



Update Instructions Air-Pro® Field Update Kit

Used with Planter models:

- Recommended update for all 2011 and earlier bulk-fill air-seed-delivery Yield-Pro® planters with Air-Pro® seed meters. This includes 2011- Models 3PYPA, YP1225A, YP1625A, YP2425A, YP3025A, YP4025A and YP4425A.

Note: This update is not required for 2012+ planters, nor any gravity-fed (section seed box or row-hopper) planters with Air-Pro® meters. Excluded gravity Models include: 2025A, 2525A, YP425A, YP425A3P, YP625A, YP625A3P, YP625PD, YP625TD, YP825A, YP825A3P and YP925TD.

General Information



Read the installation manual entirely. When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it

Refer to Figure 1

These instructions explain how to install an Air-Pro® Field Update Kit. The kit updates the air release cone ②① and screen^a (not visible) to the 2012+ design. Because the outlet end of the enhanced screen is larger, the kit includes a length of adaptor tube ②②, which requires cutting the existing tube for installation. A saw template is included.

Kit	Kit Description
403-645A	AIR-PRO FIELD UPDATE TOOL
403-641A	AIR-PRO FIELD UPDATE COMPONENTS

Order one 403-645A (tool) kit per each 12 rows.

Order one 403-641A (parts) kit per row.

Examples:

YP1225A-1236: order 1 @ 403-645A; 12 @ 403-641A.

YP2425A-48TR: order 4 @ 403-645A; 48 @ 403-641A.

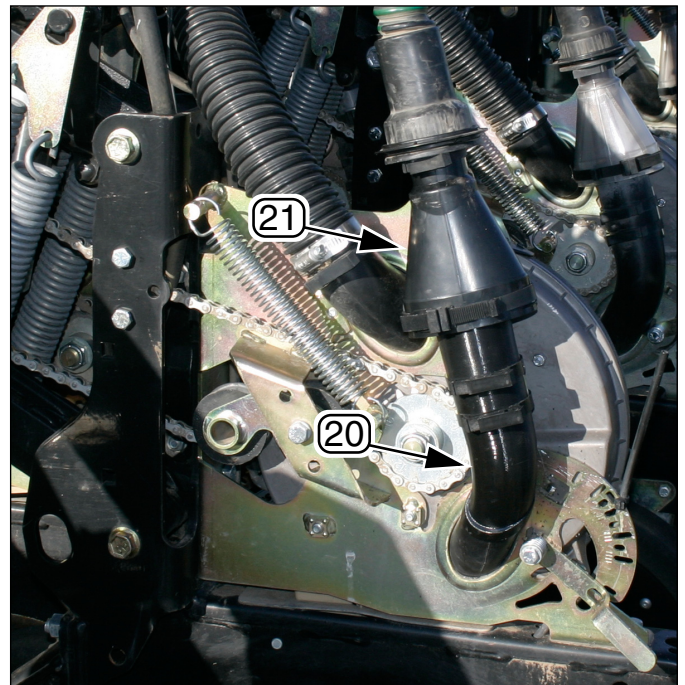


Figure 1
Update Installed

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Notations and Conventions

Call-Outs

- ① to ⑨ Single-digit callouts identify components in the currently referenced Figure. These numbers may be reused for different items from page to page.
- ⑫ to ⑫① Two-digit callouts in the range 12 to 21 reference new parts from the list on page 8.
- ⑤① to ⑤⑥ Two-digit callouts in the range 51 to 56 reference existing parts.

Tools Required:

- open-blade hand saw, such as a keyhole saw or mini hacksaw, with an exposed blade length of at least 3 inches (7.6 cm);
- basic hand tools including groove-joint or similar wide-jaw pliers for closing ratchet ties; and,
- a knife or similar tool for de-burring the inside edges of the cut tubes.

a. The 2012+ screen is conical, rather than cylindrical. This improves resistance to seed bridging in the screen.

Compatibility Check

1. Verify that the planter requires the update. If the meter has a single-piece tube (53), of constant $1\frac{23}{32}$ inch (1.72, 44 mm) OD, below an air release cone (52), it requires the update.

Refer to Figure 1 on page 1

- If the meter has a two-piece tube below the air release cone, the planter has already been updated.

Refer to Figure 2

- If the meter does not have an air release cone (52), is it not on a central-fill air-seed-delivery planter, and does not require or accept this update kit.
- If the meter has a tube of varying OD, tapering from top to bottom, the planter has 2012+ meters and does not require or accept the update kit.

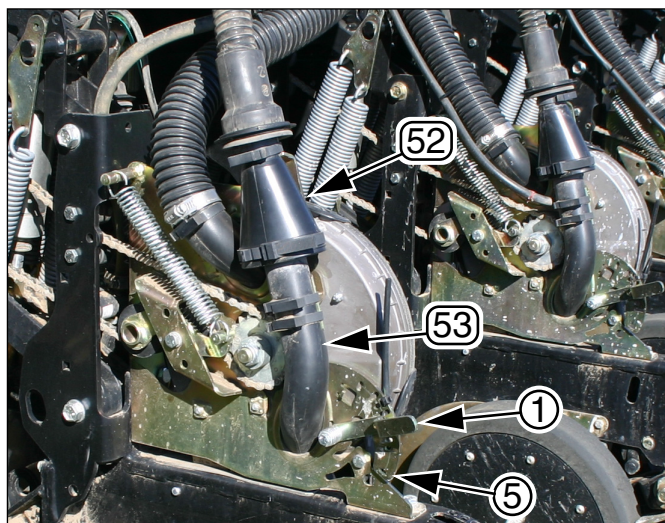


Figure 2
Air-Pro® Meter Needing Update

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Prepare Planter and Meters

2. Move the planter to a location with adequate lighting, and a clear surface beneath for recovery of any falling parts.
3. A 3PYPA planter must be unfolded for this update. Other models may be left in transport fold, or unfolded.
4. If unfolded, either lower the planter, or raise it and install locks to prevent lowering.
5. Empty the meters of any seed. Refer to the planter Operator manual, Meter Clean-Out topic, normally found in the Materials Clean-Out section of Operations, or a similar section in Lubrication and Maintenance.

Note: Step 5 is advised, but not required.

Refer to Figure 2

6. Whether or not a seed clean-out was performed, set the seed inlet shutter handle (1) to the clean-out position (5). This provides the maximum clearance for saw cutting at step 8.

Note: Step 6 is advised, but not required. Photographs in this document may depict updates performed with other handle positions.

⚠ WARNING

Crushing Hazard:

Prevent unnoticed lowering. Consult Operator manual for correct and safe fold, raise and lower operations. If unfolded and raised, use all transport and maintenance locks provided. A raised planter slowly lowers over time if locks are not used. An opener disc lowering on a worker's foot could trap the foot and cause severe injury.

⚠ CAUTION

Possible Chemical Hazard:

Clean-out meters to reduce contact with any hazardous treatments present on seed.

NOTICE

Material Loss Risk:

Clean-out meters to eliminate seed loss. If the meters are not empty, approximately 14 in³ (90 cm³) of seed is present above the cut line in each existing inlet tube.

Shorten Existing Inlet Tube

Install Cutting Template

Leave the existing ratchet hose clamps (51) in place to restrain the tube (53) while cutting.

If the suggested quantity of 403-645A (tool) kits was ordered, you have one template for each 6 rows.

Refer to Figure 3

7. Select one new:

(13) 817-982C FIELD CUT TEMPLATE

Snap the template (13) around the existing seed inlet tube (53), with the larger angled beveled face toward and flush with the meter back plate.

NOTICE

Rework Risks:

Make sure the template is flush with the meter backplate. Ensure that the cut follows the template (blade flush with template, with template flush with meter and tube).

If the template is high, the cut tube will be too tall, and will need to be re-cut to mate properly with the new tube extension. If the cut does not follow the template, parts of the tube edge will be too tall, possibly creating an edge that can catch seed.

If the template is low, an air gap may be created, which can cause air metering problems, as well as create a gap that can catch seed. This would require replacing and re-cutting the 817-783C inlet tube.

Cut Existing Inlet Tube

Refer to Figure 4, which depicts a mini hacksaw with a partially exposed open-ended blade

8. Keeping the blade flat against the top guide surface (2) of the template, carefully cut the existing tube from front to back.

NOTICE

Equipment Damage Risk:

Be particularly careful in the final 1/2 inches (2.5 cm) of cut. The blade is closer to the meter back plate than the drive chain (3). Reduce stroke length. Avoid striking the drive chain or the shutter index plate (4). Scratches will provide sites for rust to form.

Using a reciprocating saw (with a stroke length of over 1 inch:2.5 cm) for this cut is especially challenging - chain damage is likely.

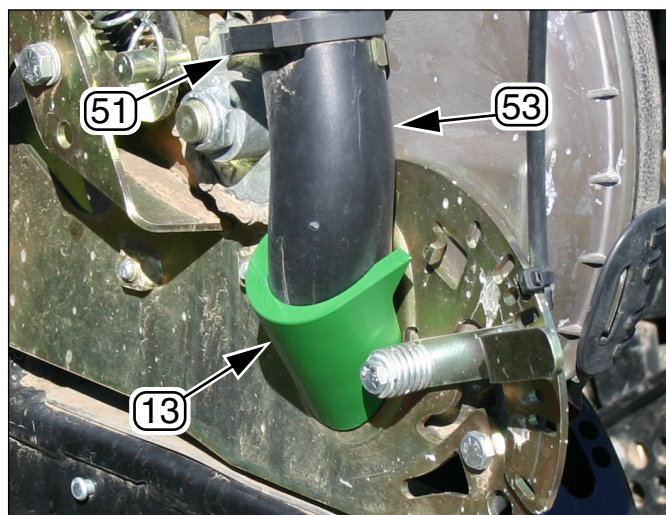


Figure 3
Cutting Template Affixed

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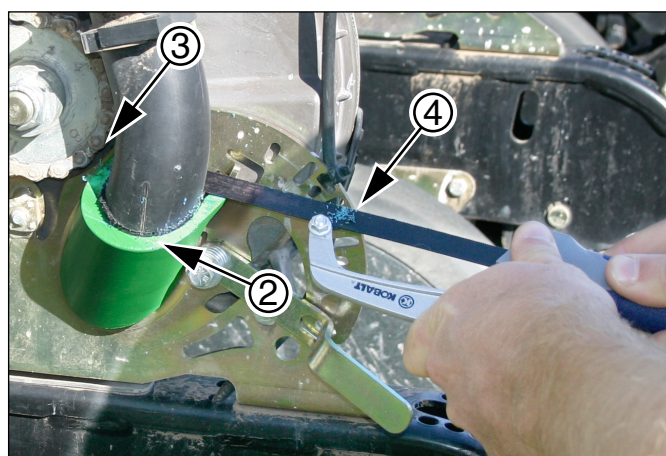


Figure 4
Cutting Existing Tube

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Remove Upper Cut Tube

Disconnect Seed Hose

Refer to Figure 5

9. Push the boot lock ring ⑥ up to the narrower diameter of the seed hose boot ⑦. Push the boot up off the air release cone.

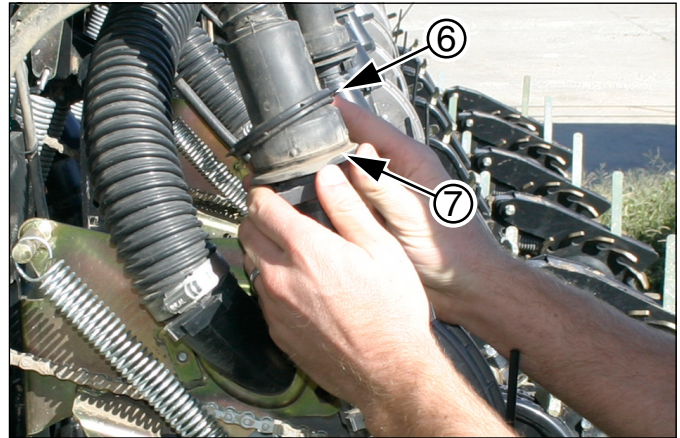


Figure 5
Disconnect Seed Hose

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Remove Ratchet Clamps

Refer to Figure 6

10. Remove all four ratchet clamps (51, 54) securing the existing air release cone (52) and inlet tube (53). These clamps are not reused, and may be destroyed if necessary to remove them.

The cone and upper section of cut tube fall free as the last clamp is removed. None of these components are reused.

11. Use a knife or similar tool de-burr the inside edge ⑧ of the freshly cut lower tube lip.

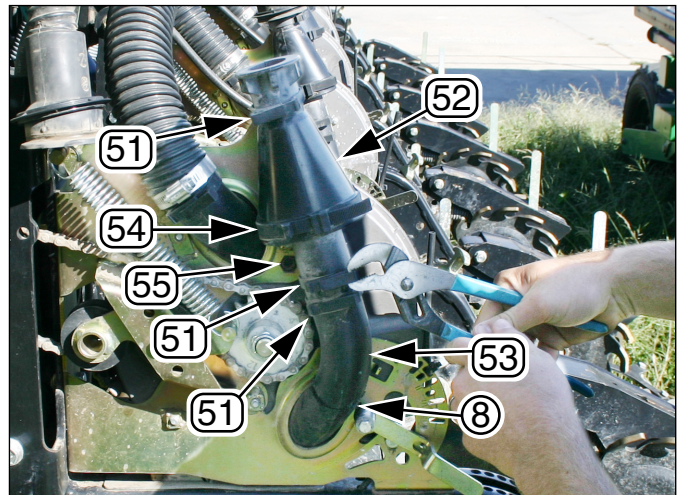


Figure 6
Remove Old Clamps

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Remove Sense Fitting

Refer to Figure 6 (which depicts a non-sensing row)

If the current meter has a plug (55) at the sense hole, skip to “**Assemble Air Release**” on page 5.

Refer to Figure 7 (which depicts a bare meter housing for clarity)

12. Disconnect the sense air line tube (not shown) at the adaptor.
13. Remove and save one:
⑤1 803-374C NUT HEX JAM 7/16-20 PLT
14. Remove the straight $\frac{7}{16}$ to hose barb adaptor. It is not re-used, and must be replaced because the new seed inlet tube requires more clearance.

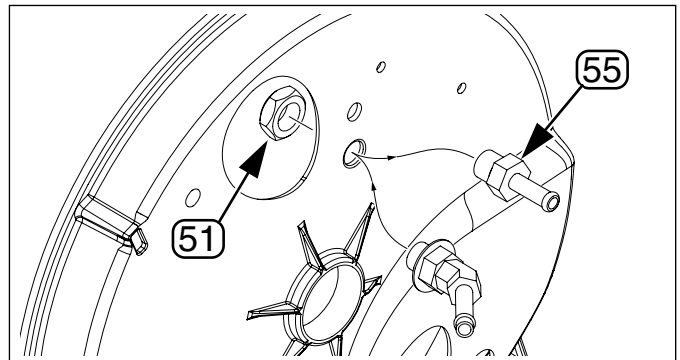


Figure 7
Remove Straight Sense Adaptor

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Install Update

Install Elbow Sense Fitting

Refer to Figure 6 (which depicts a non-sensing row)

If the current meter has a plug (55) at the sense hole, skip to “Assemble Air Release” on page 5.

Refer to Figure 8 (which depicts a bare meter housing for clarity)

15. From the 403-645A Tool kit, select one new:
 (14) 891-328C EL 45 7/16MORB X 1/4HB
 Install it at the sense hole where the straight adaptor was removed. Thread it in tightly, then turn it counter-clockwise until the hose bar end is pointing forward and slightly down.
16. Select one saved:
 (51) 803-374C NUT HEX JAM 7/16-20 PLT
 Use it to secure the elbow.
17. Reconnect the sense air line tube (not shown).

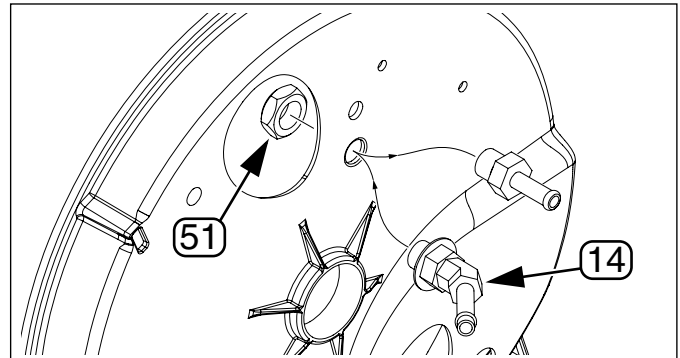


Figure 8
Install Sense Adaptor Elbow

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Assemble Air Release

You can pre-assemble the new air release cone, or assemble it on the meter, whichever seems more reliable and efficient. The following steps describe pre-assembly.

Refer to Figure 9

18. Select two new:
 (19) 817-964C LG AIR MTR SCREEN CONE HALF
 and one each new:
 (21) 891-295C AIR METER SD TB SCRNC CONIC

Insert the screen (21) in one of the two cone halves (19), so that the flanged ring of the cone sits in the neck groove (1) of the cone half.

Join the two cone halves (19).

Refer to Figure 10

19. Select one new:
 (18) 817-826C CLAMP HOSE NYLON GF MATRIX 192
 (this is the largest of the three sizes of new clamp provided)

Secure the clamp (18) around the large end of the cone halves (19). Rotate the ratchet (4) so that it is over the seams, on either side, of the cone halves. Tighten with pliers.

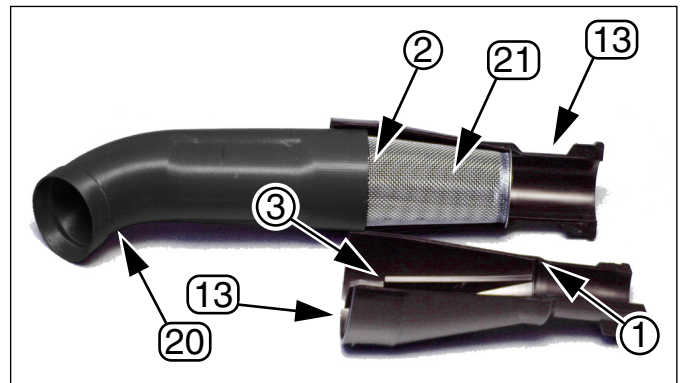


Figure 9
New Air Release Assembly

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NOTICE

Equipment Damage Risk:

Take care to avoid damage to the exit lip of the screen (21). In particular, avoid bending the edge inward. Bends, tears and fraying can result in bridging problems during use. Minimize the number of attempts to assemble. Hold the assembly carefully after assembly, as there is no positive connection between the screen and cone halves - they are held in place by clamps on the meter.

Refer to Figure 9**20. Select one new:**

②0 817-981C FIELD FLARED SEED TUBE

Slide the larger end of the tube ②0 over ② the larger end of the screen ②1, and up against the stops ③ in the cone half.

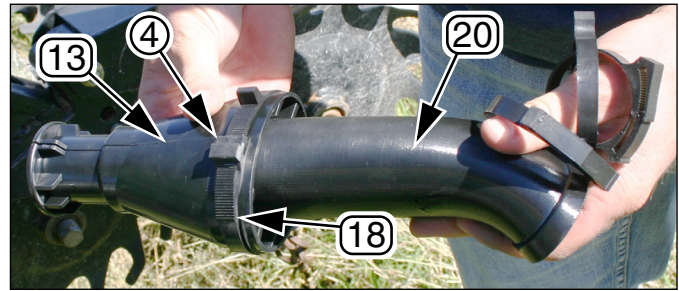


Figure 10
Air Release Large Clamp

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Install Air Release**Refer to Figure 11**

21. Being careful to hold the tube ②0 against the stops in the cone halves ⑬, rotate the seed tube so that the elbow end ⑤ is pointing away from the ratchet clamp ④.

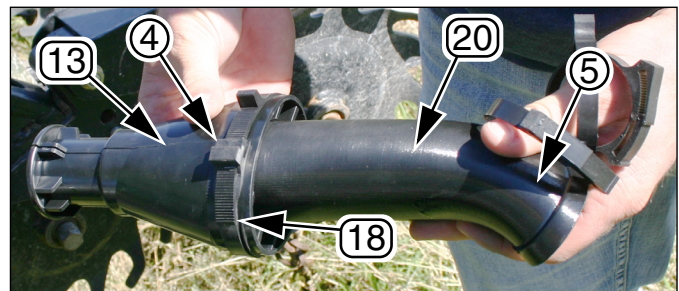


Figure 11
Cone-Elbow Alignment

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Refer to Figure 12

22. Being careful to hold the update tube ②0 against the stops in the cone halves ⑬, place the elbow ⑤ of the update tube over the shortened meter inlet tube ⑤3.

Seat the new tube and cones in the existing saddle weldments of the meter.

Note: Do not use any sealant, glue or tape at the joint between the new and existing inlet tubes.

Note: With the meter rain cover removed, any seed disk removed, and the shutter wide open, use a finger, from the disk side, to inspect the joint between the cut tube ⑤3 and the new update tube ②0. Verify that there are no ridges, gaps or cutting fray that could catch seed.

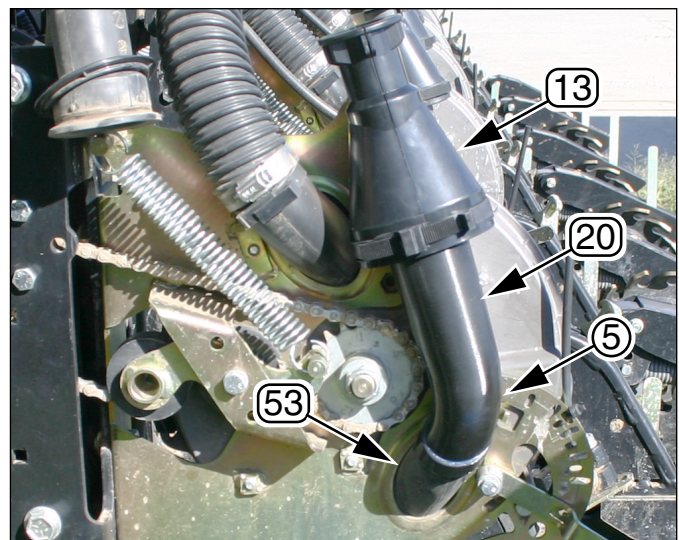


Figure 12
Update Mounted

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Refer to Figure 13**23. Select two new:**

(17) 800-434C NYLON HOSE CLAMP 2 1/8 - 2 3/8
(these two clamps are the middle size of the three sizes provided)

Loosely secure these clamps (17), ratchets away from meter, around the update tube and existing lower saddle (6) on the meter.

24. Select one new:

(16) 800-016C UPPER FERT HOSE CLAMP RATCHET
(this is the smallest of the new clamps)

Loosely secure this clamp (16) around the cone neck and existing upper saddle (7) on the meter. Slide the clamp as far down on the saddle as possible, to allow the seed hose boot to fully engage the cone neck flange.

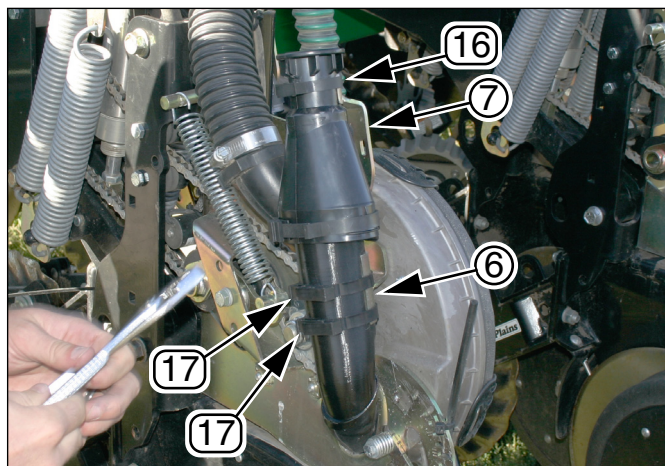
25. Check that the update's cone, screen and tube components are still correctly aligned and fully seated. Use pliers to tighten all clamp ratchets.

Figure 13
Upper and Lower Clamps

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Reconnect Seed Hose**Refer to Figure 14****26. Make sure lock-ring (9) is high on boot (8). Pull boot fully over cone neck (13). Pull lock-ring down fully onto boot.****Close-Out**

27. Re-position seed inlet shutters as desired.
28. Re-fold planter as desired.

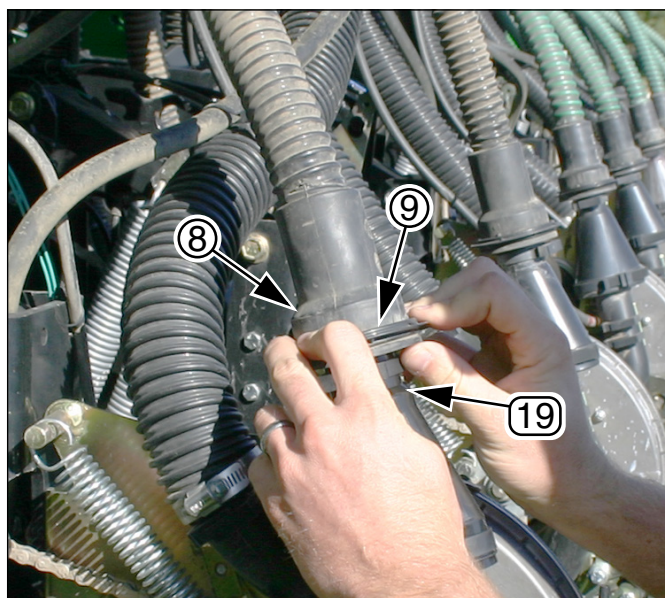


Figure 14
Re-Connect Seed Hose

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Operation

No changes are required to normal planter operations.

Maintenance

If meter maintenance is required, be sure to use only the updated parts for 2011- meters. Do not order pre-update parts or 2012+ parts.

Appendix

Part Lists

New Parts

The part call-out numbers in this list match all Figures in these installation instructions. Part descriptions match those in your updated Parts Manual. Quantities are units ("ea").

403-645A AIR-PRO FIELD UPDATE TOOL

Order one

Kit Contents

Callout Number	Quantity in Kit	Part Number	Part Description
11	-	403-645A	AIR-PRO FIELD UPDATE TOOL
12	1	403-642M	MANUAL FIELD UPTD KIT, AIR-PRO
13	2	817-982C	FIELD CUT TEMPLATE
14	6	891-328C	EL 45 7/16MORB X 1/4HB

403-645A AIR-PRO FIELD UPDATE COMPONENTS Kit Contents

Callout Number	Quantity in Kit	Part Number	Part Description
15	-	403-641A	AIR-PRO FIELD UPDATE COMPONENTS
16	1	800-016C	UPPER FERT HOSE CLAMP RATCHET
17	2	800-434C	NYLON HOSE CLAMP 2 1/8 - 2 3/8
18	1	817-826C	CLAMP HOSE NYLON GF MATRIX 192
19	2	817-964C	LG AIR MTR SCREEN CONE HALF
20	1	817-981C	FIELD FLARED SEED TUBE
21	1	891-295C	AIR METER SD TB SCR N CONIC

Existing Parts

Callout Number	Part Number	Part Description	Part Disposition
51	800-016C	UPPER FERT HOSE CLAMP RATCHET	Removed. Not re-used.
51	803-374C	NUT HEX JAM 7/16-20 PLT	If present, removed and re-installed.
52	817-773C	AIR MTR SCREEN CONE HALF	Removed. Not re-used.
53	817-783C	AIR MTR SEED INLET ELBOW	Modified in place.
54	817-826C	CLAMP HOSE NYLON GF MATRIX 192	Removed. Not re-used.
55	817-829C	PLUG, FLUSH HEAD POLYETH 7/16	Left in place.
56	890-979C	SCREEN 20M 1.57 DIAX3.25 LONG	Removed. Not re-used.
57	891-122C	AD 7/16MORB X 1/4HB	If present, removed and replaced.

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