

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

**Heavy Duty Rotary Broom for Compact
Utility Tractors**

60

OMM146796 L1

OPERATOR'S MANUAL



JOHN DEERE

North American Version
Litho in U.S.A.

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 John Deere 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 arrow (----->), 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.

PRODUCT IDENTIFICATION

Product Compatibility

This broom is designed for use with the 4200, 4300, 4400, 4210, 4310 and 4410 Compact Utility Tractors.

Record Identification Numbers

Heavy Duty Rotary Broom

60 Serial No. (010001-)

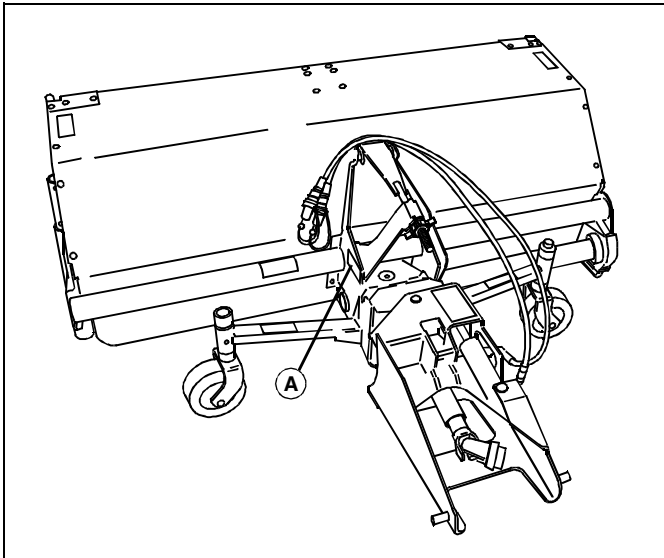
If you need to contact an Authorized Service Center for information on servicing, always provide the product model and serial number.

You will need to locate the model and serial number for the machine and for the engine of your machine and record the information in the spaces provided below.

DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:



MIF

SERIAL NUMBER (A):

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Hello dear friend!

Thank you very much for reading.

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OMM146796 L1 - English

SAFETY

Understanding The Machine Safety Labels



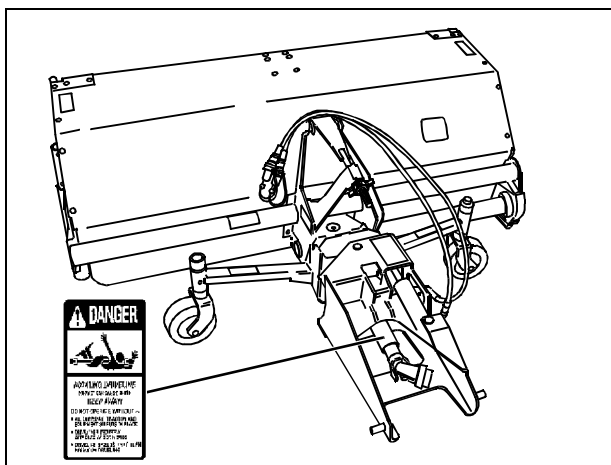
MIF

The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

On your machine safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-alert symbol. DANGER identifies the most serious hazards.

The operator's manual also explains any potential safety hazards whenever necessary in special safety messages that are identified with the word, CAUTION, and the safety-alert symbol.

DANGER: ROTATING DRIVELINE CONTACT CAN CAUSE DEATH – KEEP AWAY!



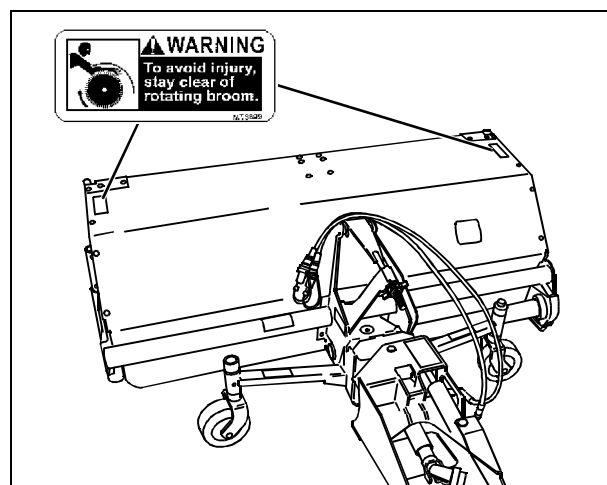
M47683

Picture Note: Label attached to front driveshaft safety shield.

Do Not Operate Without:

- All driveline, tractor and equipment shields in place
- Drivelines securely attached at both ends
- Driveline shields that turn freely on driveline

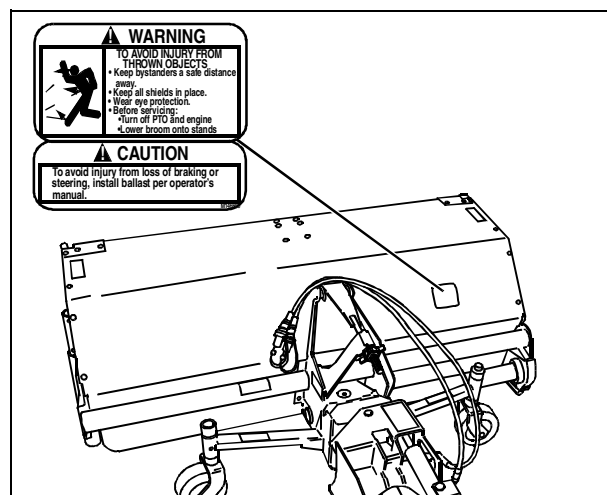
WARNING



MT3899

To avoid injury, stay clear of rotating broom.

WARNING/CAUTION



M146600

WARNING - TO AVOID INJURY FROM THROWN OBJECTS

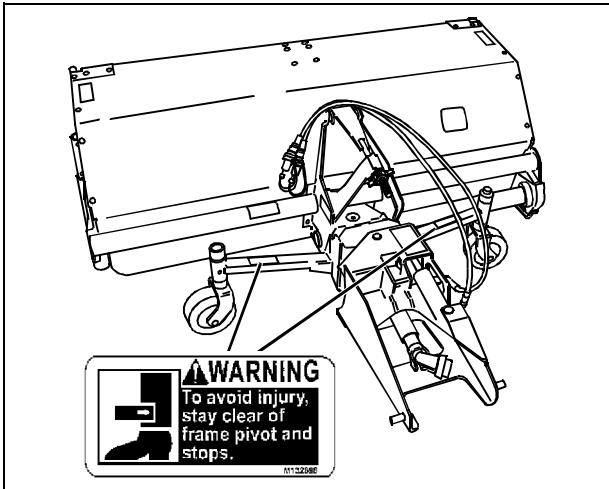
- Keep bystanders a safe distance away.
- Keep all shields in place.
- Wear eye protection.
- Before servicing:
 - Turn off PTO and engine
 - Lower broom onto stands

CAUTION

To avoid in injury from loss of braking or steering, install ballast per operator's manual.

SAFETY

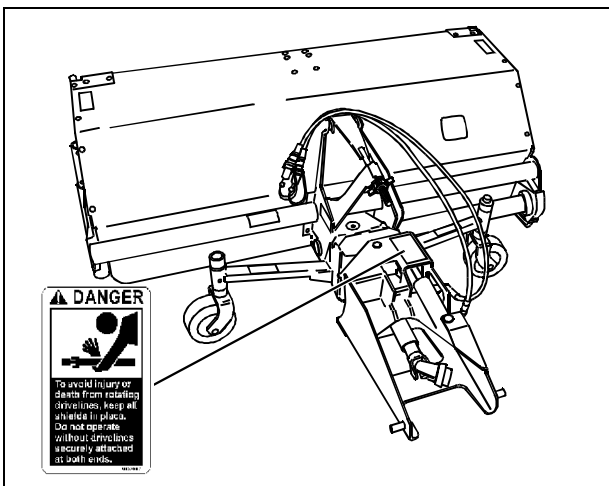
WARNING



M132898

To avoid injury, stay clear of frame pivot and stops.

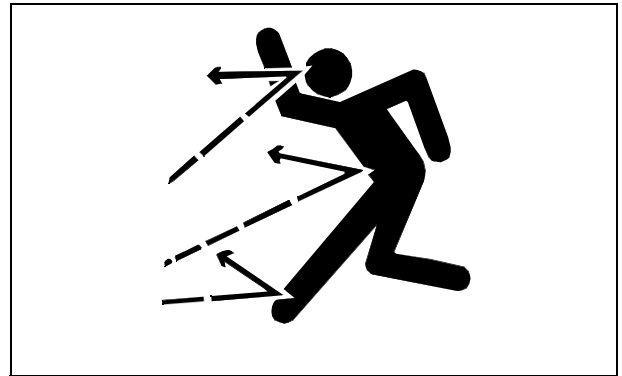
DANGER



M132897

To avoid injury or death from rotating drivelines, keep all shields in place. Do not operate without drivelines securely attached at both ends.

Operate Safely



MIF

- Read, understand and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions to operate the machine.
- Check tractor brake action before you operate. Adjust or service brakes as necessary.
- 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.
- Stop machine if anyone enters the area.
- Be alert when crossing or working near roadways.
- 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 equipment when you are tired or ill.
- Only operate during daylight or with good artificial light.
- Look carefully behind tractor before you back up.
- Do not let anyone, especially children, ride on machine or vehicle.
- 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.
- Be alert for holes, rocks, drop-offs, and hidden hazards. Travel slowly on rough ground.

SAFETY

- Slow down before turning. Avoid sudden turns.
- Don't operate near drop-offs, ditches or embankments.
- Do not operate the machine while under the influence of drugs.

Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage PTO.
3. Lower attachments to the ground.
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.
7. Wait for engine and all moving parts to stop before you leave the operator's seat.

Stay Clear of Rotating Drivelines



MIF

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



MIF

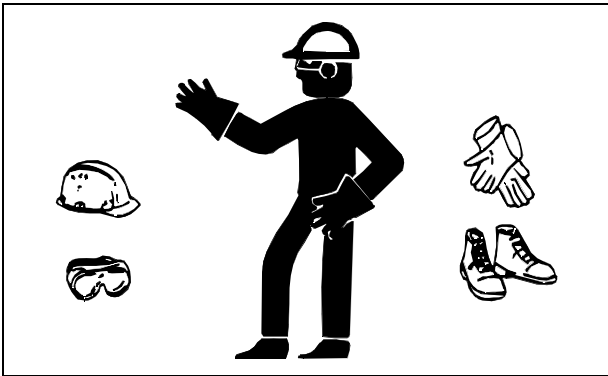
- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate, service, or adjust machine while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
- Before servicing machine, lower it to the ground. Disengage all power and stop the vehicle engine. Move hydraulic lift levers back and forth to relieve pressure. Lock vehicle park brake and remove the key. Let engine cool.
- Securely support any machine elements that must be raised for service work.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.
- Unauthorized modifications to the machine may impair its function and safety.
- Disconnect battery ground cable (-) on the tractor or remove broom from tractor before welding on the machine.
- Never run engine unless park brake is locked.

Service Rotary Broom Safely

- When servicing rotary broom, lower park stands and lower broom onto stands, set parking brake, shut off engine and remove ignition key.
- Never work under a raised broom.
- Keep hands and feet from under rotary broom.

SAFETY

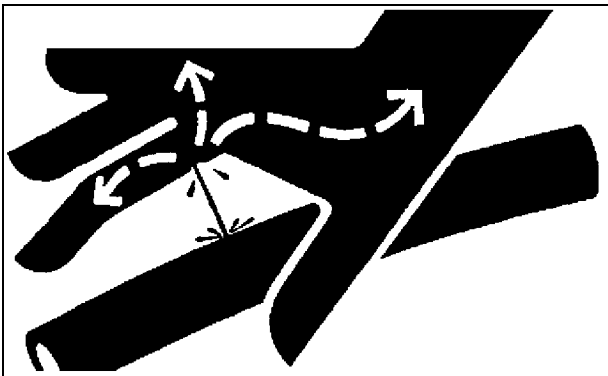
Wear Appropriate Clothing



MIF

- Wear close fitting clothing and safety equipment appropriate for the job.
- Loud noise can cause impairment or loss of hearing, wear a suitable protective device such as earplugs.
- Always wear safety goggles or safety glasses with side shields when operating the machine.
- Do not wear radio or music headphones while servicing the machine. Safe servicing requires your full attention.

Avoid High Pressure Fluids



X9811

- 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.

PREPARING VEHICLE

Preparing the Tractor

weighs 32 kg (70 lb).

NOTE: Refer to the tractor operator's manual for additional ballasting and tire pressure information.

Tractor Requirements

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

- Hydraulic selective control valve.
- Mid-PTO.
- Mid-PTO driveshaft.
- Front hitch kit including the lift cylinder.
- Direct Mount Frame.

NOTE: The Model 60 Rotary Broom is not recommended for use on John Deere 4500, 4600, 4700, 4510, 4610, and 4710 compact utility tractors.

The broom model listed below can be mounted on John Deere model series tractors:

Broom Model	Tractor Model Series					
	4200	4300	4400	4210	4310	4410
60	X	X	X	X	X	X

Check Tire Pressures

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

Tractor Ballasting Requirements



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

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

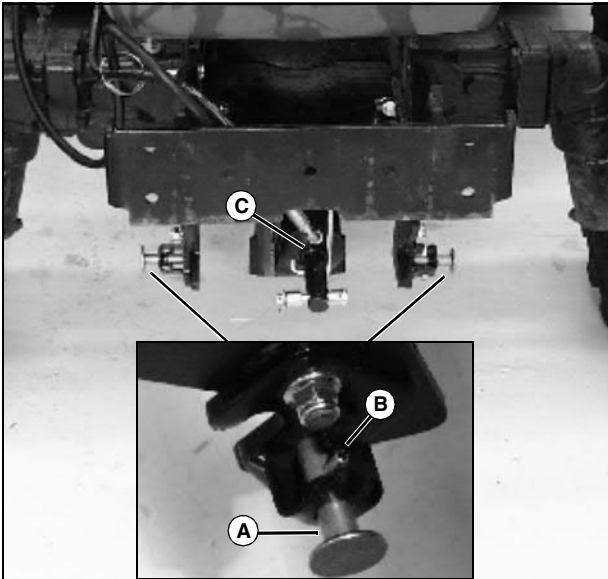
Broom Model	Tractor Model Series			Number of Weights Required with Rear Ballast Box
	4200/4210	4300/4310	4400/4410	
60	X			8
60		X		7
60			X	8

NOTE: Each standard John Deere suitcase weight

INSTALLING

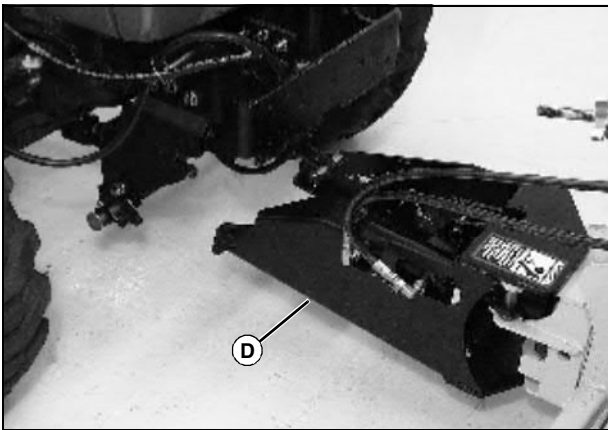
Install Broom

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



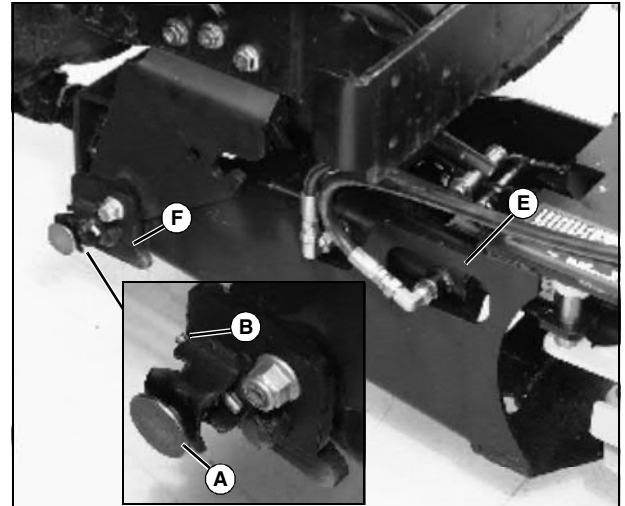
M95642 M95641

2. Make sure front hitch pull pins (A) are pulled outward and rotated so roll pins (B) lock them in the retracted position.
3. Make sure front hitch lift cylinder (C) is positioned inside the wire support hanger.
4. Align broom with tractor front hitch.
5. Start the engine.



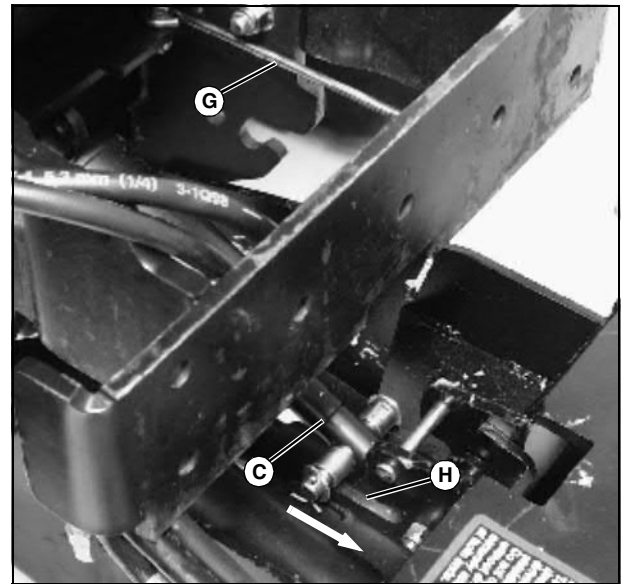
M95644

6. Drive forward slowly until direct mount frame (D) is aligned and positioned to the front of the tractor front hitch.
7. Park machine safely. (See Parking Safely in the SAFETY section.)
8. Attach broom to front hitch:



M95646 M95645

- a. Grasp handle location (E) on both sides of direct mount frame.
- b. Raise the direct mount frame slightly. Slide frame into front hitch receiving slots (F).
- c. Pull and rotate each pull pin (A) to disengage roll pin (B) from the retracted position.
- d. Push front of broom on each side until pull pins snap and lock broom in position on front hitch.



M95647

9. Rotate wire support hanger (G) away from lift cylinder (C).
10. Align lift cylinder and direct mount frame slot (H).

INSTALLING

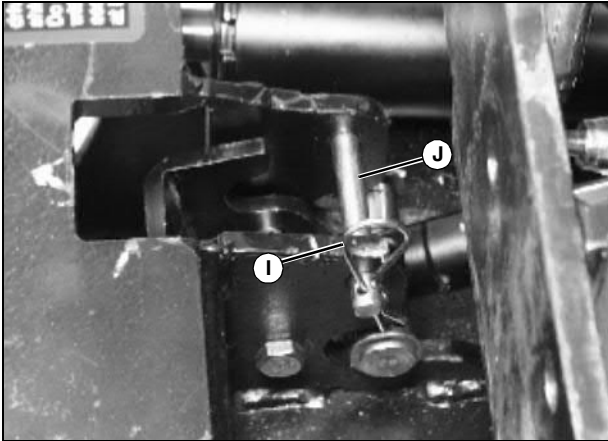


CAUTION: Avoid injury! Make sure area at front of tractor is clear of bystanders before starting machine.

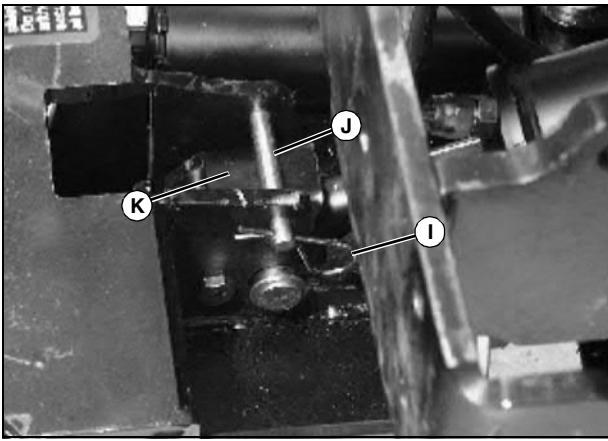
11. Start the engine.

12. Move SCV control lever slowly forward to the float position so lift cylinder extends forward into the direct mount frame slot (H).

13. Stop engine and remove the key.



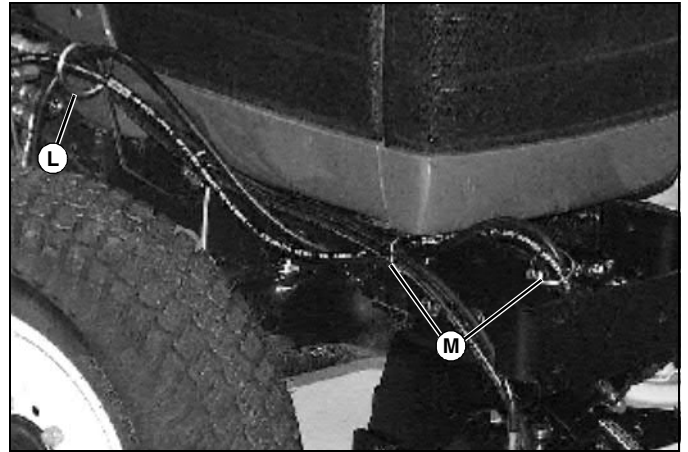
14. Remove spring locking pin (I) and drilled pin (J) from the direct mount frame.



15. Lower latch (K) onto lift cylinder.

16. Install drilled pin (J) and spring locking pin (I) to secure the latch.

17. Move the SCV control lever back and forth and side-to-side to relieve hydraulic system pressure.

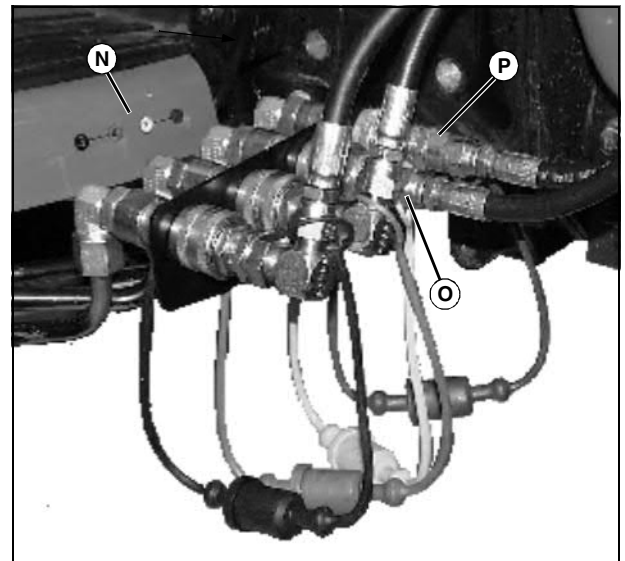


Picture Note: 4200 shown.

18. Route each broom hydraulic hose individually through hose guide (L) and retaining rings (M) mounted to tractor frame.

19. Remove the protective covers from the broom quick coupler ends and corresponding quick coupler outlets on tractor.

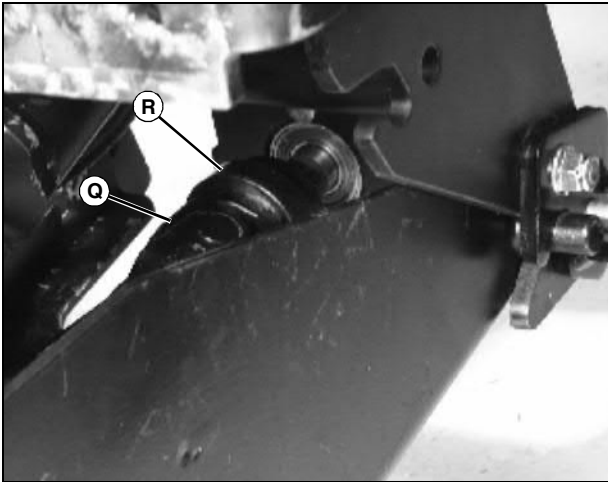
NOTE: Reference the hydraulic outlet color code and numbering label (N) located behind the SCV outlets.



20. Connect hose (O) marked yellow to hydraulic outlet 1. Connect hose (P) marked red to hydraulic outlet 2.

21. Connect the hose and outlet protective covers to prevent contamination.

INSTALLING



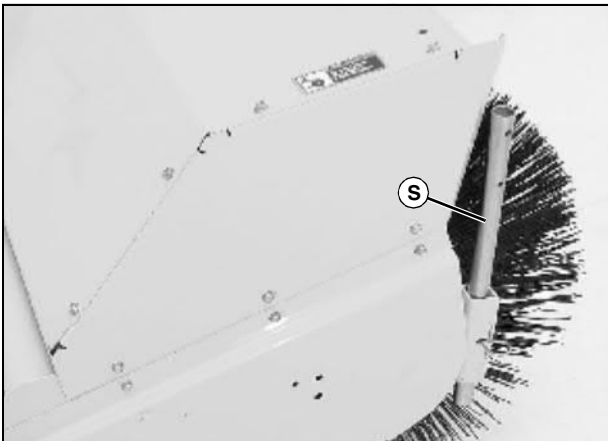
M95640

22. Connect front driveshaft (Q) to tractor:

- a. Pull back coupler (R).
- b. Push driveshaft onto front hitch PTO stubshaft until coupler snaps into a locked position.
- c. Slide driveshaft back and forth to make sure driveshaft is locked in place.

23. Start the engine.

24. Raise broom by pulling tractor SCV control lever rearward to the lift position.



M95752

25. Raise storage stands (S) at both ends of brush head.

26. Test SCV lever action to make sure hydraulic hose connections are installed correctly.

27. Adjust the brush contact area before operating.

REMOVING

Removing Broom

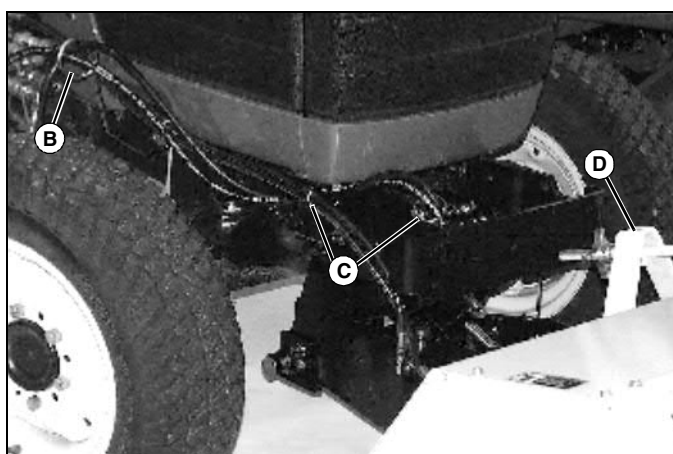
1. Park machine safely but do not lower broom. (See Parking Safely in the SAFETY section.)

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



M95753

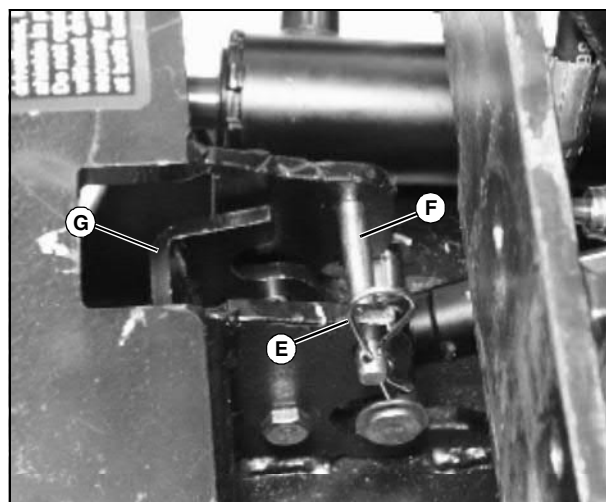
2. Lower parking stand (A) at both ends of brush head.
3. Move the SCV control lever slowly forward to the float position to rest broom onto caster wheels and parking stands.
4. Move the SCV control lever back and forth and side-to-side to relieve hydraulic system pressure.
5. Disconnect the broom hydraulic hoses and install the protective covers to hoses and outlets.



M97467

Picture Note: 4200 shown.

6. Remove each broom hydraulic hose individually from hose guide (B) and retaining rings (C). Store hoses on top of brush contact adjustment bracket (D).



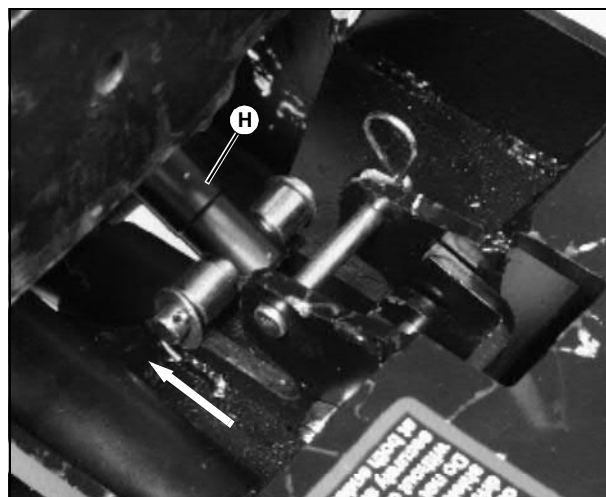
M94635

7. Remove spring locking pin (E) and drilled pin (F) from the direct mount frame. Raise lift cylinder latch (G).
8. Install drilled pin (F) and spring locking pin (E) in original position for storage.



CAUTION: Avoid injury! Make sure area at front of tractor is clear of bystanders before starting machine.

9. Start the engine.

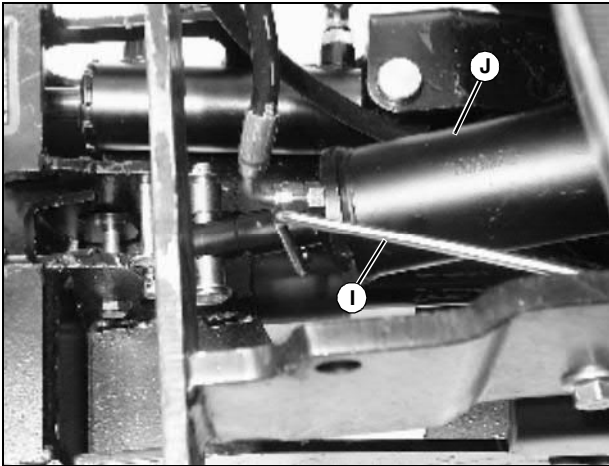


M94636

10. Move tractor SCV control lever slowly rearward to the lift position to retract lift cylinder (H) enough to clear the direct mount frame slot.

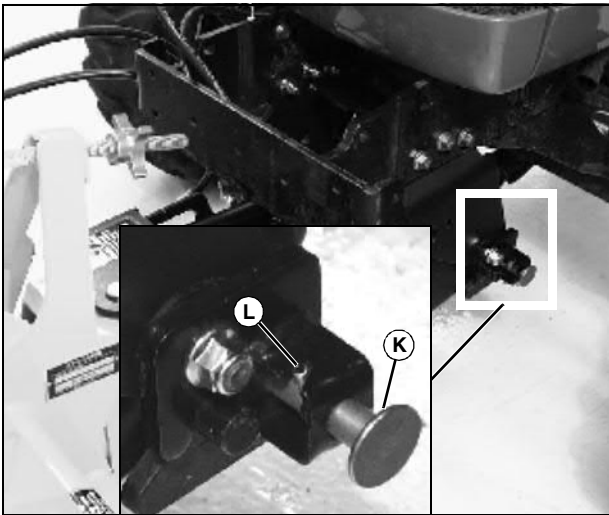
11. Stop engine and remove the key.

REMOVING



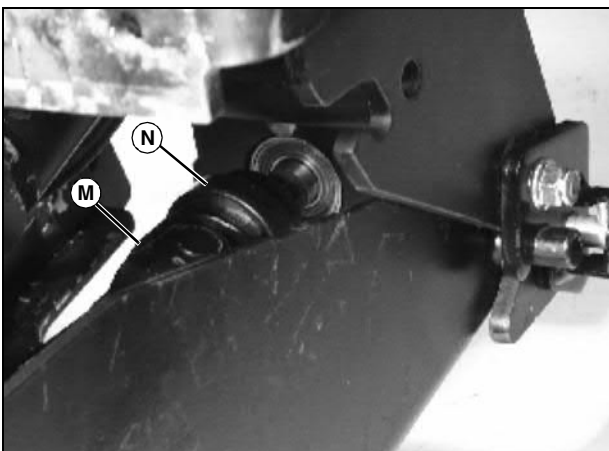
M94637

12. Slide wire support hanger (I) under lift cylinder (J) to keep lift cylinder elevated.



M94639 M94638

13. Pull and rotate pull pins (K) on each side of front hitch until roll pin (L) locks pull pin in a retracted position.



M95640

14. Disconnect front driveshaft (M) from tractor:

- a. Pull back coupler (N).
 - b. Pull broom driveshaft off of front PTO stubshaft.
15. Start engine and unlock park brake.
16. Back away from the broom slowly.



CAUTION: Avoid injury! Driving machine with extra weight when attachment is removed can cause steering problems. Remove weights when you remove the attachment.

17. Remove ballast.



Suggest:

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OPERATING

Raising and Lowering Broom

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.

Angling Broom

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

Angle Broom Right

- Move tractor SCV control lever slowly to the right.

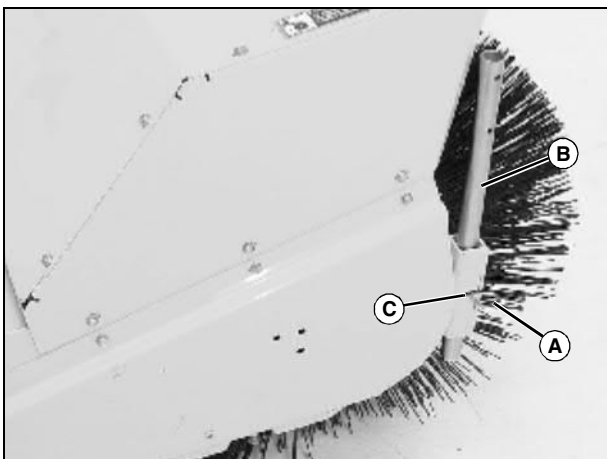
Angle Broom Left

- Move tractor SCV control lever slowly to the left.

Raising and Lowering Broom Park Stands

Raising Park Stands

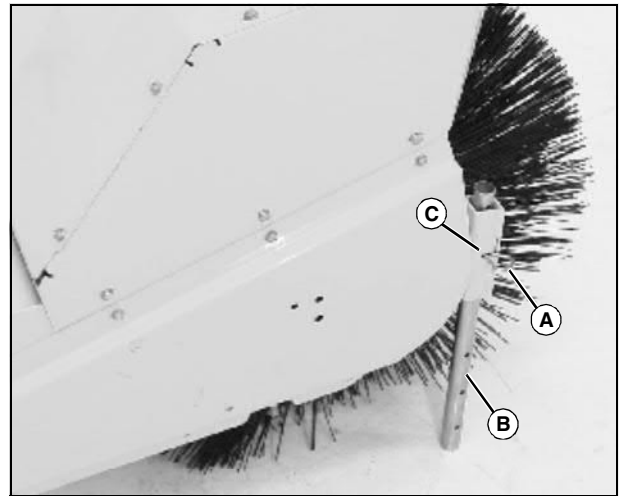
1. Raise the broom.
2. Park machine safely. (See Parking Safely in the SAFETY section.)



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 safety shields are installed and being used properly.

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.

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