Introduction

Using Your Operator’s Manual

Read this entire operator’s manual, especially the safety information, before operating.

This manual is an important part of your machine. Keep all manuals in a convenient location so they can be accessed easily.

Use the safety and operating information in the attachment operator’s manual, along with the machine operator’s manual, to operate and service the attachment safely and correctly.

If your attachment manual has a section called Preparing the Machine, it means that you will have to do something to your tractor or vehicle before you can install the attachment. The Assembly and Installation sections of this manual provide information to assemble and install the attachment to your tractor or vehicle. Use the Service section to make any needed adjustments and routine service to your attachment.

If you have any questions or concerns with the assembly, installation, or operation of this attachment, see your local John Deere dealer or call Powertach Special Services at 1-866-433-1733 for assistance.

Product Identification

Product Compatibility

This 72-Inch Heavy Duty Blade is compatible with 625i, 825i, and 855D XUV Series Gator™ Utility Vehicles.

Record Purchase Information

Record your purchase information in the spaces provided below.

DATE OF PURCHASE:
_________________________________________

DEALER NAME:
_________________________________________

DEALER PHONE:
_________________________________________

Safety

Read Safety in Machine Operator’s Manual

Read the general safety operating precautions in your machine operator’s manual for additional safety information.

Operating Safely

• This attachment is intended for light duty moving of snow or other light, loose material and is not intended for digging or grading. Do not misuse this equipment.

• Do not exceed operating speed of 16 km/h (10 mph) when moving material with this attachment.

• Read, understand and follow all instructions in the manual and on the vehicle and attachment before operating.

• Only allow responsible adults who are familiar with the instructions to operate the machine.

• Inspect machine and attachment before you operate. Be sure hardware is tight. Repair or replace damaged, badly worn or missing parts. Be sure guards and shields are in good condition and fastened in place. Make any necessary adjustments before you operate.
SAFETY

Check brake action before you operate. Adjust or service brakes as necessary.

Stop machine if anyone enters the area.

If you hit an object, stop and inspect the machine. Make repairs before you operate. Keep machine and attachments properly maintained and in good working order.

Before operating, make sure all connections are tight and blade responds properly to controls. Check all connections periodically for tightness.

Do not leave machine unattended when it is running.

Only operate during daylight or with good artificial light.

Be careful of traffic when operating near or crossing roadways.

Do not wear radio or music headphones while operating the machine. Safe operation requires your full attention.

Transport the blade with it raised to the highest position, it should be centered and not at an angle.

Be aware of the position of the blade ends. Blade makes a wide arc when turning.

Be aware of the possibility of objects hidden under the snow. Avoid holes, rocks, roots and other obstructions.

Avoid the edges of ditches and banks to reduce the possibility of loss of control.

When plowing material into a pile, travel in reverse before raising blade.

Do not ram into a pile of material; slow down before contact is made.

Lower attachment completely before leaving operator’s seat.

Lower any attachment completely to the ground or to an existing attachment mechanical stop before servicing the attachment. Disengage all power and stop the engine. Lock park brake and remove the key.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.

Parking Safely
1. Stop machine on a level surface, not on a slope.
2. Lower attachments to the ground.
3. Lock the park brake.
4. Stop the engine.
5. Remove the key.
6. Wait for engine and all moving parts to stop before you leave the operator’s seat.
7. Close fuel shut-off valve, if your machine is equipped.
8. Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

Checking Area to be Cleared
• Thoroughly inspect the area where the equipment is to be used and remove all doormats, sleds, boards, wires and other foreign objects.
• Keep people and pets out of the work area. Keep children indoors when using blade. Turn the machine off if anyone enters the area.
• Be extremely careful if you must clear snow from a gravel surface. Adjust the blade height to clear a gravel surface.

Avoid Injury From Hitting Obstructions

Raise and center, not angle, attachment when you drive between jobs.

Slow down when you remove snow. Be cautious on slopes, when you make turns or when close to buildings or trees.

Practice Safe Maintenance
• Only qualified, trained adults should service this machine.
• Understand service procedure before doing work. Keep area clean and dry.
• Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
• Never lubricate, service or adjust the machine or attachment while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
• Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
• Lower any attachment completely to the ground or to an existing attachment mechanical stop before servicing the attachment. Disengage all power and stop the engine. Lock park brake and remove the key. Let machine cool.
• Disconnect battery or remove spark plug wire (for gasoline engines) before making any repairs.
• Before servicing machine or attachment, carefully release pressure from any components with stored energy, such as hydraulic components and springs.
• Release hydraulic pressure by lowering attachment or cutting units to the ground or to a mechanical stop and move hydraulic control levers.
• Securely support any machine or attachment elements that must be raised for service work. Use jack stands or lock service latches to support components when needed.
• Never run engine unless park brake is locked.
• Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.
• Check all hardware at frequent intervals to be sure the equipment is in safe working condition.
• Do not modify machine or safety devices. Unauthorized modifications to the machine or attachment may impair its function and safety.

Handling Waste Product and Chemicals
Waste products, such as, used oil, fuel, coolant, brake fluid, and batteries, can harm the environment and people:
• Do not use beverage containers for waste fluids - someone may drink from them.
• See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.
• A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. The seller of the chemical products used with your machine is responsible for providing the MSDS for that product.
Assembly

Identify Parts

The blade attachment is shipped partially assembled in three boxes with the blade in one box, the blade frame assembly and associated hardware bags in another box. The hitch/vehicle mount is in a separate box.

NOTE: If the vehicle is equipped with a front receiver hitch, it should be removed before installing the blade.

Heavy Duty Blade

Bag of Parts (Marked Z-1885)

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Bolt, Carriage, 1/4 x 3/4 in.</td>
</tr>
<tr>
<td>3</td>
<td>Bolt, Hex Head, 1/2 x 1-1/2 in.</td>
</tr>
<tr>
<td>3</td>
<td>Washer, Special, 1/2 in.</td>
</tr>
<tr>
<td>3</td>
<td>Washer, Flat, Standard, 1/2 in.</td>
</tr>
<tr>
<td>3</td>
<td>Lockwasher, 1/2 in.</td>
</tr>
<tr>
<td>2</td>
<td>Locknut, Nylon Insert, 1/4 in.</td>
</tr>
<tr>
<td>3</td>
<td>Nut, Hex, 1/2 in.</td>
</tr>
<tr>
<td>2</td>
<td>Pin, Clevis, 1/2 x 1-1/4 in.</td>
</tr>
<tr>
<td>2</td>
<td>Pin, Tab Lock, 3/8 x 2-3/4 in.</td>
</tr>
<tr>
<td>2</td>
<td>Clamp, Conduit, 1/2 in.</td>
</tr>
<tr>
<td>2</td>
<td>Spring Locking Pin</td>
</tr>
<tr>
<td>6</td>
<td>Tie Strap, Nylon</td>
</tr>
</tbody>
</table>

Bag of Parts (Marked Z-1887)

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Bearing, Plated</td>
</tr>
<tr>
<td>2</td>
<td>Bolt, Hex Head, 5/8 x 2 in.</td>
</tr>
<tr>
<td>2</td>
<td>Washer, 5/8 in.</td>
</tr>
<tr>
<td>2</td>
<td>Lockwasher, 5/8 in.</td>
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</tbody>
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Bag of Parts (Marked Z-1888)

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>8</td>
<td>Bolt, Carriage, 3/8 x 1 in.</td>
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<tr>
<td>8</td>
<td>Lockwasher, 3/8 in.</td>
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<tr>
<td>8</td>
<td>Nut, Hex, 3/8 in.</td>
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<tr>
<td>2</td>
<td>Pin, Hairpin Cotter</td>
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</table>

Bag of Parts (Marked Z-1880)

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Bracket, Spring</td>
</tr>
<tr>
<td>2</td>
<td>Bolt, Hex Head, 3/8 x 1-1/4 in.</td>
</tr>
<tr>
<td>2</td>
<td>Bolt, Hex Head, 3/8 x 2-1/2 in.</td>
</tr>
<tr>
<td>2</td>
<td>Lockwasher, 3/8 in.</td>
</tr>
<tr>
<td>2</td>
<td>Nut, Hex, 3/8 in.</td>
</tr>
<tr>
<td>2</td>
<td>Locknut, with Star Washer, 3/8 in.</td>
</tr>
</tbody>
</table>
Attach Blade to Frame

NOTE: The required hardware for this step is found in the bag of parts marked Z-1887.

1. Position the frame assembly (A) at the back of the blade weldment (B) and secure with a plated bearing (C), 5/8 in. flat washer (D), 5/8 in. lockwasher (E) and 5/8 x 2 in. hex head bolt (F) at each side of the bottom of the frame assembly, installed from the outside, as shown.

Install Trip Springs

NOTE: Spring Bracket must be installed under frame assembly for spring to operate properly.

The required hardware for these steps is found in the bag of parts marked Z1880.

1. Position a spring bracket (A) under the left side mounting flange (B) at the bottom of the frame assembly, with the spring bracket oriented toward the outside, as shown. The hole in the spring bracket should be aligned under the outer hole in the mounting flange. Secure with a 3/8 x 1-1/4 in. hex head bolt (C), installed from the top, and a 3/8 in. lockwasher (D) and 3/8 in. hex nut (E), under the spring bracket. Tighten hardware securely.

NOTE: The locknut with star washer must only be threaded minimally onto the bolt initially, for easier connection of the trip spring to the upper spring bracket.

2. Install a 3/8 x 2-1/2 in. hex head bolt (F) down through a hole located at the top of the blade, just outside of the blade rib at the left side of the frame assembly. Install a spring bracket (A) on the bolt under the blade flange, and loosely thread a 3/8 in. locknut with star washer (G) onto the bolt until the end of the bolt just starts to show past the nut. Do not tighten hardware at this time.

3. Connect a Trip Spring (H) to the remaining mounting hole on the lower spring bracket (A), then connect the trip spring to the remaining hole in the upper spring bracket.

4. To tension the trip spring, completely tighten the upper spring bracket hardware.

5. Repeat procedure for other side.

Install Skid Shoes

NOTE: The required hardware for these steps is found in the bag of parts marked Z-1888.

1. Position a shoe mount (A) over the four existing holes at the left side of the blade bottom, as shown. Secure with four 3/8 x 1 in. carriage bolts (B), installed from the top, and 3/8 in. lockwashers (C) and 3/8 in. hex nuts (D), below the blade flange. Do not fully tighten.

2. Insert a skid shoe (E) into the shoe mount (A) and allow the skid shoe to slide down to ground. Note that there are several holes located on the center post of the blade shoe, these are used for adjusting skid shoe height.
NOTE: Blade should be on firm and level ground when leveling.

3. Level blade by placing shims under wear bar of blade at both sides so bottom blade edge is slightly off the ground.

4. Move skid shoe to align with nearest hole in shoe mount and secure with a hairpin cotter pin (F).

5. If necessary, a minor height adjustment can be made by moving the shoe mount up or down, as the mounting holes are slotted. When adjustment is completed, tighten shoe mount hardware securely.

6. Repeat procedure for other side.

Preparing Vehicle

Check Tire Pressure and Wheel Bolt Torque
See your utility vehicle operator's manual:

- Check tire pressure with an accurate gauge. Make sure tires are at recommended air pressure.
- Check wheel bolts are tightened to specified torque value. Tighten bolts in proper sequence using a torque wrench.

Preparing Vehicle

If the vehicle is equipped with a front receiver hitch, it should be removed before installing the blade.

Install Vehicle Mounting Bracket

NOTE: The required hardware for this procedure is found in the bag of parts marked Z-1885-C and Z-1885-D.

1. Park vehicle on a level surface and set the parking brake.

2. Remove one bolt (A) and nut from skidplate.

3. Attach lower mounting bracket (B) corner as shown using bolt (A) and nut removed in step 1.

4. Remove existing bolt (C) and nut and bolts (D). Keep hardware you will re-install in next step.

5. Rotate bracket into place, and loosely secure with hardware removed in previous step.
6. Loosely install right (E) and left (F) upper mounting brackets to front bumper with four 1/2 x 2-1/2 in. bolts (G), 1/2 in. lockwashers, and 1/2 in. nuts.

**Install Blade Control Lever**

*NOTE: The required hardware for this step is found in the Bag of Parts marked Z-1885.*

1. Open the hood (A).
2. Remove storage tray (B) to gain easy access to the instrument panel support bar (C).
3. Disconnect the blade control lever / switch assembly from the wiring harness by unplugging the 6-pin connector at the blade control lever wiring lead.
4. Pre-assemble the two conduit clamps (D) loosely to switch bracket (E) below the radiused flange (F), using two 1/4 x 3/4 in. carriage bolts (G) and 1/4 in. nylon insert locknuts (H).
NOTE: With the storage tray removed, access to the instrument panel support bar can be done by reaching over the top of the instrument panel.

5. From operator’s station, raise and mount the switch bracket (E) to the instrument panel support bar (C) by fitting the radiused flange of the bracket up over the support bar and pivoting the loose clamps (D) over the other side of the support bar. Tighten bracket hardware only enough to hold the bracket in place, the bracket must still be able to slide on the support bar.

6. Center the blade control lever (I) inside the vehicle by sliding the switch bracket (E) to the desired position and securely tighten the two nylon insert locknuts on clamps to secure position.

Install Wiring Harness

NOTE: The retainer studs are slotted. Do not force plastic retainer studs into anchors. To replace, line up slots with anchor and insert.

1. The vehicle center console cup holder must be removed to run the necessary wiring back to the battery. Using a flat screwdriver or similar tool, remove and retain the four plastic retainers (A) and the center console (B).

NOTE: The 3-pin wiring harness must be attached to the right bumper post and the 2-pin wiring harness to the left bumper post in order to make the necessary connections to the hitch assembly.

2. Arrange the Wiring Harness by routing the 2-pin connector harness (C) and 3-pin connector harness (D) around the engine compartment, down to the underside of the vehicle.

3. Route the red positive (+) and black negative (-) wires, along with the 6-pin connector through the engine compartment to the center console.

4. Connect the purple wire (E) with the 2-pin blade connector to the to the 2-pin blade connection located on the wire cluster that runs along the vehicle steering column.
5. To allow movement, loosely attach the 2-pin and 3-pin wiring harness to the bumper post on each side of the vehicle with a cable tie (F).

6. Route blade control lever harness (G) behind control lever (H) and along U-shaped cutout (I) on switch bracket (J). Plug the 6-pin connector (K) on blade control lever harness (G) to the 6-pin connector from the wiring harness previously routed from the engine compartment to the center console.

7. Continue routing the red positive (+) and black negative (-) wires along the recessed portion of the center console base, beneath transaxle shifter protective cover (L) toward the battery compartment (M).

8. Secure red (+) and black (-) wires to the vehicle wiring harness in the center console using a cable tie.

9. Tilt the passenger seat forward to gain access to the battery compartment.

10. Pull the red positive (+) (N) and black negative (-) (O) wires through the opening in wall of the battery compartment (M).

11. Slide back rubber protective cover and connect the red positive wire to the positive (+) battery terminal. Connect the black negative wire to the negative (-) battery terminal. Tighten all connections.

12. Slide rubber protective cover back into place over red positive (+) battery terminal.

13. Tilt passenger seat back down to normal position.

*NOTE: The retainer studs and anchors are keyed for proper alignment.*

14. Replace the center console cup holder and secure with plastic retainers, removed earlier. Install the plastic anchors first, then the plastic retainer studs.
Installing

Loading Cargo Box With Ballast

![CAUTION: Avoid injury! Loads can shift forward. Do not load cargo box above the height of load guard. Do not exceed load capacity of vehicle.]

Add weight to the cargo box for proper traction and blade performance. Recommended materials include sand or bagged material. If using another form of ballast, secure it from shifting before operating the vehicle. See your utility vehicle Operator's Manual for load recommendations. Do not exceed the load capacity.

Installing Blade

**NOTE:** The required hardware for these steps is found in Bag of Parts marked Z-1885.

Install Hitch

1. Install hitch (A) to two tabs (B) on lower mounting bracket using two 1/2 x 1-1/4 in. clevis pins (C) and spring locking pins (D).

2. Rotate hitch up and install top two 1/2 x 1-3/4 in. clevis pins (E) and spring locking pins.

3. Securely tighten vehicle mounting bracket hardware (this hardware was left loose after installing the lower mounting bracket).

4. Connect the 2-pin and 3-pin connectors on the hitch wiring leads to the 2-pin and 3-pin connector from the wiring harness previously attached to each side of the bumper posts.

Test Blade Control Lever UP/DOWN Function

**NOTE:** Key switch must be in RUN position for the blade control lever to function.

1. Turn key switch to RUN position.

2. Move blade control lever forward and hold in the DOWN position, hitch forks should lower.

3. Move blade control lever backward and hold in the UP position, hitch forks should raise.

Install Blade

**NOTE:** Vehicle and blade should be on a firm level surface for ease of installation.

1. Place the blade on a flat surface that is accessible with the vehicle.

2. Move the vehicle behind blade and line up the blade with the hitch.

3. Tilt the hitch down in order to line up blade mounting forks (H) with the blade frame by moving the blade control lever forward to the DOWN position.
Removing and Storage

Removing Blade

NOTE: Blade should be placed on a firm level surface for ease of removal.

1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Lower blade to ground by moving and holding blade control lever forward to the DOWN position.

3. Remove two tab lock pins (A) from blade mounting forks to disconnect blade. Install tab lock pins into the blade mounting forks for storage after removal.

NOTE: If there is difficulty removing hydraulic hoses, turn key switch to RUN position and move blade control lever to different positions to alternate hydraulic pressure, then turn key switch to OFF and disconnect hoses.

Removing Ballast

CAUTION: Avoid injury! Machine can become unstable when operating with attachment. Ballast is required when the attachment is installed.

When the attachment is removed, also remove any ballast that was added to the machine.

Use only attachments and accessories recommended by the manufacturer.

Remove any added ballast from machine.
6. Slowly back vehicle until blade mounting forks (C) are clear of the blade.

7. Move blade control lever backward and hold in the UP position until blade mounting forks are fully raised.

8. Park vehicle safely. (See Parking Safely in the Safety section.)

9. Visually check that hitch (D) is raised completely.

10. Disable the blade actuator. Disconnect harness plug from back side of blade switch and secure switch harness from contact with moving parts.

11. Remove ballast from cargo box.

Storing Blade

CAUTION: Avoid injury! Fuel vapors are explosive and flammable. Engine exhaust fumes contain carbon monoxide and can cause serious illness or death:

- Run the engine only long enough to move the machine to or from storage.
- Machine fires and structure fires can occur if a machine is stored before allowing it to cool, or if debris is not removed from around the engine and muffler, or if stored near combustible materials.
- Do not store vehicle with fuel in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing the machine in any enclosure.

1. Remove blade from vehicle.

2. Clean blade.

3. Check for worn, missing, or damaged parts. Replace parts as needed.

4. Paint scratched or worn areas to prevent rust.

5. Store blade on a firm, level surface.

6. If storing blade outside:
   - Block up blade and frame to prevent contact with ground moisture.
   - Place a waterproof cover over blade and frame.

Operating

Daily Operating Checklist

- Check for loose or missing hardware.
- Make sure all connections are tight.
- Make sure attachment responds properly to controls.
- Check for debris build-up that could obstruct proper motion of the blade trip components.
- Wipe a light coat of oil over all exposed surfaces.

Using Blade

NOTE: Key switch must be in RUN position for blade switch to function.

Maximum operating speed when using the blade is 16 km/hr (10 mph).

Raising Blade

1. Move and hold blade control lever to the UP position (A) to raise blade to desired height.

2. Release blade control lever.

Lowering Blade

1. Move and hold blade control lever to the DOWN position (B) to lower blade to desired height.

2. Release blade control lever.

Moving Blade Left

1. Move and hold blade control lever to the LEFT position (C) to move blade to desired angle.

2. Release blade control lever.

Moving Blade Right

1. Move and hold blade control lever to the RIGHT position (D) to move blade to desired angle.
2. Release blade control lever.

Operating Modes

The 72 Inch Heavy Duty Blade can be configured to operate in two modes, Down Pressure and Floating. The hitch assembly is factory configured in the Floating mode.

- When blading snow or gravel it is recommended that that hitch assembly be placed in the Floating mode.
- When blading dirt or back dragging, the hitch should be placed in the Down Pressure mode.

Changing Operating Modes

*NOTE: Key switch must be in RUN position for blade switch to function.*

1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Completely lower the hitch by moving the blade control lever forward to the DOWN position, then release blade control lever.
3. Loosen the 1/2 in. hex head bolt (A) on the hitch.
4. Change to the Down Pressure mode by turning the control plate (B) 90° and tighten the 1/2 in. hex head bolt (A).

Transporting Blade

Avoid contact with objects such as trees or fences. Be aware of blade end position while transporting. Blade makes a wide arc when turning.

Transport with blade raised to the highest position and centered. Do not exceed 8 km/hr (5 mph).

Adjusting Skid Shoes

*CAUTION: Avoid injury! Crushing injury can occur if blade drops unexpectedly. Keep hands and feet from under raised blade.*

1. Raise blade slightly off ground.
2. Park machine safely. (See Parking Safely in the SAFETY section.)
3. Remove lock pin (A).
4. Raise or lower skid shoe (B) to attain desired ground clearance, then replace lock pin (A).
5. Lower blade to ground and check adjustment.

Checking Blade for Obstructions

1. Lower blade to ground.
2. Park vehicle safely. (See Parking Safely in the Safety section.)
3. Check for obstructions around the springs and between the blade and blade frame. Use a long pry bar to remove obstructions.

Service

Service Intervals

IMPORTANT: Avoid damage! Operating in extreme conditions may require more frequent service intervals.

Daily
- Check for loose or missing hardware.
- Make sure all connections are tight.
- Make sure attachment responds properly to controls.
- Check for debris build-up that could obstruct proper motion of the blade trip components.

Hydraulic Oil

The following hydraulic oil is preferred:
- John Deere J20D

Adjusting Blade Height

The blade height at the full up or stow position should be approximately 30.5 cm (12 in.) from the center of the blade to the ground. Over time, as the shocks of the vehicle age, the vehicle may sit lower to the ground causing the blade height to be below 30.5 cm (12 in.). When this occurs, the height of the blade needs to be adjusted to compensate.

Adjust Blade Height

NOTE: Key switch must be in RUN position for blade switch to function.

1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Completely lower the hitch by moving the blade control lever forward to the DOWN position, then release blade control lever.

Picture Note: Down Pressure mode shown.

3. If in the Down Pressure mode, loosen the 1/2 in. hex head bolt (A).
4. Loosen jam nut (B) on the hitch.

Picture Note: Floating mode shown.

5. Rotate the Control Plate (C) to the floating mode position to gain access to hex socket head bolt (D) for adjustment.

CAUTION: Avoid injury! Fingers and hands can be pinched or crushed. Be aware of potential pinch points and keep hands away.

IMPORTANT: Avoid damage! Operating in extreme conditions may require more frequent service intervals.
Picture Note: Floating mode shown.

6. Adjust blade to specified height by turning hex socket head bolt (D) to desired height using a 1/4 in. hex key wrench.
   - Turning bolt (D) clockwise lowers the blade, turning bolt (D) counterclockwise raises the blade.
   - For each full turn of bolt (D), the blade will raise or lower 25 mm (1 in.).
7. Tighten jam nut (B) securely.
8. Rotate control plate (C) to either Floating or Down Pressure position, as desired, then tighten 1/2 in. hex head bolt (A) securely.
9. Check blade height in the full up position, repeat adjustment as necessary.

Reverse or Replace Blade Wear Bar

**CAUTION: Avoid injury! Crushing injury can occur if blade drops unexpectedly. Keep hands and feet from under raised blade.**

1. Raise blade slightly off the ground.
2. Remove bolts (A) and nuts (B) securing wear bar (C) to blade.
3. Evaluate the condition of the existing wear bar and hardware.
4. Reverse and re-install, or replace wear bar depending on condition. Secure with original hardware, or replace hardware, as required.

Replacing Skid Shoes

1. Raise blade slightly off the ground.
2. Park machine safely. (See Parking Safely in the SAFETY section.)
3. Place blocks under blade frame. Lower blade frame onto blocks so bottom blade edge remains off ground. Remove key from machine.
4. Remove lock pin (A) and skid shoe (B), from shoe mount (C).
5. Discard old parts.
6. Install new skid shoe in shoe mount.
7. Adjust skid shoe to attain desired ground clearance and secure with new lock pin.
8. Raise blade slightly. Remove blocks from under frame.
9. Lower blade to the ground and check adjustment. Remove key from machine.

Testing Pump Operation

**NOTE: Material needed: Two 213 cm (84 in.) long 12 gage jumper wires.**

1. Remove bolts (A) and nuts (B) securing wear bar (C) to blade.
1. Disconnect the blade from the hitch assembly by removing the two latch pins (A) and the two hydraulic quick disconnects (B). Move the blade away from the hitch assembly.

2. Disconnect the pump electrical harness connector (C) from harness electrical connector (D).

3. Connect one of the jumper wires from the negative battery terminal to the black motor wire (E) in connector (C).

4. Connect one of the jumper wires from the positive battery terminal to the green motor wire (F) in connector (C). Listen to the motor for operation: if the motor is not making a sound, the motor is bad and must be replaced (see “Replacing Pump” procedure).

5. Reconnect the jumper wire connected to the green motor wire (F) in connector to the blue motor wire (G) in connector. Listen to the motor for operation: if the motor is not making a sound, the motor is bad and must be replaced (see “Replacing Pump” procedure).

6. Alternate the location of the jumper wire from the blue wire to the green wire and back and forth. When the blue wire is connected the hydraulic cylinder on the hitch should contract and the hitch assembly move up. When the green wire is connected the hydraulic cylinder on the hitch should extend and the hitch assembly should move down.

7. If the hitch still fails to move both in the upward and downward directions, recheck to make sure the pump is filled with hydraulic fluid. If the hitch still fails to move both in the upward and downward directions when alternating the connection of the jumper wire, the motor is bad and must be replaced (see “Replacing Pump” procedure).

8. If the hitch is working properly, the trouble is in the electrical harness or switch (see “Testing Wire Harness Operation”).

**Replacing Pump**

*NOTE: Tools needed: Two 9/16 in. wrenches.*

1. Disconnect the pump electrical harness connector (A) from harness electrical connector (B).

*NOTE: Be certain to mark which two hoses go to which two fittings on pump before disconnecting hoses.*

2. Disconnect the two hydraulic hoses (C) and (D) from the two 90 degree flare fittings that are attached to the pump and plug hoses do eliminate contamination and minimize fluid leakage. (Do not disconnect the two 90 degree flare fittings (E) at this time).

3. Disconnect the two mounting bolts (F) attaching the pump to the hitch assembly and remove the pump (G).

4. On a table, place the new pump and old pump side by side. Notice the angles of the 90 degree flare fittings (E) with respect to the old pump. Remove one at a time, each 90 degree flare fitting from the old pump and attach it to the new pump at the same angle. Tighten both flare fittings to 20 N·m (180 in-lb).
5. Attach the pump to the hitch assembly with the two mounting bolts.

6. Connect the two hydraulic hoses to the two 90 degree flare fittings. Tighten to 1/3 turn past finger tight.

7. Fill pump with John Deere J20D Hydraulic fluid and move blade up and down, waiting several seconds between each movement. Continue doing this for approximately 3 to 5 minutes. Refill with hydraulic fluid.

**Testing Wire Harness Operation**

*NOTE: Material needed: Two 213 cm (84 in.) long 12 gage jumper wires.*

1. Verify pump and solenoid are working correctly as described in above sections first.

2. Disconnect the joystick switch wire harness 6-pin connector (A) from the main snow blade electrical wire harness connector (B).

3. At the 6-pin main harness connector (B), jumper the pin with the red wire (C) to the pin with the red wire (D). Verify the hitch moves down.

4. At the 6-pin main harness connector, jumper the pin with the red wire (C) to the pin with the green wire (E). Verify the hitch moves up.

5. At the 6-pin main harness connector, jumper the pin with the green wire (E) to the pin with the red wire (C) to the pin with the blue (or black) wire (D) and jumper the pin with the red wire (C) to the pin with the orange wire (F). Verify the blade moves left.

6. At the 6-Pin connector, jumper the pin with the red wire (C) to the pin with the green wire (E) and jumper the pin with the red wire to the pin with the white wire (G). Verify the blade move right.

7. If the movements are correct above, then replace the main snow blade harness. If any of the movements are incorrect above, replace the joystick switch harness.

*NOTE: See “Wiring Harness Troubleshooting” in the TROUBLESHOOTING Section for additional wiring harness diagram and detailed description of wiring connections.*

**Testing Solenoid Operation**

*NOTE: Material needed: Two 213 cm (84 in.) long 12 gage jumper wires.*

1. Turn the vehicle key to the off position.

2. Make sure the blade is connected to the hitch assembly by the two latch pins and the two hydraulic quick disconnects.
Troubleshooting

3. Disconnect electrical harness connector (A) from the solenoid electrical connector (B).

4. Connect a jumper wire from the negative battery terminal to one of the black solenoid wires in the solenoid electrical connector (B).

5. Connect a jumper wire from the positive battery terminal to the other black solenoid wire in the solenoid electrical connector.

6. Step away from the blade and into the vehicle. Turn the vehicle key to the on position. Utilizing your joystick, move the blade in the up and down direction. The blade should move left and right. If the blade fails to move left and right, the solenoid is bad and must be replaced. If the blade is working to the left and right, the trouble is in the electrical harness or switch (see “Testing Wire Harness Operation”).

Replacing Solenoid

**NOTE:** Tools needed: One 3/4 in. wrench and one 7/8 in. wrench.

1. Disconnect electrical harness connector (A) from the solenoid electrical connector (B).

2. Remove nut (C) on top of solenoid and remove magnetic coil (D).

3. Remove bottom nut (E) on solenoid and remove solenoid from manifold (F).

4. Install new solenoid by tightening bottom nut of solenoid to 20 N•m (180 in-lb).

5. Reconnect electrical connection between the solenoid and the electrical harness.

6. Refill pump with John Deere J20D Hydraulic fluid as necessary.

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Troubleshooting

**Using Troubleshooting Chart**

If you are experiencing a problem that is not listed in this chart, see your authorized dealer for service.

When you have checked all the possible causes listed and you are still experiencing the problem, see your authorized dealer.

**Blade Troubleshooting**

If you are experiencing a problem that is not listed in this chart, see your authorized dealer for service.

When you have checked all the possible causes listed and you are still experiencing the problem, see your authorized dealer.
NOTE: Use two graphics above to follow steps within troubleshooting table.

<table>
<thead>
<tr>
<th>IF</th>
<th>CHECK</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pump runs, but hitch does not move or is slow.</td>
<td>Check hydraulic fluid level, fill as necessary.</td>
<td>Remove fill cap (A). Fill pump with John Deere J20D hydraulic fluid and replace fill cap. Move blade left and right. Repeat this procedure 5 to 6 times to get the air out of the system. Refill with hydraulic fluid.</td>
</tr>
<tr>
<td>2. Pump runs, and is filled with hydraulic fluid, but still too slow.</td>
<td>Check hydraulic fluid level. If adequate, remove orifice.</td>
<td>Check the vehicle electrical system by jumping the battery with another vehicle and run the blade while the vehicle is being jumped. If this fixes the problem, then fix vehicle electrical system. Most common issue is an old battery not performing optimally. Replace old battery. On gas powered machines, you will need to have an alternator kit installed. On diesel powered machines, you will need to have a heavy duty alternator kit installed if you are using heater and/or lights.</td>
</tr>
<tr>
<td>3. Thermal breaker keeps kicking in.</td>
<td>Wait 2 minutes and it will reset.</td>
<td>Operating Blade with continued pressure on controller will cause the thermal breaker to kick in.</td>
</tr>
<tr>
<td>4. Hydraulic fluid leaking.</td>
<td>Check hoses and fittings for possible loose hydraulic fittings.</td>
<td>Tighten fittings to 20 N·m (180 in-lb). Refill with fluid and bleed system as directed in item #1.</td>
</tr>
<tr>
<td>5. Blade trips too easily.</td>
<td>A) Check spring tension.</td>
<td>A) The springs are attached to a bracket at the top of the blade. Tighten the nuts that hold this bracket on. Tighten 1/2 in. on each side. If blade still trips too easily, tighten additional 1/2 in. Repeat as necessary. B) Replace springs.</td>
</tr>
<tr>
<td>6. Blade does not trip.</td>
<td>Springs.</td>
<td>The springs are attached to a bracket at the top of the blade. Loosen the nuts that hold this bracket on. Loosen 1/2 in. on each side. If blade still does not trip, loosen additional 1/2 in. Repeat as necessary.</td>
</tr>
<tr>
<td>IF</td>
<td>CHECK</td>
<td>PROCEDURE</td>
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<tr>
<td>7. Blade is not lifting either in the up direction and/or the down direction.</td>
<td>A) Check hydraulic fluid level. B) Check to see if pump is bad.</td>
<td>A) See item #1 for filling and bleeding directions. B) Tools/Material needed: Two 84 in. long 12 gauge jumper wires with alligator clips.</td>
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<tr>
<td></td>
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<td>Procedure:</td>
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<tr>
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<td></td>
<td>• Disconnect the blade from the hitch assembly by removing the two latch pins and the two hydraulic quick disconnects. Move the blade to the down position to relieve pressure when disconnecting hydraulics. Move the blade away from the hitch assembly.</td>
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<tr>
<td></td>
<td></td>
<td>• Disconnect pump electrical harness connector (B) from the harness electrical connector (C).</td>
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<tr>
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<td></td>
<td>• Connect one of the jumper wires from the negative battery terminal to the black motor wire (D).</td>
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<tr>
<td></td>
<td></td>
<td>• Connect one of the jumper wires from the positive battery terminal to the green motor wire (E). Listen to the motor for operation - if the motor is not making a sound, the motor is bad and must be replaced.</td>
</tr>
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<td></td>
<td>• Alternate the location of the jumper wire from the blue wire (F) to the green wire (E) - back and forth. When the blue wire is connected the hydraulic cylinder on the hitch should contract and the hitch assembly move up. When the green wire is connected the hydraulic cylinder on the hitch should extend and the hitch assembly should move down. If the hitch still fails to move both in the upward and downward directions, recheck to make sure the pump is filled with hydraulic fluid. If the hitch still fails to move both in the upward and downward directions when alternating the connection of the jumper wire, the motor is bad and must be replaced. Disconnect pump electrical harness connector (B) from the harness electrical connector (C). Remove the two screws (G) and motor (H).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C) - If the hitch is working properly, the trouble is in the electrical harness or switch (see electrical harness and switch troubleshooting item #11 below).</td>
</tr>
<tr>
<td>8. Pump needs to be replaced if hydraulic fluid is leaking from the manifold.</td>
<td>Check if crack is in pump by seeing if fluid is coming out of manifold (I). Check to see if pump is working using procedure in &quot;Blade is not lifting either in the up direction and/or the down direction&quot; in item #5 above.</td>
<td>Tools Needed: Two 9/16 inch wrenches</td>
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<tr>
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<td>Pump Replacement Procedure:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Disconnect pump electrical harness connector (B) from the harness electrical connector (C).</td>
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<tr>
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<td>• Disconnect the two hydraulic hoses from the two 90 degree flare fittings (J) that are attached to the pump and plug hoses to eliminate contamination and minimize fluid leakage. (Do not disconnect the two 90 degree flare fittings at this time.) Make sure to mark which hoses go to which fitting to verify they are on the same way when reinstalling. The dust covers are color coded blue and black for this.</td>
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<td></td>
<td>• Disconnect the two mounting bolts (K) attaching the pump to the hitch assembly and remove the pump.</td>
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<td>• On a table, place the new pump and old pump side by side. Notice the angles of the 90 degree flare fittings (J) with respect to the old pump. Remove one at a time, each 90 degree flare fitting from the old pump and attach it to the new pump at the same angle. Tighten both flare fittings to 20 Nm (180 in-lb).</td>
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<td>• Attach the pump to the hitch assembly with the two mounting bolts.</td>
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<tr>
<td></td>
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<td>• Connect the two hydraulic hoses to the two 90 degree flare fittings. Tighten to 1/3 turn past finger tight.</td>
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<td>• Fill pump with John Deere J20D Hydraulic fluid and move blade up and down, waiting several seconds between each movement. Continue doing this for approximately 3 to 5 minutes. Refill with hydraulic fluid.</td>
</tr>
<tr>
<td>IF</td>
<td>CHECK</td>
<td>PROCEDURE</td>
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</tbody>
</table>
| 9. Blade is lifting in the up and down direction, but not left or right direction. | Check to see if Solenoid is functioning properly. If Solenoid is not functioning properly -- replace solenoid. If Solenoid is functioning properly, then trouble shoot electrical harness/switch using the electrical harness and trouble shooting procedure provided below in item #10. | Material needed: Two 84 in. long 12 gage jumper wires with alligator clips. WE RECOMMEND TWO PEOPLE FOR THIS PROCEDURE. Procedure:  
  • Turn the vehicle key to the off position.  
  • Make sure the blade is connected to the hitch assembly by the two latch pins and the two hydraulic quick disconnects.  
  • Disconnect electrical harness connector (L) from the solenoid electrical connector (M). (The solenoid is located on top of the machined aluminum manifold located on top of the hitch assembly.)  
  • Connect a jumper wire from the negative battery terminal to one of the black solenoid wires.  
  • Connect a jumper wire from the positive battery terminal to the other black solenoid wire.  
  • Step away from the blade and into the vehicle. Turn the vehicle key to the on position. Utilizing your joystick, move the blade up and down. Then move blade left and right. If the blade fails to move left and right, the solenoid is bad and must be replaced. See item #8. If the blade is working to the left and right, the trouble is in the electrical harness or switch (see electrical harness and switch trouble shooting procedure - Item #11). |
| 10. Solenoid needs to be replaced.                             | Check if solenoid is working by using procedure provided in Item #9 directly above. | Tools Needed: One 3/4 in. wrench and one 7/8 in. wrench.  
Solenoid Replacement Procedure:  
  • Disconnect electrical harness connector (L) from the solenoid electrical connector (M).  
  • Remove nut (N) on top of solenoid and remove magnetic coil (O).  
  • Remove nut (P) on bottom of solenoid and remove solenoid from manifold (Q).  
  • Install new solenoid by tightening bottom nut of solenoid to 20 N•m (180 in-lb).  
  • Reconnect electrical connection between the solenoid and the electrical harness.  
  • Refill pump with John Deere J20D Hydraulic fluid as necessary. |
## Troubleshooting

<table>
<thead>
<tr>
<th>IF</th>
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<th>PROCEDURE</th>
</tr>
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</table>
| 11. Electrical harness or switch is not functioning properly. | Important! FIRST verify pump and solenoid are working correctly. This can be done using procedures in items #9 and #10 above. If the pump and solenoid are working, use the procedure to the right to test the harness. | Material Needed: Two 84 inch long 12 gage jumper wires with alligator clips. Procedure:  
- Important! Verify pump and solenoid are working correctly as described in above sections.  
- Disconnect the joystick switch wire harness 6 pin connector to the main snow blade electrical wire harness.  
- At the 6-pin main harness connector, jumper the pin with the Red wire to the pin with the blue (or black) wire. Verify the hitch moves UP.  
- At the 6-pin main harness connector, jumper the pin with the Red wire to the pin with the Green wire. Verify the hitch moves DOWN.  
- At the 6-pin main harness connector, jumper the pin with the Red wire to the pin with the Blue (or Black) wire and jumper the pin with the Red wire to the pin with the Orange wire. Verify the blade moves RIGHT.  
- At the 6-Pin connector, jumper the pin with the Red wire to the pin with the Green wire and jumper the pin with the Red wire to the pin with the White wire. Verify the blade move LEFT.  
- If the movements are correct above, then replace the main snow blade harness. If any of the movements are incorrect above, replace the joystick switch harness.  
- See Wiring Harness Troubleshooting story below for detailed description. |
| 12 Cannot connect hydraulic hoses from blade assembly to hitch manifold. | Check to see if male or female disconnects are worn or damaged. If so replace them. If fittings are not worn or damaged, use the procedure to the right to connect or disconnect fittings. | If you are in the vehicle, with the pump on, move the joystick to the left position for a second. Then the left hose (as viewed from the seat of the vehicle) can be disconnected or connected easily. Then move the joystick to the right position for a second. Now, the right hose (as viewed from the seat of the vehicle) can be disconnected or connected easily. If relieving pressure to both the male and female fittings does not work check for worn or damaged parts to the male or female fittings. Replace as necessary. |

### Wiring Harness Troubleshooting

If you are experiencing a problem that is not listed in the troubleshooting diagram, see your authorized dealer for service.

When you have checked all the possible causes listed and you are still experiencing the problem, see your authorized dealer.

#### Test Wiring Harness

This diagram is intended to assist in troubleshooting the wiring harness if a problem exists with the blade control lever operating correctly. Use this diagram to determine whether the wiring harness is faulty or the blade control lever is faulty.

![Wiring Harness Diagram](MX40150)

Picture Note: Wire Harness Components
Specifications

A- Breaker
B- Wiring Harness
C- 6-Pin Connector
D- Red Wire
E- Blue or Black Wire
F- Green Wire
G- White Wire
H- Orange Wire
I - Relays
J - Ground Wire
K- Positive Wire to Battery

Troubleshooting the wiring harness requires jumpering pins together from the 6-Pin connector (C) located on the wiring harness (B). To determine a problem with either the blade control lever or wiring harness, check proper hitch movement by doing the following:

• Disconnect the 6-Pin connector from the blade control lever.
• At the 6-Pin connector, jumper the pin with the Red wire (D) to the pin with the Blue (or Black) wire (E). Verify hitch moves DOWN.
• At the 6-Pin connector, jumper the pin with the Red wire (D) to the pin with the Green wire (F). Verify hitch moves UP.
• At the 6-Pin connector, jumper the pin with the Red wire (D) to the pin with the Blue (or Black) wire (E), and jumper the pin with the Red wire (D) to the pin with the Orange wire (H). Verify blade moves LEFT.
• At the 6-Pin connector, jumper the pin with the Red wire (D) to the pin with the Green wire (F) and jumper the pin with the Red wire (D) to the pin with the White wire (G). Verify blade moves RIGHT.

NOTE: If hitch and blade movement is correct replace blade control lever. If hitch movement is incorrect refer to Blade Troubleshooting chart.

Specifications

Heavy Duty 72-Inch Blade

Cutting Width
Blade Straight .................................................. 1.8 m (72 in.)
Blade Angled .................................................. 1.7 m (66.75 in.)

Range of Lift
Above Ground Level ................................. 30.5 cm (12 in.)
Below Ground Level .................................. 7.6 cm (3 in.)

Angling Positions:
Three. ................................................ straight 0°, angled right or left 22°

Weight (All Parts) ................................. 124 kg (275 lb)

Recommended Lubricants
Hydraulic Oil ......................... John Deere Low Viscosity HY-GARD J20D

(Specifications and design subject to change without notice.)

Getting Quality Service

John Deere Quality Continues with Quality Service

John Deere provides a process to handle your questions or problems, should they arise, to ensure that product quality continues with quality parts and service support.

Follow the steps below to get answers to any questions you may have about your product.

1. Refer to your attachment and machine operator manuals.
2. In North America or Canada, call Powertach Special Services at 1-866-433-1733 and provide product serial number (if available) and model number.