

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

**Quick Hitch Broom for X400/X500 and
X700 Series**

60

SN (010001-)

OMM144943 G9

OPERATOR'S MANUAL



JOHN DEERE

Original Instruction

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Consumer Equipment Division**

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Previous Editions

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North American Version

Litho in U.S.A.

INTRODUCTION

Introduction

Thank You for Purchasing a John Deere Product

We appreciate having you as a customer and wish you many years of safe and satisfied use of your machine.

Using Your Operator's Manual

This manual is an important part of your machine and should remain with the machine when you sell it.

Reading your operator's manual will help you and others avoid personal injury or damage to the machine. Information given in this manual will provide the operator with the safest and most effective use of the machine. Knowing how to operate this machine safely and correctly will allow you to train others who may operate this machine.

If you have an attachment, use the safety and operating information in the attachment operator's manual along with the machine operator's manual to operate the attachment safely and correctly.

This manual and safety signs on your machine may also be available in other languages (see your authorized dealer to order).

Sections in your operator's manual are placed in a specific order to help you understand all the safety messages and learn the controls so you can operate this machine safely. You can also use this manual to answer any specific operating or servicing questions. A convenient index located at the end of this book will help you to find needed information quickly.

The machine shown in this manual may differ slightly from your machine, but will be similar enough to help you understand our instructions.

RIGHT-HAND and LEFT-HAND sides are determined by facing in the direction the machine will travel when going forward. When you see a broken line (-----), the item referred to is hidden from view.

Before delivering this machine, your dealer performed a predelivery inspection to ensure best performance.

Special Messages

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.



CAUTION: Avoid injury! This symbol and text highlight potential hazards or death to the operator or bystanders that may occur if the hazards or procedures are ignored.

IMPORTANT: Avoid damage! This text is used to tell the operator of actions or conditions that might result in damage to the machine.

NOTE: General information is given throughout the manual that may help the operator in the operation or service of the machine.

Attachments for Your Machine

There's a John Deere attachment or kit to make your new machine perform more tasks or be more versatile, whether your machine is a lawn tractor or compact utility tractor or a utility vehicle.

You can check out the entire line of attachments for your machine at JohnDeere.com or ask your John Deere dealer. From aerators to electric lift kits to tillers, there's a John Deere attachment or kit to fill every need.

Product Identification

Product Compatibility

This broom is designed for use with the X400, X500, and X700 Ultimate Series Lawn and Garden Tractors.

Record Identification Numbers

Heavy Duty Rotary Broom

60 Serial No. (010001 -)

If you need to contact an Authorized Service Center for information on servicing, always provide the product model and identification numbers.

You will need to locate the identification numbers for the product. Record the information in the spaces provided below.



MX12608

DATE OF PURCHASE:

DEALER NAME:

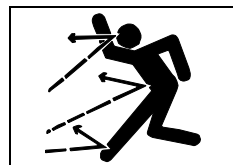
DEALER PHONE:

SERIAL NUMBER (A):

Safety

Read Safety in Machine Operator's Manual

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



Operate Safely

- Read the machine and attachment operator's manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the machine and disengage the controls quickly.

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

- Never direct the discharge at bystanders or allow anyone to stand in front of the unit.

SAFETY

- Never operate the broom near glass enclosures, automobiles, window wells, or drop-offs without first adjusting the angle and direction of the discharge.
- Inspect machine 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.
- Clear work area of objects that might be thrown. Keep people and pets out of the work area. Stop machine if anyone enters the area.
- If you hit an object, stop the machine and inspect it. Make repairs before you operate. Keep machine properly maintained and in good working order. Keep all shields and guards in place.
- Use recommended ballast.
- Do not leave machine unattended when it is running.
- Do not operate machine when you are tired or ill or under the influence of drugs or alcohol.
- Only operate during daylight or with good artificial light.
- Look behind machine before you back up. Back up carefully.
- Do not let anyone, especially children, ride on machine or attachment. Riders are subject to injury such as being struck by foreign objects and being thrown off. Riders may also obstruct the operator's view, resulting in the machine being operated in an unsafe manner.
- Use extreme caution when operating on or near gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
- Do not wear radio or music headphones while operating the machine. Safe operation requires your full attention.
- Slow down before turning. Avoid sudden turns.
- Don't operate near drop-offs, ditches or embankments.

Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage PTO and stop attachments.
3. Lower attachments to the ground.
4. Lock park brake.
5. Stop engine.
6. Remove key.
7. Wait for engine and all moving parts to stop before you leave the operator's station.
8. Close fuel shut off valve before servicing the fuel system, if your machine is equipped.
9. Disconnect the battery ground cable before making repairs to electrical system or doing any welding.

Stay Clear of Rotating Drivelines

Entanglement in rotating driveline can cause serious injury or death.

- Wear close fitting clothing.
- Stop the engine and be sure PTO driveline is stopped before getting near it.

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.



Avoid High Pressure Fluids

- Hydraulic hoses and lines can fail due to physical damage, kinks, age, and exposure. Check hoses and lines regularly. Replace damaged hoses and lines.
- Hydraulic fluid connections can loosen due to physical damage and vibration. Check connections regularly. Tighten loose connections.
- Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.
- Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A. Information may be obtained in the United States and Canada only by calling 1-800-822-8262.

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Thank you very much for reading.

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The full manual is available for immediate download.

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INSTALLING

Installing

Preparing the Tractor

Tractor Requirements

Tractor must be equipped with the following options to complete installation of the broom:

- Hydraulic selective control valve.
- Front PTO.
- Implement driveshaft.
- Front quick hitch.
- Hydraulic angling kit.
- Front attaching support kit or hood guard kit.

Installing Ballast



CAUTION: Avoid injury! Proper ballasting is required for safe operation of the broom and the tractor. Install the correct number of weights to help maintain tractor steering control and stability. Remove ballast when the attachment is removed.

NOTE: See your machine operator's manual or your John Deere dealer for more information on rear ballast.

Install the following required ballast to each rear wheel before attaching the broom:

- One 33 kg (72 lb) cast iron rear wheel starter weight.
- Two 23 kg (50 lb) cast iron rear wheel weights.

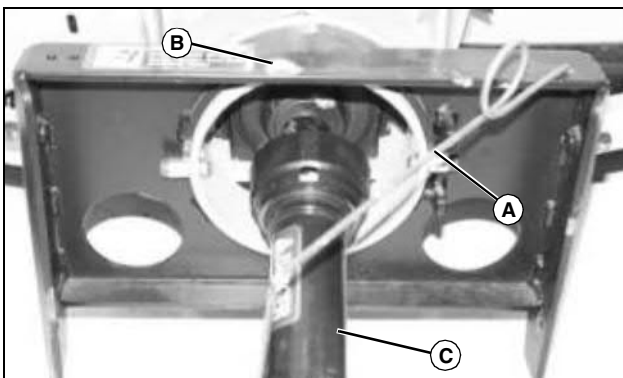
If added traction is needed while operating broom:

- Install chains on drive tires.
- Use the differential lock.

Check Tire Pressures

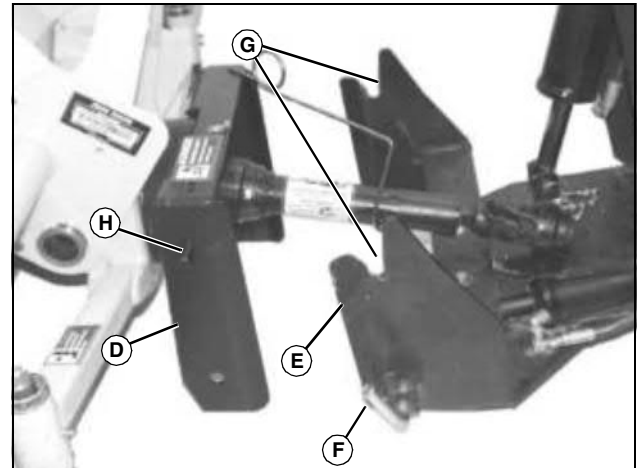
Check vehicle tire pressure before operating the broom. See your tractor operator's manual for correct tire pressures.

Attaching Broom to Front Quick Hitch



MX12609

1. Release PTO shaft support (A) from storage hook (B) on mounting frame.
2. Swing shaft support toward center of mounting frame. Place PTO shaft (C) in the support.



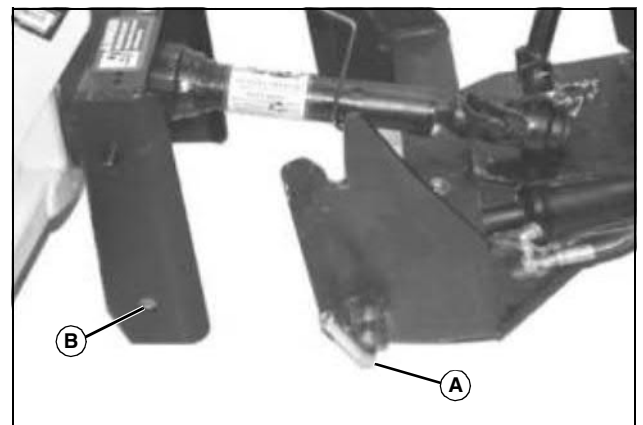
MX12619

3. Align broom mounting frame (D) with front quick hitch (E).
4. Rotate and release both L-pins (F).
5. Start the engine.
6. Push SCV control lever forward until notches (G) in front quick hitch are lower than pins (H) on mounting frame.
7. Drive machine forward slowly to engage pins (H) into notches (G).
8. Pull the SCV control lever rearward to raise front quick hitch. Make sure pins drop into notches.
9. Lower the hitch until L-pins (F) snap into holes at sides of broom mounting frame.
10. Park machine safely. (See Parking Safely in the SAFETY section.)
11. Check engagement of L-pins. Adjust as needed.

Checking and Adjusting L-Pin Engagement

IMPORTANT: Avoid damage! Broom could slide out of position on quick hitch if L-pins are not properly engaged. Check engagement of L-pins before operating and adjust as needed.

Checking L-Pin Engagement



MX12619

Picture Note: Broom shown removed for clarity.

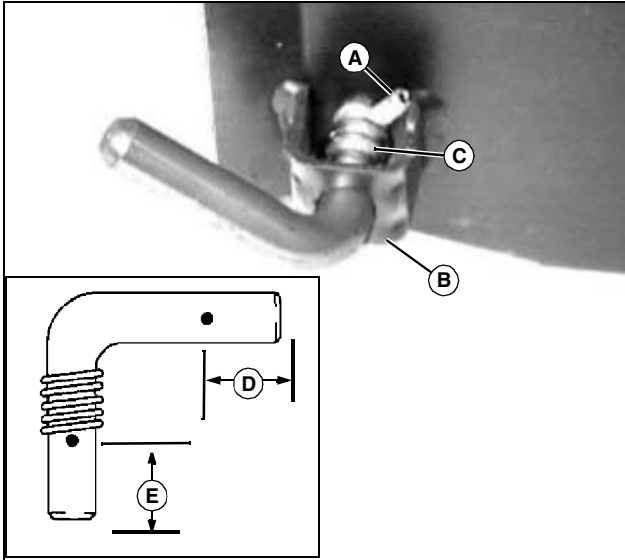
1. Make sure both L-pins (A) pass completely through holes (B) in broom mounting frame.
2. Push broom as far as possible to the right and left. Make sure L-pins remain in the mounting frame holes.

INSTALLING

3. Reverse the installation if L-pins disengage or do not pass completely through holes in mounting frame.

Reversing the L-Pins

1. Remove broom from front quick hitch.



M79058

2. Remove roll pin (A) using a punch. Retain the roll pin.

3. Pull L-pin from bracket (B) and remove spring (C).

NOTE: The L-pin legs are different lengths. Leg (D) is 23 mm (0.906 in.) and leg (E) is 27 mm (1.063 in.).

4. Hold spring inside bracket. Reverse the L-pin and insert longer leg (E) through bracket and spring.

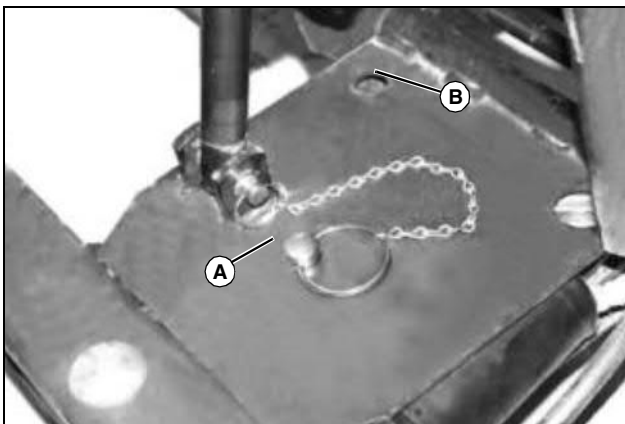
5. Install roll pin.

6. Repeat for other L-pin.

7. Install broom to front quick hitch.

8. Push broom as far as possible to the right and left. Make sure L-pins remain in the mounting frame holes.

Unlocking the Angle Lock



MX12616

1. Remove lock pin (A) from angle lock position in front quick hitch.

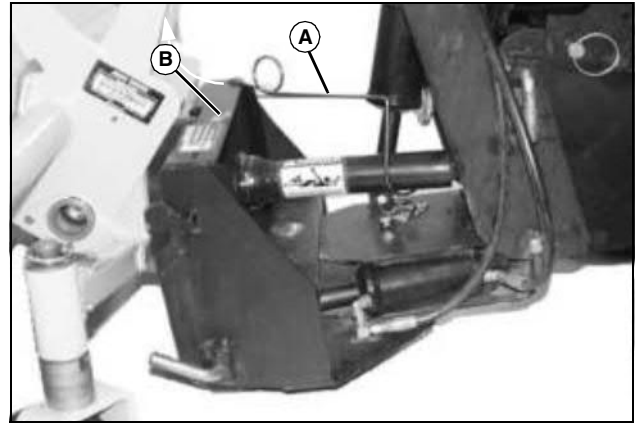
2. Install pin to storage position (B) to unlock the angle lock.

Connecting PTO Shaft



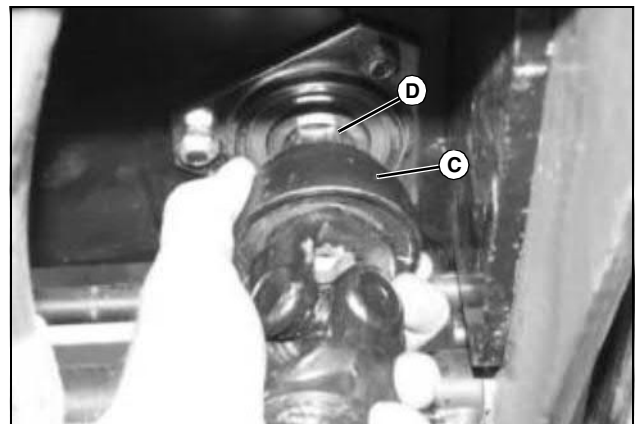
CAUTION: Avoid injury! Stay clear of rotating PTO shafts. Stop the engine and be sure the PTO shaft is stopped before getting near it.

IMPORTANT: Avoid damage! Failure to lock the PTO shaft support into the storage position will cause damage to the PTO shaft and support.



MX12620

1. Lift the PTO shaft from PTO shaft support (A). Latch the shaft support in storage hook (B) on mounting frame.



MX12618

2. Pull back collar (C) on PTO shaft coupler.

3. Align coupler splines with splines on PTO output shaft (D). Slide coupler onto PTO output shaft until collar snaps back to the locked position.

4. Move PTO shaft forward and rearward to ensure it is locked in place.

Raising Park Stands

Install broom park stands in the raised position.

REMOVING

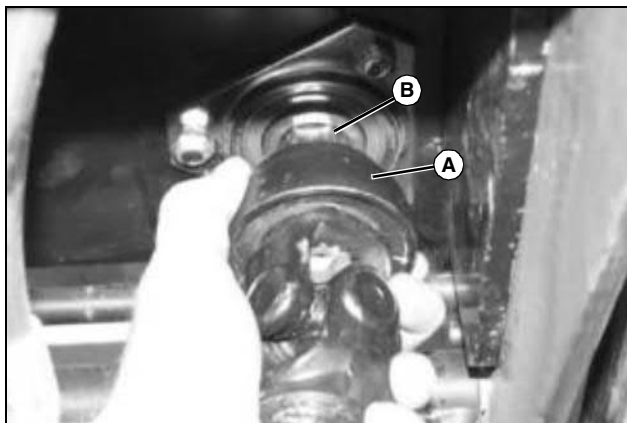
Removing

Removing Broom

1. Park vehicle safely but do not lower broom. (See Parking Safely in the SAFETY Section.)

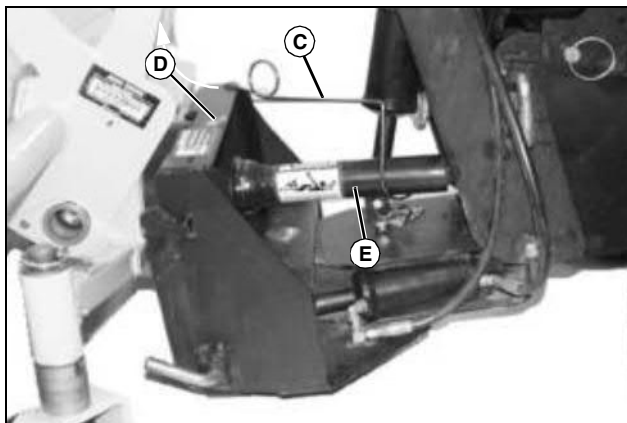
IMPORTANT: Avoid damage! Lower the park stands before lowering broom to ground or bristles can be damaged.

2. Install park stands in the lowered position.
3. Lower broom onto gauge wheels and park stands.



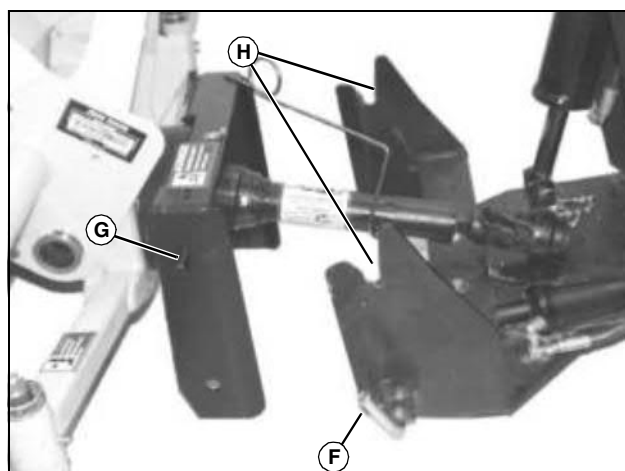
MX12618

4. Pull back collar (A) on PTO shaft coupler. Pull driveshaft straight back until it disconnects from PTO output shaft (B).



MX12620

5. Release PTO shaft support (C) from storage hook (D) on mounting frame.
6. Swing shaft support toward center of mounting frame. Place PTO shaft (E) in the support.



MX12619

7. Pull out and latch both L-pins (F).
8. Push SCV control lever forward until pins (G) on mounting frame are clear of notches (H) on front quick hitch.



CAUTION: Avoid injury! When the attachment is removed, also remove any ballast that was added to the machine. Use only attachments and accessories recommended by the manufacturer.

9. Remove any ballast.

Operating

Raising and Lowering Broom



CAUTION: Avoid injury! Attachment can lower rapidly. Attachment is heavy and can crush. Keep bystanders, especially children, away when lowering attachment. Support raised attachment with a mechanical stop or lower completely to the ground before servicing.

NOTE: See your tractor operator's manual for detailed information on controls.

Lower Broom

- Push tractor SCV control lever slowly forward to the float position to lower broom.

Raise Broom

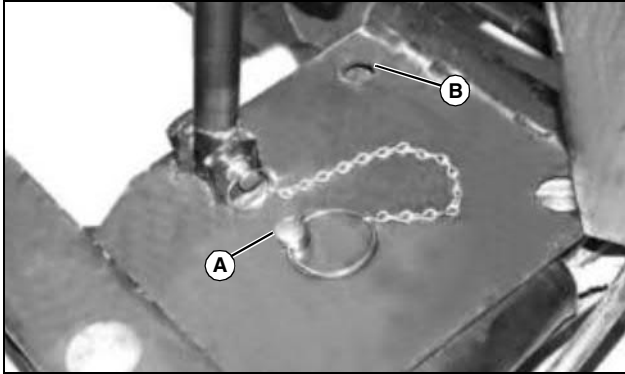
- Pull tractor SCV control lever rearward to the lift position to raise the broom.

OPERATING

Adjusting Broom Angle

IMPORTANT: Avoid damage! Make sure angle lock pin in front quick hitch is placed in storage position before attempting to angle the broom.

NOTE: See your machine operator's manual for detailed information on controls.



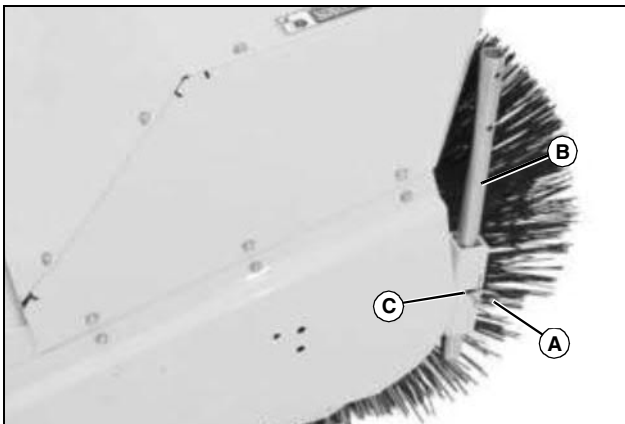
MX12616

1. Remove lock pin (A) and place in storage position (B).
2. Start the engine.
3. Use SCV control lever to adjust broom angle:
 - Move lever to the right to angle broom to the right.
 - Move lever to the left to angle broom to the left.

Raising and Lowering Broom Park Stands

Raising Park Stands

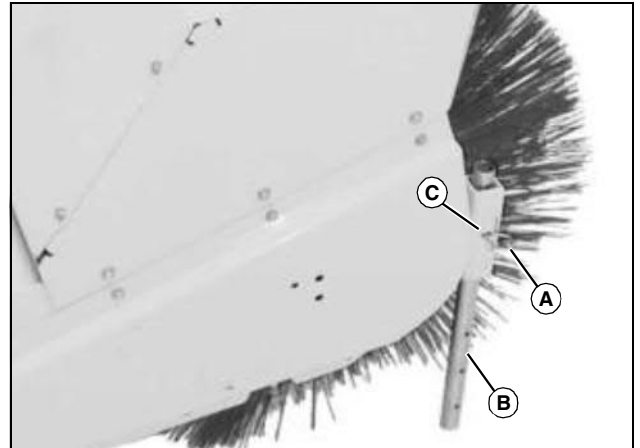
1. Raise the broom.
2. Park machine safely. (See Parking Safely in the SAFETY section.)



M95752

3. Remove spring locking pin (A).
4. Raise park stand (B) until bracket slot (C) and park stand hole are aligned.
5. Install spring locking pin.

Lowering Park Stands



M95753

1. Remove spring locking pin (A).
2. Lower park stand (B) until bracket slot (C) and park stand hole are aligned.
3. Install spring locking pin.
4. Lower broom to the ground.

Engaging and Disengaging Broom



CAUTION: Avoid injury! Make sure all shields and guards are installed.

Wear eye protection while operating.

Keep bystanders away from rotating broom.

Always be aware of broom discharge direction and foreign objects which could be thrown.

Use the slowest effective brush speed to reduce risk of thrown objects.

NOTE: See your tractor operator's manual for detailed information on controls.

Engaging Broom

1. Start tractor engine.
2. Set tractor throttle lever to an approximate one-third speed position.
3. Engage mid-PTO.
4. Move throttle lever to operating speed appropriate for job application.

Disengaging Broom

1. Set tractor throttle lever to an approximate one-third speed position.
2. Disengage Mid-PTO.

Adjusting Brush Speed

NOTE: See your machine operator's manual for detailed information on controls.

Brush speed is controlled with the tractor throttle lever:

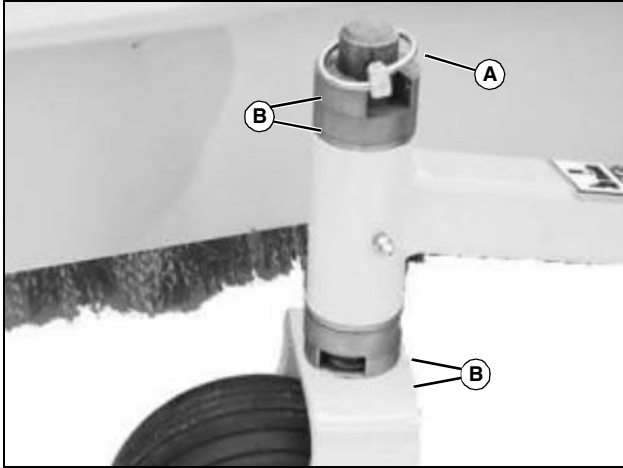
- Push throttle lever forward to increase brush speed.
- Pull throttle lever rearward to decrease brush speed.

OPERATING

Adjusting Caster Wheel Height

NOTE: The brush contact adjustment should be completed after the caster wheel height adjustment.

The height of the caster wheels is dependent on tractor tire size. Adjust placement of caster wheel spacers so broom is level when lowered onto the caster wheels. Caster wheels should be at the same height.



M97464

1. Remove quick-lock pins (A).

NOTE: Spacers move caster wheel 12.7 mm (1/2 in.). Adjust height of both caster wheels equally.

2. Adjust spacers (B):

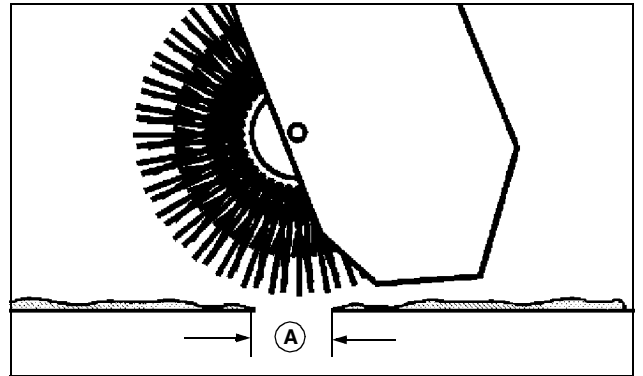
- Move spacers to the top of the gauge wheel spindle to lower the brush head.
- Move spacers to the bottom of the gauge wheel spindle to raise the brush head.

3. Install quick-lock pins.
4. Adjust brush contact area.

Checking Brush Contact Area

IMPORTANT: Avoid damage! Check and adjust brush contact area on a regular basis to prevent excessive brush wear. Keep vehicle tires at correct pressure.

1. Check tire air pressures.
2. Raise the broom and park machine safely. (See Parking Safely in the SAFETY section.)
3. Install park stands in the stored position.
4. Drive machine to an unswept hard surface.
5. Engage the PTO. Lower broom to surface and lock in float position. Run broom for several seconds without moving machine.
6. Raise boom and disengage the PTO. Watch behind machine and back away.
7. Park machine safely.

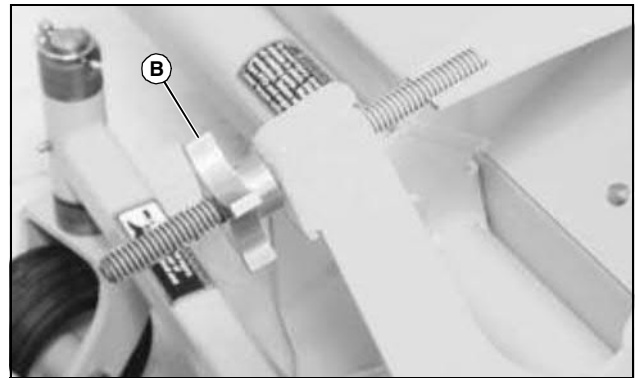


M79056

8. Check area of brush-to-surface contact (A). Cleared area should be 51-76 mm (2-3 in.) wide along entire width of broom. If not, adjust brush contact area.

Adjusting Brush Contact Area

IMPORTANT: Avoid damage! Check and adjust brush contact area on a regular basis to prevent excessive brush wear. Keep vehicle tires at correct pressure.



M94629a

Adjust brush contact area with brush adjustment knob (B):

- To make the brush path area (A) wider, lower the brush head assembly by turning the adjustment knob counterclockwise.
- To make the brush path area (A) narrower, raise the brush head assembly by turning the adjustment knob clockwise.

Adjusting Optional Debris Deflector

The broom debris deflector is available as an optional attachment. The deflector will help direct debris and dust ahead of the broom and can be adjusted up or down to help control material being swept.



Suggest:

If the above button click is invalid.

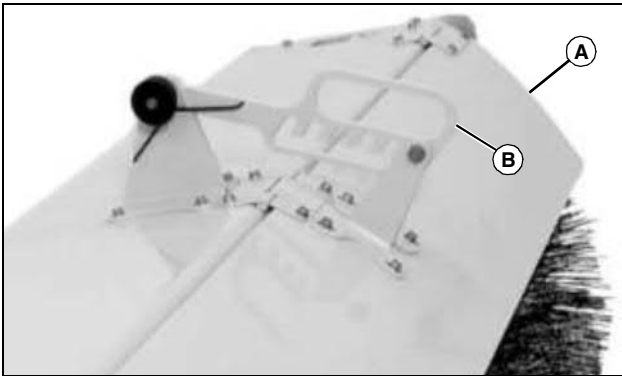
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first, and then click the above link

to download the complete manual.

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OPERATING



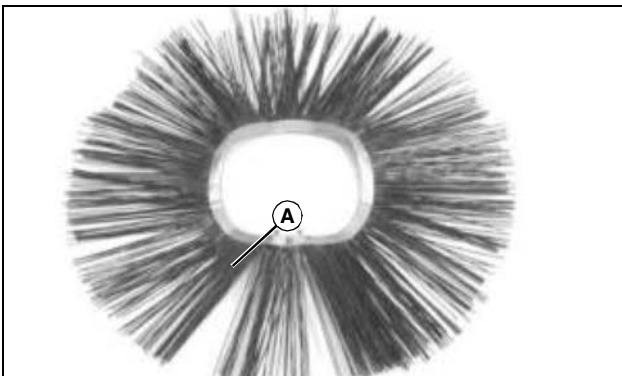
M95710

- Adjust debris deflector (A) to desired angle by installing assembly arm (B) into one of the optional six slots.

Using Polypropylene and Steel Brush Sections

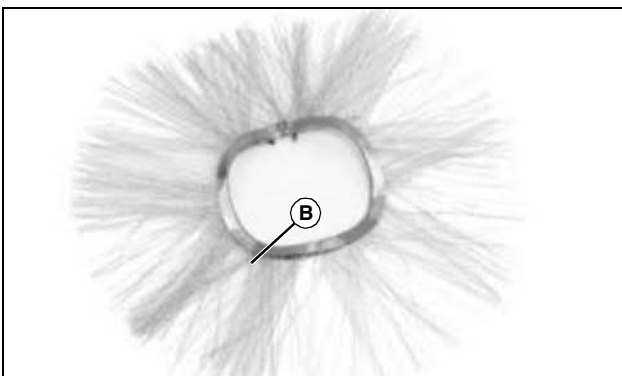
NOTE: If conversion to a different type of brush is desired, brush sections are packaged 16/box and are available from a John Deere dealer.

- The brush head is factory assembled with 31 polypropylene brush sections. This is ideal for the majority of sweeping operations.
- Brush section bristles have a convoluted design for a good flicking action.
- In certain applications, it may be desirable to equip the brush head with all steel brush sections, all polypropylene brush sections or alternating polypropylene and steel brush sections.



M95731

- Use polypropylene brush sections (A) for cleaning any delicate surface.



M95730

- Steel brush sections (B) do a good job of breaking material loose.

Operating Tips



CAUTION: Avoid injury! Make sure all shields and guards are installed.

Wear eye protection while operating.

Keep bystanders away from rotating broom.

Always be aware of broom discharge direction and foreign objects which could be thrown.

Use the slowest effective brush speed to reduce risk of thrown objects.

IMPORTANT: Avoid damage! Do not attempt to move large objects with the broom.

General Sweeping

- Use a sweeping pattern that will prevent debris from blowing back when windy conditions exist. Sweep with wind at your back or in direction broom is angled.
- Minimize dust by reducing brush speeds. Sweep on days when ground surface is moist.
- Sweep with the tips of the bristles, not the sides, for best operation.
- Angle broom 30° left or right when sweeping light materials.
- Angle broom 30° left or right and reduce brush speed when sweeping heavy material.

Lawn Thatching

- Raise height of broom to minimize ground contact. Brush bristle ends should only slightly make contact with the grass when thatching. Thatch should roll up into a windrow.
- Use slow brush and travel speeds when thatching. This will allow broom to remove dead grass and debris and minimizes bouncing of the brush head.
- Help minimize dust by sweeping when the grass is moist, but not overly wet. Use sweeping pattern that will prevent thatch from blowing back toward machine or operator.

Snow Removal

- Always sweep with broom angled to clear snow out of the operating path of the machine.
- Faster brush speeds perform better on wet, heavy snow or slush. Try different brush speeds to find best results.
- Broom will operate most efficiently on snow depths 15.2 cm (6 in.) or less. In deeper snow, reduce travel speed and make more than one pass.
- Use a sweeping pattern that will prevent snow from blowing back toward operator. Sweep so discharged snow blows away from machine and areas previously swept.

Sweeping Leaves

- Raise height of broom to minimize ground contact. Brush bristle ends should only slightly make contact with the ground when sweeping leaves.
- Use slow brush speeds and slow-to-medium travel speeds when sweeping leaves.
- For best results, sweep leaves on days when leaf moisture is high. Sweep so discharged leaves follow the direction of the wind.

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