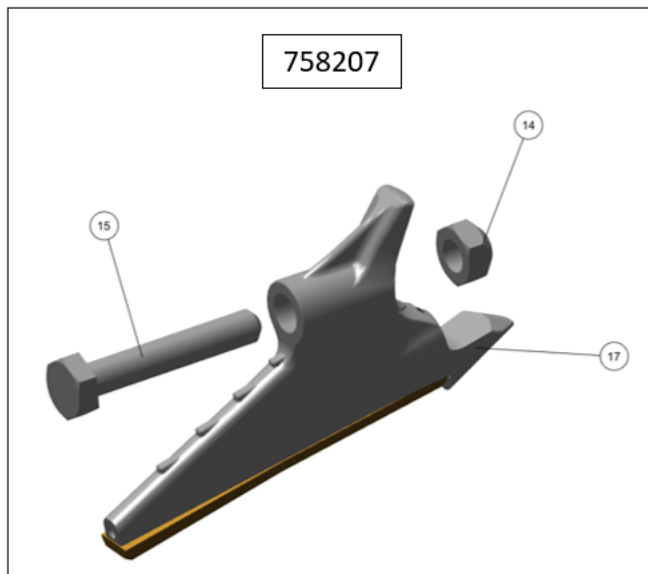
Knife Kit Breakout



758280 Kit			
Item	Qty	Part Number	Part Description
1	1	200178	M16x100mm Hex Bolt
2	1	200180	Flat Washer
3	1	758156	Bushing
4	1	758124	Shaft
5	1	200183	M10x50mm Carriage Bolt
6	1	200166	1/2' x 2 3/4" Clevis Pin
7	1	758270	Spring Assembly
8	2	200191	Lock Cotter Pin
9	2	200185	9" Cable Tie
10	1	200182	M16 Top Lock Nut
11	1	758164	1/2" x 1 1/2" Clevis Pin
12	2	200179	M10 Washer
13	1	200181	Top Lock Nut



758205 Kit			
Item	Qty	Part Number	Part Description
14	1	200181	Top Lock Nut
15	1	200177	M10x60mm Hex Bolt
16	1	758135	Standard Knife



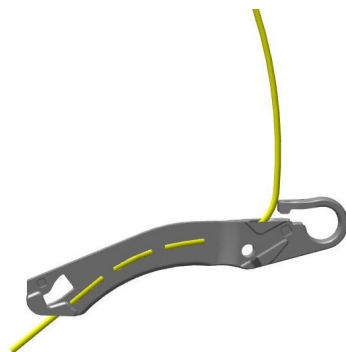
758207 Kit			
Item	Qty	Part Number	Part Description
14	1	200181	Top Lock Nut
15	1	200177	M10x60 Hex Bolt
17	1	758225	High Wear Knife

Knife Pre-Assembly

Step 1:

Starting at the knife end of the swingarm, route a length of 1/4" liquid tube through the passageway using a slight twisting or "weaving" action. Leave between 2" and 2-1/2" of tube at the knife end. Note that the length of the tube needs to reach the union or splitter around the faceplate area.

Note: Make all tubing cuts with a tube cutter (included in Conceal essentials kit) for Push-to-Connect (PTC) fittings to prevent leakage.



It is recommended that systems use the liquid tube protector (758390) to protect the 1/4" liquid line from being crushed or damaged. It will slide all the way into the swingarm to protect the tube past the spring.

Step 2:

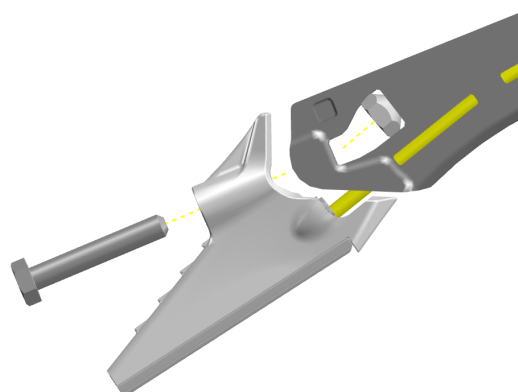
Insert the tube into the PTC fitting in the knife, push firmly making sure the tube is **fully seated**.

Step 3:

Orient the knife tip to the swingarm and then gently pull the liquid tube through the swingarm until the knife contacts the swingarm. Once it contacts the swingarm, attach the knife using the M10 bolt and nut.

DO NOT USE A WASHER ON THIS BOLT! INSTALLING A WASHER MAY CAUSE THE BOLT TO BREAK!

Torque to 50 FT-LBs.



Step 4:

Loosely install the jam nut onto the spring assembly eyebolt; position the jam nut just past half-way down the threads. With the jam nut in place, thread the eyebolt into the spring assembly. Leave this assembly loose until completing the depth setting.



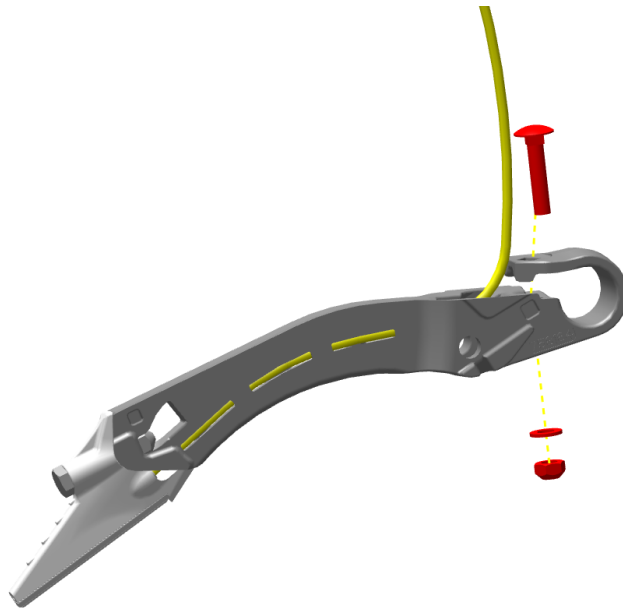
Deere, Kinze, Harvest, & White/Agco/PP Swingarm and Spring Assembly

CNH — Skip ahead to CNH Swingarm and Spring Assembly

Step 1:

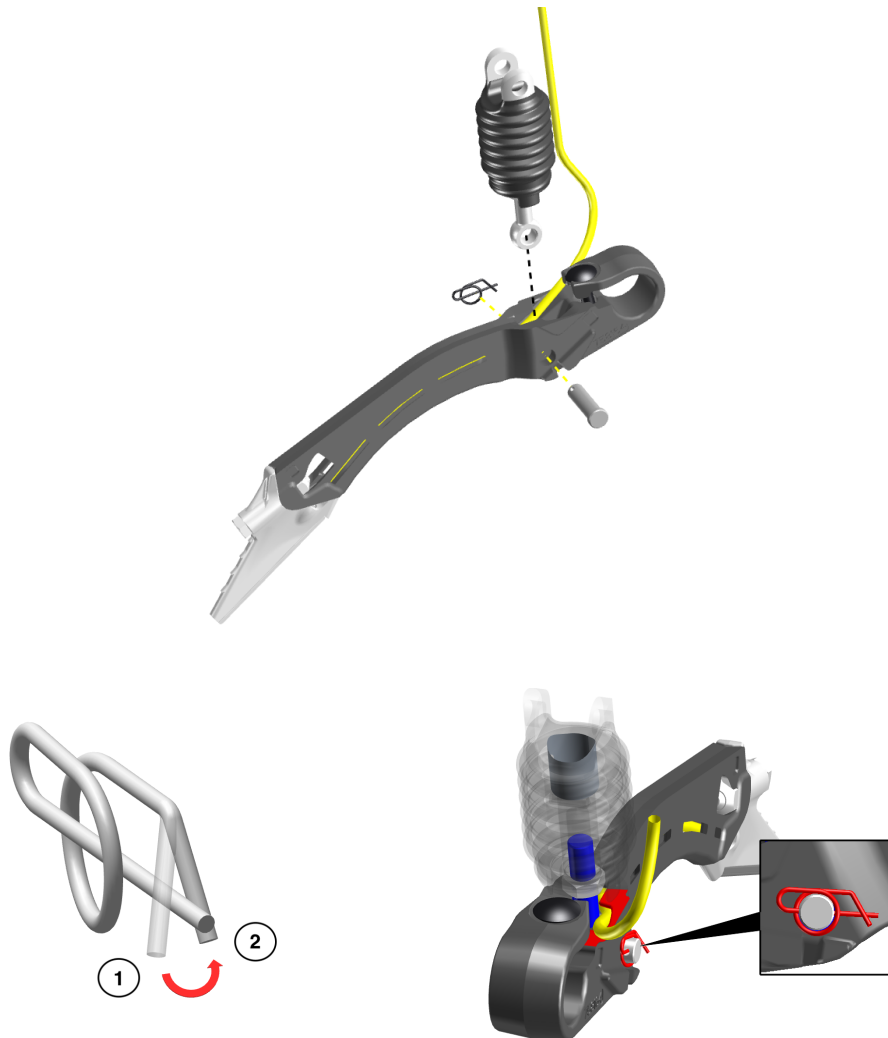
Loosely install the swingarm clamp carriage bolt, washer, & nut.

It is important that the M10 washer in the hardware kit is installed here or the swingarm will not stay tight on the pivot!



Step 2:

Mount the spring assembly to the swingarm using the shorter (1/2" x 1 1/2") clevis pin and lock cotter pin. Insert the pin and then manual lock the cotter by flipping the angled wire over the straight wire. Refer to the right image below. Ensure that the liquid tube routes to the side of the eyebolt and not under it. If assembling these prior to install on the planter, make sure that half have the liquid tube to the left of the spring and half to the right of the spring.



1. Unlocked Position
2. Manual Locked Position

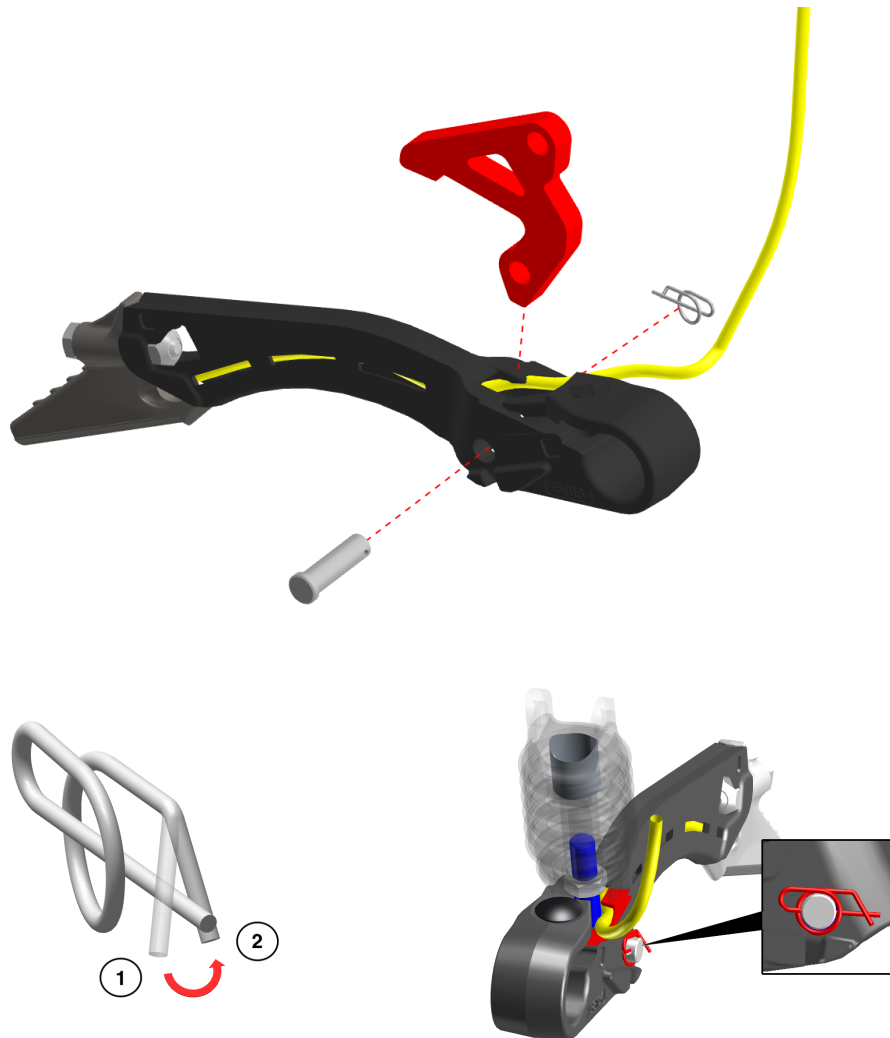
Case IH Swingarm and Spring Assembly

Step 1:

Spring Adapter

Install the spring adapter (758165 kit) into the swingarm using the 1/2" x 1 1/2" clevis pin and locking cotter.

Note: Ensure that the liquid tube is routed to the correct side of the adapter and not under the adapter. Make sure that half the tubes are routed to the right and half to the left to ensure correct number of left/right knife assemblies for install on the planter.



1. Unlocked Position
2. Manual Locked Position

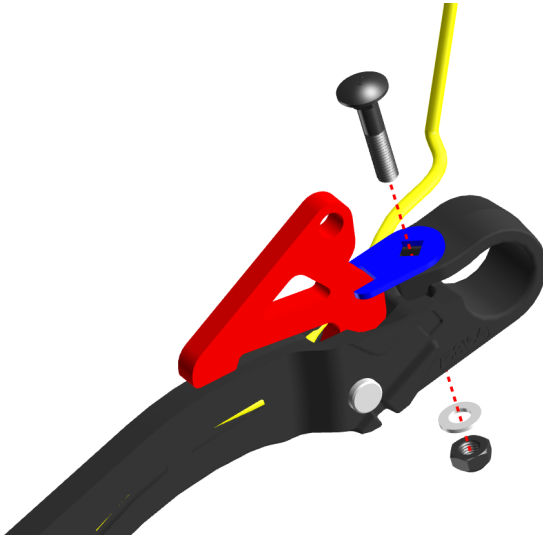
Step 2:

Spring Adapter Wedge

Next, install the spring adapter wedge. This wedge will keep the bracket tight to the spring assembly. Use the M10 carriage bolt and nut (coated black) from the 758405 kit with the washer from the 758165 kit.

Do not leave the washer out or the knife will be loose and slide on the pivot later in field!

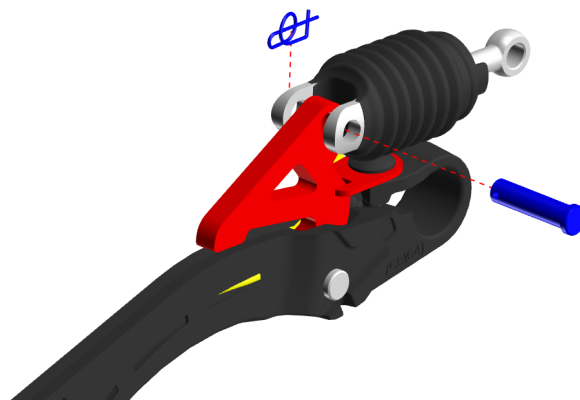
Do not tighten this bolt at this time. The knife assembly still needs to slide over the pivots on the mounting bracket.



Step 3:

Attach Spring to Knife Assembly

Use the 1/2" x 1 3/4" clevis pin (758405 kit) and locking cotter pin to attach the spring assembly to the adapter bracket and lock the cotter pin.



Knife Installation & Alignment

Install Note 1: The Conceal knife must be aligned and adjusted with the gauge wheel in the desired planting position. Alignment & adjustment made at any other gauge wheel position will result in poor in-field performance; DO NOT align the knife with the gauge wheels down.

Install Note 2: If only installing a single band, 1/2 of the swingarms/knives should be on the left side of the row unit and 1/2 should be on the right side of the row unit.

SETTING GAUGE WHEELS

Step 1:

Set the row unit depth adjustment to the desired planting depth.

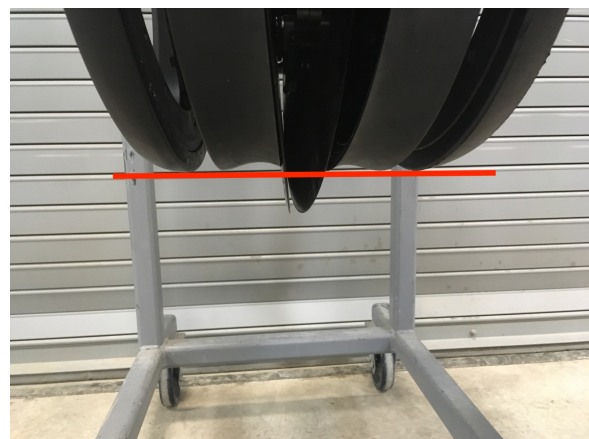
Step 2:

Use tarp straps (or equivalent means) to raise the gauge wheel on each row unit tight against the depth stop; this should mimic the desired planting position.



Step 3:

Make sure that the gauge wheel position is even side-to-side.

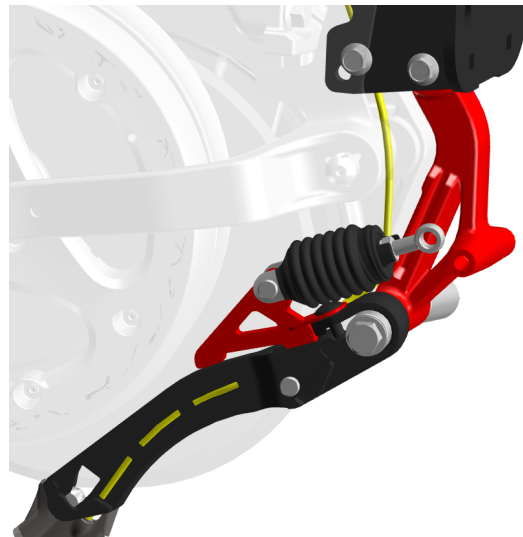
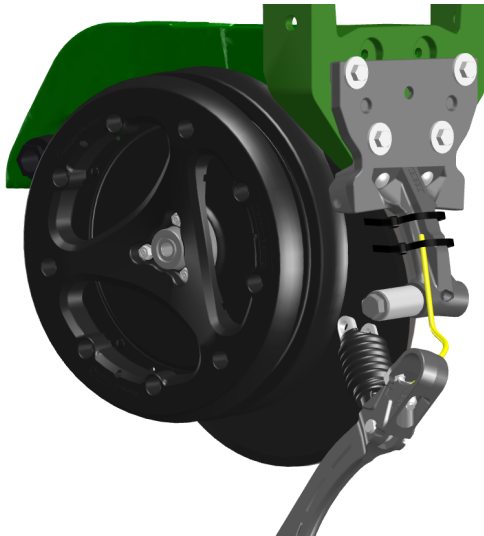


KNIFE INSTALLATION

Step 1:

Knife install and liquid line

Start routing the liquid tube through the zip ties installed on the mounting bracket. As you slide the knife assembly onto the pivot assembly on the mounting bracket continue to route the liquid tubes through the zip ties. Ensure you leave enough slack in the liquid tube around the pivots to avoid limiting the range of motion of the knife.



Step 2:

Install Spring Clevis pin

Rotate the knife assembly into the slot of the gauge wheel and install the upper clevis pin that will hold the spring (or the front clevis pin on CNH). Do not install the cotter clip at this point, the clevis pin will likely have to be removed several times before the final install is done.

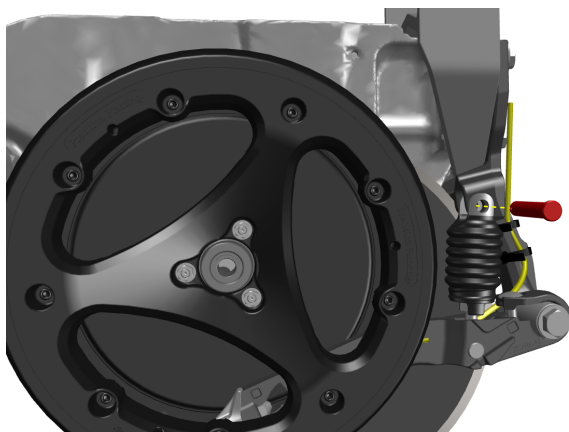


Figure 3.

JD, KZ, AGCO, HI — uses 1/2" x 2 3/4" clevis pin
(from 758165 kit)

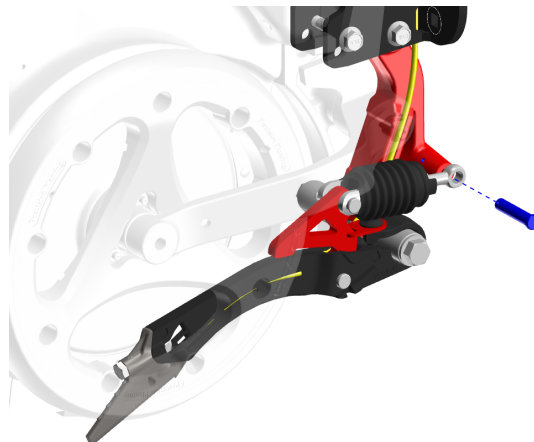


Figure 4.

CNH uses 1/2" x 2" clevis pin (from 758405 kit)

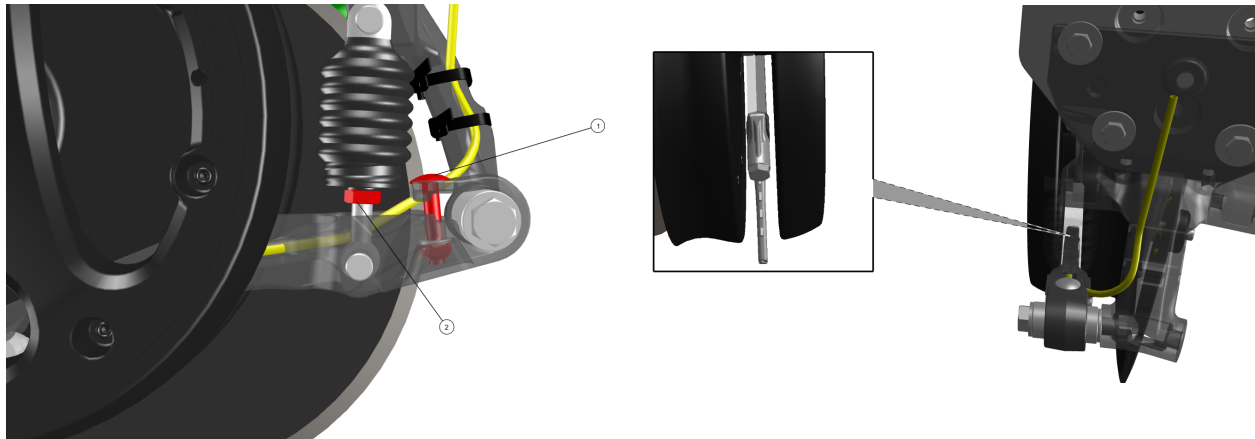
Step 3:

Align knife to wheel slot

With the wheel remaining in the planting position from the earlier steps, center the knife in the wheel so that it will not contact the wheel. Once it is aligned in the gap, tighten the M10 clamping bolt at the swingarm pivot. **Make sure to torque this to the correct ft-lbs listed below — it is a different torque for Case IH.** Double check the alignment after tightening the bolt.

JD, KZ, IH, AGCO, PP — Torque to 20 ft-lbs

CASE IH — Torque to 40 ft-lbs



1. Clamping Bolt

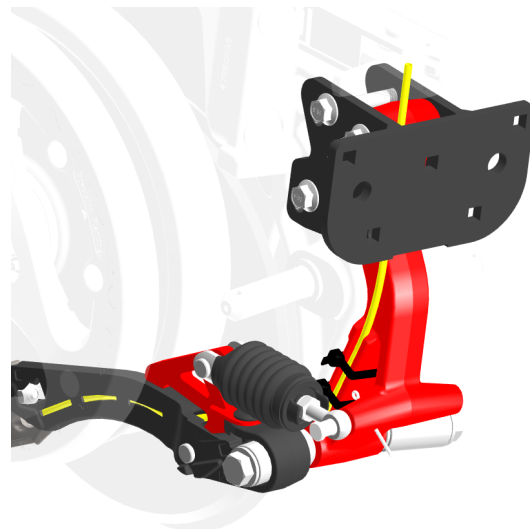
2. Jam Nut — To Adjust Depth

Note: If the washer is missing from the nut side of the clamping carriage bolt, the clamping force will not be enough to hold the swingarm/knife in position and will slide around. This will allow the knife to contact the gauge wheel and will damage the gauge wheel. **It is important to make sure that the washer is installed on the nut side of the clamping bolt!**

Step 4:

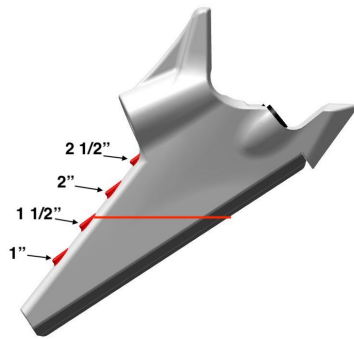
Zip tie

Finish the install by making sure that all liquid lines are correctly zip tied. Make sure that it is loosely constrained so that it can move if needed but is not so tight that it will kink if the knife moves.



Setting Conceal Depth

The Conceal knife depth should be set between 1" to 1 1/4" BELOW the gauge wheel when the gauge wheels are tight against the planting depth stop. This depth will change accordingly with any planting depth changes (e.g adjusting the planting depth 1/2" deeper will move the knives 1/2" deeper as well.) Target setting the depth to 1 1/4" for the middle of the expected planting depth so that moving the planting depth will not greatly affect the performance of the knives or require a knife depth change for every planting depth change. Running the knives at a depth greater than 1 1/2" will increase the rate of wear on the knife and could degrade the performance of the system to the point that it may drag residue or plow dirt. Running a knife consistently at a 2" or deeper depth may void warranties.

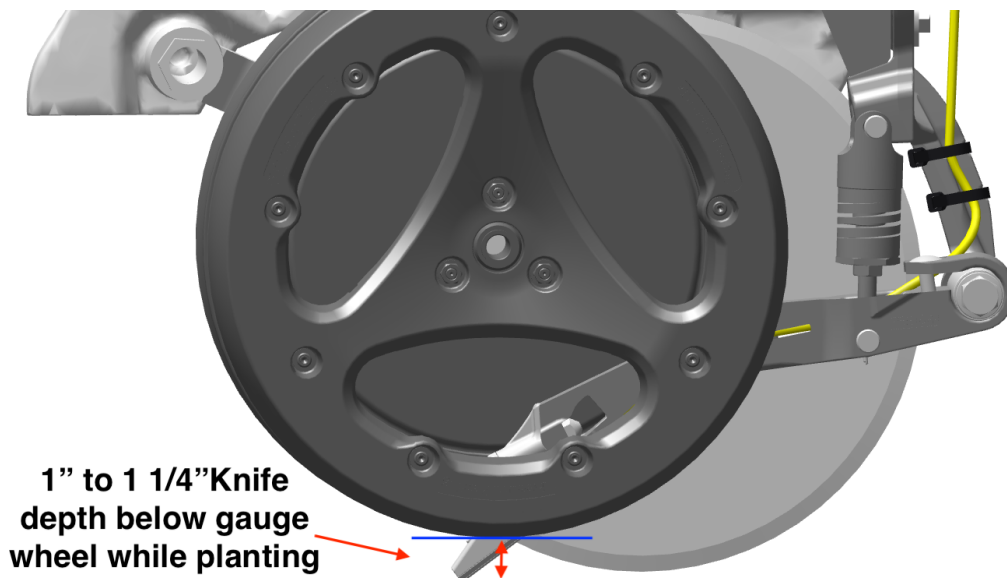


Note: When the knife is in the ground, it is possible to use the ribs on the back of the knife to gauge what depth the knife is running at. Each rib represents a 1/2" of depth. The red line is the maximum desired soil depth.

Step 1:

Setting Depth

With the wheels still lifted in planting position, apply upward pressure on the knife to remove any slack in the knife assembly and check the depth of the knife tip relative to the gauge wheel. Desired depth relative to gauge wheel is 1 – 1 1/4".



Step 2:

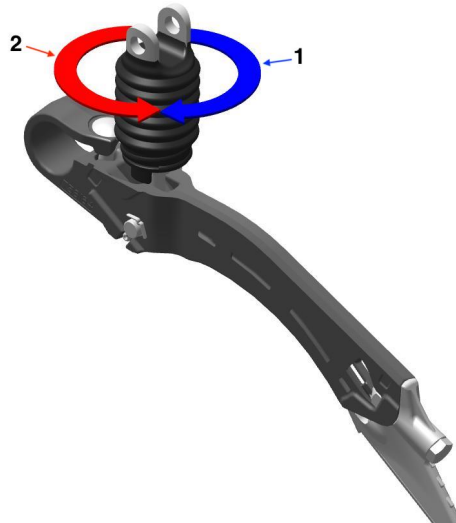
Adjusting Depth

Note: 1 full revolution will result in a 1/4" depth change.

JOHN DEERE, KINZE, WHITE/PP, & HARVEST

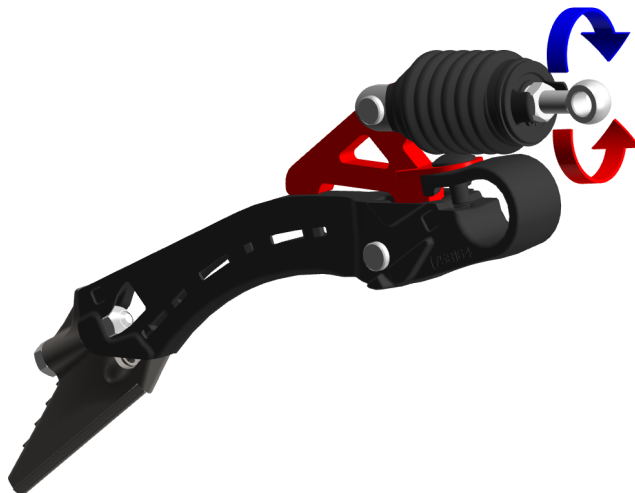
Depth adjustments are made by turning the top portion of the spring. If depth is not correct, remove the top clevis pin and rotate the upper portion of the spring assembly.

1. **Clockwise = Shallower**
2. **Counter Clockwise = Deeper**



CASE IH

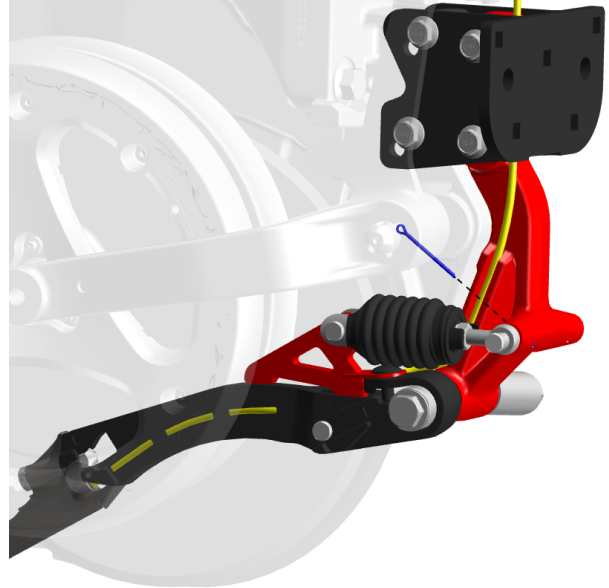
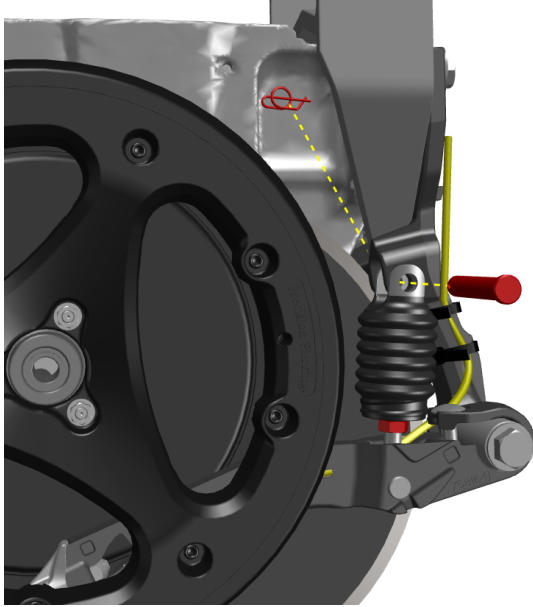
Depth adjustments are made by turning the eye bolt on the end of the spring. Remove the upper pin from the mounting bracket and then turn the eye bolt as needed. Lengthening the spring assembly sets the knife deeper and shortening the pin sets the knife shallower.



Step 3:

Tighten Jam Nut

Once satisfied with the depth adjustment, tighten the spring assembly jam nut (requires 19 mm wrench) and install the locking cotter pin (simple cotter pin for CNH) in top clevis pin.



Note: CASE IH INSTALLS: Make sure that the cotter pin goes through the clevis pin and not behind it.

Operation, Liquid Capabilities, and Maintenance

Depth Settings and Operations

- If liquid splatter occurs, increase the application depth but do not go deeper than 1 ½ inches. If still getting splatter at 1 ½ inches, reduce system pressure to reduce application splatter. It may also require a different sized orifice in the splitter.
- Depth adjustments may be necessary to improve the flow of residue and soil around the knife. If struggling with loose, “fluffy” soil or heavy residue, decrease the application depth of the knife so that it is close to, but not more than 1” deep in the soil.
- Do not set the knife deeper than 1 ½ inches. The system is designed to operate between the 1” to 1 ½” depth. The knife may experience accelerated wear if it is ran at a depth greater than 1 ½”. Running the knife deeper than 1 ½” may cause the gauge wheel / knife to plow dirt. If the knife is running at a depth greater than 1 ½” the warranty on the knife will be void.

Soybean or Non-Liquid Application Mode

- When planting without applying fertilizer, you may want to “disengage” the knives to prevent unnecessary component wear or load on your row unit. DO NOT remove the swingarm entirely. The swingarm is critical to keeping the gauge wheel clean and removal will require a realignment of the system.
- Before adjusting the knife depth to remove it from the contact with the soil, set the planter to the planting depth for next crop and check the knife depth against the gauge wheel to see if the planting depth may be shallow enough that the knife is already out of the ground and will not need to be adjusted.
- To put the Conceal system in “Soybean Mode”, loosen the jam nut (19mm wrench) then remove the upper clevis pin of the spring assembly and rotate the spring assembly until the knife depth is out of the ground. Four (4) complete clockwise rotations of the spring assembly will raise the knife by 1”. Remember to tighten the jam nut after making this adjustment. Adjusting every row equally will make reversal simpler.

Liquid Capabilities

- Each Conceal knife is capable of approximately 1.5 GPM of flow for a total flow of 3 GPM when using a dual band system.

Use the GPM to GPA equation to convert back and forth between GPA and GPM.

- **$GPA = (GPM \times 5940) \div (MPH \times \text{Row spacing (inches)})$**
- **$GPM = (GPA \times MPH \times \text{Row Spacing (inches)}) \div (5940)$**
- Use an Orifice Body Splitter (758175) with correctly-sized orifices. If this splitter is not used, the knife tip will be more prone to plugging. Make sure that the correct orifice plate is used with this splitter.

Maintenance

- Flush the system with water to prevent corrosion in the knife.
- Due to the slight angle that the knife runs in the ground, the knife will wear more on one side than the other. To achieve the maximum life of the knife, rotate the knives from the left side to right side of the row unit and/or planter. Rotation should be performed every 1 – 2 years, depending upon field conditions and usage.