



Min-Till Ladder Kit

Installation Instructions for use with
Two- and Three-Section Folding Drills

Applies to Models:

- 2S-2600/2610/F/HD/HDF
- 3S-3000/F/HD/HDF
- 3S-4000/F/DH/HDF



When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

General Information

These instructions explain how to install the Min-Till Ladder Kit. This kit replaces the single fixed walkboard steps with 3-step swing-down ladders.

Each kit converts an entire drill.

These instructions apply to:

Kit	Kit Description
195-065A	Min-Till Ladder Kit

This kit contains all components necessary for installation.

If installing this kit as part of Pre-Delivery, install the walkboards (without any fixed steps) prior to installing the ladders.

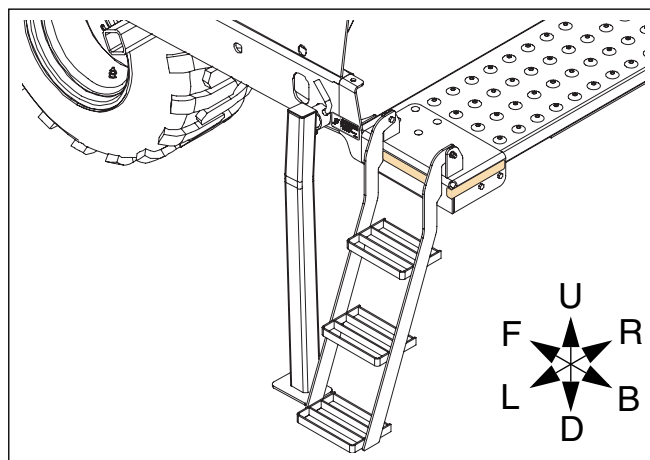


Figure 1
Ladder Installed

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Before You Start

Refer to Figure 1

Review these instructions, and make sure you understand where and how the ladders install, and which existing parts are removed.



WARNING

If unfolded, the drill must be hitched to a tractor during Opener Lift, to avoid negative tongue weight. Hitch loads can range between **+4000 pounds (folded)** and **-1000 pounds (unfolded)**, depending on drill model and configuration.

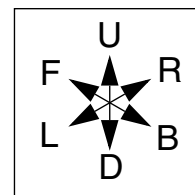
Tools Required

- basic hand tools
- if unfolding is desired, a tractor with two hydraulic circuits and suitable hitch

These instructions presume an existing drill with fixed steps. The installation may be done with the drill folded or unfolded.

Notations and Conventions

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



①	callouts identify components in the currently referenced Figure or Figures.
⑪ to ⑳	callouts reference new parts from the list on page 6. The descriptions match those on the cartons, bags or item tags, as well as your updated Parts Manual.
⑤① to ⑤⑤	callouts reference affected existing parts from the table on page 7. The descriptions match those in your Parts Manual.

Pre-Assembly Preparation

1. Inventory the contents per “**New Parts: Kit 195-065A**” on page 6.
2. If the drill is unfolded, lower the parking stands, lower the openers, and lower the drill.

Remove Fixed Steps

Begin with the left step.

Refer to Figure 2

3. Loosen both nuts
 (54) NUT HEX 1/2-13 PLT.
4. On the lower bolt only, remove and save:
 (54) NUT HEX 1/2-13 PLT
 (55) WASHER LOCK SPRING 1/2 PLT
 (53) HHCS 1/2-13X1 3/4 GR5
5. Swing the step (51) backward, and re-install the saved lower bolt (53), washer (55) and nut (54).
6. Remove and save the upper:
 (54) NUT HEX 1/2-13 PLT
 (55) WASHER LOCK SPRING 1/2 PLT
 (53) HHCS 1/2-13X1 3/4 GR5
7. Remove the step (51). It is not re-used.
8. Re-install the saved bolt (53), washer (55) and nut (54)
9. Repeat step 3 through step 8 for the right hand step (52) (shown in *Figure 8 on page 7*).

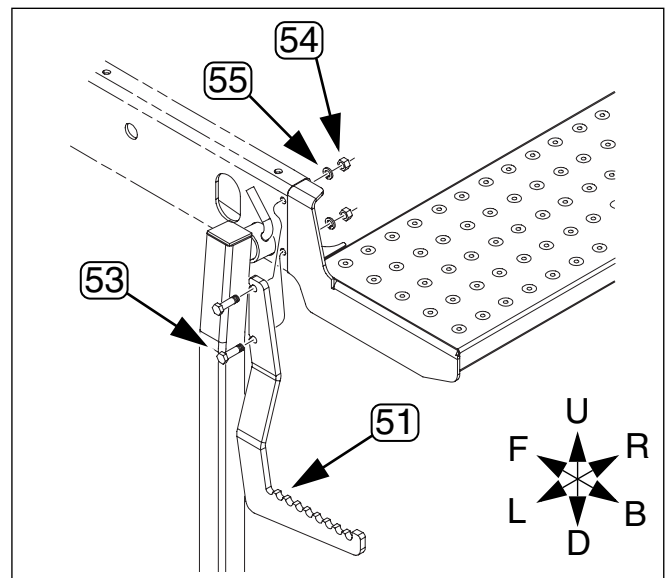


Figure 2
Remove Left Step

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Install Ladder Mounts

Where to place the top ladder mount depends on the drill configuration.

If the drill has the Small Seeds Box installed (or will be), the outer rear hole of the mount is the second row from the rear edge of the walkboard (see *Figure 3 on page 3*).

If Small Seeds is not installed, the corner mount hole is the third row from the rear edge (see *Figure 4 on page 3*).

Regardless of drill configuration, the outer rear hole of the top mount the second row in from the end of the walkboard.

Refer to Figure 3 or Figure 4

Top mount weldments are provided in left-side (13) and right-side (14) versions and are not interchangeable. All other parts may be used on either end. Start with the left wing:

10. Select one:
 - 13 195-063H LADDER MOUNT TOP WELDMENT LH, and four:
 - 17 802-030C RHSNB 7/16-14X1 3/4 GR5.
11. Position the top mount 13 over the four walkboard holes 4 appropriate for the drill's configuration (see page 2).
12. Insert the four bolts 17 to loosely hold the top mount in place on the walkboard 4.
13. Select one:
 - 15 195-340D LADDER MOUNT BOTTOM PLATE and four sets of:
 - 23 804-014C WASHER LOCK 7/16 PLT
 - 19 803-015C NUT HEX 7/16-14 PLT
14. Position the bottom plate 15 under the walkboard 4 and inside the top mount 13. Loosely hold it in place with the washers 23 and nuts 19.
15. Select two sets of:
 - 16 802-017C HHCS 3/8-16X1 GR5
 - 22 804-013C WASHER LOCK SPRING 3/8 PLT
 - 20 803-068C NUT HEX FLANGE 3/8-16 PLT
16. Insert the bolts 16 through the side holes in both the top mount 13 and bottom plate 15, and secure with lock washers 22 and flange nuts 20.
17. Tighten the four 7/16in nuts 19 on bolts 17, securing the top mount 13 to the bottom plate 15.

Refer to Figure 7 on page 6

18. Selecting one:
 - 14 195-064H LADDER MOUNT TOP WELDMENT RH in place of mount 13, repeat step 10 through step 17 for right wing section.

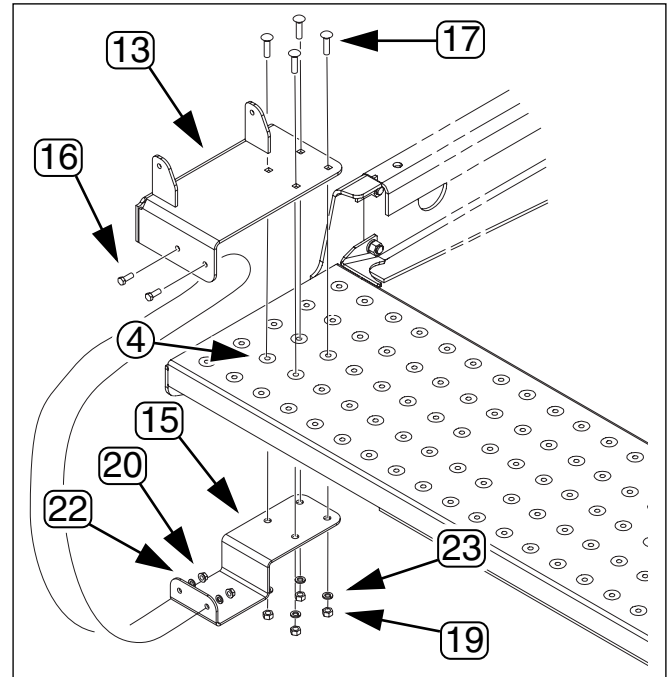


Figure 3
Small Seeds Mount Location

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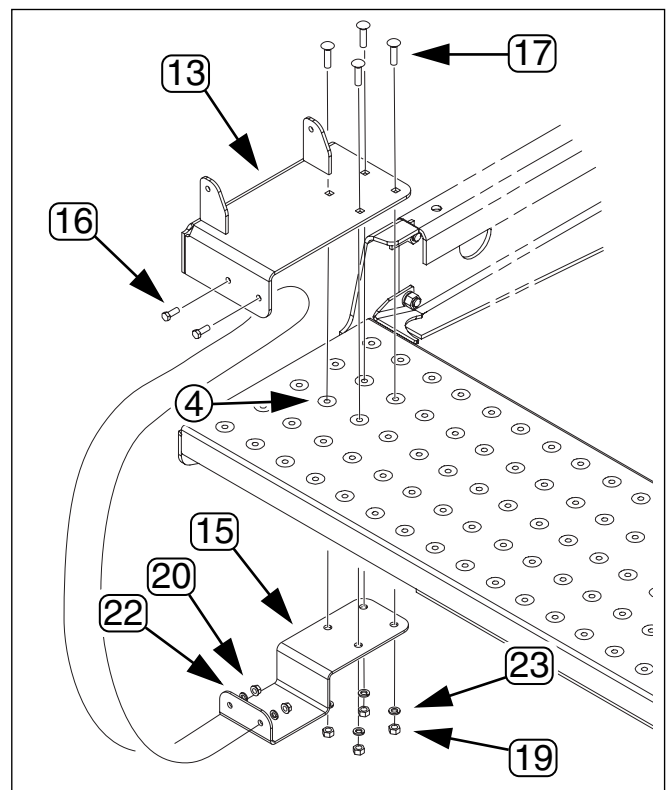


Figure 4
Location, No Small Seeds

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Install Ladders

The ladders mount between the lugs of the upper mounts. Flat washers are placed outside the ladder side frames and inside the lugs (between ladder side frame and mount). Bolt heads are to the inside, to minimize obstructions to foot movement during climbing.

Refer to Figure 5 (which shows only the left side assembly, on a drill without Small Seeds)

Start with the left walkboard.

19. Select one:

⑫ 195-062H LADDER WELDMENT 3-STEP NARROW

20. Lay the ladder ⑫ on the walkboard with the swing holes up and near the top mount ⑬ lug holes. Align the holes in the ladder in between the holes in the lugs.

21. Select two sets of:

⑱ 802-079C HHCS 3/8-16X1 1/4 GR5

⑳ 804-016C WASHER FLAT 1/2 SAE PLT

㉑ 803-209C NUT FLANGE LOCK 3/8-16 PLT

22. Insert a bolt ⑱ through (in this order):

- the ladder ⑫ side plate,
- a washer ㉑, and
- the mount ⑬ lug.

Secure with lock nut ㉑.

23. Repeat step 19 through step 22 for right wing walkboard.

24. Swing both ladders down to check operation and position for decal placement.

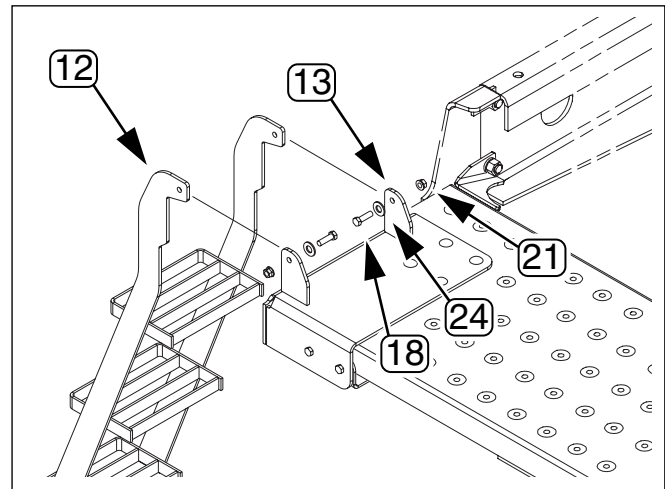


Figure 5
Ladder Installation

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Install Reflectors and Decals

The new ladder top mount may obscure existing decals and reflectors on the walkboard. The ladder kit includes replacements to apply as needed.

To install new reflectors and decals:

- Clean and dry the area where the reflector or decal is to be placed.
- Peel backing from reflector or decal. Press firmly on surface, being careful not to cause air bubbles under reflector or decal.

Refer to Figure 6

Start on the left walkboard, outer end:

25. Select one:

②⑥ 838-265C DECAL REFLECTOR AMBER 1 1/2X9

Place the reflector decal on the outside of the ladder mount ⑬, between the ladder side plates ⑫ (so it won't be damaged by ladder operation)

26. Select one:

②⑥ 838-265C DECAL REFLECTOR AMBER 1 1/2X9

Place the reflector decal on the rear and corner of the ladder mount ⑬. This decal is slightly longer than that side of the mount. Wrap the excess around the corner.

27. Select one:

②⑤ 838-102C DECAL WARNING FALLING HAZARD

Place the 838-102C Danger decal ②⑤ forward of and near the top of the ladder, where it is visible to climbers.

28. Repeat step 25 through step 27 for right wing walkboard ladder.

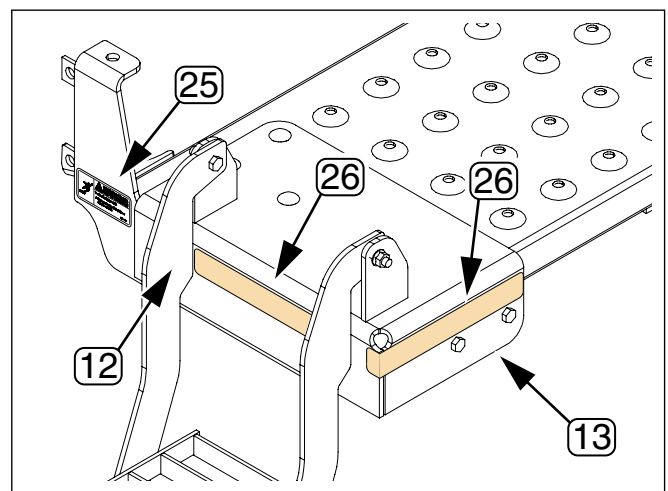


Figure 6
Replacement Decals

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Operations

Swing ladders up and onto walkboards during:

- folding and unfolding,
- transport,
- field operations,
- unattended parking, and;
- storage.

Parts Lists

New Parts: Kit 195-065A

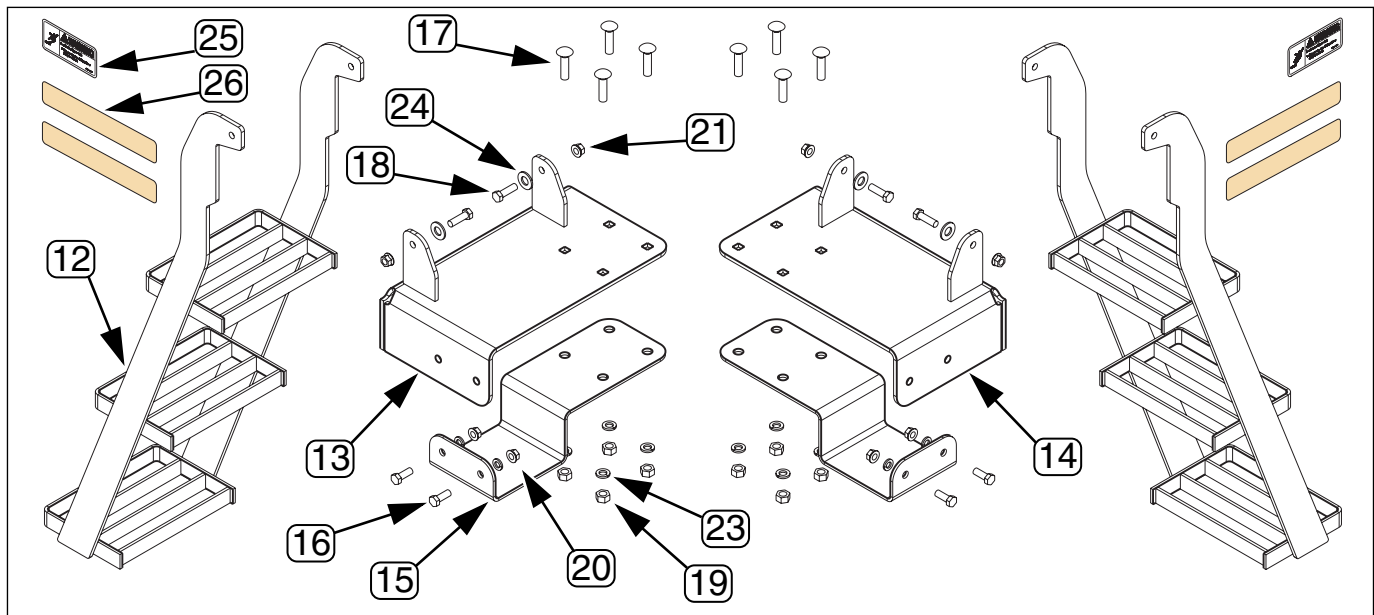


Figure 7
New Parts

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Your kit includes the parts illustrated above and listed below. The part call-out numbers in this list match all Figures in the installation instructions.

Left- and right-hand kit parts are identical except for: top mount: Left:(13), Right:(14).

Callout	Quantity	Part Number	Part Description
(11)	1	195-066M	This manual (not shown above)
(12)	2	195-062H	LADDER WELDMENT 3-STEP NARROW
(13)	1	195-063H	LADDER MOUNT TOP WELDMENT LH
(14)	1	195-064H	LADDER MOUNT TOP WELDMENT RH
(15)	2	195-340D	LADDER MOUNT BOTTOM PLATE
(16)	4	802-017C	HHCS 3/8-16X1 GR5
(17)	8	802-030C	RHSNB 7/16-14X1 3/4 GR5
(18)	4	802-079C	HHCS 3/8-16X1 1/4 GR5
(19)	8	803-015C	NUT HEX 7/16-14 PLT
(20)	4	803-068C	NUT HEX FLANGE 3/8-16 PLT
(21)	4	803-209C	NUT FLANGE LOCK 3/8-16 PLT
(22)	4	804-013C	WASHER LOCK SPRING 3/8 PLT
(23)	8	804-014C	WASHER LOCK 7/16 PLT
(24)	4	804-016C	WASHER FLAT 1/2 SAE PLT
(25)	2	838-102C	DECAL WARNING FALLING HAZARD
(26)	4	838-265C	DECAL REFLECTOR AMBER 1 1/2X9

Existing Parts Affected

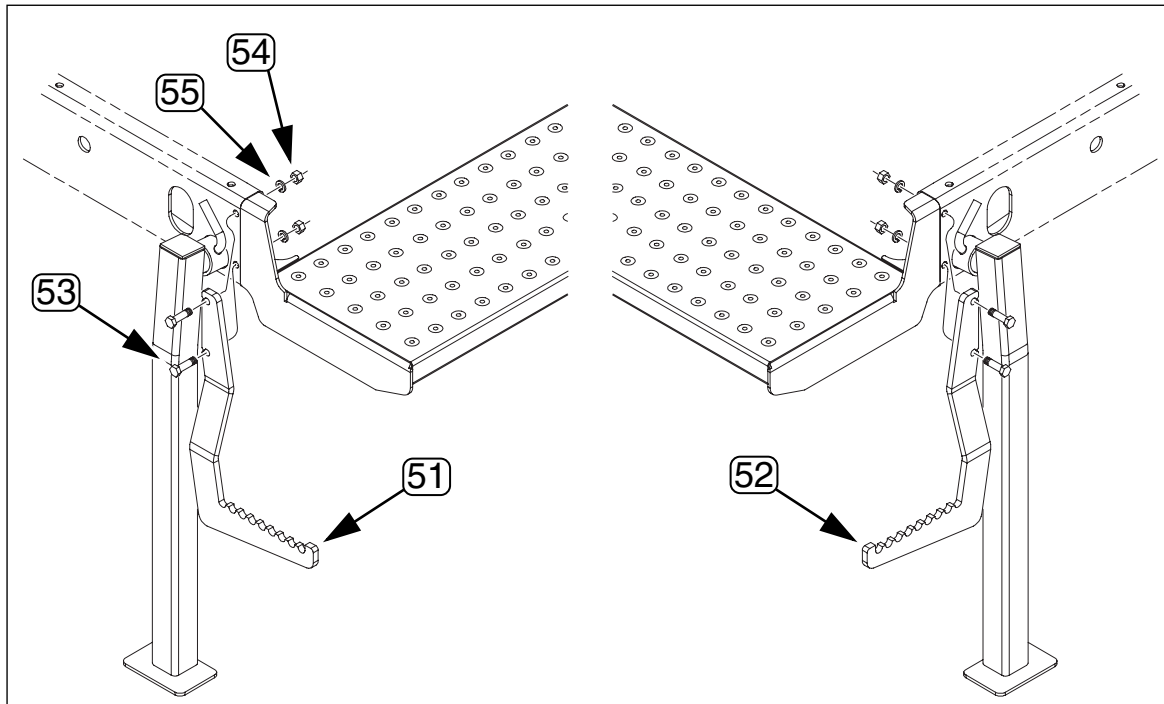


Figure 8
Existing Parts Affected

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

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

Existing Parts List

Callout	Part No.	Part Description	Part Disposition
(51)	195-121D	STEP LH	Removed. Not re-used.
(52)	195-122D	STEP RH	Removed. Not re-used.
(53)	802-082C	HHCS 1/2-13X1 3/4 GR5	Saved and re-used.
(54)	803-020C	NUT HEX 1/2-13 PLT	Saved and re-used.
(55)	804-015C	WASHER LOCK SPRING 1/2 PLT	Saved and re-used.

Reference Information

Abbreviations

GR	Grade
HHCS	Hex Head Cap Screw (Bolt)
LH	Left Hand
PLT	Plated
RH	Right Hand
RHSNB	Round Head Shank Neck Bolt
SAE	Society of Automotive Engineers (mechanical standard)

Torque Values

Fastener/Fitting	Ft-Lbs	N-m
$\frac{3}{8}$ -16 Grade 5	31	42
$\frac{7}{16}$ -14 Grade 5	67	49
$\frac{1}{2}$ -13 Grade 5	105	76

Great Plains Manufacturing, Inc.

Corporate Office: P.O. Box 5060
Salina, Kansas 67402-5060 USA
