



Installation Instructions for Small Seed Option

for 605NT, 606NT, 3P500, 3P600, 3P605NT, and 3P606NT Drills

Before Getting Started

Before you begin installation of your Small Seeds Option Kit, read these instructions carefully and check that all parts and tools in kit are accounted for. All hand and specialty tools for installation are provided at owner's expense. Please retain these installation instructions for future reference and parts ordering information.

These installation instructions contain information for assembling the Small Seeds Option to the main machine. Please read all instructions in the Operator Manual for your drill thoroughly before proceeding. Your operator manual includes information on operation, adjustment, troubleshooting, and maintenance for this attachment (some manual sections do not apply to all accessories).

Instructions contain information for all makes and models of the applicable machines.



Figure 1
Small Seeds Box and Hoses

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General Information

These instructions explain how to install a Small Grass Seeds (SGS) assembly on a compatible 5- or 6-foot drill.

The Small Seeds option adds the capability to meter the smallest of seeds at rates more precise than using the main seed box for those seeds.

Tools Required

The following tools are required for installation:

- General hand tools.

Refer to Torque Values page 26 for torque values chart.

Further Assistance

If for any reason you do not understand any part of this manual or are otherwise dissatisfied, please contact:

Service Department
1525 E. North St.
P.O. Box 5060
Salina, KS 67402-5060

You can also go to www.greatplainsag.com or landpride.com. Follow the contact information at the bottom of your screen for our service department.



Installation Guide QRC

The QR Code (Quick Response) to the left will take you to a web installation guide. Use your smart phone or tablet to scan the QR Code with an appropriate App to begin viewing.



5- and 6-Foot Drills QRC

The QR Code (Quick Response) to the left will take you to the family of manuals. Use your smart phone or tablet to scan the QR Code with an appropriate App to begin viewing.

1 Kits:

Kit	Kit Description
133-124A*	605NT 7 1/2" SGS ASSEMBLY
133-131A*	3P605NT 7 1/2" SGS ASSEMBLY
133-133A*	6' 6" SGS
133-134A*	6' 7 1/2" SGS
133-150A*	5' 6" SGS
133-151A*	5' 7 1/2" SGS
133-369A*	3P605NT FIELD SGS ON NG
133-370A*	605NT FIELD SGS ON NG

One kit updates one drill.

Drill Model	Uses Kit
3P500-0775 (7.5 in)	133-151A*
3P500-0906 (6 in)	133-150A*
3P500V (any spacing)	(SGS not available)
3P600-0975 (7.5 in)	133-134A*
3P600-1106 (6 in)	133-133A*
3P605NT-0975 (7.5 in)	133-131A* or 133-369A*
3P606NT-0975 (7.5 in)	133-131A* or 133-369A*
605NT-0975 (7.5 in)	133-124A* or 133-370A*
606NT-0975 (7.5 in)	133-124A* or 133-370A*

Refer to page 23 for a detailed list of parts included in these kits. Use these lists to inventory parts received.

1a. Ordering Kits and Parts

In these instructions, part numbers with an * must be modified before ordering the kit or the part. The * indicates the kit or part is available in two paint colors.

To order a green kit or part for a Great Plains machine, remove the * from the part number.

To order an orange kit or part for a Land Pride machine, replace the * with the number 82.

If the part number does not have an *, the part is black or unpainted and can be used on either brand of machine.

1b. Duplicate Parts

Some kits can include parts that are already installed on your drill.

2 Related Documents

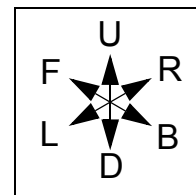
These items are not included in the kits. They are available free of charge by visiting www.greatplainsmfg.com or www.landpride.com. Have machine model and serial numbers available. Have the Operator Manual at hand for drill movements. Have the current Parts Manual at hand for parts ID.

Refer to page 23 for a detailed list of parts included in these kits. Use these lists to inventory parts received.

Part No.	Optional Part Description
118-794B	3P500 & 3P600 SEEDRATE BOOK
118-794M	3P500-3P600 OPERATORS MANUAL
118-794P	3P500-3P600 PARTS MANUAL
151-061B	6' NO-TILL SEEDRATE BOOK
151-061M	MANUAL 605NT OPERATOR
151-061P	MANUAL 605NT PARTS
838-203C	DECAL 3P605NT
838-207C	DECAL 605NT

3 Notations and Conventions

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



3a. 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.
- ⑪ to ④⑤ and ⑥① to ⑥⑦ Two-digit callouts in the ranges: 11 to 45 reference kit parts, and 61 to 67 reference optional parts from the new parts lists beginning on page 22.
- ⑧① to ⑨⑥ Two-digit callouts in the range 81 to 96 reference affected existing parts from the table on page 24. The descriptions match those in your Parts Manual. The narrative and table indicate any re-use of the parts.

Before You Start

4 Compatibility

Refer to Figure 2


1. Make sure that the drill is a compatible model for the kit. See table on page 2. The full model number for the drill is found on the serial number plate.
2. If the drill is a model 605NT or 606NT, you may want to replace the 606 decal in the kit with the correct decal for your drill. It is not necessary to have these decals on hand during the kit installation.
Order one of:
67 838-207C DECAL 605NT
838-203C DECAL 3P605NT

5 Inventory

3. Make sure all parts are present. Remove all parts and any packing material from inside the new Small Seeds box.

6 Comprehension

4. Review these instructions. Make sure the installers understand where each part or assembly is installed, and what tools are required for the task.

 NOTE: Illustrations in this manual, based on the parts manuals for this family of drills, may show exploded views that are fully disassembled. Rely on the instructions for required disassembly and reassembly steps.

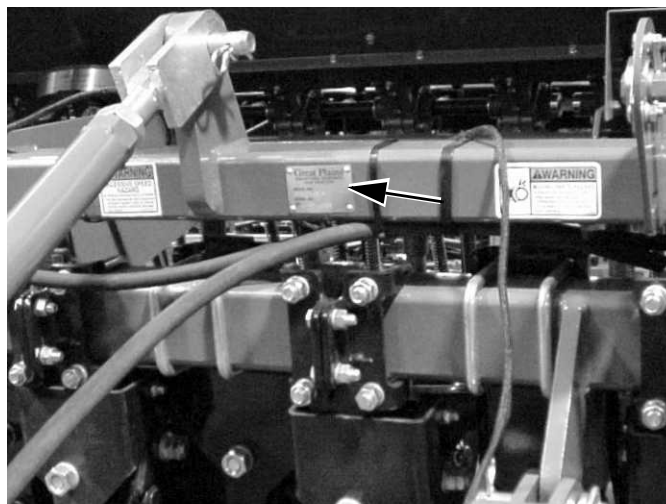


Figure 2
Serial Number Plate

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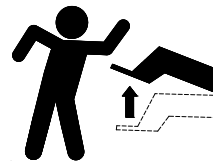
Pre-Assembly Preparation

7 Tools Required

- updated drill Parts Manual (see page 2)
- suitable tractor for positioning and lowering drill
- blocks for securing transport tires if drill will be unhitched for the work
- two people or a hoist - several long parts are suitable for unassisted single-person removal/installation
- chain lube
- basic hand tools, including:
snap ring pliers

8 Work Location

5. Move the drill to a location with:
 - room to maneuver large parts around it,
 - access to tractor or hydraulic power,
 - adequate illumination, and;
 - clear surface beneath for recovery of any falling or dropped parts - if the surface is not clear, have a tarp or drop cloth available.
6. Park the drill per the instructions in the Operator Manual.
7. Lower the drill and the openers
8. Shut off tractor and take the key with you if left-hand hitched.



WARNING

Negative tongue weight hazard:

Lower the openers on pull-type drills. The weight of a person on raised openers can cause an unhitched tongue to fly up, causing a fall and possible serious injury.


Remove Existing Parts

Refer to Figure 3

9. At each grab handle on the back corners of the rear-most seed box, remove and save two sets (four sets total) of:

(88) 802-203C HFSS 1/2-13X1 1/2 GR5
 (92) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.
 and two:
 (81) 119-190D HANDLE

These are re-mounted on the new SGS box at step 15 on page 6.

 NOTE: Existing hardware may vary slightly from parts called out in these instructions. For example, instead of flange nuts, there may be separate washers and there may be a 133-045D strap. Note such changes, so that parts are correctly re-installed.

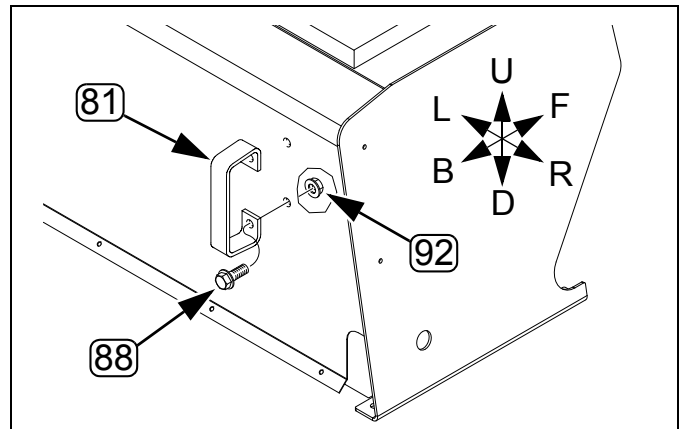


Figure 3
Dismount Grab Handle

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Refer to Figure 4

Step 10 is required only for drills with existing Native Grass boxes, but is recommended for all drills, to clear access for mounting the SGS box.

10. At the SMV placard remove and save two sets:

(85) 802-007C HHCS 5/16-18X3/4 GR5
 (93) 804-009C WASHER LOCK SPRING 5/16 PLT
 (89) 803-008C NUT HEX 5/16-18 PLT
 and then remove the still-assembled SMV
 (96) 890-153C SMV MOUNTING BLADE

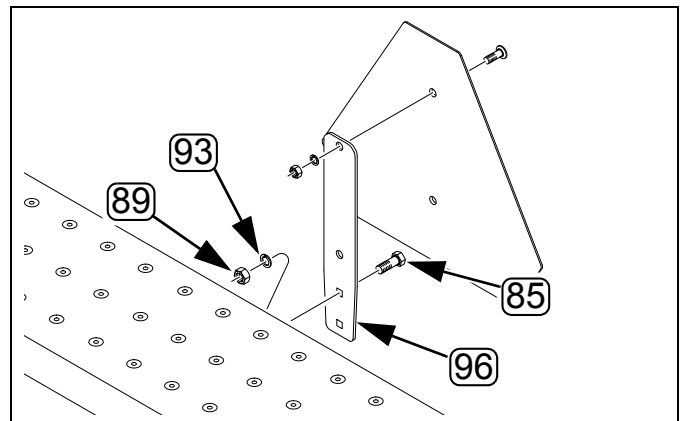


Figure 4
Dismount SMV


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Refer to Figure 5

Step 11 through step 13 are performed only if the drill has a Native Grass seed box installed. For Main-box-only drills, skip to step 16 on page 6.

11. At each end of the walkboard, remove and save two sets (four sets total):

(87) 802-091C HHCS 1/2-13X1 1/2 GR5
 (95) 804-015C WASHER LOCK SPRING 1/2 PLT
 (91) 803-020C NUT HEX 1/2-13 PLT
 then remove and save two steps:
 (82) 119-192D** STEP

 NOTE: Two people or a hoist are required for this step.

12. At each end of the walkboard, remove and save four sets (eight sets total):

(86) 802-079C HHCS 3/8-16X1 1/4 GR5
 (89) 804-013C WASHER LOCK SPRING 3/8 PLT
 (90) 803-014C NUT HEX 3/8-16 PLT

13. Remove the walkboard:

(83) 119-272H** SEED & SGS MENT
 The walkboard is not re-used.

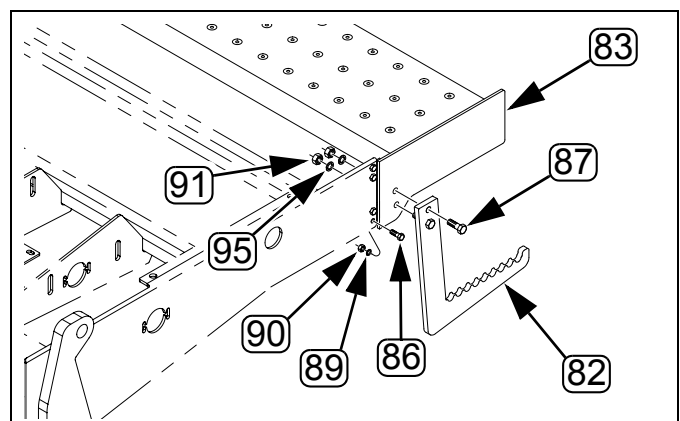


Figure 5
Dismount Walkboard (NG only)

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Attach SGS box & Final Drive

9 Re-Install Grab Handles

 NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see “**Ordering Kits and Parts**” and “**Duplicate Parts**” on page 3.

Refer to Figure 6

14. Select the SGS box from your kit, one of:
 - (16) 133-129L* 6' 7 1/2" SGS BOX ASSY
 - 133-135L* 6' 6" SGS BOX ASSEMBLY
 - 133-148L* 5' 6" SGS BOX ASSEMBLY
 - 133-149L* 5' 7 1/2" SGS BOX ASSEMBLY
 and two new:
 - (15) 133-045D SGS BOX SUPPORT STRAP
15. Select two saved:
 - (81) 119-190D HANDLE
 and four sets saved hardware, typically:
 - (88) 802-203C HFSS 1/2-13X1 1/2 GR5
 - (92) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Insert the bolts (88) through the handles (81), then through the rear holes of the SGS box (16). Add a strap (15) to each handle assembly, and secure with nuts (92) (and any washers removed at step 9).

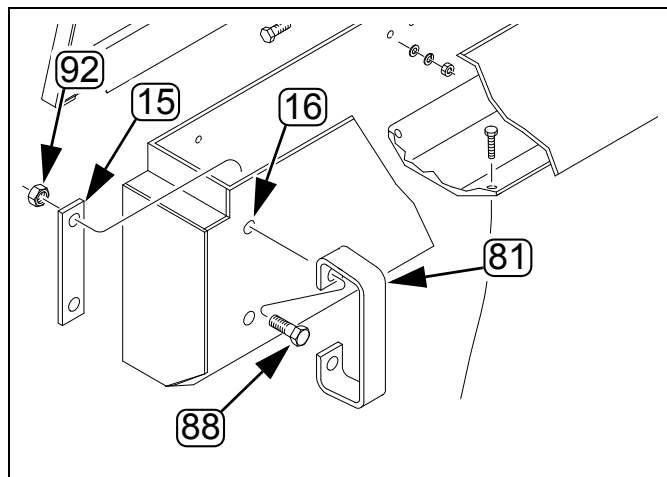


Figure 6
Re-install grab Handles

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10 Attach SGS Box

 NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see “**Ordering Kits and Parts**” and “**Duplicate Parts**” on page 3.

Refer to Figure 7

16. If removed at step 9, select two saved:
 - (84) 133-045D SGS BOX SUPPORT STRAP
17. Select four new:
 - (28) 802-041C HHCS 1/2-13X3 1/2 GR5

Insert the bolts (28) through the straps (84) (if present - newer drills have internal stiffener plates and do not require straps). From the inside of the box, insert the bolts, or bolt/strap assemblies, through the holes previously used for the grab handles.

18. Select one new:
 - (24) 202-186D NG/SGS BOX SPACER

Place this spacer over the threaded ends of the bolts (28) at the left-hand end of the existing seed box. If it tends to fall off, use saved 1/2-13 nuts to temporarily hold it.

19. Select one new:
 - (17) 133-130K* 6' SGS DRIVER ASSY

With the sprocket drive end down, place this over the threaded ends of the bolts (28) at the right-hand end of the existing seed box. If it tends to fall off, use saved 1/2-13 nuts to temporarily hold it.

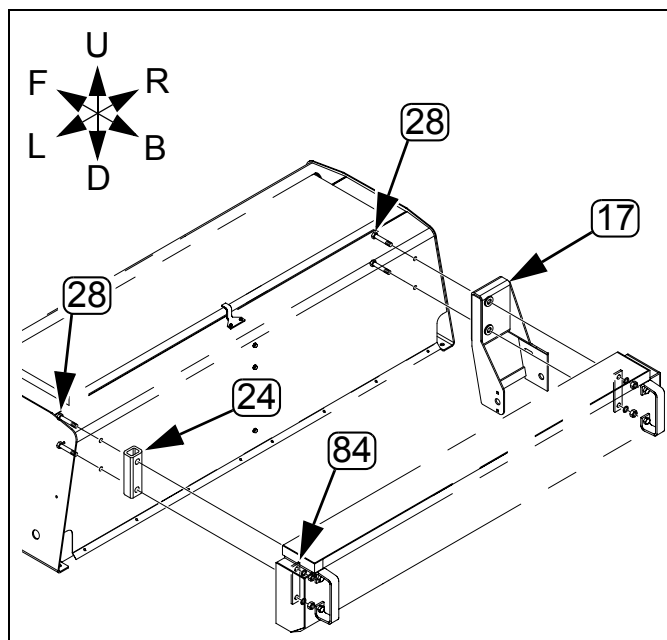


Figure 7
Prepare for SGS Box Install

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Refer to Figure 8

20. Select two new
 (15) 133-045D SGS BOX SUPPORT STRAP
 and four sets new:
 (35) 804-015C WASHER LOCK SPRING 1/2 PLT
 (31) 803-020C NUT HEX 1/2-13 PLT

Remove any temporary nuts. Place the SGS box (16) over the bolts inserted at step 17. Inside the SGS box, place a strap (15) over the same bolts. Secure with washers (35) and nuts (31).

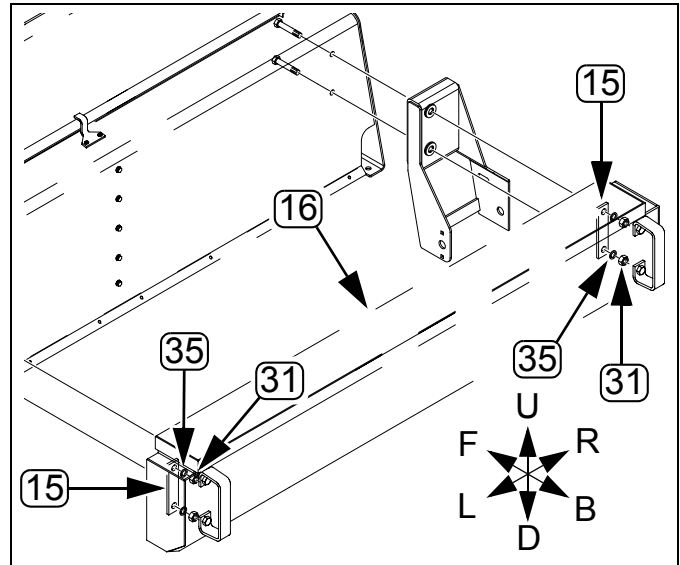


Figure 8
Install SGS Box

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Install SGS Drive

11 Install 3P500/3P600 Drive Components

 NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see “**Ordering Kits and Parts**” and “**Duplicate Parts**” on page 3.

11a. Install 3P500/3P600 Shaft Bearings

For 3P605NT, 3P606NT, 605NT or 606NT, skip to “**Install 3P/605/606NT Drive Components**” on page 12.

Refer to Figure 9

21. Select two (2) new:

④③ 822-040C BRG INS .75IDX1.85OD SPH LCK

four new:

④④ 822-041C FLANGETTE 47 MST

and four sets new:

②⑨ 802-282C RHSNB 5/16-18X1 GR5

③⑦ 804-036C WASHER FLAT 5/16 SAE PLT

③④ 804-009C WASHER LOCK SPRING 5/16 PLT

③⑩ 803-008C NUT HEX 5/16-18 PLT

Place each bearing ④③ between two flangettes ④④. As necessary, back out set screws in lock collars so that bearings can slide freely on shaft. Bearing lock collars (not shown) are oriented to drill center (inside). Mount each flangette on the forward bearing opening on the outside of the end panels.

Insert a bolt ②⑨ through the flangettes and the panel. Add a flat washer ③⑦, then a lock washer ③④, and secure to finger-tight with nut ③⑩.

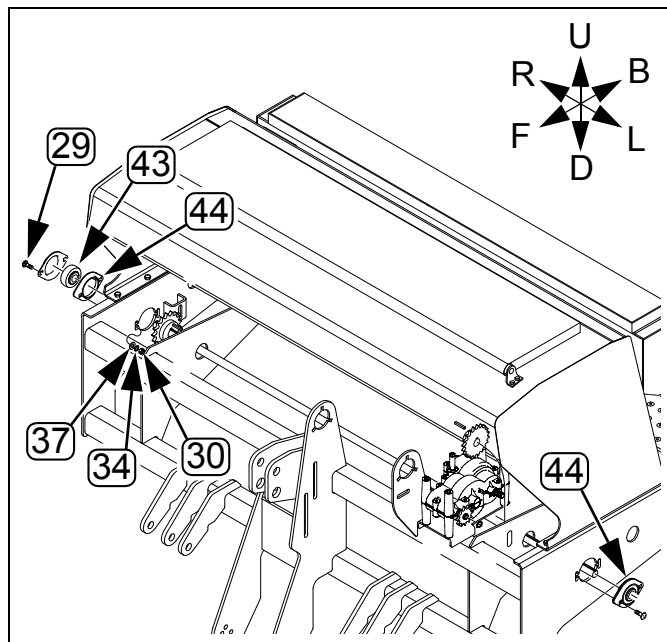


Figure 9
Install 3P500/600 Bearings

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11b. Install 3P500/3P600 Shaft and Sprockets

Refer to Figure 10

22. Select the shaft in your kit, one of:


(14) 133-037D SGS/AUXILLARY DRIVE SHAFT
133-052D 5' SGS DRIVE SHAFT


and one each new:

(40) 808-170C SPKT 40B17 X 3/4BORE W/KW&SS

(38) 808-100C SPKT 40B22 3/4B W/K.W. &SS

As necessary, back out the set screws in the sprockets so that the sprockets can slide freely on the shaft.

 NOTE: The shaft has keyways of different lengths on each end. The end with the shorter keyway is the right-hand end. The end with the longer keyway is the left-hand (gearbox) end. The shaft may be inserted in the drill from either side, as long as the sprockets are correctly oriented. These steps use the left-hand side.

 NOTE: The sprockets are not symmetrical. For ease of future maintenance, the set-screw side is oriented to drill center.

23. Insert the right-hand (short keyway) end of the shaft through the new bearing (1).

 NOTE: Keys (23) are installed at step 31 and step 35.

24. As the shaft passes behind the gearbox (2), add the 22T sprocket (38), with the set screw side facing the right-hand side of the drill.

25. As the shaft nears the right-hand bearing (4) (and after passing through the right-hand-most brace-plate (3), if any), add the 17T sprocket (40), with the set screw side facing left-hand side.

26. Adjust lateral shaft position so that about equal lengths of shaft end are exposed at the end panels. Rotate shaft to ensure it spins freely. Secure both bearing lock collars.

Refer to Figure 11

27. Select one each new:

(39) 808-160C SPKT 40B12 X 36T SPLINE BORE

Place the spline sprocket (39), raised hub side first, onto the left-hand front gearbox shaft.

28. Select one each new:

(25) 800-141C SNAP RING EXT F/PEERLESS G.B.

Secure spline sprocket (39) to gearbox shaft with snap ring.

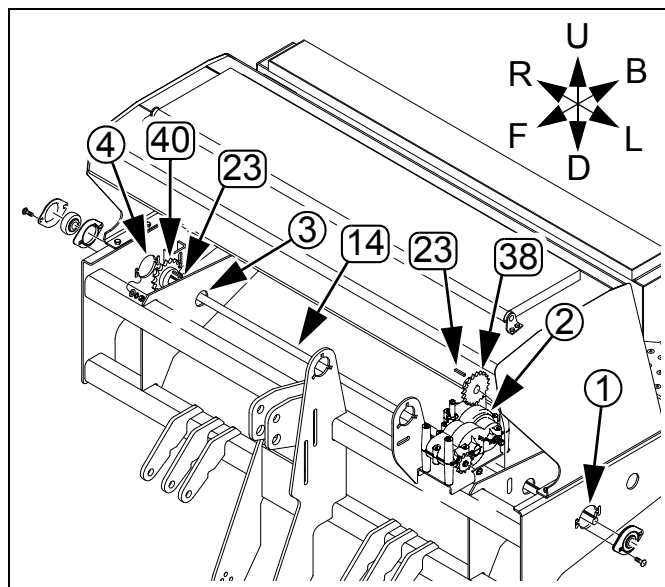


Figure 10
Install 3P500/600 Shaft

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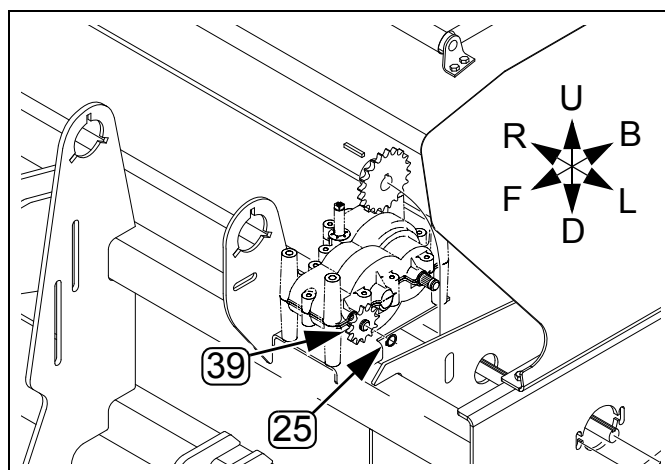


Figure 11
3P500/600 Gearbox Sprocket

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12 Install 3P500/3P600 Drive Idlers

 NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see “Ordering Kits and Parts” and “Duplicate Parts” on page 3.

12a.3P500/3P600 Right-hand Idler

Refer to Figure 12

29. Select one set new:

- (28) 802-041C HHCS 1/2-13X3 1/2 GR5
- (42) 817-025C NO. 40 12T IDLER SPKT.
- (32) 803-036C NUT HEX JAM 1/2-13 PLT
- (36) 804-017C WASHER FLAT 1/2 USS PLT
- (33) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Place the idler (42) on the bolt (28). Thread the jam nut (32) all the way on, then back off one turn. Add the flat washer (36).

30. Using the flange lock nut (33), loosely secure the idler assembly to the idler weldment (5) at the right-hand side of the drill (near the new 17T sprocket (40)).

31. Select one new:

- (23) 168-127D 3/16 X 1 KEY (not shown)

Adjust the position of the 17T sprocket (40) until the teeth are in the same rotational plane as those of the new idler (42). Insert the key (23) in the 17T sprocket. Secure the set screw in that sprocket.

12b.3P500/3P600 Left-hand (Gearbox) Idler

32. Locate the idler slot to use. Align the new 22T sprocket (38) with the new spline sprocket (39) on the gearbox. Locate the nearest 1/2in slot (6) that is forward of the 22T sprocket and on an adjacent brace plate.

33. Select one set new:

- (28) 802-041C HHCS 1/2-13X3 1/2 GR5
- (42) 817-025C NO. 40 12T IDLER SPKT.
- (32) 803-036C NUT HEX JAM 1/2-13 PLT
- (36) 804-017C WASHER FLAT 1/2 USS PLT
- (33) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Place the idler (42) on the bolt (28). Thread the jam nut (32) all the way on, then back off one turn. Add the flat washer (36),

34. Using the flange lock nut (33), loosely secure the idler assembly at the slot (6) identified in step 32.

35. Select one new:

- (23) 168-127D 3/16 X 1 KEY (not shown)

Adjust the position of the 22T sprocket (38) until the teeth are in the same rotational plane as those of the new left-hand idler and the new gearbox sprocket (39). Insert the key (23) in the 22T sprocket. Secure the set screw in that sprocket.

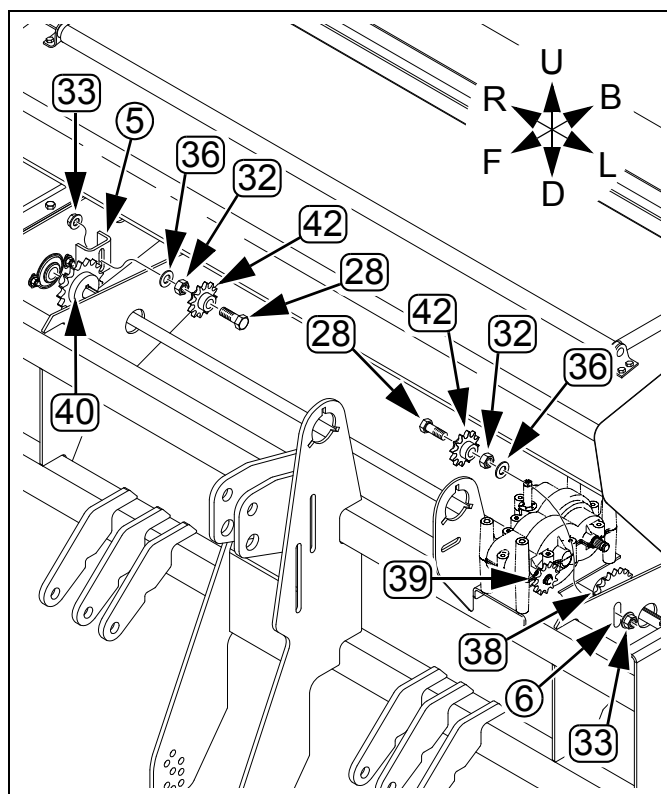


Figure 12
3P500/600 Idlers

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14 Install 3P/605/606NT Drive Components

NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see **"Ordering Kits and Parts"** and **"Duplicate Parts"** on page 3.

For 3P500 or 3P600, return to **"Install 3P500/3P600 Drive Components"** on page 8.

14a. Install 3P/605/606NT Shaft Bearings

Refer to Figure 14

41. Select one new:

④③ 822-040C BRG INS .75IDX1.85OD SPH LCK

two new:

④④ 822-041C FLANGETTE 47 MST

and two sets new:

②⑨ 802-282C RHSNB 5/16-18X1 GR5

③⑦ 804-036C WASHER FLAT 5/16 SAE PLT

③④ 804-009C WASHER LOCK SPRING 5/16 PLT

③① 803-008C NUT HEX 5/16-18 PLT

Place the bearing ④③ between two flangettes ④④. As necessary, back out set screws in lock collars so that bearing can slide freely on shaft.

Mount the first flangette assembly on the forward bearing opening on the outside of the right-hand end panel. Orient the bearing lock collar (not shown) to the left-hand (inside) side.

Insert a bolt ②⑨ through the flangettes and the panel. Add a flat washer ③⑦, then a lock washer ③④, and secure to finger-tight with nut ③①.

Refer to Figure 15

42. Select one new:

④③ 822-040C BRG INS .75IDX1.85OD SPH LCK

two new:

④④ 822-041C FLANGETTE 47 MST

and two sets new:

②⑨ 802-282C RHSNB 5/16-18X1 GR5

③⑦ 804-036C WASHER FLAT 5/16 SAE PLT

③④ 804-009C WASHER LOCK SPRING 5/16 PLT

③① 803-008C NUT HEX 5/16-18 PLT

Place the bearing ④③ between two flangettes ④④. As necessary, back out set screws in lock collars so that bearing can slide freely on shaft.

Mount this flangette assembly on the right-hand side of the forward bearing opening on the brace plate to the right-hand side of the gearbox. Orient the bearing lock collar (not shown) to the right-hand side (toward drill center).

Insert a bolt ②⑨ through the flangettes and the panel. Add a flat washer ③⑦, then a lock washer ③④, and secure to finger-tight with nut ③①.

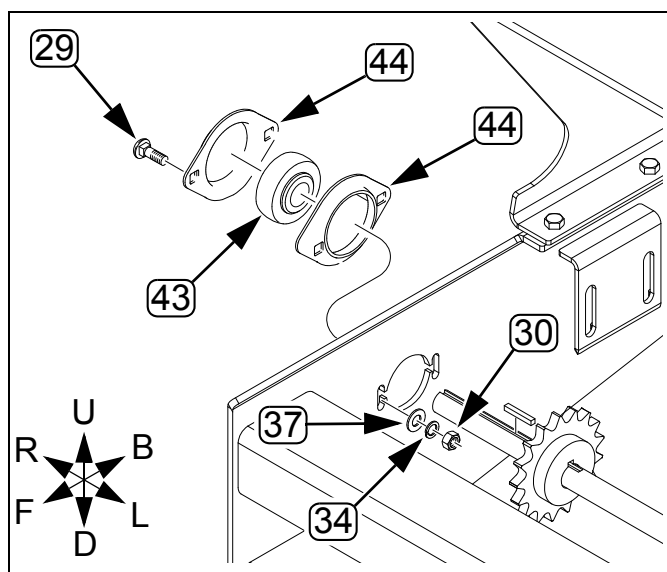


Figure 14
Install 3P/605/606NT Bearing (R)

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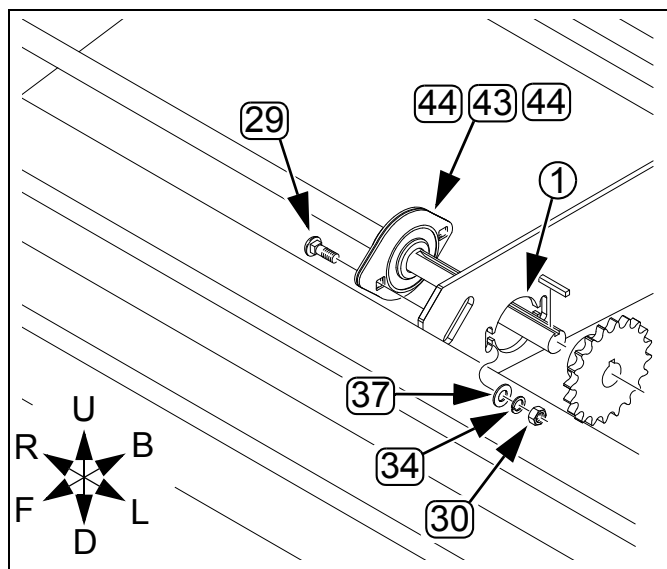


Figure 15
Install 3P/605/606NT Bearing (L)

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14b. Install 3P/605/606NT Shaft and Sprockets

Refer to Figure 16

43. Select one new:


(14) 133-052D 5' SGS DRIVE SHAFT


and one each new:

(40) 808-170C SPKT 40B17 X 3/4BORE W/KW&SS

(38) 808-100C SPKT 40B22 3/4B W/K.W. &SS

As necessary, back out the set screws in the sprockets so that the sprockets can slide freely on the shaft.

 NOTE: The shaft has keyways of different lengths on each end. The end with the shorter keyway is the right-hand end. The end with the longer keyway is the left-hand (gearbox) end.

 NOTE: The sprockets are not symmetrical. For ease of future maintenance, the set-screw side is oriented to drill center.

44. Insert the left-hand (long keyway) end of the shaft (14) through the new right-hand bearing (2).

45. Add the 17T sprocket (40), with the set screw side facing the left-hand side.

46. Pass the left-hand end of the shaft (14) through the new left-hand bearing (3) at the gearbox.

47. Add the 22T sprocket (38), with the set screw side facing the right-hand side.

 NOTE: Keys (23) are installed at step 54 and step 58.

Refer to Figure 17

48. Select one each new:

(39) 808-160C SPKT 40B12 X 36T SPLINE BORE

Place the spline sprocket (39), raised hub side first, onto the right-hand front gearbox shaft.

49. Select one each new:

(25) 800-141C SNAP RING EXT F/PEERLESS G.B.

Secure spline sprocket (39) to gearbox shaft with snap ring (25).

Refer to Figure 16 and Figure 17

50. Adjust the position of the new 22T shaft input (left-hand end) sprocket (38) to be in the same plane as the new 12T gearbox sprocket (39).

51. While keeping sprocket (38) in plane, adjust lateral shaft position so that about equal lengths of shaft end are exposed beyond the new right-hand bearing (2) and the new left-hand sprocket (38). Rotate shaft to ensure it spins freely. Secure both bearing lock collars.

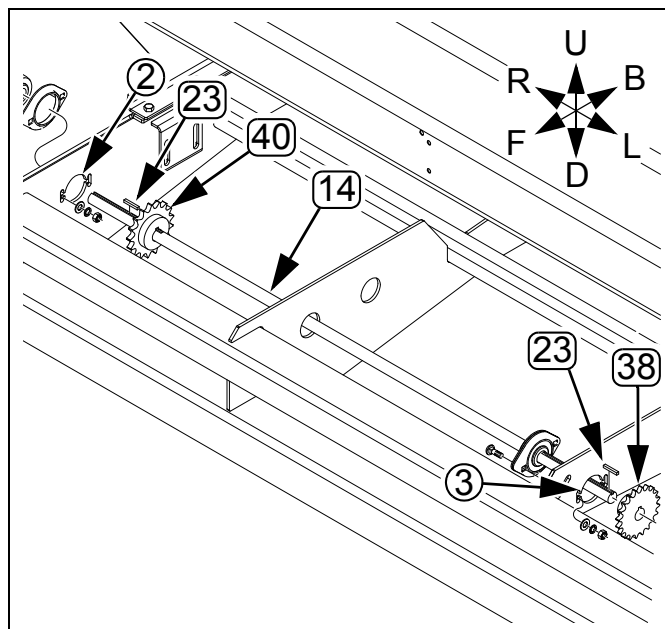


Figure 16
Install 3P/605/606NT Shaft

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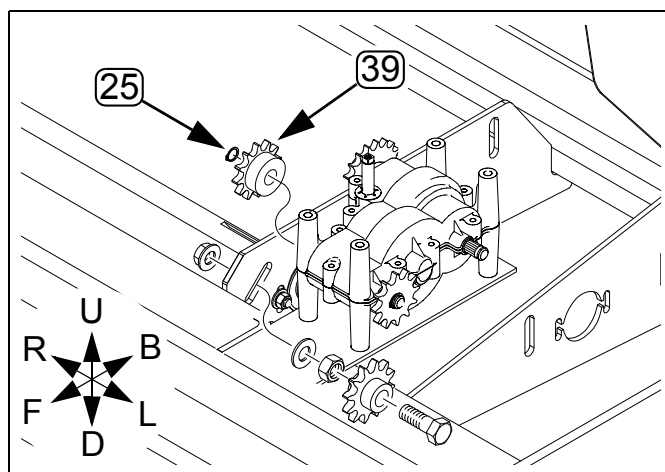


Figure 17
3P/605/606NT Gearbox Sprocket

18650

15 Install 3P/605/606NT Drive Idlers

15a. 3P/605/606NT Right-hand Idler

Refer to Figure 18

52. Select two sets new:
 - (28) 802-041C HHCS 1/2-13X3 1/2 GR5
 - (42) 817-025C NO. 40 12T IDLER SPKT.
 - (32) 803-036C NUT HEX JAM 1/2-13 PLT
 - (36) 804-017C WASHER FLAT 1/2 USS PLT
 - (33) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Place the idlers (42) on the bolt (28). Thread the jam nuts (32) all the way on, then back off one turn. Add the flat washer (36).

53. Using the flange lock nut (33), loosely secure each idler assembly to the idler weldment (4) at the right-hand side of the drill (near the new 17T sprocket (40)).
54. Select one new:
 - (23) 168-127D 3/16 X 1 KEY (not shown)

Adjust the position of the 17T sprocket (40) until the teeth are in the same rotational plane as those of the new idler (42). Insert the key (23) in the 17T sprocket. Secure the set screw in that sprocket.

15b. 3P/605/606NT Left-hand (Gearbox) Idler

55. Select the remaining 1/2IN bolt, one of:
 - (28) 802-041C HHCS 1/2-13X3 1/2 GR5
 - 802-045C HHCS 1/2-13X5 GR5
56. Select one set new:
 - (42) 817-025C NO. 40 12T IDLER SPKT.
 - (32) 803-036C NUT HEX JAM 1/2-13 PLT
 - (36) 804-017C WASHER FLAT 1/2 USS PLT
 - (33) 803-169C NUT HEX FLG. LOCK 1/2-13 PLT.

Place the idler (42) on the bolt (28). Thread the jam nut (32) all the way on, then back off one turn. Add the flat washer (36).

57. Using the flange lock nut (33), loosely secure the idler assembly at the right-hand side of the angled slot (5) forward of the new shaft input sprocket (38) (not shown in Figure 18).

Refer to Figure 16 on page 13

58. Select one new:
 - (23) 168-127D 3/16 X 1 KEY

Adjust the position of the 22T sprocket (38) until the teeth are in the same rotational plane as those of the new left-hand idler and the new gearbox sprocket (39). Insert the key (23) in the 22T sprocket. Secure the set screw in that sprocket.

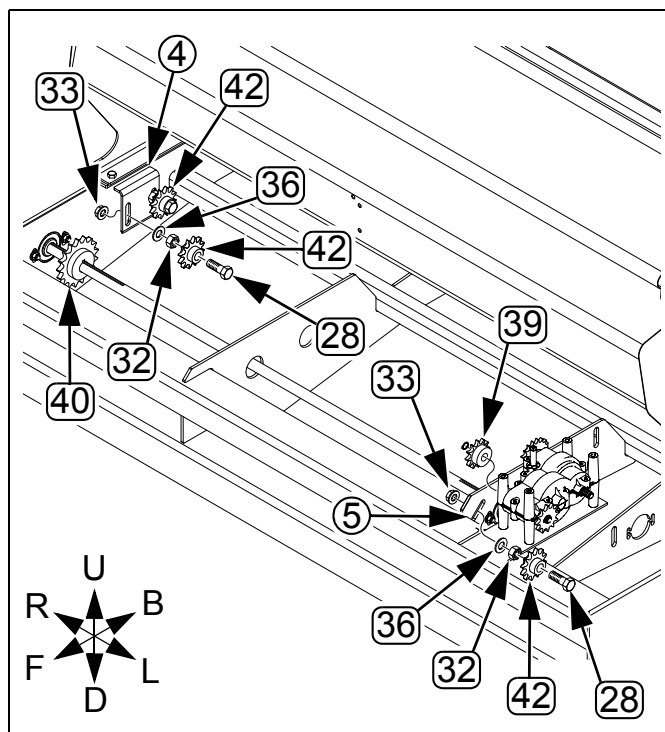


Figure 18
3P/605/606NT Idlers

18650

16 Install 3P/605/606NT Chains

 NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see “**Ordering Kits and Parts**” and “**Duplicate Parts**” on page 3.

Three new chains are installed to connect the gearbox to the Small Seeds meter shaft.

59. Review “**Chain Installation**” on page 21 before mounting chains.

Refer to Figure 19

16a.3P/605/606NT Gearbox to SGS Chain

60. Select the new gearbox chain, one of:
 (19) 136-057D CHAIN RL #40 42 PITCHES
 136-170D CHAIN RL #40 40 PITCHES

Route the chain around the new 12T gearbox sprocket (39), the new accessory shaft input sprocket (38), and above the new left-hand idler (42).

Adjust left-hand idler (42) for $\frac{1}{2}$ in (12mm) slack in the top span of chain (21).

16b.3P/605/606NT SGS Transmission Chain

61. Select the new transmission chain, one of:
 (22) 136-115D CHAIN RL #40 142 PITCHES
 136-163D CHAIN RL #40 217 PITCHES

Route the chain around the new accessory shaft output sprocket (40), around the final drive jackshaft input sprocket (6), above the new right-hand rear idler (42) and below the new right-hand front idler (42).

Adjust right-hand idlers (42) for 1in (2.5cm) slack in the top span of chain (22).

16c.3P/605/606NT SGS Final Drive Chain

62. Select one new:
 (18) 136-017D CHAIN RL #40 49 PITCHES

Route the chain around the final drive jackshaft output sprocket (7), around the final drive meter shaft input sprocket (8), and behind the final drive idler (9).

Adjust final drive idler (9) for $\frac{1}{4}$ in (6mm) slack in the rear span of chain (18).

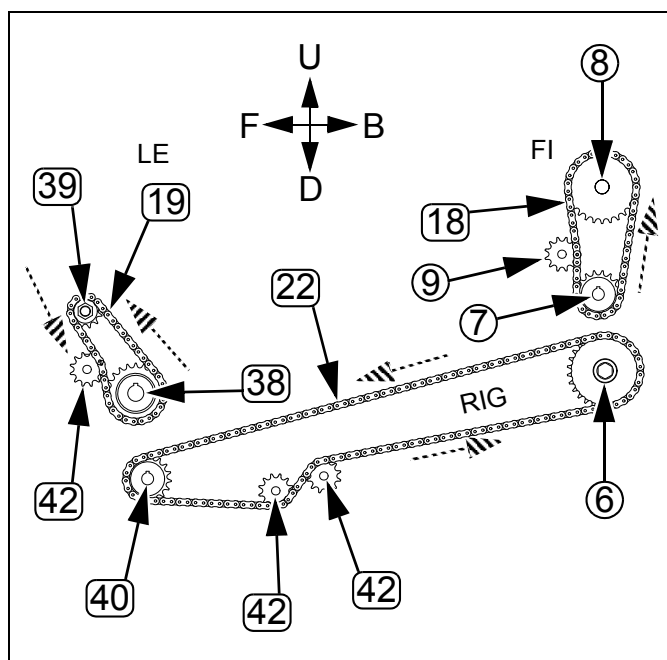


Figure 19
3P/605/606NT New Chain Routing

18653

Install Seed Delivery Hardware

Refer to Figure 20

63. Select one new per row:
 (13) 123-939H SMALL SEEDS TUBE
 WELDMENT
 and two per row:
 (27) 801-002C SCREW HEX SLT10-16X1/2P.TH
 CT

Insert a seed tube in the open hole directly ahead of the T-handle adjustment slot (1), in each opener frame. The seed tube may be pointed forward or back. Great Plains recommends angling the bent lower tube to face to the rear.

Secure each seed tube to each opener with the self-tapping screws.

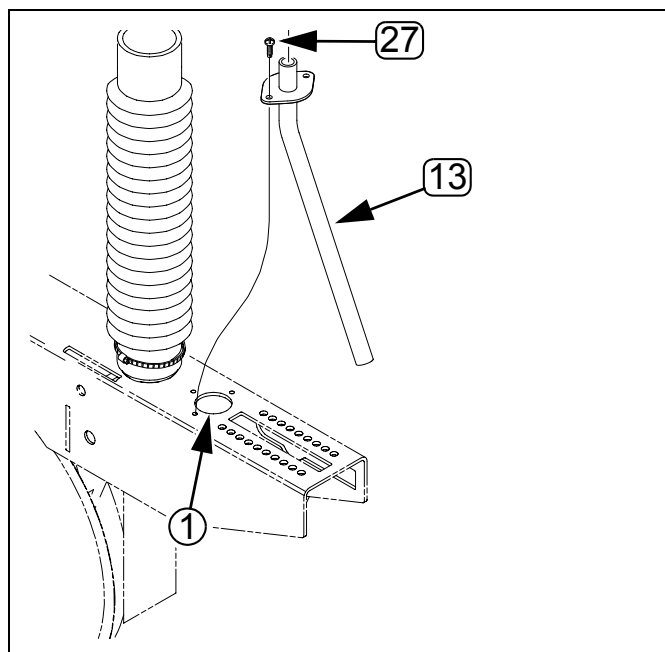


Figure 20
Seed Tube Installation

18721

16d.Seed Hose Installation

Refer to Figure 21

64. Start with row 1 (left-hand-most row), and work to the right-hand side, one row at a time, to assure correctly connecting each meter to its assigned row (row units are not necessarily directly below their meters).
65. Select one per row:
 (41) 816-513C SGS HOSE 85 RIBS
 and two per row:
 (26) 800-321C HOSE CLAMP NO.12 3/4 ID

Slide one clamp onto each end of the hose, about 2in (5cm) from the end of the hose.

Slide one end of the hose (41) fully onto the meter outlet (2). The end of the hose should touch the conical section of the meter.

Squeeze the clamp to release it, and slide the clamp to about 1/4in (6mm) from the end of the hose (or about the same distance above the end of the outlet). Release the clamp.

Slide the lower end of the hose fully over the exposed top of the small seeds delivery tube (13).

Squeeze the clamp to release it, and slide the clamp to about 1/2in (13mm) from the end of the hose (halfway between the bump and the flange). Release the clamp.

66. If the drill is not equipped with Native Grass, continue at step 69 on page 18.

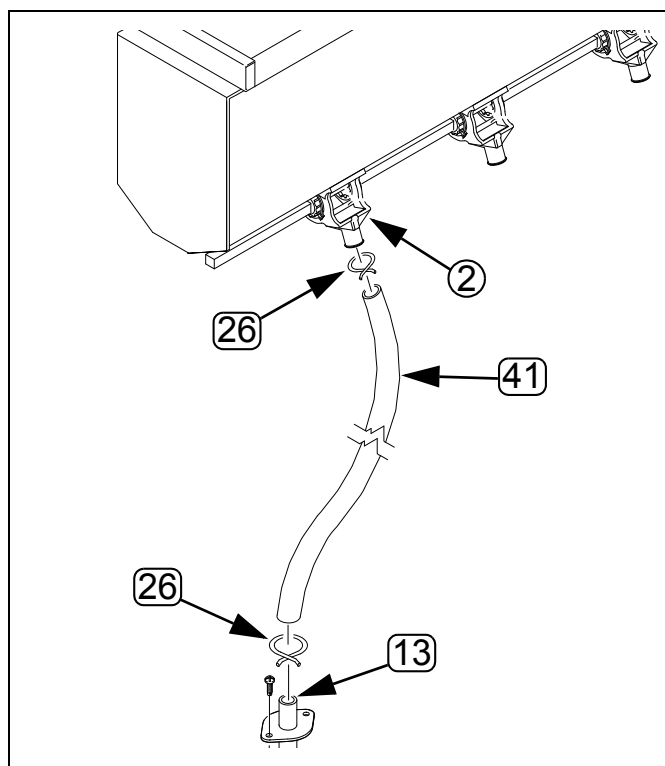


Figure 21
Seed Hose Installation


18721

17 Install Walkboard (NG only)

 NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see “**Ordering Kits and Parts**” and “**Duplicate Parts**” on page 3.

Refer to Figure 22

67. Select one new:

 119-274H** SEED,SGS,&NG

and eight sets saved:


 802-079C HHCS 3/8-16X1 1/4 GR5

 804-013C WASHER LOCK SPRING 3/8 PLT

 803-014C NUT HEX 3/8-16 PLT

Attach the new walkboard to the rear of the drill end panels. Insert bolts from outside.


68. Select two saved:

 119-192D* STEP

and four sets saved:

 802-091C HHCS 1/2-13X1 1/2 GR5

 804-015C WASHER LOCK SPRING 1/2 PLT

 803-020C NUT HEX 1/2-13 PLT

Attach the steps near the front of the new walkboards. Insert bolts from outside.

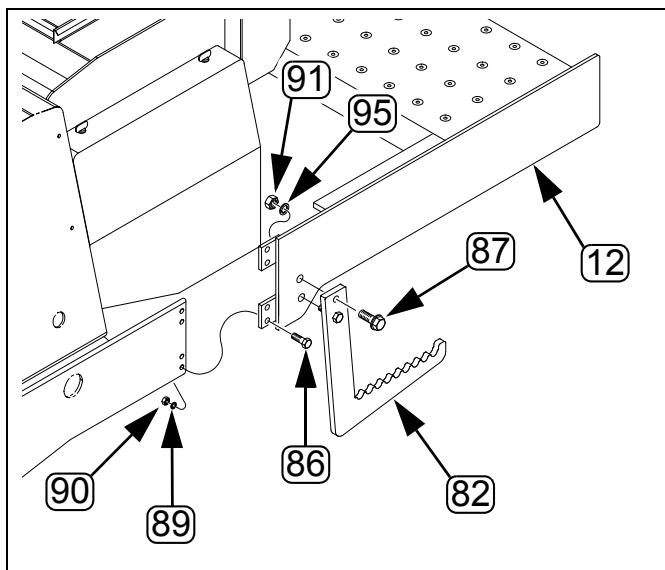


Figure 22
Install NG Walkboard

18717

Decals

18 Great Plains Drills

Refer to Figure 23

69. Select the decal from your kit, one of:

- ④⑤ 838-253C DECAL 3P500 (Great Plains)
- 838-202C DECAL 3P600 (Great Plains)
- 848-094C DECAL 606NT (Great Plains)
- 848-093C DECAL 3P606NT (Great Plains)

or one of these separately-ordered optional decals:

- ⑥⑦ 838-207C DECAL 605NT
- 838-203C DECAL 3P605NT

Clean and dry the right-hand rear face of the SGS box.

Determine the location for the decal, typically with:

lower edge aligned with top of the yellow stripe ①. Right-hand edge ② at the same distance from the right-hand end of the box as the left-hand edge ③ of the Great Plains logo is from the left end of the box.

Remove the release paper from the decal. Carefully apply the decal on the box. Smooth out any air bubbles, from center to edge of decal.

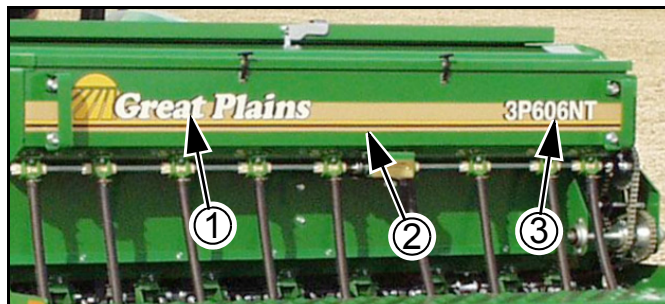


Figure 23
Model Decal

29465

19 Land Pride Drills

Refer to Figure 23

70. Select the decal from your kit, one of:

- ④⑤ 848-763C DECAL 3P500 (Great Plains)
- 838-765C DECAL 3P600 (Great Plains)
- 848-767C DECAL 606NT (Great Plains)
- 848-766C DECAL 3P606NT (Great Plains)

Clean and dry the right-hand rear face of the SGS box.

Determine the location for the decal ①.

Remove the release paper from the decal. Carefully apply the decal on the box. Smooth out any air bubbles, from center to edge of decal.

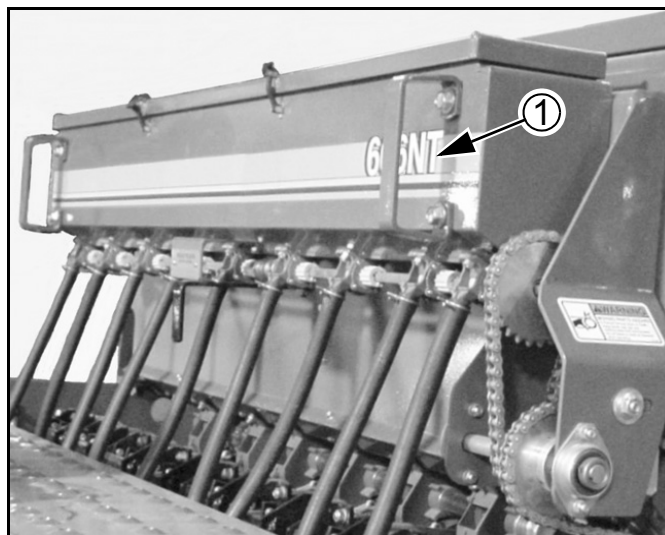


Figure 24
Model Decal

32752

SMV

Refer to Figure 25

71. If this is a Native Grass drill, locate the center of the new walkboard. Otherwise, use the same walkboard hole from which the SMV was removed at step 10.
72. Select one saved:
 - 96 890-153C SMV MOUNTING BLADE
 - and two sets saved set:
 - 85 802-007C HHCS 5/16-18X3/4 GR5
 - 93 804-009C WASHER LOCK SPRING 5/16 PLT
 - 89 803-008C NUT HEX 5/16-18 PLT

Re-install the still-assembled SMV at walkboard center.

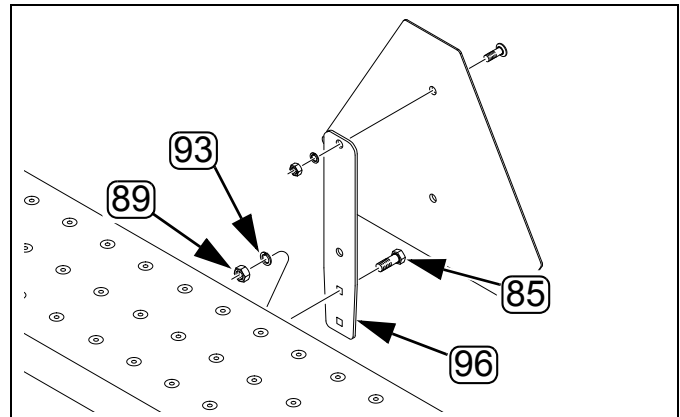


Figure 25
Re-mount SMV

18565

20 Check System Function

73. Lubricate new chains.
74. Hitch tractor.
75. Raise and lower drill, checking for excess tension or slack in new seed hoses.
76. Raise drill. Exercise the calibration procedure for the drill, checking for correct operation of all new sprockets and chains.

Small Seeds Operation

Make sure you have the latest Operator and Seed Rate manuals for your drill. Details of Small Seeds box adjustment and calibration are covered in the Seed Rate manual.

Small Seeds rate is set entirely by the rate handle on the new SGS box and is unaffected by the Drive Type setting used for the Main seed box.

Unless also metering from the Main box and/or Native Grass box at the same time, prevent wear by disconnecting chains, or reduce Main box wear by setting the Drive Type to 1.

Small Seeds Maintenance

21 Chain Installation

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

Refer to Figure 26 (arrow shows chain direction)

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

21a.Chain Slack

Check slack within the first 8 hours of operation and tighten idlers as necessary.

Refer to Figure 27, 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 36 in/91cm): $\frac{1}{4}$ inch per foot
Vertical short chains: $\frac{1}{4}$ inch per foot (2.1cm/m)
Horizontal short chains: $\frac{1}{2}$ inch per foot (4.2cm/m).
3. Measure the slack ② by acting at a right-hand angle to the chain span at the center of the span, and deflecting in both directions. The slack is the distance of the movement.
4. Adjust the idlers for ideal slack.

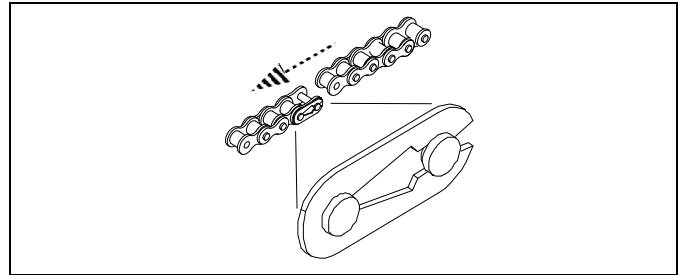


Figure 26
Chain Clip Orientation

26482

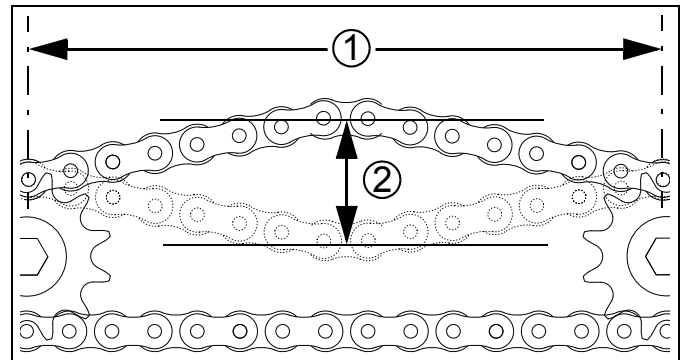
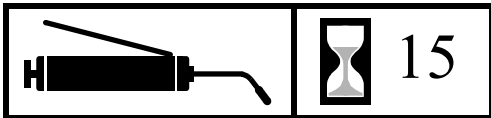


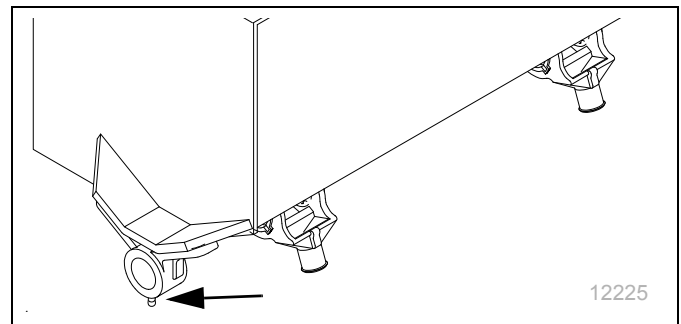
Figure 27
Measuring Chain Slack

27264

21b.Small Seeds Drive Sprocket Hanger Bearing



Type of Lubrication: Grease
Quantity: Until grease emerges



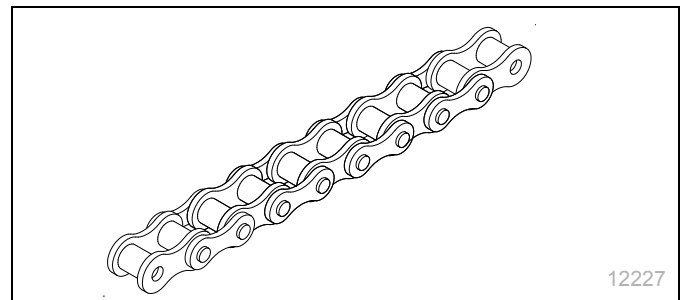
12225

21c.Drive Chains



This installation adds three (3) chains.

Type of Lubrication: Chain Lube
Quantity: Coat thoroughly.



12227


Appendix

22 New Parts

This manual covers the installation of several kits. Not all parts are in all kits.

Quantities are units (“ea”).

The part call-out numbers in this list match all Figures in these installation instructions. Part descriptions match those in your updated Parts Manual.

 NOTE: Part numbers with an * must be modified correctly in order to receive the correct color part. Before ordering kits or parts see “**Ordering Kits and Parts**” and “**Duplicate Parts**” on page 3.

23 Kit Contents

Call-out	Quantity in Kit 133-								Part Number	Part Description
	124A	131A	133A	134A	150A	151A	369A	370A		
(11)	1	1	1	1	1	1	1	1	133-140M	MANUAL 6" SMALL SEED INSTALL
(12)							1	1	119-274H*	SEED,SGS,&NG
(13)	9	9	11	9	9	7	9	9	123-939H	SMALL SEEDS TUBE WELDMENT
(14)			1	1					133-037D	SGS/AUXILLARY DRIVE SHAFT
(14)	1	1			1	1	1	1	133-052D	5' SGS DRIVE SHAFT
(15)	2	2	2	2	2	2	2	2	133-045D	SGS BOX SUPPORT STRAP
(16)	1	1		1			1	1	133-129L*	6' 7 1/2" SGS BOX ASSY
(16)			1						133-135L*	6' 6" SGS BOX ASSEMBLY
(16)					1				133-148L*	5' 6" SGS BOX ASSEMBLY
(16)						1			133-149L*	5' 7 1/2" SGS BOX ASSEMBLY
(17)	1	1	1	1	1	1	1	1	133-130K*	6' SGS DRIVER ASSY
(18)	1	1	1	1	1	1	1	1	136-017D	CHAIN RL #40 49 PITCHES
(19)		1					1		136-057D	CHAIN RL #40 42 PITCHES
(19)	1							1	136-170D	CHAIN RL #40 40 PITCHES
(20)			1	1	1	1			136-063D	CHAIN RL #40 94 PITCHES
(21)			1	1					136-104D	CHAIN RL #40 62 PITCHES
(21)					1	1			136-172D	CHAIN RL #40 63 PITCHES
(22)	1	1							136-115D	CHAIN RL #40 142 PITCHES
(22)							1	1	136-163D	CHAIN RL #40 217 PITCHES
(23)	2	2	2	2	2	2	2	2	168-127D	3/16 X 1 KEY
(24)	1	1	1	1	1	1	1	1	202-186D	NG/SGS BOX SPACER
(25)	1	1	1	1	1	1	1	1	800-141C	SNAP RING EXT F/PEERLESS G.B.
(26)	18	18	22	18	18	14	18	18	800-321C	HOSE CLAMP NO.12 3/4 ID
(27)	18	18	22	18	18	14	18	18	801-002C	SCREW HEX SLT10-16X1/2P.TH D CT
(28)	6	7	6	6	6	6	7	6	802-041C	HHCS 1/2-13X3 1/2 GR5
(28)	1							1	802-045C	HHCS 1/2-13X5 GR5
(29)	4	4	4	4	4	4	4	4	802-282C	RHSNB 5/16-18X1 GR5
(30)	4	4	4	4	4	4	4	4	803-008C	NUT HEX 5/16-18 PLT
(31)	4	4	4	4	4	4	4	4	803-020C	NUT HEX 1/2-13 PLT
(32)	3	3	2	2	2	2	3	3	803-036C	NUT HEX JAM 1/2-13 PLT
(33)	3	3	2	2	2	2	3	3	803-169C	NUT HEX FLG. LOCK 1/2-13 PLT.
(34)	4	4	4	4	4	4	4	4	804-009C	WASHER LOCK SPRING 5/16 PLT
(35)	4	4	4	4	4	4	4	4	804-015C	WASHER LOCK SPRING 1/2 PLT
(36)	3	3	2	2	2	2	3	3	804-017C	WASHER FLAT 1/2 USS PLT
(37)	4	4	4	4	4	4	4	4	804-036C	WASHER FLAT 5/16 SAE PLT
(38)	1	1	1	1	1	1	1	1	808-100C	SPKT 40B22 3/4B W/K.W. &SS
(39)	1	1	1	1	1	1	1	1	808-160C	SPKT 40B12 X 36T SPLINE BORE
(40)	1	1	1	1	1	1	1	1	808-170C	SPKT 40B17 X 3/4BORE W/KW&SS
(41)	9	9	11	9	9	7	9	9	816-513C	SGS HOSE 85 RIBS
(42)	3	3	2	2	2	2	3	3	817-025C	NO. 40 12T IDLER SPKT.
(43)	2	2	2	2	2	2	2	2	822-040C	BRG INS .75IDX1.85OD SPH LCK
(44)	4	4	4	4	4	4	4	4	822-041C	FLANGETTE 47 MST
(45)			1	1					838-202C	DECAL 3P600 (Great Plains)
(45)					1	1			838-253C	DECAL 3P500 (Great Plains)
(45)		1					1		848-093C	DECAL 3P606NT (Great Plains)
(45)	1							1	848-094C	DECAL 606NT (Great Plains)
(46)			1	1					838-756C	DECAL 3P600 (Land Pride)
(46)					1	1			838-763C	DECAL 3P500 (Land Pride)
(46)		1					1		848-766C	DECAL 3P606NT (Land Pride)
(46)	1							1	848-767C	DECAL 606NT (Land Pride)

24 Existing Parts Affected

The following existing parts are involved in the kit installation. The Disposition column indicates whether the part is left in place, moved or not re-used.

The part call-out numbers in the list matches all Figures in the installation instructions. The general descriptions match those in your drill Parts manual.

The part numbers are representative of parts found on older drills, but may not exactly match those on your drill. This is not a concern for undamaged parts re-installed or not re-used at all. If you need to replace any parts not in the kit, older the current part number called for in the latest Parts manual.




Callout	Typical Part No.	Typical Part Description	Part Disposition
(81)	119-190D	HANDLE	Removed and re-installed.
(82)	119-192D*	STEP	Re-installed if removed.
(83)	119-272H*	SEED & SGS MENT	Not re-used if removed.
(84)	133-045D	SGS BOX SUPPORT STRAP	Re-installed if removed.
(85)	802-007C	HHCS 5/16-18X3/4 GR5	Removed and re-installed.
(86)	802-079C	HHCS 3/8-16X1 1/4 GR5	Re-installed if removed.
(87)	802-091C	HHCS 1/2-13X1 1/2 GR5	Re-installed if removed.
(88)	802-203C	HFSS 1/2-13X1 1/2 GR5	Removed and re-installed.
(89)	803-008C	NUT HEX 5/16-18 PLT	Removed and re-installed.
(90)	803-014C	NUT HEX 3/8-16 PLT	Re-installed if removed.
(91)	803-020C	NUT HEX 1/2-13 PLT	Re-installed if removed.
(92)	803-169C	NUT HEX FLG. LOCK 1/2-13 PLT.	Removed and re-installed.
(93)	804-009C	WASHER LOCK SPRING 5/16 PLT	Removed and re-installed.
(94)	804-013C	WASHER LOCK SPRING 3/8 PLT	Re-installed if removed.
(95)	804-015C	WASHER LOCK SPRING 1/2 PLT	Re-installed if removed.
(96)	890-153C	SMV MOUNTING BLADE	Removed and re-installed.




25 Abbreviations

##T	Tooth count
3P	Three Point (hitch)
ASSY	Assembly
BRG	Bearing
F/	Fits
FLG	Flanged
G.B.	Gear Box
GR5	Grade 5
HEX	Hexagonal
HHCS	Hex Head Cap Screw (Bolt)
ID	Inside Diameter
INS	Inside
K.W.	Keyway
LCK	Lock (collar)
MST	Metric Spherical Two-hole

NG	Native Grass
NO.	Number
NT	No Till
OD	Outside Diameter
PLT	Plated
RHSNB	Round Head Shank Neck Bolt
SAE	Society of Automotive Engineers (std.)
SGS	Small Grass Seeds
SLT	Slotted
SPH	Spherical
SPKT	Sprocket
SS	Set Screw
THD CT	Thread Cutting (self-tapping)
USS	United States Standard (HD std.)
W/	with
X	by

26 Torque Values

Bolt Size in-tpi ^a	Bolt Head Identification					
						
	Grade 2	Grade 5	Grade 8			
	N-m ^b	ft-lb ^d	N-m	ft-lb	N-m	ft-lb
1/4-20	7.4	5.6	11	8	16	12
1/4-28	8.5	6	13	10	18	14
5/16-18	15	11	24	17	33	25
5/16-24	17	13	26	19	37	27
3/8-16	27	20	42	31	59	44
3/8-24	31	22	47	35	67	49
7/16-14	43	32	67	49	95	70
7/16-20	49	36	75	55	105	78
1/2-13	66	49	105	76	145	105
1/2-20	75	55	115	85	165	120
9/16-12	95	70	150	110	210	155
9/16-18	105	79	165	120	235	170
5/8-11	130	97	205	150	285	210
5/8-18	150	110	230	170	325	240
3/4-10	235	170	360	265	510	375
3/4-16	260	190	405	295	570	420
7/8-9	225	165	585	430	820	605
7/8-14	250	185	640	475	905	670
1-8	340	250	875	645	1230	910
1-12	370	275	955	705	1350	995
1 1/8-7	480	355	1080	795	1750	1290
1 1/8-12	540	395	1210	890	1960	1440
1 1/4-7	680	500	1520	1120	2460	1820
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

Bolt Size mm x pitch ^c	Bolt Head Identification					
						
	Class 5.8	Class 8.8	Class 10.9			
	N-m	ft-lb	N-m	ft-lb	N-m	ft-lb
M 5 X 0.8	4	3	6	5	9	7
M 6 X 1	7	5	11	8	15	11
M 8 X 1.25	17	12	26	19	36	27
M 8 X 1	18	13	28	21	39	29
M10 X 1.5	33	24	52	39	72	53
M10 X 0.75	39	29	61	45	85	62
M12 X 1.75	58	42	91	67	125	93
M12 X 1.5	60	44	95	70	130	97
M12 X 1	90	66	105	77	145	105
M14 X 2	92	68	145	105	200	150
M14 X 1.5	99	73	155	115	215	160
M16 X 2	145	105	225	165	315	230
M16 X 1.5	155	115	240	180	335	245
M18 X 2.5	195	145	310	230	405	300
M18 X 1.5	220	165	350	260	485	355
M20 X 2.5	280	205	440	325	610	450
M20 X 1.5	310	230	650	480	900	665
M24 X 3	480	355	760	560	1050	780
M24 X 2	525	390	830	610	1150	845
M30 X 3.5	960	705	1510	1120	2100	1550
M30 X 2	1060	785	1680	1240	2320	1710
M36 X 3.5	1730	1270	2650	1950	3660	2700
M36 X 2	1880	1380	2960	2190	4100	3220

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

b. N·m = newton-meters

c. mm x pitch = nominal thread diameter in mm x thread pitch



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