

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

Backhoe
447, 448

OMLVU16563 I5

OPERATOR'S MANUAL



JOHN DEERE

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North American Version
Litho in U.S.A.

INTRODUCTION

Introduction

Using Your Operator's Manual

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

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.

Specifications and design are subject to change without notice.

Product Identification

Product Compatibility

The backhoe is designed for use with compact utility tractors. The backhoe is recommended for installation on these machine models only:

Backhoe Model	Machine Model
448	4500-4600, 4510-4710, 4120-4720, 3120-3720
447	4200-4400, 4210-4410, 3120-3720

Contact your John Deere dealer before installation on any other machines.

Before operating the backhoe, the following equipment must be installed on the tractor. See your John Deere dealer.

- Front Loader
- Tall Folding Roll Over Protection System (ROPS)
- Power Beyond hydraulic kit

Record Identification Numbers

Model 448 Serial No. (010001 -)

Model 447 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 numbers for the backhoe and record the information in the spaces provided below.

DATE OF PURCHASE:

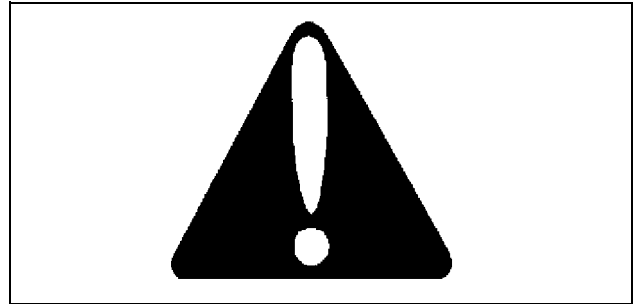
DEALER NAME:

DEALER PHONE:

PRODUCT SERIAL NUMBER (A):

Safety Labels

Understanding The Machine Safety Labels



Safety-Alert Symbol

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.

Machine Safety Labels

WARNING: AVOID CRUSH INJURY OR DEATH



MX20637, LVU16553

Picture Note: Left side only.

- Operate backhoe controls from backhoe seat.
- DO NOT enter or exit from this side.

SAFETY

WARNING: AVOID CRUSH INJURY OR DEATH



MX20636, LVU16552

Picture Note: Right side only.

- Operate backhoe controls from backhoe seat.

CAUTION: HELP AVOID INJURY



MX20636, LVU16551

Picture Note: Both sides.

- Read Operator's Manual.
- Avoid overhead and underground powerlines.
- Secure backhoe to tractor mount plates with lock pins before operating.
- Keep bystanders away from maximum swing reach area and stabilizers.
- Do not operate tractor and backhoe using two operators.
- Lock backhoe swing and boom with locking device when not in use or when transporting.
- Lower stabilizers and bucket before leaving seat.
- Keep all shields in place.

Safety

Operating 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.
- Do not let children or an untrained person operate machine.
- Never operate the machine without proper guards or other safety devices in place.
- Disengage all clutches and shift into neutral before starting the engine.

- Inspect machine before you operate and at frequent intervals while operating. Be sure hardware is tight. Repair or replace damaged badly worn, or missing parts.
- Make any necessary adjustments before you operate. Never attempt to make any adjustments while the engine is running, unless if recommended in adjustment procedure.
- Take all possible precautions when leaving the machine unattended. Shut off the engine before unplugging the attachment, or when making any repairs, adjustments, or inspections. Disengage the PTO, lower the attachment, lock the parking brake, stop the engine, and remove the key.
- 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.
- Do not operate machine when you are tired or ill or under the influence of drugs or alcohol.
- Never operate the machine at high transport speeds on slippery surfaces.
- Use only attachments and accessories approved by the manufacturer of this product.
- After striking a foreign object, stop the engine, remove the spark plug wire, thoroughly inspect the machine for any damage, and repair the damage before starting and operating the machine.
- Use extreme caution when operating on or near gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
- If the machine vibrates abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Disengage any power to the attachment when the machine is transported or not in use.
- Do not wear radio or music headphones while operating the machine. Safe operation requires your full attention.
- Always refer to the Storage section of the operator's manual for important details if storing this product for a long period of time.

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, if your machine is equipped.
9. Disconnect the negative (-) battery cable before servicing the machine.

Protect Children

- Tragic accidents can occur if the operator is not alert to the presence of children. Keep children indoors when the machine and attachment are operated and under the watchful care of another responsible adult.
- Never assume that children will remain where you last saw them. Stay alert to the presence of children. Turn the machine off if a child enters the

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SAFETY

work area.

- Do not let children or an untrained person operate the machine.
- Do not carry or let children ride on any attachment or machine even with the attachment off. Do not tow children in a cart or trailer.

Avoid Injury from Moving Parts

Before cleaning, repairing, or inspecting, make certain all moving parts have stopped. Disconnect the spark plug wire to prevent accidental starting. Disconnect the cord to electrical motors (if applicable).

Do not put hands or feet near or under rotating parts. Keep clear of any discharge area at all times.

Protect your hands when you inspect or unplug the attachment. Wear gloves and use proper tools.

Before you dismount to unplug or adjust attachment:

- Disengage PTO.
- Stop the engine.
- Lock the park brake.
- Remove the key.
- Wait for all moving parts to stop.
- Keep hands, feet and clothing away from attachment when engine is running.

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



MIF

- 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.

Drive Machine Safely

- Set backhoe boom lock and swing lock pins to center the backhoe before driving. If you must drive on hillsides, move the backhoe to uphill side for added stability.
- Drive carefully:
 - On slopes.
 - Where room is limited.
 - Over rough ground, curbs, or tracks.
 - Near a ditch or excavation.

ASSEMBLY

- For traveling:
 - Be sure brake pedals are connected.
 - Lower the loader bucket.
 - Keep machine in gear at all times.
- Use accessory lights and safety devices to warn operators of other vehicles.
- Where flashing lights are prohibited, disconnect warning light flasher.

Backhoe Safety Tips

- Learn backhoe controls before you operate.
- Do not let anyone work under raised bucket.
- Do not use boom and bucket as a battering ram.
- Use hand rail to help you mount or dismount. Be careful not to bump levers.
- Avoid rocks, roots, etc. when digging.
- Do not dig under stabilizers.
- Do not contact stabilizers with bucket.
- Do not let backhoe contact electrical cables, overhead or underground, or overhead obstacles.
- Keep bystanders away from maximum swing reach area and stabilizers.
- Carry loads low and travel slowly over rough or uneven ground.
- Before you leave the seat: Lower stabilizers and bucket to the ground. Stop the engine. Remove the key.

Assembly

Assembly and Installation

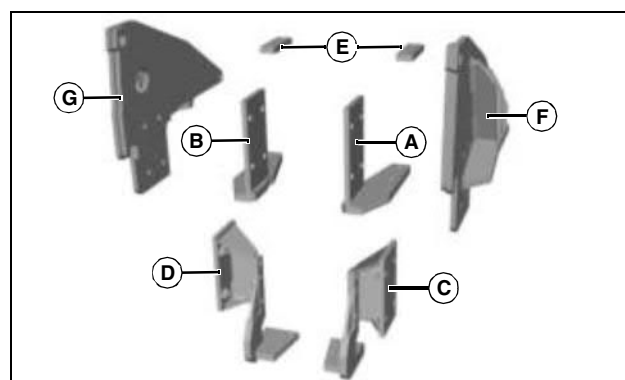
Some parts are used during backhoe assembly, others are used during installation on tractor.

Parts (Model 448)

Qty.	Description
2	Pin, Pivot
4	Washer, 1-1/32 x 1-1/2 in.
2	L-Pin
2	Retainer Ring
4	Washer, 1/2 in.
4	Lockwasher, 1/2 in.
4	Cap Screw, 1/2 x 1-1/4 in.
2	Cable
2	Latch Plate
2	Pin, Hitch
4	Bolt, 3/8 x 1-1/4 in.
4	Washer, 11/32 x 11/16 in.

Qty.	Description
4	Locknut, 5/16 in.
4	Retainer
8	Cap Screw, 3/4 NF x 2 in.
8	Locknut, 3/4 NF
16	Washer, 3/4 in. hardened
4	Cap Screw, 5/16 x 3/4 in.
4	Lockwasher, 5/16 in.
1	Cap Screw, 1/2 x 6-1/2 in.
2	Lockwasher, M12
2	Nut, M12

Parts (4500-4710 Tractor Mounting)



MX15456

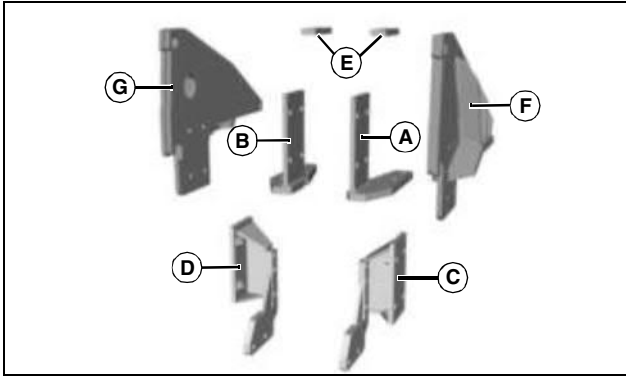
Qty.	Description
1	Mount Weldment, RH (A)
1	Mount Weldment, LH (B)
1	Hook Weldment, RH (C)
1	Hook Weldment, LH (D)
2	Spacer (E)
1	RSA Mounting Plate, RH (F)
1	RSA Mounting Plate, LH (G)
18	Washer, 5/8 in.
6	Cap Screw, M16x45
6	Washer, 1/2 in.
4	Washer, 9/16 in.
4	Cap Screw, M14x45
2	Nut, M12
12	Cap Screw, M16x60

ASSEMBLY

Qty.	Description
4	Cap Screw, M12x55
2	Spacer, Hex
1	Fitting, 90° Elbow

Qty.	Description
2	L-Pin
2	Retainer Ring
4	Washer, 1/2 in.
4	Lockwasher, 1/2 in.
4	Cap Screw, 1/2 x 1-1/4 in.
1	Spring Clamp with Screw, Washer, Lockwasher and Nut
2	Cable
2	Latch Plate
2	Pin, Hitch
4	Bolt, 5/16 x 7/8 in.
4	Washer, 11/32 x 11/16 in.
4	Locknut, 5/16 in.
4	Retainer

Parts (4510-4720 Tractor Mounting)



MX17808

Qty.	Description
1	Mount Weldment, RH (A)
1	Mount Weldment, LH (B)
1	Hook Weldment, RH (C)
1	Hook Weldment, LH (D)
2	Spacer (E)
1	RSA Mounting Plate, RH (F)
1	RSA Mounting Plate, LH (G)
18	Washer, 5/8 in.
6	Cap Screw, M16x45
6	Washer, 1/2 in.
4	Washer, 9/16 in.
4	Cap Screw, M14x60
2	Nut, M12
12	Cap Screw, M16x60
4	Cap Screw, M12x55
2	Spacer, Hex
1	Fitting, 90° Elbow

Parts (4200-4410 Tractor Mounting)

Qty.	Description
1	RSA Mounting Plate, LH
1	RSA Mounting Plate, RH
4	Bolt, M16x130
4	Bolt, M16x140
10	Washer, 5/8 in.

Parts (3120-3720 Tractor Mounting)*

Qty.	Description
1	RSA Mounting Plate, LH
1	RSA Mounting Plate, RH
6	Bolt, M14x135
6	Bolt, M14x120
12	Washer
2	Spacer

NOTE: Parts for model 447 and 448.

Remove Backhoe From Pallet

1. Position pallet on level ground where tractor can be backed up for installation.
2. Remove plastic wrap from seat. Remove seat if not installed.
3. Remove stabilizers or stabilizer legs from pallet.
4. Remove bags covering ends of hydraulic hoses.
5. Remove any bolts and plates securing other parts to pallet. Backhoe

ASSEMBLY

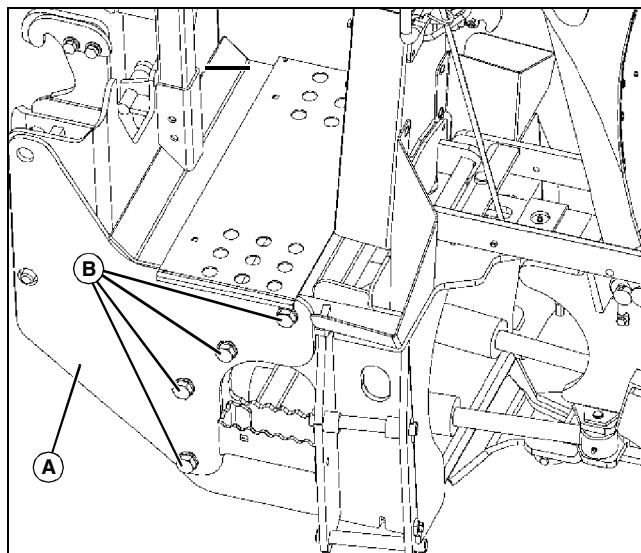
may remain on pallet for stability until tractor installation.

6. Backhoe may remain on pallet for stability until tractor installation.

Assemble Backhoe

NOTE: Large frame adapter (tractor models 4500-4710, 4120-4720) or medium frame adapter (tractor models 4200-4410, 3120-3720) is required for model 448 backhoe.

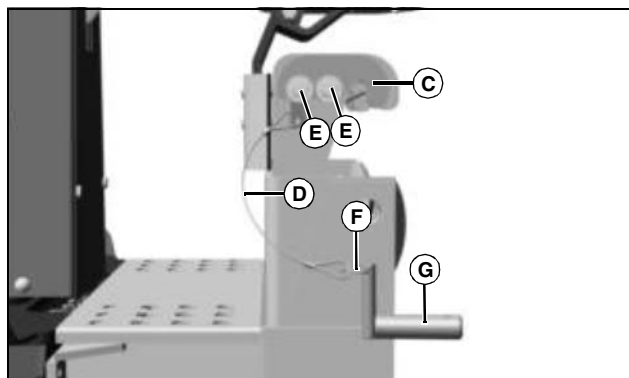
1. Install adapter (Model 448 only):



MX32499

a. Install adapter (A) on backhoe frame with eight 3/4x2 in. capscrews (B), sixteen hardened washers, and eight locknuts.

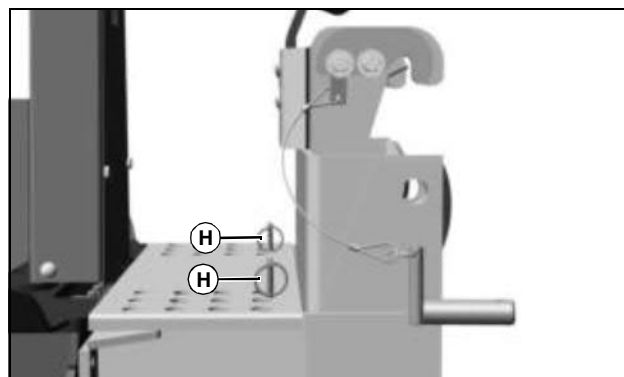
b. Tighten all cap screws to 375 N•m (280 lb-ft).



MX17603

2. Loosely install latch plates (C) and cables (D) on outside of backhoe hooks with four 1/2 x 1-1/4 in. cap screws (E), lockwashers, and washers. Center the slots in the latch plates on the cap screws before tightening.

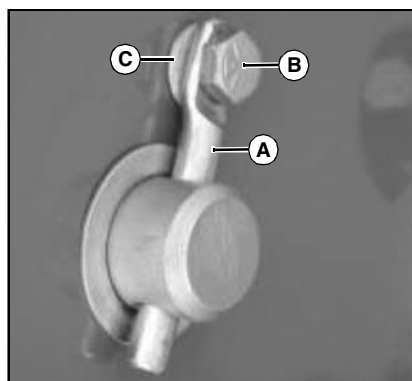
3. Install retainer rings (F) in L-pins (G) and cables as shown.



MX17604

4. Store hitch pins (H) for L-pins in storage holes on floor of operator's station as shown.

Install Stabilizers



MX15434

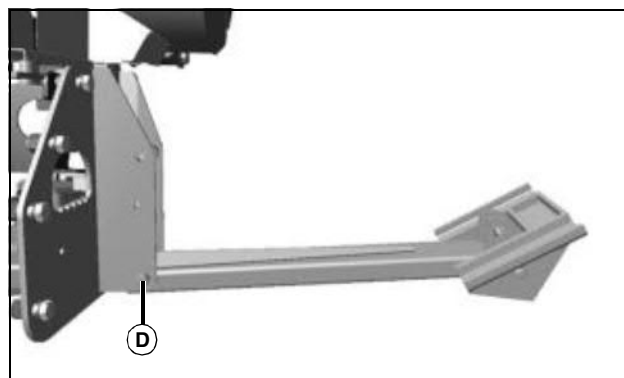
NOTE: Pivot pins on backhoe are installed with either cotter pins or retainers (A). Retainer is installed in pivot pin with bolt (B), 11/32-in. washer (C), and 5/16-in. locknut.

1. Remove pivot pins stored in stabilizers.

2. Remove retainers securing pivot pins to backhoe.

3. Remove pivot pins securing cylinders to backhoe, and remove cylinders.

NOTE: Lubricate all pivot pins before installation.



MX32474

4. Install both stabilizers on backhoe with pivot pin (D) as shown. Install cotter pins or retainers in pivot pins.

ASSEMBLY

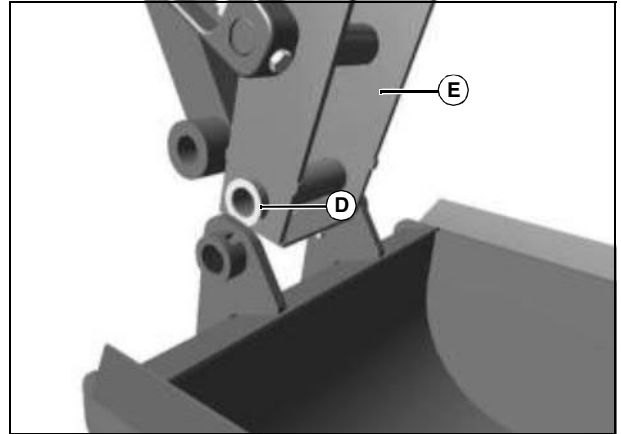


MX33848

5. Install both cylinders on backhoe with pivot pin (E) as shown. Route all hydraulic hoses above the pivot pins (E).

6. Install cotter pins or retainers in pivot pins.

retainers (A). Retainer is installed in pivot pin with bolt (B), 11/32 in. washer (C), and 5/16 in. locknut.



MX32506

1. Grease both sides of two 1-1/32 x 1-1/2 in. washers (D) and install between bucket and dipperstick (E) on both sides of dipperstick if needed.

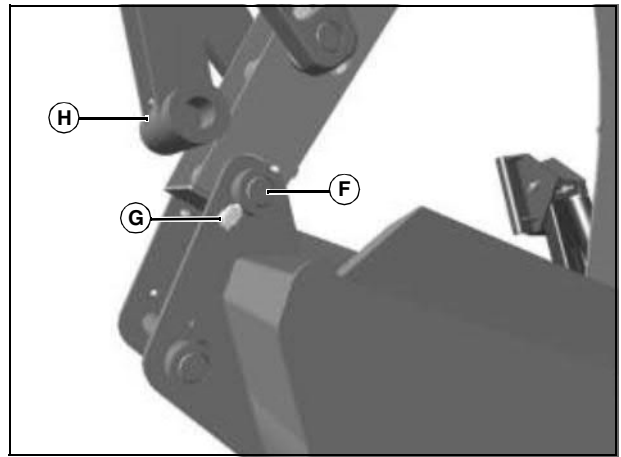


MX33846

7. Install both cylinders on stabilizers with pivot pins (F) as shown.

8. Install cotter pins in pivot pins.

9. Lubricate all grease fittings and pivot points before operating backhoe.



MX32507

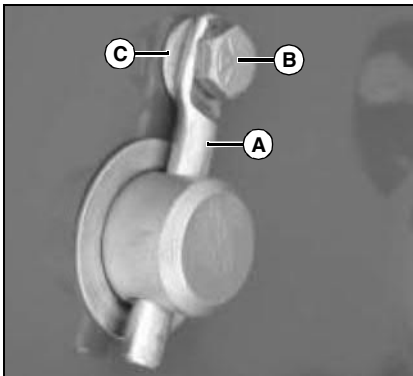
2. Install pivot pin (F) through bucket, washers, and dipperstick.

3. Install two retainers (G) in pivot pin with hardware.

4. Remove shipping wire holding link (H) to dipperstick.

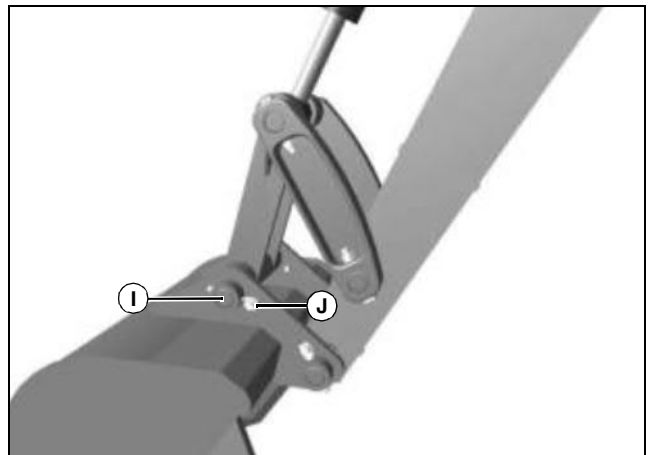
Install Bucket

NOTE: Lubricate all pivot pins before installation.



MX15434

NOTE: Pivot pins on backhoe are installed with either cotter pins or



MX32508

5. Pivot the bucket back and install pivot pin (I) through bucket and link. Install two 1-1/32 x 1-1/2 in. washers between bucket and link if needed.



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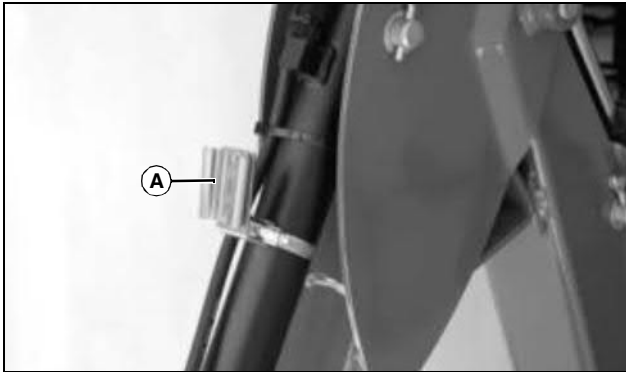
Thank you so much for reading

PREPARING VEHICLE

6. Install two retainers (J) in pivot pin with hardware.
7. Lubricate all grease fittings and pivot points before operating backhoe.

Installing Slow Moving Vehicle (SMV) Sign

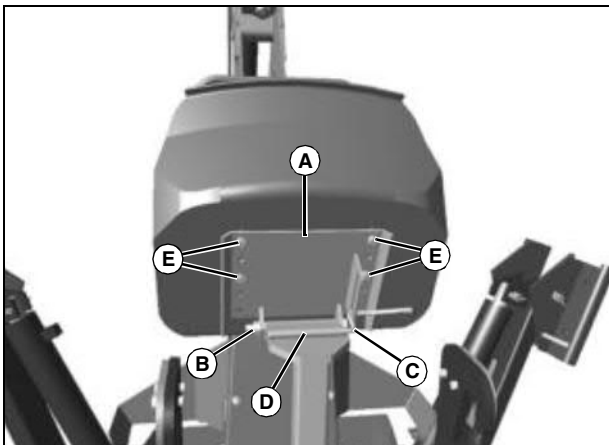
NOTE: Use the SMV sign when transporting the backhoe on roads.



MX15437a

1. Remove SMV sign from tractor, and install into bracket (A) on the backhoe bucket cylinder.

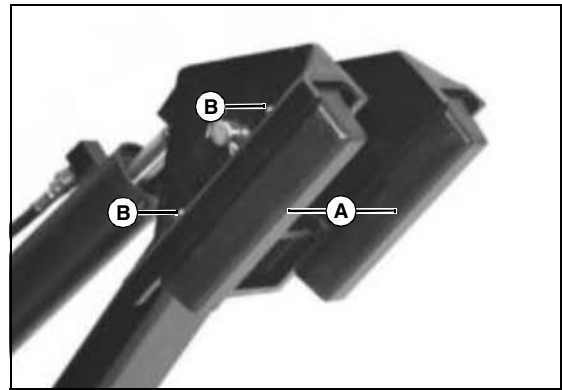
Install Operator Seat (448)



MX32491

1. Install plate (A) on bracket with 1/2 x 6-1/2 in. cap screw (B) and nut. Tighten until slight drag is felt when pivoting plate.
2. Lower plate and install handle (C) through slotted area on plate (A) and welded rod (D) on seat post. Secure end with washer and cotter pin.
3. Position where desired and install seat on plate with four 5/16 x 3/4 in. cap screws (E) and lockwashers.

Install Optional Street Pads



M64102

1. Install street pads (A) on stabilizers with nuts (B).

Preparing Vehicle

All Tractor Models



CAUTION: Avoid injury! **DO NOT** operate backhoe without front loader and tall folding Roll Over Protection System (ROPS) mounted on tractor.
Loader provides front ballast for better steering control and makes tractor/backhoe more stable during backhoe operation.
Tall folding ROPS provides necessary headroom while sitting on backhoe seat.
Mount rear wheels in the widest position for maximum stability.

1. Park machine safely. (See Parking Safely in SAFETY.)
2. If tractor model 4120-4720 has R4 tires installed, the mid-mount mower deck must be removed. On tractors with other tires installed:
 - a. Raise mower deck and install transport lock.
 - b. Remove mower lift links from rockshaft draft links.

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