



## Ground Drive Fertilizer Pump Yield Pro Planters

Used with:

- 2006- Yield Pro® 1225/1625



*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!*

## General Information

These instructions explain how to install the Ground Drive Fertilizer Pump enhancement kit on a planter which already has a fertilizer pump coupled to the meter drive system. Installing this kit eliminates the need to adjust the pump whenever seed rates are changed.

This kit is not needed for 2007+ planters, as their optional fertilizer systems already include these components. This kit requires a pre-existing fertilizer system, and re-uses many existing system components.

These instructions apply to:

Planter Model	Kit	Kit Description
YP1225	407-148A	YP GROUND DRIVE FERT PUMP KIT
YP1625	407-148A	YP GROUND DRIVE FERT PUMP KIT

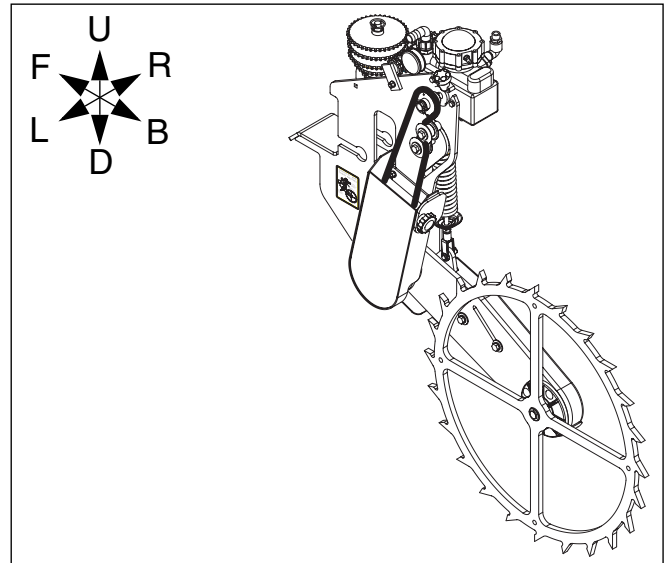


Figure 1  
New Ground Drive Assembly

25302

## Before You Start

Each kit converts an entire planter. Inventory the contents per “**New Parts: Kit 407-148A**” on page 7.

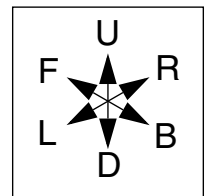
Review these instructions, and make sure you understand which existing system components are re-used, and where they are located. The new components, and the existing components to be re-used or discarded, are located on the back of the left wing of the planter, about halfway out on the toolbar.

### Tools Required

- pipe sealant such as RECTORSEAL® NO. 21
- basic hand tools
- a second or third person for Step 28

## Notations and Conventions

“Left” and “Right” are facing in the direction of machine travel. An orientation rose in the line art illustrations shows the directions of Left, Right, Front, Back, Up, Down.



- ① callouts identify components in the currently referenced Figure or Figures.
- ⑪ to ⑳ callouts reference new parts from the list on page 7. The descriptions match those on the cartons, bags or item tags, as well as your updated Parts Manual.
- ⑤① to ⑦① callouts reference affected existing parts from the table on page 9. The descriptions match those in your Parts Manual.

## Pre-Assembly Preparation

Refer to Figure 2, which depicts the planter with row units removed for clarity.

The ground drive pump is installed on the left wing, at or near the location of the existing shaft-driven fertilizer pump.

1. Unfold the planter. The planter must be raised for unfolding, but may be raised or lowered for all tasks prior to Step 28. If left raised, installed lift/transport locks. Secure the tractor.
2. Flush the existing fertilizer system with water. Fluids will drain off during updates to the plumbing.



### CAUTION

Exercise caution when working with a used fertilizer system. The chemicals are usually very caustic. Unless you fully operate the planter while flushing with water, some chemicals will drain from components during disassembly. Trace amounts may remain in any case.

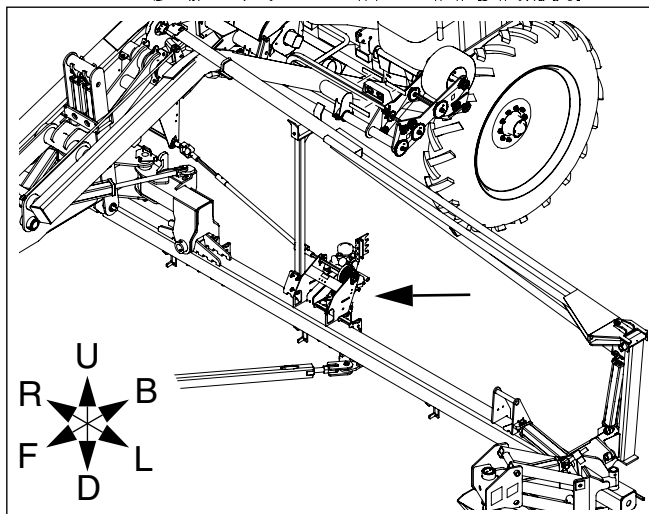


Figure 2  
Location of Components

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## Remove Existing Components

### Dismount Valve and Strainer

Refer to Figure 3

3. Loosen the hose clamp (56) on the inlet port of valve (67) and disconnect the hose (1). Remove and save:  
(56) CLAMP WRM DRV #16 SS (.68-1.5)  
If the hose can reach the ground, protect the open end from contamination, for example, by clamping a plastic bag over the end. If the strainer (70) is due for maintenance, this is an ideal time to clean it.
4. Loosen the hose clamp (56) on the outlet port of strainer (70) and disconnect the hose (2). Remove and save:  
(56) CLAMP WRM DRV #16 SS (.68-1.5).  
Protect hose end from contamination.
5. Remove:  
(69) AD 1 1/2MNPT X 1HB POLYPROP plastic adaptor fitting from the inlet of valve (67). This fitting is not re-used.
6. Remove the fasteners (not shown) that attach valve (67) to valve mount plate (52), and that attach the plate to the planter frame. Remove and save the valve/strainer assembly:  
(70) STRAINER BANJO LST150-80 MESH  
(67) VALVE 1 1/2FNPT BALL POLYPROP and its interconnecting and outlet fittings.  
The plate (52) and the fasteners are not re-used.

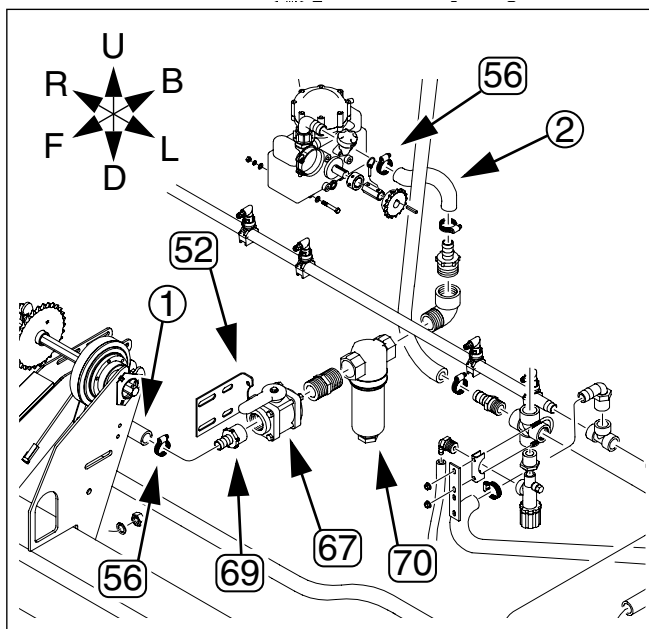


Figure 3  
Dismount Strainer

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## Dismount Pump and Pump Sprocket

Refer to Figure 4

7. Loosen the hose clamp **(56)** on the inlet port of pump **(71)** and disconnect the hose **(1)**.  
Remove and save:  
**(56)** CLAMP WRM DRV #16 SS (.68-1.5)  
Protect hose end from contamination.
8. Loosen two sets of bolts/nuts **(57)**, **(58)**, **(60)**, **(62)** holding pump **(71)** on fertilizer pump mount **(55)**. Slide pump forward to obtain slack in chain **(51)**.
9. Remove retaining clip (not shown) in chain link, and remove:  
**(51)** CHAIN RL #40 60, 63 or 66 PITCHES  
This chain is not re-used.
10. Remove and save  
**(63)** PIN LINCH 3/16 X 1 9/16 LONG  
which retains sprocket **(65)** on pump shaft.  
Remove:  
**(65)** SPKT 40C17, 24 or 30 X 7/8 HEX BORE  
It is not re-used.
11. Remove three sets of:  
**(57)** HHCS 5/16-18X3 1/4 GR5  
**(58)** NUT HEX 5/16-18 PLT  
**(60)** WASHER LOCK SPRING 5/16 PLT  
**(62)** WASHER FLAT 5/16 SAE PLT  
**(65)** SPKT 40C17, 24 or 30 X 7/8 HEX BORE  
These fasteners are not re-used.
12. Remove and save:  
**(71)** PUMP HYPRO D30AP-A DIAPHRAM  
Also save attached fittings and hose.
13. Remove two sets of:  
**(59)** NUT HEX 5/8-11 PLT  
**(61)** WASHER LOCK SPRING 5/8 PLT  
and one:  
**(64)** U-BOLT 5/8-11 X 7 1/32 X 8 1/2  
These attach the fertilizer pump mount **(55)** to wing toolbar **(2)**. These fasteners are not re-used.
14. Remove:  
**(55)** FERTILIZER PUMP MOUNT  
Mount is not re-used.
15. Sprocket **(66)**, on wing drive shaft, is not re-used, but may be left in place.

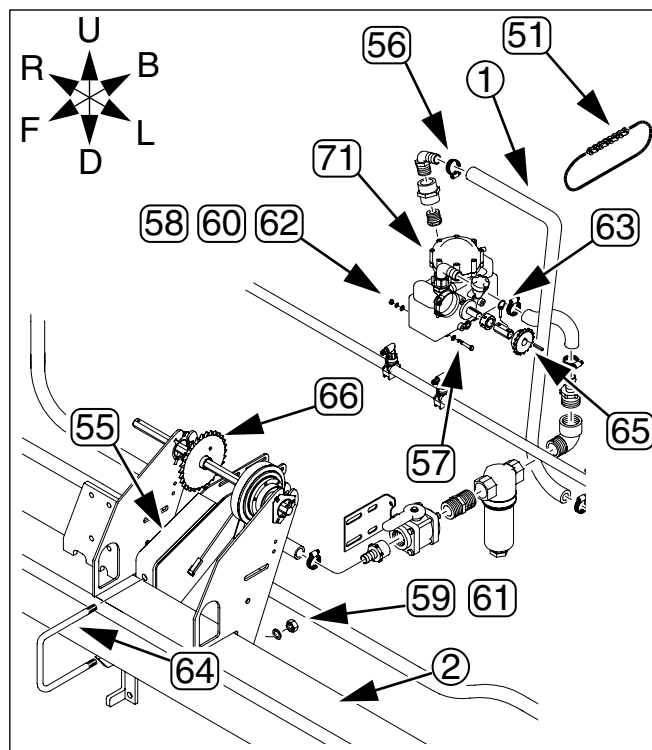


Figure 4  
Dismount Pump

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## Install New Components

### Determine Ground Drive Location

These instructions do not specify a precise location for mounting the new ground drive, due to the wide variety of factory configurations and end user modifications.

The hose connections to the fertilizer feed line, strainer-to-pump line and pump-to-distribution manifold permit considerable flexibility in placement of the strainer and pump.

The strainer (on a new mount) requires a vertical surface with mounting holes, typically the inside or outside of either plate of the wing drive shaft bracket. Unless you add hose, it needs to be within existing hose length of the feed line.

The optimal placement for the drive unit itself is halfway between rows (row units or row unit pairs in twin-row), and within hose length of the strainer and manifold. If you add hose, you have more flexibility.

These instructions assume that the strainer is mounted inside the wing drive shaft brackets, on the inboard plate, and the ground drive assembly is mounted about a foot outboard of the wing drive shaft brackets.

### Install Strainer Mount

Refer to Figure 5

16. Select one new:

⑮ 407-171D FERT VALVE MNT

three new:

⑮ 802-034C HHCS 1/2-13X1 1/4 GR5

six new:

⑮ 804-016C WASHER FLAT 1/2 SAE PLT

three new:

⑮ 804-015C WASHER LOCK SPRING 1/2 PLT

and three new:

⑮ 803-020C NUT HEX 1/2-13 PLT.

17. Make sure that at least two of the four slotted holes in the mount ⑮ can be aligned with holes at your intended mounting point (in this illustration, the left side of the inboard plate ① of the left wing drive shaft bracket).

Mount ⑮ is intended to place with the short bent end to the Back and facing away from the mounting surface.

18. Insert each bolt ⑮ through one flat washer ⑮ and then through at least two of the four holes in the mount ⑮ and the frame plate ①.
19. Add another flat washer ⑮, lock washer ⑮ and nut ⑮ to each bolt and finger tighten.

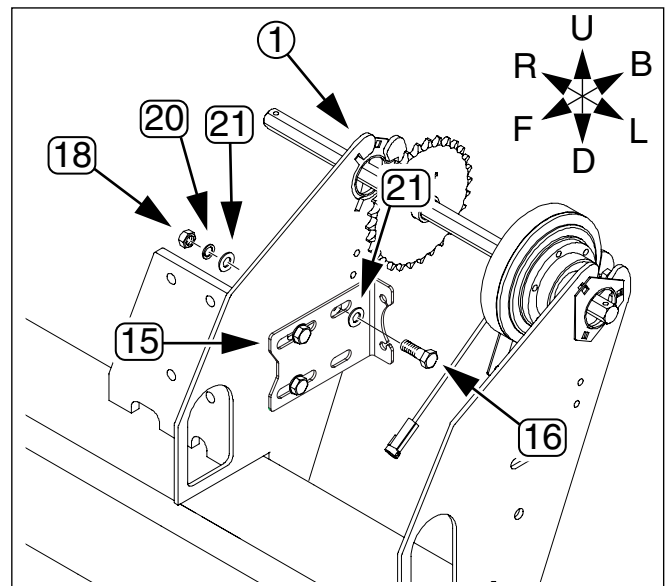


Figure 5  
Install New Valve Mount

25305

## Re-Install Valve and Strainer

Refer to Figure 6

20. Select one saved:

(70) STRAINER BANJO LST150-80 MESH

(67) VALVE 1 1/2FNPT BALL POLYPROP  
and its interconnecting and outlet fittings.

Select one new:

(27) 830-145C AD 1 1/2MNPT X 1FNPT POLYPROP  
and select one new:

(26) 830-127C EL 1MNPT X 1HB POLYPROP

The valve assembly attaches to the mount (15) using two bolts already present in the valve, which pass through the holes in the short bent end of the mount.

21. Hand-position valve/strainer assembly (67)/(70) to determine:

- mounting clearance,
- hose clearance,
- operator access,
- clearance for valve operation,
- preferred inlet elbow orientation, and
- clearance for strainer maintenance.

22. Apply pipe sealant to male threads of adaptor (27) and screw it into the inlet port of valve (67). Apply sealant to the male threads of elbow (26) and screw it into adaptor (27), adjusting final orientation to desired angle.

Note: Do not use tape sealant on pipe threads. Tape fragments will clog strainer and block orifices.

23. Adjust mount (15) to provide suitable final position and tighten bolts/nuts installed in Step 19.
24. Loosen nuts (1) on mounting side of valve (67) and remove bolts (2), noting placement of washers. Position valve on mount (15), re-insert bolts, washer and nuts, and tighten.
25. Re-connect fertilizer feed line hose (not shown) and secure with clamp (56) (not shown).

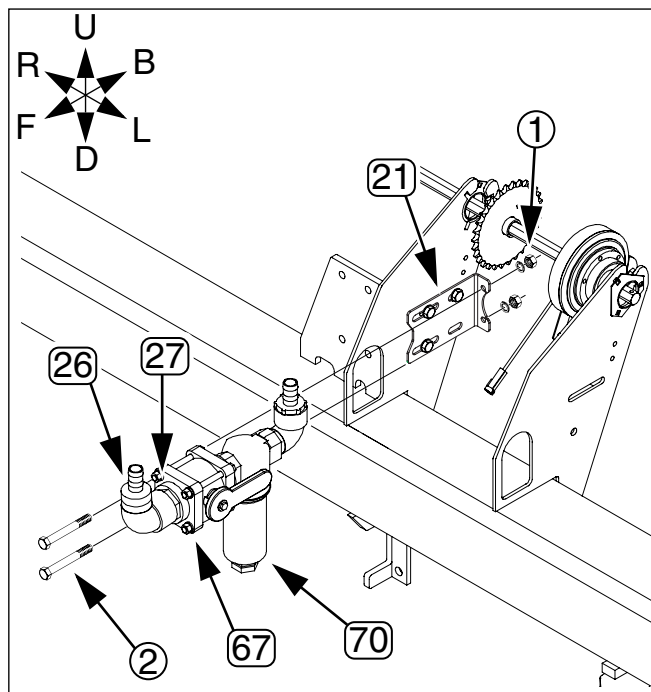


Figure 6  
Re-Install Valve and Strainer

25306

## 6 | Ground Drive Fertilizer Pump

### Install Ground Drive Assembly

Refer to Figure 7, which depicts the new ground drive with guards removed. Guards may be left in place until final sprocket mounting.

26. Select one new:  
 (14) 407-147K FERTILIZER PUMP DRIVE ASY KIT  
 two new:  
 (25) 806-102C U-BOLT 3/4-10 CORNER 7 SQ  
 four sets new (not shown):  
 (23) 804-025C WASHER FLAT 3/4 SAE PLT  
 (22) 804-023C WASHER LOCK SPRING 3/4 PLT  
 (19) 803-027C NUT HEX 3/4-10 PLT
27. Position the two U-bolts (22) over the tool bar (1) at the mount location.
28. Have assistant(s) hold the drive assembly (14) at the mount point. Insert the U-bolts (25). Temporarily hold the assembly in place with four nuts (19).
29. Remove one nut (19) at a time. Place a flat washer (23) (not shown), lock washer (22) (not shown) and nut (19) on the U-bolt. Tighten each until the drive assembly's mount is flat against the tool bar. Tighten to torque spec.

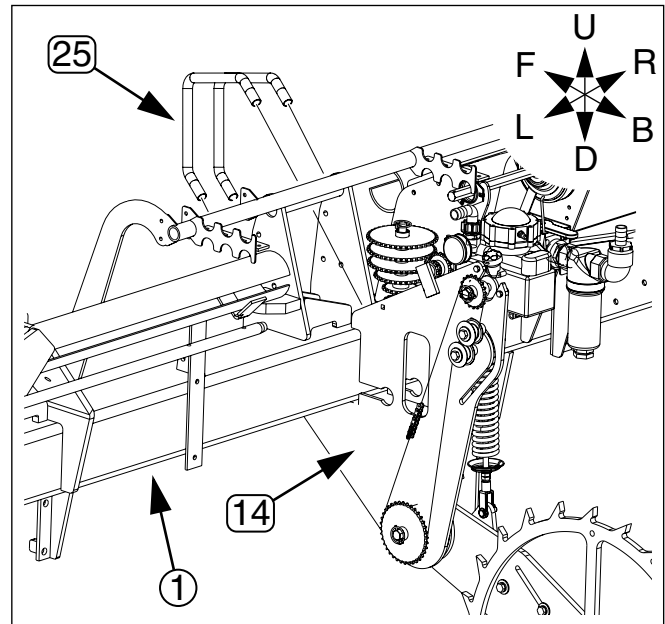


Figure 7  
Install Ground Drive

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### Re-Install Pump

Refer to Figure 8

30. Select the saved  
 (71) PUMP HYPRO D30AP-A DIAPHRAM  
 three new  
 (17) 802-314C HHCS M8X1.25X20 GR8.8  
 and three new  
 (24) 804-157C WASHER SPRING LOCK M8 PLT
31. Place lock washers (24) on each bolt (17).
32. Position the pump (71) at the top cut-out of the contact wheel mount weldment (1). Align the pump against the inside of the left plate (1), so that the upper air chamber (2) of the pump is Up, the inlet elbow (3) is in Front, and the threaded holes on the three-hole side of the pump match the three holes in the plate

Insert three bolts/washers (17)/(24) and tighten.

33. Re-connect hose from strainer to pump inlet (not shown) and secure with saved clamp.
34. Re-connect manifold hose (not shown) to pump outlet elbow (3) and secure with saved clamp.

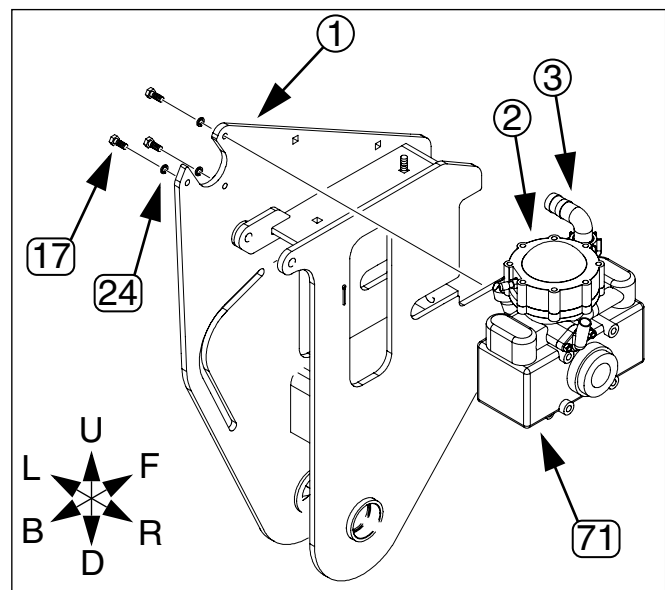


Figure 8  
Re-Install Pump

25308

# Closeout

Refer to Figure 9

To complete the installation the Driving and Driven sprockets need to be mounted on the drive. If you do not know the next fertilizer rate desired, sprocket change does not need to be completed at this time.

Setup and use of the Ground Drive Fertilizer Pump is described in the 401-226M Operator's Manual, a copy of which is included in this kit.

To change sprockets, remove the knob ① securing the drive guard ②, and remove the guard. Remove the linch pins securing the sprockets on drive shafts ③ and storage shafts ④. Exchange sprockets per the Drive Type table of the Fertilizer Rate chart, and re-pin.

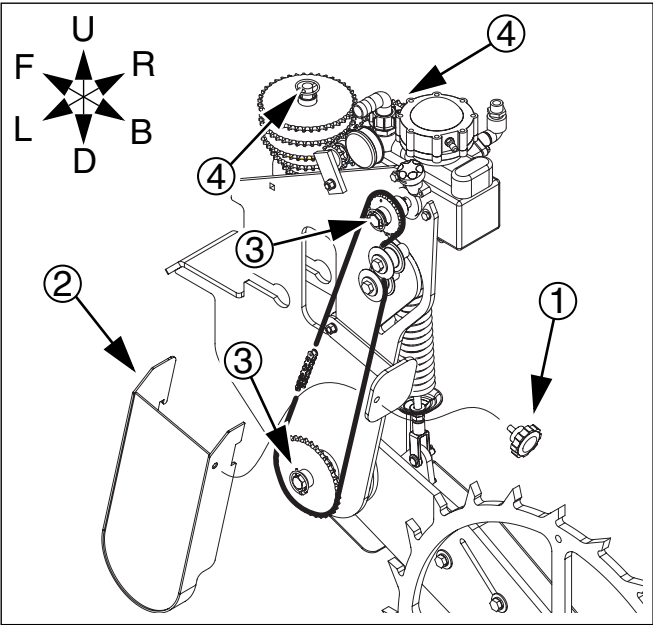


Figure 9  
Ground Drive Type 25319

# Parts Lists

## New Parts: Kit 407-148A

The part call-out numbers in this list match all Figures in the installation instructions. Your kit includes the following parts..

Callout	Quantity	Part Number	Part Description
⑪	1	407-149M	This manual
⑫	1	401-226M	MANUAL OP 12 & 16 ROW YP PLTR
⑬	1	401-226P	MANUAL PARTS 12 & 16 ROW YP PL
⑭	1	407-147K	FERTILIZER PUMP DRIVE ASY KIT
⑮	1	407-171D	FERT VALVE MNT
⑯	3	802-034C	HHCS 1/2-13X1 1/4 GR5
⑰	3	802-314C	HHCS M8X1.25X20 GR8.8
⑱	3	803-020C	NUT HEX 1/2-13 PLT
⑲	4	803-027C	NUT HEX 3/4-10 PLT
⑳	3	804-015C	WASHER LOCK SPRING 1/2 PLT
㉑	6	804-016C	WASHER FLAT 1/2 SAE PLT
㉒	4	804-023C	WASHER LOCK SPRING 3/4 PLT
㉓	4	804-025C	WASHER FLAT 3/4 SAE PLT
㉔	3	804-157C	WASHER SPRING LOCK M8 PLT
㉕	2	806-102C	U-BOLT 3/4-10 CORNER 7 SQ
㉖	1	830-127C	EL 1MNPT X 1HB POLYPROP
㉗	1	830-145C	AD 1 1/2MNPT X 1FNPT POLYPROP

## Existing Parts Affected

The following parts are involved in the upgrade. The Disposition column indicates whether they are left in place, moved or discarded.

The part call-out numbers in the list on page 9 match all Figures in the installation instructions.

This is not a comprehensive list of all pre-existing parts of the fertilizer system. Other than fasteners used on removed parts, parts not listed remain in place.

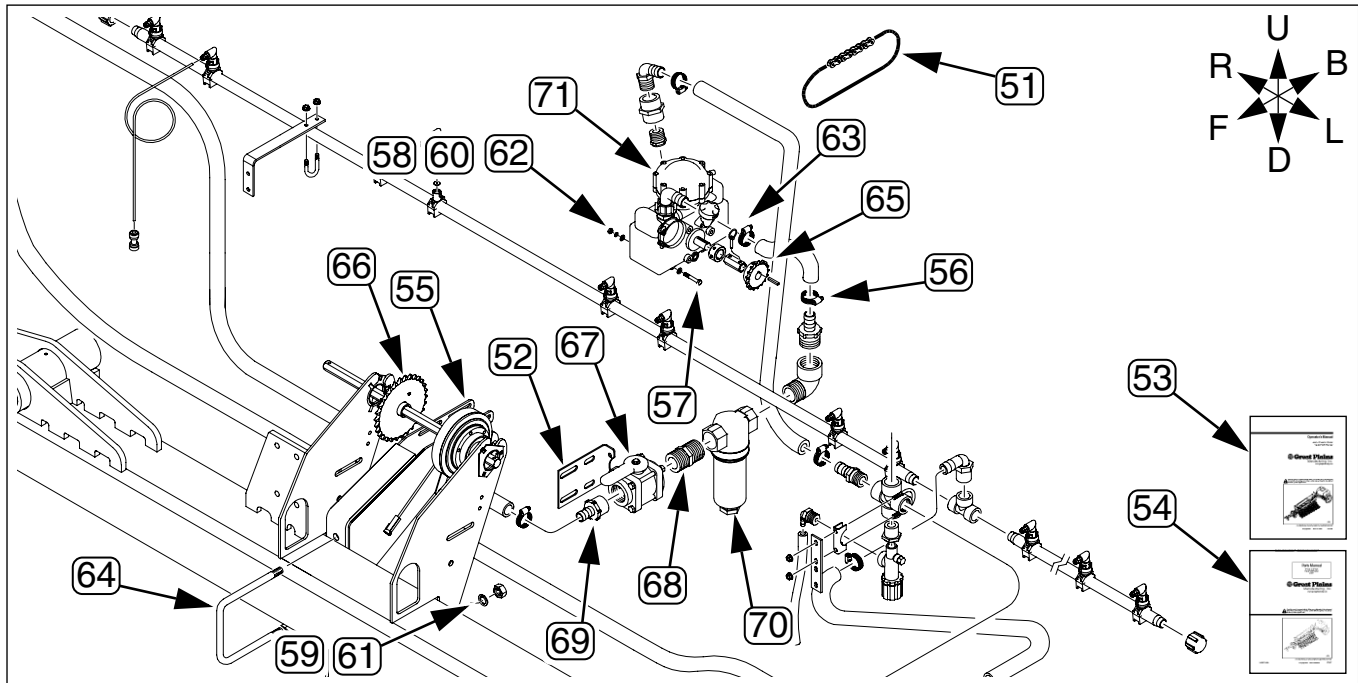


Figure 10  
Existing Parts

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25309  
25310



**Existing Parts List**

<b>Callout</b>	<b>Part No.</b>	<b>Qty</b>	<b>Part Description</b>	<b>Part Disposition</b>
⑤1	Multiple	1	CHAIN RL #40 60, 63 or 66 PITCHES	Not re-used. Function replaced by chain included with wheel assembly
⑤2	148-410D	1	VALVE MOUNT PLATE	Not re-used, suggest removing
⑤3	401-226M	1	Operator's Manual	Replaced with new manual (same part number)
⑤4	401-226P	1	Parts Manual	Replaced with new manual (same part number)
⑤5	407-120H	1	FERTILIZER PUMP MOUNT	Not re-used, suggest removing
⑤6	800-123C		CLAMP WRM DRV #16 SS (.68-1.5)	Re-used
⑤7	802-390C	1	HHCS 5/16-18X3 1/4 GR5	Not re-used, and replaced by new fasteners
⑤8	803-008C	2	NUT HEX 5/16-18 PLT	Not re-used, and replaced by new fasteners
⑤9	803-021C	2	NUT HEX 5/8-11 PLT	Not re-used, and replaced by new U-bolts with new fasteners
⑥0	804-009C	2	WASHER LOCK SPRING 5/16 PLT	Not re-used, and replaced by new fasteners
⑥1	804-022C	2	WASHER LOCK SPRING 5/8 PLT	Not re-used, and replaced by new U-bolts with new fasteners
⑥2	804-036C	4	WASHER FLAT 5/16 SAE PLT	Not re-used, and replaced by new fasteners
⑥3	805-240C	1	PIN LINCH 3/16 X 1 9/16 LONG	Re-used
⑥4	806-052C	1	U-BOLT 5/8-11 X 7 1/32 X 8 1/2	Not re-used, and replaced by new U-bolts with new fasteners
⑥5	Multiple	1	SPKT 40C17, 24 or 30 X 7/8 HEX BORE	Not re-used, and replaced by new sprocket
⑥6	Multiple	1	SPKT 40C23 or 30 X 7/8 HEX BORE	Not re-used, but may be left in place
⑥7	829-013C	1	VALVE 1 1/2FNPT BALL POLYPROP	Re-used - placed on new mount
⑥8	830-045C	1	AD 1 1/2MNPT POLYPROP	Re-used - moved with valve ⑥7
⑥9	830-254C	1	AD 1 1/2MNPT X 1HB POLYPROP	Not re-used, and replaced by new fitting
⑦0	831-029C	1	STRAINER BANJO LST150-80 MESH	Re-used - moved with valve ⑥7
⑦1	831-045C	1	PUMP HYPRO D30AP-A DIAPHRAM	Re-used - placed on new mount

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# Reference Information

## Abbreviations

AD	Adaptor
ASY	Assembly
DRV	Drive
EL	Elbow
FERT	Fertilizer
GR	Grade
HB	Hose Barb
HHCS	Hex Head Cap Screw (Bolt)
MNT	Mount
NPT	(Female/Male) National Pipe Thread
PLT	Plated
POLYPROP	Polypropylene
RL	Roller
SAE	Society of Automotive Engineers
SPKT	Sprocket
SQ	Square
SS	Stainless Steel
WRM	Worm

Torque Values		
Fastener/Fitting	Ft-Lbs	N-m
M8X1.25 Class 8.8	26	19
1/2-13	105	76
3/4-10 U-bolt	360	265