

Product Manuals

OPERATOR'S MANUAL

Operating

Daily Operating Checklist

- o Test safety systems.
- o Check tire pressure.
- o Check fuel level.
- o Check engine oil level.
- o Check transmission oil level.
- o Check coolant level on liquid cooled engine.
- o Remove grass and debris from engine compartment and muffler area, before and after operating machine.
- o Clean air intake screens.
- o Check area below machine for leaks.
- o Check operation of backup lights.

Avoid Damage to Plastic and Painted Surfaces

- Do not wipe plastic parts unless rinsed first.
- Insect repellent spray may damage plastic and painted surfaces. Do not spray insect repellent near machine.
- Be careful not to spill fuel on machine. Fuel may damage surface. Wipe up spilled fuel immediately.

Operator Station Controls



MX13555, MX13643

Picture Note: Gas models.

A - Traction Assist Pedal

B - Throttle Lever

C - Choke Lever (X465, X475, X575 Models)

D - Light Switch

E - Tilt Steering Lever

F - Mower Height Control Knob

G - Seat Adjustment Lever



MX13555

Picture Note: Diesel models.

A - Traction Assist Pedal

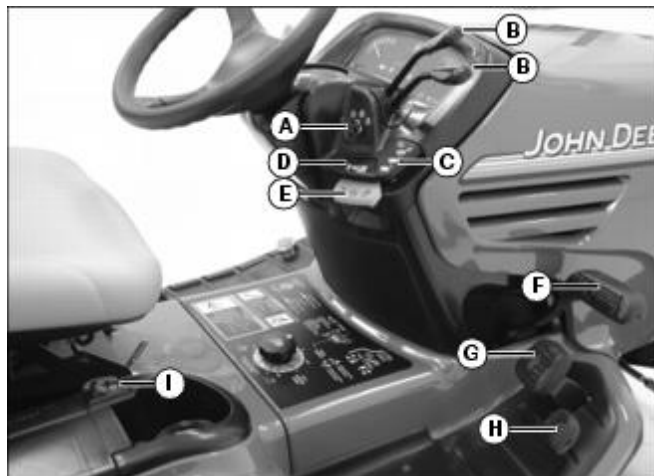
B - Throttle Lever

C - Light Switch

D - Tilt Steering Lever

E - Mower Height Control Knob

F - Seat Adjustment Lever



MX13638

Picture Note: Models without 4WD.

A - Key Switch

B - Hydraulic Control Levers

C - Power-Take-Off (PTO) / Reverse Implement Option (RIO) Switch

D - Cruise Control Latch

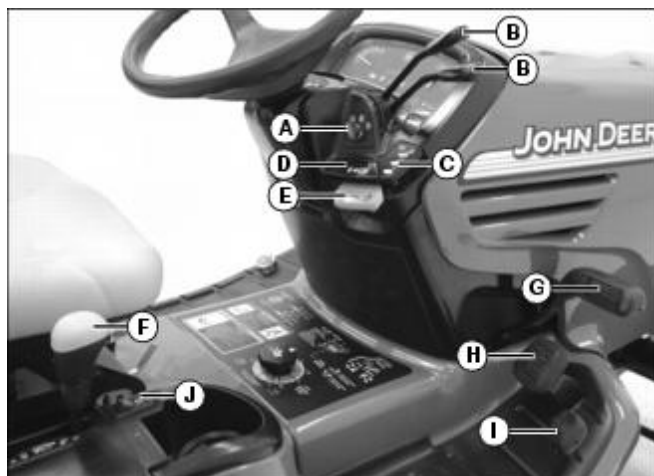
E - Park Brake Latch

F - Brake Pedal

G - Forward Travel Pedal

H - Reverse Travel Pedal

I - 12-Volt Outlet Switch



MX13563

Picture Note: Models with 4WD.

A - Key Switch

B - Hydraulic Control Levers

C - Power-Take-Off (PTO) / Reverse Implement Option (RIO) Switch

D - Cruise Control Latch

E - Park Brake Latch

F - 2WD/4WD Lever

G - Brake Pedal

H - Forward Travel Pedal

I - Reverse Travel Pedal

J - 12-Volt Outlet Switch

Miscellaneous Controls



MX13565

A - Free-Wheeling Lever

Adjusting Tilt Steering Wheel



MX13558

1. Move tilt steering lever (A) rearward.
2. Push or pull steering wheel to a comfortable operating position.
3. Release lever.
4. Check to be sure steering wheel is locked in position.

Adjusting Seat

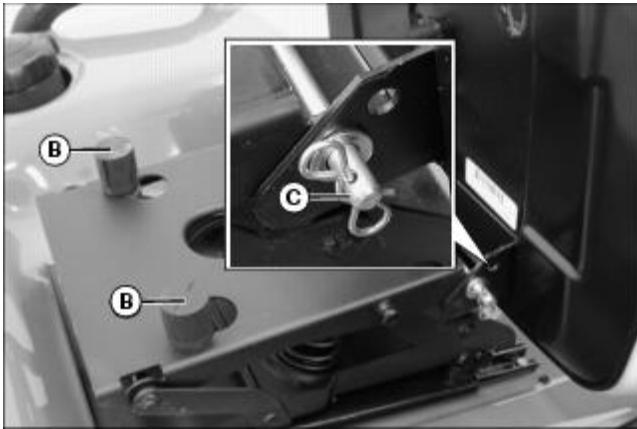
Adjusting Seat Position



MX13568

1. Move seat adjustment lever (A) to the left.
2. Slide seat forward or backward to desired position.
3. Release lever.
4. Check to be sure seat is locked in position.

Adjusting Seat Height



MX13550, MX13549

Rubber stops (B) may be flipped to position at two different heights.

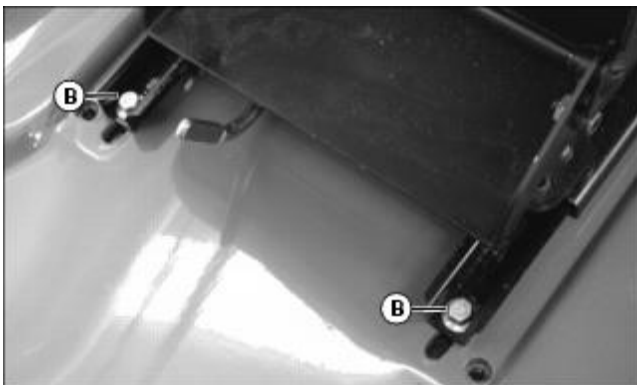
Seat rod (C) may be positioned at three different heights.

Positioning Slide Rails



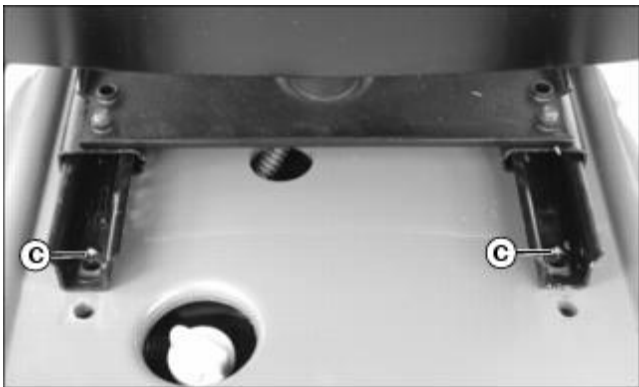
MX15410

1. Remove two bolts (A) in rear of slide rail.



MX15411

2. Loosen two bolts (B) in front of slide rail.



MX15412

3. Slide rails with seat and suspension forward one inch to mounting holes (C).
4. Install four bolts in slide rail.

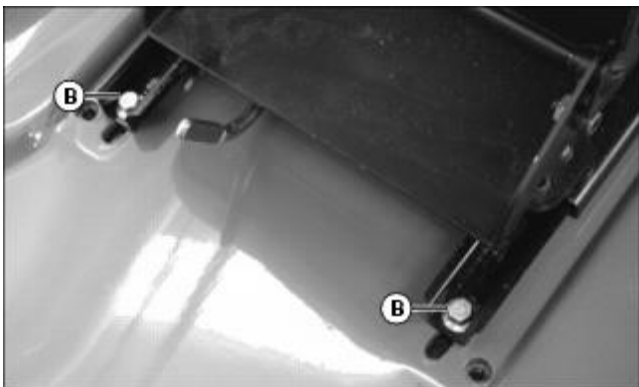
Positioning Seat and Suspension

1. Disconnect seat wire harness and remove seat.



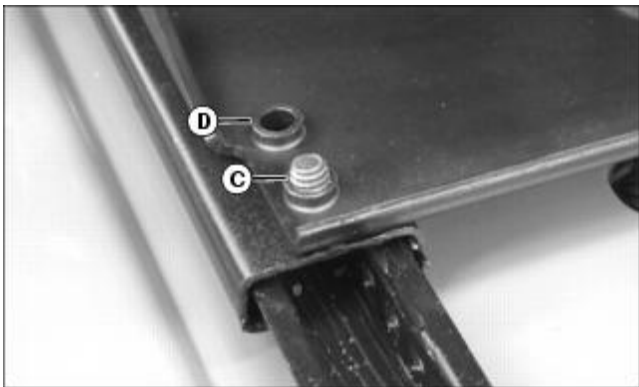
MX15410

2. Remove two bolts (A) in rear of slide rail.



MX15411

3. Remove two bolts (B) in front of slide rail.
4. Remove seat suspension and slide rails from machine.



MX15413

5. Remove four bolts (C) securing seat suspension to slide rails.
6. Move slide rails and install bolts in forward mounting holes (D).
7. Install seat suspension and slide rails on machine with four bolts.

Adjusting Seat (Special Edition)

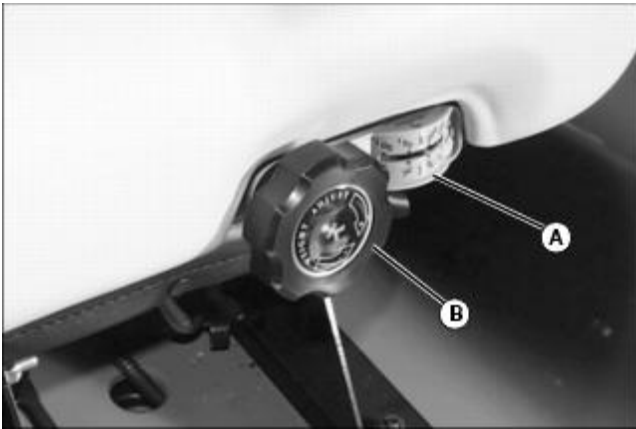
Adjusting Seat Position



MX31913

1. Move seat adjustment lever (A) to the left.
2. Slide seat forward or backward to desired position.
3. Release lever.
4. Place the seat in the locked position.

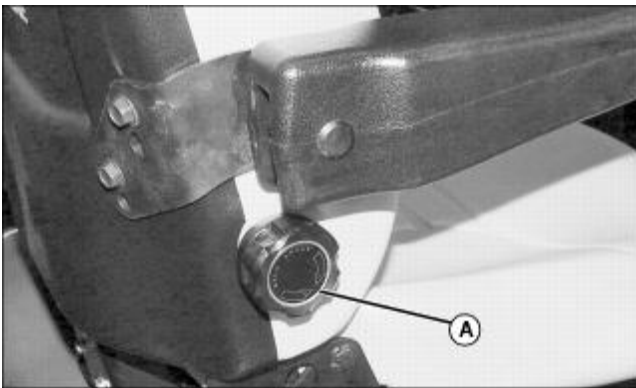
Adjusting Seat Suspension



MX31913

Turn knob (B) to desired position per operator weight on gauge (A).

Adjusting Seat Back

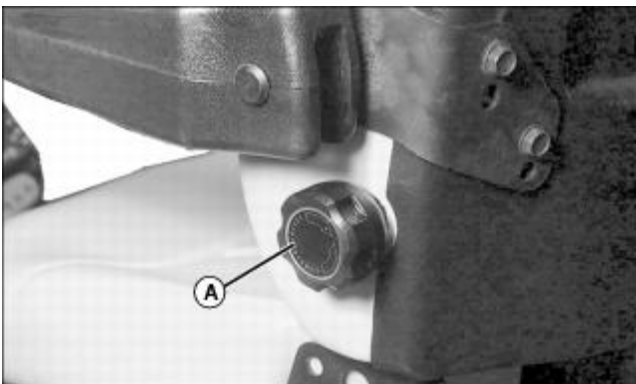


MX31914

Picture Note: *The seat back adjustment knob is located on the right side of seat.*

- Bring the seat back to a vertical position by turning the knob (A) to the right (clockwise).
- Turn the knob (A) to the left (counterclockwise) to recline the seat back slightly.

Adjusting Lumbar Support



MX31915

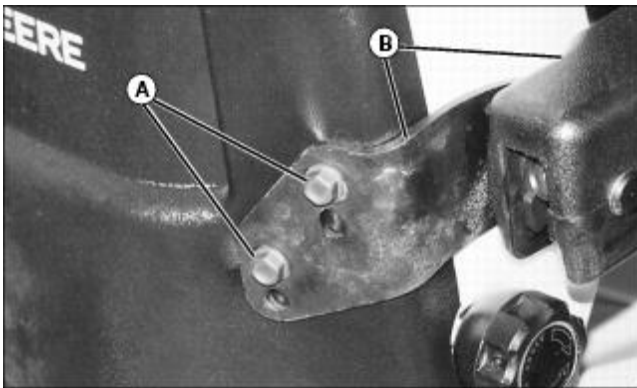
Picture Note: *The lumbar support knob is located on the left side of the seat.*

- Turn the lumbar support knob to the left (counterclockwise) to decrease lumbar support.
- Turn the lumbar support knob (A) to the right (clockwise) to increase lumbar support.

Adjusting Armrest

NOTE: If a John Deere X-Series ROPS, certified soft side or hard side cab is installed, before installing seat to machine you must raise armrest by using lower holes on adjustment bracket as shown below.

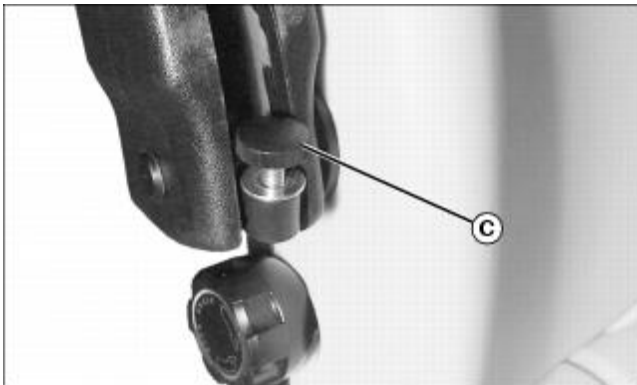
- To raise or lower armrest both sides:



MX31916

- Remove two bolts (A) and raise armrest and bracket (B) to the other set of holes.
- Install bolts and tighten.

- To change the angle of the armrest both sides:



MX31817

- Lift armrest to reveal knob (C).

- b. Turn knob (C) to raise or lower knob height and change the angle of the armrest.

Using Mower Height Control Knob

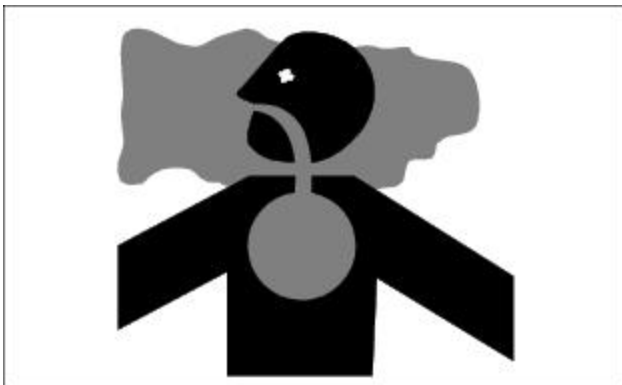


MX13567

Use mower height control knob (A) to adjust mower cutting height, and lock mower deck lift arms in raised position. See your mower deck operator's manual for instructions.

IMPORTANT: Avoid damage! To avoid machine damage when operating without a mower deck, fully raise mower deck lift arms and turn mower height control knob clockwise to highest setting to lock lift arms in raised position.

Testing Safety Systems



CAUTION: Avoid injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

Move the machine to an outside area before running the engine.

Do not run an engine in an enclosed area without adequate ventilation.

· Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.

· Allow fresh outside air into the work area to clear the exhaust fumes out.

The safety systems installed on your machine should be checked before each machine use. Be sure you have read the machine operator manual and are completely familiar with the operation of the machine before performing these safety system checks.

Use the following checkout procedures to check for normal operation of machine.

If there is a malfunction during one of these procedures, do not operate machine. See **your authorized dealer for service**.

Perform these tests in a clear open area. Keep bystanders away.

Testing PTO/RIO Switch



CAUTION: Avoid injury! The mower blades should stop in approximately five seconds when the mower or PTO is disengaged.

If you believe that your blades may not be stopping in that period of time, take your machine to your authorized dealer where they can safely check and service your machine.

Test 1:

1. Depress brake pedal, or lock park brake.
2. Pull PTO/RIO switch up to engage PTO.
3. Try to start engine.

Result: Engine must not start. If engine starts, there is a problem with your safety interlock circuit.

Test 2:

1. Start engine.
2. Unlock park brake and release brake pedal.
3. Move throttle lever up to maximum engine speed.
4. Pull PTO/RIO switch up to engage PTO.
5. Depress brake pedal.

Result: PTO should shut off and engine should continue to run. If PTO continues to run, there is a problem with your safety interlock circuit.

Testing Seat Switch

Test 1:

1. Start engine.
2. Move throttle lever up to maximum engine speed.
3. Unlock park brake and release brake pedal.
4. Pull PTO/RIO switch up to engage PTO.
5. Raise up off seat. Do not get off machine.

Result: PTO should stop and engine should begin to stop. If PTO does not stop and engine does not begin to stop, there is a problem with your safety interlock circuit.

Test 2:

1. Disengage PTO.
2. Start engine.
3. Unlock park brake and release brake pedal.
4. Raise up off seat. Do not get off machine.

Result: Engine should begin to stop. If engine does not begin to stop, there is a problem with your safety interlock circuit.

Testing Park Brake Switch**Test 1:**

1. Park machine safely. (See Parking Safely in the SAFETY Section.)
2. Unlock park brake and release brake pedal.
3. Try to start engine.

Result: Engine must not start. If engine starts, there is a problem with your safety interlock circuit.

Test 2:

1. Disengage PTO.
2. Start engine.
3. Lock park brake.
4. Raise up off seat. Do not get off machine.

Result: Engine should continue to run. If engine stops, there is a problem with your safety interlock circuit.

Testing Reverse Implement Option (RIO)



CAUTION: Avoid injury! Rotating blades are dangerous. Children or bystanders may be injured by runover and rotating blades.

Before backing up, carefully check the area around the machine.

1. Park machine safely. (See Parking Safely in the SAFETY Section.)
2. Start engine.
3. Move throttle lever up to maximum engine speed.
4. Engage PTO to start attachment.
5. Look behind machine to be sure there are no bystanders.
6. Begin reverse travel by depressing reverse travel pedal.

Result: Attachment should stop operation. If attachment continues to operate while machine travels in reverse, do not continue to operate attachment. See your John Deere dealer for service.

Using Park Brake

Locking Park Brake



CAUTION: Avoid injury! Children or bystanders may attempt to move or operate an unattended machine.

Always lock the park brake and remove the key before leaving the machine unattended.



MX13638

1. Fully depress brake pedal (A).
2. Pull park brake latch (B) up to lock park brake.

3. Release brake pedal and then park brake latch. Pedal should stay down and park brake latch should stay up in locked position.

Unlocking Park Brake

1. Fully depress brake pedal.
2. Push park brake latch down.
3. Release brake pedal. Pedal should come up to operating position.

Using Key Switch



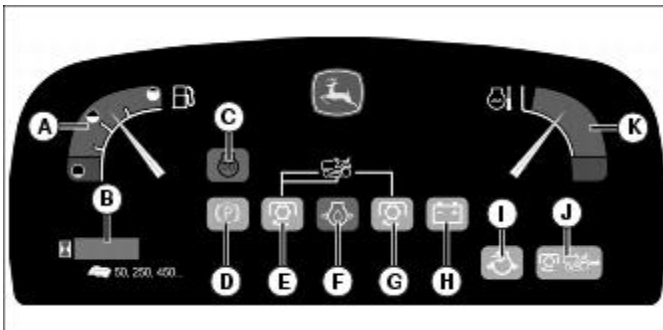
MX13557

A - Stop (Off)

B - Run

C - Start (Crank)

Using Indicator Lights



MX17812

A - Fuel Gauge - indicates fuel level.

B - Hour Meter - shows number of hours engine has run. Check hour meter daily, and see periodic service required chart located under hood for service requirements.

C - EFI Light (X485, X585 only) - will come on for up to 4 seconds when key is turned ON. The light will flash when sensors malfunction. If light is active, stop machine and shut off engine. If light is active after restart, contact your John Deere dealer.

D - Park Brake Light - will come on when park brake is set.

E and G - PTO Indicator Lights - will come on when mid/front and/or rear PTO is engaged.

F - Oil Pressure Indicator Light - will come on when engine oil pressure is too low. If indicator comes on during operation, stop engine and perform appropriate service. This is an indication that the engine is low on oil.

H - Battery Discharge Indicator Light - will come on when there is no alternator output. If indicator comes on during operation, stop engine and perform appropriate service.

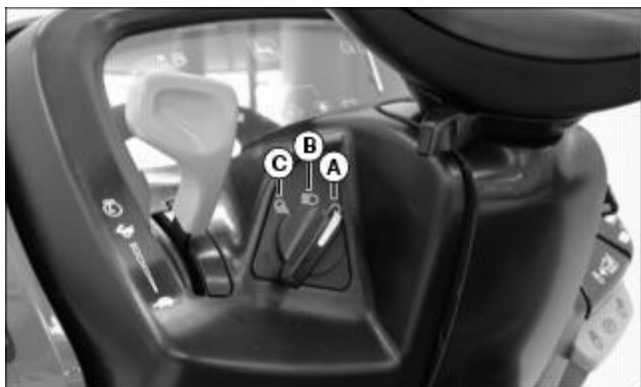
I - Air Restriction Indicator Light - will come on when air cleaner elements require service.

J - Reverse Implement Option (RIO) Indicator Light - will come on when RIO is engaged.

K - Coolant Temperature Gauge - indicates temperature of cooling system. If needle on gauge reaches red range, the engine is overheating. If PTO is engaged, it will automatically shut off.

If engine is overheated, disengage PTO, let engine cool at idle speed until needle returns to green range. Shut off engine and clean air intake screens and radiator screen.

Using Light Switch



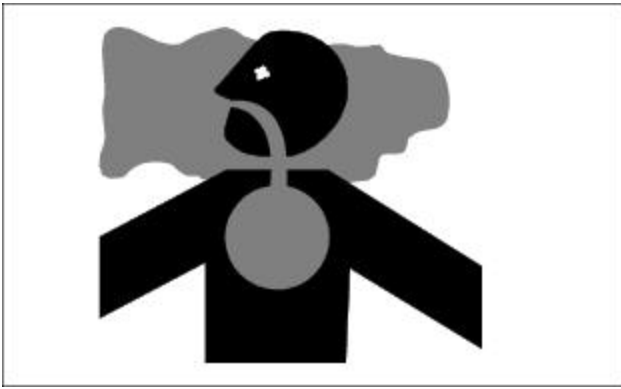
MX13558

A - All lights off.

B - Headlights and taillights on.

C - Headlights, taillights and rear worklights on.

Starting the Engine



CAUTION: Avoid injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

Move the machine to an outside area before running the engine.

Do not run an engine in an enclosed area without adequate ventilation.

- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.

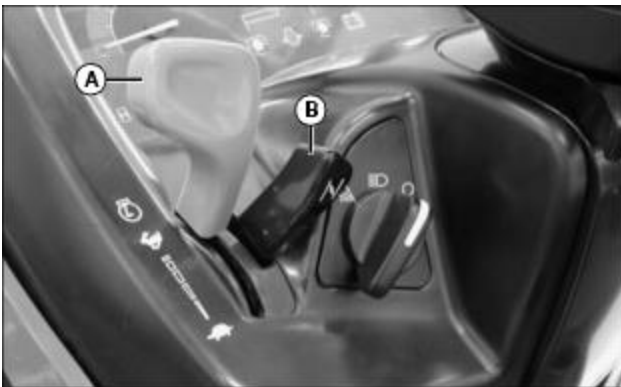
- Allow fresh outside air into the work area to clear the exhaust fumes out.

IMPORTANT: Avoid damage! Starting fluid combusts very rapidly and can cause internal engine damage.

Do not use any type of starting fluid in cold weather to assist starting. The engine is designed to start in cold weather conditions. See your authorized dealer for other starting aids for your machine.

NOTE: You must depress brake pedal, or lock park brake, before you can start the engine. Be sure PTO/RIO switch is off.

1. Lock park brake or depress brake pedal.



MX13645

Picture Note: Model X575 shown.

2. Push throttle lever (A) up to between 1/2 and fast position.

3. Turn key to run position.

4. Check indicator lights:

- Service indicator light will be ON.
- Oil pressure indicator light will be ON.
- Battery discharge indicator light will be ON.

NOTE: You may not need to choke a warm engine.

5. Model X575 with cold engine: Push and hold choke lever (B) all the way up.

6. Turn key to start position:

- Crank engine.
- If engine does not start within 5 seconds, release choke lever, turn key to stop position and wait 10 seconds.
- Crank engine again for 5 seconds.

Repeat this procedure if necessary.

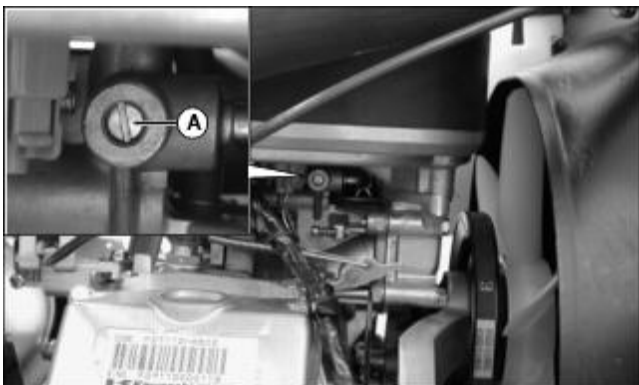
IMPORTANT: Avoid damage! Unnecessary engine idling may cause engine damage. Excessive idling can cause engine overheating, carbon build-up, and poor performance.

7. As soon as engine starts, release key and release choke lever. The key will return to run position and all indicator lights should be off. If a light does not go off, stop engine and perform appropriate service.

Starting When Engine Runs Out of Fuel (X585)

IMPORTANT: Avoid damage! If engine runs out of fuel, relieve fuel system pressure before starting. Engine may not start if run out of fuel.

1. Add fuel.



MX15401, MX15402

2. Loosen fuel pressure relief screw (A) on left side of machine two turns to relieve pressure. Do not remove screw.
3. Cycle the key back and forth between Stop (Off) and Run positions several times. Do not turn key to Start (Crank) position.
4. Tighten pressure relief screw.
5. Start engine.

Idling the Engine

NOTE: Allowing engine to idle for long periods of time will waste fuel and cause carbon build-up.

1. Adjust throttle lever to slow idle speed.
2. Lock park brake.

Stopping the Engine

IMPORTANT: Avoid damage! Failure to remove grass and debris from the engine and muffler areas of the machine can result in fires. Grass and debris can collect in the engine compartment and around the muffler while mowing. When mowing is completed, clean the engine compartment and around the muffler of all grass and debris.

1. Stop machine.
2. Pull throttle lever down to the slow position.
3. Turn key to stop (Off) position.
4. Lock park brake.
5. Remove key.

Emergency Stopping

1. Remove foot from forward or reverse travel pedals.
2. Depress brake pedal.
3. Turn key switch to stop (Off) position. Do not release brake pedal until all moving parts have stopped.
4. If possible, lock the park brake.

Using Travel Pedals



CAUTION: Avoid injury! Children or bystanders may be injured by runover and rotating blades. Before traveling forward or rearward:

- Carefully check the area around the machine.
- Disengage the mower before backing up.

Forward Travel

1. Unlock park brake.



MX13638

2. Slowly push down forward travel pedal (A). Machine will travel faster the farther down you push the pedal.
3. Release forward pedal, machine will automatically slow down and return to neutral.

Reverse Travel

NOTE: Any operating attachment should stop as the reverse foot pedal is depressed with attachment engaged.

1. Stop machine.
2. Push PTO/RIO switch down to off position to disengage attachment.
3. Look behind machine to be sure there are no bystanders nearby.
4. Slowly push down reverse pedal (B). Machine will travel faster the farther down you push the pedal. Release reverse pedal, machine will automatically slow down and return to neutral.

Stopping

1. Release either travel pedal, machine will automatically slow down and return to neutral.
2. Depress brake pedal (C). Machine brakes will be applied to assist in stopping.

Using Cruise Control

Use cruise control when you want to maintain travel speed without having to hold the forward travel pedal down. Cruise control operates only for forward travel.

Operate machine in a large, open area to learn how cruise control works.

Engaging Cruise Control

1. Depress forward travel pedal until you reach desired travel speed.



MX13557

2. Pull cruise latch (A) up to lock cruise control.
3. Remove foot from forward travel pedal.
4. Release cruise latch.

Disengaging Cruise Control

1. Depress forward travel pedal or depress brake pedal.

Using Reverse Implement Option (RIO)



CAUTION: Avoid injury! Rotating blades are dangerous. Children or bystanders may be injured by runover and rotating blades.

Before backing up, carefully check the area around the machine.

NOTE: Backing up while mower is engaged is strongly discouraged. The Reverse Implement Option should be used only when operating another attachment or when operator deems it necessary to reposition machine with mower engaged.

1. Stop machine forward travel with attachment engaged.
2. Look behind machine to be sure there are no bystanders.

NOTE: If attachment stops while repositioning machine, return PTO/RIO switch to off position. Begin again with Step 2 in procedure.



MX17812, MX13557

3. Lift and hold PTO/RIO switch (A) up past the PTO engagement position to activate the reverse implement option while depressing reverse travel pedal slightly. Instrument panel RIO indicator light (B) will come on when RIO is engaged.
4. As machine begins to move backward, release PTO/RIO switch and reposition machine. Instrument panel RIO indicator light will go out when switch is released.
5. Resume forward travel. The attachment should continue operating.
6. Repeat Steps 1 through 5 to reposition machine again.

Using Traction Assist



CAUTION: Avoid injury! Driving at high speeds with the traction assist engaged may result in loss of steering control. Do not engage traction assist or turn with the traction assist engaged while operating machine at high speeds or on slopes.

Traction assist is used to provide better traction when rear wheels start to slip. Do not use traction assist unless you are experiencing rear wheel slippage. Engaging traction assist will cause both rear wheels to drive equally to improve traction.

Engaging Traction Assist

IMPORTANT: Avoid damage! Using the traction assist function improperly can damage the transaxle:

- Reduce speed and allow drive wheels to rotate at same speed before engaging or disengaging traction assist.

- Disengage traction assist when driving on dry asphalt or concrete.
- Use traction assist only when necessary for improved ground engagement.

1. Stop or slow machine down.



MX13555

2. Push down on traction assist pedal (A). Traction assist will remain engaged as long as pedal is depressed.

NOTE: Turning radius is increased when traction assist is engaged.

When brake pedal is depressed, traction assist will automatically engage.

Disengaging Traction Assist

1. Release traction assist pedal.
2. Once the load on the transmission is equalized and reduced, traction assist will disengage automatically.

Using Four-Wheel Drive

NOTE: Use four-wheel drive when more traction is needed. Tires will wear faster if four-wheel drive is always engaged.

Four-wheel drive enables the powertrain to drive all four wheels for improved traction on difficult ground conditions. Four-wheel drive can be engaged and disengaged on-the-go with light loads and on low-traction surfaces.



CAUTION: Avoid injury! Use extra caution when driving on slopes. To increase traction and provide four-wheel braking, engage mechanical front wheel drive (MFWD) when driving on slopes. Be aware that MFWD can improve access to dangerously sloped terrain, thereby increasing the possibility of tipover.

To improve braking on sloped, icy, wet, or graveled surfaces, engage the MFWD. Add ballast to the tractor and travel at a reduced speed to avoid

skidding and loss of steering control.

Ballasting

When operating in 4WD without a mower deck installed on machine, it is recommended you install rear wheel weights to increase stability:

- Install minimum of one BM17976 Weight Kit on each rear wheel.

Using 2WD/4WD Lever

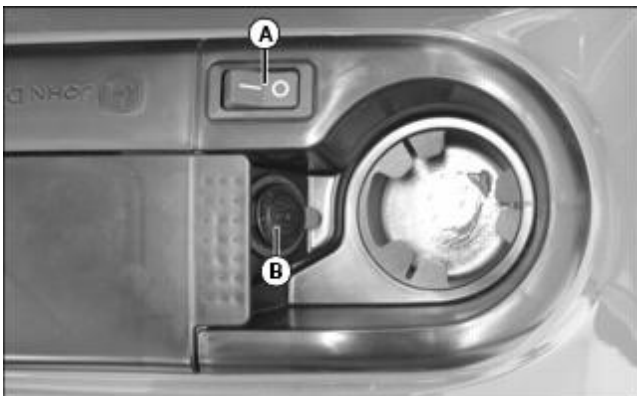
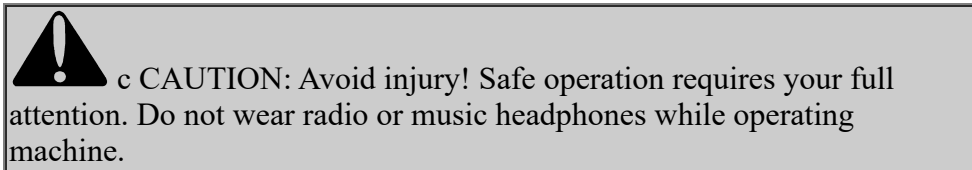


MX13569

1. Move 2WD/4WD lever (A) forward to engage two-wheel drive.
2. Move 2WD/4WD lever (A) rearward to engage four-wheel drive.

Using 12-Volt Outlet

NOTE: Accessory must be rated at 20 amps or less.



MX13640

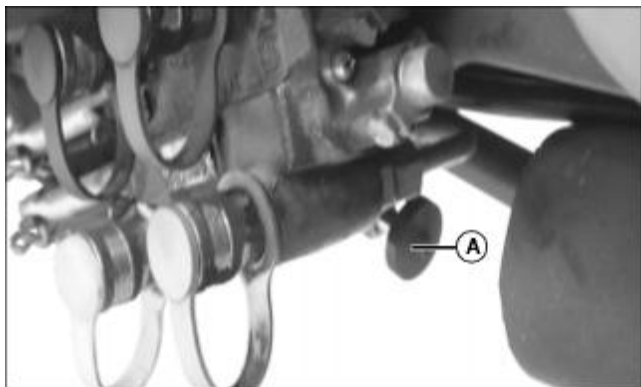
1. Depress bottom of switch (A) to turn power off.

2. Remove 12-volt outlet cover (B) and install accessory cord in outlet.
3. Depress top of switch (A) to power the accessory.
4. Install cover (B) in outlet after use.

Installing Attachments

Attachments can be installed on the front, mid or rear of machine.

An optional front quick hitch and an optional rear 3-point hitch are required for operation of some attachments.



MX13535

A hydraulic cylinder lockout valve is required for loader operation, and for operation of some attachments mounted on the front quick hitch. Turn knob (A) to close the lockout valve to avoid operation delays, and to restrict movement of mid and rear 3-point hitch mounted attachments.

In addition to the instructions in your attachment operator's manual, perform the following procedures:

Front quick hitch mounted attachments

1. Pull upper hydraulic control lever backward to fully raise mower deck lift arms and fully raise rear 3-point hitch if installed.
2. Turn mower cutting height knob clockwise to highest position to lock mower deck lift arms in raised position.
3. If installed, turn rear 3-point hitch depth control rod clockwise to lock rear 3-point hitch in raised position.
4. If installed, turn hydraulic cylinder lockout valve knob (A) clockwise until closed.

Mid-mounted attachments

1. If installed, disconnect front mounted attachment hydraulic hoses from machine:

- Disconnect front quick hitch angling cylinder hydraulic hoses; or disconnect snowblower or snowthrower chute rotation hoses.
 - Install dust caps on hoses and SCV couplers, and secure hoses to attachment or machine.
2. If installed, turn hydraulic cylinder lockout valve knob (A) counterclockwise until fully open.
 3. Pull upper hydraulic control lever backward to fully raise rear 3-point hitch if installed. Mower deck lift arms will raise at same time.
 4. If installed, turn rear 3-point hitch depth control rod clockwise to lock rear 3-point hitch in raised position.

Rear three-point hitch mounted attachments

1. If installed, disconnect front mounted attachment hydraulic hoses from machine:
 - Disconnect front quick hitch angling cylinder hydraulic hoses; or disconnect snowblower or snowthrower chute rotation hoses.
 - Install dust caps on hoses and SCV couplers, and secure hoses to attachment or machine.
2. If installed, turn hydraulic cylinder lockout valve knob (A) counterclockwise until fully open.
3. Pull upper hydraulic control lever backward to fully raise mower deck lift arms. Rear 3-point hitch will raise at same time.
4. Turn mower cutting height knob clockwise to highest position to lock mower deck lift arms in raised position.
5. Turn rear 3-point hitch depth control rod to desired height.

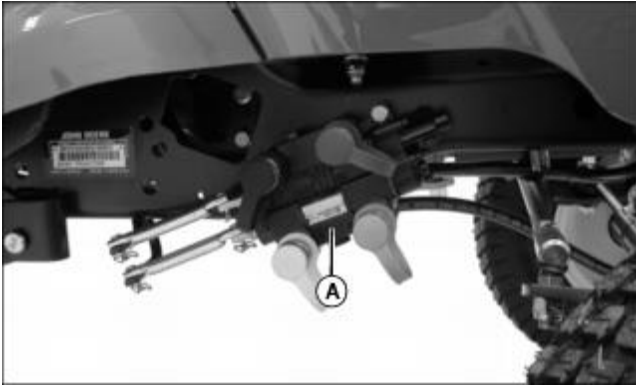
Connecting Attachment Hydraulic Hoses



CAUTION: Avoid injury! Escaping fluid under high pressure can penetrate the skin and cause serious injury. Avoid the hazard by relieving pressure before connecting 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. In the United

States and Canada only, this information may be obtained by calling 1-800-822-8262.



MX13570

The machine dual Selective Control Valve (SCV) (A) has hydraulic outlets with female quick couplers, color coded for easy hookup.

Attachment hydraulic hoses are also color coded. Match color coded hose ends to color coded couplers on the SCV when making connections.

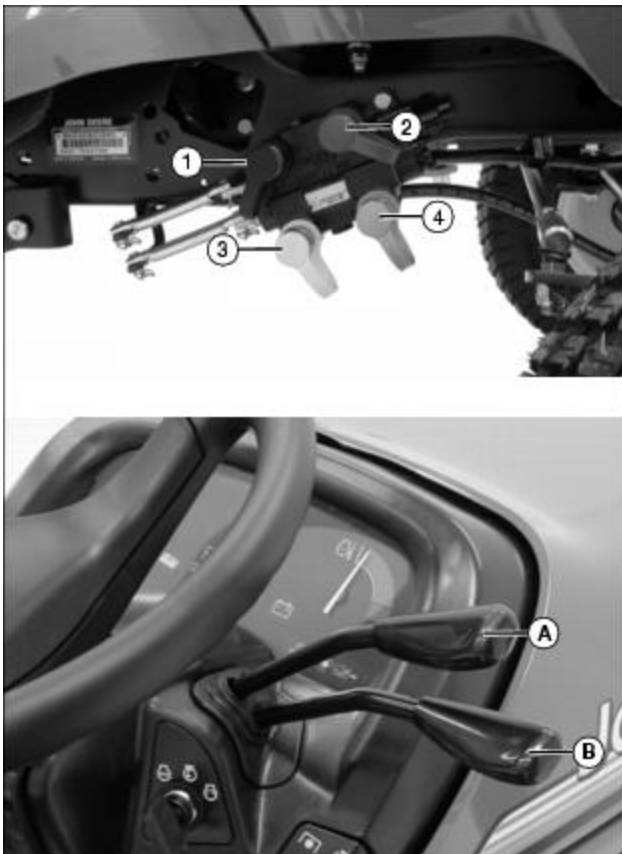
NOTE: Engine must be off to relieve hydraulic pressure before connecting attachment hoses.

With engine off, relieve hydraulic pressure by moving both hydraulic control levers back-and-forth several times before connecting attachment hydraulic hoses.

IMPORTANT: Avoid damage! To prevent contamination of hydraulic system, color coded dust caps should be installed in couplers and on hose ends when not being used.

Using Hydraulic Control Levers

NOTE: Hydraulic control levers operate differently depending on attachment. See attachment operator's manual before using hydraulic control levers with an attachment.



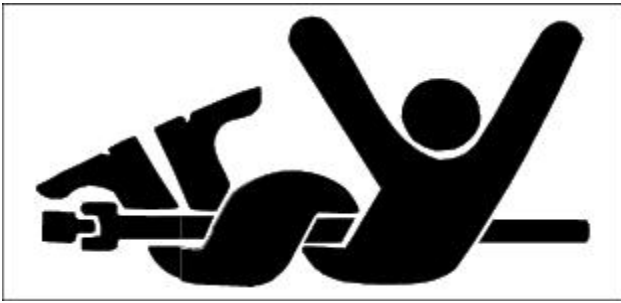
MX13570, MX13562

When attachment hydraulic hoses are connected to couplers 1 (black) and 2 (green), push lower hydraulic control lever (B) forward to divert fluid to coupler 1 and return through coupler 2. Pull lever backward to divert fluid to coupler 2 and return through coupler 1. Push lever to the full forward or float position to remove pressure in both lines and allow fluid to flow back and forth between lines. Lever should return to neutral position when released.

When attachment hydraulic hoses are connected to couplers 3 (yellow) and 4 (silver), push upper hydraulic control lever (A) forward to divert fluid to coupler 3 and return through coupler 4. Pull lever backward to divert fluid to coupler 4 and return through coupler 3. Lever should return to neutral position when released.

NOTE: When not using lower hydraulic control lever, periodically move lever back and forth to maintain lubrication. Be sure lever is returned to middle (neutral) position and not locked in forward (float) position.

Using the Power-Take-Off (PTO) Safely



CAUTION: Avoid injury! Stay clear of rotating drivelines

- Entanglement in rotating driveline can cause serious injury or death.
- Keep hands, feet and clothing away.
- Make sure that all shields are installed and used properly.
- Stop the engine and be sure PTO driveline is stopped before getting near it.

Using the PTO (Power-Take-Off)

NOTE: Any operating attachment should stop as the reverse travel pedal or brake pedal is depressed with attachment engaged. Prior to operating the PTO, see Using Reverse Implement Option (RIO) in this section.

This machine is equipped with a 2000 rpm mid PTO.

Always operate engine at maximum speed when PTO is engaged.

Engaging PTO

1. Reduce travel speed or stop machine.
2. After engine has warmed, move throttle lever up to maximum engine speed.



MX17812, MX13557

3. Pull PTO/RIO switch (A) up. Instrument panel PTO indicator light(s) (B) will come on when PTO is engaged.

Disengaging PTO

NOTE: If reverse travel pedal or brake pedal is depressed, PTO will disengage.

1. Push PTO/RIO switch down to disengage PTO. Instrument panel PTO indicator light(s) will go out.

Pushing Machine

IMPORTANT: Avoid damage! Transmission damage may occur if the machine is towed or moved incorrectly:

- Move machine by hand only.
- Do not use another vehicle to move machine.
- Do not tow machine.

Use the free-wheeling lever when pushing the machine.

Using Free-Wheeling Lever



CAUTION: Avoid injury! With the free-wheeling valve open, the machine will have unrestricted motion.

- The machine may free-wheel out of control if the free-wheeling valve is opened with the machine on an incline.
- Park the machine on a level surface before opening the free-wheeling valve.

When you need to move the machine without starting the engine, use the free-wheeling lever:

1. Stop engine.



MX13565

2. Pull free-wheeling control lever (A) fully up to open the free-wheeling valve.
3. Unlock park brake.
4. Push machine to desired location.

Lever will return to lowered position, closing valve when machine is started and driven.

Unplugging Mower, Bagger, or Material Collection System



CAUTION: Avoid injury! Do not attempt to unplug attachment with machine running.

- Rotating blades are dangerous. Shut off the engine and remove the key before getting off the seat to inspect the machine and attachment.
- Thrown objects can cause serious injury. Make sure all machine parts are stopped before raising hopper top or removing chutes.

Checking For Plugging While Driving

Check the flow indicator on MCS chute (if equipped) periodically for any indication of loss of air flow.

If grass builds up in front of mower discharge chute, check for plugged chute or problems with blower assembly (if equipped).

If there is a trail of clippings behind mower or clippings blow to the side, check for plugged chute, full collector bags, or problems with blower assembly.

Removing Debris From Inspection Points:

1. Park machine safely. Wait for all moving parts to stop before getting off to inspect machine.
2. Open hopper cover. Check chute outlet.
3. Remove chute from mower deck or blower assembly. Check chute inlet.
4. Check under mower deck for debris.

Transporting Machine on Trailer

NOTE: Trailer capacity must exceed combined machine weight and attachment weight (see Specifications section in operator's manuals).

Be sure trailer has all necessary lights and signs required by law.



CAUTION: Avoid injury! Use extra care when loading or unloading the machine onto a trailer or truck.

- Park trailer on a level surface.
- Use of a trailer with sides is recommended.
- Keep wheels away from drop-offs and edges.
- Back slowly and in a straight line.
- Close fuel shut-off valve, if your machine is equipped.

IMPORTANT: Avoid damage! Transmission damage may occur if the machine is towed or moved incorrectly:

- Move machine by hand only.
- Do not use another vehicle to move machine.
- Do not tow machine.

1. Drive forward onto heavy-duty trailer.
2. Lower mower to trailer deck.
3. Lock park brake.
4. Machines with fuel shut-off: Turn fuel shut-off to off position.
5. Fasten machine to trailer with heavy-duty straps, chains, or cables. Both front and rear straps must be directed down and outward from machine.
6. Strap down hood.

Ballasting Machine Safely



CAUTION: Avoid injury! Ballasted machine may become unstable when attachment is raised. Always drive slowly over uneven ground and when turning with raised attachment.

Determine amount of ballast required for each operation. Ballast used for one operation may be wrong for another. Ballast for stability, steering control and traction.

Use no more ballast than required, and remove ballast when it is no longer needed.

Ballast should be limited by machine and tire capacities. Each tire has a maximum inflation pressure and a maximum load capacity which must not be exceeded.

Additional front ballast may be required for road travel with rear-mounted attachments.

See your attachment operator's manual for ballasting requirements.

When operating in 4WD without a mower deck installed on machine, it is recommended you install rear wheel weights to increase stability:

- Install minimum of one BM17976 Weight Kit on each rear wheel.

Ballasting Machine

Using Front Weights

IMPORTANT: Avoid damage! Do not exceed maximum front ballast of nine Quick-Tatch weights and two wheel weights.

Two types of front weights are available for your machine, Quick-Tatch weights and wheel weights. Quick-Tatch weights can be mounted on the front bumper, and wheel weights are mounted on the front wheels.

Up to four Quick-Tatch weights can be mounted on the front bumper. Another five weights can be added if you install the optional front weight bracket. Each Quick-Tatch weight is 19kg (42 lb).

One wheel weight can be installed on each front wheel. Each front wheel weight is 14kg (30 lb).

See your John Deere dealer for front weights and kits to best fit your needs.

Using Rear Weights

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

Two types of rear weights are available for your machine, Quick-Tatch weights and wheel weights. The Quick-Tatch weights can be mounted on an optional rear weight bracket, and wheel weights are mounted on the rear wheels.

Up to six Quick-Tatch weights can be mounted on the rear weight bracket. Each Quick-Tatch weight is 19kg (42 lb). Use of these weights is required when an attachment, such as a snowthrower or snowblower is used.

Up to three wheel weights can be installed on each rear wheel. Rear wheel weights are available in 23kg (50 lb) and 33kg (72 lb).

See your John Deere dealer for rear weights and kits to best fit your needs.

Follow instructions in this manual for installing rear wheel weights.

Adding Liquid Weight in Tires



CAUTION: Avoid injury! Installing liquid ballast requires special equipment and training. Injury may occur from exploding tire. Have the job done by your John Deere dealer or a tire service store.

Installing Rear Wheel Weights

Installing Weight Kits With Threaded Rods

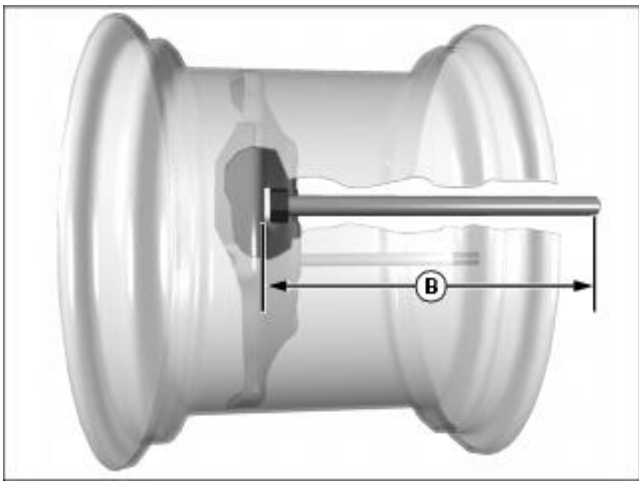
1. Install one nut and lockwasher on each rod approximately two inches from end.



MX13590

2. Note location of tire valve stem (A). Install rods through square holes in rim center as shown.

3. Install lockwasher and nut on rods on back side of rim center.



MX13591

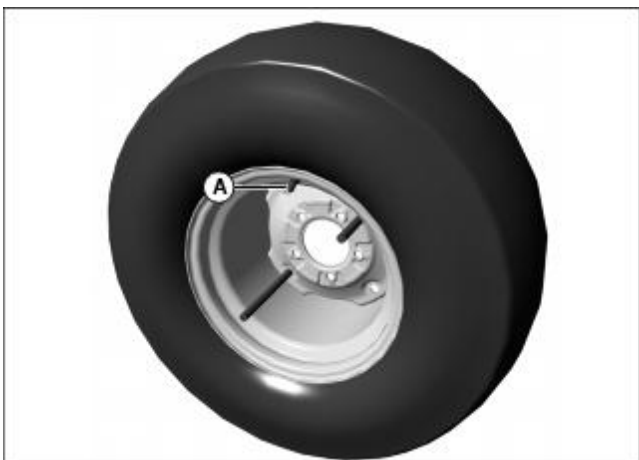
4. Position nuts to extend rods to length (B) shown in chart.

Weight Kit	Weights	Length (B)
BM17972	1	195mm (7.7 in.)
	2	250mm (9.8 in.)
BM17972 with BM17973	2	200mm (7.9 in.)
	3	260mm (10.2 in.)
BM17976	1	210mm (8.3 in.)

5. Install weight(s) as shown for each kit.

6. Install washers and nuts.

Installing Weight Kits With Bolts



MX13596

1. Note location of tire valve stem (A). Install bolts through square holes in rim center as shown.

2. Install weight(s) as shown for each kit.
3. Install washers and nuts.

BM17972 Weight Kit

Kit includes one 23kg (50 lb) weight. BM17977 hardware kit is required to install one weight. BM18101 hardware kit is required to install two weights.



MX13594

BM17973 Weight Kit

Kit includes one 33kg (72 lb) weight. BM18089 hardware kit is required to install one weight.



MX13593

BM17972 and BM17973 Weight Kits Combined

BM17977 hardware kit is required to install one BM17973 weight and one BM17972 weight. BM18101 hardware kit is required to install one BM17973 weight and two BM17972 weights.

Install BM17973 weight first.



MX13595

BM17976 Weight Kit

Kit includes one 23kg (50 lb) plastic coated weight and hardware.



MX13592

Using Tire Chains

Tire chains are recommended for use with snowthrower and snowblower attachments; and, under certain conditions, blade attachments.

See your Attachment Operator's Manual for tire chain recommendations. See your John Deere dealer for tire chains.

Mowing Tips

The following recommendations will produce the best lawn cut quality and appearance:

- Keep mower blades sharp. Dull blades will tear grass; tips of grass will then turn brown.
- Cutting grass too short may kill grass and let weeds grow easily.
- Adjust cutting height to remove only 1/3 of the grass at a time.

- Mow grass often. Short grass clippings will decay quickly.
- Mow with engine at full throttle.
- Adjust travel speed to match mowing conditions:
- Travel at slow speed when you mow thick, tall grass, make sharp turns, trim around objects, or when mulching.
- Travel at moderate speed when you mow thin grass.
- Use a different mowing pattern each time you mow. Overlap mowing paths 50 to 100 mm (2 to 4 in).
- Drive over ridges and through shallow ditches straight-on, not at an angle.
- A thick layer of mulched leaves can prevent sunlight from getting to grass and smother it. Taller grass heights allow mulched leaves to dispense easier in lawn. Mulch leaves several times if needed.
- Use a thatcher in late spring or summer to pull up dead grass and aerate ground.