



NTA607HD Lift Assist Adjustments



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

This manual is an instruction guide for reducing load on the caster wheels or for operating with the caster wheels fully off the ground. The result will make the NTA607HD unit more suitable for conventional soil conditions rather than no-till conditions.

Removing weight bar sets and adjusting the pressure reducing valve will result in less load on the caster wheels and less severe tracks in the field, especially in muddy conditions.

Tools Required

- basic hand tools
- a forklift or similar hoist capable of lifting a minimum of 374kg (825 lbs)

Work Location

Move the implement to a flat location

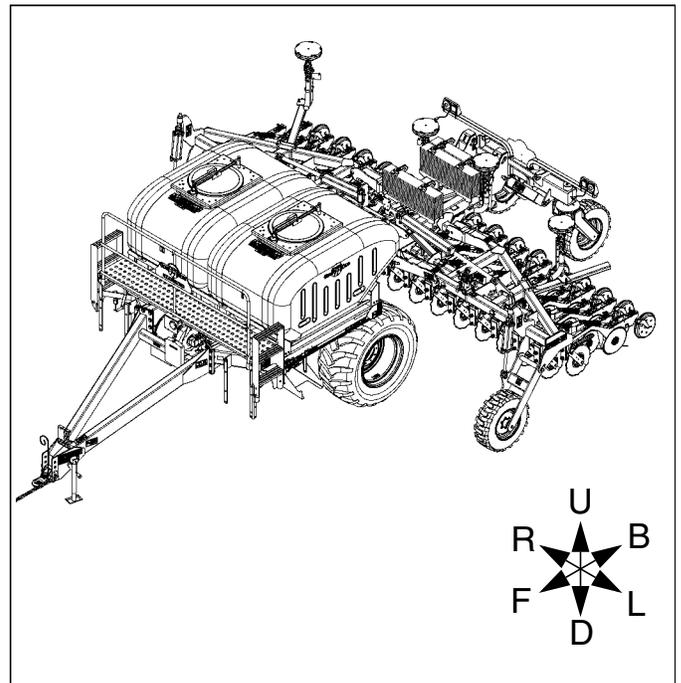
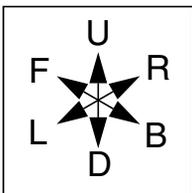


Figure 1
Standard (3 Weight) NTA607HD

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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.



Important Safety Information

Look for Safety Symbol

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



Be Aware of Signal Words

Signal words designate a degree or level of hazard seriousness.

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



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

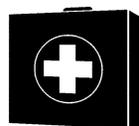


CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



Prepare for Emergencies

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



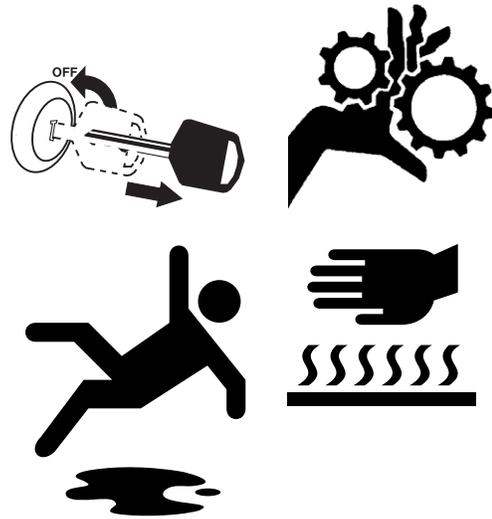
Be Familiar with Safety Decals

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



Practice Safe Maintenance

- ▲ *Understand procedure before doing work. Use proper tools and equipment.*
- ▲ *Work in a clean, dry area.*
- ▲ *Unfold and lower the drill, put tractor in park, turn off engine, and remove key before performing maintenance. If work must be performed with implement raised, use center section lift lock and gauge lock channels provided.*
- ▲ *Make sure all moving parts have stopped and all system pressure is relieved.*
- ▲ *Allow drill to cool completely.*
- ▲ *Disconnect battery ground cable (-) before servicing or adjusting electrical systems.*
- ▲ *Welding: Disconnect battery ground. Protect hydraulic lines. Avoid fumes from heated paint.*
- ▲ *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 air drill before operation.*



Before Starting

⚠ CAUTION

Dense Heavy Overhead Object Hazard:

Use adequate lifting means. Use both mounts ② for lifting. Keep all workers clear of area while a weight is overhead. Keep hands away from underside of weights, and out of stack-to-stack contact regions. Weight stacks have a mass of 374kg (825 pounds). A hoist failure could result in substantial equipment damage, serious injury or death. Hands in the path of weight movement can be crushed.

Refer to Figure 2 (6in 80-row model with blockage module)

There are three sets of weights bolted to the center frame weldment. Remove the mid weight stack ① first. This may be the only weight that needs to be removed if it satisfactorily produces the result you desire. The only way to judge the result is by running the unit in the field once the weight is removed.

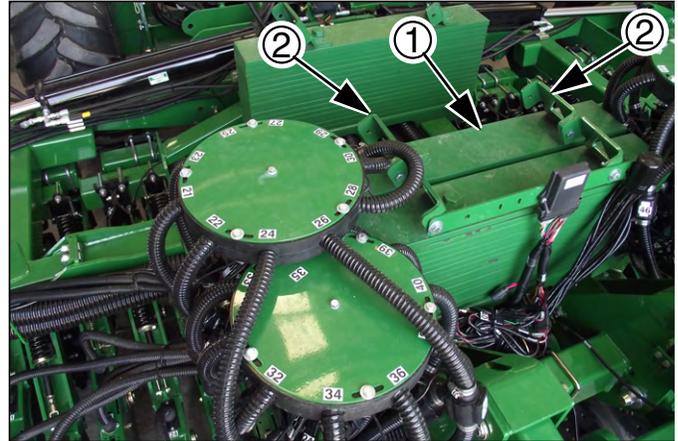


Figure 2
Weight Stacks

Before Proceeding with Instructions

Refer to Figure 3

Check caster stabilizers ③ are properly adjusted. It is unlikely, but casters may want to swing out of position. Stabilizer bolts should be adjusted tightly enough to ensure this does not occur. See “**Caster Brakes**” in the lubrication section of the Operator Manual (166-283M).

Do not set cart weight transfer higher than necessary. Values close to 1000 psi can lift the rear of an empty cart off the ground see “**Cart Weight Transfer Adjustment (Inner Valve)**” on page 6.

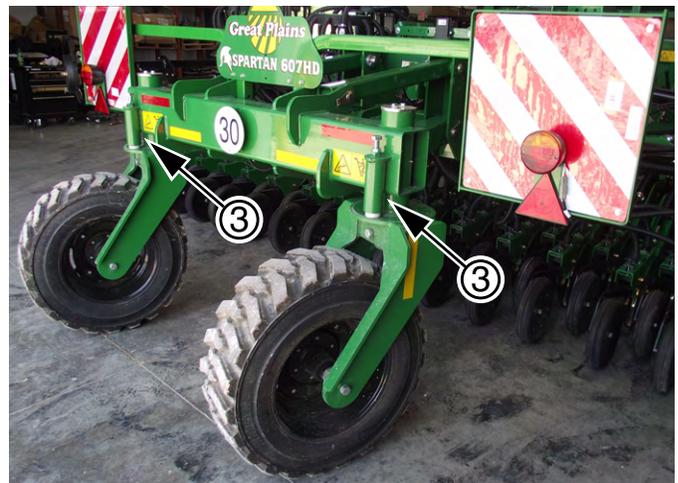


Figure 3
Caster Stabilizers

Remove Mid Weight Set

Refer to Figure 4 and Figure 5

1. Remaining clear of seed towers and hoses, disassemble mid weight set ① from the center frame tubes ④.

Remove the $\frac{1}{2} \times 1\frac{1}{2}$ in bolt ⑧, hex nut and lock washer from each top mount that hook the mid weight and rear weight top mounts together.

(Retain bolt, nut and washer by securing them back in the top mount holes of the mid weight after the stack is removed.)

2. Remove the two weight bracket bolt channels ⑥ that keep the weights attached to the frame (only the left one is visible in Figure 4). This requires removing the nut and lock washer on the bottom of the bracket securing each $\frac{5}{8} \times 9$ in bolt ⑦.

When you take the nut off the bolt should slip out.

Before Proceeding:

The individual weight bars, two top mounts ② and long weight mount channel weldment ⑤ remain assembled as one unit.

3. There are two weight bracket mounts ② on the top of each stack of weights. Secure lifting hooks or chains to these two mounts on the mid weight. (Take up slack gradually to avoid deforming mounts. Minimize load sway to avoid damage to nearby objects and the drill.)
4. Hoist mid weight up and away from implement. Place in storage along with the two weight bracket bolt channels ⑥ (Note: channels may be used later).

Adjust Back Pressure

5. To manipulate the amount of down force: In addition to removing the mid weight stack you will need to adjust the back pressure at the pressure reducing valve located on the left wing. See “**Adjust Weight Transfer Valves**” on page 6.

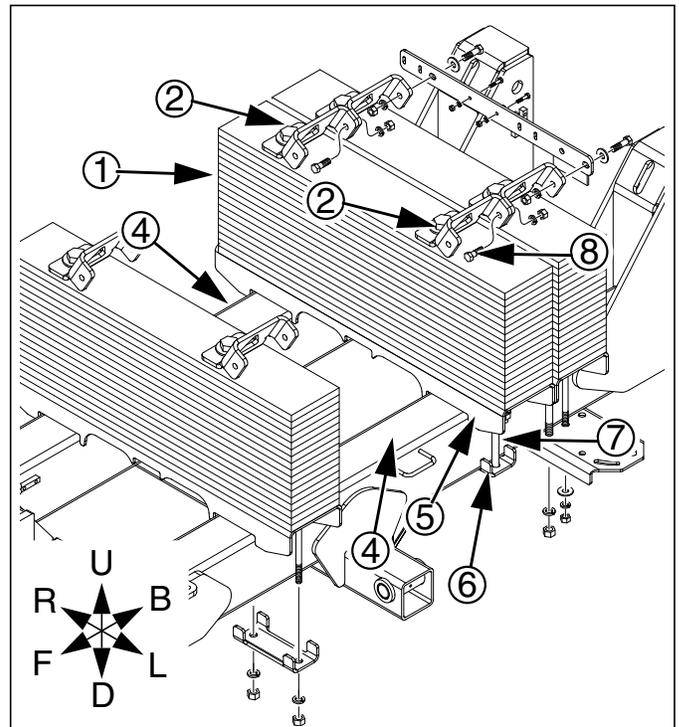


Figure 4
Remove Mid Weight Stack

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Figure 5
Place Hooks on Top Weight Mounts

Adjust Weight Transfer Valves

Refer to Figure 6 and Figure 7

NOTICE

Do not set cart weight transfer higher than necessary. Values close to 1000 psi can lift the rear of an empty cart off the ground. As a cart nears empty, the main tires can begin to slip, or stop turning altogether, resulting in irregular seeding rates or stoppages.

Wing Weight Transfer Adjustment (Outer Valve)

Note: This valve will most likely not need adjusting. It will already be set to meet your requirements.

1. Release lock ring ③ on wing-transfer valve ①.
Adjust knob ④ while observing gauge ⑤.

Increase weight transfer to wings by turning knob clockwise. Reduce weight transfer to wings by turning knob counter-clockwise.

Set pressure to at least 250 psi.
Secure setting with lock ring.

Cart Weight Transfer Adjustment (Inner Valve)

Note: This valve will need adjusting to get the results you require.

2. Release lock ring ⑥ on cart-transfer valve ②.
Adjust knob ⑦ while observing gauge ⑧.

Increase weight transfer from cart by turning knob clockwise. Reduce weight transfer from cart by turning knob counter-clockwise.

Set pressure to at least 100 psi.
Secure setting with lock ring.

3. Pull forward in ground. Assess opener penetration, and coulter (option) penetration. Compare wings to center section.
4. During field operations, monitor coulter and opener depth of wings and center section. Adjust weight transfer as required for consistent depth across drill.
5. Once the cart weight transfer has been adjusted, adjust the rear lift assist adjustment linkage as described in “Adjust Linkage” on page 7.

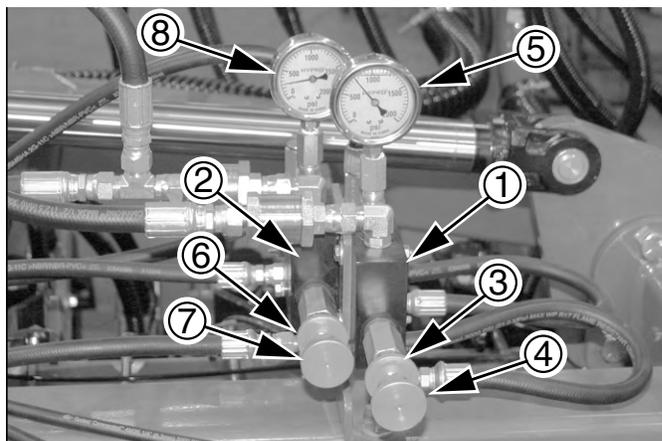


Figure 6
Pressure Reducing Valve
Inner Valve Controls Cart
Outer Valve Controls Wings

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NOTICE

To avoid planting problems, do not exceed 1500 psi for wing-transfer; and 1000 psi for cart-transfer. A relief valve prevents operating the wing-transfer at over 1500 psi.

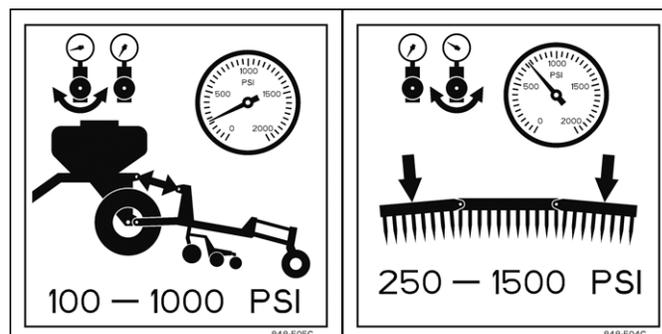


Figure 7
Pressure Reducing Valve Decals
Cart: Decal on Left
Wing: Decal on Right

Adjust Linkage

Refer to Figure 8

The factory setting of the lift assist link has approximately 7.62cm (3in) of exposed threads outside the fixed end of the lift assist link. Adjust the link (extend it out) by only 2.54cm to 3.81cm (1 to 1½in). Any more than that could be unsafe and lead to machine damage.

⚠ DANGER

Caster Failure Hazard:

Never exceed 13.97cm (5½in) of exposed threads on the lift assist adjustment link. Exceeding this measurement could result in linkage failure leading to severe machine damage, bodily injury or death.

1. With drill (unfolded and lowered) place a jack stand underneath the rear part of the frame near the caster wheels. Support is required to take weight off the casters for ease of adjustment. If you do not have a jack stand, an alternative method to reduce weight on the casters is to do the following four steps:
 - turn the 90 degree ball valve on the fan to transport position
 - activate the tractor remote lever to supply oil to the fan/weight transfer circuit
 - set the cart weight transfer to 100 psi
 - set the wing weight transfer to the maximum pressure setting of 1500 psi.
2. Measure from the inside face of the square nut ① to the inside face of the adjuster nut ② (see Figure 8). The factory setting is approximately 7.62cm (3in). Adjust it out 2.54cm (1in) to start with. The measurement from the face of the square nut to the face of the adjuster nut will now be 10.16cm (4in).
3. Determine if adjusting the link 2.54cm (1in) provides a satisfactory result. See **“Determine Results”** on page 8. If frame drops back too much it indicates there is still too much weight. Follow instructions for removing rear weight set.

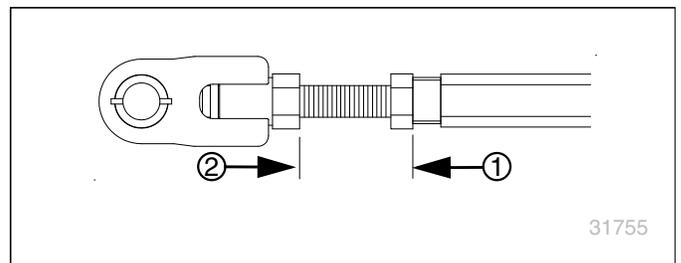


Figure 8
Adjust Lift Assist Link

Link Adjust	Thread Measurement	PW Transport Clearance	Comments	Casters
factory set	7.62cm (3in)	27.94cm (11in)	factory setting	
2.54cm (1in)	10.16cm (4in)	22.86cm (9in)		moves casters 10.16cm (4in) more than factory setting
3.81cm (1.5in)	11.43cm (4.5in)	20.32cm (8in)	maximum recommended link adjustment	moves casters 15.24cm (6in) more than factory setting
5.08cm (2in)	12.7 (5in)	17.78cm (7in)	not recommended start losing PW clearance	moves casters 20.32cm (8in) more than factory setting
6.35cm (2.5in)	13.97cm (5.5in)	less than 12.7cm (5in)	NEVER EXCEED UNSAFE	thread engagement not enough for safe transport

Determine Results

1. Run implement in field.
2. If removing the mid weight stack satisfactorily gets the result you desire (the tires are off the ground as you want) you are done. Make sure to reset valve: back pressure must be set to at least 100 psi.
3. If the result is not satisfactory and further adjustment is desired it will be necessary to set the pressure back down and then proceed with the rest of these instructions to remove the rear set of weights.

NOTICE

Insufficient Opener Weight Risk:

It is not recommended to remove the front weight stack. If the implement is used in heavier till field conditions there will be insufficient down force over the coulters for penetration in the soil.

Remove Rear Set of Weights

Refer to Figure 9

About the Weights

The 6in 80-row drill model has an extra (fifth) blockage module that the other models (6in 40-row, 7.5in 32-row, 7.5in 64-row) do not require. It is mounted on the double shoot blockage module mount (12) on the rear set of weights (13). It needs to be dismantled and moved as per the following instructions. If the implement you have does not have this mount bracket, disregard references to it and follow all other instructions.

Remove Rear Weight Set

1. If you have the double shoot 6in 80-row model: Remove double shoot blockage module mount (12) keeping DICKEY-john® module attached and save along with any hardware to remount. This will be remounted in Step 5 to the angle tower bracket.
2. Remove the $\frac{5}{8}$ x9in bolts (15) at either end of the two center tower mount brackets (14) that the rear weight stack (13) is bolted to (only left frame side is visible in Figure 9). The U-bolt (16) remains permanently attached.
3. Secure lifting hooks or chains to the two mounts (11) on the top of the rear weight stack. (Take up slack gradually to avoid deforming mounts. Minimize load sway to avoid damage to nearby objects and the drill.)
4. Hoist rear weight stack (13) up and away from implement and place in storage along with all associated hardware.

Reattach Mount Bracket and Module

Refer to Figure 10 and Figure 11

5. If you have the double shoot 6in 80-row model: Attach double shoot blockage module mount bracket (12) with attached DICKEY-john® module (17) to upper set of holes in double shoot tower mount angle bracket (18) (Figure 10) using two bolts currently in place on the tower bracket.

Note: This bracket must be centered to connect to all seed hoses.

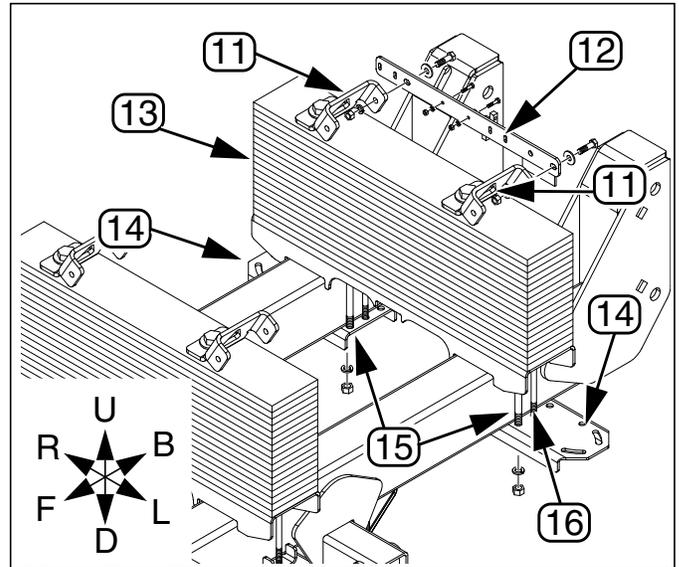


Figure 9
Rear Weight Stack

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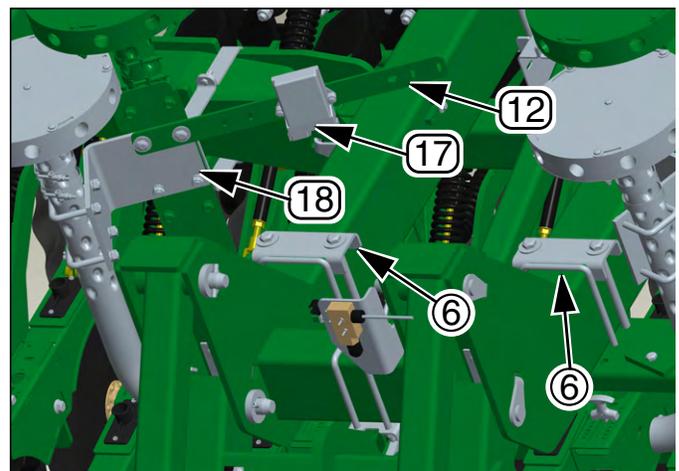


Figure 10
Blockage Monitor Mount Bracket

Reattach Bolt Channel Brackets

- Take the two weight bracket bolt channels ⑥ and two $\frac{5}{8}$ x9in bolts ⑮ per bracket that were removed from the bottom of the mid weight set and remount one each on top of the left and right frame tubes as pictured (Figure 10 and Figure 11).

Adjust Back Pressure

- To manipulate the amount of down force: In addition to removing the rear weight stack you should adjust the back pressure at the pressure reducing valve located on the left wing See “Adjust Weight Transfer Valves” on page 6.

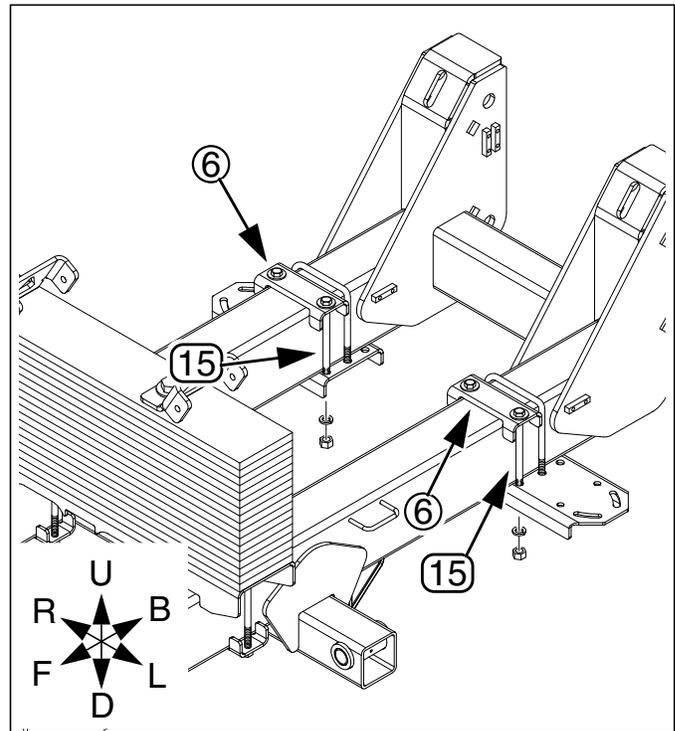


Figure 11
Weight Bracket Bolt Channels

Determine Results

- Run implement in field.
- If removing the rear weight stack satisfactorily gets the result you desire (the tires are off the ground as you want) you are done. Make sure to reset pressure valve: back pressure must be set to at least 100 psi.

NOTICE

Insufficient Opener Weight Risk:

It is not recommended to remove the front weight stack. If the implement is used in heavier till field conditions there will be insufficient down force over the coulters for penetration in the soil.

Appendix

Abbreviations

in.	inch/inches
kg	kilograms
psi	pounds per square inch

PW	press wheel
W/	With
X	by

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