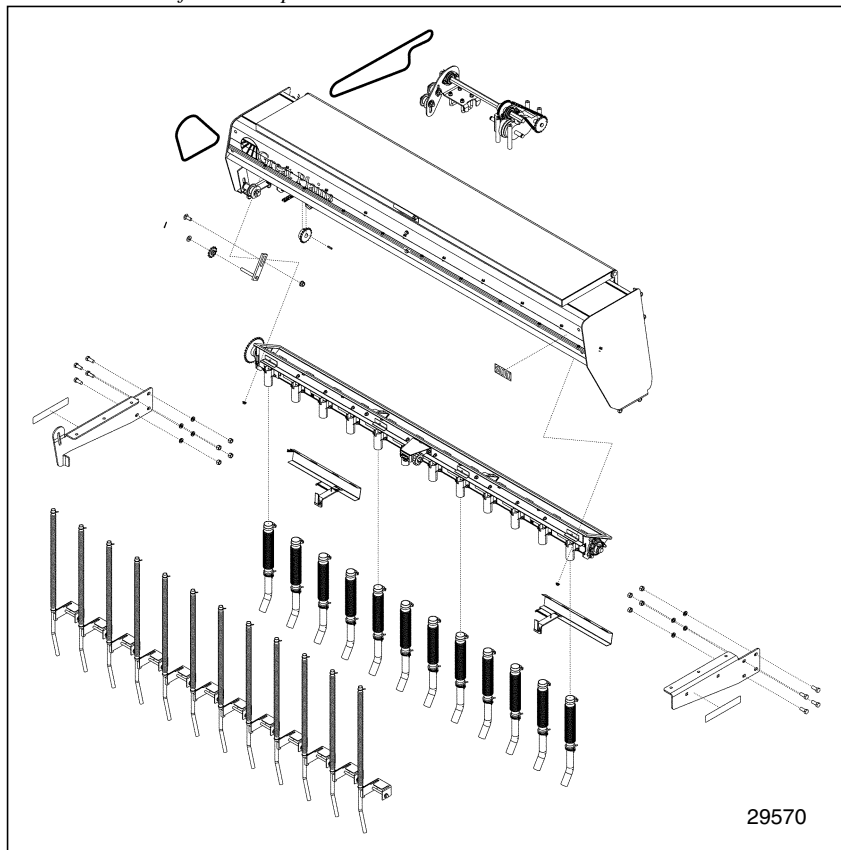


Installation Instructions

8-Foot End-Wheel Drills
800EW Fertilizer Kits



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!



Cover illustration may show parts not supplied with all kits.





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Important Safety Information

Look for Safety Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety involved and extra safety precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. In addition to design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.



Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations, typically for machine components that, for functional purposes, cannot be guarded.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

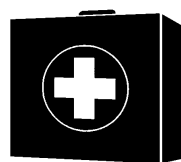


CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



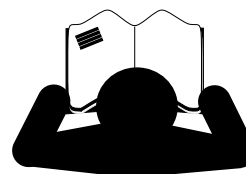
Prepare for Emergencies

- ▲ *Be prepared if a fire starts*
- ▲ *Keep a first aid kit and fire extinguisher handy.*
- ▲ *Keep emergency numbers for doctor, ambulance, hospital and fire department near phone.*



Be Familiar with Safety Decals

- ▲ *Read and understand "Safety Decals" on page 3, thoroughly.*
- ▲ *Read all instructions noted on the decals.*
- ▲ *Keep decals clean. Replace damaged, faded and illegible decals.*



Wear Protective Equipment

- ▲ *Wear protective clothing and equipment.*
- ▲ *Wear clothing and equipment appropriate for the job. Avoid loose-fitting clothing.*
- ▲ *Because prolonged exposure to loud noise can cause hearing impairment or hearing loss, wear suitable hearing protection such as earmuffs or earplugs.*
- ▲ *Because operating equipment safely requires your full attention, avoid wearing entertainment headphones while operating machinery.*



Handle Chemicals Properly

Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil and property.

- ▲ *Do not use liquid treatments with the fertilizer kit.*
- ▲ *Read and follow chemical manufacturer's instructions.*
- ▲ *Wear protective clothing.*
- ▲ *Handle all chemicals with care.*
- ▲ *Avoid inhaling smoke from any type of chemical fire.*
- ▲ *Never drain, rinse or wash dispensers within 100 feet of a freshwater source, nor at a car wash.*
- ▲ *Store or dispose of unused chemicals as specified by chemical manufacturer.*
- ▲ *Dispose of empty chemical containers properly. Laws generally require power rinsing or rinsing three times, followed by perforation of the container to prevent re-use.*



Safety Decals

Safety Reflectors and Decals

The kits covered by this manual may include new safety decals that need to be applied. Existing safety decals on the drill also apply during the installation. Both classes of decals are re-listed here for emphasis.

- ▲ *Read and follow decal directions.*
- ▲ *Keep lights in operating condition.*
- ▲ *Keep all safety decals clean and legible.*
- ▲ *Replace all damaged or missing decals. Order new decals from your Great Plains dealer. Refer to this section for proper decal placement.*
- ▲ *When ordering new parts or components, also request corresponding safety decals.*

838-265C

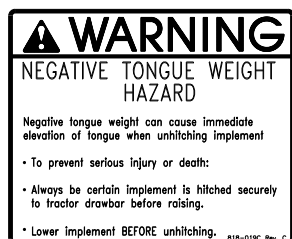


Amber Reflectors

On wing walkboard end faces, above steps, front face of frame, outside corners;
4 total

Kits include new amber reflectors for new walkboard supports.

818-019C



Warning: Negative Tongue Weight

Existing decal on tongue at hitch;
1 total

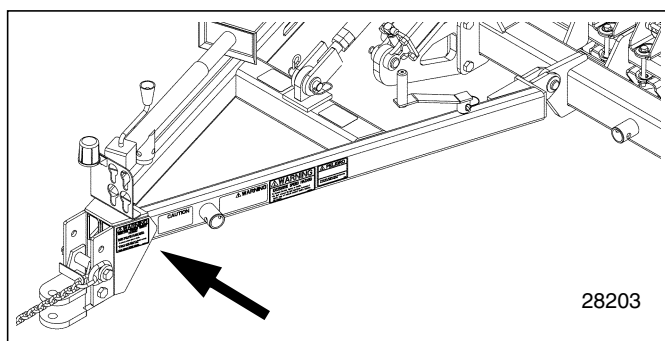
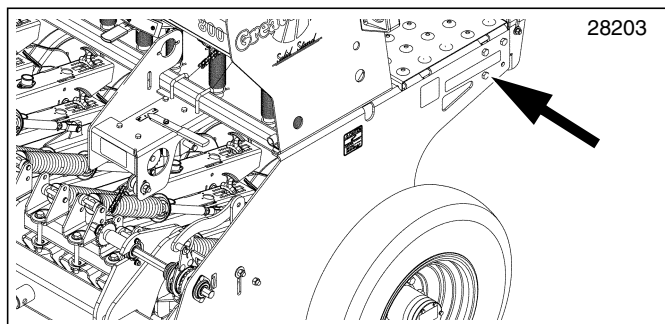


Drill Becomes at Risk of Negative Tongue Weight:

An 800EW drill without the Fertilizer option would always have positive tongue weight. With the Fertilizer option installed, negative tongue weight is now possible when material is loaded in the fertilizer box, and when weight is on the new extended walkboard. Unless tractor remains hitched during installation, lower drill before unhitching.

To install new decals:

1. Clean the area on which the decal is to be placed.
2. Peel backing from decal. Press firmly on surface, being careful not to cause air bubbles under decal.





Introduction

The 800EW Fertilizer Kits add the capability to meter dry fertilizer with the Great Plains 8-Foot End-Wheel Drill. Material may be metered during seeding, or separately. The fertilizer rate is independent of seed rates from main box or Small Seeds box.

Models Covered

Drill	Description
800-1275	8-Foot 12-Row 7.5in Spacing
800-1506	8-Foot 15-Row 6in Spacing

Kits Covered

This manual describes installation of four kits. Kits are provided in two versions for each row spacing:

175-248A 800 FERT 6 FLD INST ON SGS

Use this kit with an 800-1506 drill which also has the Small Seeds or Agitator options (or when simultaneously installing another option which includes an Accessory Drive).

175-249A 800 FERT 6 FLD INST WITH DRIVE

Use this kit with an 800-1506 drill which has only a Main Seed Box without Agitator (or when simultaneously installing the Small Seeds option version which does not include an Accessory Drive).

175-250A 800 FERT 7.5 FLD INST ON SGS

Use this kit with an 800-1275 drill which also has the Small Seeds or Agitator options (or when simultaneously installing another option which includes an Accessory Drive).

175-251A 800 FERT 7.5 FLD INST WITH DRV

Use this kit with an 800-1275 drill which has only a Main Seed Box without Agitator (or when simultaneously installing the Small Seeds option version which does not include an Accessory Drive).

Note: These kits are for pull-type 8-foot end-wheel drill. There are separate kits for three-point 8-foot drills.

Notations and Conventions

Right-hand and left-hand as used in this manual are determined by facing the direction the machine will travel while in use unless otherwise stated. An orientation rose in some line art illustrations shows the directions of: Up, Back, Left, Down, Front, Right.

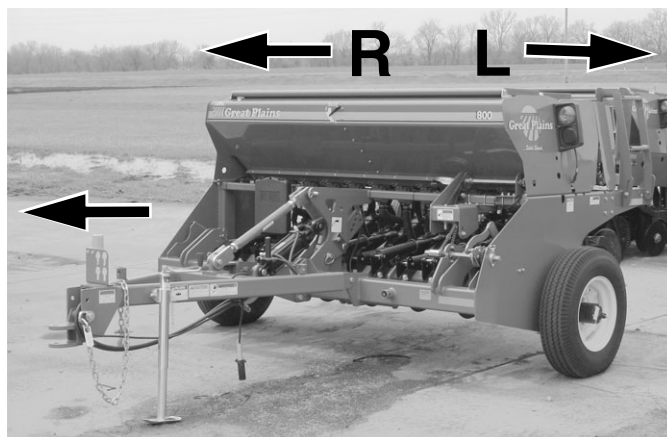
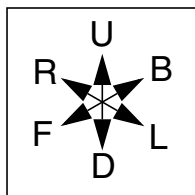


Figure 1
800 End Wheel Drill

29565

Definitions

The following terms are used throughout this manual.

IMPORTANT !

A crucial point of information related to the preceding topic. Read and follow the directions to remain safe, avoid serious damage to equipment and ensure desired field results.

Note: Useful information related to the preceding topic.

Call-Outs

- ① to ⑨ Single-digit callouts identify components in the currently referenced Figure or Figures. These numbers may be reused for different items from page to page.
- 100 to 242 3-digit callouts in the range 100 to 242 reference new parts from the new parts lists beginning on page 31.
- 11 to 45 2-digit callouts in the range 11 to 45 reference affected existing parts from the table starting on page 36. The descriptions match those in your Parts Manual. The narrative and table indicate any re-use of the parts.



Before You Start

Drill Compatibility

Refer to Figure 2

1. Check the drill serial number plate ① to ensure that the model number is either 800-1275 or 800-1506. These kits are not compatible with other row spacings, nor with model 3P806NT.
2. Check to see if an Accessory Drive system ② is already installed (which is the case if a Main Box Agitator and/or Small Seeds is installed).

The 175-248A and 175-250A kits require that an Accessory Drive already be present.

The 175-249A and 175-251A kits include an Accessory Drive.

Tools Required

- updated drill Parts manual (below) for parts I.D.
- suitable tractor for positioning and lowering drill
- chain lube
- a hoist, or at least four (4) people for large assembly placement
- basic hand tools, including:
 - snap ring pliers
 - punch(es) for seating $\frac{5}{32}$ in and $\frac{1}{4}$ in roll pins

Related Documents

To assist installation, and for complete and up-to-date operating instructions for your fertilizer option, make sure you have the current editions of the following manuals.

175-057M 800EW Owner's Manual
 175-057B 800EW Seed Rate Charts
 175-057P 800EW Parts Manual

Updates are available on the Great Plains web, from your dealer, or directly from Great Plains.

Installing Multiple Options?

If you are also installing a Main Box Agitator and/or the Small Seeds attachment, perform the work in this order:

- A. Agitator
- B. Fertilizer
- C. Small Seeds

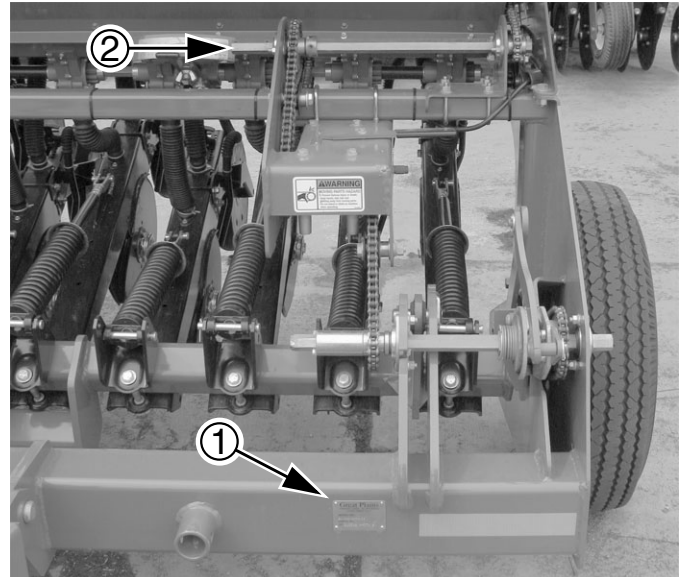


Figure 2
Serial Number, Accessory Drive

29566

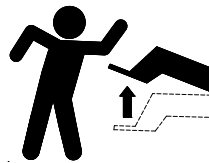
Pre-Assembly Preparation

3. Clean out the Main and Small Seed boxes. These boxes need to be empty for the installation.
4. Move the drill to a location with:
 - room to maneuver large parts around it
 - adequate lighting
 - clear surface beneath for recovery of any falling or dropped parts - if the surface is not clear, have a tarp or drop cloth available
5. Park the drill at the work site. Install the parking jack if unhitching (and see Warning at right).
6. Lower the openers to eliminate negative tongue weight hazard.
7. Shut off tractor if left hitched.



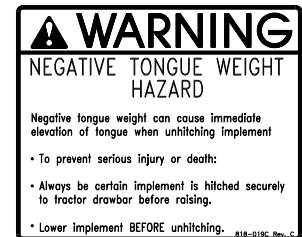
Agricultural Chemical Hazard:

Installation requires hand work inside the Main seed box, and if installed, the Small Seeds box. If treated seed has ever been used in the seed box(es), follow seed or material supplier instructions for safely removing residue from a seed box.



Drill Becomes at Risk of Negative Tongue Weight:

An 800EW drill without the Fertilizer option has positive tongue weight. After the Fertilizer option is installed, negative tongue weight is possible when material is loaded in the fertilizer box, and possibly during installation when weight is on the new extended walkboard. Unless tractor remains hitched during installation, lower drill before unhitching





Remove Existing Hardware

Note: Existing hardware may vary slightly from parts called out in these instructions. Note such changes, so that parts are correctly re-installed.

Remove Walkboard Ladder

One ladder mount is replaced when the walkboard is re-mounted. The ladder (13) is re-installed at step 103 on page 24.

Refer to Figure 3

8. Swing the ladder (13) down, then remove and save two sets:

- (35) 803-014C NUT HEX 3/8-16 PLT
- (42) 804-013C WASHER LOCK SPRING 3/8 PLT
- (41) 804-011C WASHER FLAT 3/8 USS PLT
- (12) 119-278D WALKBOARD LADDER PIVOT BUSHING
- (29) 802-079C HHCS 3/8-16X1 1/4 GR5

then remove and save the ladder:

- (13) 119-294H 3PT HINGED WALKBOARD LADDER

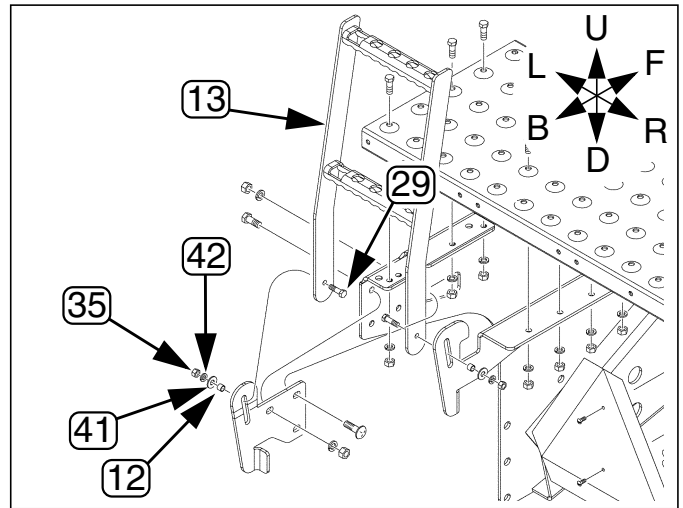


Figure 3
Dismount Ladder

28055

Remove Walkboard

The new fertilizer box mounts where the walkboard is presently installed, requiring walkboard relocation. The walkboard is re-installed on new supports at "Install Supports and Walkboard" on page 20.

Refer to Figure 4

9. Remove and save six (6) sets:

- (36) 803-015C NUT HEX 7/16-14 PLT
- (43) 804-014C WASHER LOCK 7/16 PLT
- (33) 802-673C HHCS 7/16-14X1 1/4 GR5 PLT

then remove and save the:

- (19) 175-411D 8FT EW WALKBOARD

Note: Do not remove the hardware at the right ladder mount (3). This mount stays with the walkboard and is re-used as presently installed on the walkboard.

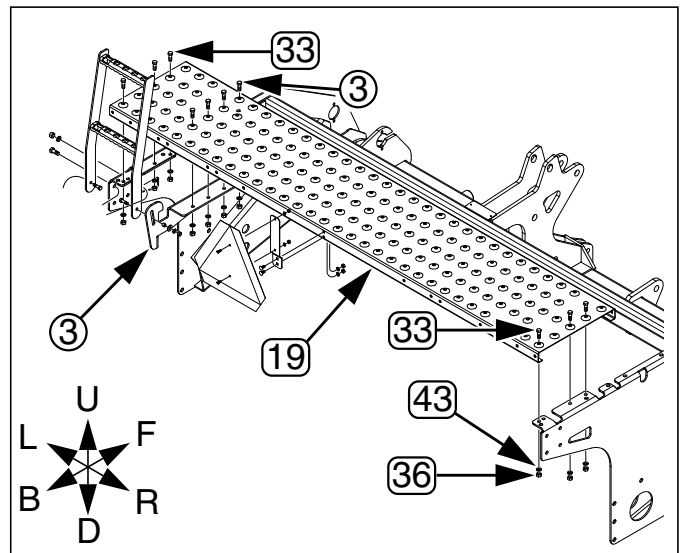


Figure 4
Dismount Walkboard

28055

Remove Walkboard Support(s)

All short supports are replaced by longer supports in “Install Supports and Walkboard” on page 20.

Refer to Figure 5

10. At the left frame, remove and save four (4) sets of:

- ③⑦ 803-020C NUT HEX 1/2-13 PLT
 - ④④ 804-015C WASHER LOCK SPRING 1/2 PLT and three (3)
 - ②⑨ 802-079C HHCS 3/8-16X1 1/4 GR5 and one (1)
 - ③① 802-214C RHSNB 1/2-13X1 1/4 GR5
- These parts are not re-used.

Then remove one of:

- ②① 175-413D SEED ONLY LH LADDER MNT
 - ②① 175-416D LH WLK BRD SUPP SML SEEDS
- This support is not re-used.

11. If the drill has the Small Seeds option, at the right frame, remove and save four (4) sets of:

- ③⑦ 803-020C NUT HEX 1/2-13 PLT
 - ④④ 804-015C WASHER LOCK SPRING 1/2 PLT
 - ②⑨ 802-079C HHCS 3/8-16X1 1/4 GR5
- These parts are not re-used.

Then remove one:

- ②② 175-417D RH WLK BRD SUPP SML SEEDS
- This support is not re-used.

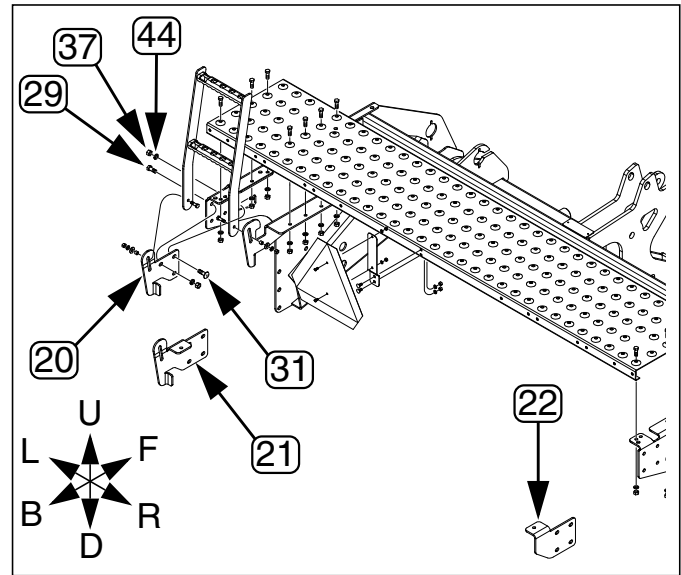


Figure 5
Dismount Walkboard Extension(s)

28055

Remove Handles

If the Small Seeds attachment is installed, skip to step 13, as the handles remain on the SGS box after Fertilizer installation.

Refer to Figure 6

12. At each grab handle on the back corners of the main seed box, remove and save two sets (four sets total) of:

- ③① 802-203C HFSS 1/2-13X1 1/2 GR5
- ③⑧ 803-169C NUT HEX FLG. LOCK 1/2-13 PLT. and two:
- ①① 119-190D HANDLE

The handles are re-mounted on the new Fertilizer box at step 107 on page 24. The lights (not shown in the Figure) remain on the Main Seed box.

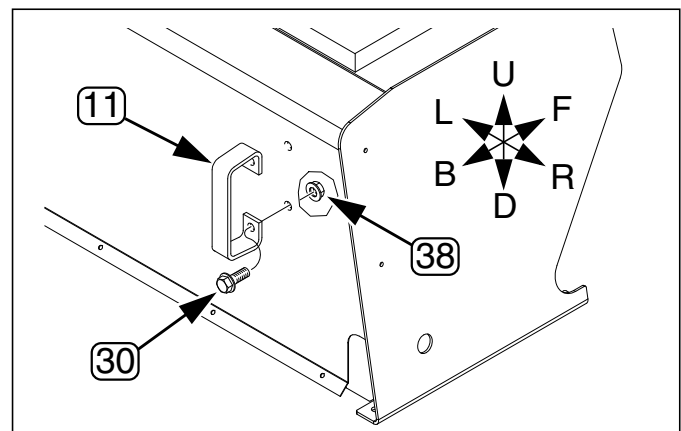


Figure 6
Dismount Grab Handle

18651

Remove Transmission Chain

If an Accessory Drive system is not yet installed on this drill, skip to step 21 on page 11.

Refer to Figure 7

13. Remove one of:

- ⑩ 136-014D CHAIN RL #40 79 PITCHES
- ⑪ 136-096D CHAIN RL #40 76 PITCHES
- ⑫ 136-250D CHAIN RL #40 96 PITCHES

This chain is replaced by a new chain in the kit, which may or may not be the same part number.



Figure 7
Accessory Transmission Chain

29566

Release Hoses Near Drive

Refer to Figure 8

14. Loosen fasteners securing each of two:

- ⑬ 800-064C HOSE CLIP 13/16 ID

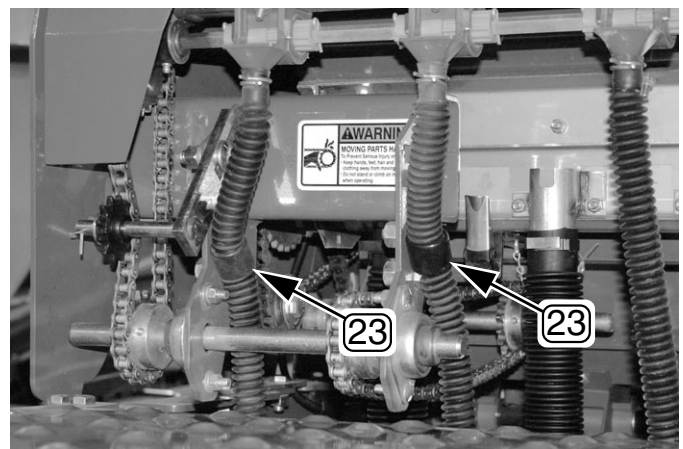


Figure 8
Small Seeds Final Drive

29008

Disconnect Small Seeds Hoses

If Small Seeds (SGS) is not installed on this drill, continue at step 21 on page 11.

The existing SGS hoses are replaced by new hoses to side delivery tubes, at step 75 on page 19.

Refer to Figure 9

15. At each row, release and remove two (2) each:

- ⑭ 800-321C HOSE CLAMP NO.12 3/4 ID and one (1)
- ⑮ 816-513C SGS HOSE 85 RIBS

These parts are not re-used.

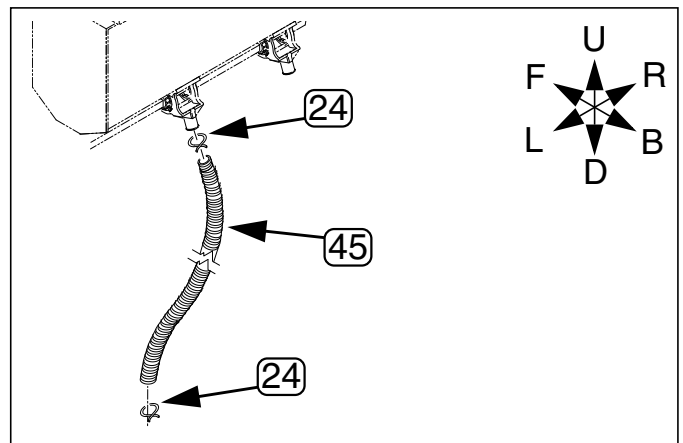


Figure 9
Remove Small Seeds Hose

28212

Remove Small Seeds Delivery Tubes

If Small Seeds (SGS) is not installed on this drill, continue at step 21 on page 11.

The existing SGS delivery tubes occupy the row unit hole required for fertilizer. New SGS side delivery hardware is installed at step 70 on page 19.

16. At each row, remove two:

②⑤ 801-002C SCREW HEX SLT10-16X1/2P.THD CT and one

①④ 123-939H SMALL SEEDS TUBE WELDMENT
These parts are not re-used.

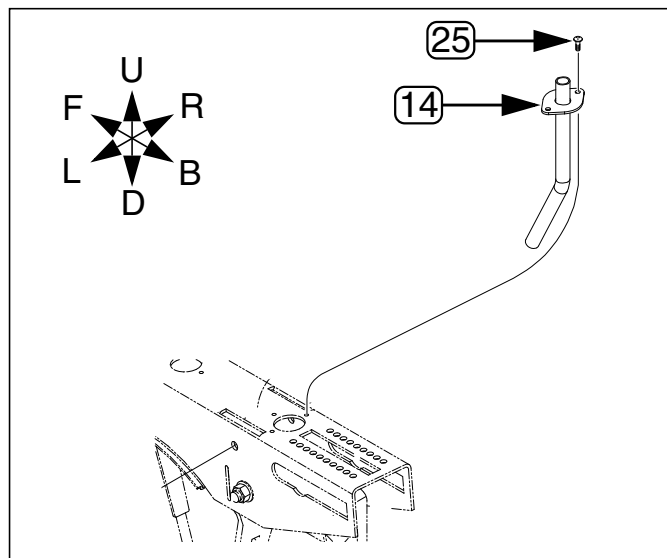


Figure 10
Remove Small Seeds Delivery

28212

Remove Small Seeds Box

If Small Seeds (SGS) is not installed on this drill, continue at step 21 on page 11.

The Small Seeds box is re-mounted, on the new Fertilizer box, at step 63 on page 18.

Refer to Figure 11 (shown in exploded view for clarity - remove only specified fasteners - in particular, do not remove the jackshaft and final drive assembly at the left end)

17. At each base of the box end mount ④, remove and save one sets (two sets total):

②⑧ 802-034C HHCS 1/2-13X1 1/4 GR5

④④ 804-015C WASHER LOCK SPRING 1/2 PLT

③⑦ 803-020C NUT HEX 1/2-13 PLT

18. Support the weight of the Small Seeds box.

19. At the upper forward faces of each base of the box end mount ④, remove and save two sets (four total):

③⑩ 802-203C HFSS 1/2-13X1 1/2 GR5

③⑧ 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

20. Remove the Small Seeds box from the drill.

CAUTION

A hoist or at least three (3) people are required. The empty Small Seeds assembly weighs approximately 200 pounds (91

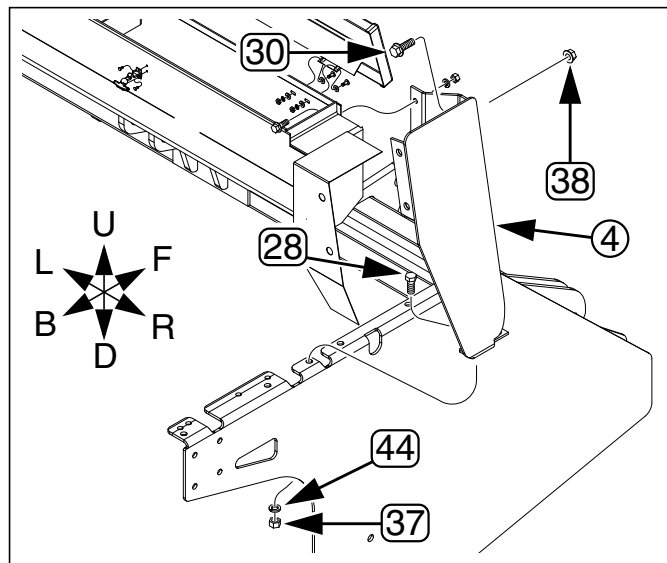


Figure 11
Dismount Small Seeds Box

28098



Install Hardware

Install Fertilizer Box

Refer to Figure 12

21. Select four (4) new:
 - (172) 802-034C HHCS 1/2-13X1 1/4 GR5
 - and one new:
 - (135) 142-266L FERT. BOX & LID ASY
 (This box should have the 142-264K or 142-267K tray assembly already mounted.)
22. Position the box (135), with latch (1) to rear, fully forward against the main seed box (not shown). Temporarily secure it by inserting the four bolts (172) through holes in the lower side walls and drill side frames.
23. Select four (4) sets new:
 - (204) 804-015C WASHER LOCK SPRING 1/2 PLT
 - (191) 803-020C NUT HEX 1/2-13 PLT

Loosely add these to the bolts (172) inserted at step 22.
24. Select four (4) sets new:
 - (172) 802-034C HHCS 1/2-13X1 1/4 GR5
 - (195) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Insert these through the forward end wall flanges of the fertilizer box, and into the main seed box holes left open when removing the handles (step 12) or the Small Seeds box (step 19).

25. Tighten all eight (8) bolts (172).

Install Drive System

If an Accessory Drive system is already installed, skip to "Install Transmission Chain" on page 15, as only the transmission chain needs to be installed.

Install Gearbox Accessory Sprocket

Refer to Figure 13

26. Select one (1) set new:
 - (219) 808-157C SPKT 40B19 X 36T SPLINE BORE
 - (165) 800-141C SNAP RING EXT F/PEERLESS G.B.
27. With the flat face of the sprocket (219) to the right (away from gearbox), place the sprocket through the gearbox weldment access hole (2), and onto the front right gearbox shaft (3).
28. Secure with snap ring (165).

CAUTION

A hoist or at least four (4) people are required. The empty Fertilizer box weighs approximately 300 pounds (136 kg).

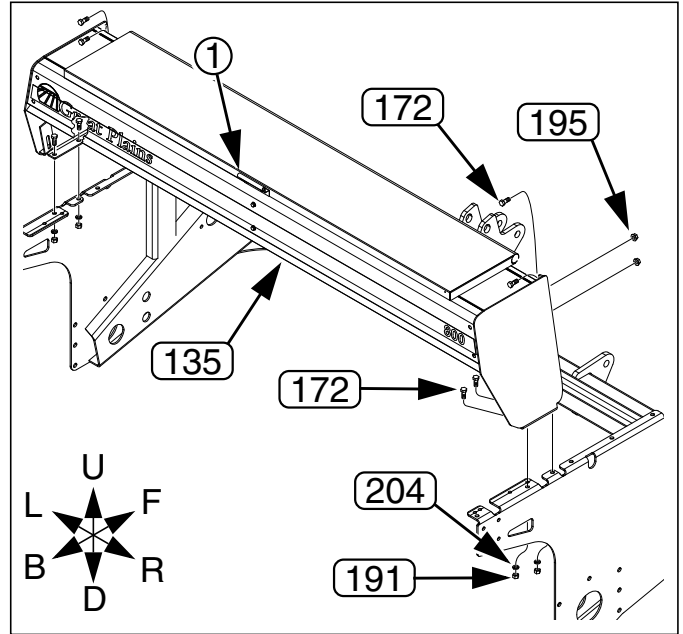


Figure 12
Install Fertilizer Box 29568

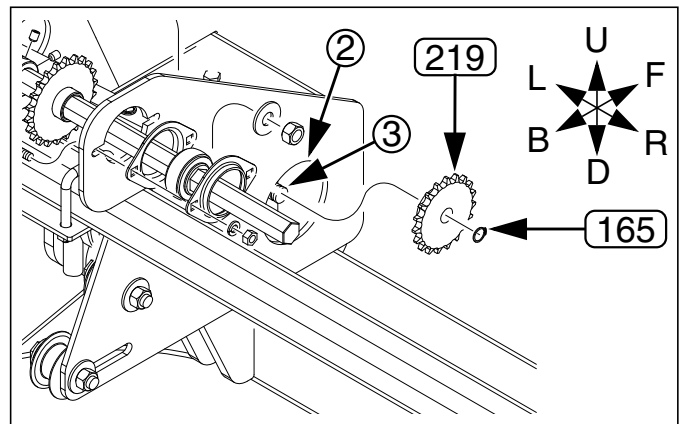


Figure 13
Gearbox Accessory Sprocket 28230

Install Gearbox Accessory Idler/Bearing

Refer to Figure 14

29. Select one (1) set new:

- (179) 802-226C HHCS 1/2-13X2 3/4 GR5
 - (103) 120-305D TUBE RND 1 OD X 7/32W X 1.56
 - (229) 817-406C IDLER 1 PC 2.38X1.01X1.062
 - (195) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.
- and three (3) new:
- (206) 804-017C WASHER FLAT 1/2 USS PLT

Place one washer (206), the tube (103), the idler (229) and a second washer (206) on the bolt (179).

30. Insert this assembly, from drill left, into the vertical idler slot (not shown) in the right plate (4) of the gearbox mount weldment.

31. Loosely secure idler assembly with a third washer (206) and lock nut (195).

32. Select one (1) new:

- (235) 822-195C BRG INS 7/8HEXX2.04OD SPH
- and two sets new:
- (232) 822-032C FLANGETTE 52 MST
 - (181) 802-282C RHSNB 5/16-18X1 GR5
 - (201) 804-009C WASHER LOCK SPRING 5/16 PLT
 - (188) 803-008C NUT HEX 5/16-18 PLT

33. Place the bearing (235) between two flangettes (232). Position assembly against the right side of the gearbox weldment plate (4) at the bearing cutout. Insert bolts (181) from left, and loosely secure with lock washers (201) and nuts (188).

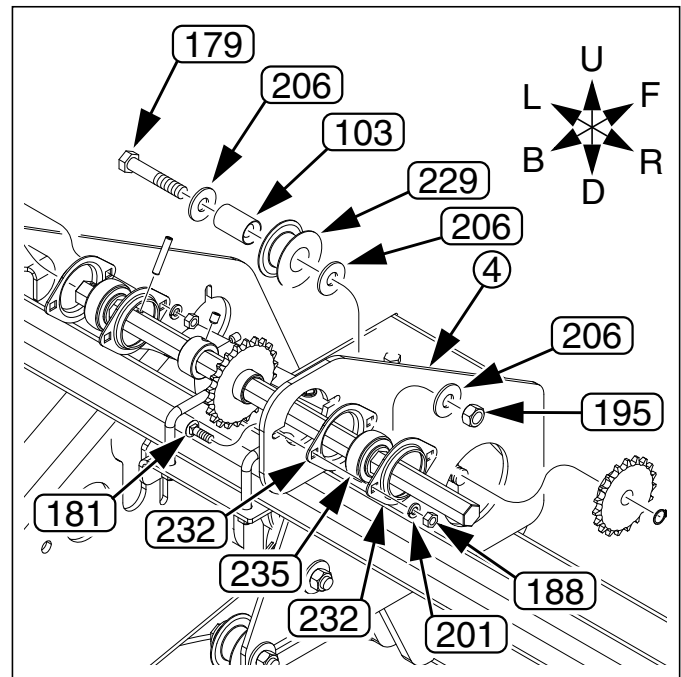


Figure 14
Gearbox Accessory Idler/Bearing

28230

Pre-Assemble Accessory Shaft Mount

Refer to Figure 15

34. Select one (1) new:
 - (149) 175-414D 8FT EW AUX JACK SHAFT MNT
 - two (2) sets new:
 - (179) 802-226C HHCS 1/2-13X2 3/4 GR5
 - (103) 120-305D TUBE RND 1 OD X 7/32W X 1.56
 - (229) 817-406C IDLER 1 PC 2.38X1.01X1.062
 - (195) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.
 - and six (6) new:
 - (206) 804-017C WASHER FLAT 1/2 USS PLT
35. Place one washer (206), the tube (103), the idler (229) and a second washer (206) on each bolt (179).
36. Insert each idler assembly into the idler slots (5) of the mount (149), from the (left) side of the mount opposite the U-bolt mounting holes (6). Loosely secure with lock washers (206) and nuts (195).
37. Select one (1) new:
 - (235) 822-195C BRG INS 7/8HEXX2.04OD SPH
 - and two sets new:
 - (232) 822-032C FLANGETTE 52 MST
 - (181) 802-282C RHSNB 5/16-18X1 GR5
 - (201) 804-009C WASHER LOCK SPRING 5/16 PLT
 - (188) 803-008C NUT HEX 5/16-18 PLT
38. Place the bearing (235) between two flangettes (232). Position assembly against the right side of the mount at the bearing cutout. Insert bolts (181) from left, and loosely secure with lock washers (201) and nuts (188).

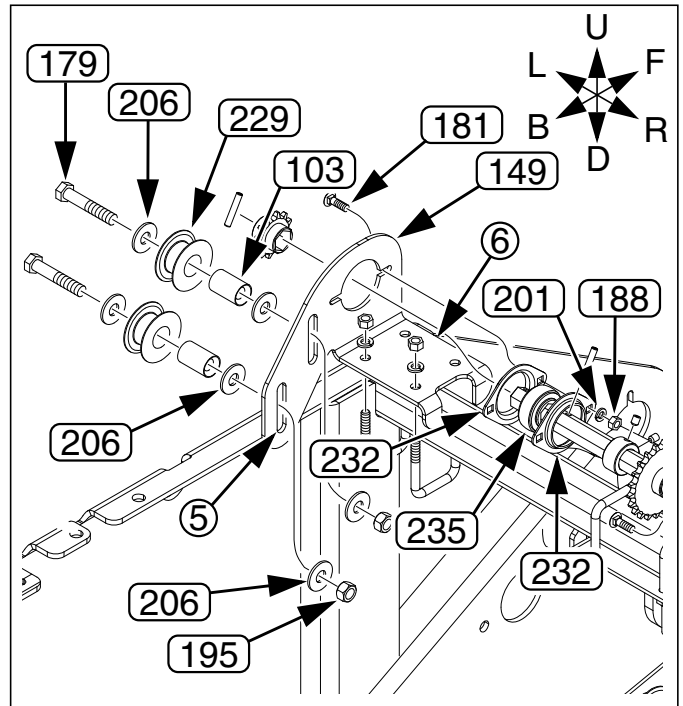


Figure 15
Accessory Shaft Mount

28230

Install Accessory Shaft Mount

Refer to Figure 16 (which depicts the completed installation)

39. Select and two (2) new:
 - (214) 806-004C U-BOLT 3/8-16 X 2 X 2 3/4
 - and four (4) sets new:
 - (203) 804-013C WASHER LOCK SPRING 3/8 PLT
 - (190) 803-014C NUT HEX 3/8-16 PLT
40. Position the accessory shaft mount (149), with the bearing/idler break up and to drill left, on the top of the front top tool bar (1), left of the gearbox. Loosely secure with U-bolts (214), lock washers (203) and nuts (190).
41. Adjust the mount horizontally until there is a gap of:
 - (2) 2³/₃₂in (52.4mm)
 between the left face of the bearing/idler plate and the right edge of the drill's end wall breaks (3). It may be necessary to adjust or relocate a cable (4), to reach final mount position.

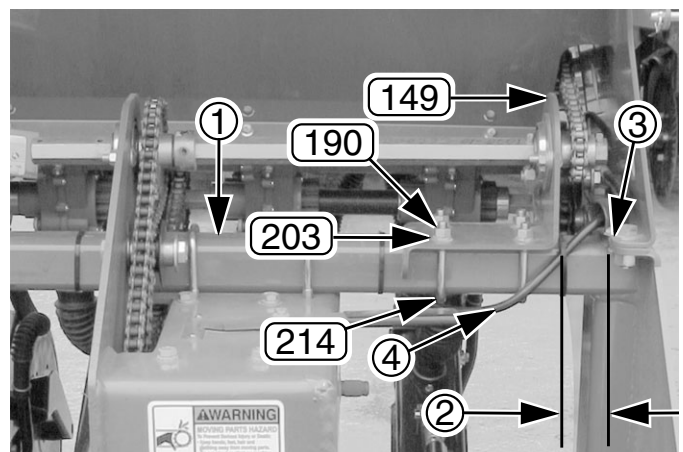


Figure 16
Install Accessory Shaft Mount

29562

Install Accessory Shaft and Sprockets

Refer to Figure 17

42. Select one (1) each new:

(150) 175-415D 8FT EW AUX JACK SHAFT
 (222) 808-250C SPKT 40C22 X 7/8 HEX BORE
 (159) 402-058D COLLAR LOCK 7/8 HEX

43. One end of the shaft (150) has two holes (5 and 6). Insert this end, from drill right, through the right (jackshaft input) bearing (7).

As the shaft (150) clears the input bearing (7), add the 22T input sprocket (222). There is no preference on hub orientation.

Continue inserting shaft, and add the lock collar (159).

Continue inserting the shaft through the left (jackshaft output) bearing (8). Leave the right shaft pin hole (6) visible on the right side of the output bearing (8).

44. Select one (1) new:

(213) 805-180C PIN ROLL 1/4 X 1 1/2 LG PLT

Check that the right shaft hole (5) is on the right side of the output bearing (8). Drive the pin (213) through the right hole (5) in the shaft (150). Slide the shaft fully to drill left, against the pin (213).

45. Select one (1) new:

(221) 808-219C SPKT 40C12 X 7/8 HEX BORE

Add the 12T output sprocket (221) to the left end of the shaft (150). There is no preference on hub orientation.

46. Select one (1) new:

(213) 805-180C PIN ROLL 1/4 X 1 1/2 LG PLT

Check that the left shaft hole (6) is on the left side of the output sprocket (221). Drive the pin (213) through the left hole (6) in the shaft (150).

47. Check that shaft spins freely, and tighten the four nuts holding the flangettes.

48. If not already present in the lock collar (159), select two (2) new:

(170) 801-035C SCREW SET 5/16-18 SKT KP X 3/8

Slide the lock collar fully to drill right and secure with set screws (170).

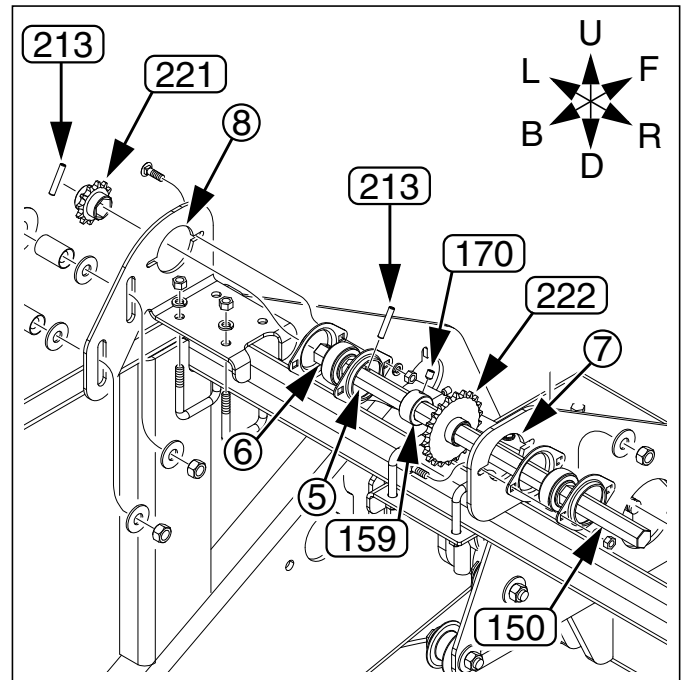


Figure 17
Accessory Shaft

28230

Install Gearbox Output Chain

Review chain clip and slack reference information on page 28 before installation.

Refer to Figure 18

49. Select one (1) new:

(111) 136-036D CHAIN RL #40 70 PITCHES

Route chain (111):
around gearbox accessory sprocket (219),
around accessory shaft input sprocket (222), and
over gearbox accessory idler (229).

50. Adjust idler (229) for recommended slack.

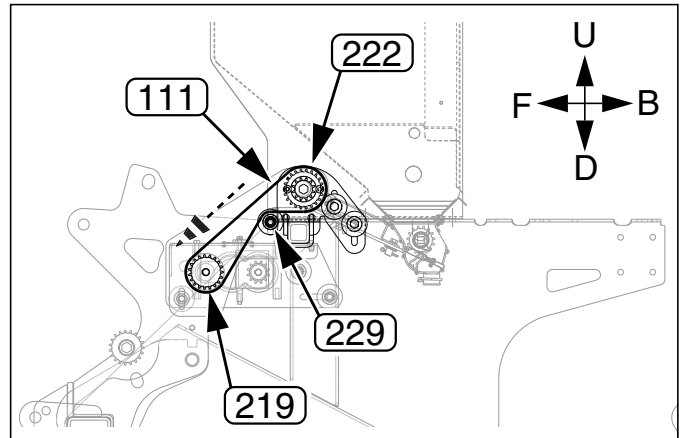


Figure 18
Gearbox/Jackshaft Chain Routing

28304

Install Transmission Chain

51. Select one new:

(113) 136-250D CHAIN RL #40 96 PITCHES

Routing - Fertilizer Only

If optional Agitator is installed, continue at “**Routing - Fertilizer and Agitator**”.

Refer to Figure 19

52. Observing the clip orientation instructions on page 13, route the chain (113):
around accessory shaft output sprocket (221),
around fertilizer jackshaft shaft input sprocket (220),
under rear idler (229), and
over front idler (229).

53. Continue at step 55.

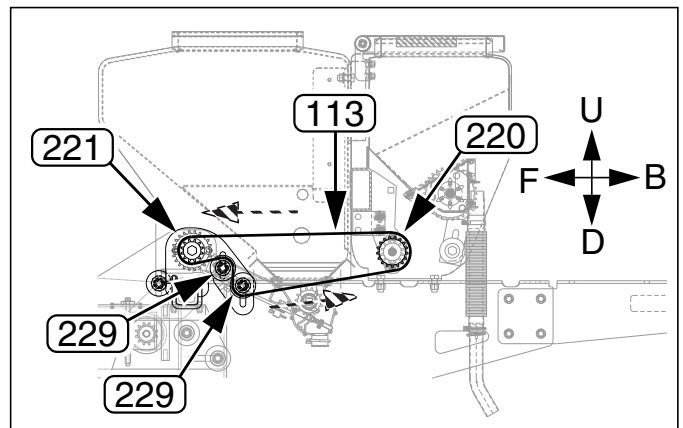


Figure 19
Fertilizer Chain Routing

28305

Routing - Fertilizer and Agitator

If optional Agitator is not installed, use the steps at “**Routing - Fertilizer Only**” above.

Refer to Figure 20

54. Observing the clip orientation instructions on page 13, route the chain (113):
around accessory shaft output sprocket (221),
over agitator shaft input sprocket (9),
around fertilizer jackshaft shaft input sprocket (220),
under rear idler (229), and
over front idler (229).

55. Adjust idlers (229) for recommended slack.

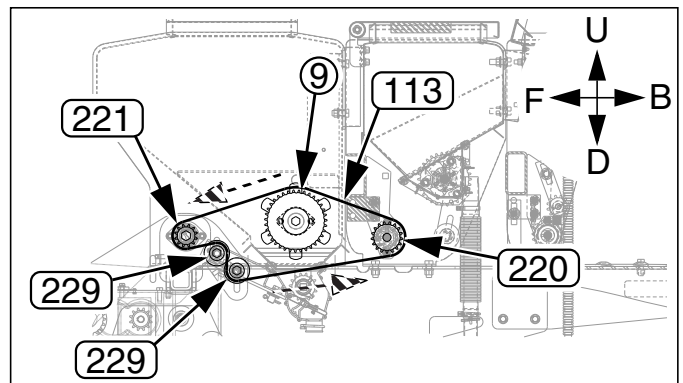


Figure 20
Fertilizer+Agitator Chain Routing

28307

Adjust Final Drive Chain Slack

Refer to Figure 21

Although the final drive chain (112) on the fertilizer box is factory-installed, it may not be adjusted for ideal slack.

56. Review chain clip and slack reference information on page 28. Adjust idler (229) for recommended slack.

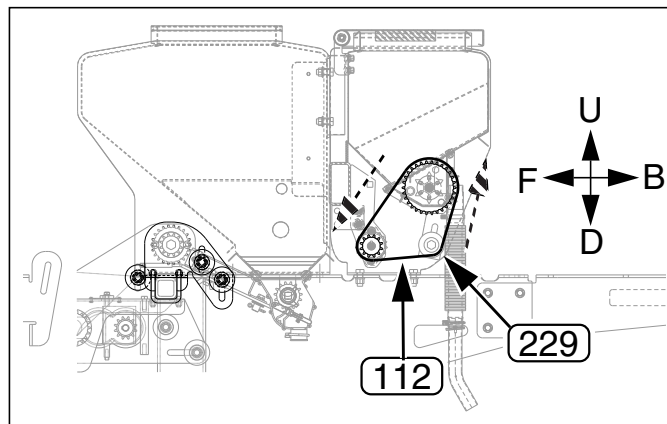


Figure 21
Fertilizer Final Chain Routing

28305

Install Fertilizer Delivery

Small Seeds hoses, if present, are reconnected at step 77 on page 19.

Install Delivery Tubes

Tubes may be oriented forward or backward, based on user preference and other installed options.

Refer to Figure 22

57. At each row unit, select one (1) each new:
- (107) 133-065D SML SDS TB REINFORCEMENT RING
 - (228) 817-346C PLASTIC FERTILIZER TUBE
- and two (2) new:
- (168) 801-002C SCREW HEX SLT10-16X1/2P.THD CT

Insert the fertilizer tube (228) in the rear delivery hole ② of the opener frame. Add a reinforcement ring (107) and secure with two self-tapping screws (168).

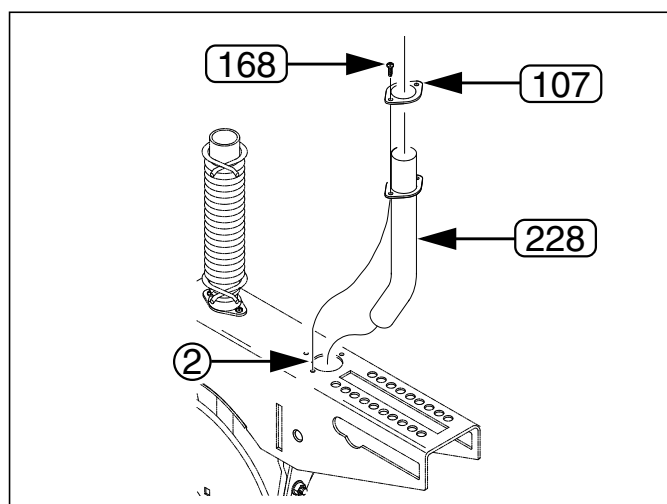


Figure 22
Fertilizer Delivery Tube

16459

Install Delivery Hoses

Start with the left-most fertilizer meter (row 1) on the drill, and complete both of the step 58 through step 61 for each row before moving to the next row. Meters are not always directly above the rows they serve.

Refer to Figure 23

58. At each row unit, select one (1) each new:

- (162) 800-016C UPPER FERT HOSE CLAMP RATCHET
- (223) 816-239C SEED HOSE 56 RIBS X 11 LONG

One end of the hose (223) has a $1\frac{1}{2}$ in (38.1mm) I.D., and the other end a $1\frac{1}{4}$ in (31.8mm) I.D. Slide the clamp (162) onto the larger $1\frac{1}{2}$ in end of the hose.

59. Slide the larger $1\frac{1}{2}$ in end of the hose fully (about 2in or 5cm) onto to the fertilizer drop tube (3) for the current row.

Slide the clamp until it is centered about 1in (2.5cm) below the end of the hose. Tighten the clamp.

60. Select one (1) new:

- (160) 800-008C CLAMP HOSE 1 1/2 NO. 24

Open this clamp and slide it fully onto the smaller $1\frac{1}{4}$ in end of the hose, up against the ribs.

61. Slide the smaller $1\frac{1}{4}$ in end of the hose fully over the top of the fertilizer tube (228).

Open the clamp and release it about $\frac{1}{2}$ in (13mm) above the reinforcement ring (107), measured near the screw (168).

62. Repeat step 58 through step 61 for each row.

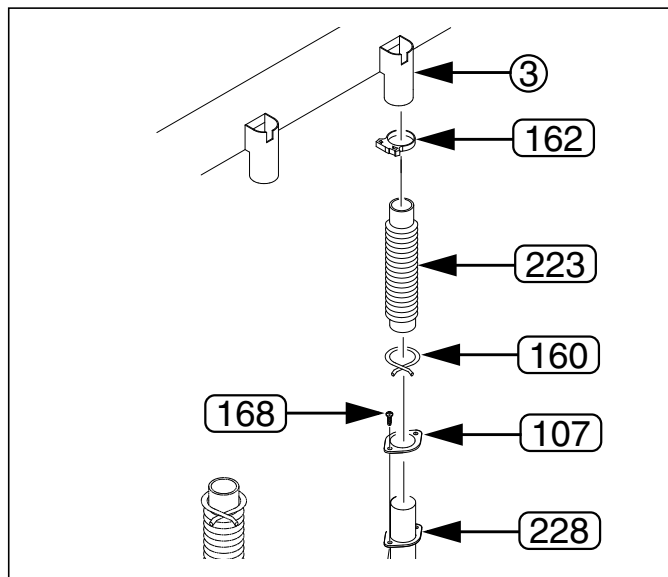


Figure 23
Fertilizer Delivery Hose

16459

Re-Install Small Seeds Box

If the drill did not previously have a Small Seeds box installed, continue at “**Re-Install Ladder**” on page 24.

Refer to Figure 24

63. Check that the four $\frac{9}{16}$ in (14mm) handle holes ① at the upper corners of the rear face of the fertilizer box are open. If not remove any fasteners used to plug those holes. This hardware is not re-used.
64. Select four (4) sets saved:
 - ③⑩ 802-203C HFSS 1/2-13X1 1/2 GR5
 - ③⑧ 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.
65. Position the Small Seeds box ②, with lid latches (not shown) to the rear, directly behind the new fertilizer box. Insert bolts ③⑩ through forward face of end plates, through handle holes in fertilizer box. Loosely secure with lock nuts ③⑧.
66. Select four (4) sets saved:
 - ②⑧ 802-034C HHCS 1/2-13X1 1/4 GR5
 - ④④ 804-015C WASHER LOCK SPRING 1/2 PLT
 - ③⑦ 803-020C NUT HEX 1/2-13 PLT
67. Insert bolts ②⑧ through lower break of Small Seeds box end plates, and then through top break of side frame. Add lock washers ④④ and nuts ③⑧. Tighten all eight nuts (③⑦, ③⑧).

CAUTION

*A hoist or at least three (3) people are required.
The empty Small Seeds assembly weighs approximately 200 pounds (91 kg).*

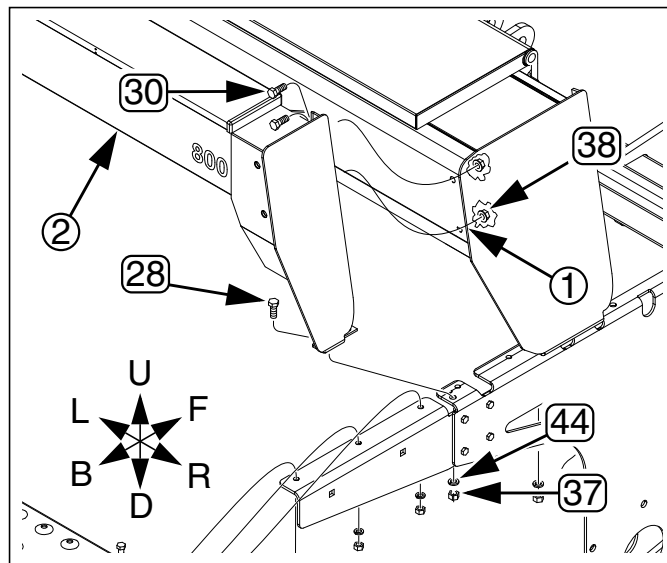


Figure 24
Re-mount Small Seeds Box

29569

Install SGS to Fertilizer Chain

If the drill did not previously have a Small Seeds box installed, continue at “**Re-Install Ladder**” on page 24.

Review chain clip and slack reference information on page 28 before installation.

Refer to Figure 25

68. Select one (1) new:
 - ①①⑩ 136-014D CHAIN RL #40 79 PITCHES

Route chain ①①⑩:

around fertilizer jackshaft output sprocket ②①⑦,
around SGS jackshaft input sprocket ①⑦⑦, and
over SGS input idler ①②①.

69. Adjust idler ①②① for recommended slack.

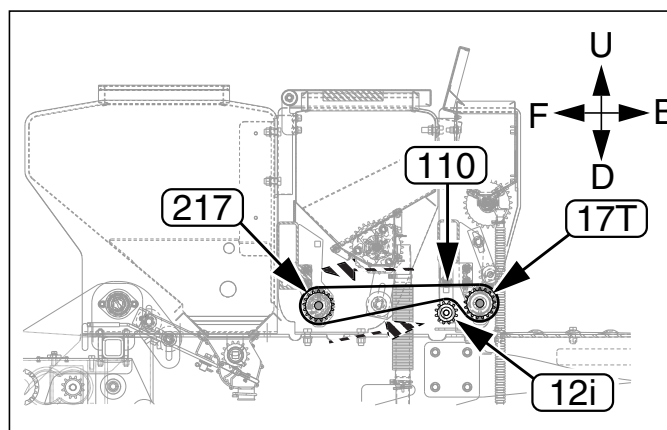


Figure 25
Fertilizer-SGS Chain Routing

28307

Install Small Seeds Delivery

If the drill did not previously have a Small Seeds box installed, continue at “**Re-Install Ladder**” on page 24.

Install Side Delivery Tubes

Start with the left-most row unit.

Refer to Figure 26 (fertilizer delivery tube not depicted)

70. For each row, select one each new:
 - (108) 133-128H SGS SIDE DELIVERY TUBE
 - (185) 802-427C HFS 3/8-16X3 3/4 SPTHD
 - (197) 803-209C NUT FLANGE LOCK 3/8-16 PLT
71. Orient the side tube weldment (108) with the delivery tube to the left of the row unit, and the mount ahead of the fertilizer delivery tube hole (3).
72. Insert a bolt (185) through mount and the row unit frame at hole (4). Secure with lock nut (197).
73. Repeat step 70 through step 72 for each row unit.

Install Seed Hoses

Start with the left-most row unit (row 1).

74. At rows 1 and 2, route the hose through clips (23) of the SGS final drive as shown in *Figure 8* on page 9.

Refer to Figure 27

75. Select one new:
 - (224) 816-513C SGS HOSE 85 RIBS
 and two new:
 - (166) 800-321C HOSE CLAMP NO.12 3/4 ID
76. Open a hose clamp (166) and place it over an end of the hose (224). Move the clamp down to the start of the ribbed section.
77. Slide the top of the hose (224) onto the meter drop tube (5) of the fluted feed cup for that row, so that the hose completely covers the straight portion of the exit tube. Open the clamp and position it about 1/4 in (6mm) above the bottom of the exit tube.
- At rows 1 and 2, tighten hose clips (23) (see *Figure 8* on page 9).
78. Open a hose clamp (166) and place it over the other end of the hose (224). Move the clamp up from the end of the hose.
79. Slide the bottom end of the hose (224) onto the top of the delivery tube (6), so that it completely covers the exposed portion of the tube. Open the clamp and position it about 1/2 in (13mm) from the end of the hose.
80. Repeat step 75 through step 79 for each row unit.

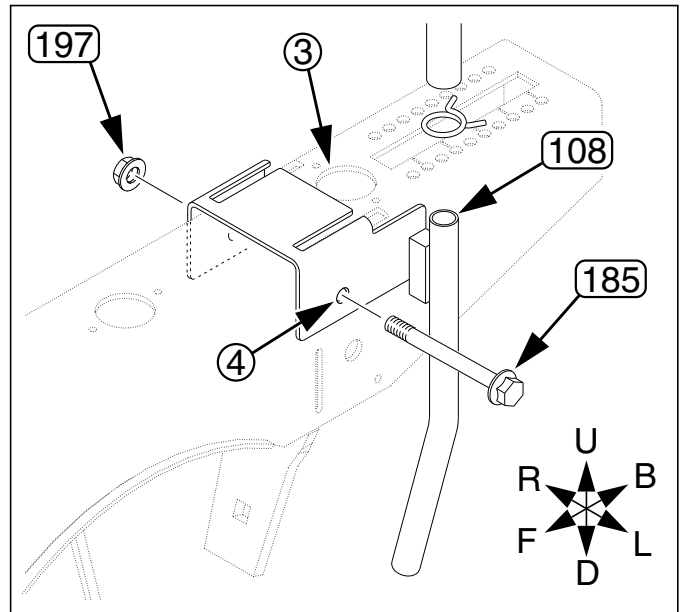


Figure 26:
Small Seeds Side Delivery Tube
with Fertilizer

27450

Note: Feeder cups may not be directly above the row unit to which their hose connects.

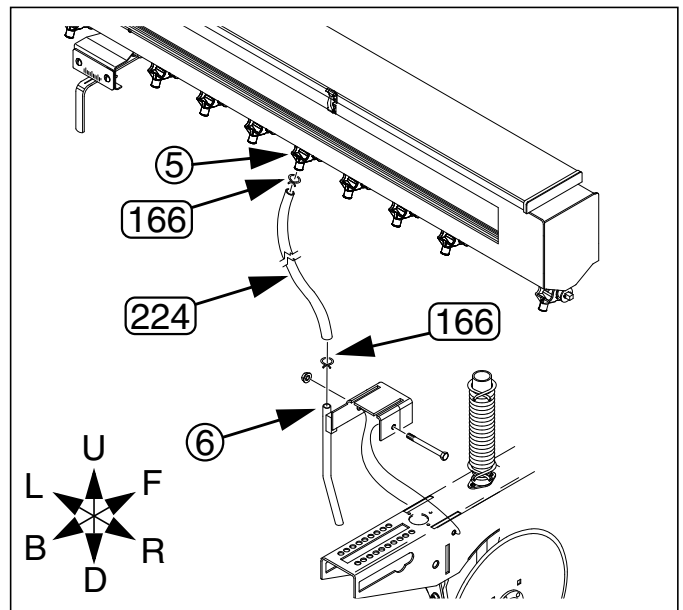


Figure 27:
Small Seeds Drop Tubes

29576

Install Supports and Walkboard

Steps depend on drill configuration. The edge channels of the walkboard wrap around support and/or frame breaks. Using a specific order eases the tasks.

- If Small Seeds was not installed on the drill, continue at step 81 below.
- If Small Seeds was installed on the drill, continue at step 95 on page 22.

The decal application is covered in a later section of this manual.

Supports and Walkboard, w/o Small Seeds

LH Walkboard Support (w/o SGS)

Refer to Figure 28

81. Select one (1) each new:

- (120) 142-077D LH WLK BRD SUPP FERT
- (178) 802-214C RHSNB 1/2-13X1 1/4 GR5
- (204) 804-015C WASHER LOCK SPRING 1/2 PLT
- (191) 803-020C NUT HEX 1/2-13 PLT

82. Position the support (120), break up, inside the left side rear frame. Insert the round head bolt (178), from outside drill left, at the top front hole ⑥. Loosely secure with lock washer (204) and nut (191).

83. Select and three (3) sets new:

- (172) 802-034C HHCS 1/2-13X1 1/4 GR5
- (204) 804-015C WASHER LOCK SPRING 1/2 PLT
- (191) 803-020C NUT HEX 1/2-13 PLT

Insert hex head bolts (172) from the outside, at the remaining support-to-frame holes. Loosely secure with lock washer (204) and nut (191).

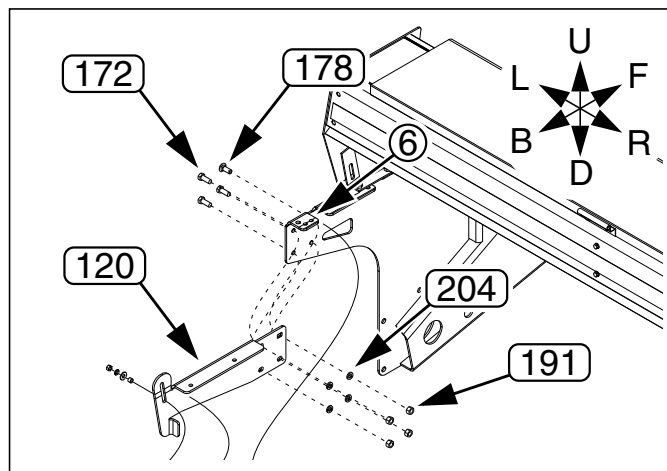


Figure 28
Walkboard Left Support (w/o SGS)

29572

Place Walkboard (w/o SGS)

Refer to Figure 29

84. Two people are needed for the next three steps.
Select the saved:
 (19) 175-411D 8FT EW WALKBOARD
 and two saved:
 (33) 802-673C HHCS 7/16-14X1 1/4 GR5 PLT
85. Elevate walkboard above side frames. Slide the left end of the walkboard (19) over the top break of the left support (120) and over the rear tab (7) of the left side frame top break. Insert a bolt (33) in the front left end tread hole.
86. Lower right front channel of walkboard into gap (8) ahead of rear tab of right frame top break. Insert a bolt (33) in the front right end tread hole.

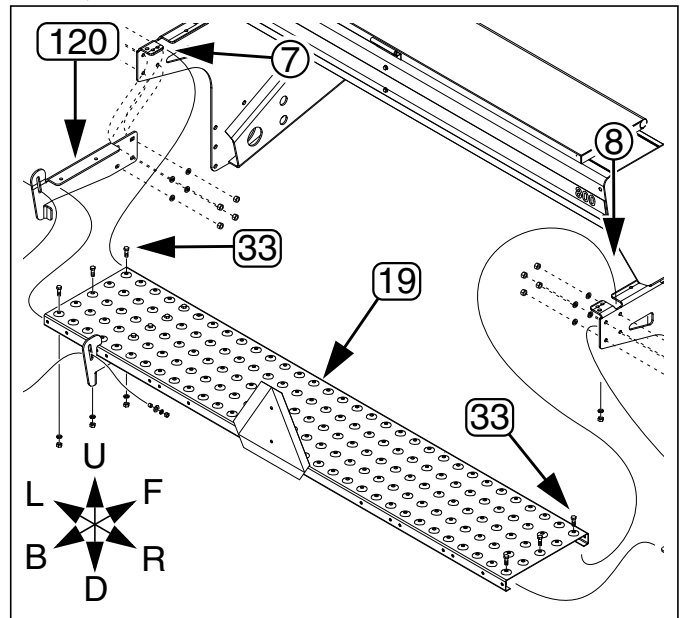


Figure 29
Position Walkboard (w/o SGS)

29572

RH Walkboard Support (w/o SGS)

Refer to Figure 30

87. Select one (1) each new:
 (119) 142-064D RH WLK BRD SUPP FERT
 (178) 802-214C RHSNB 1/2-13X1 1/4 GR5
 (204) 804-015C WASHER LOCK SPRING 1/2 PLT
 (191) 803-020C NUT HEX 1/2-13 PLT
88. Maneuver the support (119) so that the top break is between the walkboard channels and the face with the four bolt slots is inside the right drill frame.
89. Insert the round head bolt (178) from the outside (right) at the top front bolt hole. Loosely secure with lock washer (204) and nut (191).
90. Select and three (3) sets new:
 (172) 802-034C HHCS 1/2-13X1 1/4 GR5
 (204) 804-015C WASHER LOCK SPRING 1/2 PLT
 (191) 803-020C NUT HEX 1/2-13 PLT

Insert hex head bolts (172) from the outside, at the remaining support-to-frame holes. Loosely secure with lock washer (204) and nut (191).

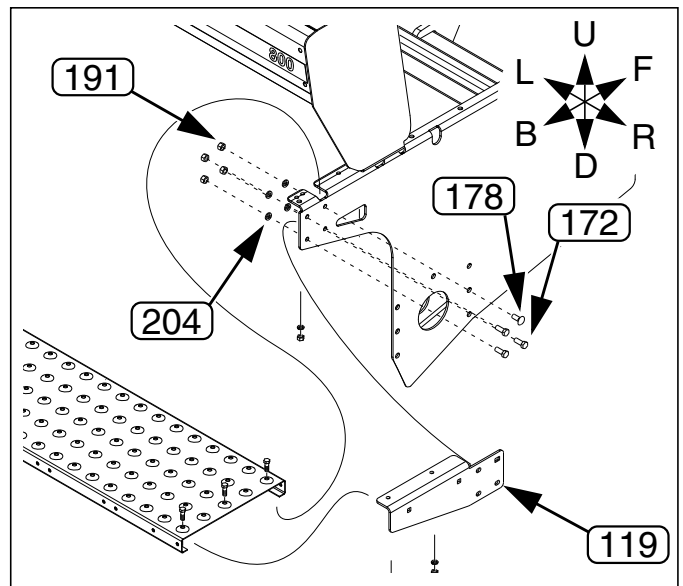


Figure 30
RH Walkboard Support (w/o SGS)

29572

Secure Walkboard (w/o SGS)

Refer to Figure 31

91. Select four (4) saved:

③③ 802-673C HHCS 7/16-14X1 1/4 GR5 PLT

Insert bolts ③③ in rear corner, and center end tread holes of walkboard ①⑨.

92. Select six (6) sets saved:

④③ 804-014C WASHER LOCK 7/16 PLT

③⑥ 803-015C NUT HEX 7/16-14 PLT

Add lock washers ④③ and nuts ③⑥ to all walkboard bolts.

93. Tighten all walkboard and support bolts.

94. Continue at “**Re-Install Ladder**” on page 24.

Supports and Walkboard, w/ Small Seeds

Mount LH Support to Walkboard (with SGS)

Refer to Figure 32

95. Select one (1) each new:

①③⑧ 142-298D RH WLK BRD SUPP SML SDS-FERT the saved:

①⑨ 175-411D 8FT EW WALKBOARD and three (3) sets saved:

③③ 802-673C HHCS 7/16-14X1 1/4 GR5 PLT

④③ 804-014C WASHER LOCK 7/16 PLT

③⑥ 803-015C NUT HEX 7/16-14 PLT

96. With the break up, and the slotted end to the rear, mount the LH support ①③⑧ under the top left edge of the walkboard ①⑨. Insert bolts ③③ from above through tread holes. Loosely secure with lock washers ④③ and nuts ③⑥.

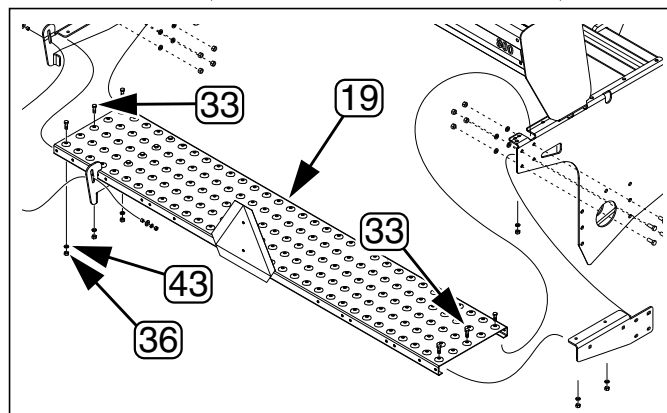


Figure 31
Secure Walkboard (w/o SGS)

29572

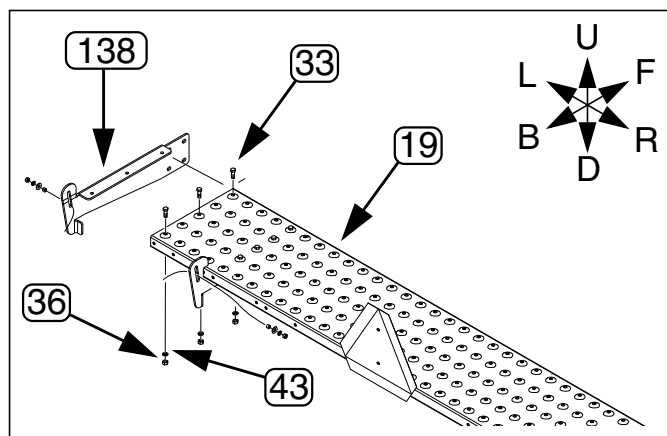


Figure 32
Walkboard LH Support (w/ SGS)

29573

Mount RH Support to Walkboard (with SGS)

Refer to Figure 33

97. Select one (1) new:

①③⑨ 142-312D LH WLK BRD SUPP SML SDS-FERT and three (3) sets saved:

③③ 802-673C HHCS 7/16-14X1 1/4 GR5 PLT

④③ 804-014C WASHER LOCK 7/16 PLT

③⑥ 803-015C NUT HEX 7/16-14 PLT

98. With the break up, and the four-hole end to the front, mount the LH support ①③⑧ under the top left edge of the walkboard ①⑨. Insert bolts ③③ from above through tread holes. Loosely secure with lock washers ④③ and nuts ③⑥.

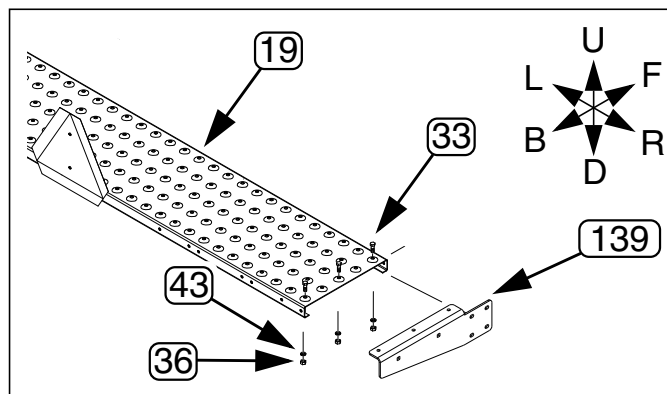


Figure 33
Walkboard RH Support (w/ SGS)

29573

Position Walkboard on Drill (with SGS)

Two people are needed for the next two steps.

Refer to Figure 34

99. Select and two (2) sets new:

(172) 802-034C HHCS 1/2-13X1 1/4 GR5

(204) 804-015C WASHER LOCK SPRING 1/2 PLT

(191) 803-020C NUT HEX 1/2-13 PLT

100. Maneuver the walkboard/support assembly so that the four-hole bolt faces ⑨ of the supports are inside the rear side frames.

At each side, insert one hex head bolt (172) from the outside, at the upper rear hole. Loosely secure with lock washer (204) and nut (191).

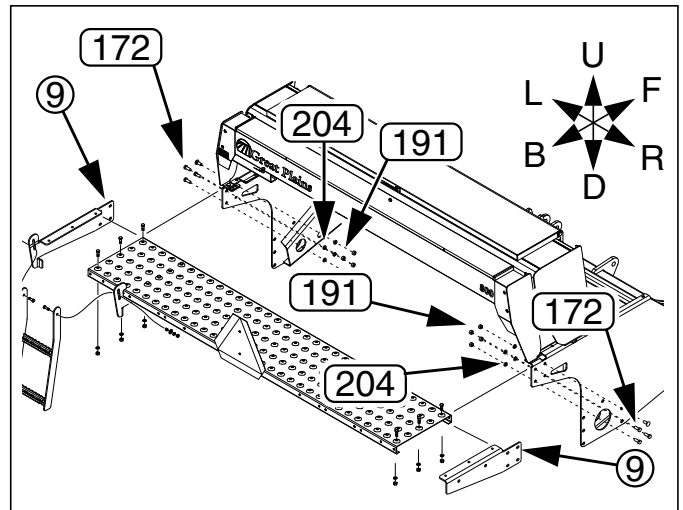


Figure 34
Position Walkboard (w/ SGS)

29573

Secure Walkboard (w/ SGS)

Refer to Figure 35

101. Select four (4) sets new:

(172) 802-034C HHCS 1/2-13X1 1/4 GR5

(204) 804-015C WASHER LOCK SPRING 1/2 PLT

(191) 803-020C NUT HEX 1/2-13 PLT

Insert hex head bolts (172) from the outside, at the remaining support-to-frame holes. Loosely secure with lock washer (204) and nut (191).

102. Tighten all walkboard and support bolts.

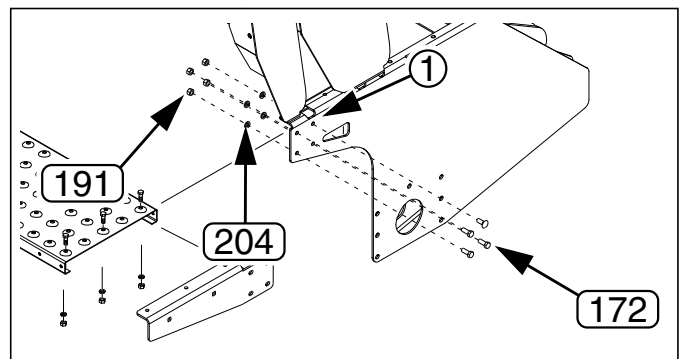


Figure 35
Secure Walkboard (w/ SGS)

29573

Re-Install Ladder

Refer to Figure 36

103. Select the saved:

⑬ 119-294H 3PT HINGED WALKBOARD LADDER
and two saved:

⑳ 802-079C HHCS 3/8-16X1 1/4 GR5

104. Position the ladder ⑬ inverted (pivot holes at bottom), and with the side frame bend tipped forward, between the slotted holes ⑨ in the left end walkboard supports.

Hole in place by inserting the bolts ㉑ through the ladder pivot holes and support slots.

105. Select two (2) saved:

⑫ 119-278D WALKBOARD LADDER PIVOT BUSHING

Add a bushing ⑫ to each bolt ㉑. Press the bushing into the support slots.

106. Select two (2) sets saved:

④① 804-011C WASHER FLAT 3/8 USS PLT

④② 804-013C WASHER LOCK SPRING 3/8 PLT

③⑤ 803-014C NUT HEX 3/8-16 PLT

Add a flat washer ④①, then lock washer ④② to each bolt ㉑. Secure with nuts ③⑤.

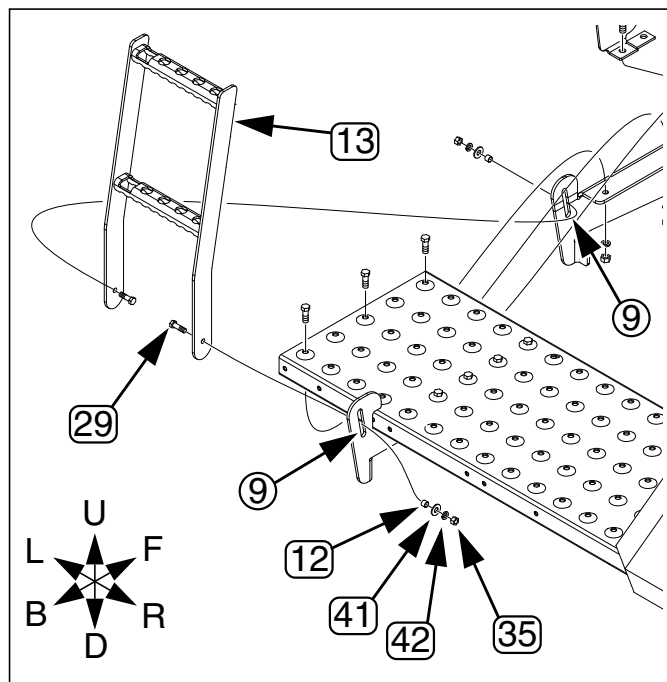


Figure 36
Re-install Ladder

29569

Re-Install Handles

If Small Seeds is also installed, skip step 107 (handles are already installed on the Small Seeds box).

Refer to Figure 37

107. Select two saved:

⑪ 119-190D HANDLE

and four (4) sets saved:

③⑩ 802-203C HFSS 1/2-13X1 1/2 GR5

③⑧ 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Position each the handle ⑪ at the $\frac{9}{16}$ in (14mm) handle holes ① at the upper corners of the rear face of the fertilizer box. Insert a bolt ③⑩ from the outside of the box, and secure with lock nuts ③⑧ inside the box.

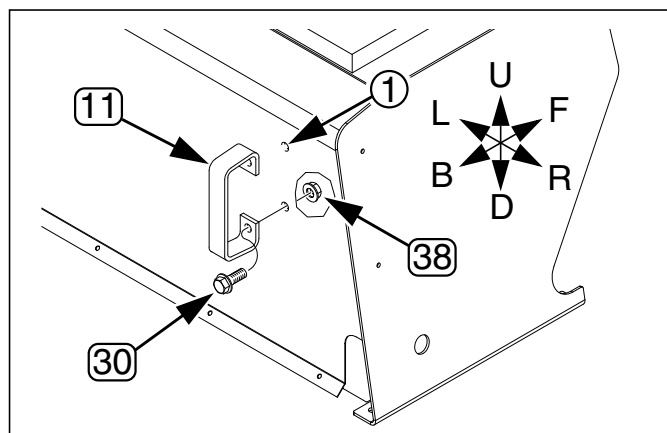
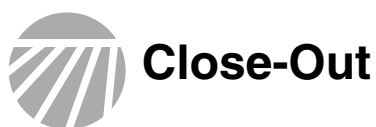


Figure 37
Re-install Grab Handle

18651



Close-Out

Apply Decals

Refer to Figure 38

108. At the new walkboard supports, clean, de-grease and dry the outside faces ①.

109. Select two each new:

②38 838-265C DECAL REFLECTOR AMBER 1 1/2X9

At the right end of the walkboard, peel the release paper from the back of the decal ②38, and apply the decal centered below the two unused holes.

At the left side, similarly apply the other decal (there may be no holes for alignment).

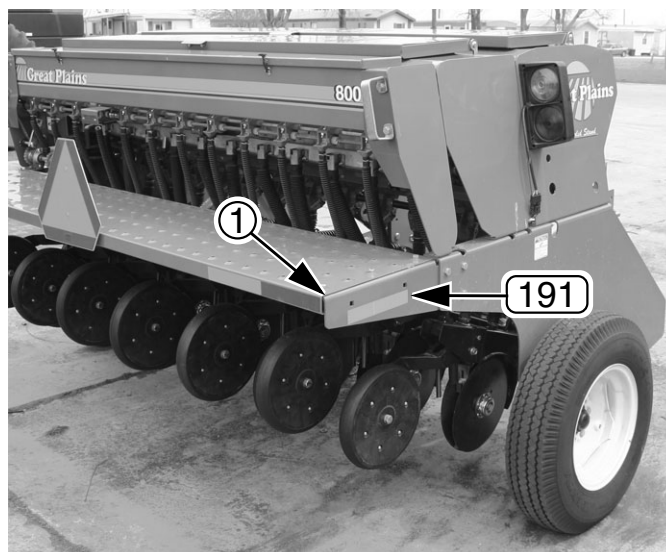


Figure 38
Apply Amber Decals

29571

Check Drive Operation

Refer to Figure 39

110. Check drive system operation with calibration crank.

The crank is now turning the fertilizer flutes as well as the seed meters, and may require more effort. If the effort is

- excessive, check for:
- bearing centering and shaft alignment,
- insufficient chain slack,
- lock collar rubbing,
- chain rubbing and binding, and
- fouling of agitator paddles.

111. Perform a fertilizer box rate calibration. Use insert test material unless fertilizer application is planned within 24 hours.

112. Readjust chain slack after the first 8 hours of operation.



Figure 39
Calibration Crank

28068



Operation

The fertilizer metering system normally operates whenever the drill is in forward motion and lowered to field position.

Fertilizer rate is set with the adjuster knob at the center rear of the fertilizer box (below the Small Seeds box if installed).

Fertilizer rate adjustment details, calibration procedure, and rate charts, are found in the Model 800 Seed Rate Manual (175-057B).

Fertilizer rate is independent of Drive Type selected at the gearbox (the Accessory Shaft is driven from the input side of the gearbox).

If fertilizer is not being applied, Great Plains recommends emptying and cleaning out the fertilizer box. You can also disable the box by removing a chain in the Accessory drive system - this may also disable the main box Agitator or Small Seeds, if installed.

You can temporarily suspend fertilizer application by setting the rate adjuster to zero. This is not recommended for more than brief operations.

IMPORTANT !

Always clean out the fertilizer box at completion of application. Most fertilizers are corrosive, and only the meter portion of the fertilizer option is fabricated from stainless steel. The upper fertilizer box can be damaged if fertilizer is allowed to stand for extended periods of time.



Troubleshooting

See also: “**Troubleshooting**” topic in the drill Operator Manual.

Problem	Causes	Solutions
No material flow (all rows)	Drill drive clutch not engaged	Clean and lubricate clutch mechanism.
	No material loaded	Re-load material. Check setting and review calibration if run-out was unexpected.
	Old material has congealed across box	Clean-out box. Replace material.
	Rate Adjuster set to zero	Set rate adjuster. Calibrate if not already done.
	Material granularity too large for rate control gate opening - usually due to moisture causing clumping	Replace with dry material.
	Broken chain	Inspect all chains. Adjust slack.
	System jammed, usually due to solidified congealed material left in fertilizer box	Clean out box. Wash and dry meter flutes. In extreme cases, this may require meter disassembly.
Incorrect Material Flow (fewer than all rows)	Obstruction in meter gate	Clean-out materials. Remove foreign matter.
	Plugged hoses	Disconnect hoses and clear.
	Old material has congealed at some rows	Clean-out box. Replace material.
	Broken meter flutes	Clean-out box. Inspect and replace worn or damaged flutes.
Material Flow Irregular	Material granularity too large for rate control gate opening - usually due to moisture causing clumping	Replace with dry material.
	Material adhering to meter flutes	Clean-out box. Inspect and clean flutes. Use dry material.
	Check tire size and inflation	
	Ground speed too low or too high	Plant at a reasonable speed.
	Skipping chains	Inspect all chains. Adjust slack.
	Conditions may be too wet	Wait for dryer conditions.
Material Flow too Low	Planting per chart rate only	Calibrate
	Check tire size and inflation	
	Excessive gaps between passes	Check that pass gap is one row space.
	Meter flutes worn	Clean-out box. Inspect and replace worn or damaged flutes.
Material Flow too High	Planting per chart rate only	Calibrate
	Pass overlaps	Check that pass gap is one row space.
	Meter flutes worn (allowing too much material to pass)	Clean-out box. Inspect and replace worn or damaged flutes.



Maintenance and Lubrication

Chain Maintenance

Initially check the drive chains after the first 10 hours of drill use. The slack of new chains tends to increase during the first few hours of operation due to seating. Thereafter, check the chains every 100 hours.

Lubricate chains any time there is a chance of moisture, and when being stored at the end of the planting season.

Chain Slack

Refer to Figure 40, which, for clarity, greatly exaggerates slack, and omits the idlers.

1. Measure the span ① for allowable slack:
Locate the longest span of each chain (usually the span which does not run through the idlers).
2. Determine the ideal slack:
Long chains (over 91cm/36in): 2.1cm/m ($\frac{1}{4}$ in per ft)
Vertical short chains: 2.1cm/m ($\frac{1}{4}$ in per foot)
Horizontal short chains: 4.2cm/m ($\frac{1}{2}$ in per foot).
3. Measure the current slack ②:
Acting at a right angle to the chain span at the center of the span, deflect the chain in both directions. The slack is the distance of the movement.
4. Adjust the idlers for ideal slack.

Whenever mounting a chain, make sure the clip at the removable link is oriented to minimize snags.

Refer to Figure 41 (arrow shows chain direction)

Install clip with open end facing away from direction of chain travel (shown by gray or striped arrows in chain routing diagrams).

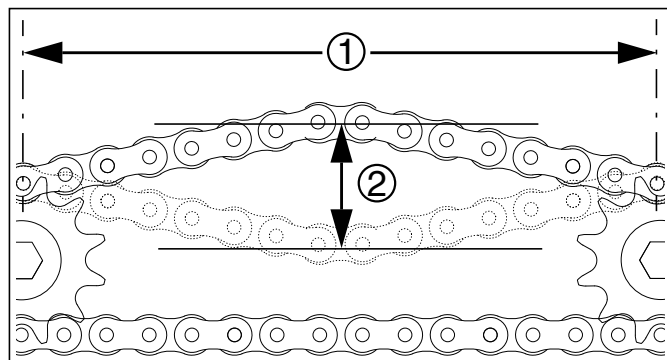


Figure 40
Measuring Chain Slack

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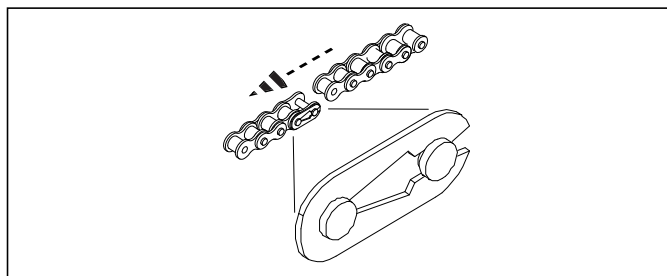


Figure 41
Chain Clip Orientation

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Lubrication



Multipurpose
spray lube



Multipurpose
grease lube

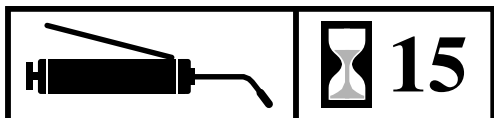


Multipurpose
oil lube



Intervals (service hours) at
which lubrication is required

Fertilizer Shaft Bearings

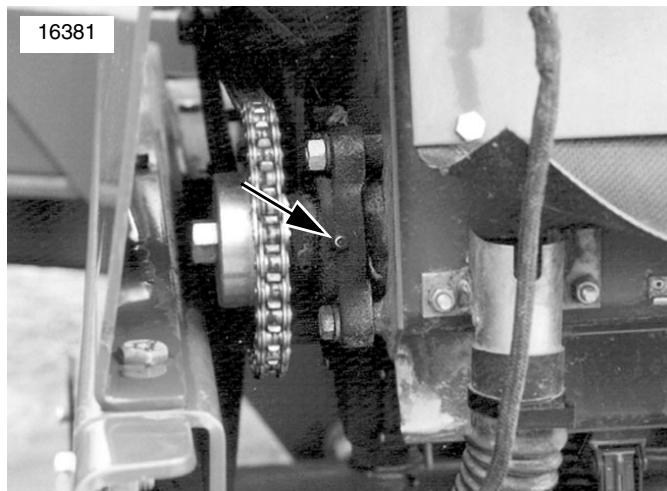


1 zerk each bearing, 2 per shaft;
2 total

Type of Lubrication: Grease

Quantity: Until resistance is felt

Note: If Small Seeds is also installed, access these zerks from below.



Felt Barrier Seals

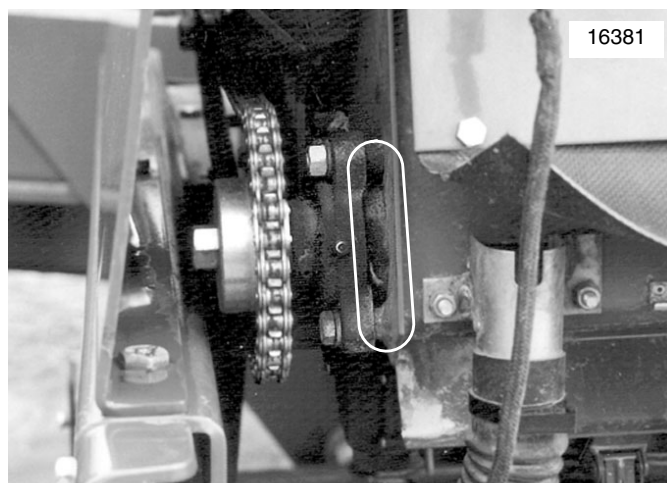


1 seal at each shaft end, 2 total

Type of Lubrication: Oil

Quantity: Soak seal

Note: If Small Seeds is also installed, access these zerks from below or through the end wall gaps.



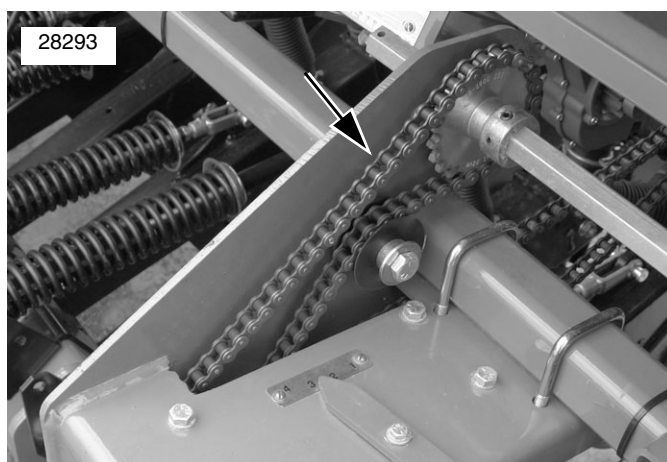
Gearbox Bypass Chain



1 chain:

Type of Lubrication: Chain Lube

Quantity: Coat thoroughly



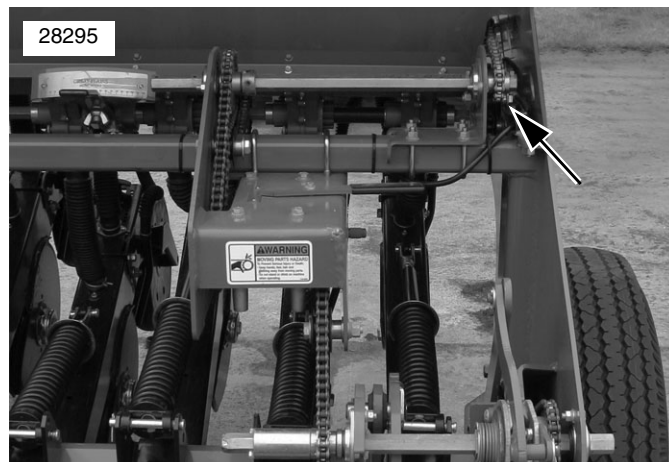
Option Transfer or Drive Chain



1 chain:

Type of Lubrication: Chain Lube

Quantity: Coat thoroughly



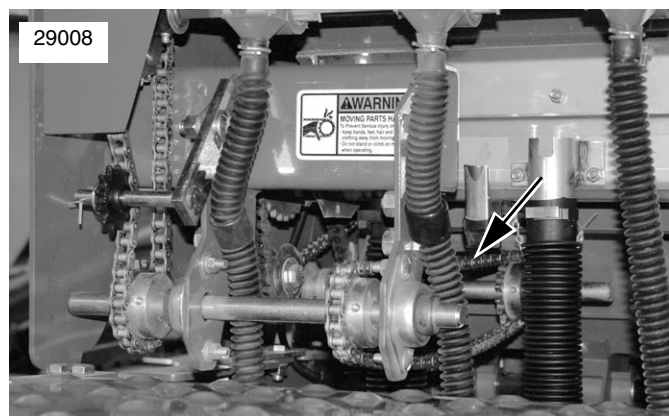
Fertilizer to SGS Transmission Chain



1 chain:

Type of Lubrication: Chain Lube

Quantity: Coat thoroughly





Appendix

New Parts

New Parts: Main Kits

175-248A 800 FERT 6 FLD INST ON SGS 175-249A 800 FERT 6 FLD INST WITH DRIVE					175-250A 800 FERT 7.5 FLD INST ON SGS 175-251A 800 FERT 7.5 FLD INST WITH DRV		
Callout	Quantity in Kit 175-				Part Number	Description	Remarks
	-248A	-249A	-250A	-251A			
100	1	1	1	1	175-253M	MANUAL 800 EW FERT FLD INST	this manual
106	1		1		123-832H	SLOTTED IDLER ARM 1/2 X 3 5/16	pre-installed
109	15		12		133-325L	SGS OPENER SIDE DELIVERY BDL	see page 32 for breakdown
110	1		1		136-014D	CHAIN RL #40 79 PITCHES	
112	1	1	1	1	136-153D	CHAIN RL #40 55 PITCHES	pre-installed
113	1	1	1	1	136-250D	CHAIN RL #40 96 PITCHES	
117		2	2	2	141-116H	FERTILIZER LATCH WELDMENT	pre-installed
118		2	2	2	142-009D	COVER HANDLE CHAIN	pre-installed
119		1		1	142-064D	RH WLK BRD SUPP FERT	
120		1		1	142-077D	LH WLK BRD SUPP FERT	
124	15	15	12	12	142-257L	FERT TUBE AND HDWR BDL	see page 32 for breakdown
132	1	1			142-264K	8FT EW FERT TRAY ASY 6	see page 32 for breakdown
135	1	1	1	1	142-266L	FERT. BOX & LID ASY	see page 34 for breakdown
136			1	1	142-267K	8FT EW FERT TRAY ASY 7 1/2	see page 32 for breakdown
137		2	2	2	142-273D	FERT TRAY LATCH STRIKE	pre-installed
138	1		1		142-298D	RH WLK BRD SUPP SML SDS-FERT	
139	1		1		142-312D	LH WLK BRD SUPP SML SDS-FERT	
146	1		1		168-127D	3/16 X 1 KEY	pre-installed
148		1		1	175-266K	8FT EW AUX JACKSHAFT ASY	see page 35 for breakdown
172	8	6	8	6	802-034C	HHCS 1/2-13X1 1/4 GR5	
176	18	18	18	18	802-148C	HFSS 1/4-20X1/2 GR5	
178	1	2	1	2	802-214C	RHSNB 1/2-13X1 1/4 GR5	
191	8	8	8	8	803-020C	NUT HEX 1/2-13 PLT	
193	18	18	18	18	803-088C	NUT HEX LOCK 1/4-20 FLG	pre-installed
195	1		1		803-169C	NUT HEX FLG. LOCK 1/2-13 PLT.	
204	8	8	8	8	804-015C	WASHER LOCK SPRING 1/2 PLT	
205	1		1		804-016C	WASHER FLAT 1/2 SAE PLT	pre-installed
209		4	4	4	805-019C	PIN COTTER 5/32 X 1 PLT	pre-installed
211	1		1		805-067C	PIN COTTER 1/8 X 3/4	pre-installed
220	1		1		808-170C	SPKT 40B17 X 3/4BORE W/KW&SS	pre-installed
226	1		1		817-025C	NO. 40 12T IDLER SPKT.	pre-installed
238	2	2	2	2	838-265C	DECAL REFLECTOR AMBER 1 1/2X9	
239	1	1	1	1	848-276C	DECAL 800	pre-installed

New Parts: Opener Side Delivery Hardware

Subassembly: 133-325L SGS OPENER SIDE DELIVERY BDL				Used in: 175-248A, 175-250A
Callout	Quantity in Kit	Part Number	Description	Remarks
(108)	1	133-128H	SGS SIDE DELIVERY TUBE	
(166)	2	800-321C	HOSE CLAMP NO.12 3/4 ID	
(185)	1	802-427C	HFS 3/8-16X3 3/4 SPTH	
(197)	1	803-209C	NUT FLANGE LOCK 3/8-16 PLT	
(224)	1	816-513C	SGS HOSE 85 RIBS	

New Parts: Meter to Row Delivery Hardware

Subassembly: 142-257L FERT TUBE AND HDWR BDL				Used in: 175-248A, 175-249A, 175-250A, 175-251A
Callout	Quantity in Kit	Part Number	Description	Remarks
(107)	1	133-065D	SML SDS TB REINFORCEMENT RING	
(160)	1	800-008C	CLAMP HOSE 1 1/2 NO. 24	
(162)	1	800-016C	UPPER FERT HOSE CLAMP RATCHET	
(168)	2	801-002C	SCREW HEX SLT10-16X1/2P.TH	
(223)	1	816-239C	SEED HOSE 56 RIBS X 11 LONG	
(228)	1	817-346C	PLASTIC FERTILIZER TUBE	

New Parts: Fertilizer Trays

Subassembly: 142-264K 8FT EW FERT TRAY ASY 6 142-267K 8FT EW FERT TRAY ASY 7 1/2			Used in: 175-248A, 175-249A Used in: 175-250A, 175-251A		
Callout	Quantity in Kit		Part Number	Description	Remarks
	142-264K	142-267K			
(104)	1	1	122-065D	TENSION SPRING RETAINER	pre-installed
(114)	15	12	141-011E	FERT DROP TUBE ASSEMBLY BOX	pre-installed
(115)	1	1	141-041E	SLIDE STOP ASSEMBLY	pre-installed
(116)	4	4	141-084D	TRAY BRG SPACER	pre-installed
(127)	1		142-260H	8FT EW FERT TRAY WLMT 6IN	pre-installed
(128)		1	142-261H	8FT EW FERT TRAY WLMT 7.5IN	pre-installed
(130)	1		142-263H	FT EW FERT SLIDE GATE 6	pre-installed
(133)	1	1	142-265D	FERT TRAY 3/4 HEX SHFT X88 3/4	pre-installed
(134)		1	142-265H	8FT EW FERT SLIDE GATE 7 1/2	pre-installed
(142)	1	1	150-044S	FERTILIZER ADJUSTMENT ROD ASSY	pre-installed see page 35
(145)	1	1	150-051D	ACME SLOTTED NUT	pre-installed
(147)	2	2	175-102H	13' EW FERT BRG RETAINER	pre-installed
(151)	2	2	191-001D	MF FERT .75 HEX BORE BUSHING	pre-installed
(152)	1	1	191-001H	FERTILIZER ADJ BRKT WELDMENT	pre-installed

Subassembly: 142-264K 8FT EW FERT TRAY ASY 6 142-267K 8FT EW FERT TRAY ASY 7 1/2			Used in: 175-248A, 175-249A Used in: 175-250A, 175-251A		
Callout	Quantity in Kit		Part Number	Description	Remarks
142-264K	142-267K				
(153)	2	2	191-002D	MF FERT HEX BORE PLASTIC BUSH	pre-installed
(154)	1	1	191-006H	MF FERT TRAY END PLT WLDMT LH	pre-installed
(155)	1	1	191-007H	MF FERT TRAY END PLT WLDMT RH	pre-installed
(156)	15	12	191-018D	MF FERT STAR RETAINER SIDE PLT	pre-installed
(157)	1	4	191-019D	MF FERT TRAY SLIDE SUPPORT	pre-installed
(161)	4	4	800-012C	RIVET SS 1/8 DIA	pre-installed
(163)	2	2	800-032C	LATCH STRIKE	pre-installed
(167)	2	2	801-001C	SCREW RD HD 8-32 X 3/8 BRASS	pre-installed
(169)	1	1	801-018C	SCREW RD HD 1/4-20 X 5/8	pre-installed
(171)	2	2	802-017C	HHCS 3/8-16X1 GR5	pre-installed
(174)	45	36	802-089C	RHSNB 1/4-20X3/4 SS	pre-installed
(175)	6	6	802-092C	RHSNB 5/16-18X3/4 GR5	pre-installed
(180)	4	4	802-252C	RHSNB 3/8-16X1 3/4 GR5	pre-installed
(186)	45	36	803-004C	NUT HEX SS 1/4-20	pre-installed
(187)	1	1	803-006C	NUT HEX 1/4-20 PLT	pre-installed
(188)	6	6	803-008C	NUT HEX 5/16-18 PLT	pre-installed
(190)	4	4	803-014C	NUT HEX 3/8-16 PLT	pre-installed
(192)	2	2	803-035C	NUT HEX 8-32 BRASS	pre-installed
(198)	2	2	804-002C	WASHER INTERNAL STAR #8 BRASS	pre-installed
(199)	2	2	804-003C	WASHER FLAT #8 BRASS	pre-installed
(200)	1	1	804-006C	WASHER LOCK SPRING 1/4 PLT	pre-installed
(201)	6	6	804-009C	WASHER LOCK SPRING 5/16 PLT	pre-installed
(203)	6	6	804-013C	WASHER LOCK SPRING 3/8 PLT	pre-installed
(207)	45	48	804-033C	WASHER LOCK 1/4 SS	pre-installed
(210)	1	1	805-064C	PIN COTTER 7/64 X 1 LONG	pre-installed
(215)	1	1	807-020C	SPRING SCREW ADJ TENSION STRHT	pre-installed
(218)	1	1	808-086C	SPKT 40B30 X 3/4 HEXBORE W/ SS	pre-installed
(225)	1	1	817-021C	KNOB P.W. ADJUSTMENT	pre-installed
(227)	15	12	817-053C	6 POINT FERT METERING WHEEL	pre-installed
(231)	1	1	819-034C	FERTILIZER ADJUSTMENT GAUGE	pre-installed
(233)	2	2	822-083C	BRG FLG 1.25ID 3BOLT	pre-installed
(240)	2	2	890-026C	FELT SEAL	pre-installed
(242)	15.12 FT	15.5 FT	990-024R	SEAL 5/16 X 3/4 DOR-TITE TRAY	pre-installed

New Parts: Fertilizer Box and Lid

Subassembly: 142-266L FERT. BOX & LID ASY				Used in: 175-248A, 175-249A, 175-250A, 175-251A
Callout	Quantity in Kit	Part Number	Description	Remarks
(101)	1	120-234D	RND SHAFT 3/4 X 13 3/8 W/KW	pre-installed
(102)	1	120-293D	TUBE RND DOM. 1 OD X 7/32WX3.0	pre-installed
(105)	2	123-580D	BRG PLATE - ASSEMBLY	pre-installed
(121)	1	142-141D	LID HANDLE	pre-installed
(122)	1	142-236D	FERT BOX PARTITION	pre-installed
(123)	1	142-256D	FERT BOX MOUNT BRACKET	pre-installed
(125)	1	142-258H	8' FERT BOX WELDMENT	pre-installed
(126)	1	142-259H	8' FERT/NG BOX LID WELDMENT	pre-installed
(140)	1	142-589S	3PT FERT BOX LID HINGE ASSY LH	pre-installed. see page 36
(141)	1	142-590S	3PT FERT BOX LID HINGE ASSY RH	pre-installed. see page 36
(146)	2	168-127D	3/16 X 1 KEY	pre-installed
(164)	2	800-121C	BALL STUD 10MM X 5/16-18 UNC	pre-installed
(172)	12	802-034C	HHCS 1/2-13X1 1/4 GR5	pre-installed
(173)	1	802-044C	HHCS 1/2-13X4 GR5	pre-installed
(177)	4	802-149C	RHSNB 3/8-16X3/4 GR5	pre-installed
(181)	4	802-282C	RHSNB 5/16-18X1 GR5	pre-installed
(182)	5	802-387C	HFS 5/16-18X3/4 GR5	pre-installed
(184)	2	802-425C	HHCS 5/16-18X1 1/4 NYL	pre-installed
(188)	4	803-008C	NUT HEX 5/16-18 PLT	pre-installed
(189)	2	803-011C	NUT LOCK 5/16-18 PLT	pre-installed
(190)	4	803-014C	NUT HEX 3/8-16 PLT	pre-installed
(191)	8	803-020C	NUT HEX 1/2-13 PLT	pre-installed
(194)	1	803-147C	NUT HEX NYLOCK 1/2-13	pre-installed
(195)	4	803-169C	NUT HEX FLG. LOCK 1/2-13 PLT.	pre-installed
(196)	5	803-199C	NUT HEX FLANGE 5/16-18 PLT	pre-installed
(201)	4	804-009C	WASHER LOCK SPRING 5/16 PLT	pre-installed
(202)	4	804-012C	WASHER FLAT 3/8 SAE PLT	pre-installed
(203)	4	804-013C	WASHER LOCK SPRING 3/8 PLT	pre-installed
(204)	8	804-015C	WASHER LOCK SPRING 1/2 PLT	pre-installed
(205)	4	804-016C	WASHER FLAT 1/2 SAE PLT	pre-installed
(206)	3	804-017C	WASHER FLAT 1/2 USS PLT	pre-installed
(208)	6	804-036C	WASHER FLAT 5/16 SAE PLT	pre-installed
(216)	2	807-106C	SPRING .540 O.D.X 1 1/4 X.054W	pre-installed
(217)	1	808-040C	SPKT 40B12 X 3/4 B W/KW&SS	pre-installed
(220)	1	808-170C	SPKT 40B17 X 3/4BORE W/KW&SS	pre-installed
(229)	1	817-406C	IDLER 1 PC 2.38X1.01X1.062	pre-installed
(230)	1	817-805C	LID LATCH	pre-installed
(234)	2	822-126C	BRG FLG .75ID 2BOLT	pre-installed
(236)	7	838-160C	DECAL 3 COLOR STRIPE 2.50 WIDE	pre-installed
(237)	1	838-161C	DECAL LOGO&GP F/STRIPE 4 X 24	pre-installed
(241)	1	890-308C	9 1/4-15 X 70LB GAS SPRING	pre-installed

New Parts: Fertilizer Rate Adjuster Rod Assembly

Subassembly: 150-044S FERTILIZER ADJUSTMENT ROD ASSY				Used in: 175-248A, 175-249A, 175-250A, 175-251A
Callout	Quantity in Kit	Part Number	Description	Remarks
(143)	1	150-049D	HEX COUPLER ADJUSTMENT HANDLE	pre-installed
(144)	1	150-050D	FERTILIZER ADJUSTMENT ROD	pre-installed
(212)	1	805-073C	PIN ROLL 5/32 X 1	pre-installed

New Parts: Accessory Drive

Subassembly: 175-266K 8FT EW AUX JACKSHAFT ASY				Used in: 175-249A, 175-251A
Callout	Quantity in Kit	Part Number	Description	Remarks
(103)	3	120-305D	TUBE RND 1 OD X 7/32W X 1.56	
(111)	1	136-036D	CHAIN RL #40 70 PITCHES	
(149)	1	175-414D	8FT EW AUX JACK SHAFT MNT	
(150)	1	175-415D	8FT EW AUX JACK SHAFT	
(159)	1	402-058D	COLLAR LOCK 7/8 HEX	
(165)	1	800-141C	SNAP RING EXT F/PEERLESS G.B.	
(170)	2	801-035C	SCREW SET 5/16-18 SKT KP X 3/8	
(179)	3	802-226C	HHCS 1/2-13X2 3/4 GR5	
(181)	4	802-282C	RHSNB 5/16-18X1 GR5	
(188)	4	803-008C	NUT HEX 5/16-18 PLT	
(190)	4	803-014C	NUT HEX 3/8-16 PLT	
(195)	3	803-169C	NUT HEX FLG. LOCK 1/2-13 PLT.	
(201)	4	804-009C	WASHER LOCK SPRING 5/16 PLT	
(203)	4	804-013C	WASHER LOCK SPRING 3/8 PLT	
(206)	9	804-017C	WASHER FLAT 1/2 USS PLT	
(213)	2	805-180C	PIN ROLL 1/4 X 1 1/2 LG PLT	
(214)	2	806-004C	U-BOLT 3/8-16 X 2 X 2 3/4	
(219)	1	808-157C	SPKT 40B19 X 36T SPLINE BORE	
(221)	1	808-219C	SPKT 40C12 X 7/8 HEX BORE	
(222)	1	808-250C	SPKT 40C22 X 7/8 HEX BORE	
(229)	3	817-406C	IDLER 1 PC 2.38X1.01X1.062	
(232)	4	822-032C	FLANGETTE 52 MST	
(235)	2	822-195C	BRG INS 7/8HEXX2.04OD SPH	

New Parts: Fertilizer Box Lid Hinge Assemblies

Subassemblies: 142-589S 3PT FERT BOX LID HINGE ASSY LH 142-590S 3PT FERT BOX LID HINGE ASSY RH				Both used in: 175-248A, 175-249A, 175-250A, 175-251A	
Callout	Quantity in Kit		Part Number	Description	Remarks
142-589S	142-590S				
(129)	1		142-263D	FERT BOX LID HINGE L.H.	pre-installed
(131)		1	142-264D	FERT BOX LID HINGE R.H.	pre-installed
(158)	1	1	313-186D	LID HINGE PIVOT	pre-installed
(183)	1	1	802-411C	RHSNB 3/8-16X2 GR5	pre-installed
(197)	1	1	803-209C	NUT FLANGE LOCK 3/8-16 PLT	pre-installed

Existing Parts Affected

Callout	Part Number	Description	Disposition
(11)	119-190D	HANDLE	2 Removed at step 12 and re-installed at step 107
(12)	119-278D	WALKBOARD LADDER PIVOT BUSHING	2 Removed at step 8 and re-installed at step 105
(13)	119-294H	3PT HINGED WALKBOARD LADDER	1 Removed at step 8 and re-installed at step 103
(14)	123-939H	SMALL SEEDS TUBE WELDMENT	1/row Removed at step 16 and not re-used
(15)	133-045D	SGS BOX SUPPORT STRAP	
(16)	136-014D	CHAIN RL #40 79 PITCHES	1 Removed at step 13 and not re-used
(17)	136-096D	CHAIN RL #40 76 PITCHES	1 Removed at step 13 and not re-used
(18)	136-250D	CHAIN RL #40 96 PITCHES	1 Removed at step 13 and not re-used
(19)	175-411D	8FT EW WALKBOARD	6 Removed at step 9 and re-installed at step 84 or step 95
(20)	175-413D	SEED ONLY LH LADDER MNT	1 Removed at step 10 and not re-used
(21)	175-416D	LH WLK BRD SUPP SML SEEDS	1 Removed at step 10 and not re-used
(22)	175-417D	RH WLK BRD SUPP SML SEEDS	
(23)	800-064C	HOSE CLIP 13/16 ID	2 Loosened at step 14 and re-tightened at step 84
(24)	800-321C	HOSE CLAMP NO.12 3/4 ID	2/row Removed at step 15 and not re-used
(25)	801-002C	SCREW HEX SLT10-16X1/2P.THD CT	2/row Removed at step 16 and not re-used
(26)	801-018C	SCREW RD HD 1/4-20 X 5/8	
(27)	801-151C	SCR HEX SELF TAP 1/4-20X1TYPEF	
(28)	802-034C	HHCS 1/2-13X1 1/4 GR5	4 Removed at step 17 and re-installed at step 66
(29)	802-079C	HHCS 3/8-16X1 1/4 GR5	2 Removed at step 8 and re-installed at step 103 4 Removed at step 10 and not re-used 4 Removed at step 11 and not re-used
(30)	802-203C	HFSS 1/2-13X1 1/2 GR5	4 Removed at step 12 and re-installed at step 107 4 Removed at step 18 and re-installed at step 64
(32)	802-427C	HFS 3/8-16X3 3/4 SPTH D	
(33)	802-673C	HHCS 7/16-14X1 1/4 GR5 PLT	6 Removed at step 9 and re-installed at step 84 or step 91 or step 95
(34)	803-006C	NUT HEX 1/4-20 PLT	

Existing Parts Affected







Callout	Part Number	Description	Disposition
(35)	803-014C	NUT HEX 3/8-16 PLT	2 Removed at step 8 and re-installed at step 106
(36)	803-015C	NUT HEX 7/16-14 PLT	6 Removed at step 9 and re-installed at step 92 or step 95
(37)	803-020C	NUT HEX 1/2-13 PLT	4 Removed at step 10 and not re-used 4 Removed at step 11 and not re-used 4 Removed at step 18 and re-installed at step 66
(38)	803-169C	NUT HEX FLG. LOCK 1/2-13 PLT.	4 Removed at step 12 and re-installed at step 107 4 Removed at step 18 and re-installed at step 64
(39)	803-209C	NUT FLANGE LOCK 3/8-16 PLT	
(40)	804-009C	WASHER LOCK SPRING 5/16 PLT	
(41)	804-011C	WASHER FLAT 3/8 USS PLT	2 Removed at step 8 and re-installed at step 106
(42)	804-013C	WASHER LOCK SPRING 3/8 PLT	2 Removed at step 8 and re-installed at step 106
(43)	804-014C	WASHER LOCK 7/16 PLT	6 Removed at step 9 and re-installed at step 92 or step 95
(44)	804-015C	WASHER LOCK SPRING 1/2 PLT	4 Removed at step 10 and not re-used 4 Removed at step 11 and not re-used 4 Removed at step 17 and re-installed at step 66
(45)	816-513C	SGS HOSE 85 RIBS	1/row Removed at step 15 and not re-used

Abbreviations

#40	Number 40 (size)
12T	12 Tooth
3P	Three Point (hitch)
3PT	Three Point (hitch)
40A12	#40 plate-style sprocket or idler, 12T
40B12	#40 single-hub sprocket or idler, 12T
40C12	#40 dual-hub sprocket or idler, 12T
ADJ	Adjustment or Adjustable
ASY	Assembly
AUX	Auxiliary
BDL	Bundle
BRD	Board
BRG	Bearing
BRKT	Bracket
BUSH	Bushing
CT	Cutting
DIA	Diameter
EW	End Wheel
EXT	External
F/	for
FERT	Fertilizer
FLD	Field
FLG	Flanged
FT	Foot
G.B.	Gear Box
GP	Great Plains
GR5	Grade 5
HD	Head
HDWR	Hardware
HEX	Hexagonal
HFS	Hex Flange Screw
HFSS	Hex Flange Serrated Screw
HHCS	Hex Head Cap Screw (Bolt)
ID	Inside Diameter
INS	Inside
INST	Installation
KP	Knurled cup Point
KW, K.W.,	Keyway
LB	Pound
LCK	Lock

LG	Long
LH	Left Hand
MF	Multiflex
MNT	Mount
MST	Metric Spherical Two-hole
NO.	Number (call size)
NT	No Till
NYL	Nylon
OD	Outside Diameter
P.W.	Press Wheel
PC	Piece
PLT	Plated
RD HD	Round Head
RH	Right Hand
RHSNB	Round Head Shank Neck Bolt
RL	Roller
RND	Round
SAE	Society of Automotive Engineers (standards)
SDS	Seeds
SGS	Small Grass Seeds
SHFT	Shaft
SKT	Socket
SLT	Slotted
SML	Small
SPH	Spherical (profile)
SPKT	Sprocket
SPTHD	Special Thread
SS	Set Screw
SS	Stainless Steel
STRHT	Straight
SUPP	Support
THD CT	Thread Cutting (self tapping)
UNC	Unified National Coarse
USS	United States Standard (heavy duty)
W/	with
WLDMT	Weldment
WLK	Walk
WLMT	Weldment
X	by

Torque Values Chart

Bolt Size	Bolt Head Identification						Bolt Size	Bolt Head Identification					
													
	Grade 2		Grade 5		Grade 8			Class 5.8		Class 8.8		Class 10.9	
in-tpi ¹	N-m ²	ft-lb ³	N-m	ft-lb	N-m	ft-lb	mm x pitch ⁴	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
¹ / ₄ -20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
¹ / ₄ -28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
⁵ / ₁₆ -18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
⁵ / ₁₆ -24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
³ / ₈ -16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
³ / ₈ -24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
⁷ / ₁₆ -14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
⁷ / ₁₆ -20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
¹ / ₂ -13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
¹ / ₂ -20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
⁹ / ₁₆ -12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
⁹ / ₁₆ -18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
⁵ / ₈ -11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
⁵ / ₈ -18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
³ / ₄ -10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
³ / ₄ -16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
⁷ / ₈ -9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
⁷ / ₈ -14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1-8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1-12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1 ¹ / ₈ -7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1 ¹ / ₈ -12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1 ¹ / ₄ -7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1 ¹ / ₄ -12	750	555	1680	1240	2730	2010							
1 ³ / ₈ -6	890	655	1990	1470	3230	2380							
1 ³ / ₈ -12	1010	745	2270	1670	3680	2710							
1 ¹ / ₂ -6	1180	870	2640	1950	4290	3160							
1 ¹ / ₂ -12	1330	980	2970	2190	4820	3560							

1. in-tpi = nominal thread diameter in inches-threads per inch

2. N·m = newton-meters

3. ft-lb = foot pounds

4. mm x pitch = nominal thread diameter in millimeters x thread pitch

Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above.

1. in-tpi = nominal thread diameter in inches-threads per inch

2. N·m = newton-meters

3. ft-lb = foot pounds

4. mm x pitch = nominal thread diameter in millimeters x thread pitch



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