Update Kit
PD8070 Planters

Used with:

- Model year 2006 and earlier PD8070 planters

General Information

These instructions explain how to install the Update Kit. This upgrade includes several components that improve the precision and reliability of seed delivery:

- Ground drive rate sensor
- Enhanced seed tube
- Solid row unit chain idlers

These instructions apply to:

Option Package	Part Number
PD8070 UPDATE KIT	402-234A

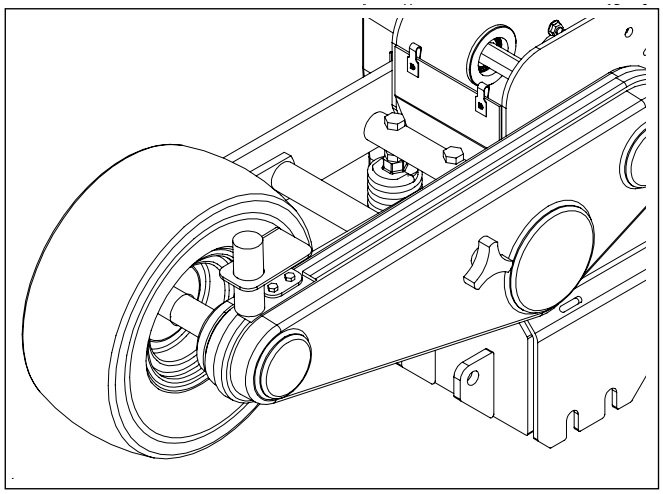

Figure 1 26000
Sensor Installed, Cover On

Before You Start

Each kit converts one planter.

For each kit, inventory the contents per the "**Parts Lists**" on page 9.

Review the instructions, to make sure the steps are understood and what tools are expected.

Have the following items at hand:

- the tractor with the DICKEY-john seed monitor for this planter
- 401-266M Operator's Manual for PD8070
- 401-266P Parts Manual for PD8070
- basic hand tools, including drill and drill bits.
- sheet metal cutting tool

If necessary, move the planter to a dry well-lighted location suitable for disassembly.

1. Raise the planter and install lift cylinder locks
2. Power off the seed monitor.
3. Remove the seed hoppers with seed meters.

Secure the tractor.

Notations and Conventions

"Left" and "Right" are facing in the direction of machine travel.

① callouts identify components in the currently referenced Figure or Figures

11 to 23 callouts reference new parts from the list on page 9

51 to 63 callouts reference existing parts from the list on page 9.

Ground Drive Sensor Installation

Remove Components from Work Area

Refer to Figure 2

4. On the left hand contact drive, gain access to the area to be updated by, removing and saving the:
   [60] KNOB, TRANS. SHIELD
   [62] LH CONTACT DRIVE CHAIN COVER

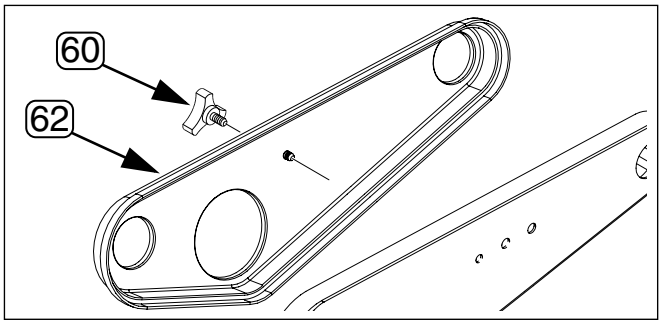

Figure 2 26002
Remove Cover

Refer to Figure 3

5. Loosen the idlers ①.
6. Remove the chain ② from the drive sprocket [59] and let it hang toward the idlers.

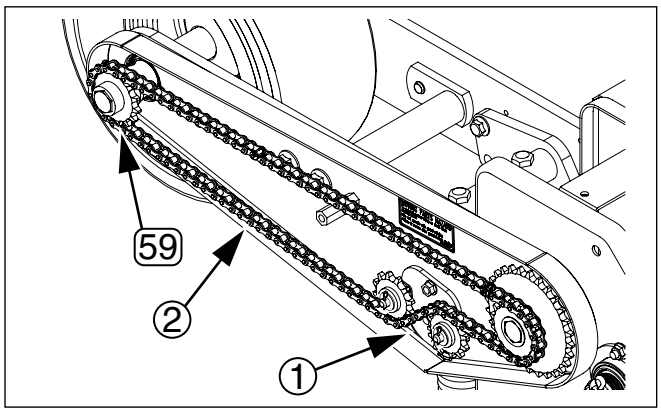

Figure 3 16863
Dismount Sprocket & Washer

Refer to Figure 4

7. At the contact wheel shaft, remove and save one each of these existing parts:
   [58] PIN COTTER 1/4 X 2 PLT
   [59] SPKT 40C15 X 7/8 HEX BORE
   [57] WASHER FLAT SAE 1

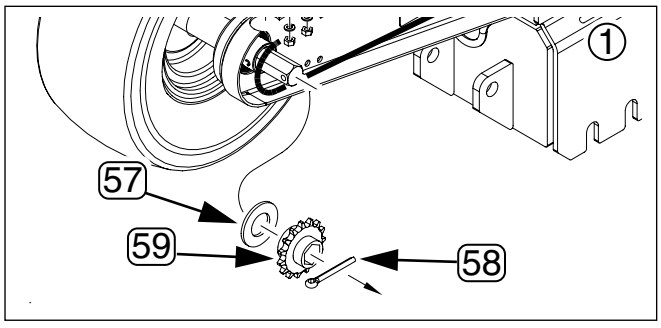

Figure 4 25493
Dismount Sprocket & Washer

Mark for Sensor Hole

Refer to Figure 5 and Figure 6

8. Select one new:
   (12) 402-262D DISC, MAG PICKUP
9. Place the disc (12) on the shaft, and temporarily re-install:
   (58) PIN COTTER 1/4 X 2 PLT
   (59) SPKT 40C15 X 7/8 HEX BORE
   (57) WASHER FLAT SAE 1
10. Slide the disc (12) in and out on the shaft, and determine the average position. Mark the shield (62) directly above the average top center position of the disc (12). Compare the result to the predicted measurements in the table at step 12.
11. Remove and save the cotter pin (58), sprocket (59), washer (57) and disc (12).

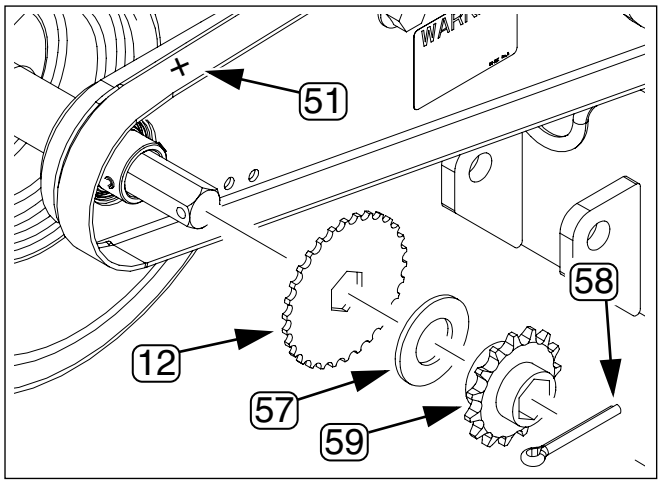

Figure 5 26003
Mark Sensor Hole

Mark for Sensor Mount Holes

Refer to Figure 6

12. Mark for two additional holes forward and slightly to the left of the sensor hole, as depicted in Figure 6.

Hole Placement

①	9.5mm 0.375in	Sensor hole to edge of shield (approximate)
②	51mm 2.0in	Sensor hole to end of shield (approximate)
③	38.1mm 1.5in	Sensor hole to rear mount hole
④	25.4mm 1.0in	Mount hole to mount hole
⑤	3.2mm 0.125in	Sensor/Mount centerline offset

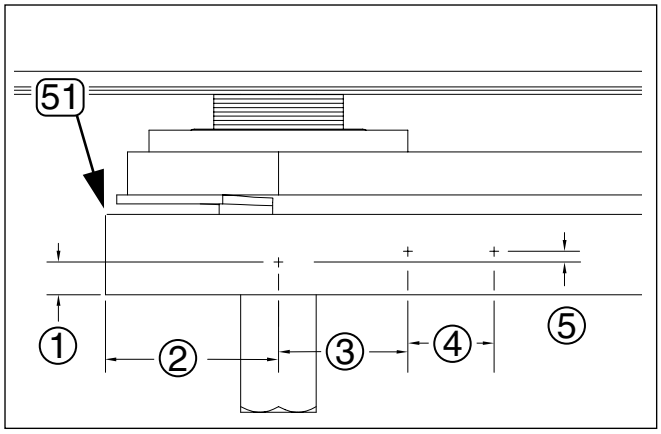

Figure 6 26001
Mark Sensor Mount Holes

Drill Holes for Sensor Mount

Refer to Figure 7

13. Drill or cut the sensor hole ① to a diameter between 32mm and 35mm. File off any sharp edges.
14. Drill the mounting holes ② to diameters between 6.7mm and 7.1mm.

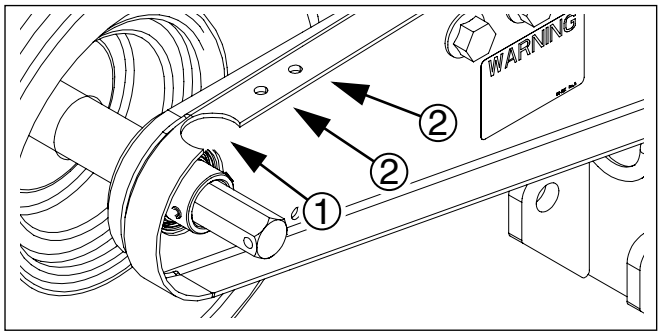

Figure 7 26004
Cut Holes

Install Sensor Mount

Refer to Figure 8

15. Select one new:
    (13) 402-426D HALL EFFECT SENSOR MNT- PRE 07
    and two each new:
    (17) 802-005C HHCS 1/4-20X1 GR5
    (18) 803-006C NUT HEX 1/4-20 PLT
    (19) 804-006C WASHER LOCK SPRING 1/4 PLT
16. Install the mount outside the shield (51).

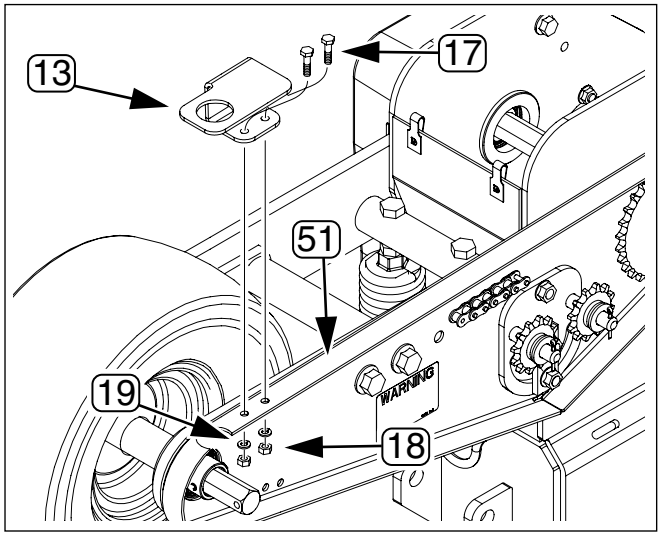

Figure 8
Install Mount
26005

Install Sensor

Refer to Figure 9

17. Select one new:
    (21) 833-451C DJ HALL EFFECT SENSOR W/NUTS
18. Remove one plastic nut ① from the sensor, and install it on the sensor mount. Temporarily adjust the exposed length of sensor so that the end of the sensor is just inside the shield (51).

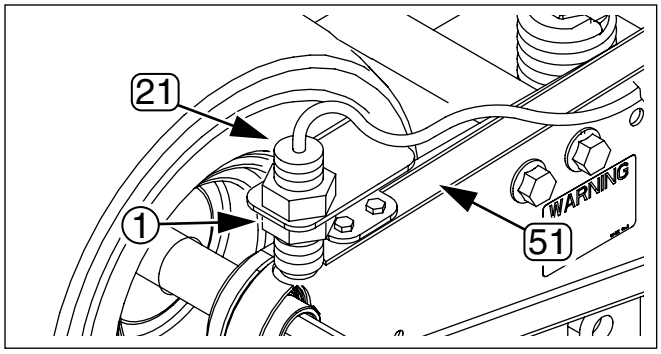

Figure 9
Install Sensor
26006

Cut Cover Clearance Holes

Refer to Figure 10

19. Position the cover (62) against the shield (51) and mark areas where the lip of the cover must be cut away.
20. Test fit the cover (62) and file any sharp edges.

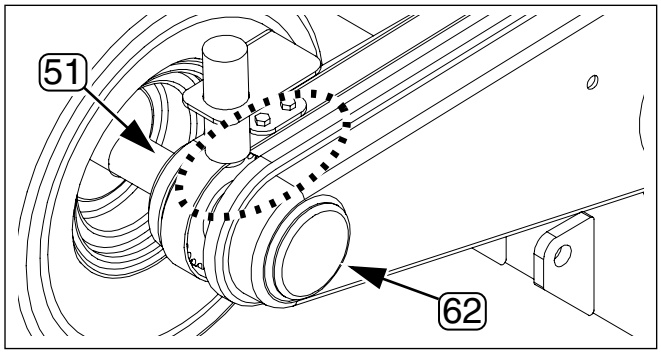

Figure 10
Mark for Clearance
26000

Install Pickup Wheel and Sprocket

Refer to Figure 11

21. Select again the one new:
    (12) 402-262D DISC, MAG PICKUP
    and each of the existing:
    (58) PIN COTTER 1/4 X 2 PLT
    (59) SPKT 40C15 X 7/8 HEX BORE
    (57) WASHER FLAT SAE 1
22. On the shaft, install the disc (12), washer (57), sprocket (59) and cotter pin (58).

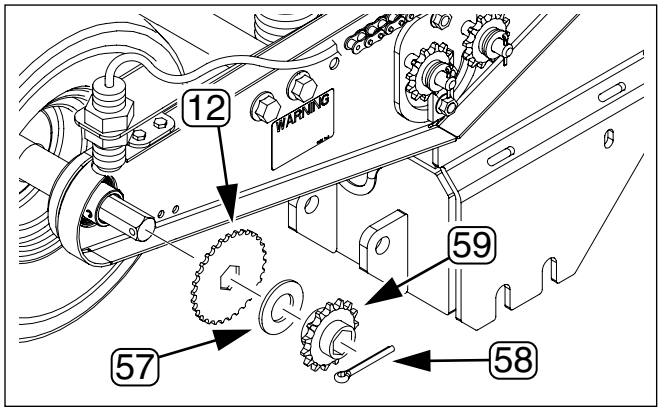

Figure 11 26007
Final Wheel Install

Adjust Sensor Position

Refer to Figure 12

23. Turn the upper plastic nut of the sensor to adjust sensor gap ①. Set gap 6mm to 7mm between bottom end of sensor (21) and sensor disc (12).
24. Rotate the disc (12) to verify clearance. Tighten the upper nut.

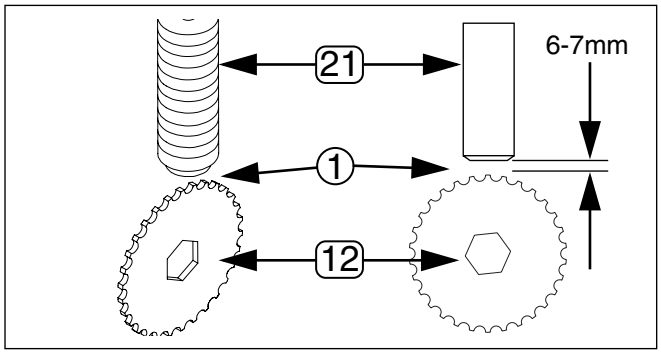

Figure 12 26008 26013
Adjust Sensor Position

Refer to Figure 13

25. Re-mount the chain (on the sprocket (59), *NOT* on the sensor disc (12). Tighten the idlers ①.
26. Re-mount the cover (62) and secure it with knob (60).

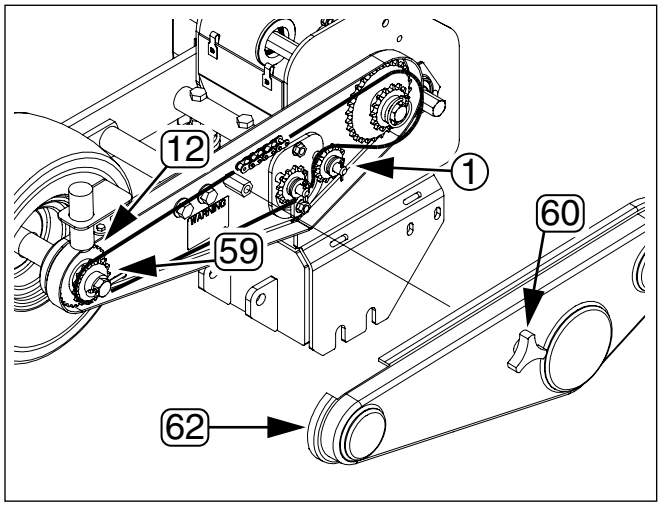

Figure 13 26009
Re-Mount Chain

Route Cable

Refer to Figure 14 and consult the installation instructions in the DICKEY-john manual for the seed monitor.

27. Select one each new:
    (22) 833-452C DJ SENSOR TO RADAR 15.5 EXT
    (23) 833-453C DJ RADAR EXTENSION 25 FT.
    and all of the new:
    (16) 800-244C CABLE TIE .19X15 PANDU BT4S-C0
28. Connect one end of the 4.7m (15.5ft) sensor-to-radar lead (22) (the shorter cable) to the sensor (21) (not shown).
29. Route the other end of (22) to the tongue. Keep it clear of moving parts. Allow slack at machine hinge and pivot points (follow the seed tube sensor cable bundles).
30. Connect one end of the 7.6m (25ft) extension lead (23) to the DICKEY-john seed monitor in the tractor cab.
31. Route the other end along the existing cable bundle to the planter tongue. Use any slack to provide extra clearance near moving and flexing parts.
32. Use the cable ties (16) to secure the cable. Do not tie any part of cable (22) to the tractor. Do not tie any part of cable (23) to the planter.
33. Connect sensor/planter cable (22) to tractor/seed monitor cable (23).

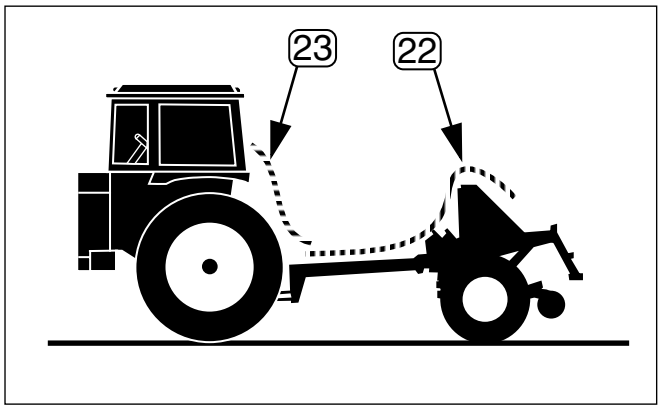

Figure 14 99999
Route Cables

Seed Tube Upgrade

Remove Old Seed Tubes

Refer to Figure 2, the PD8070 Operator's Manual and the PD8070 Parts Manual

34. (not shown) Disconnect the seed sensor lines at each seed tube.
35. Remove the pin ① and remove each old seed tube. The seed tube is not reused, but it has components on it that are re-used.
36. Remove and save the seed sensor ② from each seed tube.
37. (not shown at ③) Remove and save any seed flap or seed firmer from back rear of seed tubes.

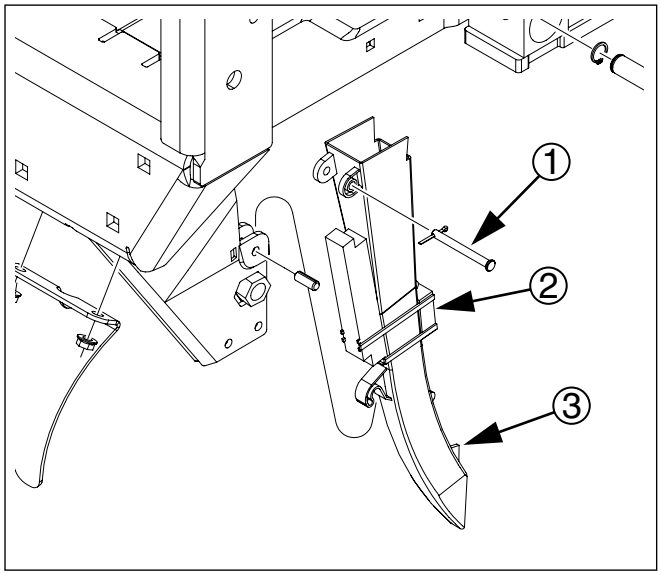

Figure 15 24025
Replace Seed Tubes

Install New Seed Tubes

Refer to Figure 15, the PD8070 Operator's Manual and the PD8070 Parts Manual

38. Select eight new:
    (14) 403-216S SEED TUBE FPU TB,CLIP W/ HOLE
39. (not shown at ③) Re-install any seed flap or seed firmers on the back rear of the new seed tubes.
40. Re-install the seed sensor ② on each new seed tube.

Note: This improved seed tube does not have a front hole at the sensor mount. This improves seed flow. The sensor operates in the infrared, and can "see" through the seed tube wall. Do *NOT* cut a hole for the sensor.

41. Insert the new seed tubes in each row unit, and re-install the pin ①.
42. Re-connect the seed sensor lines (not shown) at each seed tube.

Row Unit Chain Idler Upgrade

Remove Old Idler Pulleys

Refer to Figure 16, Refer to Figure 17, and the PD8070 Parts Manual

For each row unit, locate the spring-tensioned idlers ① at the back left of the parallel arms:

43. Use a tool to rotate the idler assembly ①. Lift the chain off the meter drive sprocket ②.
44. Remove and save two each:
    [56] NUT HEX WHIZ 5/16-18 PLT
    and one:
    [54] PLATE, IDLER RETAINER.

Note: Although you can dismount the chain from the idler, if you leave it in place, there will be no question about chain routing during re-assembly.

45. Remove two each:
    [61] IDLER ROLLER
    [53] BUSHING, IDLER PIVOT
    The old rollers are not re-used.

Note: Although the old [53] and new [15] bushings are the same part number (404-146D), the old bushings are not re-used. If they are still in satisfactory condition, retain them as service spares.

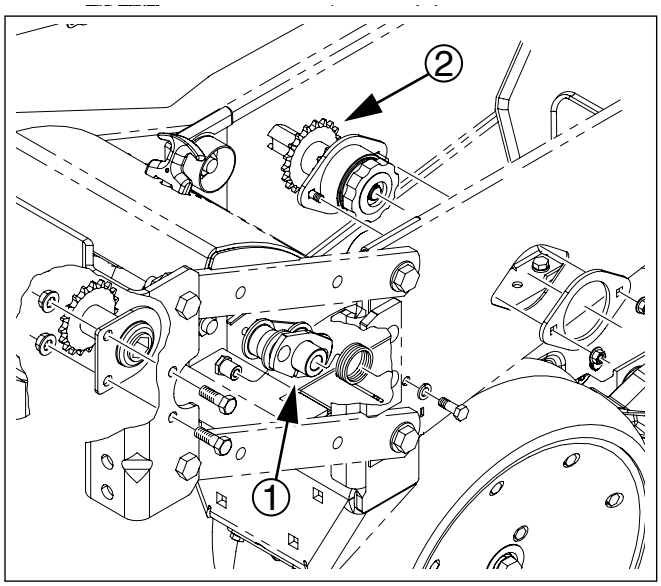

Figure 16 17658
Row Unit Chain Idler

Install New Idler Pulleys

Refer to Figure 16, Figure 17, and the PD8070 Parts Manual. Note that Figure 2 depicts both the old (split type) and the new (solid) idler pulleys.

For each row unit:

46. Select two each new:
    [15] 404-146D BUSHING, IDLER PIVOT
    [20] 817-713C CHAIN IDLER
47. Place a bushing [15] and idler pulley [20] over each bolt [55] on the idler weldment [52].
48. Select two each saved:
    [56] NUT HEX WHIZ 5/16-18 PLT
    and one saved:
    [54] PLATE, IDLER RETAINER.
49. Place the plate [54] over the bolts [55] and secure with the nuts [56]. Make sure bolt heads are flush against idler weldment ③.
50. Use a tool to rotate the idler assembly ① into tension. Re-mount the chain on the meter drive sprocket ②.

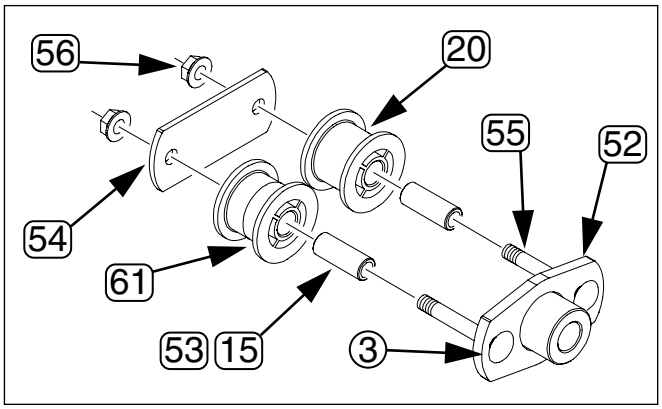

Figure 17 26010
Idler Assembly ①

Initialize the System

51. Turn on the seed monitor, and configure it per the DICKEY-john instruction manual. The new pickup wheel has 30 teeth.
52. Re-install seed hoppers and meters.

Parts Lists

New Parts Included in the 402-234A Update Kit:

Callout	Quantity	Part No.	Part Description
(11)	1	402-231M	This manual
(12)	1	402-262D	DISC, MAG PICKUP
(13)	1	402-426D	HALL EFFECT SENSOR MNT- PRE 07
(14)	8	403-216S	SEED TUBE FPU TB,CLIP W/ HOLE
(15)	16	404-146D	BUSHING, IDLER PIVOT
(16)	56	800-244C	CABLE TIE .19X15 PANDU BT4S-C0
(17)	2	802-005C	HHCS 1/4-20X1 GR5
(18)	2	803-006C	NUT HEX 1/4-20 PLT
(19)	2	804-006C	WASHER LOCK SPRING 1/4 PLT
(20)	16	817-713C	CHAIN IDLER
(21)	1	833-451C	DJ HALL EFFECT SENSOR W/NUTS
(22)	1	833-452C	DJ SENSOR TO RADAR 15.5 EXT
(23)	1	833-453C	DJ RADAR EXTENSION 25 FT.

Existing Parts Affected:

Callout	Qty	Part No.	Part Description	Part Disposition
(51)	1	402-124H	CONTACT WHL DRIVE SHIELD LH	Left in place, but modified
(52)	8	404-087H	IDLER WELDMENT	Left in place
(53)	16	404-146D	BUSHING, IDLER PIVOT	Removed. Not re-used
(54)	8	404-149D	PLATE, IDLER RETAINER	Removed and re-installed
(55)	16	802-251C	RHSNB 5/16-18X2 1/4 GR5	Left in place
(56)	16	803-043C	NUT HEX WHIZ 5/16-18 PLT	Removed and re-installed
(57)	1	804-029C	WASHER FLAT SAE 1	Removed and re-installed
(58)	1	805-021C	PIN COTTER 1/4 X 2 PLT	Removed and re-installed
(59)	1	808-147C	SPKT 40C15 X 7/8 HEX BORE	Removed and re-installed
(60)	1	817-131C	KNOB, TRANS. SHIELD	Removed and re-installed
(61)	16	817-333C	IDLER ROLLER	Removed. Not re-used
(62)	1	817-335C	LH CONTACT DRIVE CHAIN COVER	Removed, modified and re-installed
(63)	8	817-604C	25P SEED TUBE W/DJ HR SENSOR	Removed. Seed tube not re-used. Sensor and firmer (if any) re-used.

Reference Information

Abbreviations

DJ	DICKEY-john (brand name)
EXT	Extension
GR5	Grade 5
FPU	Finger Pick-Up
HHCS	Hex Head Cap Screw (Bolt)
MAG	Magnetic
RHSNB	Round Head Shank Neck Bolt
MNT	Mount
PLT	Plated
TB	Tube

Torque Values		
Fastener/Fitting	**N-m**	**Ft-Lbs**
1/4-20 GR5	11	8
5/16-18 GR5	24	17

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