



Knock Down Kit 00HD Series Row Units

Used with models:

- 2S-2600HD, 2S-2600HDF
- 3S-3000HD, 3S-3000HDF
- 3S-4000HD, 3S-4000HDF
- 3S-5000HD, 3S-5000HDF
- CTA4000HD



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 a knock down kit on a compatible 00HD Series row unit. See page 2 for compatibility information.

These instructions apply to an installation of:

| Kit | Kit Description |
|----------|-------------------------------|
| 122-279A | BRACE MNT KNOCK DOWN KIT 00HD |
| 122-283A | KNOCK DOWN KIT |

One kit includes all parts and hardware needed to equip a single row. Order one kit per row.

Refer to Figure 1

Use kit 122-279A on a drill which lacks tine bases . Use kit 122-283A on a drill which already has tine bases .

Related Documents

Have the current Operator Manual at hand for drill movements and lift/lower. Have the current Parts Manual at hand for parts ID.

| | |
|----------|---------------------------|
| 160-037M | CTA4000HD Operator manual |
| 160-037P | CTA4000HD Parts manual |
| 195-067M | 3S-4000HD Operator manual |
| 195-067P | 3S-4000HD Parts manual |
| 195-068M | 3S-3000HD Operator manual |
| 195-068P | 3S-3000HD Parts manual |
| 185-069M | 2S-2600HD Operator manual |
| 195-069P | 2S-2600HD Parts manual |
| 195-325M | 3S-5000HD Operator manual |
| 195-325P | 3S-5000HD Parts manual |

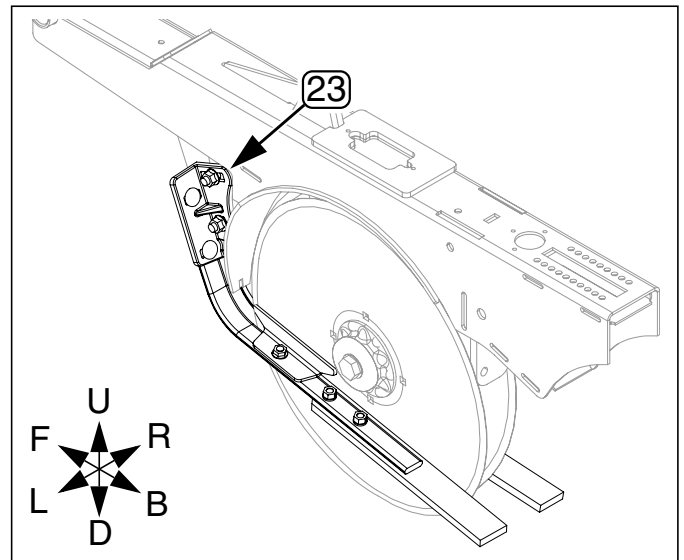
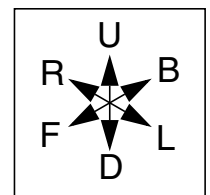


Figure 1
Knock Down Kit Installed



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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.



Call-Outs

-  Single-digit callouts identify components in the currently referenced Figure or Figures. These numbers may be reused for different items from page to page.
-  Two-digit callouts in the range 11 to 26 reference new parts in kit (see list on page 7).

Tools and Parts Required

- You need a suitable tractor for positioning, raising and lowering the drill.
- Basic hand tools are required.
- On narrow row spacings, a hoist or jack for safely lowering and raising a row unit with the spring rod disconnected.
- If you elect to modify older row units that lack mounting holes, you need a drill and bit size: $\frac{13}{32}$ inch, letter size Z, 10.5 mm and a pilot bit $\frac{1}{3}$ to $\frac{1}{2}$ that size.

Before You Start

Compatibility

Check for 00HD Row Units

1. Check the model number of the drill (found on the serial number plate) against the list at the top of page 1 to ensure it is a compatible model. This kit is compatible only with 00HD Series openers, and not with (non-HD) 00, 07HD and 10HD Series row units.

Check for Mounting Holes

Refer to Figure 2

2. If the drill was manufactured prior to 2010, check that the opener disk shield braces have two 0.41 inch ($\frac{13}{32}$ inch) holes ① in the leading edge.

If the brace lacks holes, they can be added in the field, called for at step 11, and described in “Appendix B - Brace Update” on page 9.

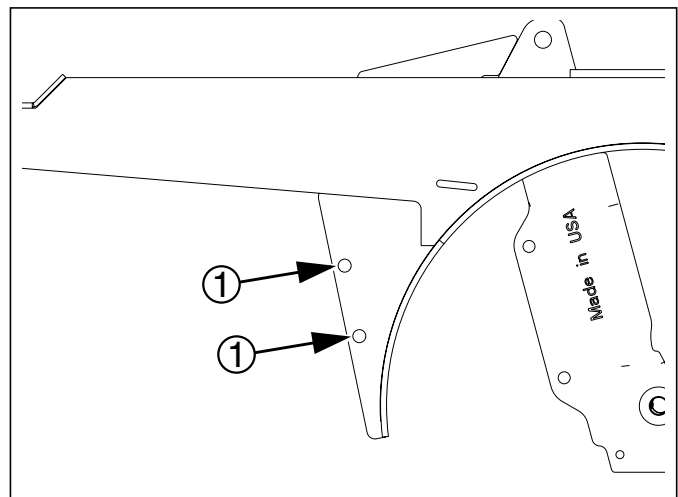


Figure 2
00HD Kit Mounting Holes

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Check for Tine Bases

Refer to Figure 3

3. If the kit ordered is part number 122-283A, check that the rows have tine bases ②③ pre-installed.

Inventory

4. Make sure all parts are present.

Note: One part, bases (②③, ②④) is provided in left- and right-hand versions with different part numbers. These are not interchangeable and must be installed on the implement side specified.

Comprehension

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

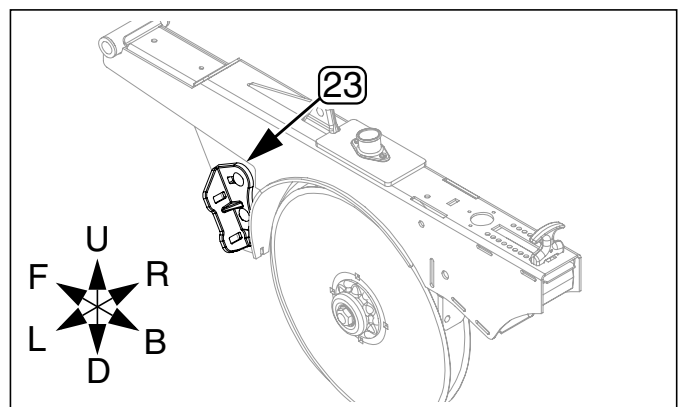


Figure 3
Pre-Installed Tine Base

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Pre-Assembly Preparation

Safety

CAUTION

Sharp Object Hazards:

Be careful working near opener discs. Disc edges may be sharp.

Use a hoist or jack to lower and raise an opener that is disconnected at its spring rod. Do not attempt to lower or raise an opener by hand, even with multiple workers. Openers are too heavy and there is insufficient access. If a grip is lost, the opener will swing down and forward suddenly, and could cause serious injury.

Work Location

6. Move the drill to a location with:
 - room to unfold 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.
7. Raise drill. Unfold drill.
8. Use any lift locks or parking stands provided, or use shop supports or jacks to hold the drill at raised. Set tractor remote circuits to Float.
9. For a 3-point drill, unhitch the tractor and move it away to provide access to rows.
10. Shut off the tractor if left hitched.
11. If the opener disk shield brace plate lack mounting holes, drill those holes per “**Appendix B - Brace Update**” on page 9.
12. If the opener disc hubs have hold down weldments instead of round dust covers, replace the weldments with covers per “**EOD**” on page 10.

Install Bases

For kit 122-283A, continue at “Mount Knock Downs” below.

Refer to Figure 4

Note: Bases (23, 24) are supplied in left (LH) and right (RH) variants, and are not interchangeable between opener sides.

For a left tine:

13. Select one each:
 - 23 812-366CP LH KNOCK DOWN TINE BASE
 - 24 812-367CP RH KNOCK DOWN TINE BASE
 and two sets:
 - 17 802-155C RHSNB 3/8-16X1 1/4 GR5
 - 21 803-209C NUT FLANGE LOCK 3/8-16 PLT
14. Position bases (23, 24) on row unit disk shield brace. Secure to snug with bolts (17) and lock nuts (21).

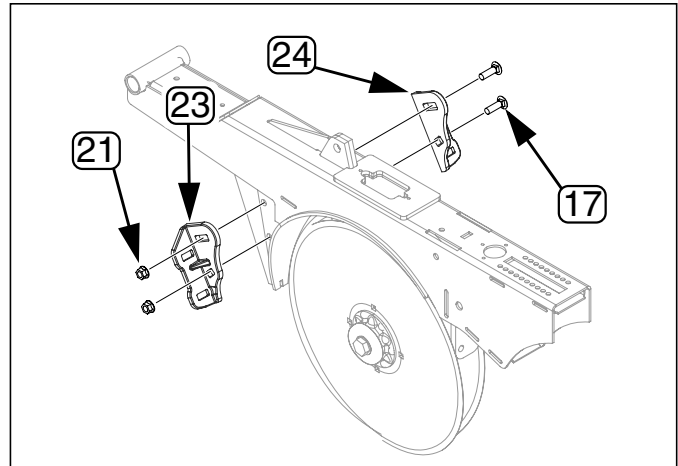


Figure 4
Install Bases

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Mount Knock Downs

On a drill with narrow row spacing, there is apt to be insufficient clearance at rear rows for convenient mounting. In that case, connect a hoist to, or install a jack under the row unit. Release a rear row at a spring rod pin, and fully lower it for knock down installation. You may wish to leave all rear rows lowered for knock down adjustment as well.

Refer to Figure 5

15. Select one:
 - 13 122-282K KNOCK DOWN TINE ASY LH
 and two sets:
 - 17 802-155C RHSNB 3/8-16X1 1/4 GR5
 - 21 803-209C NUT FLANGE LOCK 3/8-16 PLT

Position the left knock (13) down under the left tine base (23). Insert bolts (17), from back, through base and knock down spring. Secure to snug with lock nuts (21).

16. Select one each:
 - 12 122-281K KNOCK DOWN TINE ASY RH
 and two sets:
 - 17 802-155C RHSNB 3/8-16X1 1/4 GR5
 - 21 803-209C NUT FLANGE LOCK 3/8-16 PLT

Position the right knock (12) down under the right tine base (not visible). Insert bolts (17), from back, through base and knock down spring. Secure to snug with lock nuts (21).

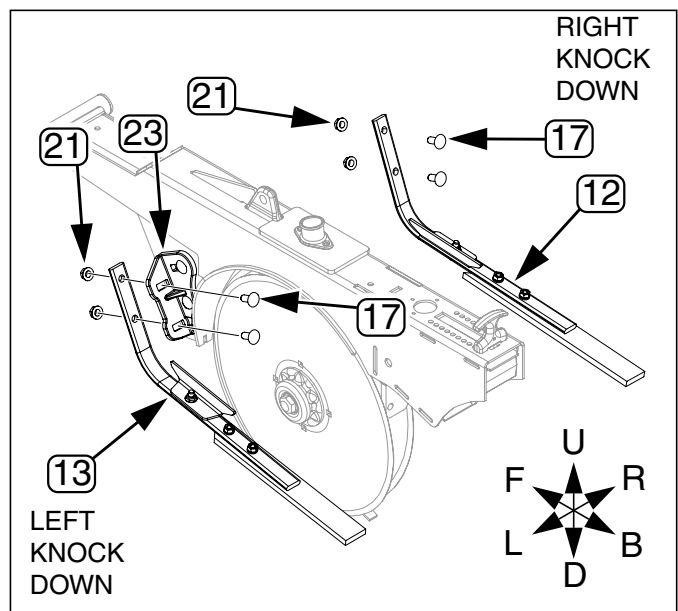


Figure 5
Mount Knock Downs

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WARNING

Crushing and Sharp Object Hazards:

If lowering a row off the spring, use an adequate hoist or jack and secure attachment or lifting point. Stand clear of moving row unit. Opener blades are sharp. The row is heavy and could inflict serious injury if it falls suddenly.

Adjust Knock Downs

Adjust Tine Pitch Angle

Refer to Figure 6

17. Adjust the rear elevation of each tine assembly so that it is as close as possible to level with the opener frame. This tends to place it close to the opener disc hub. Avoid contact with the hub assembly.

When both sides are adjusted, tighten nuts ① to torque spec.

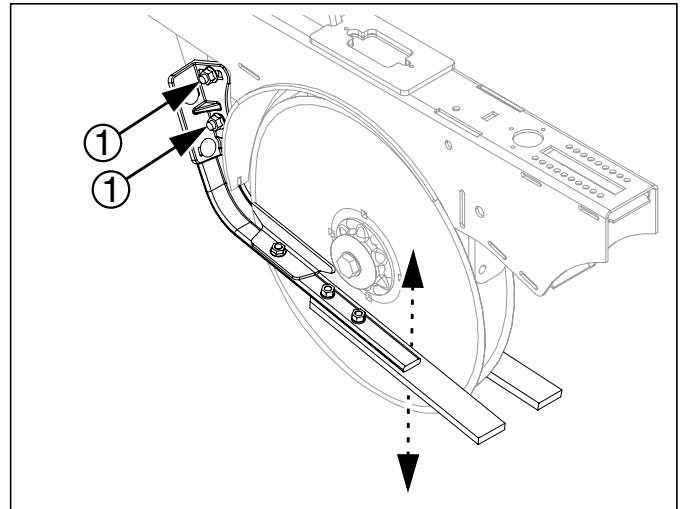


Figure 6
Adjust Tine Pitch

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Adjust Tine/Disc Gap

Refer to Figure 7

18. Adjust the lateral position, and the yaw of each tine so that the polymer bar almost contacts the opener disc for the full length of the bar.

The thickness of a business card (0.01 inch or 0.25 mm) is the ideal gap.

Tighten nuts ② to torque spec.

Rotate the disc a full turn or more to ensure that contact is avoided.

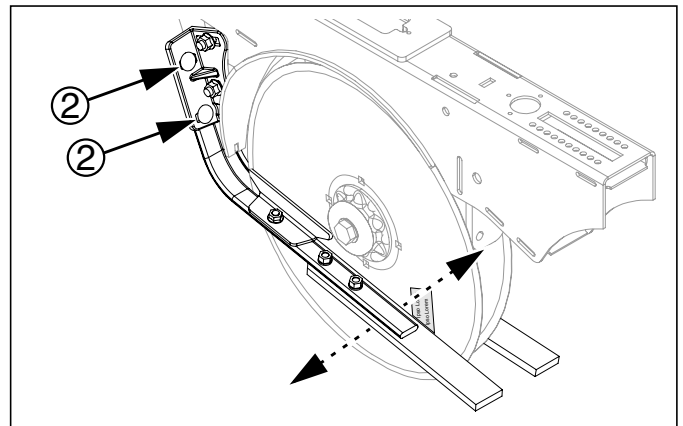


Figure 7
Adjust Tine/Disc Gap

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Adjust Scraper/Disc Gap

Refer to Figure 8

19. Slide the scraper until it almost contacts the opener disc.

The thickness of a business card (0.01 inch or 0.25 mm) is the ideal gap.

Tighten nut ③ to torque spec.

Rotate the disc a full turn or more to ensure that contact is avoided.

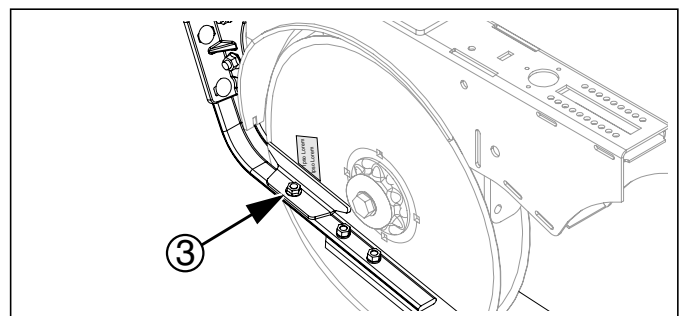


Figure 8
Adjust Scraper

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Close-Out

20. Re-pin any spring rods that were disconnected.

Knock Down Operation

Knock downs require no specific procedures during field operations, other than to periodically check that clearances and gaps remain correct.

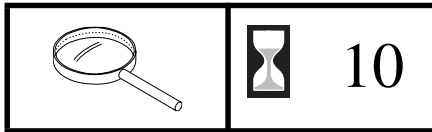
NOTICE

Accelerated Wear Risk:

Under no circumstances allow the polymer bar or tine to contact the ground during operation. The knock down kit is not designed for use as a row cleaner, and will wear rapidly if so used.

Knock Down Maintenance

Knock Downs



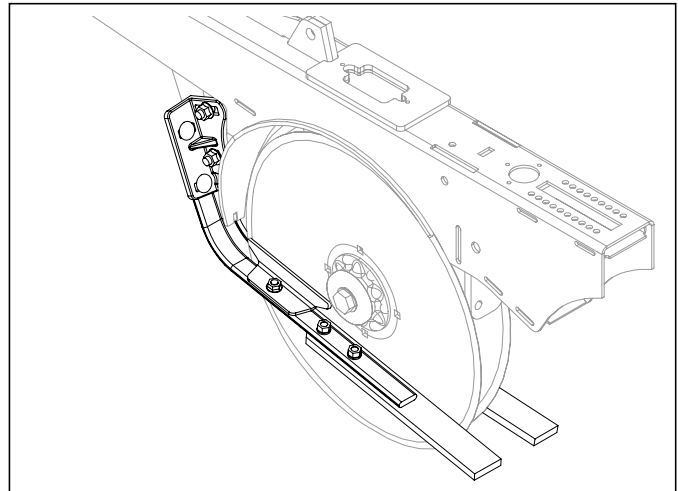
2 times per row

Clean away any debris that has collected ahead of the opener disc or between the polymer knock down bar and the disc.

Inspect the adjustment bolt/nut settings to ensure desired polymer bar-to-disc gap is being held. Inspect the tine and replace if not flat along the polymer bar.

Inspect polymer bar for wear, chipping and cracks, and replace as necessary.

Check Grade 2 torque on the bolts holding the bar to the tine.



Appendix A - Reference Information

Part List

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.

A single kit order includes one manual. A multiple kit order includes one manual per order. Additional manuals are available from Great Plains, or may be downloaded from the Great Plain web site.

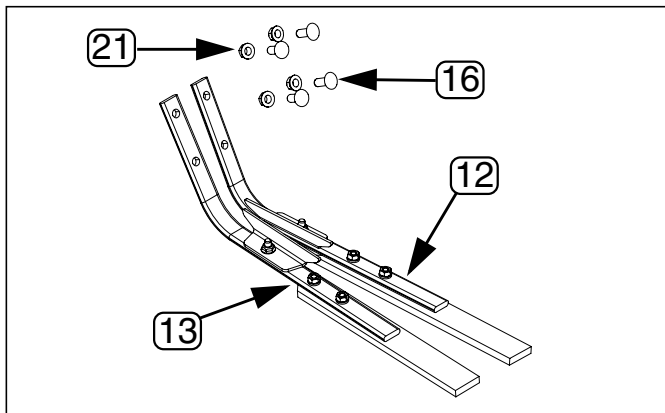


Figure 10
122-283A Kit Exploded

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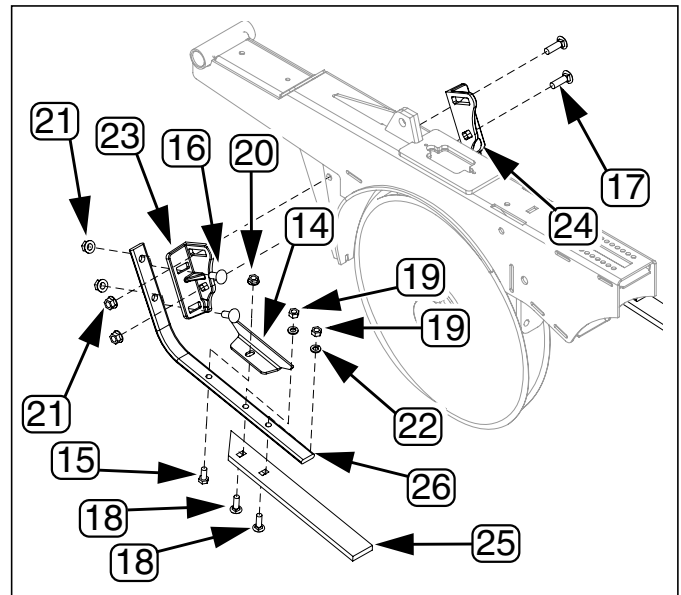








Figure 9
122-279A Kit Exploded

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| Callout | Quantity | | Part No. | Part Description |
|---------|----------|----------|-----------|--------------------------------|
| | 122-279A | 122-283A | | |
| 11 | 1 | 1 | 122-280M | MANUAL KNOCK DOWN KIT ASSEMBLY |
| 12 | 1 | 1 | 122-281K | KNOCK DOWN TINE ASY RH |
| 13 | 1 | 1 | 122-282K | KNOCK DOWN TINE ASY LH |
| 14 | 2 | 2 | 122-178D | KNOCK DOWN DISK SCRAPER |
| 15 | 2 | 2 | 802-007C | HHCS 5/16-18X3/4 GR5 |
| 16 | 4 | 4 | 802-015C | RHSNB 3/8-16X1 GR5 |
| 17 | 2 | - | 802-155C | RHSNB 3/8-16X1 1/4 GR5 |
| 18 | 4 | 4 | 802-282C | RHSNB 5/16-18X1 GR5 |
| 19 | 4 | 4 | 803-008C | NUT HEX 5/16-18 PLT |
| 20 | 2 | 2 | 803-177C | NUT HEX FLG TP LK 5/16-18ZN |
| 21 | 6 | 4 | 803-209C | NUT FLANGE LOCK 3/8-16 PLT |
| 22 | 4 | 4 | 804-009C | WASHER LOCK SPRING 5/16 PLT |
| 23 | 1 | - | 812-366CP | LH KNOCK DOWN TINE BASE |
| 24 | 1 | - | 812-367CP | RH KNOCK DOWN TINE BASE |
| 25 | 2 | 2 | 817-869C | POLY TRASH KNOCK DOWN BAR |
| 26 | 2 | 2 | 820-431C | TRASH KNOCK DOWN TINE |

Torque Chart

| Bolt Size in-tpi ^a | Bolt Head Identification | | | | | |
|----------------------------------|---|--------------------|---|-------|---|-------|
| |  | |  | |  | |
| | 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 |
| 1 1/2-12 | 1330 | 980 | 2970 | 2190 | 4820 | 3560 |

| Bolt Size mm x pitch ^c | Bolt Head Identification | | | | | |
|--------------------------------------|--|-------|---|-------|---|-------|
| |  | |  | |  | |
| | 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
- d. ft-lb = foot pounds

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

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Abbreviations

| | |
|------|----------------------|
| 00HD | 00 Series Heavy Duty |
| ASY | Assembly |
| c/o | call out |
| DD | Double Disc |
| FLG | Flanged |
| GA | Gauge |
| GR5 | Grade 5 |
| HEX | Hexagonal |
| HHCS | Hex Head Cap Screw |
| LH | Left Hand |
| LK | Lock |

| | |
|-------|----------------------------|
| MACH | Machined |
| MNT | Mount |
| NYL | Nylock |
| PLT | Plated |
| POLY | Polymer |
| RH | Right Hand |
| RHSNB | Round Head Shank Neck Bolt |
| TP LK | Top Lock |
| X | by |
| ZN | Zinc plated |

Appendix B - Brace Update

The steps in this appendix apply only if the drill is a pre-2010 model that lacks holes in the opener disk shield brace plates.

On a drill with narrow row spacing, there is apt to be insufficient clearance at rear rows for marking and drilling. In that case, mark and drill all front rows first. Then connect a hoist to, or install a jack under a rear row unit. Release the rear row at a spring rod pin, and fully lower it for marking and drilling. You may wish to leave all rear rows lowered for knock down installation and adjustment as well.

Refer to Figure 11

1. Mark and center-punch holes at the following locations relative to the bottom and front edges of the brace plate:
 - Ⓐ $\frac{3}{8}$ inch, Front edge to hole center-lines
0.375 inch,
0.95 cm
 - Ⓑ $3\frac{1}{4}$ inch, Bottom edge to lower hole center-line
3.25 inch,
8.25 cm
 - Ⓒ $5\frac{1}{2}$ inch, Bottom edge to upper hole center-line
5.5 inch,
13.97 cm
2. At each marked location, drill a pilot hole using a bit that is $\frac{1}{3}$ to $\frac{1}{2}$ the size of the finale hole.
3. At each pilot hole, drill a final hole size of: $\frac{13}{32}$ inch, letter size Z, 10.5 mm

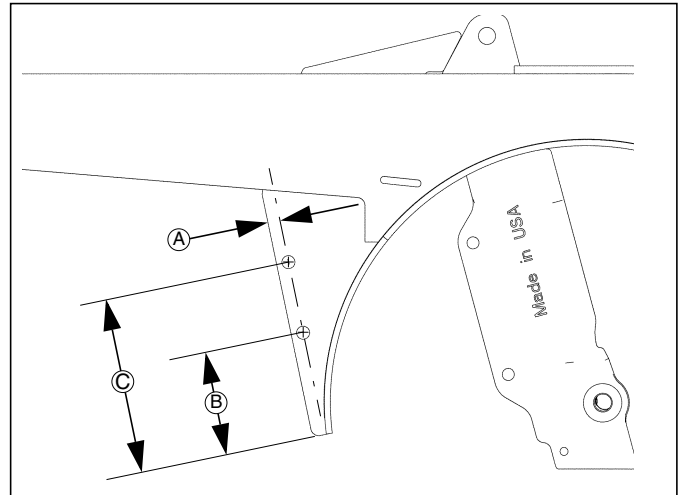


Figure 11
00HD Kit Mounting Holes

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