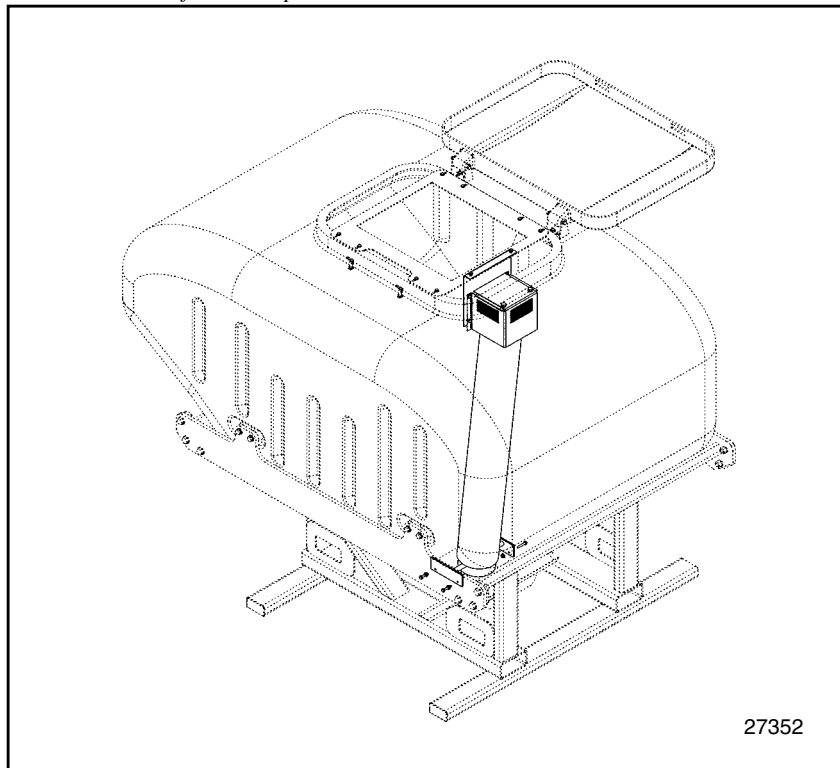


Installation Instructions

401-508A and 401-516A
Pressure Relief Kits
for 403-143K, 403-226K
and 403-174K Hoppers



Read the operator's 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 shows a 401-508A 82 bu kit installed in a 403-143K hopper.



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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.

Be Familiar with Safety Decals

▲ Read and understand “*Safety Reflectors and Decals*” in the Operator Manual.

▲ Read all instructions noted on the decals.



DANGER



WARNING



CAUTION



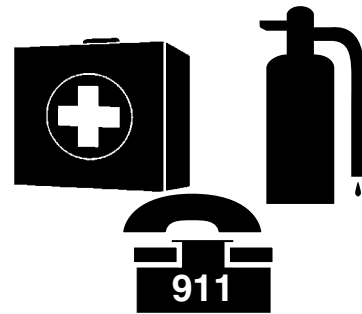
Practice Safe Maintenance

- ▲ *Understand procedure before doing work. Use proper tools and equipment. Refer to this manual for additional information.*
- ▲ *Work in a clean, dry area.*
- ▲ *Wear gloves when handling row cleaner tines.*
- ▲ *Make sure all moving parts have stopped and all system pressure is relieved.*
- ▲ *Inspect all parts. Make sure parts are in good condition and installed properly.*
- ▲ *Remove buildup of grease, oil or debris.*
- ▲ *Remove all tools and unused parts from implement before operation.*



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.*



Safety At All Times

- ▲ *Thoroughly read and understand the instructions in this manual before operation. Read all instructions noted on the safety decals.*
- ▲ *Be familiar with all implement functions.*
- ▲ *Operate machinery from the driver's seat only.*
- ▲ *Do not leave implement unattended with tractor engine running.*
- ▲ *Wear snug-fitting clothing to avoid entanglement with moving parts.*



Introduction

Description of Unit

These kits update older hoppers to the current pneumatic configuration, which includes a vertical pipe to equalize pressure at the top of the hopper and at the base of the seed mass. This allows the hydraulic fan to run at higher speeds, and provides more consistent seed flow at all pressures and seed delivery rates.

Document Family

401-514M Installation Instructions (this document)

Also update your Operator and Parts Manuals for correct information on fan operations with updated hoppers, and current replacement part data.

The information in this manual is current at printing. Some parts may change to assure top performance.

Kits Covered by this Manual

Part Number	Description
401-508A	YP 82 BU AIR RELEASE FLD KIT
401-516A	YP 150 BU AIR RELEASE FLD KIT

Each kit updates one hopper.

Hoppers Which May Be Updated

Part Number	Description	Use Kit
403-143K	82 bu, latch on left side	401-508A
403-226K	82 bu, latch on right side	401-508A
403-174K	150 bu, latches to center	401-516A

Inspect the hopper before ordering a kit. Only hoppers manufactured prior to late 2007 support this update kit. Hoppers made after that date have the vent tube components as standard equipment.

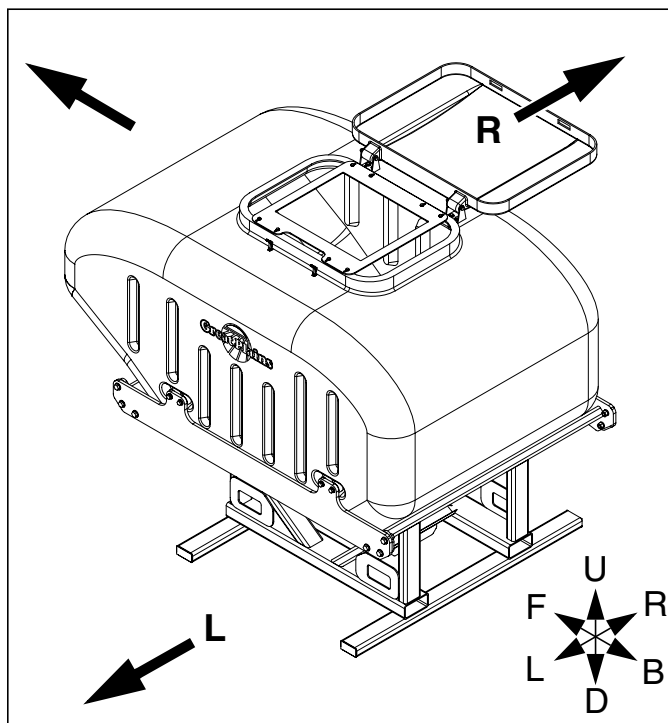


Figure 1:
403-143K Hopper

37353

Using This Manual

This manual familiarizes you with safety, assembly, operation, adjustments, troubleshooting, and maintenance. Read this manual and follow the recommendations to help ensure safe and efficient operation.

Call-Outs

- ① 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 ③④ Two-digit callouts in the range 11-34 reference new parts from the new parts lists beginning on page 16. The descriptions match those on the parts, cartons, bags or item tags, as well as descriptions your updated Parts Manual.
- ⑧⑤ to ⑧⑨ Two-digit callouts in the range 85-89 reference existing parts removed and reused.

Definitions

The following terms are used throughout this manual.

Note: Paragraphs in this format provide useful information related to the current topic.

IMPORTANT !

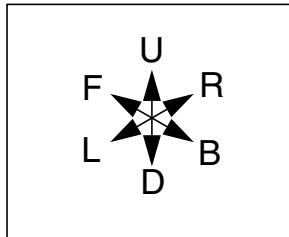
Paragraphs in this format present a crucial point of information related to the current topic. Read and follow the directions to:

- remain safe,
- avoid serious damage to equipment and
- ensure desired field results.

Refer to Figure 1 on page 3

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 (shown at right) depicts Up, Right, Back, Down, Left and Front.



Owner Assistance

If you need customer service or repair parts, contact a Great Plains dealer. They have trained personnel, repair parts and equipment specially designed for Great Plains products.

Your machine's parts were specially designed and should only be replaced with Great Plains parts.

Record your pressure relief kit model number here for quick reference:

Model Number: _____

Date Purchased: _____

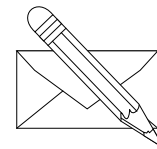
Your Great Plains dealer wants you to be satisfied with your updated machine. If you do not understand any part of this manual or are not satisfied with the service received, please take the following actions.

1. Discuss the matter with your dealership service manager. Make sure they are aware of any problems so they can assist you.
2. If you are still unsatisfied, seek out the owner or general manager of the dealership.

For further assistance write to:

Product Support

Great Plains Mfg. Inc., Service Department
PO Box 5060
Salina, KS 67402-5060



gp_web_cs@greatplainsmfg.com

785-823-3276



Installation Instructions

Before You Start

Most accidents are the result of negligence and carelessness, usually caused by failure of the operator to follow simple but necessary safety precautions. Allow no one to install the pressure relief kit before carefully reading this manual.

Some fasteners may be loosely assembled. Remove them before mounting that component. Due to evolving manufacturing practices, some assemblies may already be completely pre-assembled. If so, check that fasteners are tight, and skip the unneeded assembly steps.

Tools Required

- Basic hand tools, including a center punch and a fine tip indelible marker
- Portable drill with a 1/2 in (12mm) chuck
- Twist drill bits of sizes:
Bolt hole: 0.41 in, 13/32 in, Z, or 10.1 mm
Pilot hole: approx. 0.13 in, 1/8 in, #31, or 3.0 mm
- Measuring square
- Silicone sealant
- Blocks of supports for hopper
- Ladder

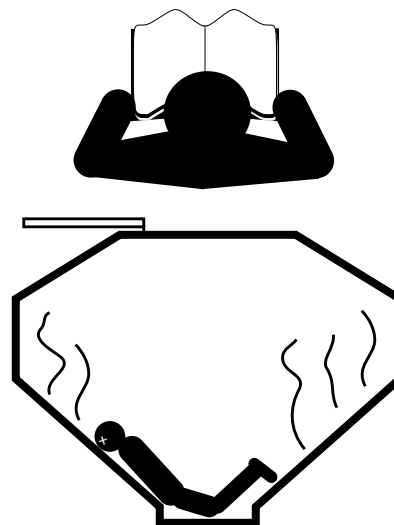
Torque values for fasteners are shown on page 15.

1. Read and understand “**Important Safety Information**” starting on page 1.

Prepare Hopper

Refer to Figure 2

2. Empty the hopper per the clean-out instructions in your Operator Manual. Remove the strainer basket(s) ① and leave the slide gate ② open.
3. From the walkboard (or a lift, if the hopper is dismounted), thoroughly pressure wash the inside of the hopper.
4. Allow the hopper to drain and dry.



WARNING

Possible Confined Space Hazard. Do not enter hopper. The instructions in this manual do not require hopper entry. A hopper that has been used may represent a Confined Space Hazard, due to low oxygen, high dust and/or chemical fumes.

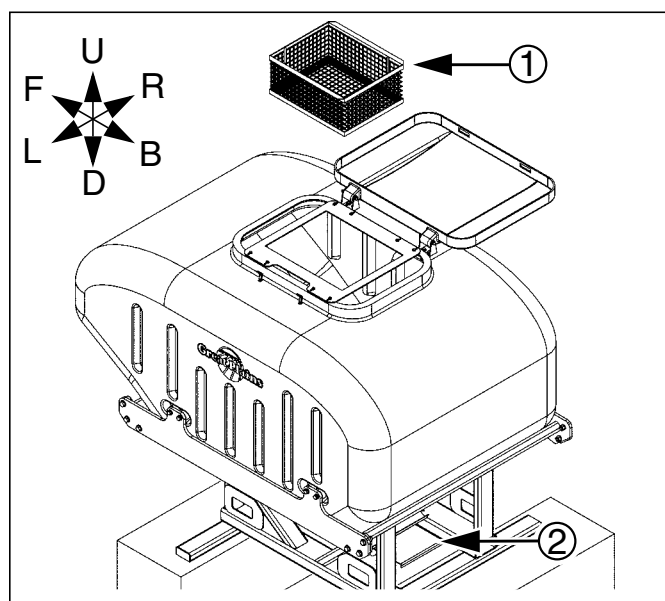


Figure 2:
Prepare Hopper

27354

Dismount Hopper

CAUTION

You will be handling the bottom components of the hopper, and any remaining moisture may contain residual seed treatments.

This update cannot be performed with a hopper cradled on a planter, as the planter airbox obstructs access from below. Consult the planter Operator manual for hopper removal instructions.

5. While waiting for the hopper to dry, prepare a suitable work location. Use a level, dry, well-lighted area. Pick a location with a clear surface beneath, so that any dropped tools or parts can be easily located.

For work access to the bottom of the hopper, the assembly needs to be raised at least 18in (46cm). One method, as shown in *Figure 3*, is to rest it on blocks or supports under the lateral tubes of the structure.

CAUTION

Use adequate supports.

Make sure each support can safely support at least 150% its apparent share of the weight. See step 6 for hopper weights. Do not perform this work in high wind.

CAUTION

Anchor the hopper laterally.

Make sure that workers on ladders at later steps cannot push or tip the hopper off the supports.

6. If the hopper to be updated is presently on a planter, use a suitably rated forklift or hoist to remove the hopper.

A 403-143K or 403-226K 82 bu hopper weighs 1200 pounds (544 kg) empty. Allow another 400 pounds (181 kg) for two workers and tools, for a total of 1600 pounds (726 kg).

A 403-174K 150 bu hopper weighs 1350 pounds (612 kg) empty. Allow another 400 pounds (181 kg) for two workers and tools, for a total of 1750 pounds (794 kg).

7. Place the hopper in the prepared work location.

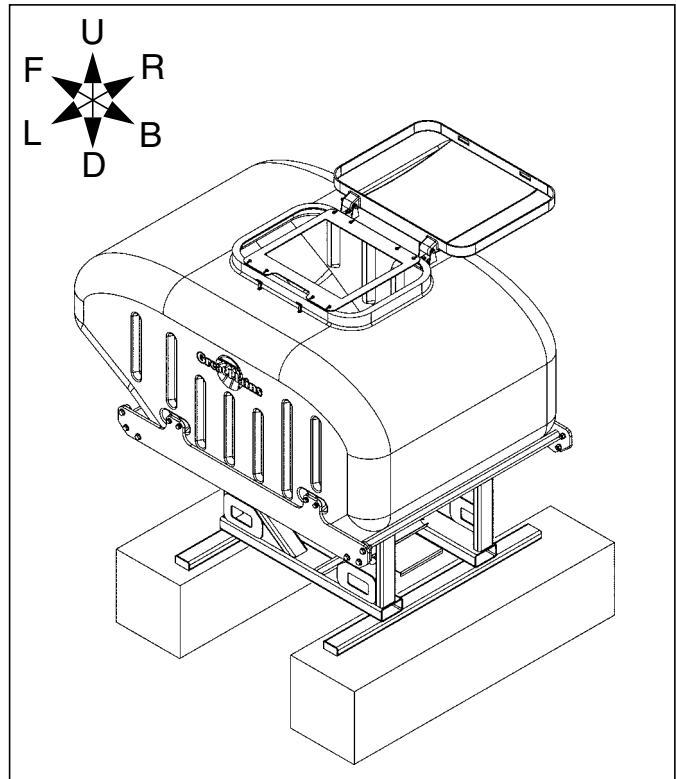


Figure 3:
Hopper on Blocks

27354

Remove Old Door Slide

The single center stop bolt of the existing door slide interferes with the lower weldment installed at step 11. Your kit includes a new door slide using two corner stop bolts.

Refer to Figure 4,

which depicts the water guard ① and door slide assembly ② disassembled from the hopper. It is not necessary to disassemble these components other than the door slide.

8. Pull the old slide door ⑧2 403-234D BULK HOPPER UNLOAD DOOR (single stop bolt hole) halfway open, to provide access to the nut and bolt.
9. Remove and save one each:
 - ⑧3 802-004C HHCS 1/4-20X3/4 GR5
 - ⑧7 803-088C NUT HEX LOCK 1/4-20 FLG
10. Remove the old slide door ⑧2. It is not reused.

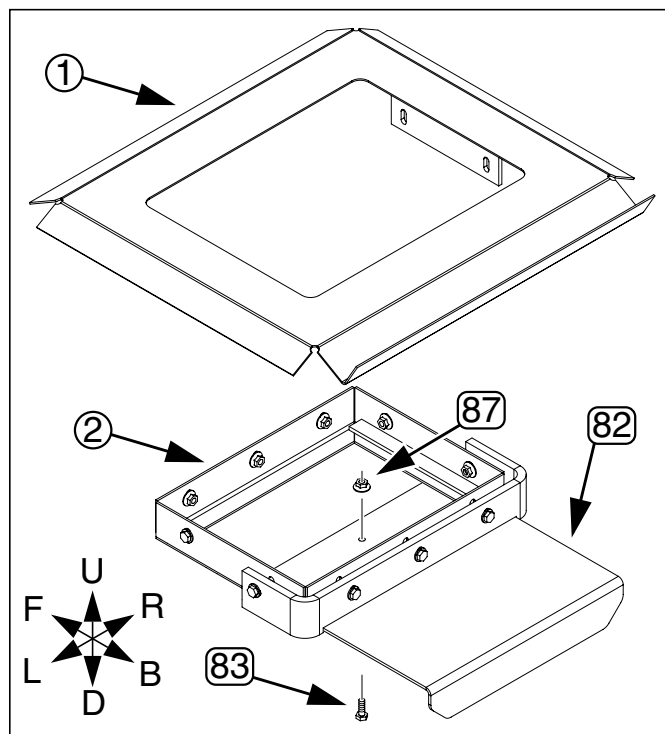


Figure 4:
Remove Old Door Slide

27376

Install Bottom Weldment

Installation of this part is the same for both 82 bu and 150 bu hoppers.

Refer to Figure 5

11. Select one new:

⑬ 403-241H LOWER AIR PIPE SUPPORT 82 YP

Note: This part is not symmetrical, and must be installed in the correct orientation. Inspect it and note:

The longer end of the large center tube ① is the top, and points Up when installed. The holes ② on the bracket bar are toward the bottom (Down).

With the top Up, the larger tube tilts Back, and the longer ends of the bracket bars are Forward.

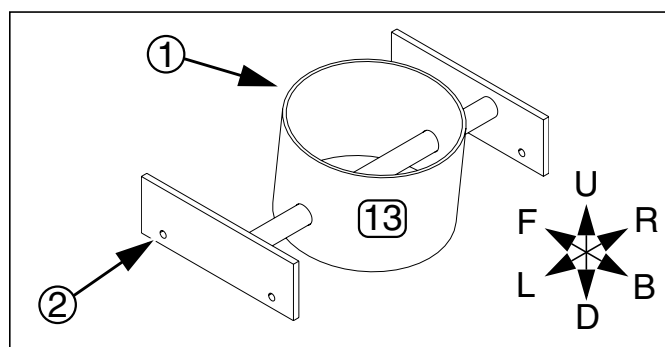


Figure 5:
⑬ 403-241H Lower Weldment

27356

Refer to Figure 6, which depicts (top to bottom):

- ⑬ the new weldment,
- ③ the water guard,
- ④ the door slide assembly with
- ⑧⑤, 2x⑧⑨, ⑧⑦ forward fasteners and
- ⑧⑥, 2x⑧⑨, ⑧⑦ rear fasteners.

12. Remove and save the side fasteners in the door guide assembly. This is: two sets forward:

- 1 ⑧⑤ 802-167C HHCS 1/4-20X1 1/2 GR5
 - 1 ⑧⑦ 803-088C NUT HEX LOCK 1/4-20 FLG
 - 2 ⑧⑨ 804-007C WASHER FLAT 1/4 SAE PLT
- two sets rear:
- 1 ⑧⑥ 802-370C HHCS 1/4-20X1 3/4 GR5
 - 1 ⑧⑦ 803-088C NUT HEX LOCK 1/4-20 FLG
 - 2 ⑧⑨ 804-007C WASHER FLAT 1/4 SAE PLT

Note: Remove only the side fasteners, and no fasteners on the front or rear faces of the door slide frame.

13. Orient the lower air pipe weldment ⑬ as necessary to pass it up through the door slide frame ④.
14. Re-orient ⑬ top-Up/tilt-Back as shown, and align the holes ② on the bracket bar with the holes in the water guard and door slide frame. Hold it temporarily with the four removed bolts (⑧⑤ and ⑧⑥).
15. Check that the correct bolts are in their proper holes (longer bolts to Back). Remove each bolt. Place a flat washer ⑧⑨ on it.
16. Apply silicone sealant to the washer and underside of bolt head.
17. Re-insert bolt. Add a second washer ⑧⑨ inside frame, and a nut ⑧⑦. Tighten.

Install New Door Slide

Refer to Figure 7.

Note that either bolt may be used in either hole, and either nut may be used on either bolt.

18. Select one set new:
- ①⑦ 802-004C HHCS 1/4-20X3/4 GR5
 - ②⑨ 803-088C NUT HEX LOCK 1/4-20 FLG
- Note that these are identical to the saved bolt ⑧③ and nut ⑧⑦ removed in step 9.
19. Select one new:
- ⑫ 403-234D BULK HOPPER UNLOAD DOOR (new, with two stop bolt holes)
20. With the bent lip down, insert the new door slide ⑫ into the door frame ② about halfway.

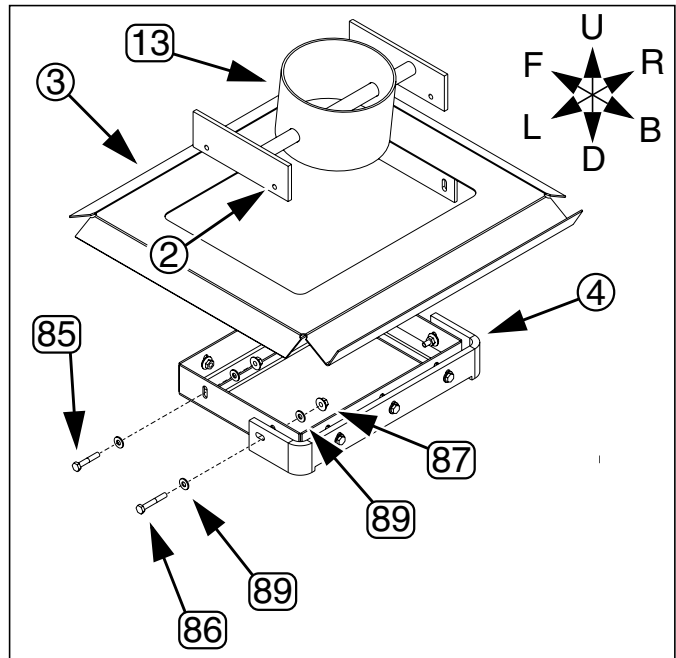


Figure 6:
Lower Hopper Components

27355

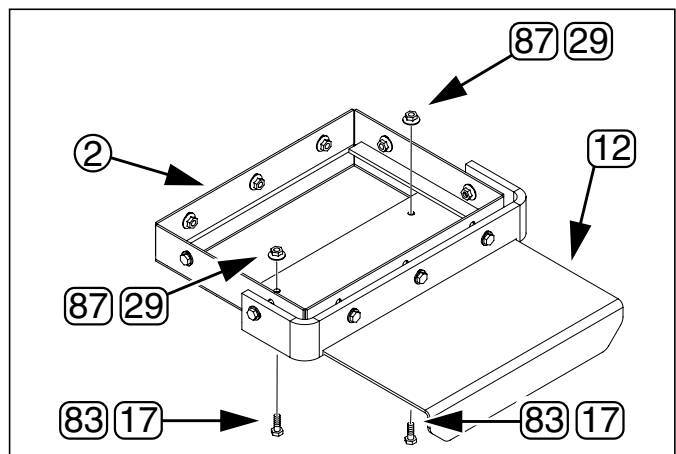


Figure 7:
Install New Door Slide

27377

21. Insert a ①⑦ or ⑧③ HHCS 1/4-20X3/4 GR5 bolt into each stop bolt hole from below, and secure it with a ②⑨ or ⑧⑦ NUT HEX LOCK 1/4-20 FLG.
22. Pull the door slide ⑫ fully open so that any debris from later steps can fall out of the hopper.

Assemble Upper Pipe Support

Assembly of this part, if necessary, is the same for 82 bu and 150 bu hoppers, up to step 30.

Refer to Figure 8

If this component

(14) 403-242S UPPER PIPE SUPPORT WELDMENT appears to be pre-assembled, skip to step 29.

23. Select one each new:

- (16) 403-408D AIR TRANSFER TUBE CAP
- (24) 816-245C RUBBER GUARD REAR CTR. OUTER and two sets new:
- (18) 802-080C HHCS 7/16-14X1 GR5
- (20) 803-015C NUT HEX 7/16-14 PLT
- (22) 804-014C WASHER LOCK 7/16 PLT
- (23) 804-041C WASHER FLAT 7/16 SAE PLT

24. Place the lock washers (22) on the bolts (18).

25. Insert the rubber guard (24) in the slot at the top of the tube cap (16) and capture it with the bolts. Secure the bolts with flat washers (23) and nuts (20).

26. Select one new:

- (15) 403-407D BRACKET and four sets new:
- (17) 802-004C HHCS 1/4-20X3/4 GR5
- (19) 803-006C NUT HEX 1/4-20 PLT
- (21) 804-006C WASHER LOCK SPRING 1/4 PLT

27. Place the lock washers (21) on the bolts (17).

28. Position the bracket (15) on the open front end of the cap (16), with the break on top and facing the cap. Secure with the four bolts and nuts (19).

29. If you are updating an 82 bu hopper, the upper support is complete and ready for installation. Skip to step 39 on page 11.

Attach 150 bu Angle Brackets

Refer to Figure 9

30. Select two each:

- (27) 802-017C HHCS 3/8-16X1 GR5
- (28) 803-014C NUT HEX 3/8-16 PLT
- (30) 804-013C WASHER LOCK SPRING 3/8 PLT
- (31) 403-409D BRACKET ANGLE WITH HOLES

31. Loosely assemble the angle brackets (31) to the cap bracket (15) through the center holes of the angle brackets. Orient the angle bends to the inside.

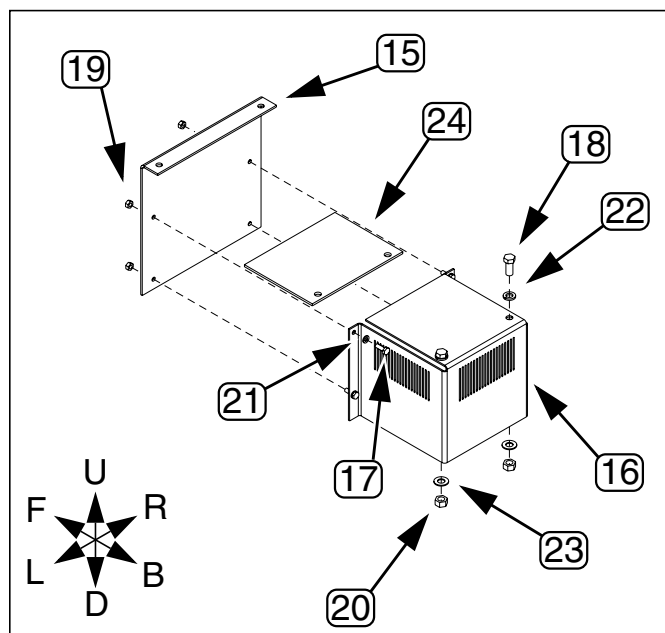


Figure 8:
(14) Upper Pipe Support

27357

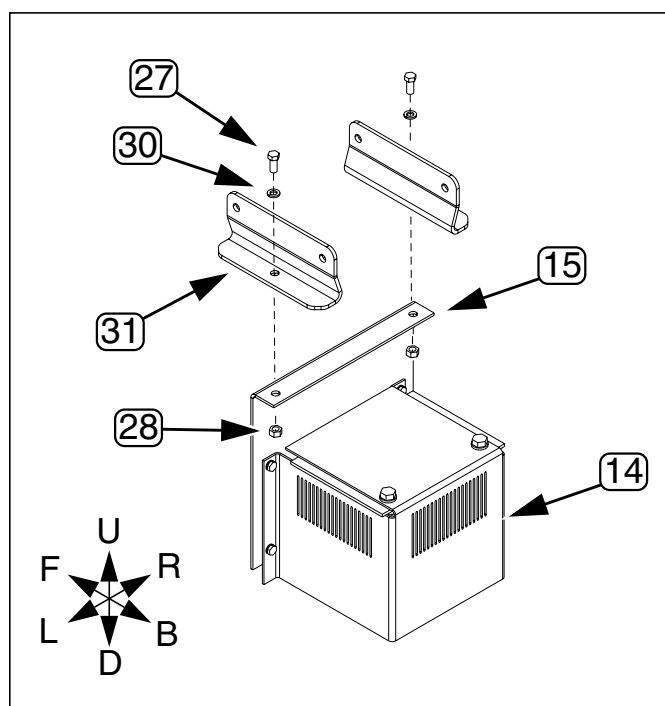


Figure 9:
150 bu Angle Brackets

27358

Install 82 bu Upper Components

If you are updating a 150 bu hopper, use the instructions at “Install 150 bu Upper Components” on page 12.

Remove Support for Drilling

Refer to Figure 10

The new upper pipe support for an 82 bu hopper mounts on the existing strainer basket support (81), which normally will not already have holes for this purpose. Follow step 32 through step 38 to prepare the support.

32. Remove and save eight sets of:

(84) 802-005C HHCS 1/4-20X1 GR5

(89) 804-007C WASHER FLAT 1/4 SAE PLT

(88) 803-230C NUT HEX FLANGE 1/4-20 PLT

33. Remove the:

(81) 403-332D HOPPER STRAINER BASKET SUPPORT

Note: The support (81) has a notch (1), which must be on the latch side of the hopper opening. The latch is: on the left for a 403-143K 82bu hopper, on the right for a 403-226K 82 bu hopper, and: toward the center for a 403-174K 150bu hopper.

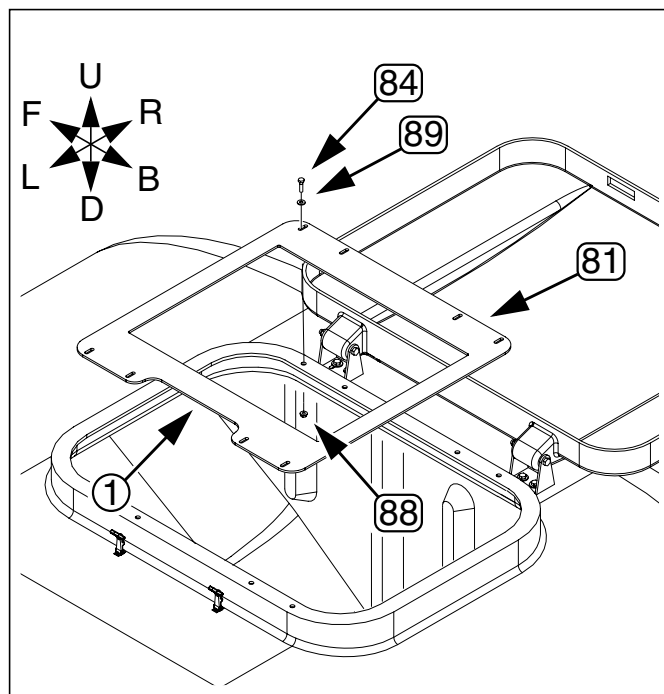


Figure 10:
Remove Strainer Support

27382

Mark Holes and Drill

34. Mark holes on the back span of strainer support (81) at the following dimensions:

Latch-side edge to latch-side hole:

(A) 8.25in, 8¹/₄in, 20.96cm

Latch-side hole to hinge-side hole:

(B) 9.00in, 22.86cm

Rear edge to hole center-line

(C) 1.00in, 2.54cm

Hole diameter is:

(H) 0.41in, 1³/₃₂in, 10.4mm

Alternate reference dimensions:

(D) 17.25in, 17¹/₄in, 43.82cm (L. edge to L. hole)

(E) 1.81in, 1¹³/₁₆in, 4.60cm (back span width)

(F) 0.81in, 1³/₁₆in, 2.06cm (inside to hole c/l)

35. Check hole marking with (not shown):

(15) 403-407D BRACKET (part of upper support (14))

36. Drill pilot holes, then final holes.

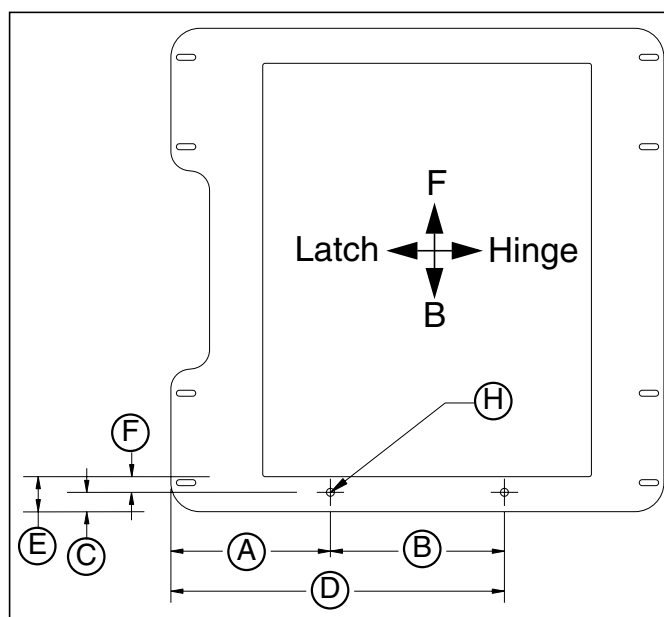


Figure 11:
Strainer Support (81) Holes

27381

Re-Install Strainer Support

Refer to Figure 12 (which depicts a 403-143K hopper)

37. Select the eight sets of saved:

- 84 802-005C HHCS 1/4-20X1 GR5
- 89 804-007C WASHER FLAT 1/4 SAE PLT
- 88 803-230C NUT HEX FLANGE 1/4-20 PLT

38. Position the drilled strainer support 81 with the notch to the hopper latch side and the new holes to the rear. Place a washer 89 on each bolt 84. Insert bolt from above and secure with nut 88.

Position Air Pipe

39. With the upper pipe support 14 at hand, select one new:

- 25 403-403D 82 BU AIR PRESSURE PIPE and two sets of:
- 27 802-017C HHCS 3/8-16X1 GR5
- 30 804-013C WASHER LOCK SPRING 3/8 PLT
- 28 803-014C NUT HEX 3/8-16 PLT

40. Insert the pipe into the hopper and slide it over the lower pipe support weldment. Temporarily lean it against the back of the hopper.

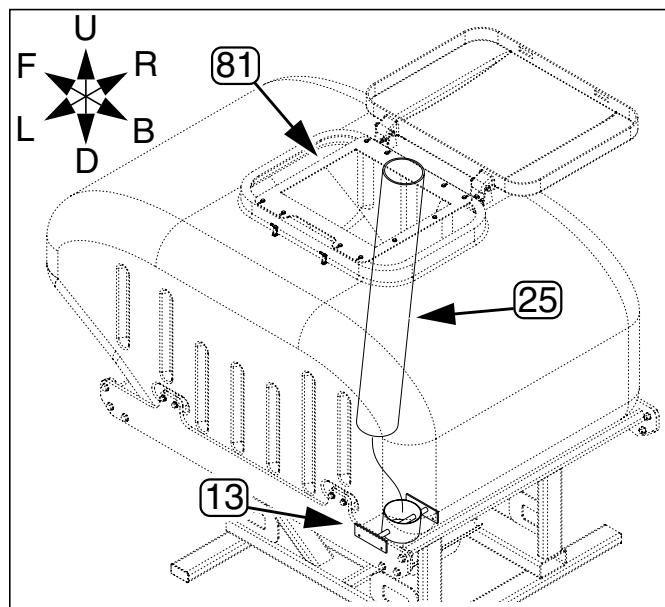


Figure 12:
Insert 82 bu Pipe

27363

Install Upper Pipe Support

Refer to Figure 13

41. With the bolts 27 at hand, swing the pipe 25 back into the opening, place the upper support 14 on the pipe, with the bracket forward.
42. Swing the pipe and support to the back of the hopper, so that the bracket edge is under the rear span of strainer support 81.
43. Align the holes in the two brackets and secure them with the bolts 27, washers 30 and nuts 28.
44. Skip to "Closeout" on page 14.

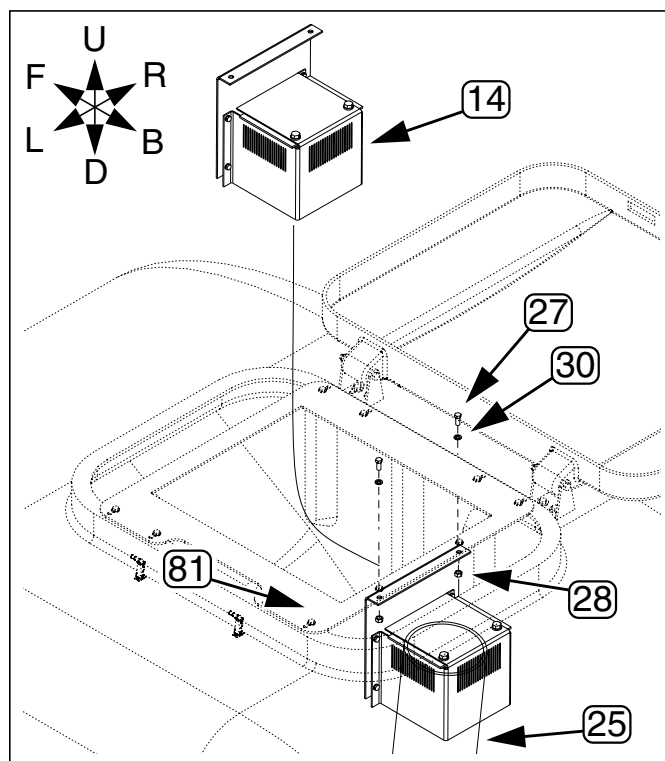


Figure 13:
Install Upper 82 bu Support

27365

Install 150 bu Upper Components

If you are updating an 82bu hopper, use the instructions at “Install 82 bu Upper Components” on page 10.

Refer to Figure 14

In the 150 bu hopper, the upper tube support mounts to the stiffener rib molded into the hopper. Four holes, two each side, need to be drilled.

This work is most easily accomplished from the walk-board, while the hopper is on the planter.

Refer to Figure 15,

which depicts a view from the right side above a view from the rear. The eventual location of top tube support (14) is shown in dotted line, and the angle bracket (31) shown in dashed line.

Hole locations are in the side walls of the center stiffener rib. Measurements are referenced from:

- ① front face, rear lip of tank top openings
- ② underside of center stiffener rib

After installation, the bottom edge of the angle bracket (31) is flush with the underside of the center stiffener rib.

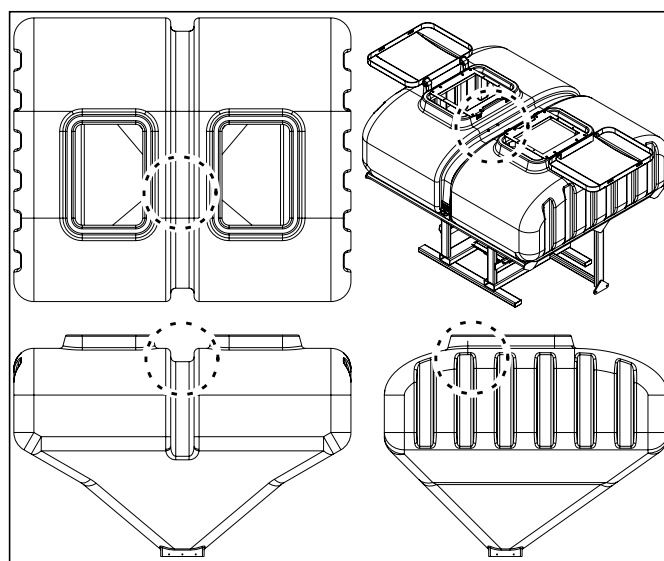


Figure 14:
150 bu Hopper Drill Region

27359

Mark Holes for Drilling

45. Holes are above the underside of center stiffener rib:

- Ⓐ 2.28in, 2⁹/₃₂in, 5.79cm

46. The rear holes are located forward of the lip at:

- Ⓑ 7.02in, 7¹/₆₄in, 17.82cm

47. The front holes are forward of the rear holes by:

- Ⓒ 5.50in, 5¹/₂in, 13.97cm

For reference, the total distance from the lip to the forward holes is:

- Ⓔ 12.52in, 12³³/₆₄in, 31.79cm

48. Mark the hole centers. Hole diameter is:

- Ⓗ 0.41in, 1³/₃₂in, 10.4mm

49. Use a 16in (41cm) straight edge to mark a line between the hole centers, and about 2in (5cm) on either side.

Note: Depending on the hopper and part tolerances, these may not be the final hole positions. The final holes are marked and drilled beginning at step 53.

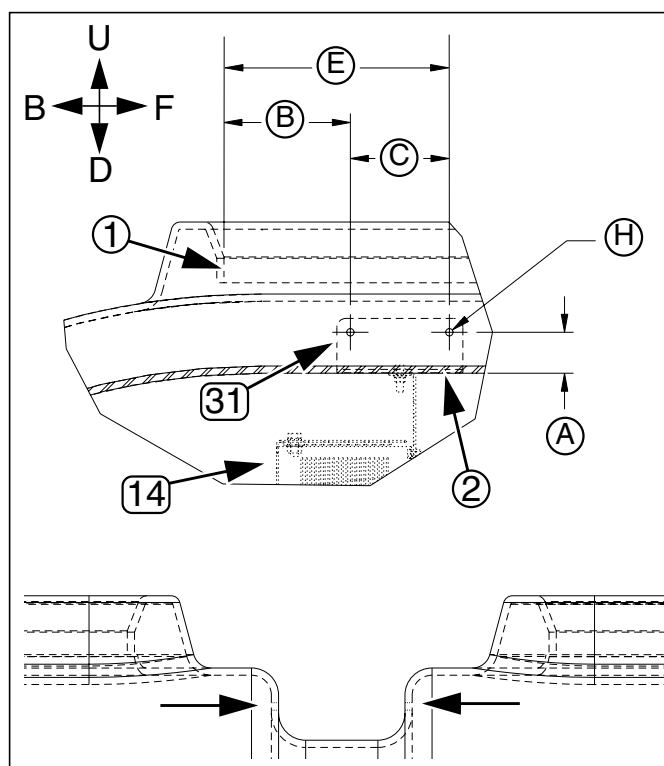


Figure 15: Side / Rear View
150 bu Drill Holes

27360

Insert Pipe in Hopper

Refer to Figure 16

50. Select one new:

③② 403-427D 150 BU AIR PRESSURE PIPE

51. Insert the pipe ③② into the hopper and slide it over the lower pipe support weldment. Have a second worker hold it, or temporarily lean it against the back of the hopper.

Cap and Position Pipe

52. Select the:

①④ 403-242S UPPER PIPE SUPPORT WELDMENT with the angle brackets ③① loosely attached.

Refer to Figure 17

53. Place the cap assembly ①④ on top of the pipe ③② and maneuver it so that the four holes in the angle brackets ③① align with the marks for the holes to be drilled. It may be necessary to temporarily remove one angle bracket in some cases.

If all four holes cannot be aligned, align to the forward holes. If both left and right side forward holes cannot be aligned, use the left forward hole.

54. Make sure the angle bracket bolts are finger tight, and make final marks for drilling. Fore-and-aft location of the holes is not critical, but if a hole needs to be re-marked, make sure the vertical position is on the centerline marked at step 49.

Drill 150 bu Holes

These holes need to be drilled from the inside, as the exterior channel of the stiffener rib is not wide enough for most portable drills.

55. Swing the pipe assembly clear.

56. Drill pilot holes. Re-check hole placement and drill final holes.

57. Sweep out any drill swarf that might eventually clog a seed meter.

IMPORTANT !

If any error is made in hole drilling, close the hole with a $\frac{5}{16}$ in or 8mm bolt, washers and nut, coated with silicone sealant. A hole left open adversely affects seed delivery.

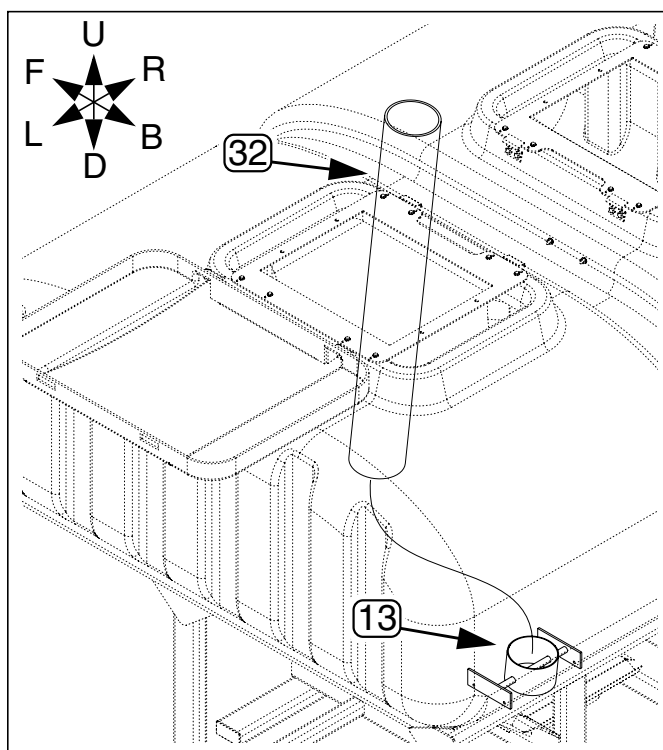


Figure 16:
Insert 150 bu Pipe

27364

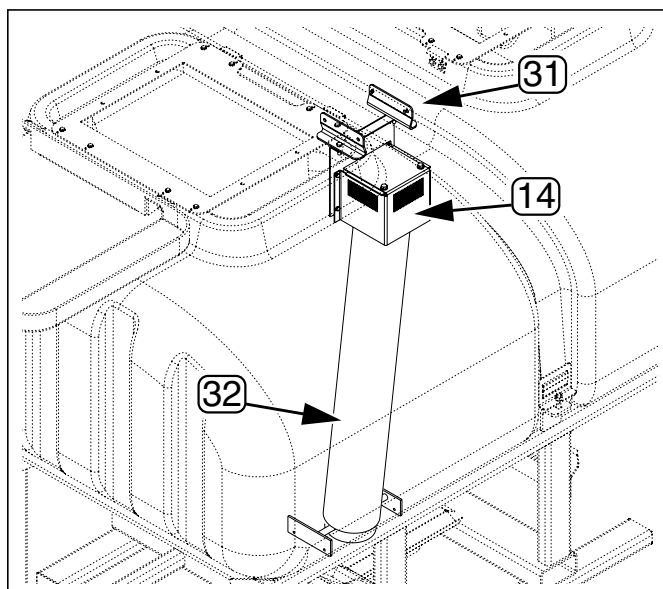


Figure 17:
Position 150 bu Pipe

27366

Attach Upper 150 bu Support

Refer to Figure 18

58. Select four sets of new:

③③ 802-079C HHCS 3/8-16X1 1/4 GR5

③④ 803-209C NUT FLANGE LOCK 3/8-16 PLT

59. Loosen the bolts ②⑦ holding the angle brackets, and apply silicone sealant around the holes in the hopper. Re-position the angle brackets at the holes and loosely re-tighten bolts ②⑦.

60. Apply silicone sealant to the underside of bolt heads ③③, and insert them from the inside of the hopper, through the angle brackets and hopper. Secure with flange lock nuts ③④.

61. When all four flange lock nuts ③④ are tight, tighten bolts ②⑦.

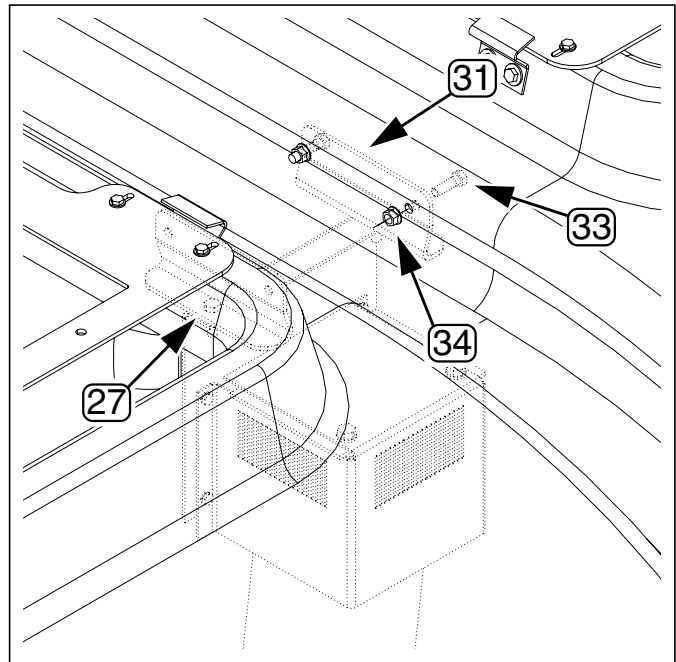


Figure 18:
Attach 150 bu Upper Support

27367

Closeout

62. Re-install strainer(s).

63. Close lid(s).

64. Close door slide.




65. Re-mount hopper on planter (if next use will rely on hopper rather than bulk seed box).




66. Obtain an updated Operator Manual for your planter. Review sections on fan and hopper operations, as recommended fan speeds are higher for updated hoppers.



Appendix

Torque Values

Bolt Size	Bolt Head Identification					
						
	Grade 2		Grade 5		Grade 8	
in-tpi ¹	N-m ²	ft-lb ³	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
1 ¹ / ₂ -12	1330	980	2970	2190	4820	3560

Bolt Size	Bolt Head Identification					
						
	Class 5.8		Class 8.8		Class 10.9	
mm x pitch ⁴	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

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

2. N·m = newton-meters

3. ft-lb = foot pounds

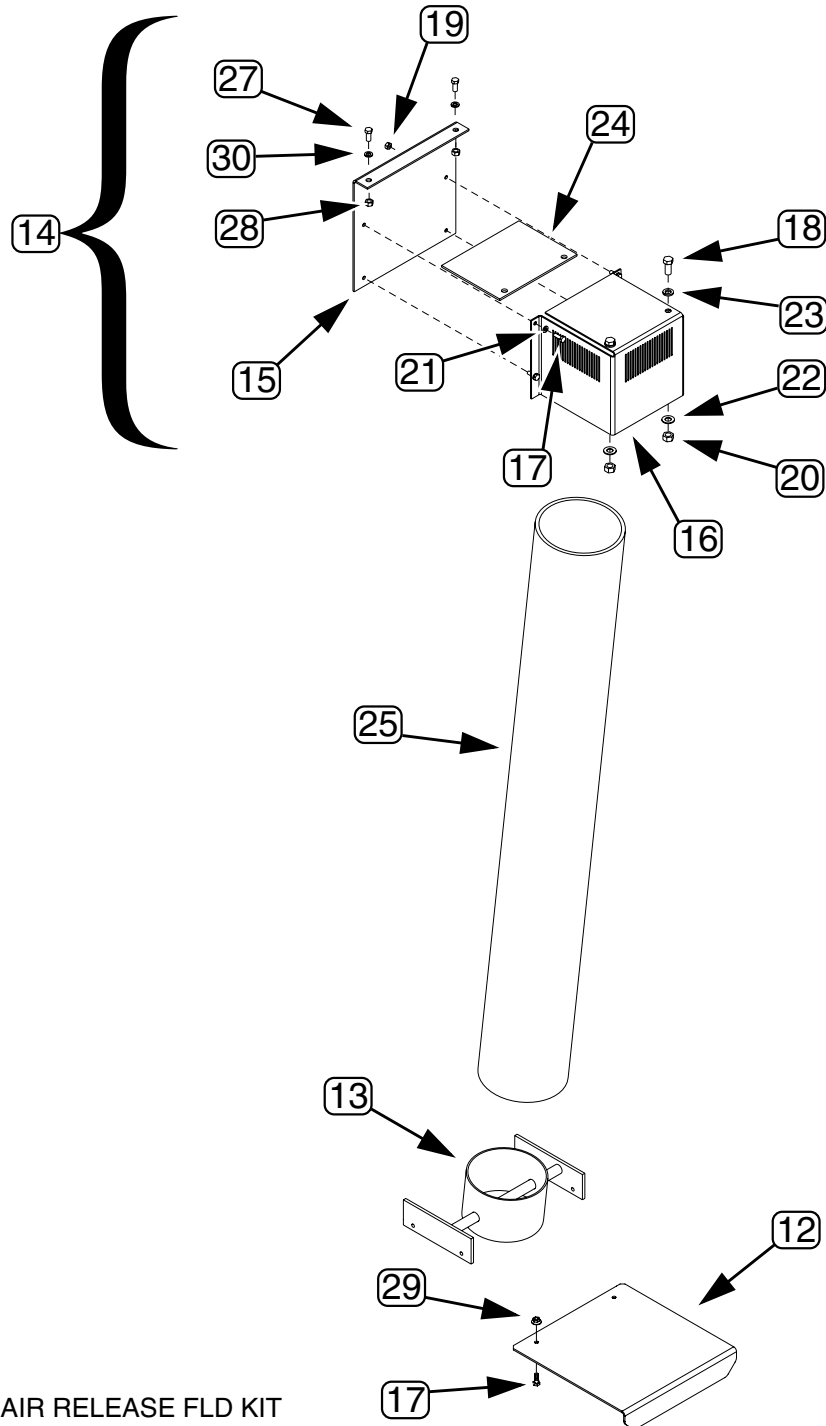
4. mm x pitch = nominal thread diameter in millimeters x thread pitch

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

Parts Lists

401-508A 82 bu Pressure Release Kit

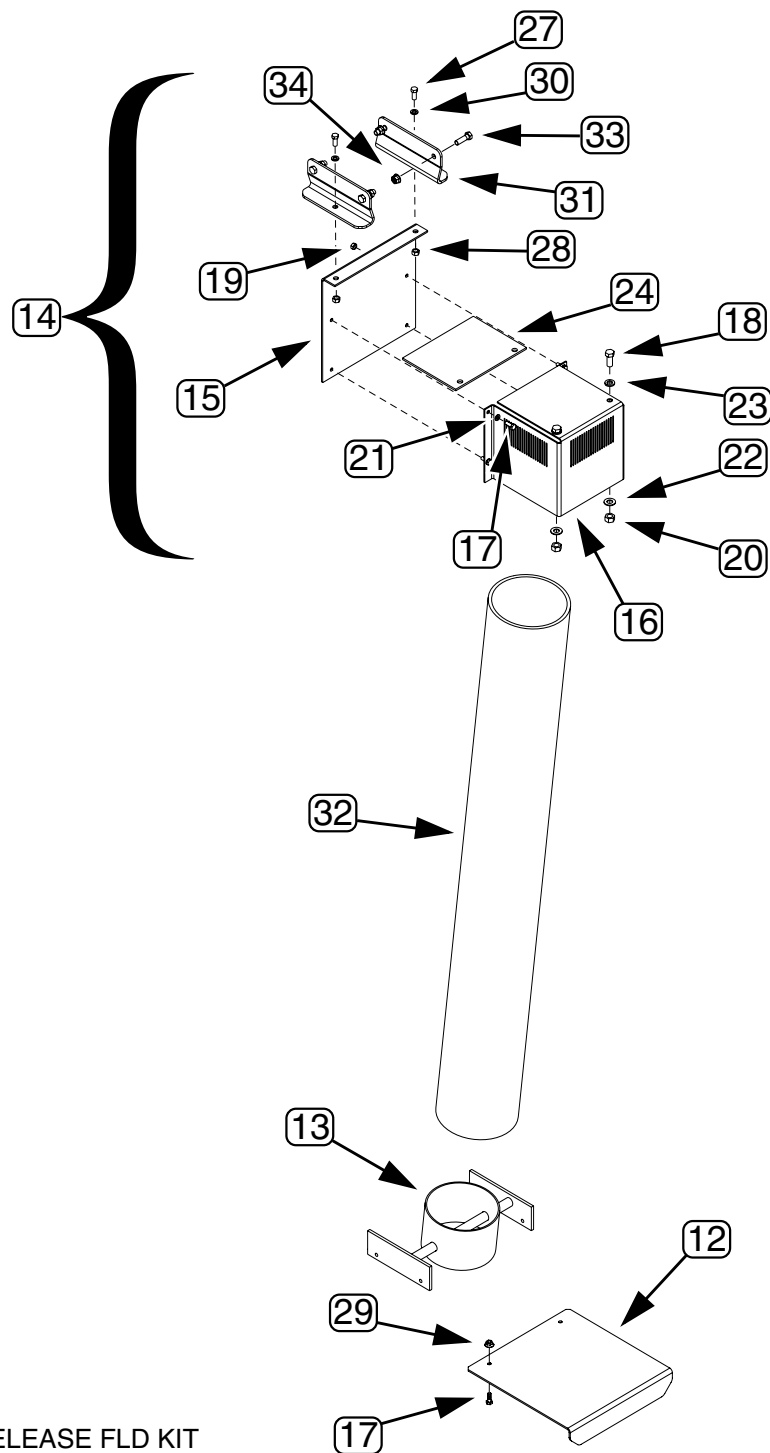


401-508A YP 82 BU AIR RELEASE FLD KIT

27350

401-508A Part Numbers

Callout	Part Number	Quantity	Part Description
(11)	401-514M	1	MANUAL 82 & 150 BU AIR KIT (This manual. Not shown.)
(12)	403-234D	1	BULK HOPPER UNLOAD DOOR (new, with two stop bolt holes)
(13)	403-241H	1	LOWER AIR PIPE SUPPORT 82 YP
(14)	403-242S	1	UPPER PIPE SUPPORT WELDMENT
(15)	403-407D	1	BRACKET
(16)	403-408D	1	AIR TRANSFER TUBE CAP
(17)	802-004C	4	HHCS 1/4-20X3/4 GR5
(18)	802-080C	2	HHCS 7/16-14X1 GR5
(19)	803-006C	4	NUT HEX 1/4-20 PLT
(20)	803-015C	2	NUT HEX 7/16-14 PLT
(21)	804-006C	4	WASHER LOCK SPRING 1/4 PLT
(22)	804-014C	2	WASHER LOCK 7/16 PLT
(23)	804-041C	2	WASHER FLAT 7/16 SAE PLT
(24)	816-245C	1	RUBBER GUARD REAR CTR.OUTER
(25)	403-403D	1	82 BU AIR PRESSURE PIPE
(26)	802-004C	1	HHCS 1/4-20X3/4 GR5
(27)	802-017C	2	HHCS 3/8-16X1 GR5
(28)	803-014C	1	NUT HEX 3/8-16 PLT
(29)	803-088C	1	NUT HEX LOCK 1/4-20 FLG
(30)	804-013C	2	WASHER LOCK SPRING 3/8 PLT

401-516A 150 bu Pressure Release Kit

401-516A YP 150 BU AIR RELEASE FLD KIT

27351

401-516A Part Numbers

Callout	Part Number	Quantity	Part Description
(11)	401-514M	1	MANUAL 82 & 150 BU AIR KIT (This manual. Not shown.)
(12)	403-234D	1	BULK HOPPER UNLOAD DOOR (new, with two stop bolt holes)
(13)	403-241H	1	LOWER AIR PIPE SUPPORT 82 YP
(13)	403-242S	1	UPPER PIPE SUPPORT WELDMENT
(15)	403-407D	1	BRACKET
(16)	403-408D	1	AIR TRANSFER TUBE CAP
(17)	802-004C	4	HHCS 1/4-20X3/4 GR5
(18)	802-080C	2	HHCS 7/16-14X1 GR5
(19)	803-006C	4	NUT HEX 1/4-20 PLT
(20)	803-015C	2	NUT HEX 7/16-14 PLT
(21)	804-006C	4	WASHER LOCK SPRING 1/4 PLT
(22)	804-014C	2	WASHER LOCK 7/16 PLT
(23)	804-041C	2	WASHER FLAT 7/16 SAE PLT
(24)	816-245C	1	RUBBER GUARD REAR CTR.OUTER
(17)	802-004C	1	HHCS 1/4-20X3/4 GR5
(27)	802-017C	2	HHCS 3/8-16X1 GR5
(28)	803-014C	2	NUT HEX 3/8-16 PLT
(29)	803-088C	2	NUT HEX LOCK 1/4-20 FLG
(30)	804-013C	2	WASHER LOCK SPRING 3/8 PLT
(31)	403-409D	2	BRACKET ANGLE WITH HOLES
(32)	403-427D	1	150 BU AIR PRESSURE PIPE
(33)	802-079C	4	HHCS 3/8-16X1 1/4 GR5
(34)	803-209C	4	NUT FLANGE LOCK 3/8-16 PLT

Existing Parts Affected

Callout	Part Number	Description	Disposition
(81)	403-332D	HOPPER STRAINER BASKET SUPPORT	Removed, modified and re-installed.
(82)	403-234D	BULK HOPPER UNLOAD DOOR (single stop bolt hole)	Removed. Not re-used.
(83)	802-004C	HHCS 1/4-20X3/4 GR5	Removed and re-installed.
(84)	802-005C	HHCS 1/4-20X1 GR5	Removed and re-installed.
(85)	802-167C	HHCS 1/4-20X1 1/2 GR5	Removed and re-installed.
(86)	802-370C	HHCS 1/4-20X1 3/4 GR5	Removed and re-installed.
(87)	803-088C	NUT HEX LOCK 1/4-20 FLG	Removed and re-installed.
(88)	803-230C	NUT HEX FLANGE 1/4-20 PLT	Removed and re-installed.
(89)	804-007C	WASHER FLAT 1/4 SAE PLT	Removed and re-installed.

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