JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER EQUIPMENT DIVISION

Loader
45

OMM147614 C3

OPERATOR'S MANUAL

JOHN DEERE

North American Version
Litho in U.S.A.

Introduction

Using Your Operator's Manual

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.

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

Product Identification

Product Compatibility

The 45 loader is compatible with all X400 and X500 Series machines with two-wheel steer except X465.

Record Identification Numbers

45 Loader

Serial No. (W00045X-)

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 loader and record the information in the spaces provided below.

DATE OF PURCHASE:

_____

DEALER NAME:

_____

DEALER PHONE:

_____

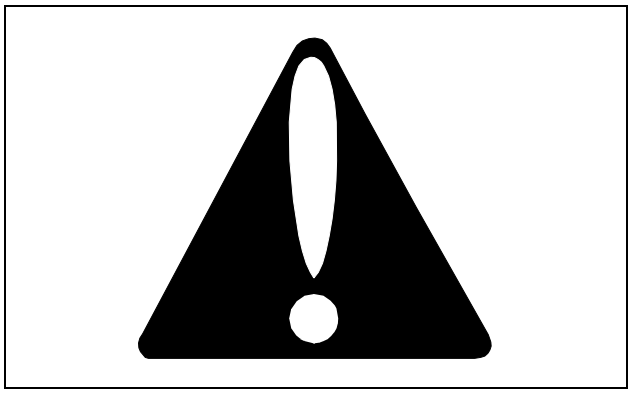
PRODUCT SERIAL NUMBER:

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Safety

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

Understanding The Safety-Alert Symbol



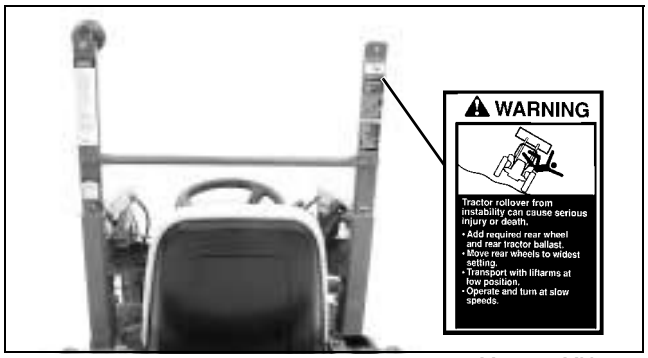
Safety-Alert Symbol

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.

WARNING

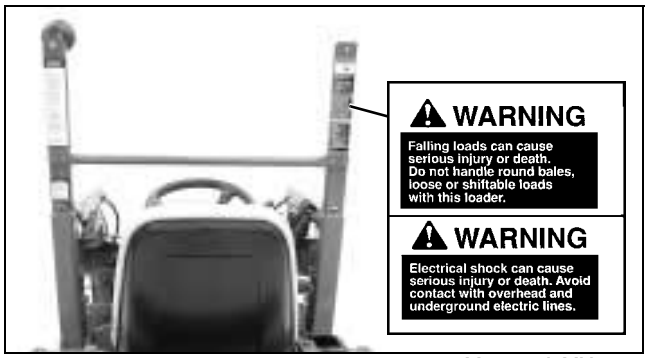


M77149 MX12399

Tractor rollover from instability can cause serious injury or death.

- Add required rear wheel and rear tractor ballast.
- Move rear wheels to widest setting.
- Transport with lift arms at low position.
- Operate and turn at slow speeds.

WARNING

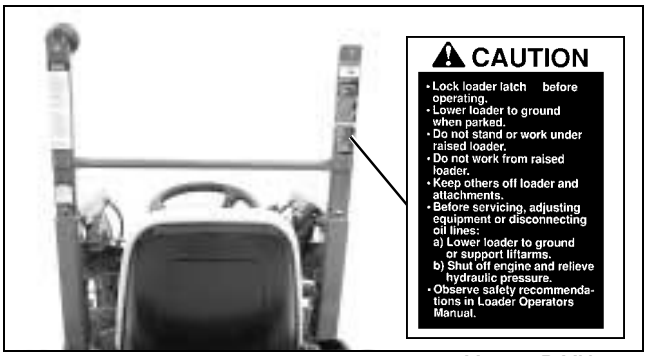


M77149A MX12399

Falling loads can cause serious injury or death. Do not handle round bales, loose or shiftable loads with this loader.

Electrical shock can cause serious injury or death. Avoid contact with overhead and underground electric lines.

CAUTION



M77149B MX12399

- Lock loader latch before operating.
- Lower loader to ground when parked.
- Do not stand or work under raised loader.
- Do not work from raised loader.
- Keep others off loader and attachments.
- Before servicing, adjusting equipment or disconnecting oil lines:

  a. Lower loader to ground or support lift arms.

  b. Shut off engine and relieve hydraulic pressure.
- Observe safety recommendations in Loader Operator's Manual.

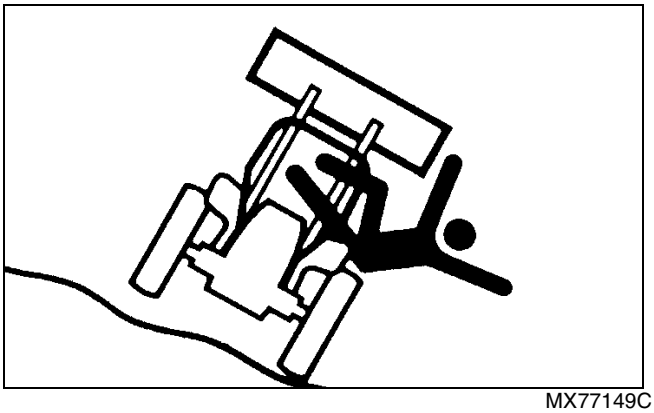
Operating Safely

• 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.

• 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.

• Operate loader from operator's seat.



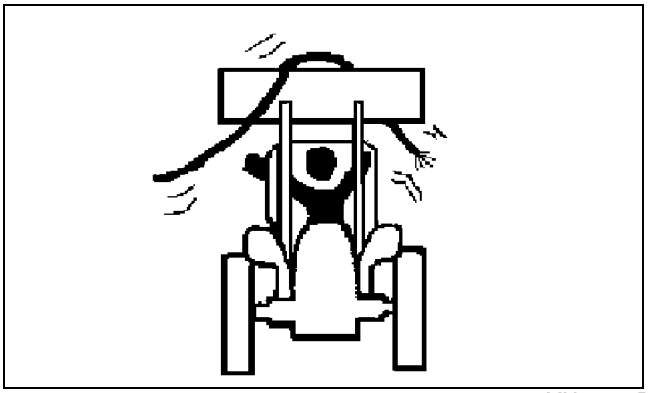
MX77149C

• Machine rollover from instability may cause serious injury or death. Always:

- Add required rear wheel and rear machine ballast.
- Move rear wheels to widest setting.
- Transport with boom in low position.
- Operate and turn at low speeds.
- Be careful when operating on a slope. Driving over terrain irregularities may cause instability.
- Do not operate near drop-offs.

• When raising and lowering loader, always:

- Remain at controls until operation is complete.
- Avoid excessively fast rate-of-drop.
- Be aware of clearance between loader and other objects.



MX77149D

• Electric shock may cause serious injury or death. Always:

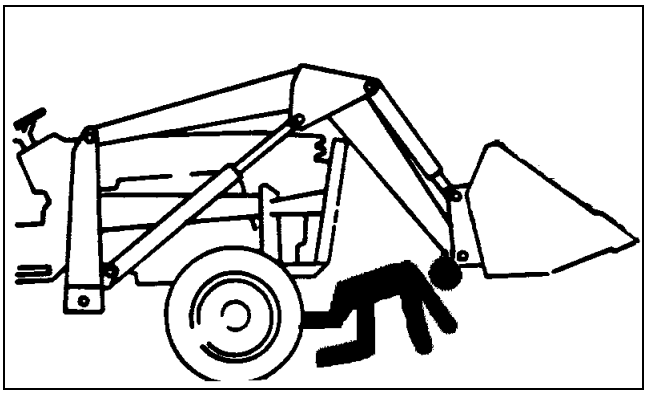
- Check location of power lines, gas lines, water lines and other hazards before digging.
- Avoid contact with overhead and underground power lines when moving or operating loader.
- Remain on machine if part of machine or loader is in contact with a power line.

• Never tow anything with loader.

• Lock loader latch before operating.

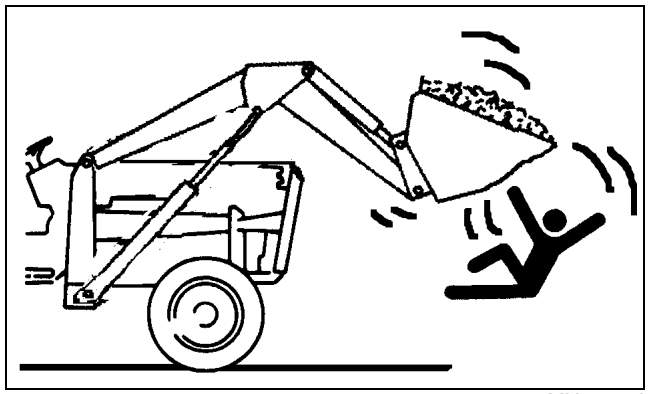
• Falling loads may cause serious injury or death. Do not handle round bales, logs, loose or shiftable loads with loader.

• Do not move loads over heads of other persons.



MX77149E

• Do not stand or work under raised loader.



MX77149H

- Do not ride in or work from loader.
- Improper use of loader may cause serious injury or death. Do not use loader as a battering ram.
- Drive slowly over rough terrain.
- Avoid driving over loose fill, rocks and holes.
- Do not overload loader.
- Drive slowly through gates and doors.
- Do not leave machine unattended when it is running.

Parking Safely

1.Stop machine on a level surface, not on a slope.

2.Disengage mower blades or any other attachments.

3.Lower attachments to the ground.

4.Lock the park brake.

5.Stop the engine.

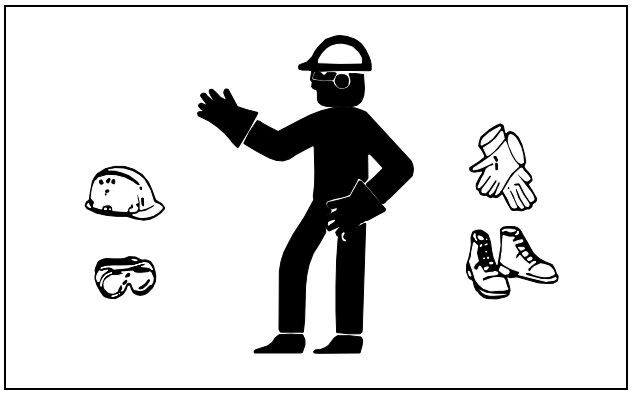
6.Remove the key.

7.Wait for engine and all moving parts to stop before you leave the operator's seat.

8.Close fuel shut-off valve, if your machine is equipped.

9.Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

Wear Appropriate Clothing



MIF

- Always wear safety glasses or eye shields during operation to protect eyes from foreign objects that may be thrown from the machine.
- Wear adequate outer garments and footwear that will improve footing on slippery surfaces.
- 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.

Avoid Injury From Hitting Obstructions

- Raise attachment when you drive between jobs.
- Be cautious on slopes, when you make turns or when close to buildings or trees.
- Slow down when you remove snow.

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.
- Lower attachments to the ground before servicing machine. Disengage all power and stop the engine. Lock park brake and remove the key. Let machine cool.
- Disconnect battery or remove spark plug wire before making any repairs.
- Before servicing the machine, carefully release pressure from any components with stored energy, such as hydraulic components.
- Keep all nuts and bolts tightened, especially blade attachment bolts.
- Securely support any machine elements that must be raised for service work.
- 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.
- To prevent fires, remove any buildup of grease, oil, or debris from the machine, especially the engine compartment.
- Charge batteries in an open, well-ventilated area, away from sparks. Unplug battery charger before connecting or disconnecting from the battery. Use insulated tools.
- Do not modify machine or safety devices. Unauthorized modifications 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.

Assembly

Identify Parts

Parts in Crate

Qty.	Description
1	Loader
1	Rear Mount Tube
1	Free Wheeling Control Valve Lever

Bag of Parts

Qty.	Description	Size
2	Mount Ear	
4	Hex Bolt	M12 x 40
2	Hex Bolt	M12 x 90
6	Locknut	M12
4	Pivot Pin	3/4 in. dia.
4	Clevis Pin	1/4 in. dia.
4	Cotter Pin	3/32 in. dia.
1	Cap Nut	

NOTE: All hardware used to attach parts to shipping container may be discarded. They are not required for assembly.

Preparing the Vehicle

Required Equipment

• Loader cannot be mounted on the X465 Garden Tractor.

IMPORTANT: Avoid damage! Installation of correct transaxle hydrostatic pressure relief valve to machine is necessary before loader operation begins. Failure to do so will result in damage to machine.

• All models require transaxle hydrostatic pressure relief valve and a free-wheeling valve control lever. See your authorized dealer for the correct valve. Lever is furnished with loader.

• Models X475 and X575 require hydraulic coupler kit. See your authorized dealer.

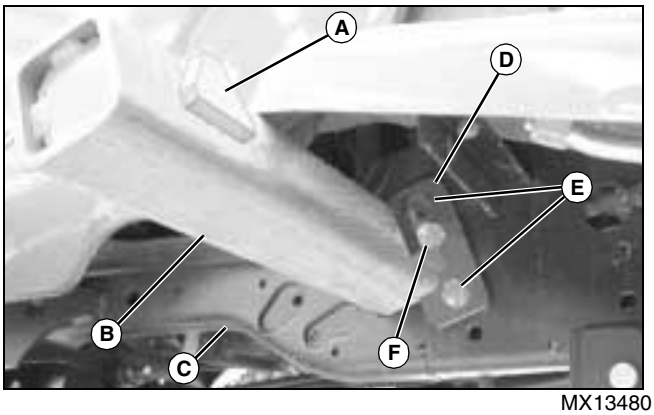
• All models require 4-ply rated front tires. These are standard on all machines.

NOTE: Operating loader without hydraulic cylinder shut-off valve in closed position will result in poor loader response. The shut-off valve comes with the front hitch kit and may already be installed.

• For best loader performance, all models should have hydraulic cylinder shut-off valve installed. See your authorized dealer.

Install Rear Mount Tube

NOTE: Triangular tabs (A) on rear mount tube must face rearward with long end facing downward.



MX13480

1.Insert rear mount tube (B) into square holes in machine frame (C).

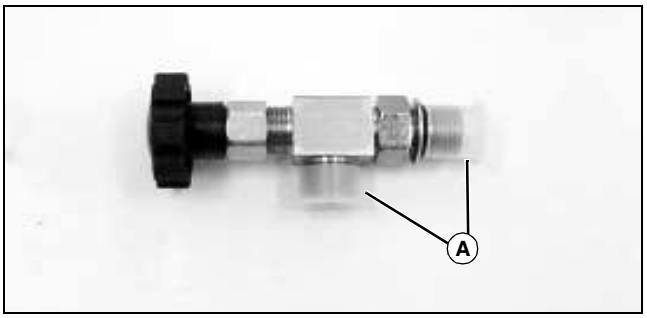
2.Fasten mount ears (D) to each side of machine frame using four M12 x 40 mm hex bolts (E) and M12 locknuts. Do not tighten.

3. Fasten rear mount tube to mount ears using two M12 x 90 mm hex bolts (F) and M12 locknuts. Do not tighten.

4.Tighten all fasteners to 130 N•m (96 lb-ft).

Install Hydraulic Shut-Off Valve

NOTE: For ease of installation, remove mower deck.



MX8266

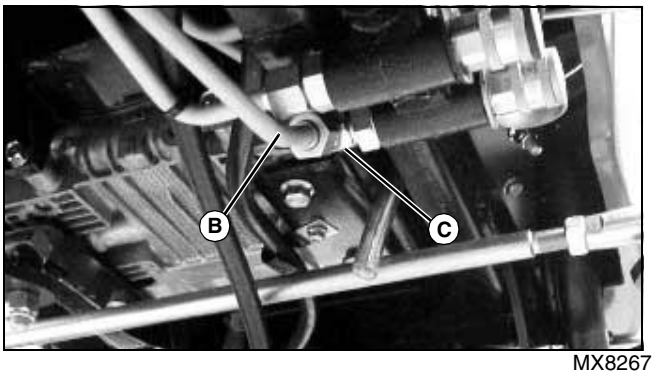
1.Remove plastic caps (A) from threaded ends of hydraulic shut-off valve.

CAUTION: Avoid injury! Hydraulic fluid is under pressure. Escaping fluid can penetrate the skin and cause serious injury. Protect hands and body.

- **Relieve all pressure before checking hydraulic hoses.**
- **Search for leaks with piece of cardboard. Do not use hands to check hoses.**
- **Tighten all connections before applying pressure.**

NOTE: Place a container under the control valve to catch fluid that may drain out during this procedure.

2.Move hydraulic levers to relieve pressure.

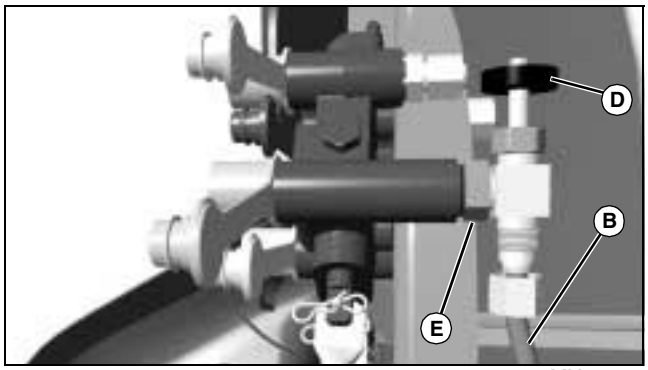


MX8267

Picture Note: Right side, under footrest.

3.Remove hydraulic line (B) from 90° elbow (C) by loosening nut.

4.Remove 90° elbow.



MX15651a

Picture Note: View is from under machine at right footrest. Top of picture is front of machine.

5.Fasten hydraulic shut-off valve (D) to control valve. Do not tighten nut (E).

6.Fasten hydraulic line (B) to hydraulic shut-off valve and tighten nut.

7.Tighten nut (E).

Install Free-Wheeling Control Lever and Transaxle Hydrostatic Pressure Relief Valve

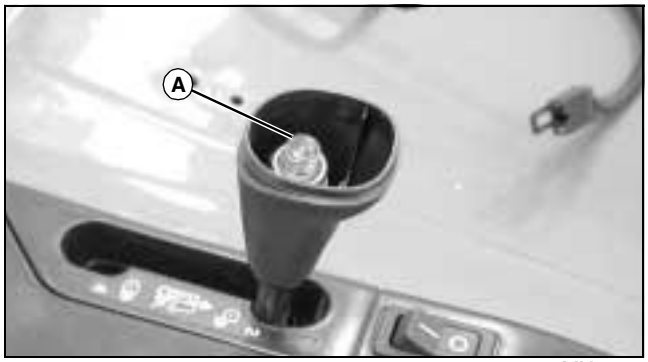
1.Park machine safely. (See Parking Safely in the SAFETY section.)

IMPORTANT: Avoid damage! Existing forward free-wheeling valve on machine must be replaced by transaxle hydrostatic pressure relief valve. This valve protects transaxle from unnecessary stress.

2.Slide seat fully rearward and remove front bolts from seat assembly.

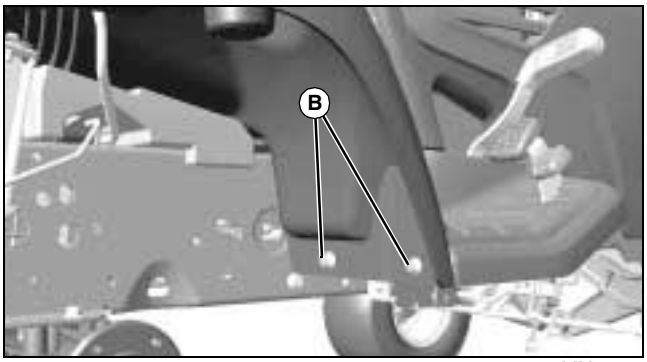
3.Slide seat fully forward and remove rear bolts from seat assembly.

4.Disconnect wiring harness from underside of seat and remove seat assembly.



MX13494

5.**Four-Wheel Drive Machines:** Remove cap from shift knob and remove retaining bolt (A) to remove shift knob.



MX13495

Picture Note: Tire removed for clarity.

6.Remove two bolts (B) on each side of fender deck, in front of rear wheels.

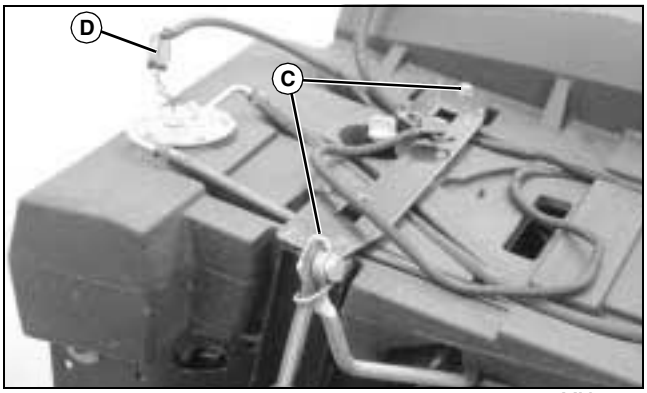
CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

- **Do not smoke while handling fuel.**
- **Keep fuel away from flames or sparks.**
- **Shut off engine before servicing.**
- **Cool engine before servicing.**
- **Work in a well-ventilated area.**
- **Clean up spilled fuel immediately.**

7.Remove fuel cap.

8.Disconnect wiring harness from underside of fender deck and remove fender deck.

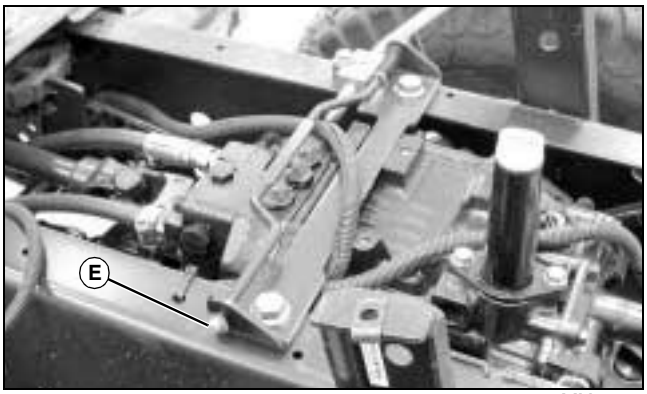
9.Install fuel cap.



MX13496

10.Remove two bolts (C) from fuel tank hold-down bracket.

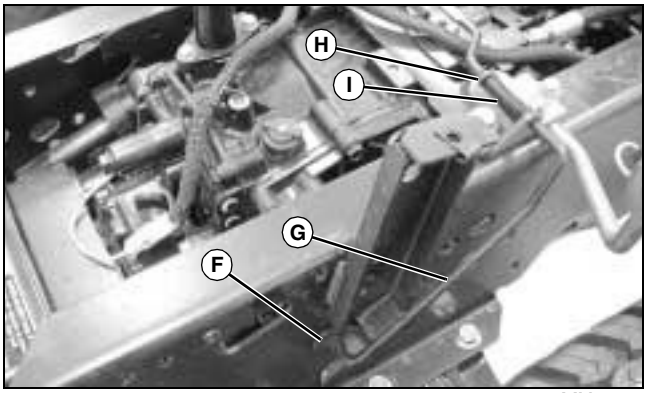
11.Disconnect wiring harness (D) from fuel pump and remove fuel tank.



MX13490

12.Remove and discard cap nut (E) from free-wheeling valve control lever.

NOTE: Retain plastic cap for new free-wheeling valve control lever.



MX13497

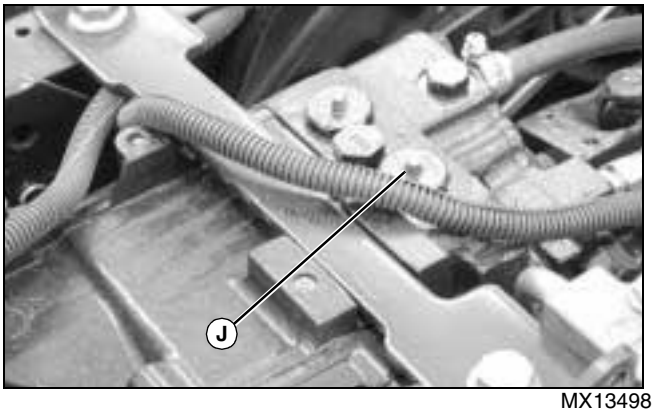
13.Remove and retain plastic cap (F) from other end of free-wheeling valve control lever.

14.Remove and discard existing free-wheeling valve control lever (G) from machine.

NOTE: Retain washer and spring for new free-wheeling valve control lever.

15.Remove and retain washer (H) and spring (I) from free-wheeling valve control lever.

IMPORTANT: Avoid damage! Clean transaxle before removing valve. Contamination of hydraulic system may cause damage.

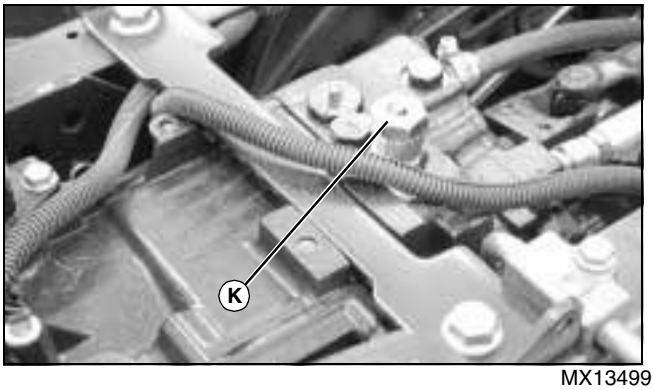


MX13498

16.Remove existing free-wheeling valve (J) from right-hand location.

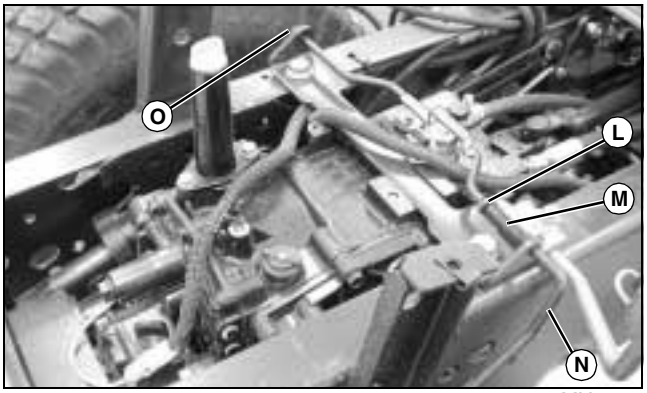
IMPORTANT: Avoid damage! Use correct transaxle hydrostatic pressure relief valve.

- **Two-Wheel Drive Machines: Use BM15043 (AM121248) which has "2WD" stamped on valve.**
- **Four-Wheel Drive Machines: Use BM15044 (AM122228) which has "4WD" stamped on valve.**



MX13499

17.Install new transaxle hydrostatic pressure relief valve (K).

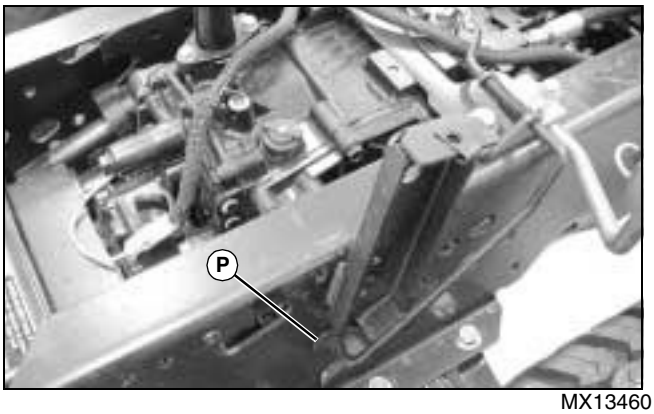


MX13460

18.Place original washer (L), then spring (M) on new free-wheeling valve control lever (N).

19.Install new free-wheeling valve control lever on machine.

20.Install cap nut (O) on one end of lever.



MX13460

21.Install plastic cap (P) on other end of lever.

22.Install fuel tank.

23.Install fender deck.

24.Install seat assembly.

Assemble and Attach Bucket and Loader

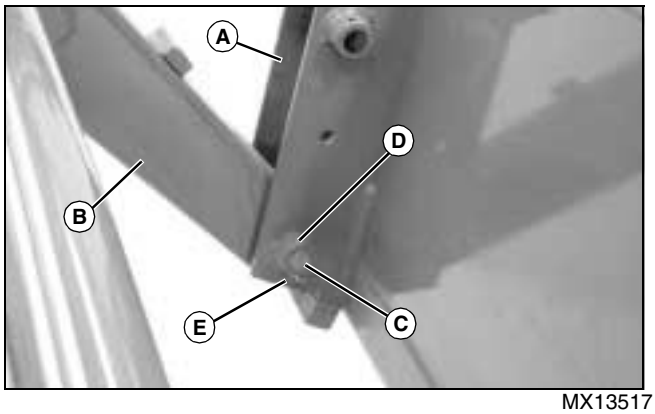
1.Put bucket on a hard, level surface.

2.Cut bands holding loader to pallet.

IMPORTANT: Avoid damage! Use care when lowering lift arms into bucket bracket. Grease fittings may be damaged if struck.

3.Tip loader forward on pallet. Align lower bucket holes and boom holes with drift pin.

NOTE: Make sure drilled pin and cotter pin are to inside of bucket.

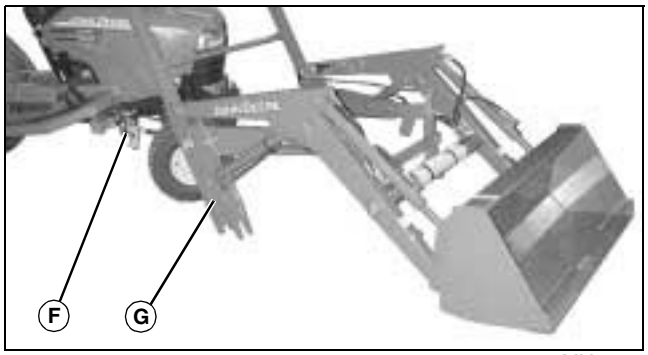


MX13517

4.Fasten bucket (A) to lift arms (B) using two lock pins (C), drilled pins (D) and cotter pins (E).

5.Remove pallet.

NOTE: Machine must be close enough to connect loader hydraulic hoses to machine hydraulic quick couplers (F).



MX13467

6.Start engine and drive machine between loader masts (G) at an angle.

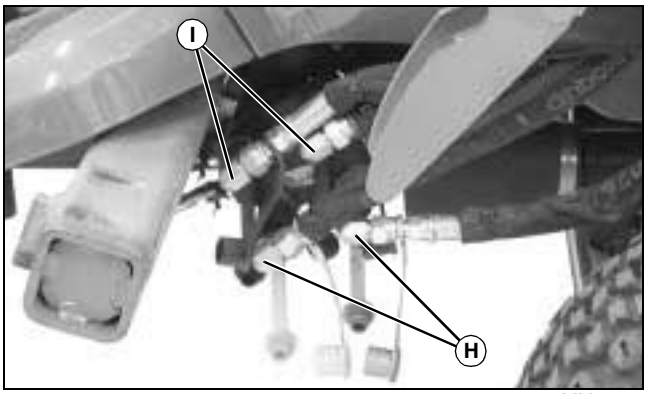
7.Stop engine and lock park brake.

CAUTION: Avoid injury! Escaping fluid under pressure can penetrate skin causing serious injury. Avoid hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

8.Relieve hydraulic pressure by moving machine upper and lower hydraulic control levers back and forth several times.

9.Remove dust plugs from hydraulic couplers on machine and dust caps from loader hoses.

NOTE: Make sure to route hoses to inside of loader masts and lift frame.



MX13533

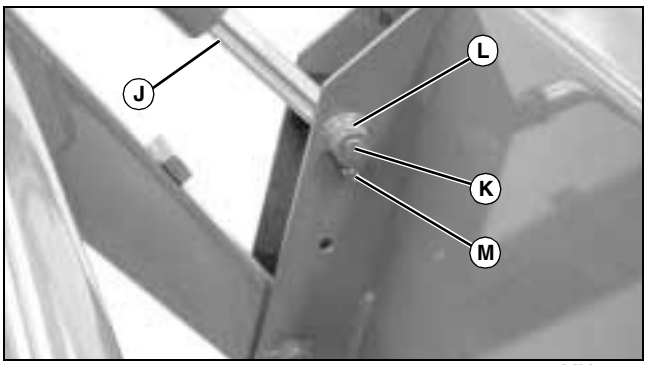
10.Install two lower hydraulic hose couplers (H) (yellow and silver) to hydraulic couplers on machine by matching color coded dust plugs and caps.

11.Install two upper hydraulic hose couplers (I) (black and green) to hydraulic couplers on machine by matching color coded dust plugs and caps.

12.Start engine.

13.Use upper hydraulic control lever to extend two bucket cylinders 12.7 cm (5 in.).

14.Stop engine.



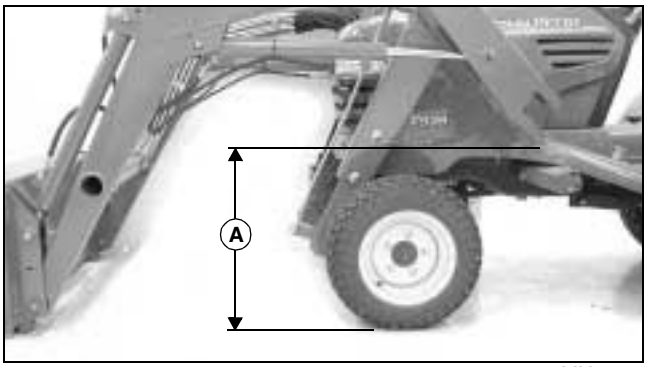
MX13516

15.Attach bucket to cylinders (J) with two locking pins (K), drilled pins (L) and cotter pins (M).

Align Loader

1.Start engine.

2.Use upper hydraulic control lever to roll bucket forward until it is level on the ground.



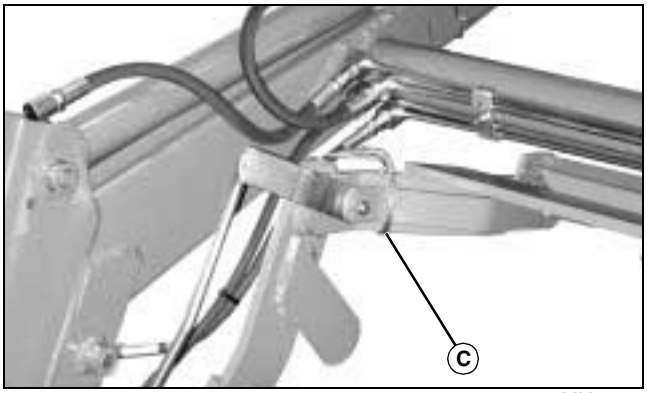
MX13487

3.Use lower hydraulic control lever to raise loader masts 46-56 cm (18-22 in.) (A) to clear rear mount tube on machine.

4.Stop engine.

5.Relieve pressure from hydraulic hoses by moving hydraulic control levers back and forth several times.

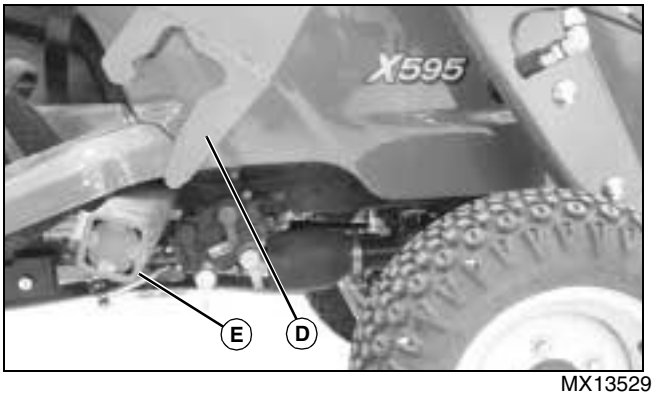
6.Disconnect four loader hoses and position hoses over cross bar.



MX13519

7.Cut wire (C) from latch lever.

8.Start engine and unlock park brake.



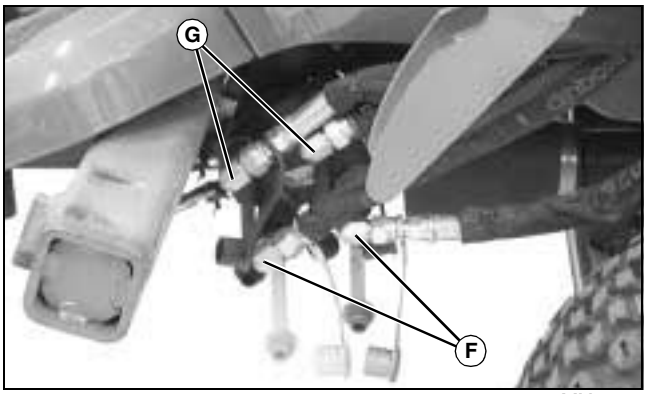
MX13529

9.Drive machine slowly forward between loader masts (D) to align masts with brackets (E) on both sides.

10.Stop engine and lock park brake.

11.Relieve pressure from hydraulic hoses by moving hydraulic control levers back and forth several times.

NOTE: Make sure to route hoses to inside of loader masts and lift frame.

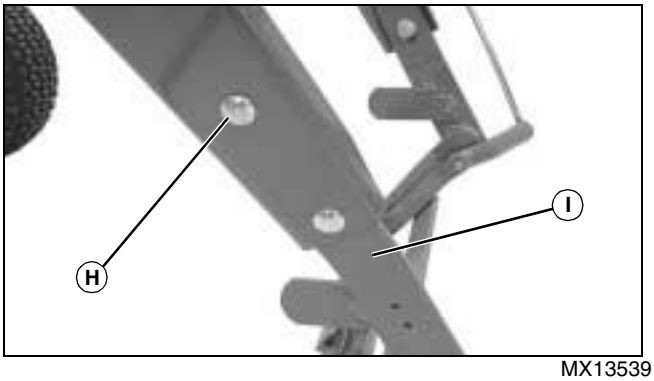


MX13533

12.Install two lower hydraulic hose couplers (F) (yellow and silver) to hydraulic couplers on machine by matching color coded dust plugs and caps.

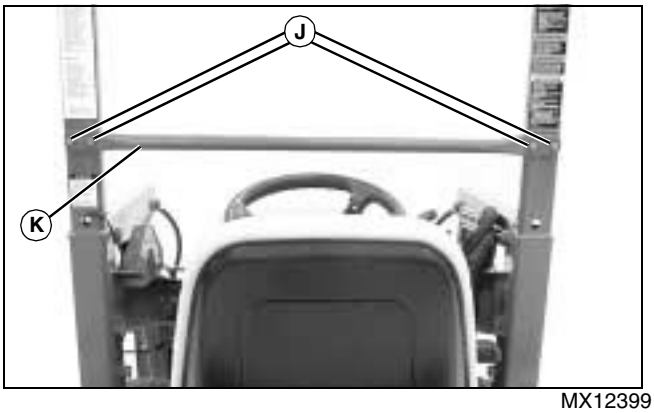
13.Install two upper hydraulic hose couplers (G) (black and green) to hydraulic couplers on machine by matching color coded dust plugs and caps.

14.Plug four loose dust plugs and caps into each other so they are out of the way.



MX13539

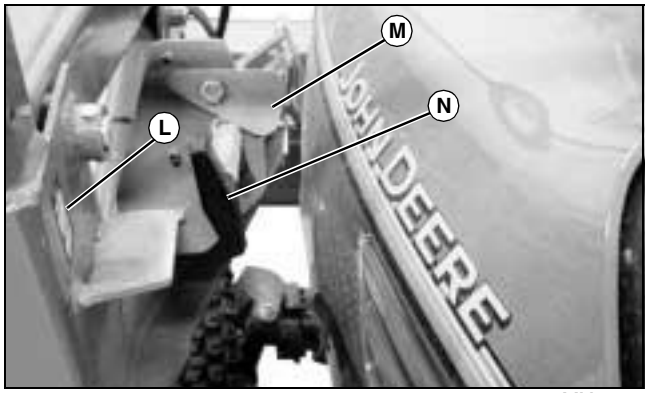
15.Loosen, but do not remove, four 5/8 x 1-1/2 in. carriage bolts (H) on both sides of front yoke (I).



MX12399

16.Loosen, but do not remove, four 3/8 x 1 in. hex bolts (J) attaching crossbar (K) to loader.

NOTE: Refer to decal (L) on loader.



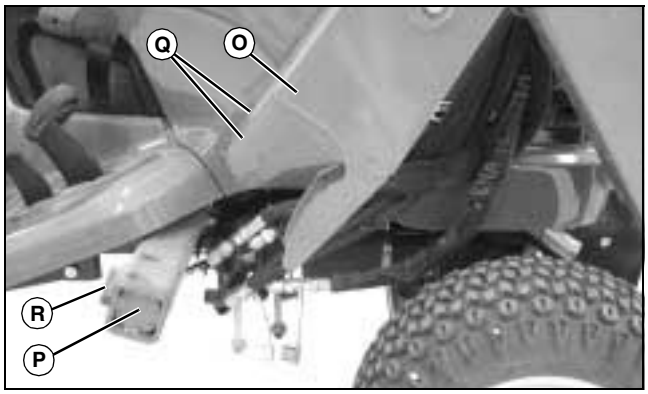
MX12366

17.Rotate latch keeper (M) up. Grasp handle (N) on latch rod and pull up and out of slot. Push forward to unlatch (remove) position.

18.Start engine and unlock park brake.

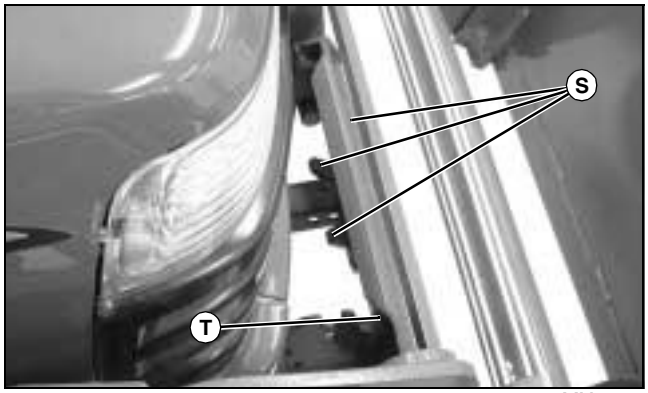
NOTE: When mounting loader masts onto rear mount tube, machine may need to be positioned to obtain correct alignment.

Lower loader masts slowly to prevent loader masts from hitting machine footrests.



MX13537

19.Push lower hydraulic control lever forward to lower loader masts (O) onto rear mount tube (P). Make sure to center mast hooks (Q) over stop blocks (R) on both sides of rear mount tube. Check to ensure that both mast hooks have dropped completely down onto rear mount tube.



MX13536

20.Slowly retract boom cylinders until front yoke (S) has fully captured machine front bumper (T).

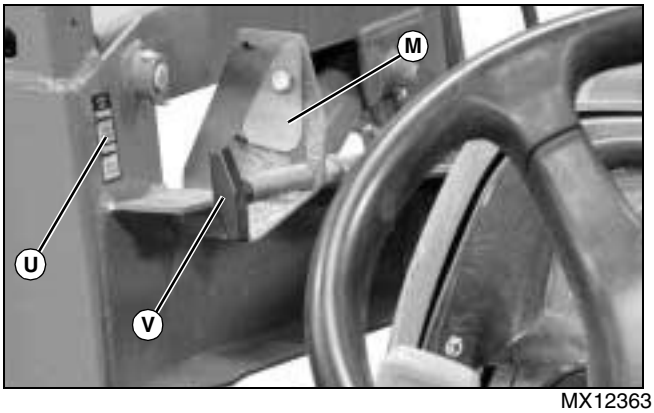
NOTE: Front wheels must be off ground.

21.Push upper hydraulic control lever forward to roll bucket until front

wheels clear ground.

NOTE: Before latching, make sure front yoke plate (S) has fully captured machine front bumper (T). Also check that upright mast hooks (Q) have completely captured rear mount tube (P) on both sides.

Refer to decal (U) on loader.



MX12363

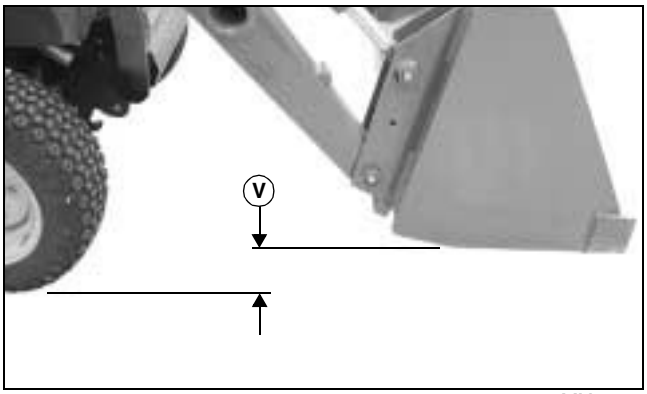
22.Grasp latch rod handle (V) and pull latch rod back and down into slot to latch (use) position.

23.Latch keeper (M) must rotate to down position.

24.Latch rod must rest on bottom of slot. If not, adjust latch rod.

25.Make sure that front yoke (S) has fully captured machine front bumper (T).

26.Curl bucket back to lower front wheels to ground.



MX13515

27.Pull lower hydraulic control lever back slowly to raise bucket 15-30 cm (6-12 in.) (V). This will help align loader front yoke and upright masts to machine front bumper and rear mount tube. Four 5/8 in. carriage bolts should be in center of front yoke slots.

28.Slowly lower loader lift arms and bucket down to ground.

29.Stop engine and lock park brake.

NOTE: Open machine hood for better access to four 5/8 in. carriage bolts.

30.Tighten four 5/8 in. carriage bolts (two on each side of front yoke) so connection between front yoke and upright masts will not slip when removing loader from machine.

31.With loader still on machine, tighten four 3/8 x 1 in. hex bolts connecting crossbar to loader upright masts to 54 N•m (40 lb-ft).

NOTE: If connection held by four 5/8 in. carriage bolts slips during loader removal, adjustment process must be repeated.

32.Remove loader from machine.

33.Tighten four 5/8 x 1-1/2 in. carriage bolts to 244 N•m (180 lb-ft).

34.Attach loader to machine. If loader does not attach easily and securely, adjustment process must be repeated.

35.Cycle all loader cylinders completely several times after completing installation process. This will ensure that all hydraulic lines and cylinders are filled with hydraulic fluid.

IMPORTANT: Avoid damage! Transaxle oil level must be checked at this time. Operating machine without sufficient transaxle oil may cause extensive damage.

36.Check transaxle oil.

Installing Attachment

Check Tire Pressure

IMPORTANT: Avoid damage! To prevent tire damage, do not use more than maximum tire pressure shown on sidewall of tire.

1.Check tire pressure with an accurate gauge.

2.Add or remove air as necessary.

Installing Ballast

CAUTION: Avoid injury! Machine may become unstable when operating with attachment. Machine rollover may cause serious injury or death. Ballast must be added as specified. See your authorized dealer.

Remove ballast from machine when loader is removed.

IMPORTANT: Avoid damage! Do not exceed maximum rear ballast of 385 kg (850 lb). Rear ballast includes rear wheel weights, liquid filled tires and rear weight box.

2WD Machines: Do not exceed maximum rear axle ballast of 181 kg (400 lb). Rear axle ballast includes rear wheel weights and liquid filled tires.

NOTE: Additional rear ballast up to maximum rear ballast capacity may be added when operating on uneven terrain to improve traction and maneuverability.

1.A minimum total rear ballast of 338 kg (750 lb) is required.

2.Ballast required at rear axle:

- 2WD Machines: Between 113 kg (250 lb) and 181 kg (400 lb) of total ballast must be applied at rear axle.
- 4WD Machines: A minimum of 113 kg (250 lb) of total ballast must be applied at rear axle.

Required rear axle ballast may be obtained by combining following options:

Description	kg (lb)
Fluid (calcium chloride) in rear tires at 45 kg (100 lb) each.	90 (200)

Description	kg (lb)
Two plastic coated rear wheel weights at 23 kg (50 lb) each.	46 (100)
Two starter rear wheel weights at 33 kg (72 lb) each.	66 (144)
Two cast iron rear wheel weights at 23 kg (50 lb) each.	46 (100)

- To use rear wheel weights, order appropriate weight and hardware. See your authorized dealer.

NOTE: A 3-point hitch implement of comparable weight may be substituted for ballast in ballast box or on weight bracket.

If 3-point hitch implement is to be operated while loader is attached to machine, put bucket in lowest position that provides ground and obstacle clearance.

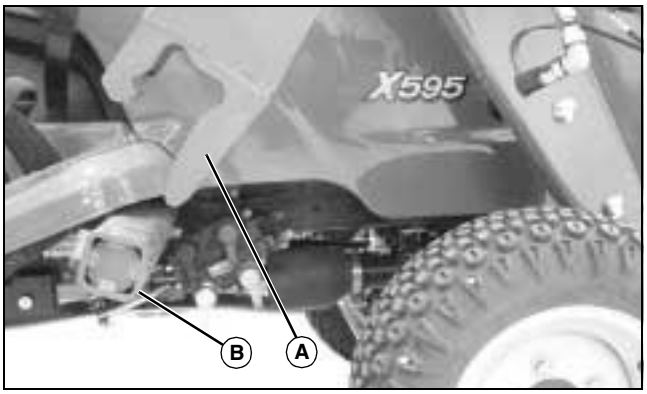
3.Remaining rear ballast may be obtained by combining following options:

Description	kg (lb)
Ballast box (empty).	18 (40)
Ballast box (filled with sand).	74 (165)
Ballast box with 1-10 suitcase weights.	37 (82) - 209 (460)
Weight bracket with 1-5 suitcase weights.	23 (52) - 100 (222)

- To use rear suitcase weights, order rear weight bracket kit. Rear weight bracket holds up to five 18 kg (40 lb) suitcase weights. See your authorized dealer.
- To use fluid filled rear tires or ballast box, order respective parts. See your authorized dealer.

Connecting Hydraulic Hoses

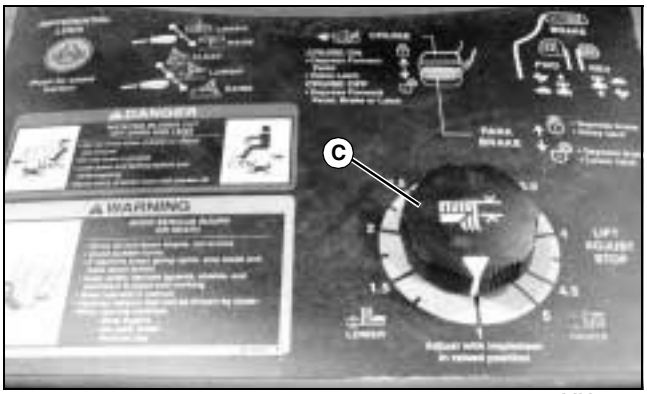
NOTE: Machine and loader must be close enough to connect loader hydraulic hoses to machine couplers.



MX13529

1.Start engine and drive machine between loader masts (A). Locate masts above rear mount tube (B).

2.Raise mower to maximum height.



MX12361

3.Turn mower height adjustment knob (C) to maximum height.

4.Push upper hydraulic control lever forward to stop mid-lift shaft against the depth of the depth stop cam.

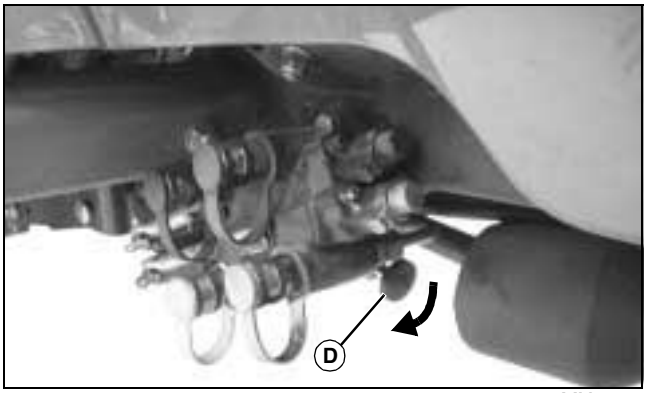
5.Park machine safely. (See Parking Safely in the SAFETY section.)

CAUTION: Avoid injury! Hydraulic fluid is under pressure. Escaping fluid can penetrate the skin and cause serious injury. Protect hands and body.

- **Relieve all pressure before checking hydraulic hoses.**
- **Search for leaks with piece of cardboard. Do not use hands to check hoses.**
- **Tighten all connections before applying pressure.**

6.Relieve hydraulic pressure by moving machine upper and lower hydraulic control levers back-and-forth several times.

NOTE: Operating loader without hydraulic shut-off valve in closed position will result in poor loader response.

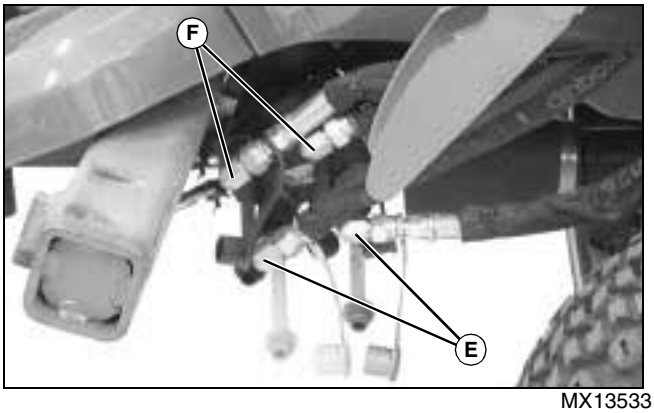


MX13535

7.Put hydraulic shut-off valve (located under right footrest) in closed position by turning knob (D) clockwise until tight.

8.Remove dust plugs from hydraulic couplers on machine and dust caps from loader hoses.

IMPORTANT: Avoid damage! Hoses must be routed to inside of loader masts and lift frame.



MX13533

9.Install two lower hydraulic hose couplers (E) (yellow and silver) to hydraulic couplers on machine by matching color coded bands on loader hoses to decal on footrest.

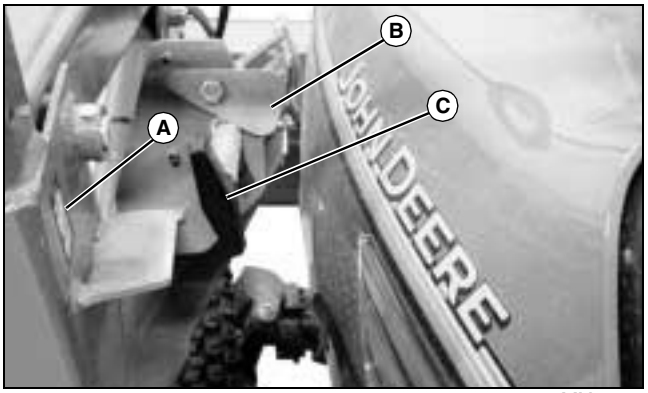
10.Install two upper hydraulic hose couplers (F) (black and green) to hydraulic couplers on machine by matching color coded bands on loader hoses to decal on footrest.

11.Plug four loose dust caps into each other so they are out of the way.

Attaching Loader to Machine

NOTE: Loader can be installed and operated with mower in place. If not using loader, remove it when mowing.

Refer to decal (A) on loader.



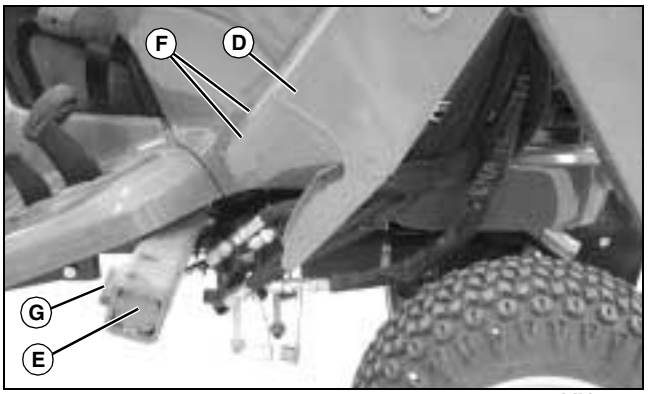
MX12366

1.Rotate latch keeper (B) up. Grasp handle (C) on latch rod and pull up and out of slot. Push forward to unlatch (remove) position.

2.Start engine and unlock park brake.

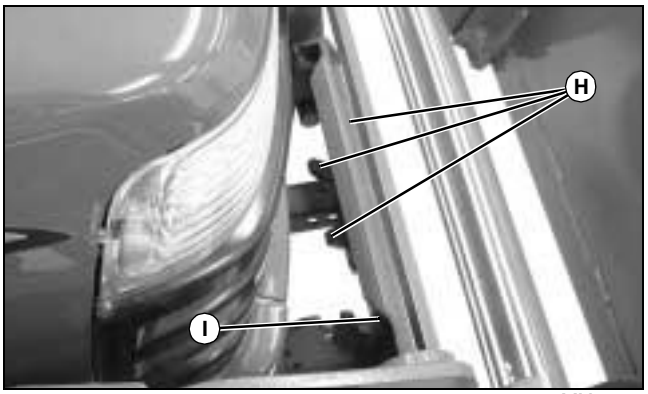
NOTE: When mounting loader masts onto rear mount tube, machine may need to be repositioned to obtain correct alignment.

Lower loader masts slowly to prevent loader masts from hitting machine footrests.



MX13537

3.Push lower hydraulic control lever forward to lower loader masts (D) onto rear mount tube (E). Make sure to center mast hooks (F) over stop blocks (G) on both sides of rear mount tube. Check to ensure that both mast hooks have dropped completely down onto rear mount tube.



MX13536

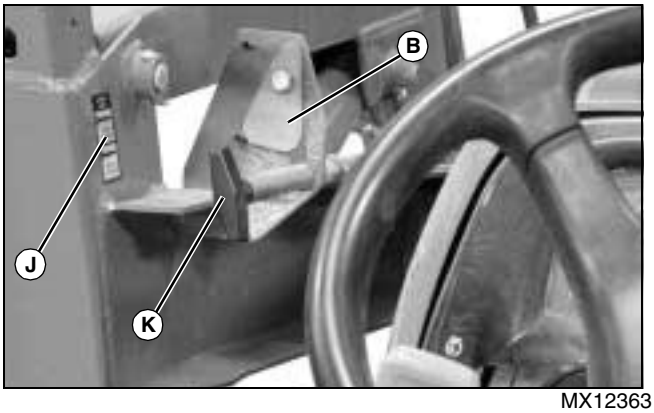
4.Slowly retract boom cylinders until front yoke (H) has fully captured machine front bumper (I).

NOTE: Front wheels must be off ground.

5.Push upper hydraulic control lever forward to roll bucket until front wheels clear ground.

NOTE: Before latching, make sure front yoke plate (H) has fully captured machine front bumper (I). Also check that upright mast hooks (F) have completely captured rear mount tube (G) on both sides.

Refer to decal (J) on loader.



MX12363

6.Grasp latch rod handle (K) and pull latch rod back and down into slot to latch (use) position.

7.Latch keeper (B) must rotate to down position.

8.Latch rod must rest on bottom of slot. If not, adjust latch rod.

9.Make sure that front yoke (H) has fully captured machine front bumper (I).

10.Curl bucket back to lower front wheels to ground.

Removing and Storing Attachment

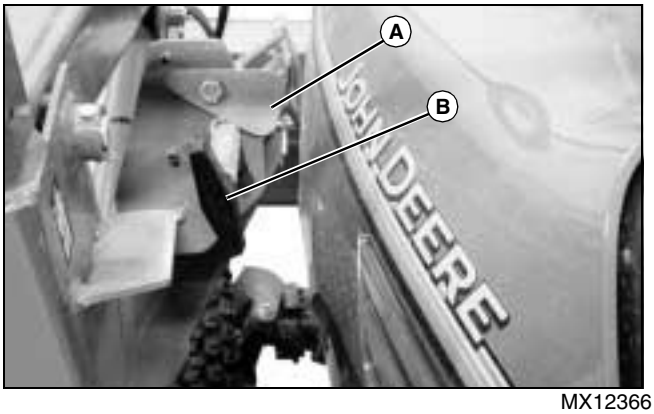
Removing Loader From Machine

1.Start engine.

2.Unlock park brake.

NOTE: Front wheels must be off of ground to complete removal.

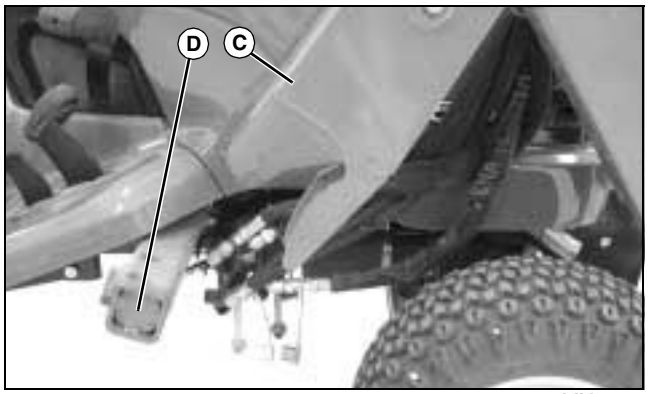
3.Push machine upper hydraulic control lever forward to roll bucket until front wheels are off of ground.



MX12366

4.Rotate latch keeper (A) up. Grasp handle (B) on latch rod and pull up and out of slot. Push forward to unlatch (remove) position.

5.Pull upper hydraulic control lever rearward to roll bucket until it is flat on ground.



MX13537

6.Pull machine lower hydraulic control lever rearward until masts (C) clear rear mount tubes (D) and front tires.

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

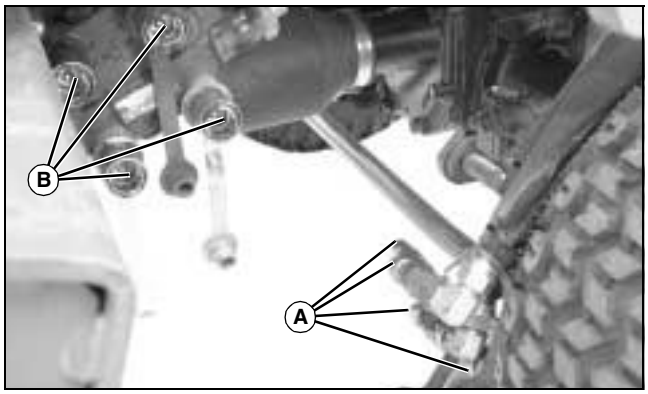
Disconnecting Hydraulic Hoses

CAUTION: Avoid injury! Hydraulic fluid is under pressure. Escaping fluid can penetrate the skin and cause serious injury. Protect hands and body.

- **Relieve all pressure before checking hydraulic hoses.**
- **Search for leaks with piece of cardboard. Do not use hands to check hoses.**
- **Tighten all connections before applying pressure.**

1.Relieve hydraulic pressure by moving upper and lower hydraulic control levers back-and-forth several times.

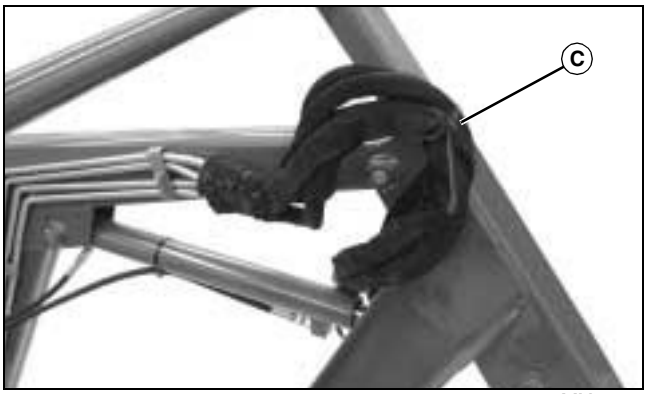
2.Unplug dust caps from their storage position.



MX13531

3.Disconnect four loader hydraulic hoses (A) at hydraulic couplers (B).

4.Install dust caps on loader hydraulic hoses and machine hydraulic couplers.



MX13532

5.Store hoses (C) between mast and boom cylinder as shown.

6.Start engine.

7.Unlock park brake.

IMPORTANT: Avoid damage! If work light kit is installed, make sure wire harness is disconnected before backing machine away from loader. Failure to do so may damage work light.

8.Slowly back machine away from loader.

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 ballast.

10.Put hydraulic shut-off valve in open position.

Storing Loader

1.Remove loader from machine.

2.For short-term storage:

a.Make sure dust caps are installed on hose ends.

b.Clean loader

c.Coat exposed cylinder rods with grease to help prevent rust.

3.For long-term storage:

a.Park right side of machine at rear of loader.

b.Connect loader hoses to machine. (See Assembly section.)

c.Slowly retract all cylinders.

d.Disconnect loader hoses from machine.

e.Make sure dust caps are installed on hose ends.

f. Clean loader.

4.Inspect hydraulic system.

5.Repair or replace any worn or damaged parts.

6.Apply touch-up paint where needed to prevent rust.

7.Lubricate grease points.

8.Store loader on a hard, level surface in a clean, dry place.

9.Store hoses on loader. Do not lay them on ground.

10.Put a waterproof cover over loader, if stored outside.

Operating

Operating the Bucket

Raising and Lowering Bucket

MX12360

• To raise loader boom, pull lower hydraulic control lever (A) slightly to rear. Lever returns to neutral position when released.

• To lower loader boom, push lower hydraulic control lever (A) slightly forward. Lever returns to neutral position when released.

CAUTION: Avoid injury! Do not move hydraulic control lever to float position to lower boom. Loss of control results, and boom will fall to ground.

• To put boom in float position, push lower hydraulic control lever to maximum forward position.

Tilting Bucket

NOTE: Optional bucket regen kit is available to increase speed of bucket dump. See your authorized dealer.

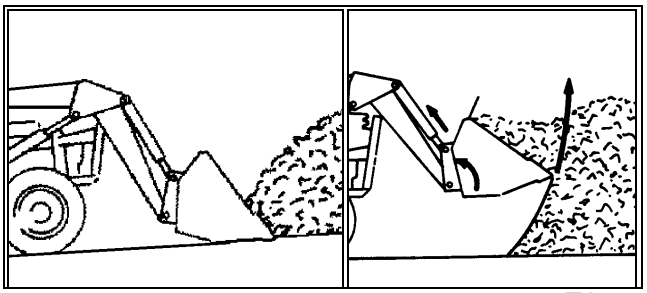
• To dump bucket, push upper hydraulic control lever (B) forward. Lever returns to neutral position when released.

• To roll back bucket, pull upper hydraulic control lever (B) to rear. Lever returns to neutral position when released.

Removing Material From Pile

CAUTION: Avoid injury! Do not use loader for handling round bales, logs or other items that may shift or become unstable. Operator or bystander may be seriously injured or killed by falling load.

Do not use loader as a battering ram. Operator may be seriously injured by sudden stop.

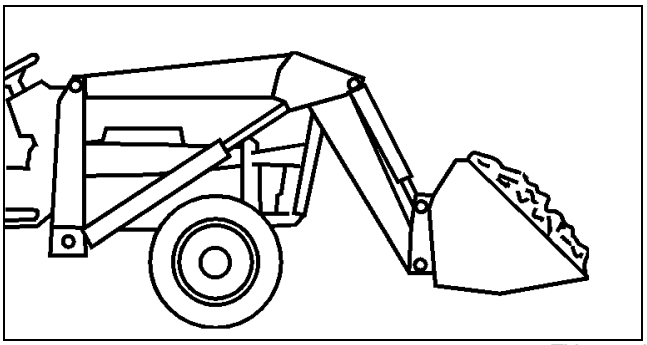


TY10728

1.Approach and enter pile with a level bucket.

2.Pull upper and lower hydraulic control levers back slowly to lift and tilt bucket back.

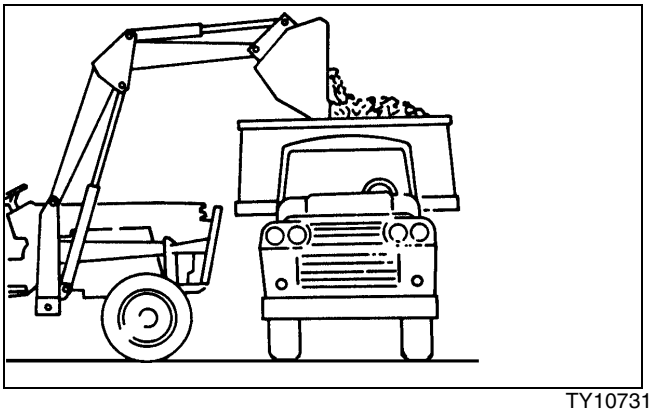
Lifting and Carrying Load



TY10730A

For maximum stability and visibility, position bucket as low as possible.

Dumping Load



TY10731

1.Raise bucket high enough to clear side of vehicle.

2.Move machine as close to vehicle as possible.

3.Tilt bucket to dump load.

CAUTION: Avoid injury! Do not move hydraulic control lever to float position to lower boom. Loss of control results, and boom will fall to ground.

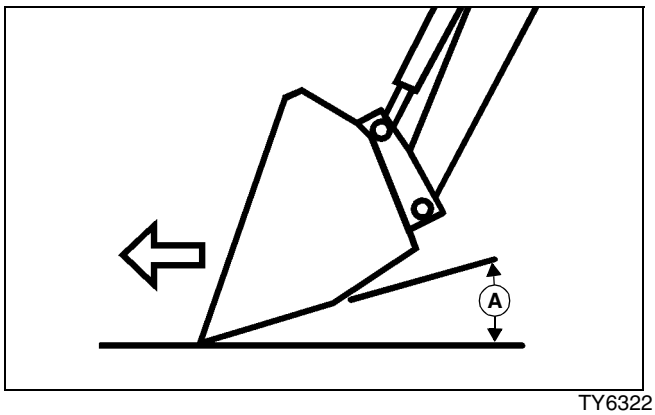
4.Back away from vehicle and lower boom.

Forward Leveling

IMPORTANT: Avoid damage! To prevent excessive wear and damage to cutting edge:

- **Use float position to reduce downward pressure on bucket.**
- **Do not tip bucket more than 15 degrees (A).**
- **Drive forward slowly.**

1.Put lower hydraulic lever in float position to reduce downward pressure on bucket.



TY6322

2.Tilt bucket 15 degrees (A).

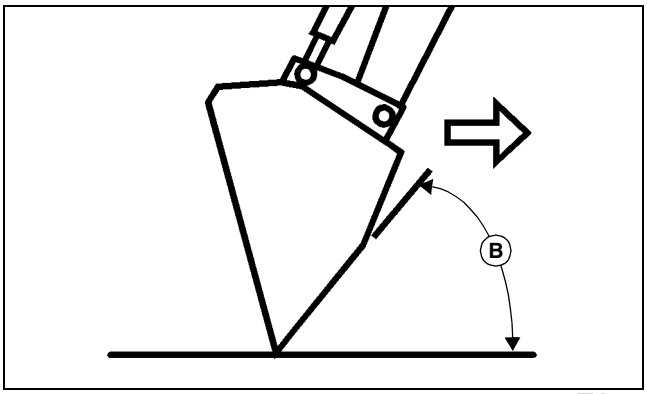
3.Drive forward slowly.

Reverse Leveling

IMPORTANT: Avoid damage! To prevent excessive wear and damage to cutting edge:

- **Use float position to reduce downward pressure on bucket.**
- **Do not tip bucket more than 45 degrees (B).**
- **Drive in reverse slowly.**

1.Put lower hydraulic lever in float position to reduce downward pressure on bucket.

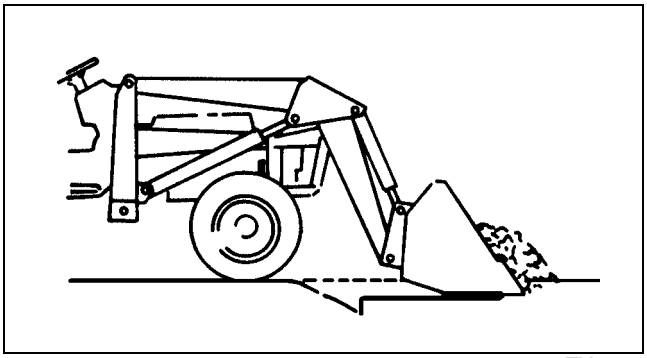


TY6323

2.Tilt bucket between 30 and 45 degrees (B).

3.Drive slowly in reverse.

Peeling and Scraping

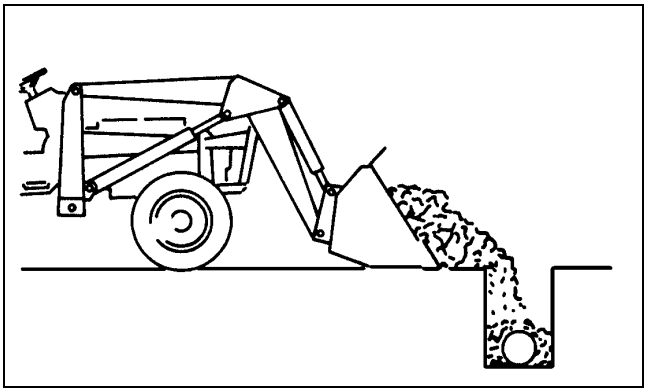


TY10732

1.Angle bucket downward slightly to increase penetration.

2.When bucket has penetrated several inches, level bucket and continue forward travel until bucket is full.

Backfilling



TY10733

1.When backfilling from a large pile, push off top of pile, pushing toward excavation. Drag some soil back to form a work ramp of convenient grade

2.Approach pile with a level bucket. When adjusting cut to a load that machine can move, push lower and upper hydraulic control levers separately or simultaneously as required to maintain a level bucket.

Cleaning Concrete Surfaces

1.Put lower hydraulic lever in float position to reduce downward pressure on bucket.

2.Drive forward slowly.

Service

Service Intervals

Before Each Use

- Check latch rod. Adjust as required.

10 Hours

- Tighten hardware.
- Lubricate boom, bucket, boom cylinders and bucket cylinders.

50 Hours

- Check transaxle oil level.

Grease

IMPORTANT: Avoid damage! Use recommended John Deere greases to avoid component failure and premature wear.

The recommended John Deere greases are effective within an average air temperature range of -29 to 135 degrees C (-20 to 275 degrees F).

If operating outside that temperature range, contact your Servicing dealer for a special-use grease.

The following greases are preferred:

- John Deere Multi-Purpose SD Polyurea Grease
- John Deere Multi-Purpose HD Lithium Complex Grease

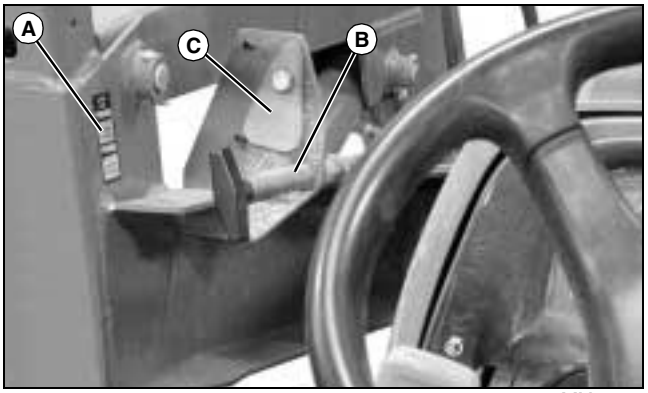
If not using any of the preferred greases, be sure to use a general all-purpose grease with an NLGI grade No.2 rating.

Wet or high speed conditions may require use of a special-use grease. Contact your Servicing dealer for information.

Checking Latch Rod

Check latch rod tension as follows:

NOTE: Refer to decal (A) on loader for reference.



MX12363

1.In operation:

- With loader on machine and latch rod (B) in latch (use) position, latch rod should not be loose or able to vibrate.

CAUTION: Avoid injury! Before attempting to release front latch, make sure loader boom is down and bucket is on ground.

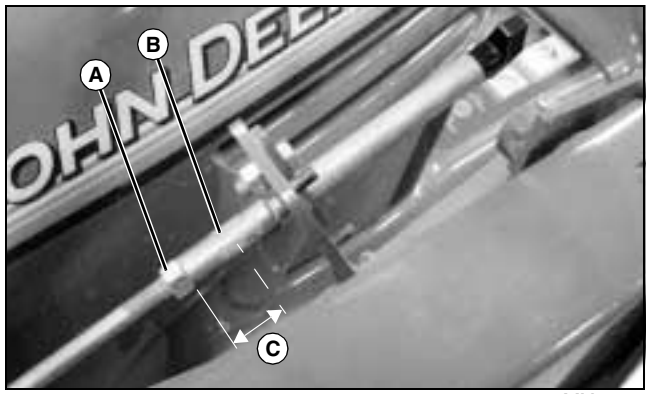
NOTE: Latching and unlatching of loader must be performed with front wheels of machine slightly raised off ground.

2.Disengaging:

a.While seated on machine, rotate latch keeper (C) up.

b.Grasp latch rod handle (B) and pull back and up to lift latch rod up and out of bottom of slot and push forward to unlatch (remove) position.

Adjusting Latch Rod



MX12365

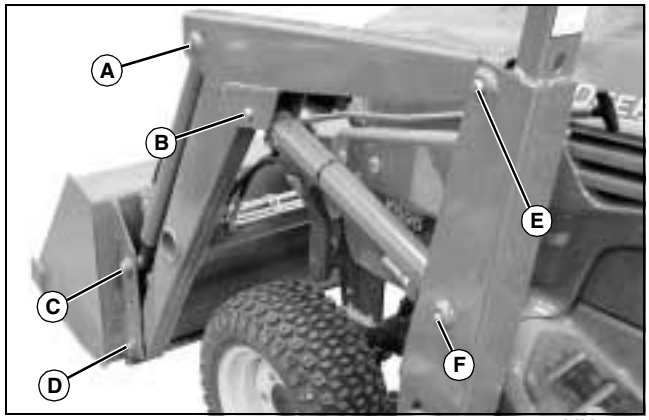
1.Loosen jam nut (A) on end of latch rod (B).

2.Turn latch rod (B) in or out to obtain required length.

3.Make sure there is at least 13 mm (0.50 in.) (C) of thread engagement on end of latch rod (B).

4.Tighten jam nut.

Lubricating Boom, Bucket, Boom Cylinders and Bucket Cylinders



MX12362

Lubricate six pivot points (A-F) on each side of loader by pumping grease into grease fittings.

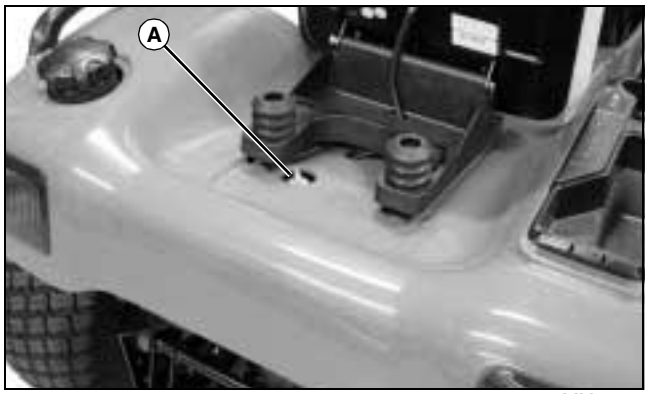
Checking Transaxle Oil

IMPORTANT: Avoid damage! Check oil level when transaxle is cold.

Check oil level with loader bucket level and lowered to the ground.

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

2.Tilt machine seat forward.



MX12364

3.Remove dipstick (A) and wipe with a clean rag.

4.Insert dipstick until it rests on top of fill tube. Do not tighten.

5.Remove dipstick. Oil level should be between marks on dipstick.

6.If oil level is low, add your John Deere Low Viscosity HY-GARD or another transmission oil equivalent to J20D.

7.Install dipstick.

8.Run engine for a few minutes.

9.Stop engine and check transaxle oil level. Add oil as necessary.

10.Install dipstick.

11.Return seat to operating position.

Troubleshooting

Using Troubleshooting Chart

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

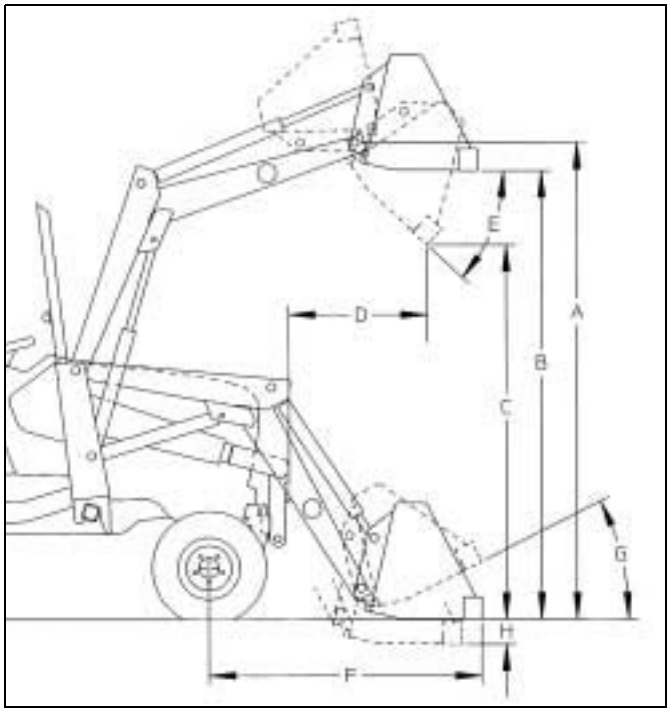
When you have checked all the possible causes listed and you are still experiencing the problem, see your authorized dealer.

If	Check
Slow or Jerky Operation	Increase engine speed. Cycle loader several times. Check transaxle oil level. Check hydraulic circuit for oil leaks. Check to ensure that lift cylinder shut-off valve is completely closed. Replace transaxle oil filter.

If	Check
Oil Leaks	Replace defective parts. Tighten fittings. Use thread sealant. Check cylinders for damaged O-ring or wiper seal. See your authorized dealer.
Insufficient Lift Capacity	Increase engine speed. Check if load exceeds lift capacity. See Specifications for maximum capacity. Check cylinders for internal leakage. See your authorized dealer.
Boom and Bucket Action Does Not Correspond to Proper Control Lever Movement	Check color coded hydraulic connections and make sure they are correct.
Cylinders Inoperative	Check connection between control valve and cylinder hoses and correct if necessary.
Bucket or Lift Arms Drift Down from Raised Position	Check hydraulic circuit for oil leaks. Check control valve for damaged O-rings or internal leakage. See your John dealer. Check cylinders for internal leakage. See your authorized dealer.

Specifications

Loader Operating Dimensions



MX12394

A - Maximum Lift Height at Pivot Pin. . . . . 1854.2 mm (73 in.)

B - Maximum Lift Height Under Level Bucket. . . . . 1752.6 mm (69 in.)

C - Maximum Clearance Under Fully Dumped Bucket. 1447.8 mm (57 in.)

D - Reach With Bucket Dumped 45 degrees . . . . . 584.2 mm (23 in.)

E - Maximum Bucket Dump Angle . . . . . 45 degrees

F - 2WD: Reach With Bucket on Ground . . . . . 1128.6 mm (44.43 in.)

F - 4WD: Reach With Bucket on Ground . . . . . 1098.6 mm (43.25 in.)

G - Bucket Roll-Back Angle on Ground . . . . . 25 degrees

H - Digging Depth Below Ground Level. . . . . 101.6 mm (4 in.)

Bucket

Width. . . . . .1219 mm (48 in.)

Capacity (Struck) . . . . . 0.14 cu. m (5.0 cu. ft.)

Loader

Hydraulic System:

Rated Pressure . . . . . 6895 kPa (1000 psi)

Lift Cylinder Diameter . . . . . 44 mm (1.75 in.)

Bucket Cylinder Diameter. . . . . 44 mm (1.75 in.)

Lift Capacity (Calculated at Nominal System Relief Pressure (ASAE 301.3):

Breakout Force. . . . . 349 kg (770 lb)

Bucket Rollback Force at Ground Line . . . . . 336 kg (740 lb)

Lift Capacity at 914 mm (36 in.) . . . . . 290 kg (640 lb)

Lift Capacity at Full Height . . . . . 166 kg (365 lb)

Weight. . . . . 234 kg (515 lb)

Recommended Lubricants

Grease

. . . . . .John Deere Multi-Purpose SD Polyurea Grease

. . . . . .John Deere Multi-Purpose HD Lithium Complex Grease

(Specifications and design subject to change without notice.)

Getting Quality Service

Service Literature

If you would like a copy of Parts Catalog or Technical Manual for this machine call:

- **U.S. & Canada**: 1-800-522-7448.
- **All Other Regions**: Your John Deere dealer.

Parts

We recommend John Deere quality parts and lubricants, available at your John Deere dealer.

When you order parts, your John Deere dealer needs the serial number or product identification number (PIN) for your machine or attachment. These are the numbers that you recorded in the Product Identification section of this manual.