John Deere Select Series™ Tractors
X330, X350, X354, X370, X380, X384, X390, and X394

JOHN DEERE

OPERATOR'S MANUAL

John Deere Select Series™ Tractors
X300 Tractors

OMM174375 ISSUE D6 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

If this product contains a gasoline engine:

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.
Additional Proposition 65 Warnings can be found in this manual.

John Deere Horicon Works

North American Edition
Printed in U.S.A.

Thank You for Purchasing a John Deere Product

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

Using Your Operator's Manual

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

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

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

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

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

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

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

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

Special Messages

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

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

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

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

Attachments for Your Machine

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

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

Contents

Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Record Identification Numbers

John Deere Select Series™ - X330, X350, X354, X370, X380, X384, X390, X394 Tractors

PIN (010001-)

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

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

DATE OF PURCHASE:

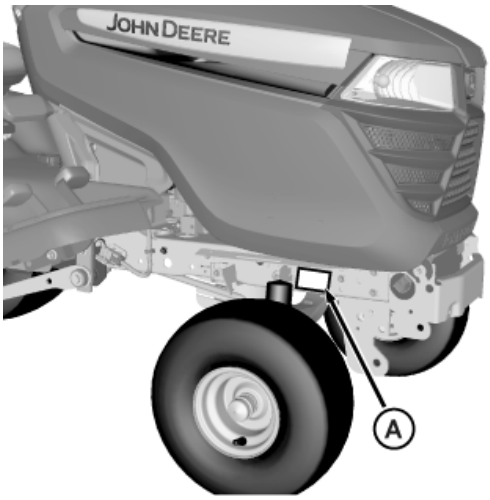
_____

DEALER NAME:

_____

DEALER PHONE:

_____



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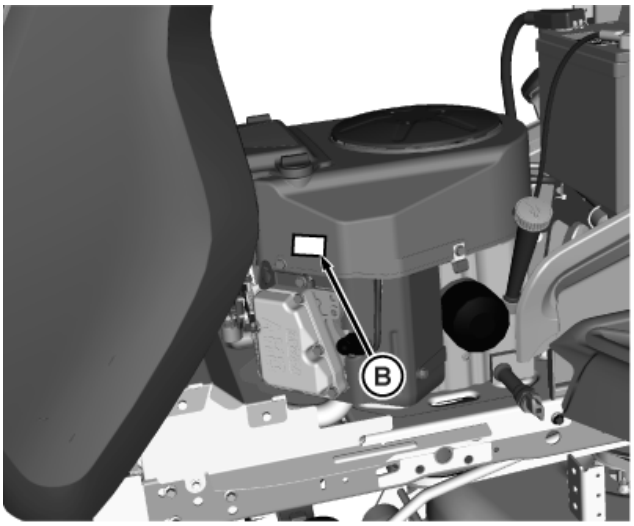

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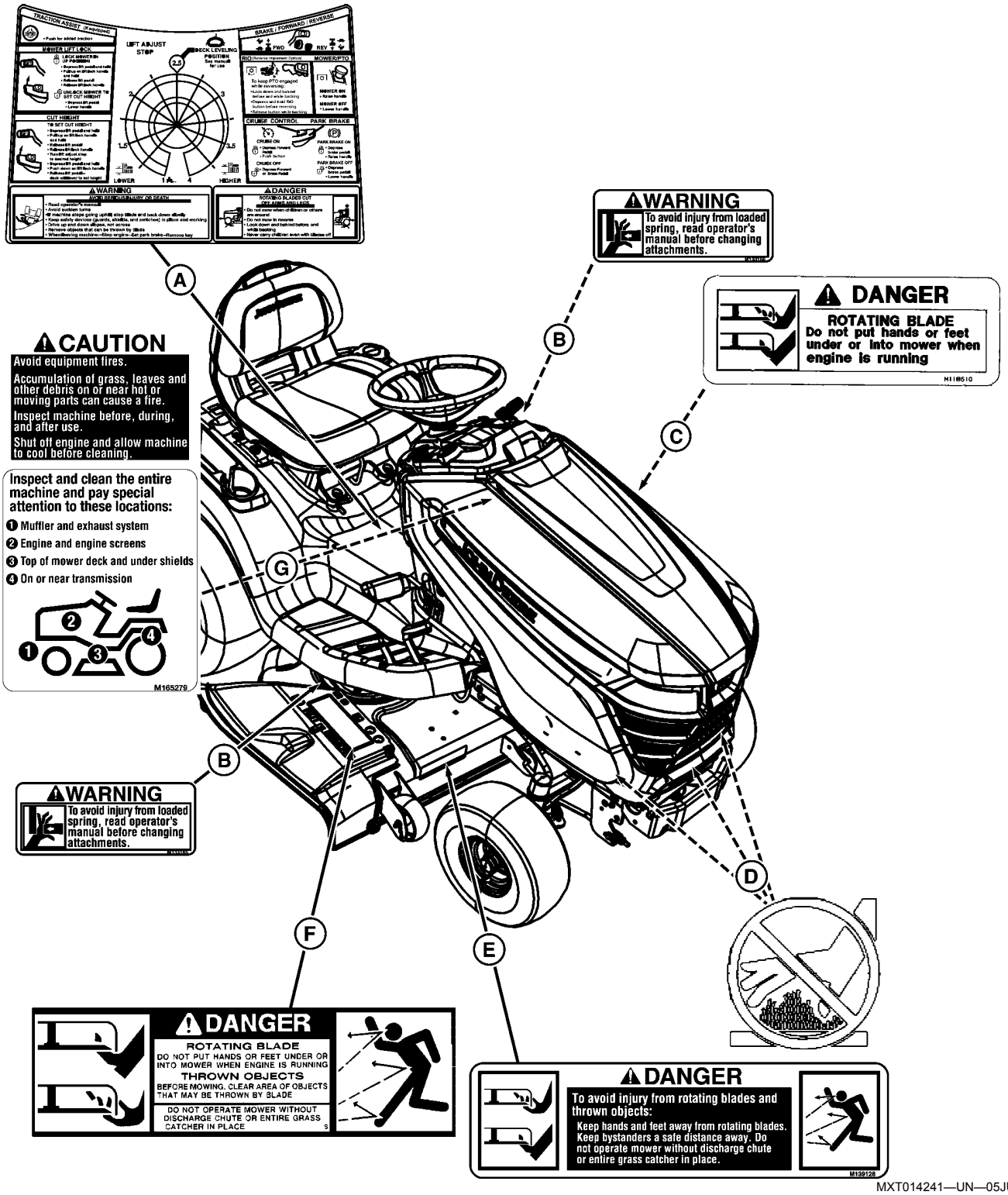
PRODUCT IDENTIFICATION NUMBER (A):

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

ENGINE SERIAL NUMBER (B):

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

Safety Label Location



MXT014241—UN—05JUN15

Use label number listed in table below to locate complete text of safety label message following this illustration.

A — DANGER/WARNING
B — WARNING
C — DANGER
D — CAUTION (MOLDED INTO MUFFLER)
E — DANGER
F — DANGER
G — CAUTION

Understanding The Machine Safety Labels

MXAL42363—UN—22MAY13

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.

Replace missing or damaged safety labels. Use this operator's manual for correct safety label placement.

There can be more safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

French or Spanish Safety Labels and Operator's Manual

Operator's manuals and safety labels with content in French or Spanish are available for this machine through authorized John Deere dealers. See your John Deere dealer.

NOTE: Both text and no-text labels are shown. Your machine is only equipped with one of these types of labels.

DANGER

ROTATING BLADES CUT OFF ARMS AND LEGS

MXAL45931—UN—09APR13

- Do not mow when children or others are around.
- Do not mow in reverse.
- Look down and behind before and while backing.
- Never carry children even with blades off.

DANGER

MXAL45932—UN—09APR13

ROTATING BLADE

- Do not put hands or feet under or into mower when engine is running.

THROWN OBJECTS

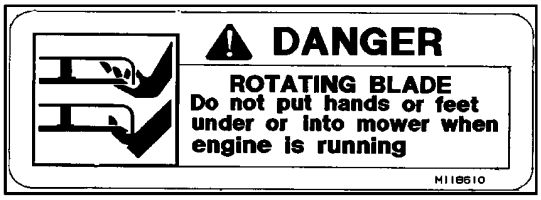
- Before mowing, clear area of objects that may be thrown by blade.
- Do not operate mower without discharge chute or entire grass catcher in place.

DANGER

MXAL45933—UN—09APR13

- Keep hands and feet away from rotating blades.
- Keep bystanders a safe distance away. Do not operate mower without discharge chute or entire grass catcher in place.

DANGER



MXAL45934—UN—09APR13

ROTATING BLADE

- Do not put hands or feet under or into mower when engine is running.

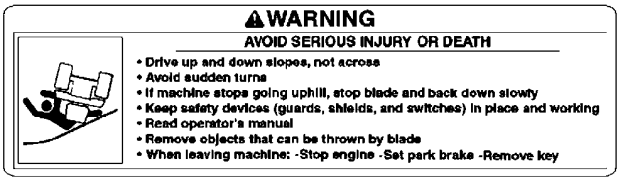
WARNING

To avoid injury from loaded spring

MXAL45937—UN—09APR13

- To avoid injury from loaded spring, read operator's manual before changing attachments.

WARNING



MXAL45938—UN—09APR13

AVOID SERIOUS INJURY OR DEATH

- Drive up and down slopes, not across.
- Avoid sudden turns.
- If machine stops going uphill, stop blades and back down slowly.
- Keep safety devices (guards, shields, and switches) in place and working.
- Read operator's manual.
- Remove objects that could be thrown by blades.
- When leaving machine:
  - Stop engine
  - Set park brake
  - Remove key

CAUTION

MXAL42638—UN—22MAR13

- Avoid equipment fires.
- Accumulation of grass, leaves and other debris on or near hot or moving parts can cause a fire.
- Inspect machine before, during, and after use.
- Shut off engine and allow machine to cool before cleaning.

Inspect and clean the entire machine and pay special attention to these locations:

1. Muffler and exhaust system
2. Engine and engine screens
3. Top of mower deck and under shields
4. On or near transmission

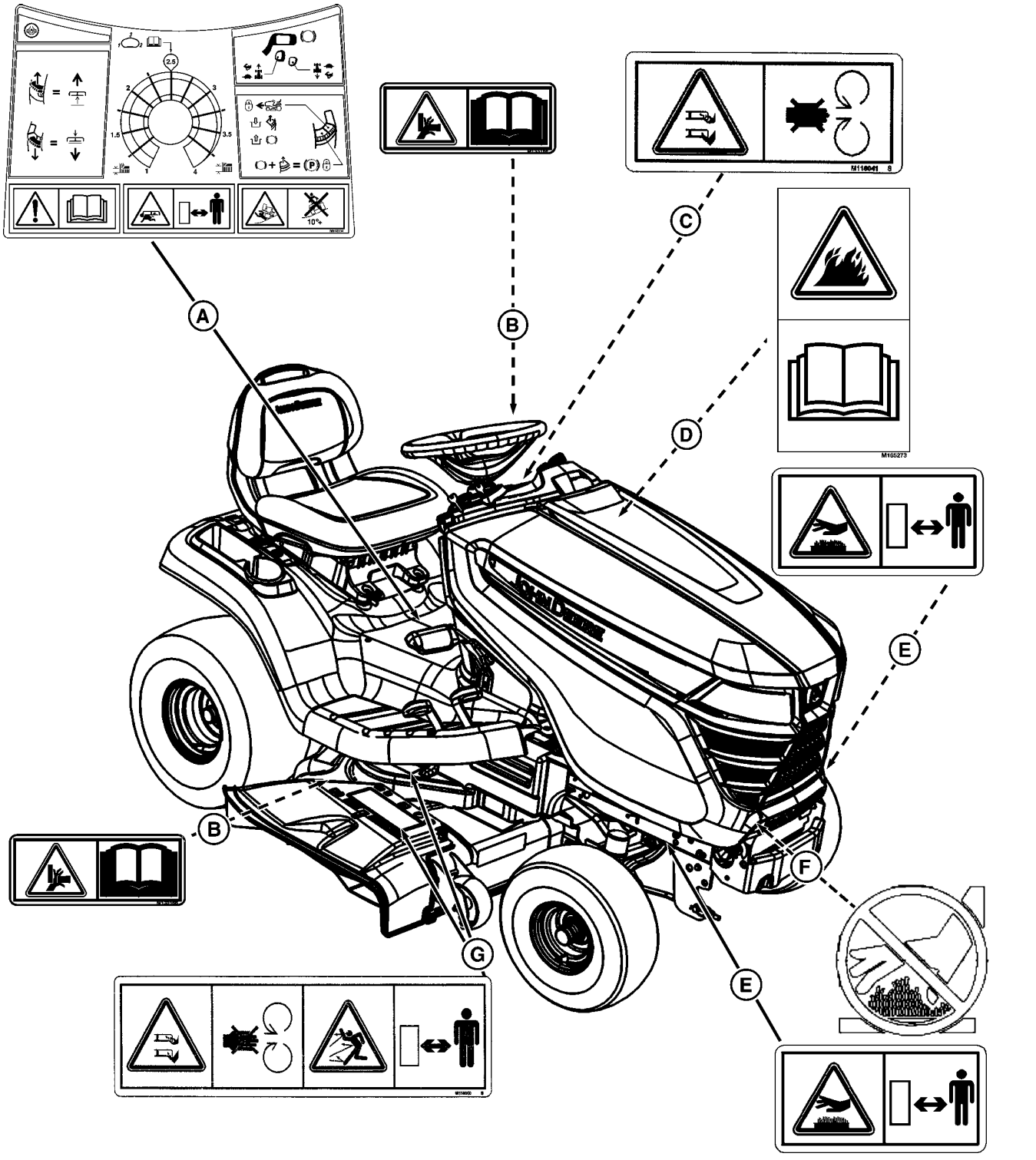
Understanding The No-Text Machine Safety Labels

TCT005498—UN—11SEP12

At several important places on this machine safety signs are affixed intended to signify potential danger. The hazard is identified by a pictorial in a warning triangle. An adjacent pictorial provides information how to avoid personal injury. These safety signs, their placement on the machine and a brief explanatory text are shown in this Safety section.

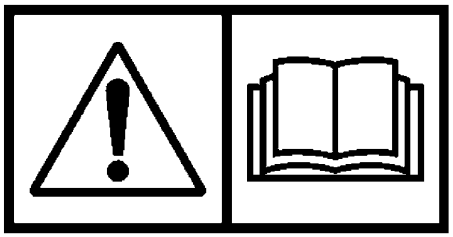
There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

Safety Labels No-Text Location



A — Read Operator's Manual, Keep Children Away From Mower, Avoid Injury From Tipping
B — Avoid Injury From Loaded Spring
C — Avoid Injury From Rotating Blades
D — Prevent Equipment Fires
E — Avoid Injury From Hot Surfaces
F — Hot Surface (MOLDED INTO MUFFLER)
G — Avoid Injury From Rotating Blades, Avoid Injury From Thrown Objects

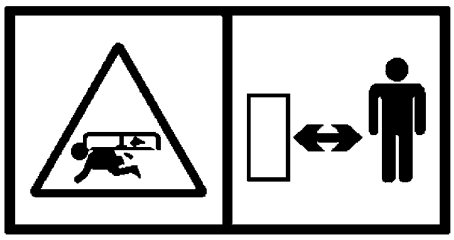
Read Operator's Manual



MXAL42776—UN—09APR13

- This operator's manual contains important information necessary for safe machine operation.
- Carefully read operator's manual before operating machine. Observe all safety rules to avoid accidents.

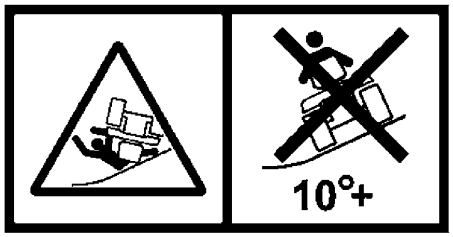
Keep Children Away from Mower



MXAL42778—UN—09APR13

- Mower can cause dismemberment or death.
- Stay a safe distance from the machine.
- Make sure that children stay clear of mower at all times when the engine is running.

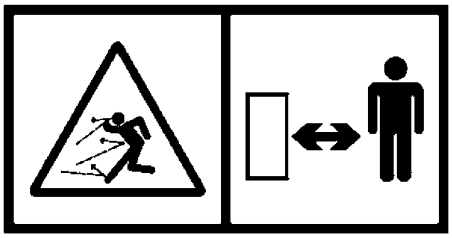
Avoid Injury From Tipping



MXAL42779—UN—09APR13

- Do not drive where machine could slip, tip, or rollover.
- In some configurations, do not drive or operate on a slope of more than 10 degrees.
- Refer to the Operating on Slopes section for more information.

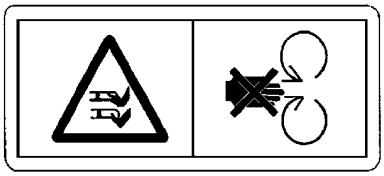
Avoid Injury From Thrown Objects



MXAL42780—UN—09APR13

- Keep a safe distance from the machine as long as the engine is running.

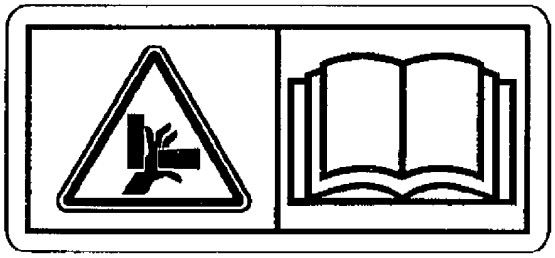
Avoid Injury From Rotating Blades



MXAL42784—UN—09APR13

- Do not put hands or feet under or into mower when engine is running.
- Do not operate mower without discharge chute or entire grass catcher in place.

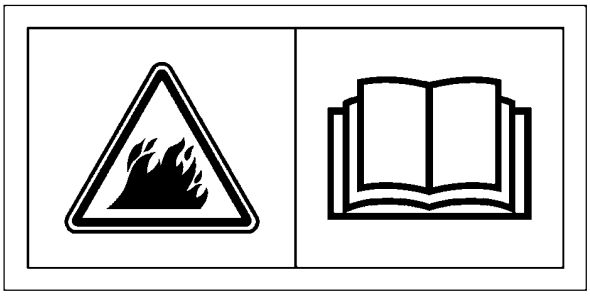
Avoid Injury From Loaded Spring



MXAL42777—UN—09APR13

- Keep fingers and hands away from pinch point.
- Read operator's manual.

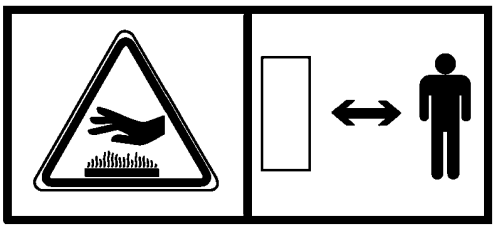
Prevent Equipment Fires



MXAL42781—UN—09APR13

- Clean and inspect the entire machine.
- Carefully read Operator's Manual Machine Cleanout section for details.

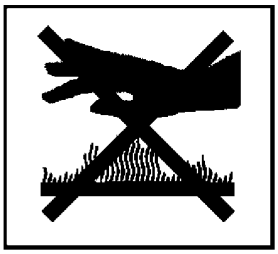
Avoid Injury From Hot Surfaces



GXAL41960—UN—04MAR13

- Keep away from hot surfaces.

Hot Surface



MXAL41789—UN—18FEB13

No-text warning molded into muffler.

Do not touch engine muffler, it may be hot.

Operating Safely

GXAL42347—UN—04MAR13

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

- Read, understand and follow all instructions on the machine and in manuals provided, and view safety video, before starting. Be thoroughly familiar with the controls and the proper use of the machine before starting.
- Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
- Only allow responsible adults, who are familiar with the instructions, to operate this machine. Local regulations may restrict the age of the operator.
- Clear the area of objects such as rocks, wire and toys which could be thrown by the blades.
- Be sure the area is clear of bystanders before operating. Stop machine if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Never direct discharged material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator. Stop the blades when crossing gravel surfaces.
- Do not operate the machine without the entire grasscatcher, discharge guard, or other safety devices in place and working. Never operate with the discharge deflector raised, removed, or altered, unless using a grasscatcher.
- Slow down before turning.
- Never leave a running machine unattended. Always turn off blades, lock park brake, stop engine and remove key before dismounting.
- Disengage blades when not mowing. Shut off engine and wait for all parts to come to a complete stop before cleaning the machine, removing the grasscatcher, or unclogging the discharge chute.
- Operate machine only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways. Stop blades before crossing roads or sidewalks.
- Use extra care when loading or unloading the machine into a trailer or truck.
- Always wear safety goggles or safety glasses with side shields when operating machine.
- Data indicates operators 60 years and above are involved in a large percentage of riding mower-related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.
- Follow the manufacturer's recommendation for wheel weights or counterweights.
- 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.
- Before using, always visually inspect to see that the blades, blade bolts and the mower assembly are not worn and damaged. Replace worn and damaged blades and bolts in sets to preserve balance.
- Make sure spark plug, muffler, fuel cap and air cleaner are in place before starting the engine.
- Be sure all drives are in neutral and parking brake is locked before starting engine. Only start engine from the operator's position.
- Do not change the engine governor settings or overspeed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.
- If you hit an object or if abnormal vibration occurs, stop the machine and inspect it. Make repairs before you operate.
- Use only accessories and attachments approved by the manufacturer of the machine. Keep safety labels visible when installing accessories and attachments.
- Do not wear radio or music headphones. Safe service and operation requires your full attention.
- When machine is left unattended, stored, or parked, lower the mower deck unless a positive mechanical lock is used.

Using a Spark Arrestor

The California Public Resources Code, section 4442.5 provides as follows:

No person shall sell, offer for sale, lease, or rent to any person any internal combustion engine subject to Section 4442 or 4443, and not subject to Section 13005 of the Health and Safety Code, unless the person provides a written notice to the purchaser or bailee, at the time of sale or at the time of entering into the lease or rental contract, stating that it is a violation of Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrestor, as defined in Section 4442, maintained in effective working order or

the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443. Cal. Pub. Res. Code 4442.5.

Other states or jurisdictions may have similar laws. A spark arrestor for your machine may be available from your authorized dealer. An installed spark arrestor must be maintained in good working order by the operator.

Checking Mowing Area

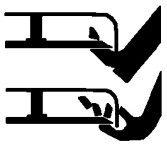
MXAL41932—UN—22MAY13

- Clear mowing area of objects that might be thrown. Keep people and pets out of mowing area.
- Low-hanging branches and similar obstacles can injure the operator or interfere with mowing operation. Before mowing, identify potential obstacles such as low-hanging branches, and trim or remove those obstacles.
- Study mowing area. Set up a safe mowing pattern. Do not mow where traction or stability is doubtful.
- Test drive area with mower lowered (if equipped) but not running. Slow down when you travel over rough ground.
- Survey all mowing sites to determine which slopes are safe for machine operation and which slopes should be maintained through other maintenance techniques.

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(s) (for gasoline engines) before servicing the machine.

Rotating Blades are Dangerous

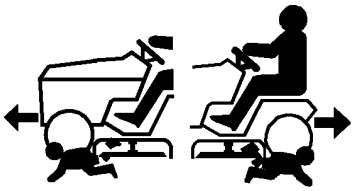


MXAL41928—UN—18FEB13

HELP PREVENT SERIOUS OR FATAL ACCIDENTS:

- Rotating blades can cut off arms and legs, and throw objects. Failure to observe safety instructions could result in serious injury or death.
- Keep hands, feet and clothing away from mower deck when engine is running.
- Be alert at all times, drive forward and in reverse carefully. People, especially children can move quickly into the mowing area before you know it.
- Before backing up, stop mower blades or attachments and look down and behind the machine carefully, especially for children.
- Do not mow in reverse.
- Shut off blades when you are not mowing.
- Park machine safely before leaving the operator's station for any reason including emptying the grasscatchers or unplugging the chute.
- The mower blades should stop in approximately five seconds when the mower 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.

Protect Children



MXAL41929—UN—18FEB13

- Death or serious injury can occur when young children associate having fun with a lawn mowing machine simply because someone has given them a ride on a machine.
- Children are attracted to lawn mowing machines and mowing activities. They don't understand the dangers of rotating blades or the fact that the operator is unaware of their presence.
- Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.

- Tragic accidents with children can occur if the operator is not alert to the presence of children, especially when a child approaches a machine from behind. Before and while backing up, stop mower blades and look down and behind the machine carefully, especially for children.
- Never carry children on a machine or attachment, even with the blades off. Do not tow children in a cart or trailer. They can fall off and be seriously injured or interfere with safe machine operation.
- Never use the machine as a recreational vehicle or to entertain children.
- Never allow children or an untrained person operate the machine. Instruct all operators not to give children a ride on the machine or in an attachment.
- Keep children indoors, out of the mowing area, and in the watchful eye of a responsible adult, other than the operator, when a mower is being operated.
- Stay alert to the presence of children. Never assume that children will remain where you last saw them. Turn the machine off if a child enters the work area.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.

Operating on Slopes

NOTE: Use the Slope Gauge Template provided in the back of this operator's manual. Follow the instructions included with the template.

- Slopes are a major factor related to loss-of-control and tipover accidents, which can result in severe injury or death. Operation on all slopes requires extra caution.

Identify Slopes for Safe Operation

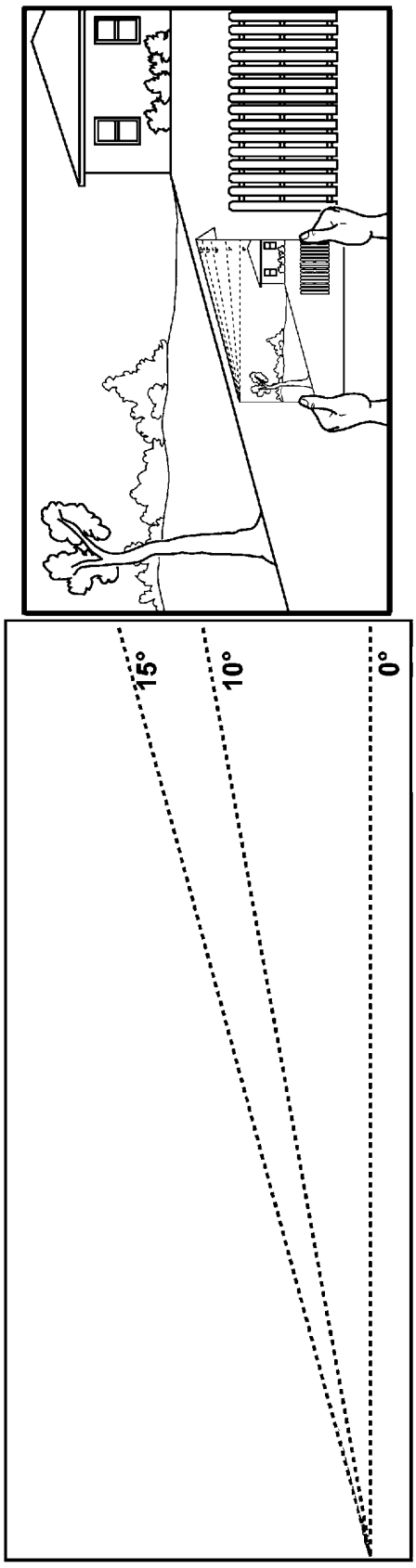
- Follow safe procedures for operation on slopes. Measure slopes of all moving sites to determine which slopes are safe for mowing with a ride-on mower. Always use common sense and good judgment when performing this survey.

Measuring Slopes

- Suggested Method 1: Lay a straight piece of sturdy lumber 1.2 m (4 ft) long on the slope and measure the angle of the slope with an angle indicator or protractor level.
- Suggested Method 2: Refer to the slope gauge provided with this manual.

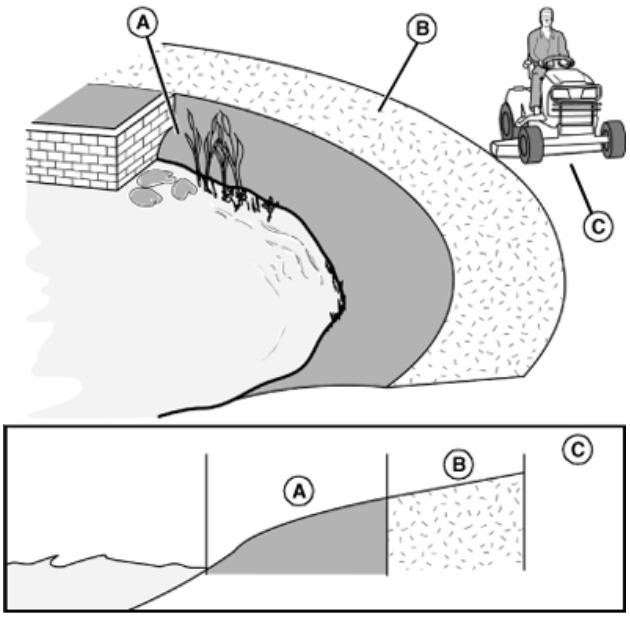
Operate Safely on Slopes

- Exceeding the recommended maximum slope angle increases the risk of rollover accidents that can result in serious injury or death.
- Never mow or operate ride-on mower on slope angles greater than 15° with the lawn ride-on mower in its basic configuration. The basic configuration is the ride-on mower with mower deck and not other attachments. (A 15° slope is a slope that rises 1.6 m (5.25 ft) over a horizontal distance of 6.1 m (20 ft).)
- When using attachments, never mow or operate the ride-on mower on slope angles greater than 10°. The addition of a weather enclosure, material collection system, or other attachments will increase the risk of a rollover. (A 10° slope is a slope that rises 1 m (3.5 ft) over a horizontal distance of 6.1 m (20 ft).)
- On slope angles of 10° or less, the risk of rollover is low, but as the slope angle increases to the recommended maximum, the risk increases to a medium level.
- Always consider potential turf conditions and slope angles when determining the risk of loss-of-control and tip-over accidents.
- Drive slowly when mowing or operating on slopes.
- If you feel uneasy on a hillside, do not mow or operate on it.
- Mow up and down slopes, not across.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the ride-on mower. Tall grass can hide obstacles.
- Drive slowly so you will not have to stop while on a slope.
- Do not mow on wet grass. Tires may lose traction. Tires may slip on slopes even though the brakes are functioning properly.
- Avoid starting, stopping or turning on a slope. If the tires lose traction, disengage the PTO and proceed slowly, straight down the slope.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the ride-on mower to roll over.



MXT005364—UN—21JUL13

Operating Near Hazards



MXAL42644—UN—22MAR13

Example side view of slope and hazards, showing areas (A), (B), and (C).

- Do not mow or operate machine in areas adjacent to hazards that may cause the machine to roll over. The machine could suddenly lose traction, slide, and/or roll over if a wheel goes over the edge or if the edge breaks away.
- Hazards (A) include but are not limited to:
  - Drop-offs, ditches, embankments, or bodies of water.
  - Areas of unsafe slope, soft ground, edges along bodies of water, or area with holes, ruts, bumps, or other hidden objects.
- Maintain a buffer area (B) at least as wide as the machine between hazards (A) and the mowing area (C). Do not mow or operate the machine in the hazard area or buffer area.
- Only mow or operate the machine in the mowing area (C). Do not exceed the recommended slope operating angle. Refer to the "Operate Safely on Slopes" section.
- Use a walk-behind mower or string trimmer in and around areas (A) and (B).

Keep Riders Off

MXAL41930—UN—18FEB13

- Only allow the operator on the machine. Keep riders off.
- Riders on the machine or attachment may be struck by foreign objects or thrown off the machine causing serious injury.
- Riders obstruct the operator's view resulting in the machine being operated in an unsafe manner.

Towing Loads Safely

- Stopping distance increases with speed and weight of towed load. Travel slowly and allow extra time and distance to stop.
- Total towed weight must not exceed combined weight of pulling machine, ballast and operator. Use counterweights or wheel weights as described in the attachment or pulling machine operator's manual.
- Excessive towed load can cause loss of traction and loss of control on slopes. Reduce towed weight when operating on slopes.
- Never allow children or others in or on towed equipment.
- Use only approved hitches. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the approved hitch point.
- Follow the manufacturer's recommendations for weight limits for towed equipment and towing on slopes.
- Towed attachments will increase the risk of rollover. Refer to the "Operating on Slopes" section for more information.
- Do not turn sharply. Use additional caution when turning or operating under adverse surface conditions. Use care when reversing.
- Do not shift to neutral and coast downhill.

Wear Appropriate Clothing

MXAL41935—UN—18FEB13

- Always wear eye protection when operating the machine.
- Wear close fitting clothing and safety equipment appropriate for the job.
- While operating this machine, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Wear a suitable protective device such as earplugs. Loud noise can cause impairment or loss of hearing.

Driving Safely on Public Roads

MXAL42880—UN—26MAR13

Avoid personal injury or death resulting from a collision with another vehicle on public roads:

- Use safety lights and devices. Slow moving machines when driven on public roads are hard to see, especially at night.
- Whenever driving on public roads, use flashing warning lights and turn signals according to local regulations. Extra flashing warning lights may need to be installed.

Practice Safe Maintenance

MXAL41933—UN—18FEB13

- Only qualified, trained adults should service this machine. Understand service procedure before doing work.
- Never operate machine in a closed area where dangerous carbon monoxide fumes can collect.
- Keep all nuts and bolts tight, especially blade attachment bolts, to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep machine free of grass, leaves or other debris build-up. Clean up oil or fuel spillage and remove any fuel-soaked debris. Allow the machine to cool before storing.
- If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.
- Never make any adjustments or repairs with the engine running. Wait for all movement to stop on machine before adjusting, cleaning or repairing.
- Check grasscatcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary. Grasscatcher components are subject to wear, damage, and deterioration which could expose moving parts or allow objects to be thrown.
- Mower blades are sharp. Wrap the blade or wear gloves, and use extra care when servicing them. Only replace blades. Never straighten or weld them.

- Check brake operation frequently. Adjust and service as required.
- Maintain or replace safety and instruction labels, as necessary.
- On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
- Lower any attachments to the ground before cleaning or servicing machine. Disengage all power and stop the engine. Lock park brake and remove the key. Let machine cool.
- Securely support any machine elements that must be raised for service work. Use jack stands or lock service latches to support components when needed.
- Disconnect battery or remove spark plug wire (for gasoline engines) before making any repairs. Disconnect negative terminal first and positive last. Install positive terminal first and negative last.
- Before servicing machine or attachment, carefully release pressure from any components with stored energy, such as hydraulic components or springs.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts.
- Charge batteries in an open, well-ventilated area, away from sparks. Unplug battery charger before connecting or disconnecting from the battery. Wear protective clothing and use insulated tools.
- Do not strike the flywheel with a hammer or hard object because the flywheel may later shatter during operation.
- If equipped with hydraulic lift - release hydraulic pressure by lowering attachment or cutting units to the ground or to a mechanical stop and move hydraulic control levers back and forth.

Avoid High Pressure Fluids

MXAL41927—UN—18FEB13

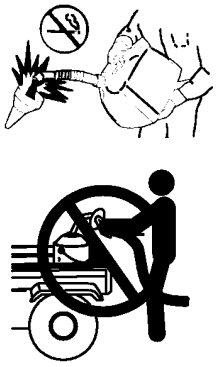
- Hydraulic hoses and lines can fail due to physical damage, kinks, age, and exposure. Check hoses and lines regularly. Replace damaged hoses and lines.
- Hydraulic fluid connections can loosen due to physical damage and vibration. Check connections regularly. Tighten loose connections.
- Escaping fluid 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.

Prevent Fires

- Please review these recommendations with all operators. See your John Deere dealer with questions.
- Always follow all safety procedures posted on the machine and in this operator manual. Before carrying out any inspection or cleaning always shut off engine, set parking brake and remove ignition key.
- Besides routine maintenance, one of the best ways to keep your John Deere equipment running efficiently and to reduce fire risk is to regularly remove debris buildup from the machine.
- After operating, allow machine to cool in an open area before cleaning or storing. Do not park machine near flammable materials such as wood, cloth or chemicals, or near an open flame or other sources of ignition, such as a water heater or furnace.
- Completely remove any combustible materials from equipment before storing, by emptying any grass catcher bags, containers and cargo boxes.
- Debris can accumulate anywhere on the machine, especially on horizontal surfaces. Remove grass and debris completely from engine compartment, muffler area, and from on top of the mower deck both before and after operating machine. Additional cleaning may be necessary when mowing or mulching in dry conditions.
- In addition to cleaning machine before using and storing, keeping engine area clean provides the greatest impact on fire prevention. Other areas requiring regular inspection and cleaning include behind wheel rims, wire harness, hose or line routing, mowing attachments, etc. Compressed air, leaf blowers, or high pressured water assists in keeping these areas clean.
- Frequency of these inspections and cleaning will vary depending on a number of factors including operating conditions, machine configuration, operating speeds and weather conditions particularly dry, hot and windy conditions. When you are operating in these conditions, inspect and clean these areas frequently throughout the day.

- Excess lubrication or fuel/oil leaks or spills on the machine can also serve as collection sites for debris. Prompt machine repair and oil and fuel clean-up reduces the potential for debris collection.
- Bearing failures or overheating can result in a fire. To reduce this risk, always follow the instructions in the machine operator's manual regarding lubrication intervals and locations. Contact your local dealer if you have any questions about the lubrication intervals or location and if any unusual noises are coming from areas where bearings might be located. Washing the machine while warm may also reduce bearing life and increase potential for premature bearing failure.
- Always shut off fuel when storing or transporting machine, if the machine has a fuel shutoff.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.

Handling Fuel Safely



MXAL41938—UN—18FEB13

To avoid personal injury or property damage, use extreme care in handling fuel. Fuel is extremely flammable and fuel vapors are explosive:

- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only an approved fuel container. Use only non-metal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM). If using a funnel, make sure it is plastic and has no screen or filter.
- Never remove the fuel tank cap or add fuel with the engine running. Allow engine to cool before refueling.
- Never add fuel to or drain fuel from the machine indoors. Move machine outdoors and provide adequate ventilation.
- Clean up spilled fuel immediately. If fuel is spilled on clothing, change clothing immediately. If fuel is spilled near machine, do not attempt to start the engine but move the machine away from the area of spillage. Avoid creating any source of ignition until fuel vapors have dissipated.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water heater or other appliance.
- Prevent fire and explosion caused by static electric discharge. Static electric discharge can ignite fuel vapors in an ungrounded fuel container.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before fueling.
- Remove fuel-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container, rather than from a fuel dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until the fueling is complete. Do not use a nozzle lock-open device.
- Never overfill fuel tank. Replace fuel tank cap and tighten securely.
- Replace all fuel container caps securely after use.
- For gasoline engines, do not use gas with methanol. Methanol is harmful to your health and to the environment.

Tire Safety

MXAL41937—UN—18FEB13

Explosive separation of a tire and rim parts can cause serious injury or death:

- Do not attempt to mount a tire without the proper equipment and experience to perform the job.
- Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly.
- Check tires for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

Checking Wheel Hardware

- A serious accident could occur causing serious injury if wheel hardware is not tight.
- Check wheel hardware tightness often during the first 100 hours of operation.
- Wheel hardware must be tightened to specified torque using the proper procedure anytime it is loosened.

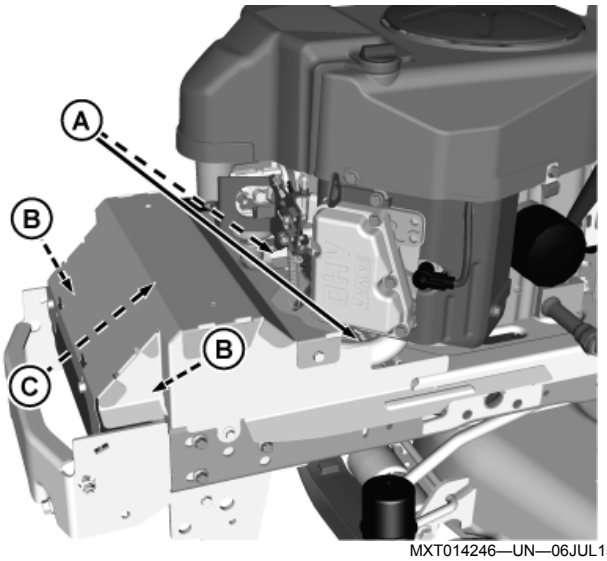
Handling Waste Product and Chemicals

Waste products, such as, used oil, fuel, coolant, brake fluid, and batteries, can harm the environment and people:

- Do not use beverage containers for waste fluids - someone may drink from them.
- See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products and how to put your machine out of service at the end of its life.

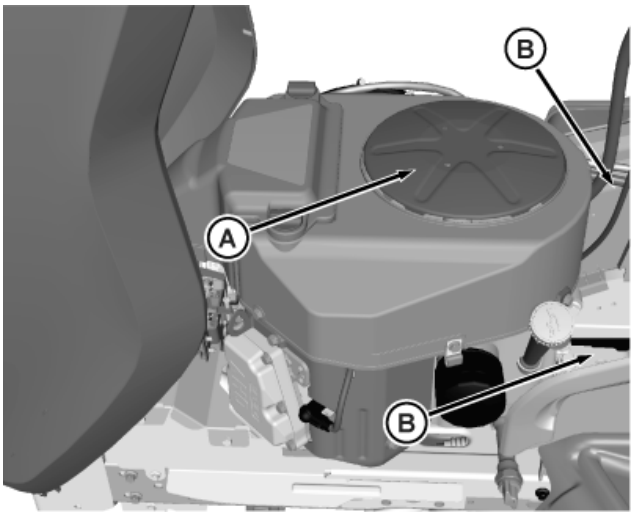
Cleanout Areas

Primary areas that must be inspected and cleaned on the machine include (See Safety Label Section):



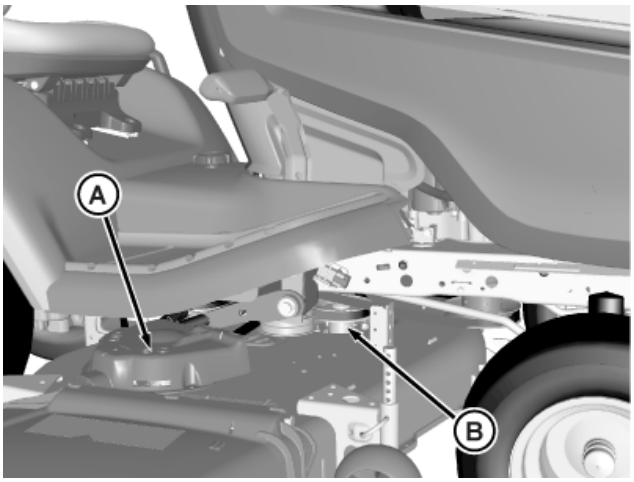
MXT014246—UN—06JUL15

1. Exhaust manifold (A), muffler pipe (B), muffler (found under muffler shield), and muffler shield (C).



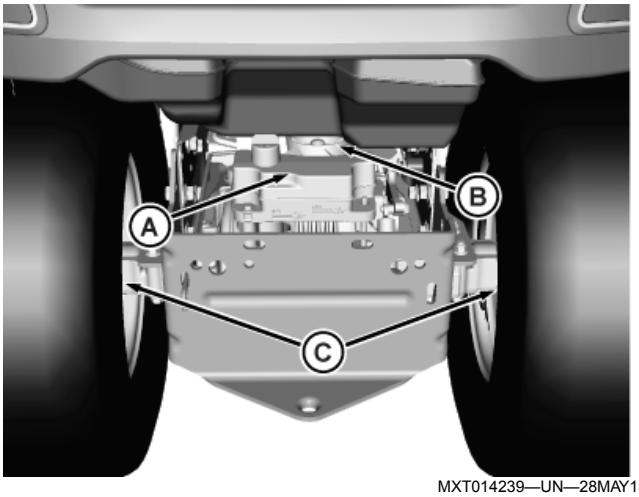
MXT014237—UN—28MAY15

2. Engine intake screen (A) and cooling fins (B).



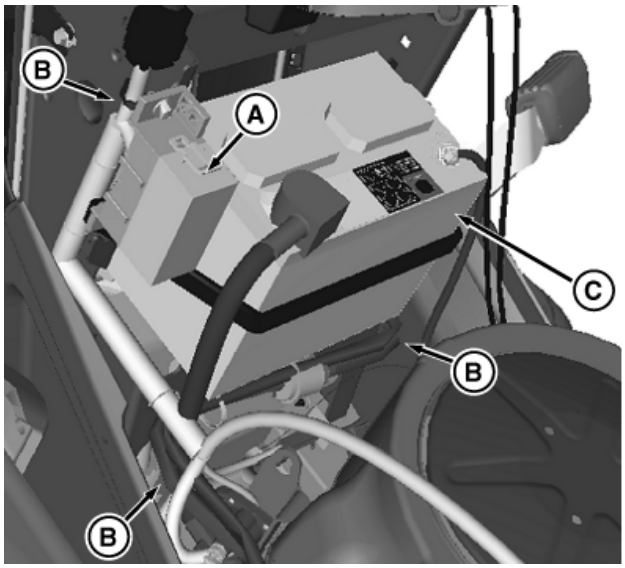
MXT014238—UN—28MAY15

3. Top of mower deck, under shields (A), including spindle (B) and belt areas.



MXT014239—UN—28MAY15

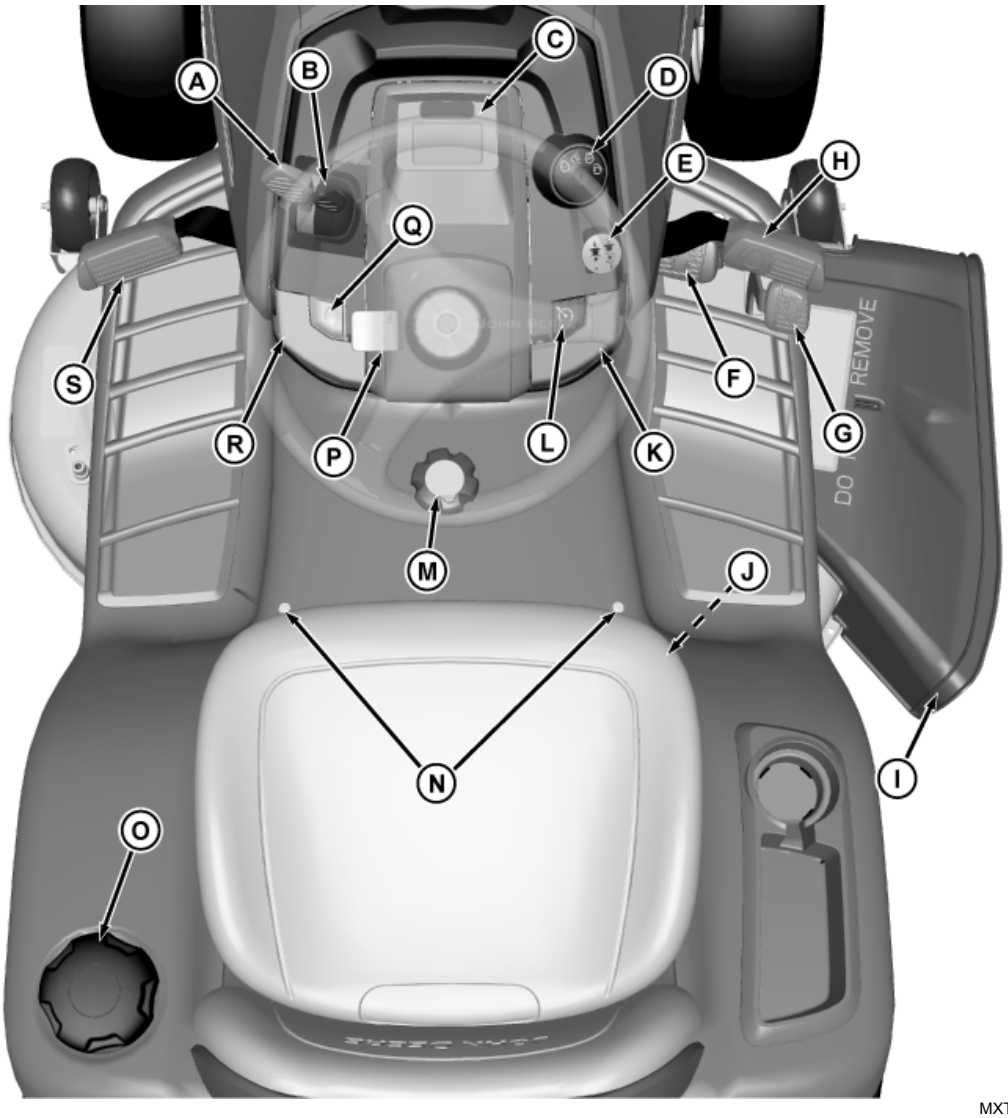
4. On or near transmission (A), transmission fan (B), and driveline (C).



MXT014240—UN—06JUL15

5. On right side near fuse block (A), all wiring harnesses (B), and battery (C).

Operator Station Controls



MXT014961—UN—10AUG15

A —Throttle Control
B —Choke Control
C —Instrument Cluster
D —Key Switch
E —Mower Engagement Switch
F —Forward Travel Pedal
G —Reverse Travel Pedal
H —Brake Pedal
I —Mower Deflector
J —Seat Adjustment Lever
K —Park Brake Lever
L —Cruise Control Switch
M —Mower Cutting Height Knob
N —Mower Level Adjustment Ports
O —Fuel Tank Cap
P —Tilt Steering Lever (If Equipped)
Q —RIO Switch
R —Mower Lift Control (Mechanical and Hydraulic Lift)
S —Mower Lift Pedal (Mechanical Lift Only)

Instrument Cluster

MXT014978—UN—07AUG15

A —Caution Indicator - Refer to corresponding flashing indicator on screen when displayed. Operator action may be required.

B —STOP Indicator -Refer to corresponding flashing indicator on screen when displayed. Operator is advised to immediately remedy condition when displayed.

C —PTO Indicator - Indicates status of PTO system. Solid indicator means that PTO is active. Flashing PTO indicator means the safety interlock system prevented an operation due to improper use of PTO system.

D —Park Brake Indicator -If displayed, brake or park brake is engaged. If flashing, this indicator means the safety interlock system prevented operation because the brake is not in correct position.

E —Charging System Gauge - Indicates if charging system voltage is operating at normal, too high, or too low. If displaying in red zone, service may be required.

F —Operator Presence Indicator- Flashing indicator means that safety interlock system prevented operation because operator not on seat.

G —Hour Meter - Displays total engine running operating hours. Located to left of hour glass indicator. (See Using the Hour Meter in the OPERATING section.)

H —Fuel Pump - The fuel pump and final fuel block will flash when low fuel is sensed.

I —Fuel Gauge - Indicates fuel level. If all nine blocks are flashing, contact your John Deere dealer.

J —Service Indicator - If flashing, contact your John Deere dealer for service. Will not flash to indicate service intervals. (See Service Intervals in the SERVICE INTERVALS section.)

K —Tachometer - Represents engine speed. Faster engine speeds fill more blocks.

L —Best Cut Zone - Best cut quality achieved when engine speed in green zone of tachometer.

Daily Operating Checklist

- ❑ Test safety systems.
- ❑ Check fuel level. (See SERVICE MISCELLANEOUS section, Using Proper Fuel and Stabilizer)
- ❑ Check engine oil level.
- ❑ Remove grass and debris from engine compartment and muffler area, and on top of mower deck before and after operating machine.
- ❑ Clean air intake screen.
- ❑ Check area below machine for leaks.

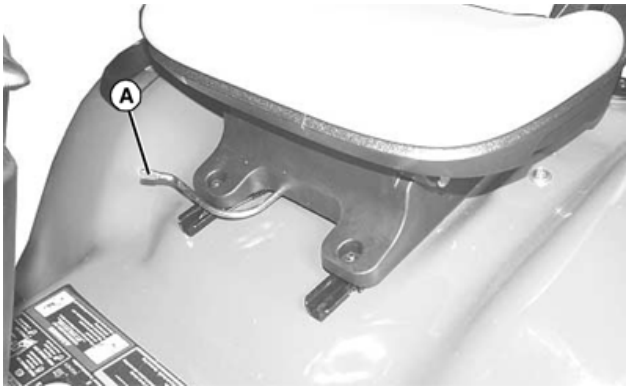
IMPORTANT: Using stale, contaminated or improper fuel can result in engine and fuel system damage. Repairs caused by stale, contaminated or improper fuel are not covered by warranty.

Avoid Damage to Plastic and Painted Surfaces

- Do not wipe plastic parts unless rinsed first. Using a dry cloth may cause scratches.
- 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.
- Prolonged exposure to sunlight will damage some surfaces.

Adjusting Seat

Adjusting Seat Position



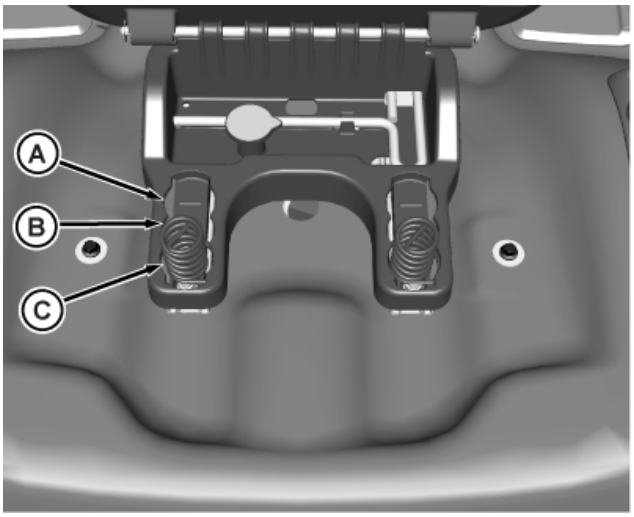
MXAL46346—UN—05APR13

1. Push lever (A) to the left.
2. Slide seat forward or rearward to desired position.
3. Release lever.

Adjusting Ride Comfort

IMPORTANT: Avoid damage! To prevent damage to seat switch and seat base, do not operate without suspension coils in place.

1. Lift seat.
2. Rotate suspension coils into desired position:



MXT014248—UN—14MAY15

- Move coils to front position (A) for softest ride.
- Move coils to middle position (B) for average ride.
- Move coils to rear position (C) for firm ride.

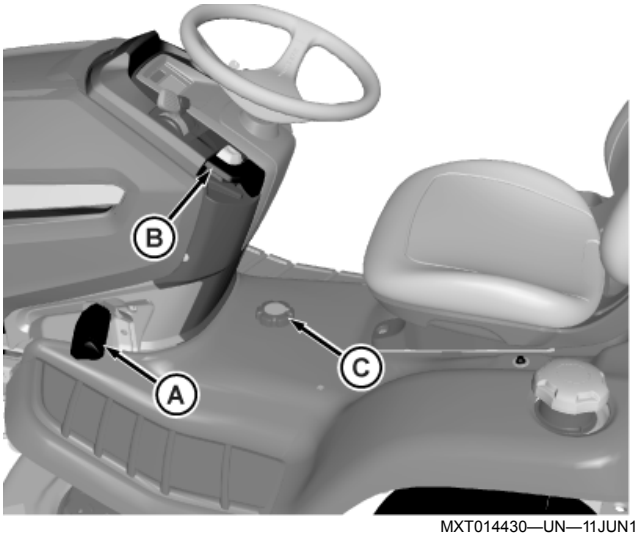
NOTE: Additional suspension coils can be installed for extra support. See your John Deere dealer.

Adjusting Cutting Height

Cutting height can be adjusted from approximately 25—100 mm (1—4 in.). When mower deck is in transport position cutting height is approximately 100 mm (4 in.).

Mower cutting height increments are identified on decal around the cutting height knob. To change or attain cutting height desired:

1. Check tire pressure and adjust as needed.



MXT014430—UN—11JUN15

Mechanical lift model shown.

2. Mechanical lift: Push mower lift pedal (A) and lock deck with lever (B).
3. Hydraulic lift: Pull up on lever (B).
4. Turn mower cutting height knob (C) to desired cutting height position. Mower will be at this cutting height each time it is lowered.
5. Lower mower deck.
6. Adjust mower deck wheels.

Checking and Adjusting Mower Deck Level

CAUTION: Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

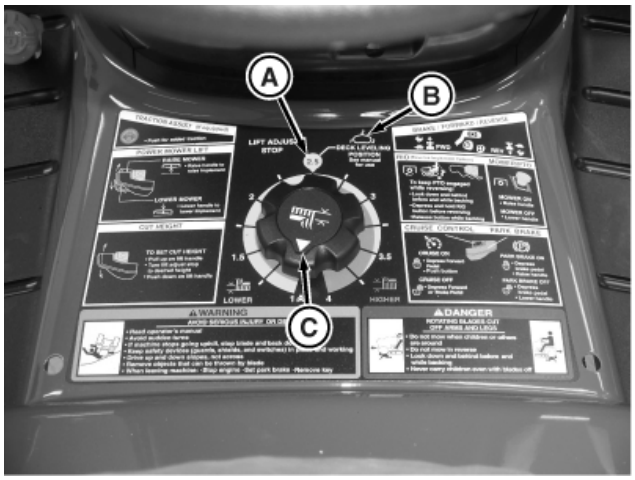
- **Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.**
- **Always wear gloves when handling mower blades or working near blades.**

NOTE: Mower wheels should not contact the ground when leveling the deck.

1. Make sure that machine is on a flat, level surface.
2. Park machine safely on a flat surface. (See Parking Safely in the SAFETY section).
3. Inflate tires to the correct pressure:

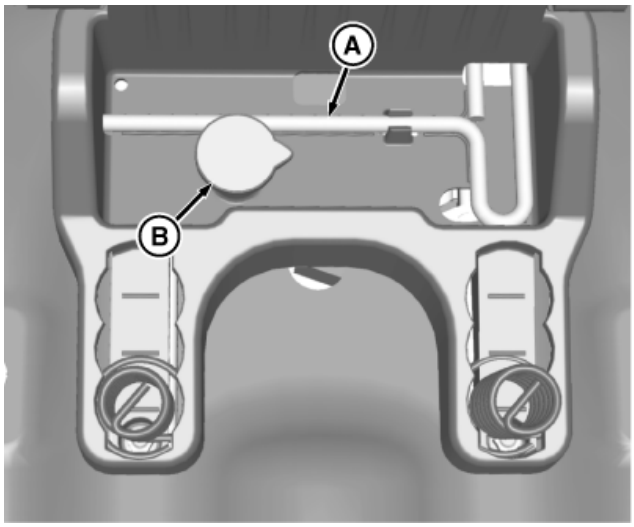
Specification	
Front Tire — Pressure	97 kPa (14 psi)
Rear Tire — Pressure	69 kPa (10 psi)

Quick Leveling Method



MXT014250—UN—27MAY15

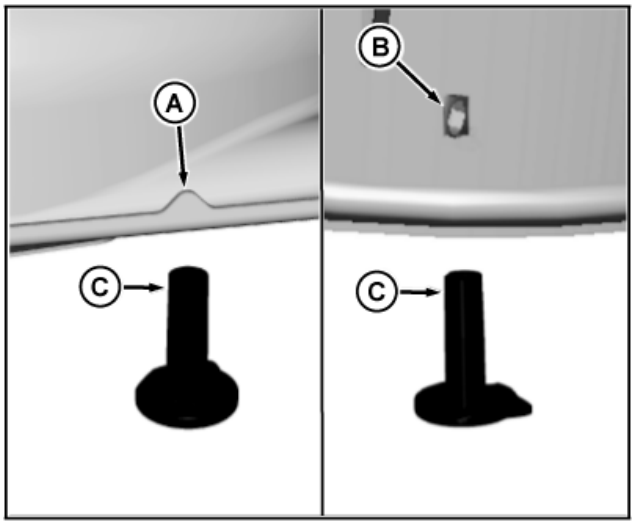
1. The label for the cutting height knob is located on the console of the machine. This label shows deck leveling position (A) and location of deck leveling adjustment points (B). The location of adjustment points will vary slightly between decks:
   - Adjustment point 1 is located on the left rear deck rim.
   - Adjustment point 2 is located on the right rear deck rim.
   - Adjustment point 3 is located on the front deck hanger bracket.
2. Set mower cutting height knob (C) to the deck leveling position and lower deck against stop. Once adjusted at deck leveling position, the deck will be level and calibrated for all cut height positions.
3. Adjust mower deck gauge wheels as necessary so they do not contact the ground surface.



MXT014339—UN—12JUN15

4. Lift seat and remove the deck level wrench (A) and mower deck level gauge (B).
5. Adjust mower deck side-to-side level:

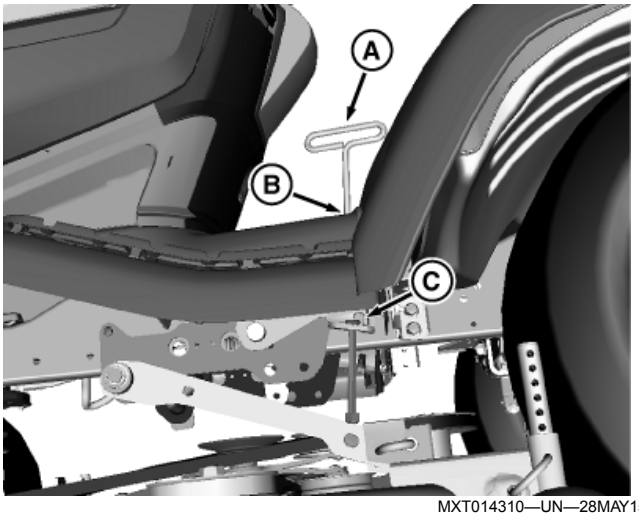
NOTE: Adjustment points 1 and 2 on 42M mowers have a raised marker (A) and 42A, 48A, and 54A mowers have a raised weld (B) for side-to-side measurement.



MXT015731—UN—26OCT15

Left Photo 42M, Right Photo 42A, 48A, and 54A Mowers.

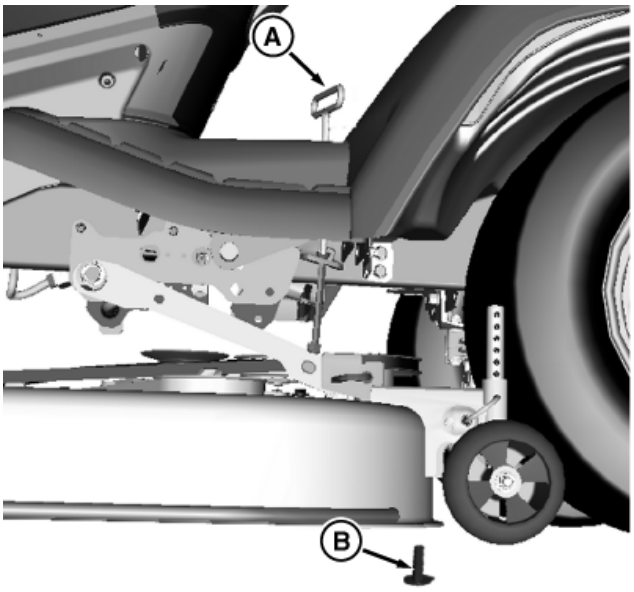
a. Use gauge (C) to check the height between the floor and deck rim at adjustment points 1 and 2. The gauge should just slip under the deck rim.



MXT014310—UN—28MAY15

Shields Removed for Clarity

b. If adjustments are necessary, first move seat to rear most position, then insert provided deck level wrench (A) into top port opening (B) on fender deck until end of wrench mates with adjustment bolt (C).



MXT014311—UN—28MAY15

Shields Removed for Clarity

c. Rotate wrench (A) counterclockwise to lower or clockwise to raise deck until gauge (B) just slips under adjustment point 1.

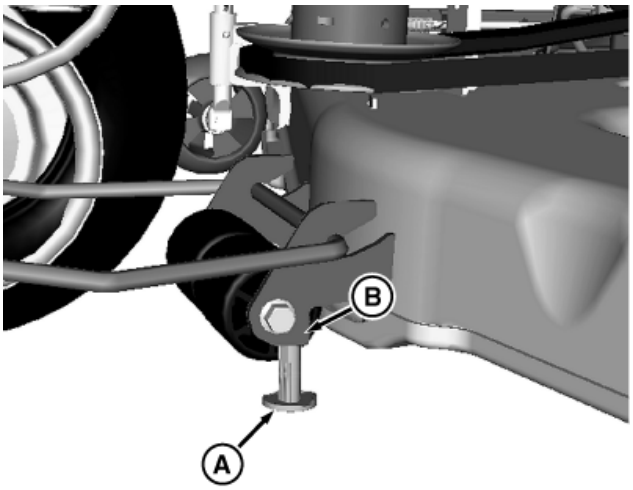
d. Repeat procedure on right side of deck for adjustment point 2.

NOTE: If an adjustment of more than 3 mm (1/8 in) is required, adjust both points alternately. A large adjustment on one side can move the other side in the opposite direction.

e. Repeat step b, c, and d, as necessary.

6. Adjust mower deck front-to-back level:

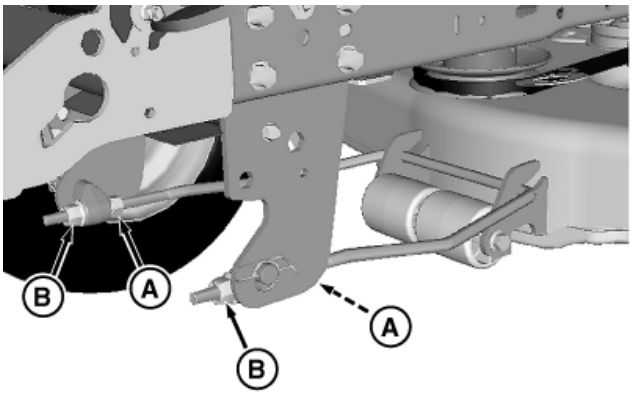
NOTE: Adjustment point 3 has a stamped "3" on side of front deck hanger bracket (B).



MXT014342—UN—27MAY15

Shields Removed for Clarity

a. Use gauge (A) to check the height between the floor and front deck hanger bracket (B) at adjustment point 3. The gauge should just slip under the bracket.



MXT014343—UN—28MAY15

Shields Removed for Clarity

b. If necessary, use an 18 mm wrench to adjust the front of the deck by loosening rear nut (A) equally on each side of front lift rod. Turn front nut (B) equally on each side clockwise to raise front of mower or counterclockwise to lower it until gauge just slips under adjustment point 3. If draft rod is not tight against both draft hooks, tighten loose side until both sides are tight against draft hooks. Shake the deck slightly to ensure that it has settled into position. Tighten rear nuts after adjustment is complete.

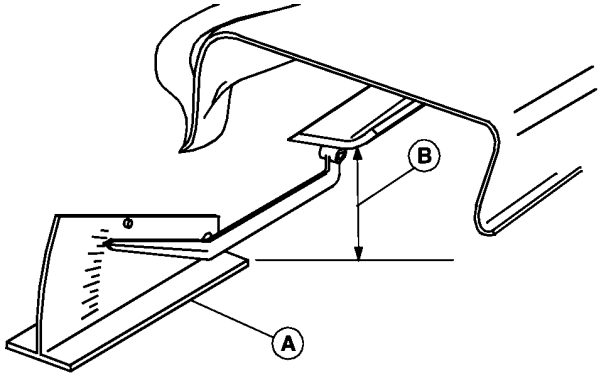
NOTE: Before storing gauge, verify that deck will latch in transport position. If it does not latch, return to adjustment points 1 and 2 and turn both rear adjusting nuts counterclockwise equally to lower rear of deck until deck latch will engage. Recheck adjustment point 3, and adjust if necessary.

7. Return gauge and deck leveling wrench to their storage position, under seat.

Optional Leveling Method

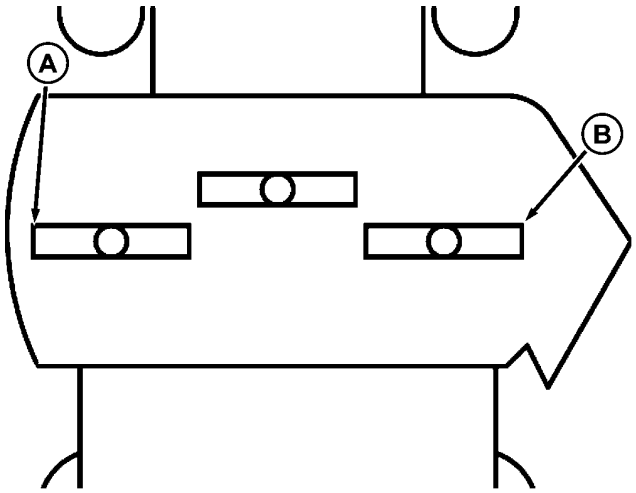
NOTE: An optional mower deck leveling gauge (AM130907) (A) is available from your John Deere dealer. It allows for precision mower deck leveling by measuring mower deck level at the blade tips.

1. Set mower deck cutting height knob to desired cutting height. Lower deck.
2. Measure mower deck level (side-to-side).



GXAL41983—UN—04MAR13

a. Position mower blades as follows and measure from each outside blade tip (B) to the level surface.

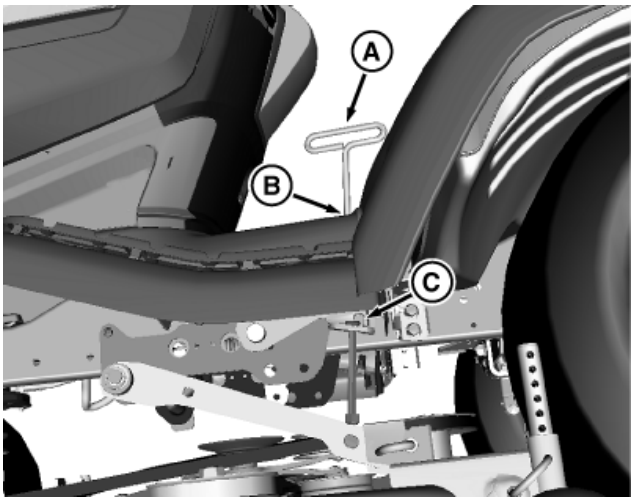


MXT014862—UN—12JUN15

b. Turn left blade (A) as shown. Hold drive belt and turn right blade (B) as shown. Take measurement for both blades.
The difference between blade measurements must not be more than specified distance.

Specification

Mower Deck Blade Outside Tips to Ground (Difference) — Distance . . . . . 3 mm (1/8 in)

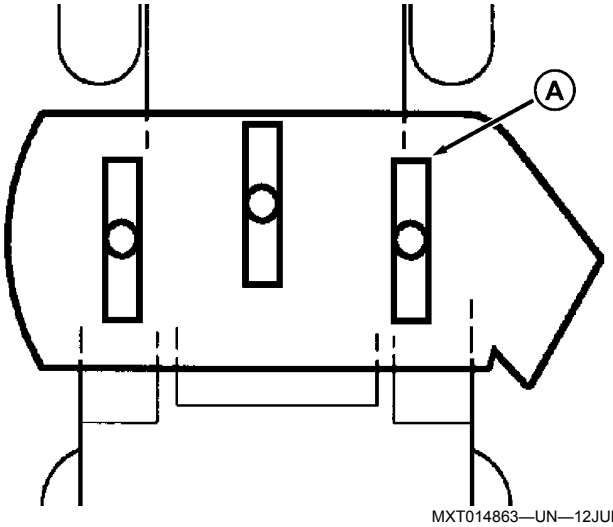


MXT014310—UN—28MAY15

Shields Removed for Clarity

c. If adjustments are necessary, first move seat to rear most position, then insert provided deck level wrench (A) into top port opening (B) on fender deck until end of wrench mates with adjustment bolt (C).

3. Measure mower level (front-to-rear).



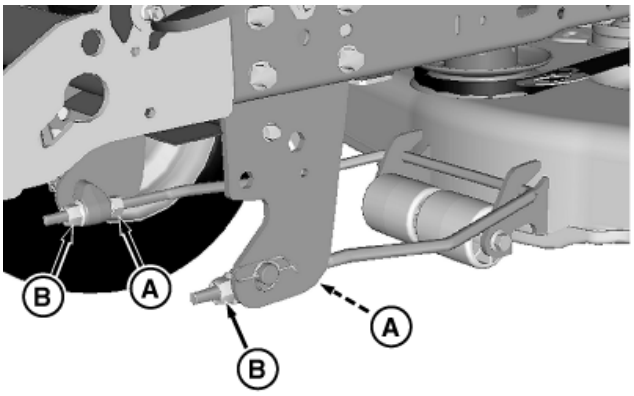
MXT014863—UN—12JUN15

a. Turn right blade (A) so blade tip points straight forward.

b. Measure from blade tip to the surface. Take measurement for both blades.
The front blade tip must be specified distance lower than rear blade tip.

Specification

Mower Deck Blade Outside Tips to Ground (Difference) — Distance . . . . . 3—6 mm (1/8—1/4 in)



MXT014343—UN—28MAY15

Shields Removed for Clarity

c. If necessary, use an 18 mm wrench to adjust front of deck by loosening rear nut (A) equally on each side of front lift rod. Turn front nut (B) equally on each side clockwise to raise front of mower or counterclockwise to lower it until gauge measures within specified range. If draft rod is not tight against both draft hooks, tighten loose side until both sides are tight against draft hooks. Shake deck slightly to ensure that it has settled into position. Tighten rear nuts after adjustment is complete.

NOTE: Before storing gauge, verify that deck will latch in transport position. If it does not latch, return to side adjustment points and turn both rear adjusting bolts counterclockwise equally to lower rear of deck until deck latch will engage. Recheck front adjustment points, and adjust if necessary.

d. Raise deck and return leveling wrench to its storage position, under seat.

Adjusting Mower Wheels

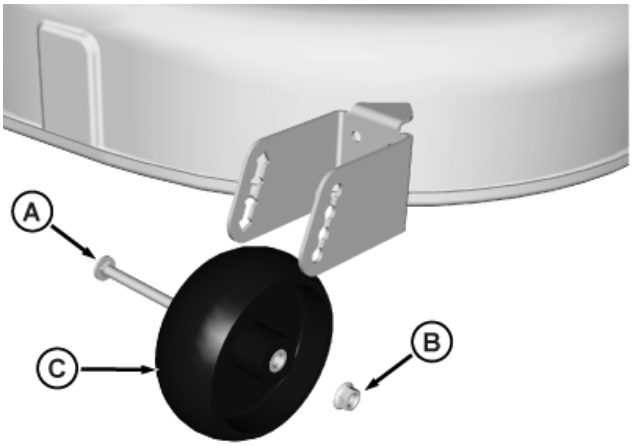
CAUTION: Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- **Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.**
- **Always wear gloves when handling mower blades or working near blades.**

IMPORTANT: Avoid damage! The mower deck can be damaged if mower wheels are adjusted wrong:

- **Wheels must not ride on ground supporting mower weight.**
- **Check wheel adjustment each time cutting height is changed.**

1. Park machine safely on a level surface. (See Parking Safely in the SAFETY section).
2. Inflate tires to correct pressure.
3. Press lift pedal and lock in place.
4. Adjust cutting height.
5. Lower mower to cutting position.
6. Measure distance between mower wheels and ground surface:
   - 42 Mulch Mower - All wheels should be 3—13 mm (1/8—1/2 in) from ground.
   - 42A Mower- All wheels should be 3—9 mm (1/8—3/8 in) from ground.
   - 48A and 54A Mowers - All wheels should be 6—13 mm (1/4—1/2 in) from ground.
7. Adjust mower wheels to correct height:

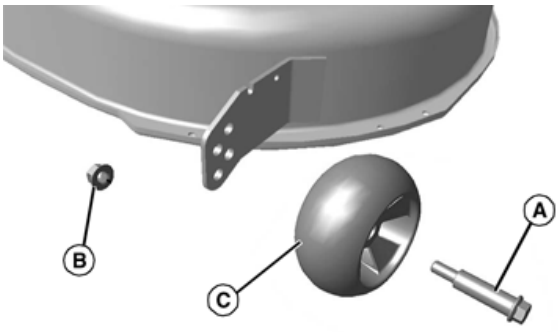


MXT014257—UN—21MAY15

- 42A Mowers - Remove carriage bolt (A) and nut (B). Move wheel (C) to desired hole position. Install wheel to deck with carriage bolt and nut. Tighten nut to specifications.

Specification

42A Mower - Wheel Carriage Bolt
— Torque . . . . . 34 N·m (25 lb·ft)

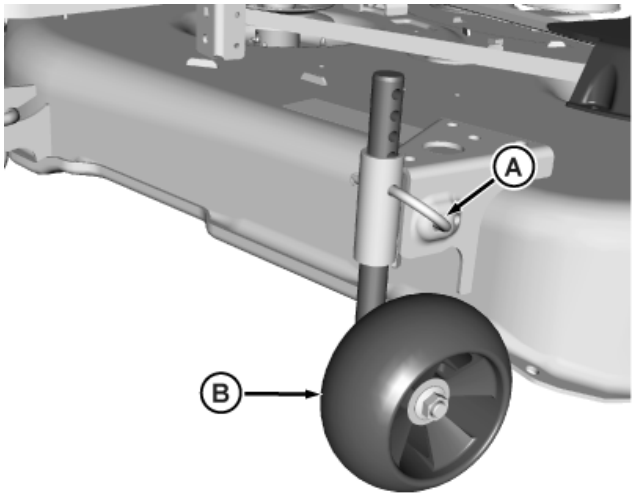


MXAL45976—UN—09APR13

- 42M Mowers - Remove shoulder bolt (A) and nut (B). Move wheel (C) to desired hole position. Install wheel to deck with shoulder bolt and nut. Tighten nut to specifications.

Specification

42M Mower - Wheel Shoulder Bolt
— Torque . . . . . 34 N·m (25 lb·ft)

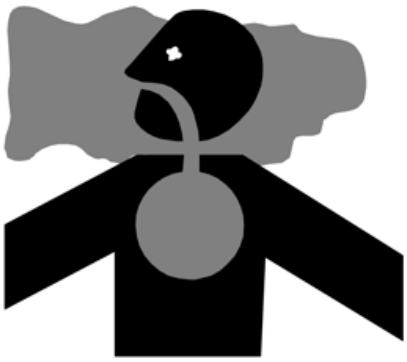


MXT014258—UN—27MAY15

48A mower shown

- 48A and 54A Mowers - Pull J-pin (A) and move wheel assembly (B) to proper hole position. Release J-pin to lock wheel assembly in position.

Testing Safety Systems



MXAL42804—UN—09APR13

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

Do not run an engine in an enclosed area, such as a garage, even with doors or windows opened.

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

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 Park Brake Switch

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Sit on seat.
3. Unlock the park brake.
4. Try to start engine.

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

Testing Park Brake

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Lock the park brake.
3. Engage bypass valve control.
4. Try to push machine manually.

Result: Park brake must prevent machine from moving. If machine moves, parking brake needs to be adjusted.

Testing Mower Engagement (PTO) Switch

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Sit on seat.
3. Lock the park brake.
4. Engage the mower.
5. Try to start engine.

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

Testing Seat Switch

Test 1

1. Start the engine.
2. Move throttle lever to maximum speed position.
3. Unlock the park brake.
4. Engage the PTO switch.
5. Raise up off seat. Do not get off machine.

Result: Engine should begin to stop. PTO should shut off immediately and mower blades should stop.

Test 2

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

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

Test 3

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

Result: Engine should continue to run.

Testing Reverse Implement Option (RIO)

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Start engine.
3. Engage attachment engagement switch to start attachment.

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.

4. Look behind the vehicle to be sure that there are no bystanders.
5. Begin reverse travel by depressing reverse pedal.

Result: Attachment should stop operation. If attachment continues to operate as machine begins travel in reverse, do not continue to operate machine.

Using Park Brake

CAUTION: 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.

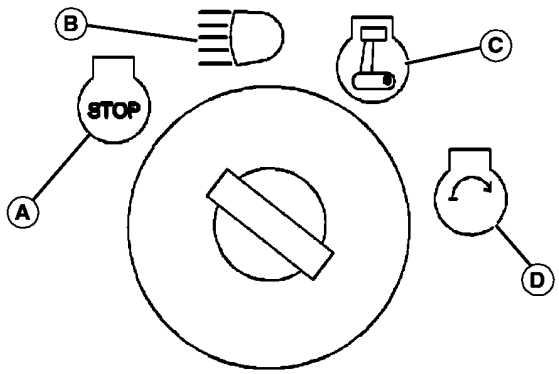
Locking Park Brake

1. Push and hold down brake pedal.
2. Pull up park brake lever to lock park brake.
3. Release brake pedal. Pedal should stay down and park brake lever should stay up in locked position.

Unlocking Park Brake

1. Push and hold down brake pedal.
2. Push down park brake lever to unlock park brake.
3. Release brake pedal. Pedal should come up to operating position.

Using Key Switch and Headlights



GXAL41992—UN—04MAR13

A —STOP Position
B —Headlights On Position
C —Run Position
D —Start Position

Engine Off

NOTE: Headlights will drain the battery rapidly if key switch is left in headlights on position (B) with the engine off.

- To turn headlights on, turn key switch to headlights on position (B).
- To turn headlights off, turn key switch to STOP position (A).

Engine On

- To turn headlights on, start engine, then turn key switch from run position (C) to headlights on position (B).
- To turn headlights off, turn key switch from headlights on position (B) to run position (C).

Using the Hour Meter

- The hour meter shows the number of hours the engine has run. The hour meter does not accumulate hours with the engine off when the key is in the run position. Use the hour meter to determine when your machine has reached the recommended service intervals.
- Turn the key to STOP position when not using the machine.
- Hour meter cannot be reset.

Starting the Engine

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

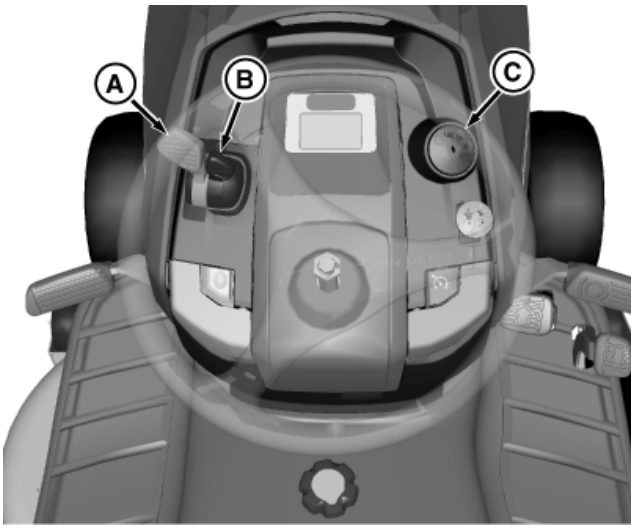
Move the machine to an outside area before running the engine.

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.**

NOTE: Engine will not start unless park brake is applied and mower is disengaged.

1. Sit on seat.
2. Make sure mower engagement lever is disengaged.
3. Push down brake pedal.



MXT015183—UN—20JUL15

4. Check starting conditions:
   If engine is cold:
   - Move throttle lever (A) between the half throttle and fast throttle positions, and move choke lever (B) up to the choke position.

   If engine is warm:
   - Move throttle lever (A) to the half throttle position, and move choke lever (B) half way up or do not use at all depending on engine temperature.

IMPORTANT: Avoid damage! Starter may be damaged if starter is operated for more than 20 seconds at a time:

- **Wait two minutes before trying again if engine does not start.**
- **Refer to Ignition Interlock System or Sit-on-Seat Diagnostics in this section or the Troubleshooting section if engine will not start.**

5. Turn key (C) to start position for no more than 5 seconds.
6. Release key to run position and gradually release choke lever down to the off position when engine starts. If engine does not start:
   a. Wait 10 seconds.
   b. Turn key to start position again for no longer than 5 seconds. Release key and choke lever when engine starts.
   c. Repeat 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. Run engine at half throttle for 30-60 seconds to allow warm-up before operating.

Stopping the Engine

1. Stop the machine.
2. Move throttle lever to half throttle position and allow engine to run at half throttle for several seconds.
3. Turn key to stop position.
4. Lock the park brake.
5. Remove the 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: 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.
2. Slowly push down forward travel pedal. 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 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. 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. Machine brakes will be applied to assist in stopping.

Using Cruise Control

CAUTION: Avoid Injury! Do not use cruise control when going down hills. Machine speed will increase. Operate machine in a large, open area to learn how the cruise control works.

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.

Engaging Cruise Control

1. Push forward pedal down until you reach desired travel speed.
2. Push down cruise button.
3. Remove foot from forward pedal.
4. Release cruise button.

Disengaging Cruise Control

NOTE: Cruise control will also disengage if forward travel pedal is pressed.

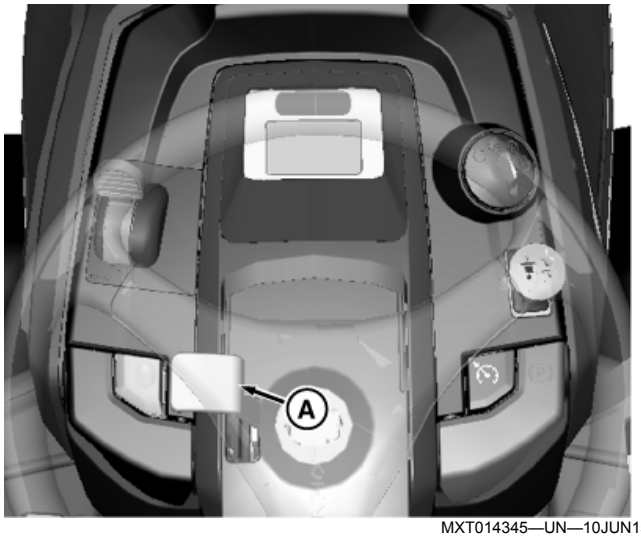
- Push brake pedal down.

Adjusting Tilt Steering Wheel (If Equipped)

CAUTION: Avoid Injury! Do not attempt to adjust the steering wheel while the machine is moving. The operator can lose control of the machine.

- **Stop the machine before adjusting the steering wheel.**
- **Lock the steering wheel in position before driving the machine.**

Steering wheel has five tilt positions:



MXT014345—UN—10JUN15

- Lift and hold lever (A) up and move wheel to a comfortable operating position.
- Release lever and move wheel slightly up or down until lever drops into the nearest position and locks wheel.

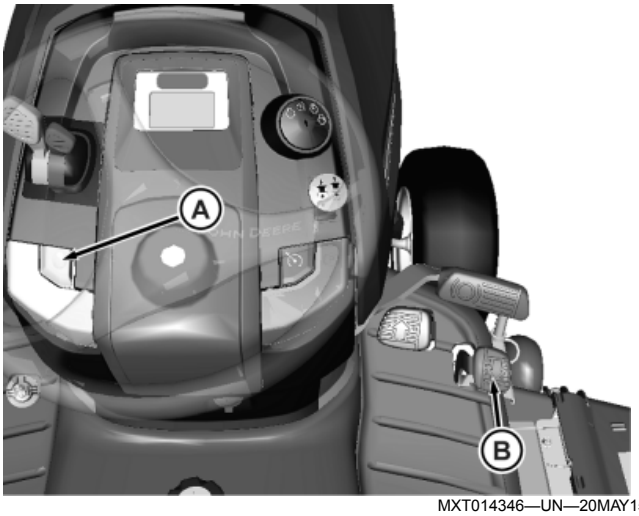
Using the Reverse Implement Option (RIO)

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.**

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

1. Stop forward travel. Allow attachment to run.
2. Look down and behind the machine to be sure that there are no bystanders.



MXT014346—UN—20MAY15

3. Push and hold in the reverse implement switch (A) while depressing reverse pedal (B) slightly.

NOTE: If the attachment stops while positioning the machine, return mower engagement switch to off position. Repeat this procedure from the beginning.

4. Release the reverse implement switch and reposition the machine as the machine begins to move rearward.
5. Resume forward travel. The attachment should continue operating.
6. Repeat procedure to position the machine again.

Using Mower Attachment / Mower Lift

NOTE: If the machine is equipped with a lift assist spring, make sure the tension is properly adjusted to support the weight of the mower deck or attachment installed.

Mowing Position

Mower floats along ground contour while maintaining desired cutting height. The mower will always float up and back down onto the depth stop.

Manual Lift: Push mower lift pedal forward to raise mower deck. Lift on mower lift lock to lock mower in raised position. Select cut height on knob. Push mower lift pedal forward and push down on mower lift lock to lower deck.

Hydraulic Lift: Pull up on mower lift handle to raise mower deck. Select cut height on knob. Press down on mower lift handle to lower deck.

Transport Position

Holds mower above ground level while traveling to and from worksite.

Manual Lift: Push mower lift pedal forward to raise mower deck. Lift on mower lift lock to lock mower in raised position.

Hydraulic Lift: Pull up on mower lift handle to raise mower deck.

Using Mower Engagement Switch

NOTE: Mower engagement operation will stop if reverse pedal is depressed. Understand the Reverse Implement Option (RIO) system before operating the mower.

1. Start the engine. If necessary, allow engine to warm up before operating mower.

NOTE: Always operate at maximum throttle speed when mower is engaged.

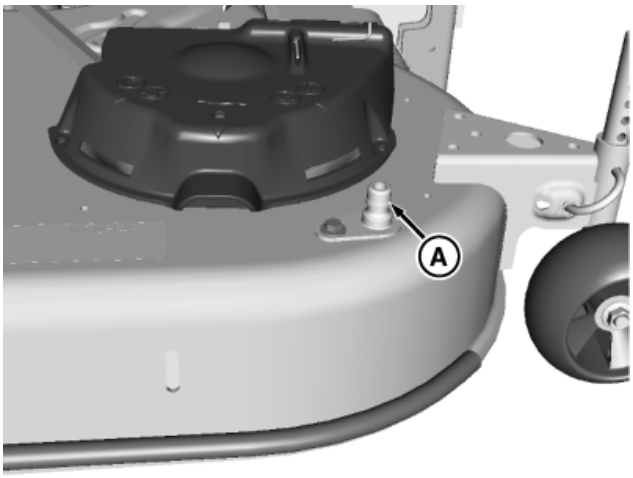
2. Move throttle lever to fast position.
3. Move mower engagement switch to desired position:
   - Engage mower - Lift up on mower engagement switch.
   - Disengage mower - Push down on mower engagement switch.

NOTE: The mower will stop as the reverse foot pedal is pressed. (See Using the Reverse Implement Option (RIO).)

Using Wash Port to Clean Mower Deck

NOTE: Follow this procedure after each use to prevent buildup and remove corrosive lawn chemicals.

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



MXT014317—UN—15MAY15

2. Attach quick coupler to garden hose.
3. Attach garden hose with quick coupler to wash port (A) on the mower deck.
4. Turn on water.
5. Start engine.
6. Run at full throttle.
7. Engage mower blades.
8. Flush water under deck for approximately one minute.
9. Disengage mower blades.
10. Stop engine.
11. Turn off water and remove garden hose and quick coupler from wash port.
12. Remove quick coupler from garden hose and store for future use.

Moving Machine by Hand

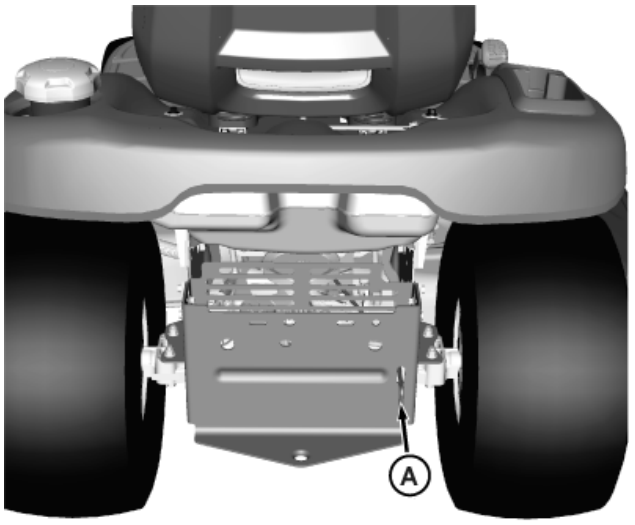
CAUTION: Avoid Injury! When the bypass valve is open, the machine will have unrestricted motion.

- **Do not open the bypass valve when the machine is stopped on an incline to prevent it from going downhill out of control.**

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. Unlock the park brake.



MXT014264—UN—21MAY15

2. Pull out bypass valve lever (A) at rear of machine.
3. Push machine to desired location.

IMPORTANT: Avoid damage! The transmission might be damaged if the bypass valve lever is not pushed back to operating position before attempting to start the engine. Do not start or operate the machine with the bypass valve lever in the push position.

4. Push in bypass valve lever.

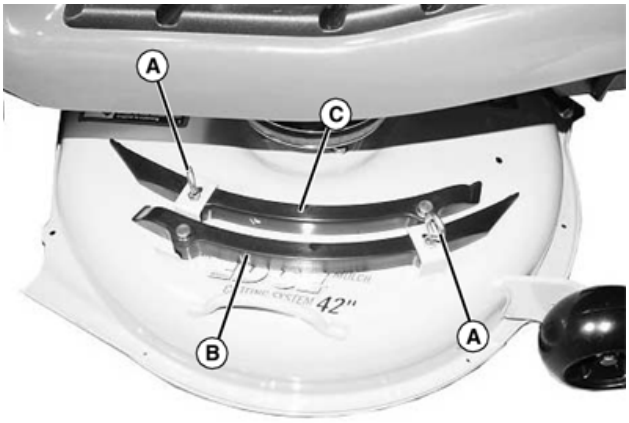
Using Mower Gates (42-inch Edge™ Mulch Mower)

CAUTION: 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.**

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Raise and lock mower in the raised position.

NOTE: Mower deck gates can be removed for allowing excess grass to exit bottom rear of mower deck.



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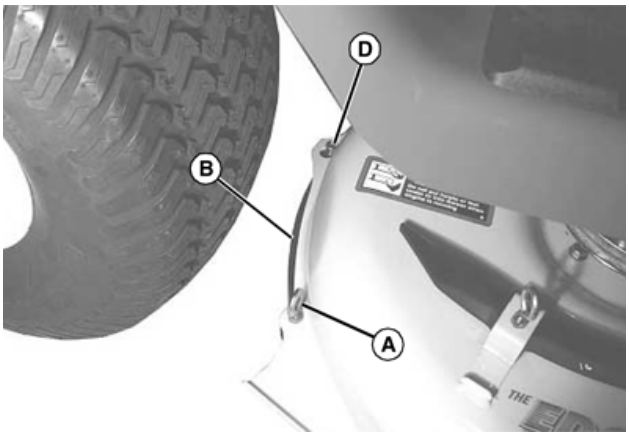
Gate storage position shown.

3. Remove bolts (A) and right (B) and left (C) mower deck gates. Retain hardware.



MXAL45988—UN—09APR13

4. Install right mower deck gate (B) onto slotted hole (D) on bottom of mower deck, and secure opposite end with bolt (A), removed earlier. Repeat for opposite side.
5. To remove gates, remove bolt (A), and remove mower deck gates. Install in storage position on top of deck.

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

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:

CAUTION: Avoid injury! Do not use hands or feet to clear plugged mower deck or blower assembly. Stored energy can cause blades to rotate.

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 manual).

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

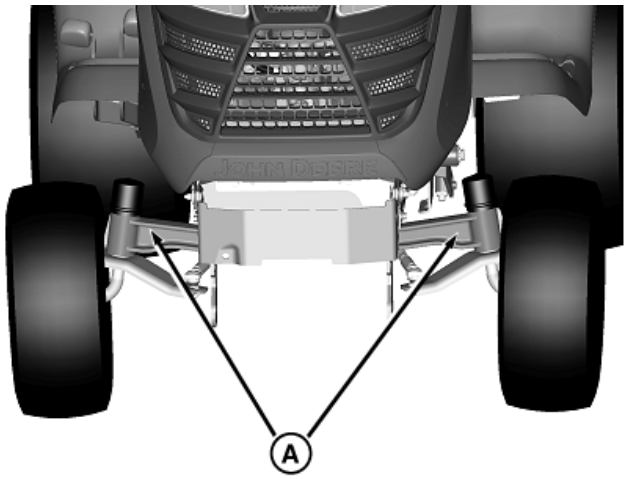
CAUTION: Use extra care when loading or unloading the machine onto a trailer or truck.

- **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: Transporting a machine on a trailer or on a truck bed at high speeds can result in hood or engine cover raising and possibly coming off machine if not secured.

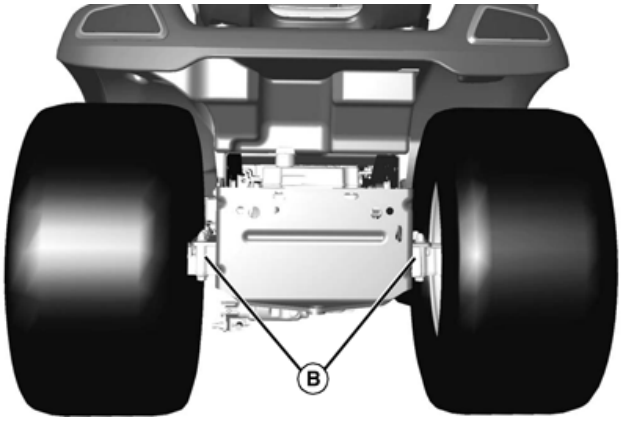
- **Position machine on trailer so hood or engine cover opens from rear of trailer to prevent wind from blowing hood or cover open.**
- **Secure hood or engine cover with existing machine locks or latches.**
- **Secure hood or engine cover with tie down straps if no locks or latches exist.**

1. Park trailer on level surface.
2. Raise mower deck, if installed, before driving machine onto trailer.
3. Drive machine onto heavy-duty trailer. Position machine on trailer so hood or engine cover will not raise in wind while being transported.
4. Lower mower deck completely.
5. Lock park brake.
6. Turn off machine and remove key.



MXT005373—UN—21JUL13

7. Fasten front of machine at both sides of the axle at points (A) to trailer with heavy-duty straps, chains, or cables. Straps must be directed down and outward from machine.



MXAL46372—UN—05APR13

8. Fasten rear of machine at both sides of the axle at points (B) to trailer with heavy-duty straps, chains, or cables. Straps must be directed down and outward from machine.
9. Secure hood to prevent from lifting while driving.

Transporting Material Collection System (If Equipped)

If the material collection system is left on the machine during transport, follow these guidelines when trailering the unit:

- Empty the cloth bags and remove them from the hopper. Full bags add extra weight which can overstress the hopper frame on rough roads. At road travel speeds, wind can cause premature wear of the cloth bags.
- Make sure the hopper cover is latched securely to the hopper frame.

- If the unit is transported over long distances or at high speeds, remove the rear bagger or power flow chute before transport.

Using Weights

CAUTION: Avoid injury! The machine may become unstable when operating on slopes and/or with some attachments.

Use weights to improve stability when operating on slopes or using attachments.

Remove weights when not required.

IMPORTANT: Avoid damage! Never use liquid in tires or wheel weights as ballast. Transmission damage can occur.

When rear ballast is needed, use only the approved rear weight bracket and attaching weights.

NOTE: See your authorized dealer for recommended weights.

- Install front weights for added stability and steering control when you use equipment such as the rear-mounted grass bagger.
- Install rear weights when using the snow blade or snowblower.
- Remove weights when not required.

Using Tire Chains

IMPORTANT: Avoid damage! Do not use chains with mower deck or tiller.

Tire chains are recommended for use with most front attachments. Remove tire chains before installing mower deck.

See your attachment Operator's Manual for tire chain recommendation. See your authorized dealer for the chains.

Towing Loads

IMPORTANT: Avoid damage! Towing excessive trailer loads at full speeds for long distances and up slopes can stress drivetrain components. To avoid damage to drivetrain components, use the following guidelines.

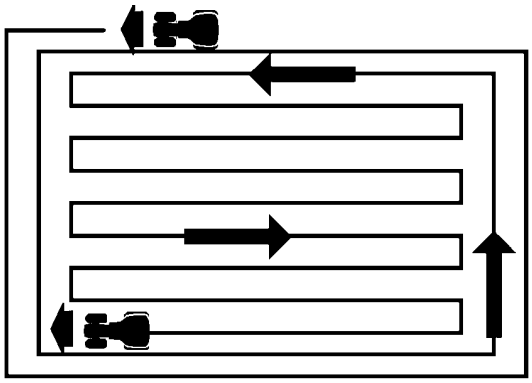
- Total towed weight must not exceed combined weight of pulling machine, ballast, and operator. Use counterweights or wheel weights as described in an attachment or pulling machine operator's manual.
- When towing over 150 kg (350 lbs.), depress forward travel pedal no more than halfway to avoid transmission damage. Always run tractor at full throttle when towing loads.
- Avoid inclines greater than a 10 percent slope while towing to avoid damage to the pulling machine. Use the Slope Guide located in this operator's manual to ensure proper machine towing operation. See SAFETY, Operating on Slopes in this operator's manual for additional information.

IMPORTANT: Avoid damage! Always run tractor at full throttle when PTO is engaged and when towing loads.

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. The suggested finished cut height range is 44 - 70 mm (1.75 - 2.75 in.).
- Adjust cutting height to remove only 1/3 of the grass at a time.
- Do not mow wet grass.
- 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 or trim around objects.
  - Travel at moderate speed when you mow thin grass.
- Use a different mowing pattern each time you mow. Overlap mowing paths 50 - 100 mm (2 - 4 in.).
- Drive over ridges and through shallow ditches straight-on, not at an angle.



MXAL46375—UN—05APR13

- Mow around the outside twice, then mow inside in straight passes. Best cut is achieved when mowing in a straight line.
- When mowing or mulching near pavement, overlap the pavement by 50 mm (2 in.) to allow clippings to dispense over grass.
- 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.
- For Mulching Mower: Shorter cut heights will provide better cut quality, but may leave noticeable clippings. Higher cut heights will reduce clippings, but cut quality may decline.

42A Blade Choices

Three types of blades are available for X300 series 2-spindle side-discharge mowers:

- Side discharge blades. These blades are designed for optimal performance when side discharging and are installed on mowers when shipped from the factory.
- Bagger blades. These blades are designed for optimal performance when used with a bagger attachment.
- Mulching blades. These blades are designed for optimal performance when used with a mulch kit installed.

42M, 48A, and 54A Blade Choices

Two types of blades are available for X300 and X500 series 3-spindle mowers:

- Side discharge blades. These blades are designed for optimal performance when side discharging and are installed on mowers when shipped from the factory.
- Mulching blades. These blades are designed for optimal performance when used with a mulch kit installed.

Service Literature

If you would like a copy of the 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.

Order Service Parts Online

Visit **http://JDParts.deere.com** for your Internet connection to parts ordering and information.

Servicing Your Machine

IMPORTANT: Avoid damage! High-pressure washing can cause damage to machine components.

Operating in extreme conditions may require more frequent service intervals:

- **Engine components may become dirty or plugged when operating in extreme heat, dust, or other severe conditions.**
- **Engine oil can degrade if machine is operated constantly at slow or low engine speeds or for frequent short periods of time.**

Please use the following timetables to perform routine maintenance on your machine.

Park the vehicle safely. (See Park Safely in the SAFETY Section.)

Service Intervals

Break-In after 8 Hours

- Change engine oil and filter.

Break-In after 50 Hours

- Change transmission oil and filter - X370, 390, and X394.
- Check rear wheel bolt torque, 65 lb·ft.

Every 50 Hours or Annually (Whichever Comes First)

- Lubricate front axle pivot and axle spindles.
- Lubricate mower spindles, pivot points, and lift pedal.
- Lubricate Idler arm Pivot - 42M, 48A, and 54A.
- Lubricate rear U-Joints - 4-Wheel Steer Models.

Every 100 Hours or Annually (Whichever Comes First)

- Change engine oil and filter.
- Replace spark plugs.
- Replace air filter elements, both foam and paper.
- Replace fuel filter.
- Clean engine cooling fins.
- Check mower belt.
- Sharpen / replace blades.
- Clean bottom side of deck.
- Check tire pressure.

Every 200 Hours

- Change transmission oil and filter - X370, 390, and X394.
- Check / adjust valve clearance. See your John Deere dealer for this service.

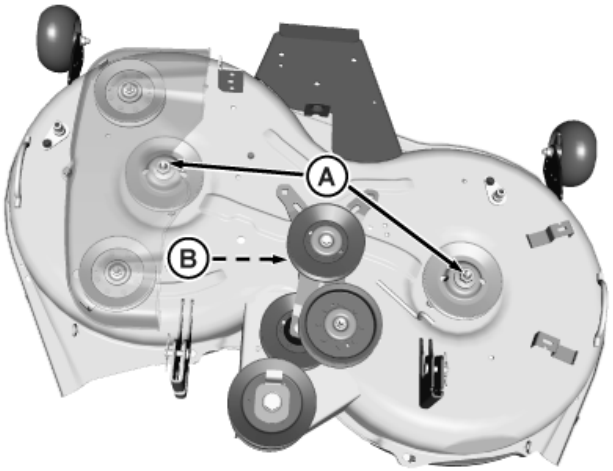
Grease

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

The following grease is recommended for service:

- John Deere Multi-Purpose HD Lithium Complex Grease
- Grease-Gard™ Premium Plus

Not all grease types are compatible; John Deere does not recommend mixing greases. If using any product other than the recommended grease in service, purge any remaining grease from the system prior to application. If this is not practical, grease twice as often until all old grease is purged from the system.

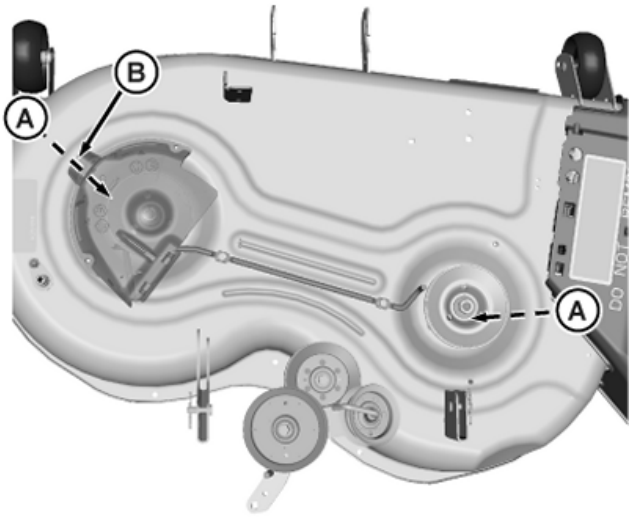


MXT014266—UN—21MAY15

42M mower shown.

Lubricating Pivot Points

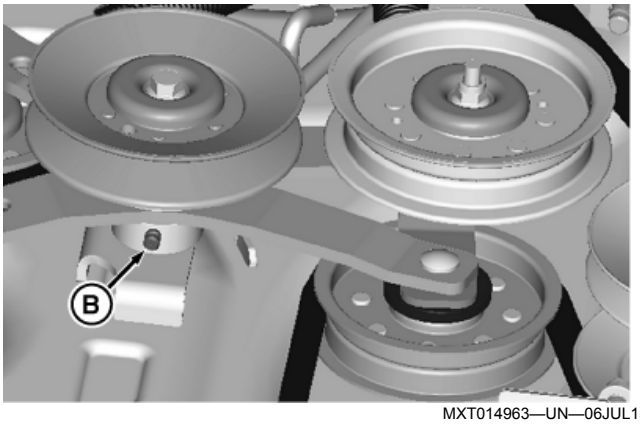
42 Mowers:



MXT014265—UN—28MAY15

42A mower shown.

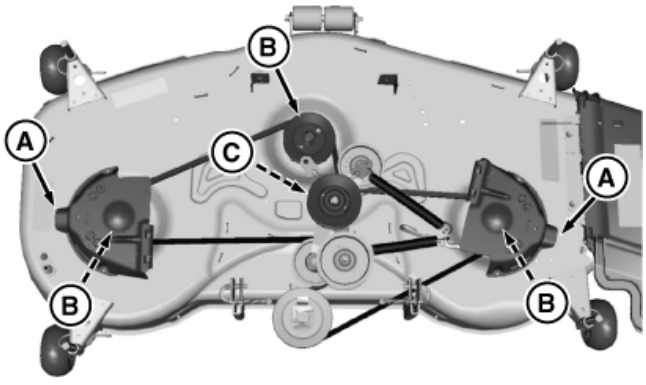
- 42A Mowers: Lubricate two mower spindle grease fittings (A) with two pumps of grease at specified interval. Lift on left spindle shield (B) to access left spindle grease fitting.



MXT014963—UN—06JUL15

- 42M Mowers: Lubricate two mower spindle grease fittings (A) with two pumps of grease at specified interval. Lubricate idler arm pivot grease fitting (B) with two pumps of grease at specified interval.

48A and 54A Mowers:



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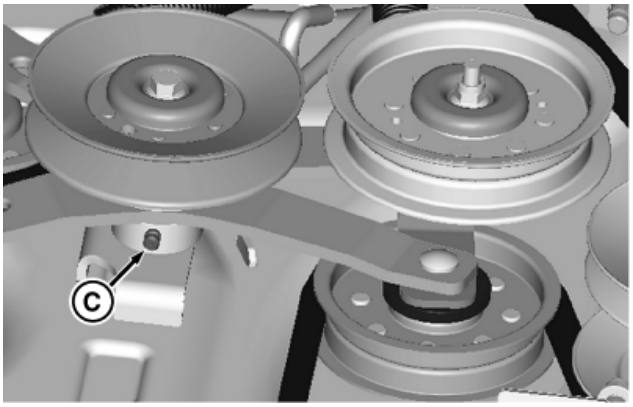
54A mower shown.



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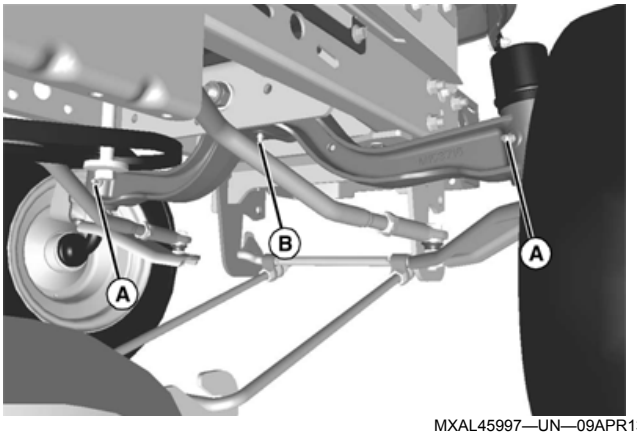
- Lift on spindle side shields (A) and lubricate three mower spindle grease fittings (B) with two pumps of grease at specified intervals. Lubricate idler arm pivot grease fitting (C) with two pumps of grease at specified interval.

Lubricating Front Axle



MXAL45997—UN—09APR13

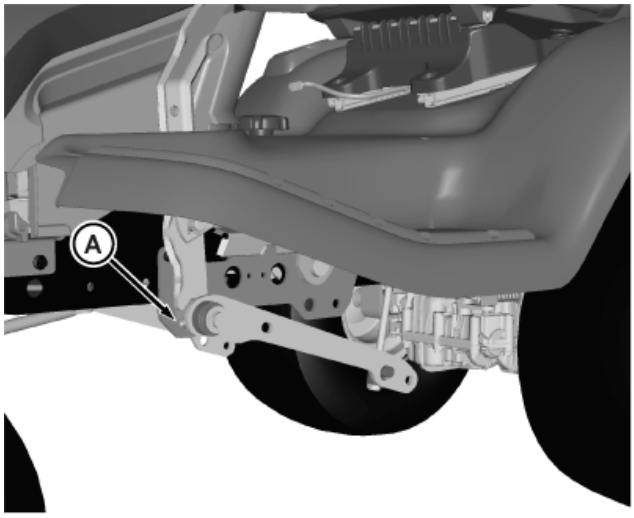
1. Lubricate grease fitting (A) on each spindle with one or two pumps of general all-purpose grease.
2. Turn wheels to distribute grease on spindles.
3. Lubricate front axle center pivot grease fitting (B) with one or two pumps of general all-purpose grease.

Lubricating Rear U-Joints (4-Wheel Steer Models)

MXAL46378—UN—05APR13

1. Lubricate steering pivot grease fitting (A) at each wheel with recommended grease.
2. Turn steering wheel back and forth to distribute grease.

Lubricating Lift Pedal Assembly



MXT014319—UN—01JUN15

1. Lubricate grease fitting (A) for lift pedal with enough grease to flush out dirt.
2. Remove excess grease.

Emissions Service Information

A qualified repair shop or person of the owner's choosing may maintain, replace, or repair emission control devices and systems with original or equivalent replacement parts. However, warranty, recall and all other services paid for by John Deere must be performed at an authorized John Deere service center.

Within the warranty period, John Deere will reimburse reasonable service costs incurred at service providers outside the John Deere authorized network only in an unsafe, emergency condition if an authorized John Deere dealer is not available and the failure does not arise from the owner's misuse or failure to perform required maintenance. An emergency situation exists under this section if, after 30 days, the authorized John Deere network is unable to perform the repairs or source replacement parts.

Emission Control System Certification Label

NOTE: Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by EPA and/or CARB authorized service centers. Contact your John Deere Retailer concerning emission controls and component questions.

The presence of an emissions label signifies that the engine has been certified with the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB).

The emissions warranty applies only to those engines marketed by John Deere that have been certified by the EPA and/or CARB; and used in the United States and Canada in off-road mobile equipment.

Altitude Adjustment (Gasoline or Propane Converted Engines Only)

If your engine features a carburetor it is calibrated by the engine manufacturer and is not adjustable.

If your engine is operated at altitudes below 610 m (2,000 ft.), a high altitude carburetor jet kit is not required. If your engine is operated at altitudes above 610 m (2,000 ft.), a high altitude carburetor jet kit may be required for proper engine performance and emissions control. Operating the engine with the wrong carburetor configuration at a given altitude may increase the engine's emissions and decrease fuel efficiency and performance.

See a qualified service provider for details on jet kit requirements for your specific product.

Avoid Fumes

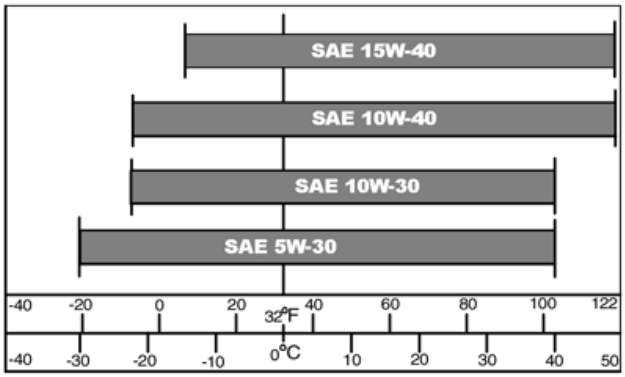
CAUTION: Avoid injury! Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

Do not run an engine in an enclosed area, such as a garage, even with doors or windows opened.

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

Engine Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.



MXAL42826—UN—09APR13

The following John Deere oils are preferred:

- John DeereTurf-Gard™
- John DeerePlus-4™
- John DeerePlus-50™ II

Other oils may be used if above John Deere oils are not available, provided they meet the following specification:

- API Service Classification SJ or higher

™Turf-Gard is a trademark of Deere & Company
™Plus-4 is a trademark of Deere & Company
™Plus-50 is a trademark of Deere & Company

Checking Engine Oil Level

IMPORTANT: Failure to check the oil level regularly could lead to serious engine problems if oil level is out of the operating range:

- **Check oil level before operating.**
- **Check oil level when the engine is cold and not running.**
- **Keep oil level between the dipstick marks.**
- **Shut off engine before adding oil.**

NOTE: Check oil twice a day if you run engine over 4 hours in a day.

Make sure engine is cold when checking engine oil level.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Lift hood.
3. Clean area around dipstick to prevent debris from falling into crankcase.

MXAL46383—UN—05APR13

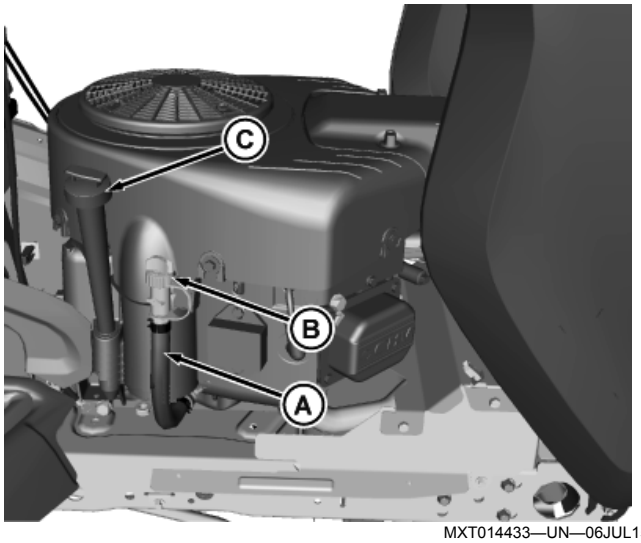
4. Remove dipstick (A). Wipe with clean cloth.
5. Install dipstick in tube but do not tighten. Allow dipstick threads to rest on top of tube and rotate cap counterclockwise until it “clicks” or drops into place.
6. Remove dipstick.
7. Check oil level on dipstick. Oil must be between ADD and FULL marks.
8. If oil level is low, add oil to bring oil level no higher than FULL mark on dipstick. Do not overfill.
9. Install and tighten dipstick. Lower hood.

Changing Engine Oil and Filter

IMPORTANT: Avoid damage! Operating in extreme conditions may require more frequent service intervals:

- **Engine components may become dirty or plugged when operating in extreme heat, dust or other severe conditions.**
- **Engine oil can degrade if machine is operated constantly at slow or low engine speeds or for frequent short periods of time.**

1. Run engine to warm oil.
2. Park machine safely on level surface. (See Parking Safely in the SAFETY section.)
3. Lift hood.



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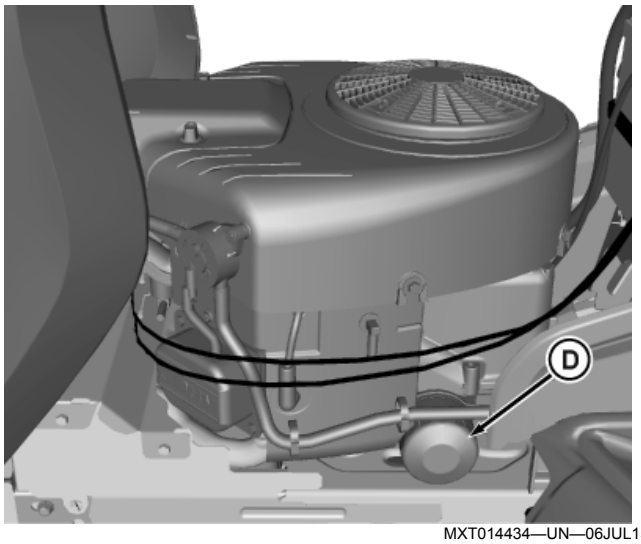
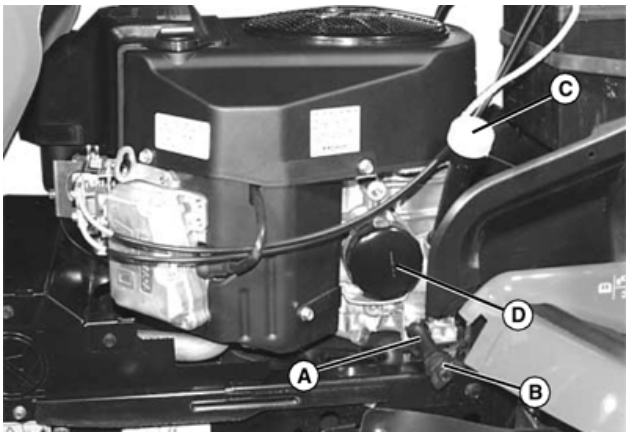
X330 Shown



MXT014434—UN—06JUL15

X330 Shown



MXAL46384—UN—05APR13

X350 Shown

4. Prepare to drain oil:
   a. Model X330 —Disconnect oil drain hose (A) from side of engine and lower hose.
   b. Models X350, X354, X370, X380, X384, X390, X394 — Put drain pan under drain valve (A).
5. Drain oil:
   a. Model X330 — Remove oil drain cap (B). Carefully lower oil drain hose into an approved container and allow oil to drain completely.
   b. Models X350, X354, X370, X380, X384, X390, X394 — Remove drain cap (B) and drain oil into drain pan. Allow oil to drain completely.
6. Remove dipstick (C).
7. Wipe dirt from around oil filter (D).
8. Place a drain pan or funnel under oil filter tray.
9. Remove old filter and wipe off filter tray.
10. Put a light coat of fresh, clean oil on filter gasket.
11. Install replacement oil filter by turning oil filter to the right (clockwise) until the rubber gasket contacts filter base. Tighten filter an additional one-half turn.
12. Install and tighten drain cap.
13. Model X330 — attach drain hose to side of engine.

IMPORTANT: Avoid damage! Do not overfill. Some residual oil could remain in engine after draining. Overfilling can cause smoking, hard starting, fouling of spark plug, and oil saturation of air filter.

14. Add oil slowly and stop to check oil level every few ounces to avoid overfilling. Add oil no higher than FULL mark on dipstick. Do not overfill.
    - Model X330 — Begin with approximately 1.9 L (2 qt).
    - Models X350, X354, X370 — Begin with approximately 1.7 L (1.8 qt).
    - Models X380, X384, X390, X394 — Begin with approximately 2.1 L (2.2 qt).
15. Install dipstick.
16. Start and run engine at idle to check for leaks. Stop engine. Fix any leaks before operating.
17. Check oil level. Add oil if necessary.

Cleaning Air Intake Screen and Engine Fins

CAUTION: Avoid injury! Compressed air can cause debris to fly a long distance.

- **Clear work area of bystanders.**
- **Wear eye protection when using compressed air for cleaning purposes.**
- **Reduce compressed air pressure to specification.**

Specification

Air — Pressure . . . . . 210 kPa (30 psi)

IMPORTANT: Avoid damage! An obstructed air intake screen can cause engine damage due to overheating. Keep air intake screen and other external surfaces of the engine, including cooling fins, clean at all times to allow adequate air intake.

1. Park machine safely. (See Parking Safely in the SAFETY Section.)
2. Clean air intake screen on top of engine and external surfaces with rag, brush, vacuum, or compressed air.

Cleaning Engine Shroud

CAUTION: Compressed air can cause debris to fly a long distance.

- **Clear work area of bystanders.**
- **Wear eye protection when using compressed air for cleaning purposes.**
- **Reduce compressed air pressure to specification.**

Specification

Air — Pressure . . . . . 210 kPa (30 psi)

IMPORTANT: An obstructed air intake screen can cause engine damage due to overheating. Keep air intake screen and other external surfaces of the engine, including cooling fins, clean at all times to allow adequate air intake.

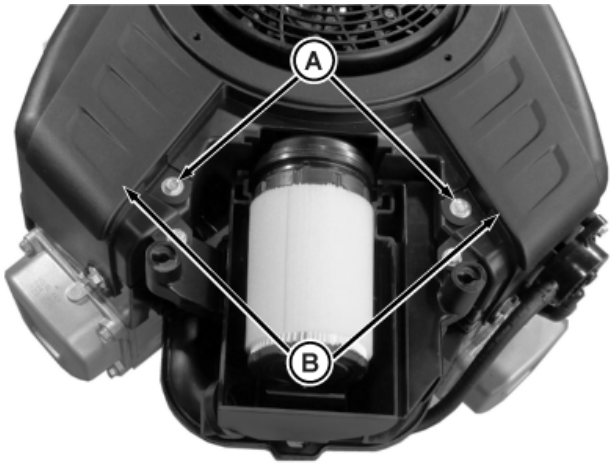
CAUTION: Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

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

2. Remove hood. (See Removing and Installing Hood in SERVICE MISCELLANEOUS Section.)
3. Clean air intake screen and external engine surfaces. (See Cleaning Air Intake Screen and Engine Fins in SERVICE ENGINE Section.)

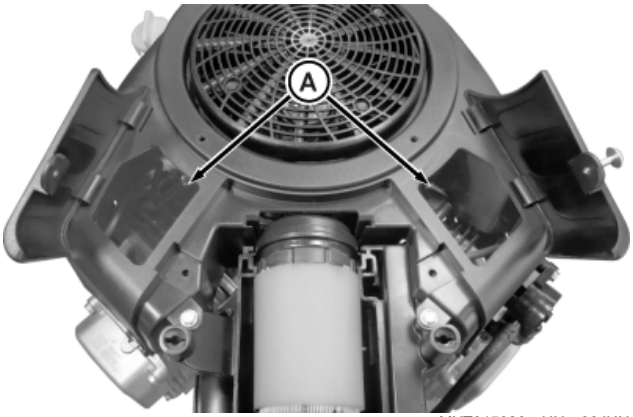
Cleaning Engine Shroud (X330)

1. Remove air cleaner cover



MXT015025—UN—30JUN15

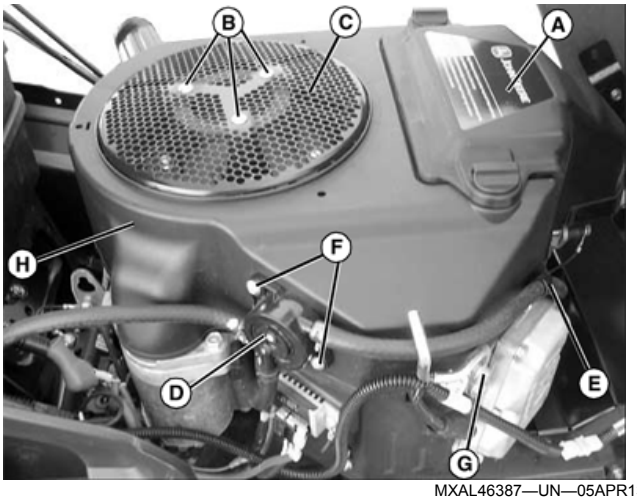
2. Remove cleanout port screws (A) until covers (B) can be removed.
3. Open covers.



MXT015026—UN—30JUN15

4. Clean debris from cleanout ports (A) on either side of air cleaner.
5. Close covers and install screws.
6. Install air filter and air cleaner cover.
7. Install hood.

Cleaning Engine Shroud (X350, X354, X370, X380, X384, X390, X394)

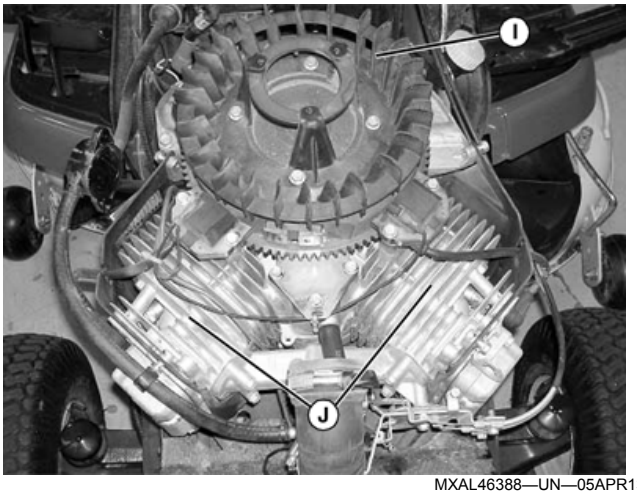


MXAL46387—UN—05APR13

1. Remove air cleaner cover (A) and air filter. (See Checking and Cleaning Air Cleaner Element in SERVICE ENGINE Section.)
2. Remove three bolts (B) and rotating screen (C).

IMPORTANT: Be careful to maintain position of fuel pump assembly (D), clips (E) for fuel line, and any other attached components when removing parts from side of engine.

3. Remove fuel pump screws (F) and fuel line bracket bolts (G).
4. Remove bolts and engine shroud (H).



MXAL46388—UN—05APR13

5. Clean debris from:
   - Fan areas (I)
   - Cylinder head cooling fins (J)
   - Area between engine and frame

IMPORTANT: Engine shroud must be assembled so that the slots in the shroud align with the ridge in the air intake and mating surfaces along sides of engine. Failure to assemble correctly will prevent the air filter from sealing and may cause engine damage.

6. Install shroud, fuel pump, fuel line guard, and oil fill tube with hardware.
7. Install rotating screen with three bolts. Tighten bolts to specification.

Specification

Engine Rotating Screen Bolt
— Torque . . . . . 3.0 N·m (27 lb·in)

8. Install air filter and air cleaner cover.
9. Install hood.

Checking and Cleaning Air Cleaner Elements

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

MXT015028—UN—02JUL15

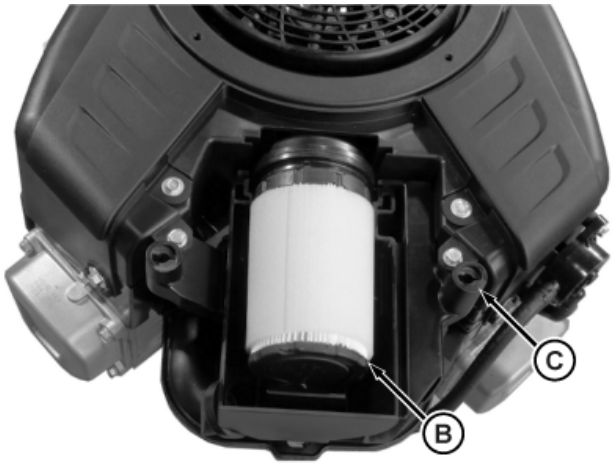
X330 Shown

MXAL46389—UN—05APR13

X350 Shown

3. Turn thumbscrews (A) 1/4 turn counterclockwise and lift cover to remove.

IMPORTANT: Avoid allowing any dirt or debris to fall into air intake when removing the air filter. Remove any large debris or loose dirt before proceeding.



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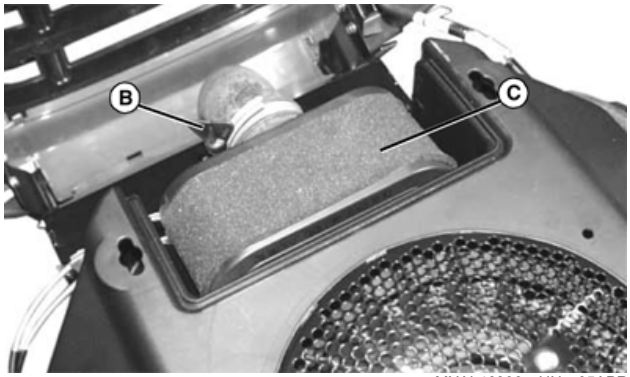
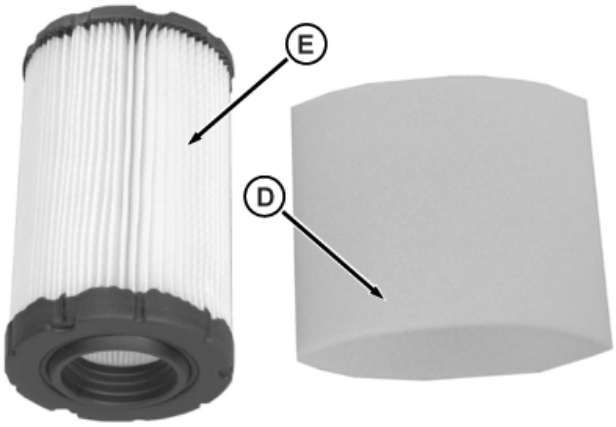
X330 Shown



MXAL46390—UN—05APR13

X350 Shown

4. Model X330 — Lift on filter (B) and remove from blower housing (C).
   Models X350, X354, X370, X380, X384, X390, X394 — Loosen air filter clamp by turning thumbscrew (B) counterclockwise until clamp loosens. Carefully lift the filter element (C) out of the air cleaner base.



MXT015027—UN—02JUL15

X330 Air Filter

MXAL46391—UN—05APR13

X350, X354, X370, X380, X384, X390, X394 Air filter

5. Remove the foam precleaner (D) from the paper filter element (E). If the foam precleaner is dirty:
   - Wash precleaner in a solution of warm water and liquid detergent.

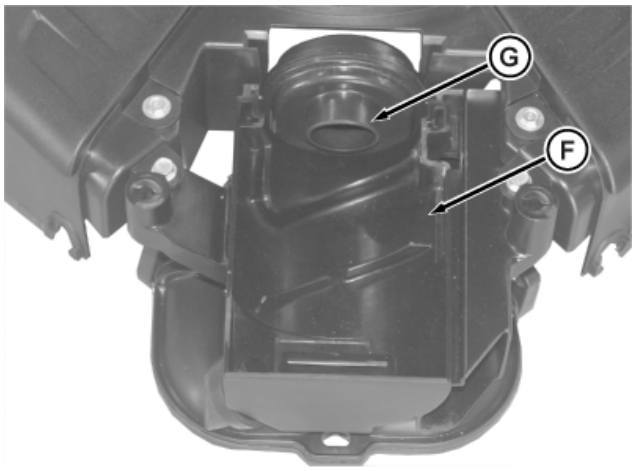
NOTE: Do not put engine oil on precleaner. Engine oil may wick into the paper filter element and result in poor engine performance.

   - Rinse precleaner thoroughly. Squeeze out excess water in a dry cloth until precleaner is completely dry.
   - Replace the precleaner if damaged or missing.

IMPORTANT: Dirt and debris can enter the engine through a damaged filter element:

- **Do not wash paper element.**
- **Do not attempt to clean paper element by tapping against another object.**
- **Do not use pressurized air to clean element.**
- **Replace element only if it is very dirty, damaged or the seal is cracked.**

6. Inspect paper filter element (E). Replace the filter element if damaged or dirty.



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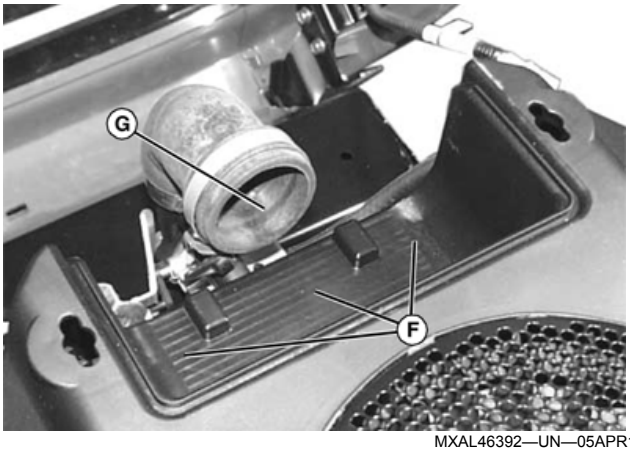
X330 Shown



MXAL46392—UN—05APR13

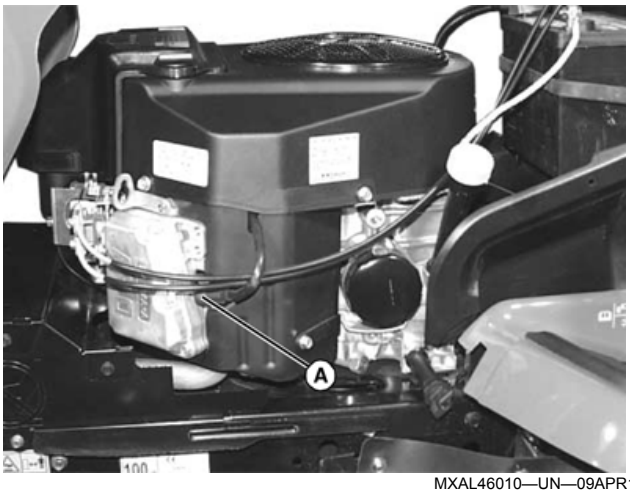
X350 Shown

7. Clean air cleaner base (F) very carefully, preventing any dirt from falling into air intake tube (G).
8. Install foam precleaner (D) on paper filter element (E). Position air filter in air filter base and on air intake tube (G). Align air filter clamp on intake tube groove and tighten clamp by turning thumbscrew clockwise until secure.
9. Install air cleaner cover on engine and turn thumbscrews (A) 1/4 turn clockwise to secure.
10. Lower hood.

Checking Spark Plug

CAUTION: Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

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

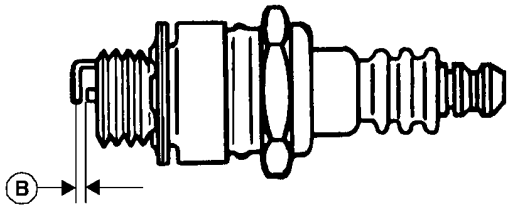


MXAL46010—UN—09APR13

3. Disconnect spark plug wire (A), one on each side of engine.
4. Remove each spark plug.
5. Clean spark plug carefully with a wire brush.
6. Inspect spark plug for:
   - Cracked porcelain.
   - Pitted or damaged electrodes.
   - Other wear or damage.

NOTE: In Canada, replace spark plug with resistor plug only.

7. Replace spark plugs as necessary.



MXAL46011—UN—09APR13

8. Check plug gap (B) with a wire feeler gauge. To change gap, move the outer electrode. Gap must be to specification.

Specification	
Spark Plug — Gap	0.75 mm (0.030 in.)

9. Install spark plugs. Tighten spark plugs to specification.

Specification	
Spark Plug — Torque	20 N·m (15 lb-ft)

10. Connect spark plug wires and lower hood.

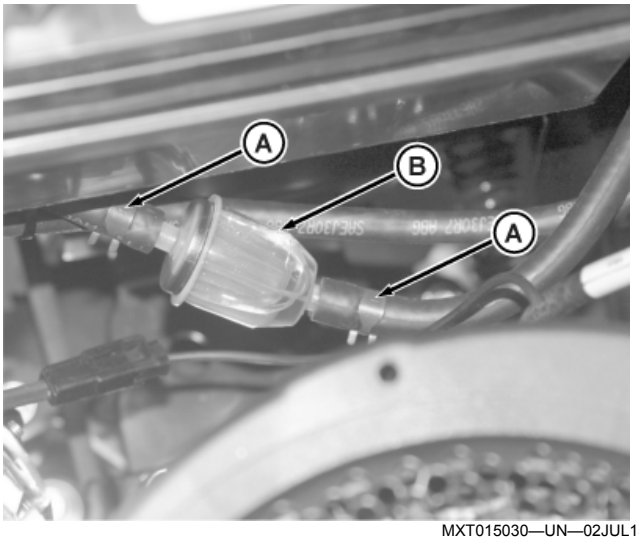
Replacing Fuel Filter

CAUTION: 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.**

NOTE: Change filter when fuel is low.

1. Park machine safely. (See Parking Safely in the SAFETY section).
2. Lift hood.
3. Let engine cool.
4. Put a drain pan under fuel filter.



MXT015030—UN—02JUL15

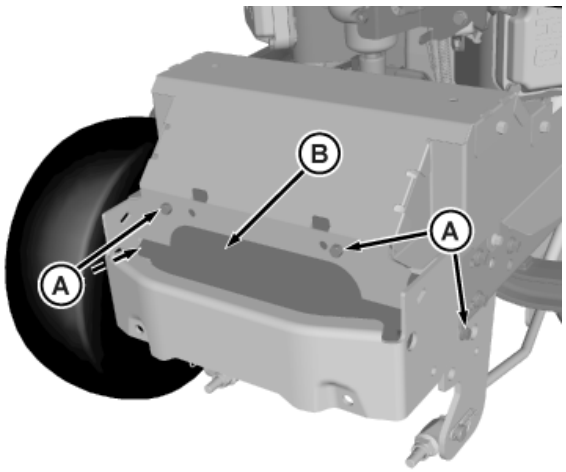
5. Slide hose clamps (A) away from fuel filter (B) using pliers.
6. Disconnect hoses from filter.

IMPORTANT: Incorrect installation of fuel filter may cause engine damage. Install the filter with the arrow pointing in the direction of fuel flow (towards the engine) for proper operation.

7. Connect hoses to new filter making sure the filter arrow is pointing in the direction of the fuel flow.
8. Install clamps and check for leaks.
9. Lower hood.

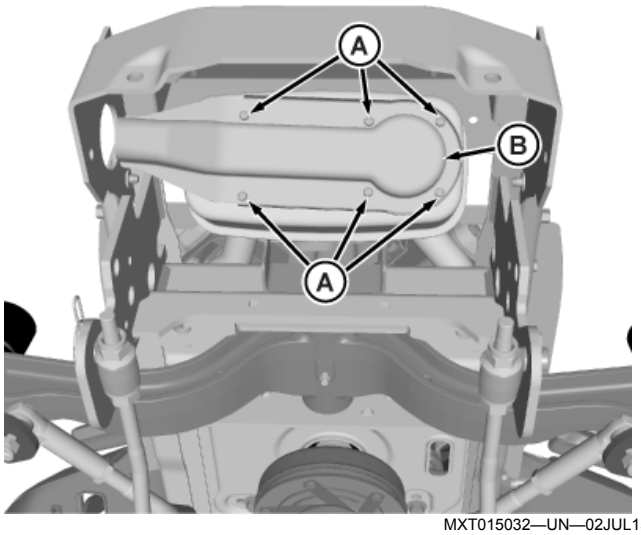
Spark Arrestor Maintenance (If Equipped)

Spark arrestor assemblies include a screen element which should be inspected and cleaned periodically. Visually inspect the screen for tears, broken wires, or loose welds. Replace the spark arrestor assembly if any of these conditions exist. If the screen is determined to be intact and in good condition, proceed with cleaning the screen by brushing away loose dirt or carbon.



MXT015031—UN—02JUL15

1. Remove four cap screws (A) and muffler shield (B).



MXT015032—UN—02JUL15

2. Remove six screws (A), spark arrestor cover (B), and spark arrestor from engine.
3. Inspect, clean, or if necessary, replace screen if damaged.
4. Install spark arrestor on muffler exhaust pipe with original screws.
5. Install muffler shield and tighten hardware.

NOTE: If muffler sustains damage during the removal or installation process, replace muffler.

Checking Transmission

X330, X350, X354, X380, and X384

The transmission is a sealed component. No maintenance is required on this transmission. If you suspect any transmission problems, please contact your authorized dealer.

Transmission Oil (X370, X390, X394)

IMPORTANT: Avoid damage! Do not mix transmission oils.

Use John Deere Low Viscosity HY-GARD™ (J20D) transmission oil to reduce transmission noise and to increase response time for the hydraulics and power steering.

These machines are equipped with an internal wet disc brake transmission. Use only Low Viscosity HY-GARD™ (J20D) transmission oil. Do not use type “F” automatic transmission fluid.

John Deere Low Viscosity HY-GARD™ (J20D) transmission oil is specially formulated to provide maximum protection against mechanical wear, corrosion, and foaming. It may be used in all operating temperatures.

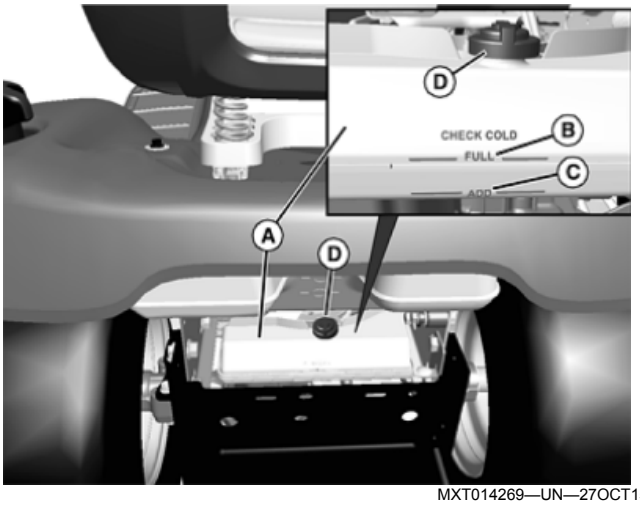
Checking Transmission Oil Level (X370, X390, and X394)

1. Park machine safely on a level surface. (See Parking Safely in SAFETY section.)
2. Move hydraulic control lever back and forth a few times to relieve system pressure.

IMPORTANT: Avoid damage! Hot hydraulic oil will expand and show incorrect oil level. Check oil level:

- **When oil is cold**.
- **With engine not running**.

3. Allow machine to cool



MXT014269—UN—27OCT15

4. Locate transmission oil reservoir (A) at rear of machine. Reservoir is marked FULL (B) and ADD (C).

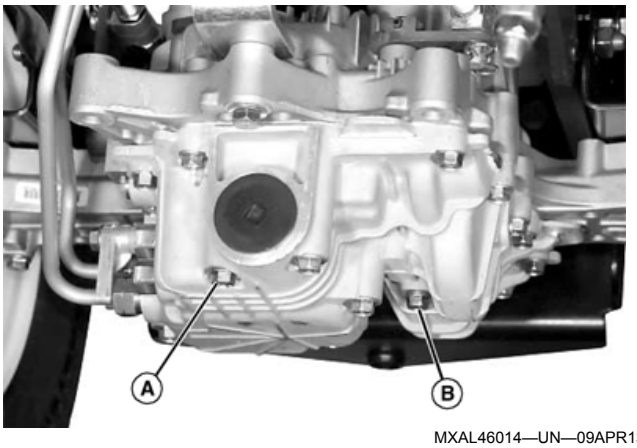
IMPORTANT: Avoid damage! Contamination can damage the hydraulic system. Clean thoroughly around reservoir fill cap before opening.

5. If oil level is low, clean around reservoir cap (D).
6. Lift cap to remove. Cap is not threaded.
7. Add John Deere Low Viscosity HY-GARD™ (J20D) until oil level is at FULL mark on reservoir.
8. Install reservoir cap.
9. Start engine.
10. Operate the machine in forward, then reverse, several times.
11. Park machine safely on a level surface. (See Parking Safely in SAFETY section.)
12. Wait at least 3 minutes for hydraulic fluid to cool.
13. Check oil level again. Add oil if necessary.

Changing Transmission Oil and Filter (X370, X390, and X394)

1. Park machine safely on a level surface. (See Parking Safely in the SAFETY section.)
2. Remove mower from machine.

NOTE: Transmission is divided into two internally connected cavities. Front drain plug (A) will drain hydrostatic side and rear drain plug (B) will drain differential gear side.



MXAL46014—UN—09APR13

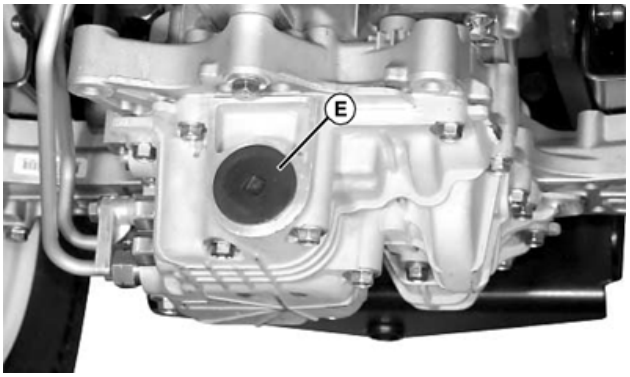
View from front of machine.

Place drain pan under drain plugs (A) and (B). Remove plugs.

IMPORTANT: Avoid damage! Contamination can damage the hydraulic system. Clean thoroughly around reservoir fill cap before opening.

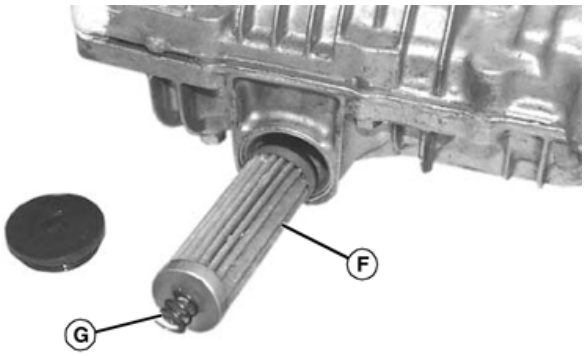
MXAL46015—UN—09APR13

3. Clean area around transmission fill cap (C) on transmission oil reservoir (D).
4. Remove fill cap to improve drainage. Allow to drain completely.
5. Replace transmission hydraulic filter:



MXAL46016—UN—09APR13

a. Remove cap (E) from front side of transmission using a 3/8 in. ratchet.



MXAL46412—UN—05APR13

b. Remove and discard transmission filter (F).
c. Install new filter with spring (G) toward access cap. Install and tighten cap.

6. Install and tighten transmission drain plugs.

MXAL46018—UN—09APR13

Shown with fill cap installed

7. Add approximately 2.3L (2.4 qt) (X370), 2.8 L (3.0 qt) (X390, X394) John Deere Low Viscosity Hy-GardHy-Gard™ (J20D) to transmission reservoir (D) until oil level is at FULL mark. Install reservoir fill cap.
8. Start engine.
9. Check for leaks around drain plugs and hydraulic filter.
10. Operate machine forward and in reverse several times.
11. Park machine safely on level surface. (See Parking Safely in the SAFETY section.)
12. Wait at least 3 minutes for hydraulic oil to cool.
13. Check oil level in reservoir. Add oil to reservoir if necessary.

™Hy-Gard is a trademark of Deere & Company

Mower Deck Identification

Mower decks in the following instructions are identified by a code designation. The codes are as follows:

Code	Description
42A	42 Inch Accel Deep™
42M	42 Inch Edge™ Mulch Deck
48A	48 Inch Accel Deep™
54A	54 Inch Accel Deep™

™Accel Deep is a trademark of Deere & Company
™Edge is a trademark of Deere & Company

Removing Mower (42A and 42M Mowers)

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine and muffler to cool completely.

CAUTION: Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- **Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.**
- **Always wear gloves when handling mower blades or working near blades.**

3. Adjust mower cutting height to lowest position.

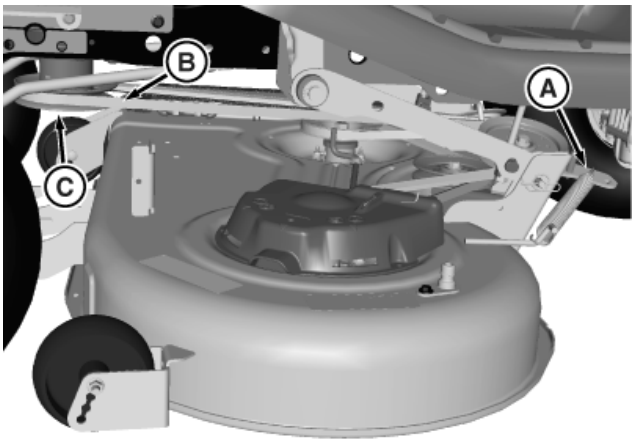
CAUTION: Avoid Injury! If the lift pedal is spring-assisted it may have unexpected movement.

Lock the lift pedal when installing or removing mower deck.

NOTE: If the machine is equipped with a lift assist spring, lower deck and then pull lift pedal back by hand to lock lift lever.

4. Lower mower deck, pull back lift pedal by hand, and pull lift lever up to lock.

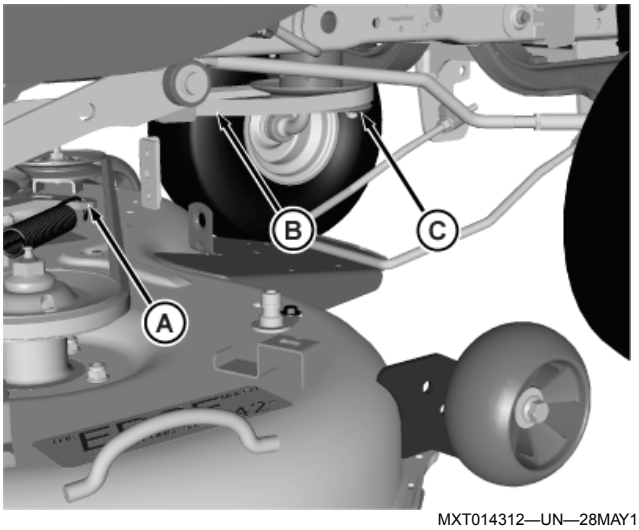
CAUTION: Avoid Injury! Component is spring-assisted and under tension. Injury can occur if spring-assisted component is released suddenly.



MXT014270—UN—27MAY15

42A Shown

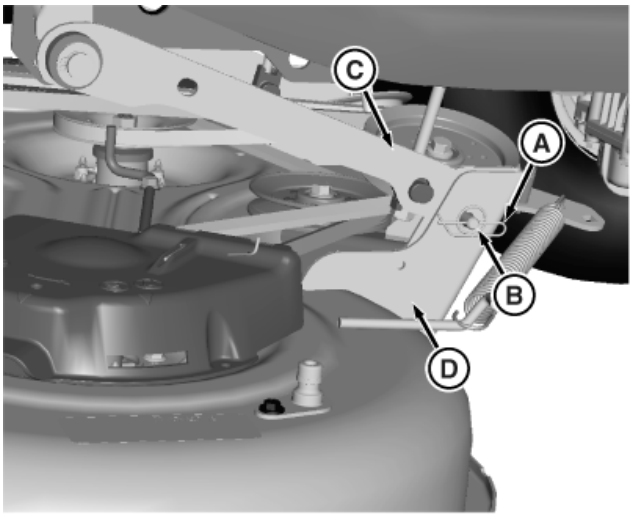
5. **42A Mowers:** Using a 3/8 in. ratchet, rotate and hold tension arm (A), under left side of fender deck, rearward, while removing mower belt (B) from engine sheave (C).



MXT014312—UN—28MAY15

42M Shown

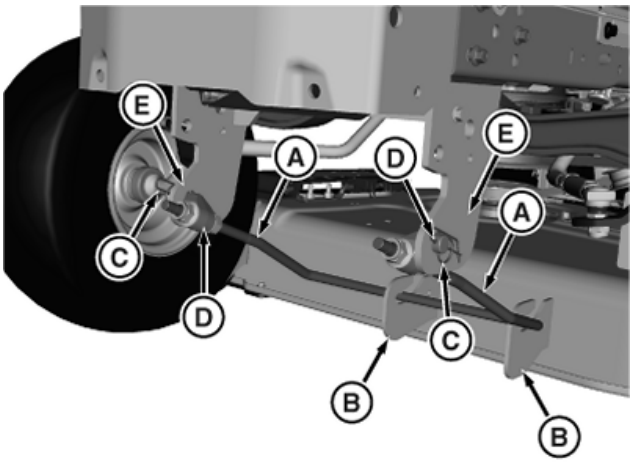
6. **42M Mowers:** Using a 3/8 in. ratchet, rotate and hold tension arm (A), under right side of fender deck, forward, while removing mower belt (B) from engine sheave (C).



MXT014271—UN—27MAY15

42A Shown

7. Remove locking clip (A) and pin (B), and move rear draft arm (C) away from deck bracket (D). Raise deck slightly with deck handle to remove pressure on pin when pulling out. Repeat on other side.



MXT014272—UN—27MAY15

8. Remove front draft rod (A) from mower bracket (B).
9. When operating the machine without the mower deck:
   - Remove locking clip (C) from stud (D) on each side, and remove front draft rod from draft bracket (E). Note orientation of stud offset when removing, correct offset is above rod.
10. Raise draft arms to transport position:
    a. Pull and hold lift pedal by hand.
    b. Unlock lift latch handle.
    c. Push lift pedal downward.
    d. Pull up latch handle to lock draft arms in transport position.
11. Slide mower out from under machine.

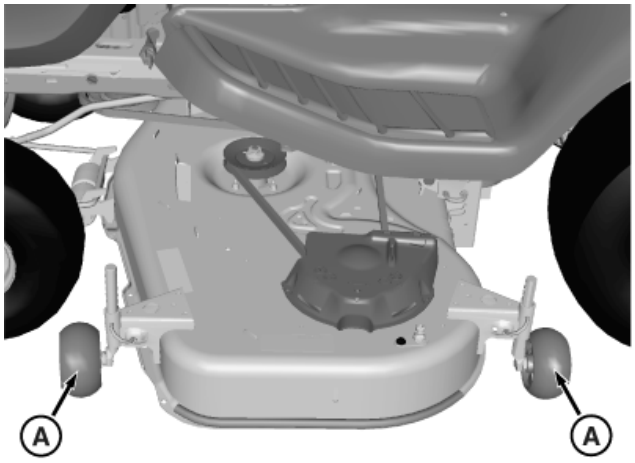
Removing Mower (48A and 54A Mowers)

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine and muffler to cool completely.

CAUTION: Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- **Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.**
- **Always wear gloves when handling mower blades or working near blades.**

3. Adjust mower cutting height to lowest position.



MXT014273—UN—27MAY15

4. Rotate all mower anti-scalp wheels to allow mower deck to be rolled outward away from machine:
   a. Remove J-pin from anti-scalp wheel shaft.
   b. Rotate mower wheel (A) 90°, as shown. Install J-pin to lock wheel in position.
   c. Repeat for all anti-scalp wheels.

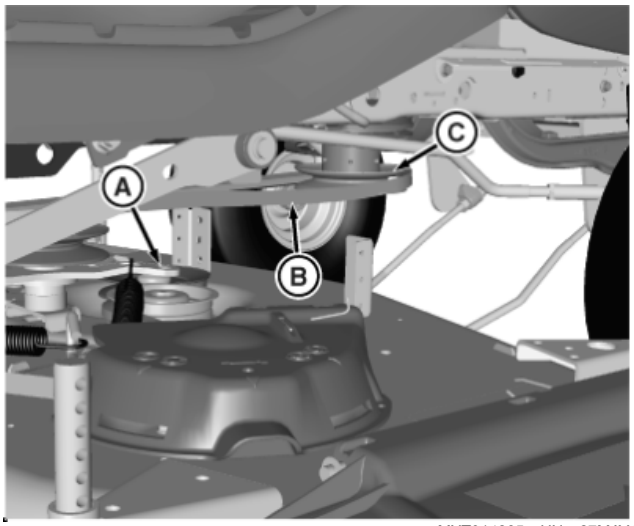
CAUTION: Avoid Injury! If the lift pedal is spring-assisted it may have unexpected movement.

Lock the lift pedal when installing or removing mower deck.

NOTE: If a lift assist is installed on your machine, lower deck and then pull lift pedal back by hand to lock the mower lift lock lever.

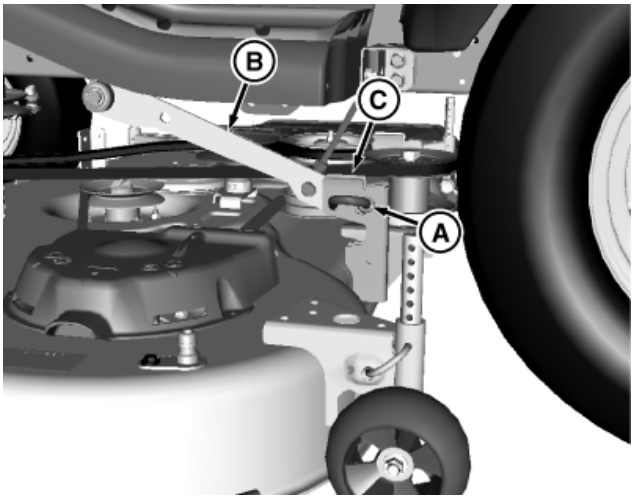
5. Lower mower deck.

CAUTION: Avoid Injury! Component is spring-assisted and under tension. Injury can occur if spring-assisted component is released suddenly.



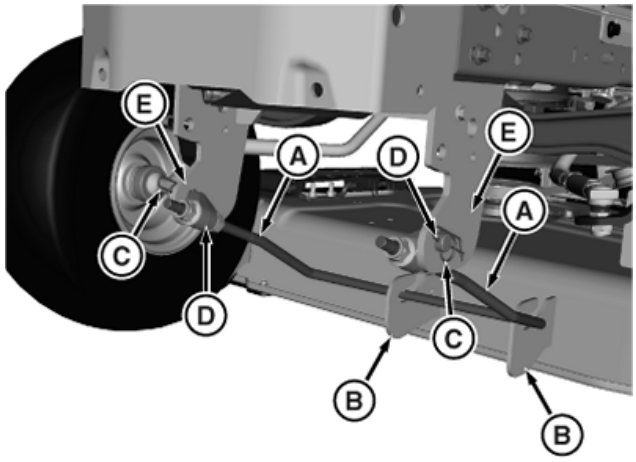
MXT014285—UN—27MAY15

6. Using a 3/8 in. ratchet, rotate and hold tension arm (A), under right side of fender deck, forward, while removing mower belt (B) from engine sheave (C).



MXT014284—UN—27MAY15

7. Pull J-pin (A) to release and move rear draft arm (B) away from deck bracket (C). Raise deck slightly with deck handle to remove pressure on pin when pulling out. Repeat on other side.



MXT014272—UN—27MAY15

8. Remove front draft rod (A) from mower bracket (B).
9. When operating machine without mower deck:
   a. Remove locking clip (C) from stud (D) on each side, and remove front draft rod from draft bracket (E).
   b. Note orientation of stud offset when removing, correct offset is above rod.
10. Raise draft arms to transport position.
11. Slide mower out from under the machine.

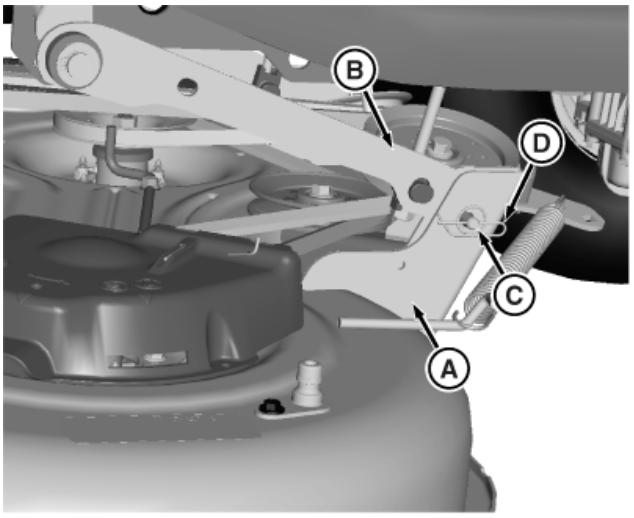
Installing Mower (42A and 42M Mowers)

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine and muffler to cool completely.

CAUTION: Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- **Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.**
- **Always wear gloves when handling mower blades or working near blades.**

3. Adjust mower cutting height to lowest position.



MXT014277—UN—27MAY15

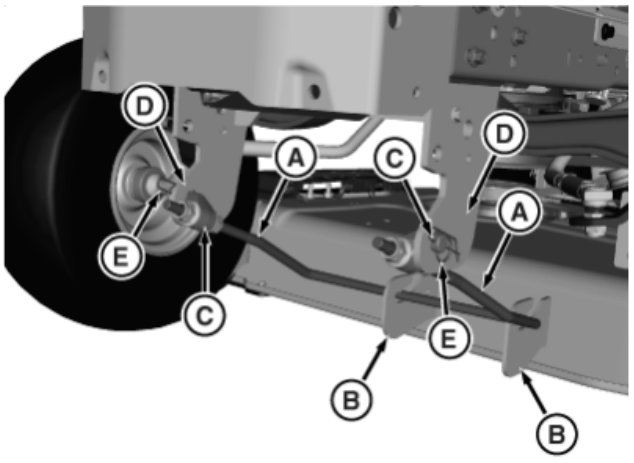
42A Shown

4. Slide mower deck under tractor and line up deck bracket (A) with draft arm (B).
5. Unlock lift latch handle.

CAUTION: Avoid Injury! If the lift pedal is spring-assisted it may have unexpected movement.

Lock the lift pedal when installing or removing mower deck.

6. Pull lift pedal by hand to lower draft arms. Hold pedal securely and lock lift latch handle.
7. Install pin (C) through deck bracket and draft arm. Verify pin installs completely through deck bracket. Install locking clip (D) through pin. Repeat for other side.

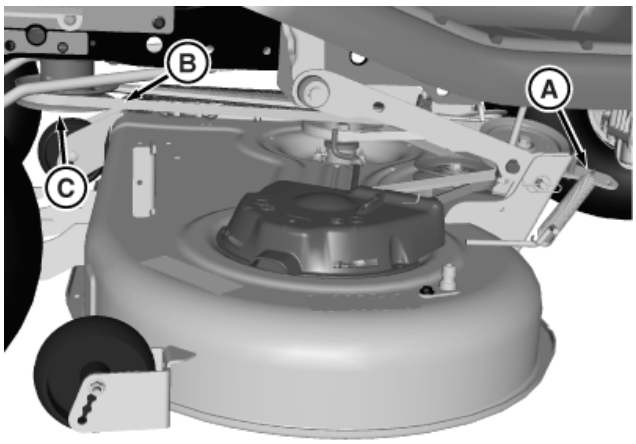


MXT014278—UN—27MAY15

8. Install front draft rod (A) into mower bracket (B). If draft rod assembly has been removed from machine:
   a. Install mounting stud (C) into draft bracket (D) at each side. Note orientation of stud offset when installing, correct orientation is for stud to be offset above draft rod.
   b. Install locking pin (E) into studs on each side.
   c. Install draft rod into mower bracket.

CAUTION: Avoid Injury! Component is spring-assisted and under tension. Injury can occur if spring-assisted component is released suddenly.

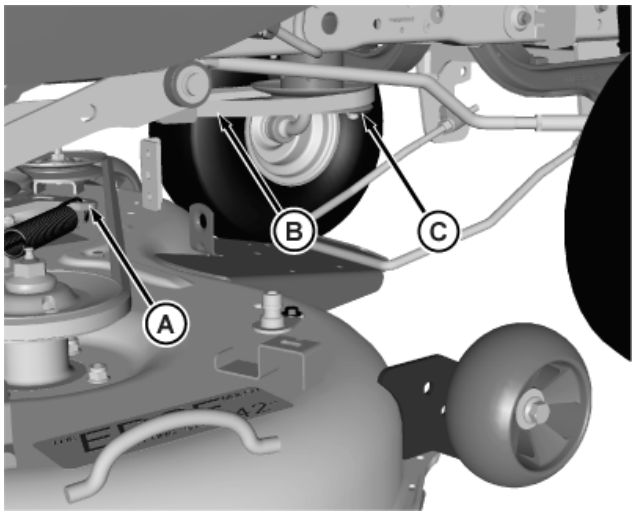
IMPORTANT: Avoid damage! The belt will be damaged if installed wrong. Route the belt properly through belt guides. See belt routing label on mower deck.



MXT014270—UN—27MAY15

42A Shown

9. **42A Mowers:** Using a 3/8 in. ratchet, rotate and hold tension arm (A), under left side of fender deck, rearward, while installing mower belt (B) onto engine sheave (C).



MXT014312—UN—28MAY15

42M Shown

10. **42M Mowers:** Using a 3/8 in. ratchet, rotate and hold tension arm (A), under right side of fender deck, forward, while installing mower belt (B) onto engine sheave (C).
11. Level mower.

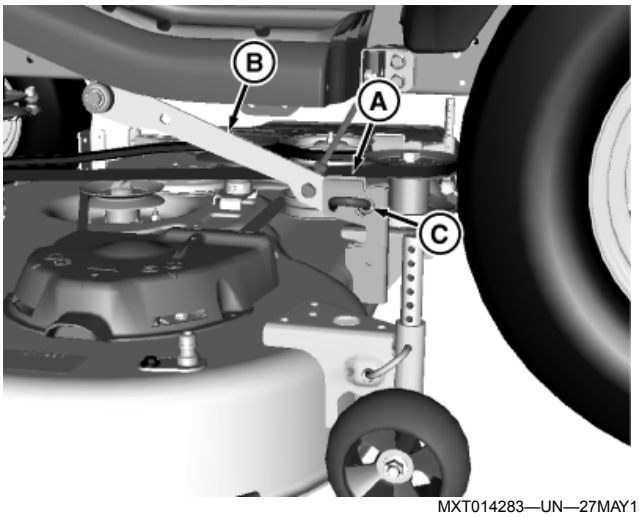
Installing Mower (48A and 54A Mowers)

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine and muffler to cool completely.

CAUTION: Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- **Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.**
- **Always wear gloves when handling mower blades or working near blades.**

3. Adjust mower cutting height to lowest position.



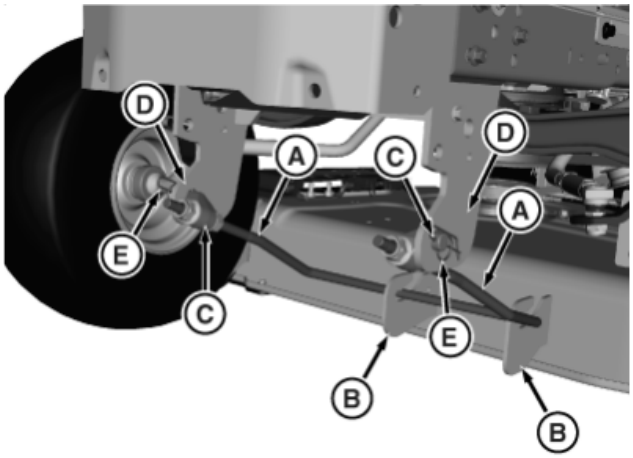
MXT014283—UN—27MAY15

4. Slide mower deck under tractor and line up deck bracket (A) with draft arm (B).
5. Unlock mower lift lock lever.

CAUTION: Avoid Injury! If the lift pedal is spring-assisted it may have unexpected movement.

Lock the lift pedal when installing or removing mower deck.

6. Pull lift pedal by hand to lower draft arms. Hold pedal securely and lock mower lift lock lever.
7. Pull back J-pin (C) and insert through deck bracket and draft arm. Verify pin installs completely through deck bracket. Repeat for other side.

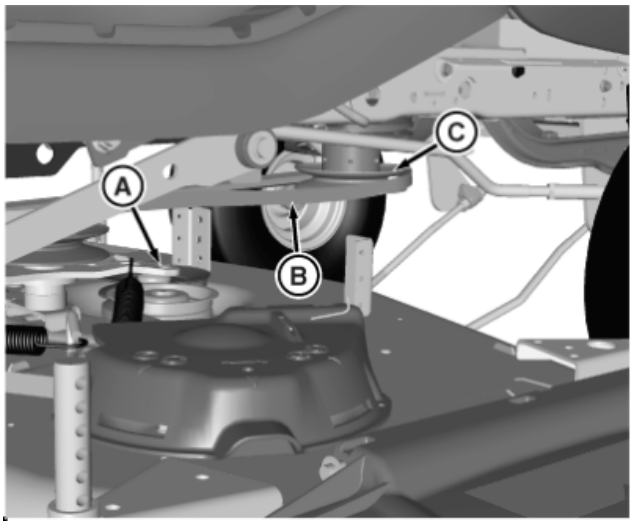


MXT014278—UN—27MAY15

8. Install front draft rod (A) into mower bracket (B). If draft rod assembly has been removed from machine:
   a. Install mounting stud (C) into draft bracket (D) at each side. Note orientation of stud offset when installing, correct orientation is for stud to be offset above draft rod.
   b. Secure each side with locking clip (E).
   c. Install draft rod into mower bracket.

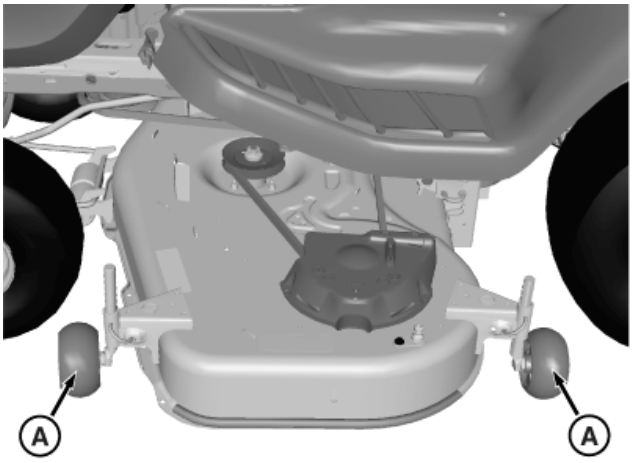
CAUTION: Avoid Injury! Component is spring-assisted and under tension. Injury can occur if spring-assisted component is released suddenly.

IMPORTANT: Avoid damage! The belt will be damaged if installed wrong. Route the belt properly through belt guides. See belt routing label on mower deck.



MXT014285—UN—27MAY15

9. Using a 3/8 in. ratchet, rotate and hold tension arm (A), under left side of fender deck, forward, while installing mower belt (B) on engine sheave (C).
10. Level mower.

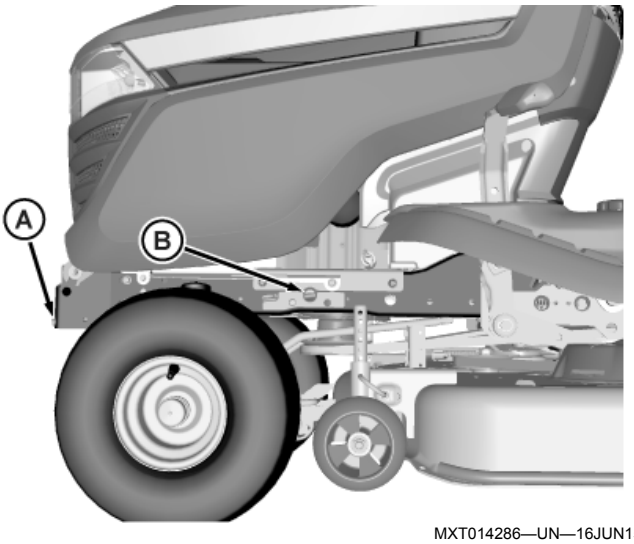


MXT014273—UN—27MAY15

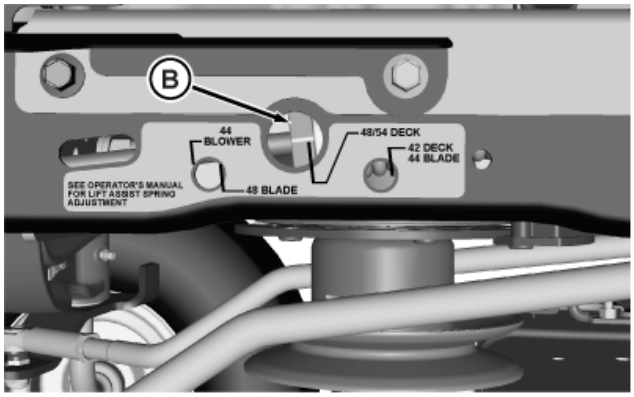
11. Raise deck to cutting height and rotate all mower anti-scalp wheels (A) to operation position:
    - Pull back J-pin, move wheel to proper hole position, and reinsert J-pin to secure wheels in position.
12. Level deck.

Adjusting Lift Assist Spring (If equipped)

NOTE: Weight of mower or attachment affects ease of lifting. Adjust lift assist spring for your particular mower deck model.



MXT014286—UN—16JUN15

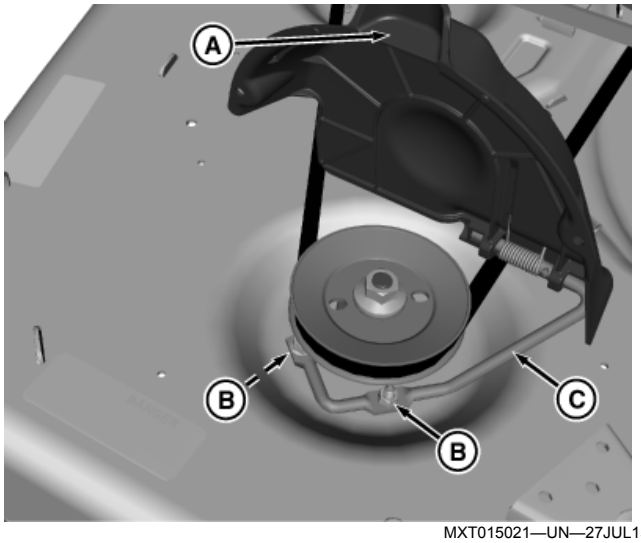


MXT014287—UN—27MAY15

1. Turn adjusting bolt (A) at front of machine frame to adjust lift assist spring:
    a. Clockwise - Increases spring tension and moves indicator toward front of machine for heavier mowers.
    b. Counterclockwise - Decreases spring tension and moves indicator toward rear of machine for lighter mowers.
2. Align yellow indicator (B) according to proper mark on label outside frame.
3. Further adjust lift spring to user preference.

Replacing Mower Drive Belt (42A Mower)

1. Park machine safely. (See Parking Safely in SAFETY section.)
2. Allow engine and muffler to cool completely.
3. Remove mower deck.

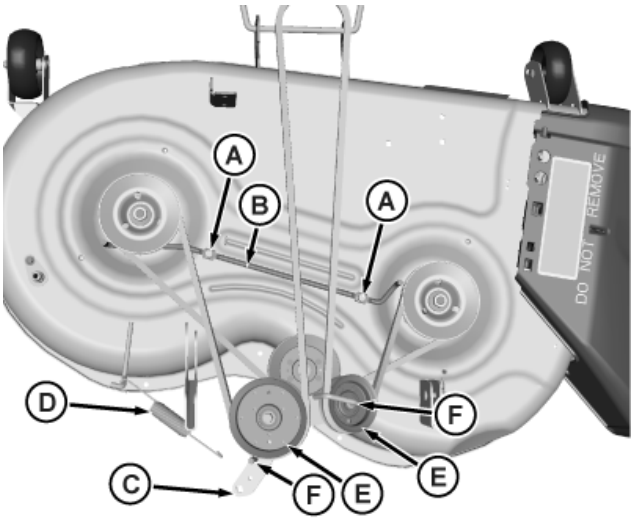


MXT015021—UN—27JUL15

4. Remove sheave shield:
    a. Lift on lubrication port (A) to rotate left shield 90 degrees.

b. Remove nuts (B) and belt cover assembly (C).

5. Remove drive belt.



MXT014299—UN—11JUN15

a. Remove two cap screws (A) and belt guide (B).

b. Rotate tension arm (C) and remove spring (D) from tension arm.

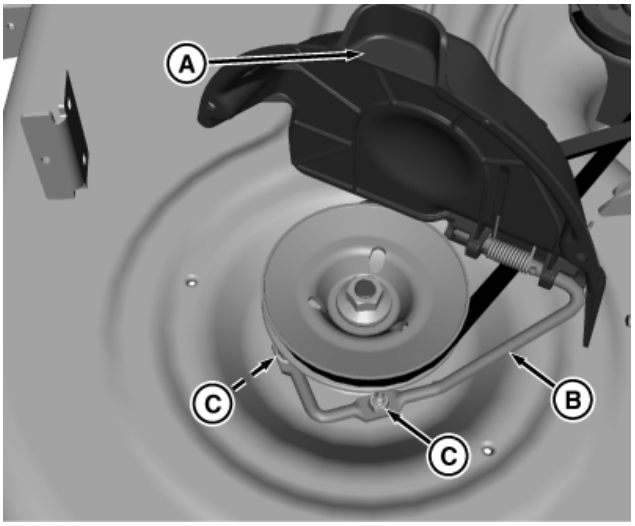
c. Loosen hardware for two sheaves (E) to remove belt from guides (F).

d. Remove mower belt.

6. Inspect belt for wear or damage; replace as necessary.

7. Clean top surface of mower deck and sheaves.

8. Install belt on mower deck sheaves. Make sure that belt is in groove of each sheave, and on inside of guides at sheaves.



MXT015023—UN—27JUL15

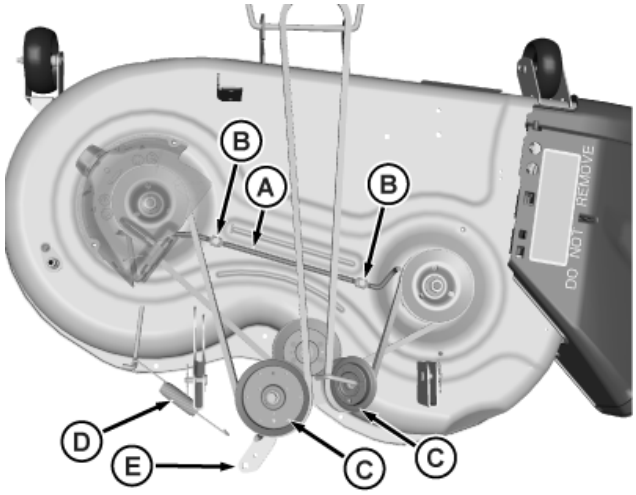
9. Install sheave shield:

a. With cover (A) rotated up, install belt cover assembly (B) with two nuts (C).

b. Tighten nuts to specification.

Specification

Sheave Hardware — Torque . . . . . .27 N·m (20 lb·ft)



MXT014289—UN—21MAY15

10. Install belt guide (A) with two cap screws (B).

11. Tighten sheave hardware (C) to specification.

Specification

Sheave Hardware — Torque . . . . . 70.5 N·m (52 lb·ft)

12. Before installing deck, make sure tension spring (D) is installed. Rotate tension arm (E) clockwise and install spring into hole in tension arm.

Replacing Mower Drive Belt (42M, 48A, and 54A Mower)

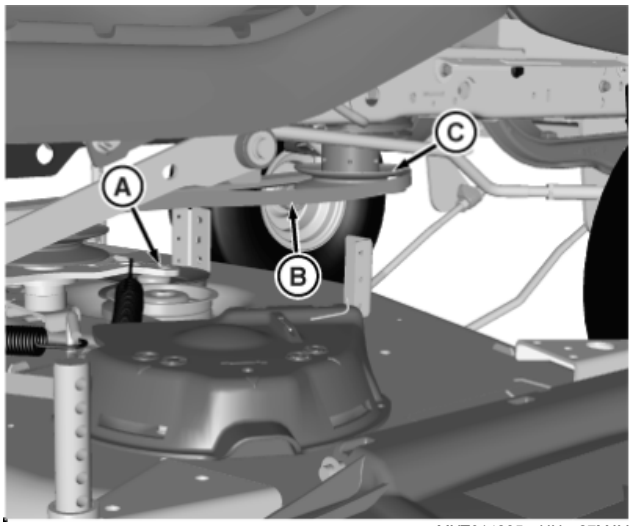
Replacing Primary Belt

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

2. Allow engine and muffler to cool completely.

3. Lower mower deck.

CAUTION: Avoid Injury! Component is spring-assisted and under tension. Injury can occur if spring-assisted component is released suddenly.



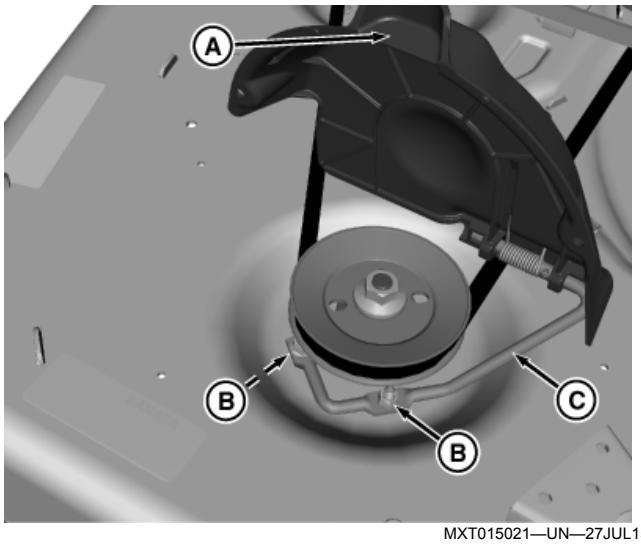
MXT014285—UN—27MAY15

48A Shown

4. Using a 3/8 in. ratchet, rotate and hold tension arm (A), under right side of fender deck, forward, while removing mower belt (B) from engine sheave (C).
5. Clean belt with a clean cloth.
6. Inspect belt for wear or damage; replace as necessary.
7. Install belt on mower sheave and engine sheave.
8. Rotate tension arm toward rear of machine to tighten drive belt.

Replacing Secondary Belt

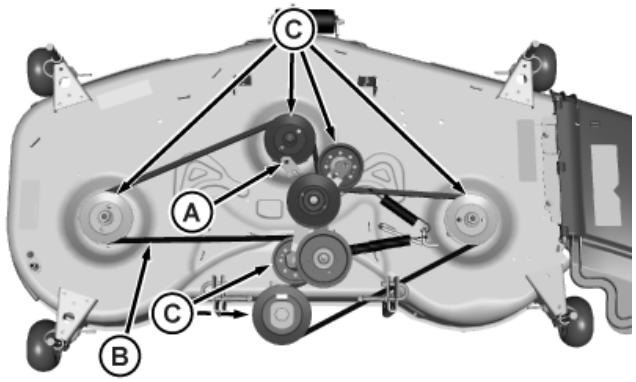
1. Park machine safely. (See Parking Safely in SAFETY section.)
2. Allow engine and muffler to cool completely.
3. Remove mower deck.



MXT015021—UN—27JUL15

4. Remove sheave shields (48A and 54A Mowers Only):
   a. Lift on lubrication port (A) to rotate shield 90 degrees.
   b. Remove two nuts (B) and belt cover assembly (C).
   c. Repeat for other side.

CAUTION: Avoid Injury! Components are installed under spring tension. Wear eye protection and use proper tools when installing and removing components with spring tension.

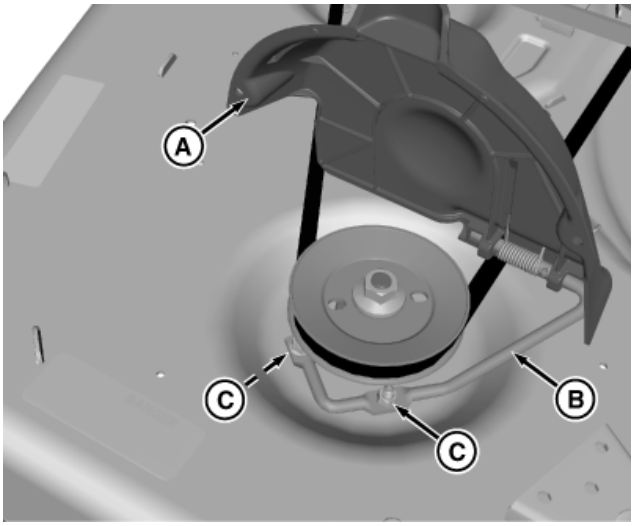


MXT014301—UN—07JUL15

48A Shown

5. Using a 3/8 in. ratchet, rotate and hold tension arm (A), forward, while removing mower belt (B) from deck sheaves (C).
6. Inspect belt for wear or damage; replace as necessary.
7. Clean top surface of mower deck and sheaves.

8. Reinstall belt on mower deck.



MXT015024—UN—29JUN15

9. Install Sheave Shields (48A and 54A Mowers Only):
   a. With cover (A) rotated up, install belt cover assembly (B) with two nuts (C).
   b. Tighten nuts to specification.

Specification	
Sheave Hardware — Torque	27 N·m (20 lb·ft)

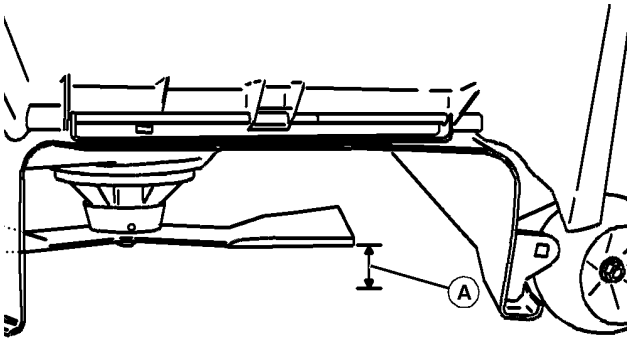
10. Install mower deck.

Checking for Bent Mower Blades

CAUTION: Avoid injury! Blades are sharp. Always wear gloves when handling blades or working near blades.

Replace blades if defective. Never straighten or weld them.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Raise mower deck to highest position to access blades.



MXAL42867—UN—09APR13

Mower deck with side discharge used for illustration

3. Measure distance (A) between blade tip and flat ground surface.
4. Rotate blade 180° and measure distance between other blade tip and flat ground surface.
5. Install new blade if the difference between the two measurements is more than 3 mm (1/8 in.).
6. Repeat for all blades.

Servicing Mower Blades

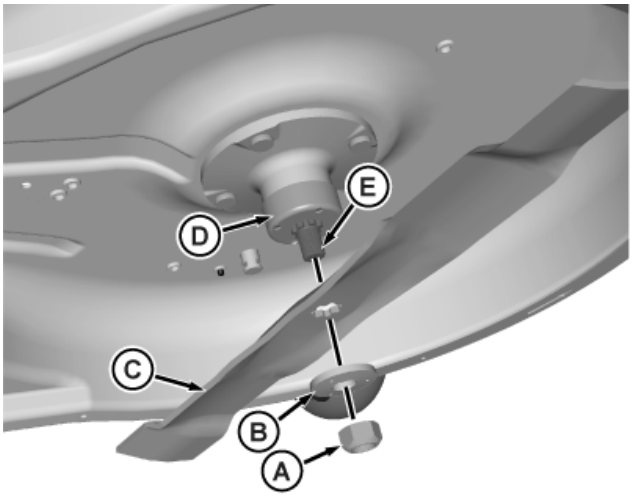
CAUTION: Avoid Injury! Rotating blades are dangerous. Before adjusting or servicing mower:

- **Disconnect spark plug wire(s) or battery negative (-) cable to prevent engine from starting accidently.**
- **Always wear gloves when handling mower blades or working near blades.**

Removing Mower Blades

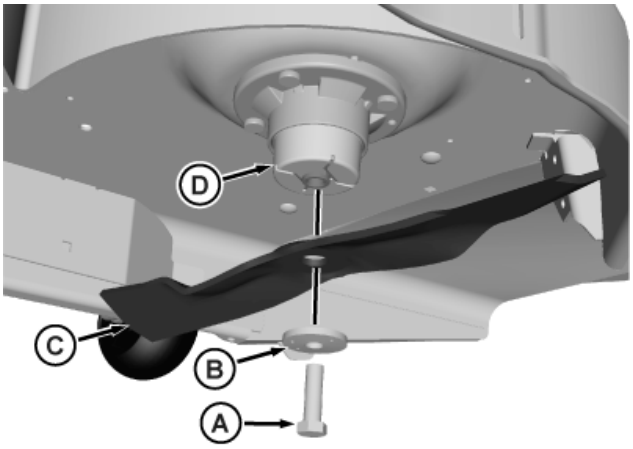
1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Raise mower deck to gain access to mower blades. If necessary, remove mower deck.
3. Block mower blade with a piece of wood to prevent it from spinning.

4. Remove mower blades:



MXT014309—UN—27MAY15

   a. **42M Mowers:** Remove nut (A), washer, and blade (C).



MXT014308—UN—27MAY15

   b. **42A, 48A, and 54A Mowers:** Remove cap screw (A), washer (B), and blade (C).

5. Inspect blades; sharpen, balance, or replace blades as necessary.

Installing Mower Blades

IMPORTANT: Avoid damage! On 42 mulching mower, blades are marked right and left on bottom side of each blade. Make sure to install correct blade to right and left sides of deck.

1. Make sure deflector cup (D) is seated properly between mower spindle and blade.
2. **42M Mowers:**
   a. Align splined center hole in blade with splined spindle shaft (E).
   b. Position mower blade with cutting edge toward ground onto mower spindle.
   c. Install washer, with cupped side towards blade, and install nut onto spindle shaft.
   d. Block mower blade with a piece of wood to prevent spinning and tighten cap screw to specification.

Specification

Nut (42M) — Torque . . . . . .88 N·m (65 lb·ft)

3. **42A, 48A, and 54A Mowers**
   a. Position mower blade with cutting edge toward ground onto mower spindle.
   b. Install washer, with cupped side towards blade, and install cap screw onto spindle shaft.
   c. Block mower blade with a piece of wood to prevent spinning and tighten cap screw to specification.

Specification

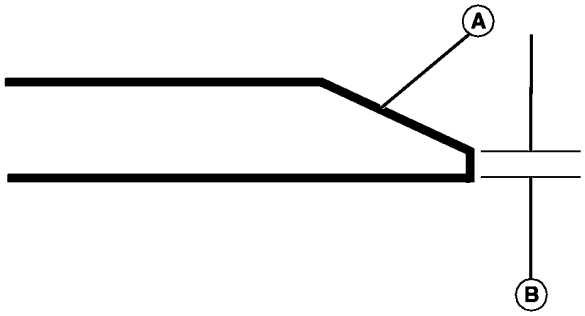
Cap Screw — Torque. . . . . .68 N·m (50 lb·ft)

Sharpening Blades

CAUTION: Avoid injury! Blades are sharp. Always wear gloves when handling blades or working near blades.

Always wear safety eye protection when grinding.

- Sharpen blades with grinder, hand file, or electric blade sharpener.



GXAL42041—UN—04MAR13

- Keep original bevel (A) when grinding.
- The blade cutting edge (B) should meet specifications.

Specification

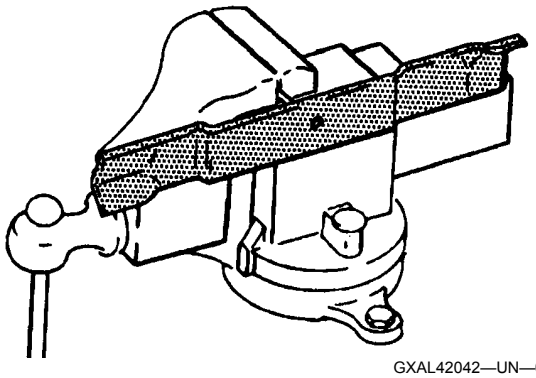
Mower Blade Cutting Edge
— Distance . . . . . 0.40 mm (1/64 in.)

- Balance blades before installing.

Balancing Blades

CAUTION: Avoid injury! Blades are sharp. Always wear gloves when handling blades or working near blades.

1. Clean blade.



GXAL42042—UN—04MAR13

2. Put blade on nail in a vise. Turn blade to horizontal position.
3. Check balance. If blade is not balanced, heavy end of blade will drop.
4. Grind bevel of heavy end. Do not change blade bevel.

Electrical

WARNING: Battery posts, terminals and related accessories contain lead and lead components, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**

Service the Battery Safely

MXAL42869—UN—09APR13

CAUTION: Avoid injury! The battery produces a flammable and explosive gas.

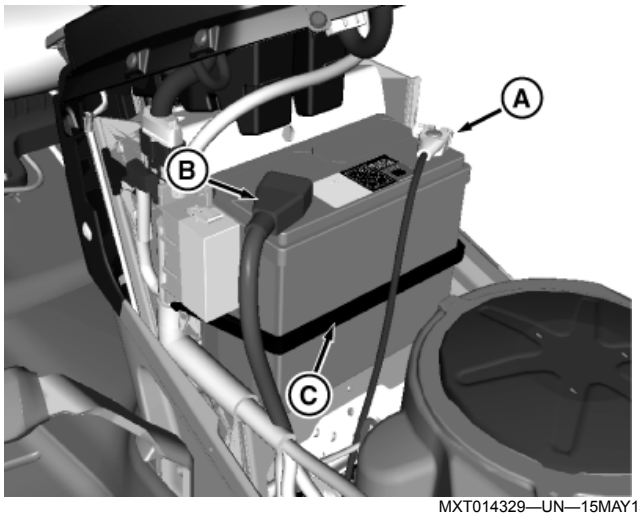
To prevent the battery from exploding:

- **Do not smoke or have open flame near battery.**
- **Wear eye protection and gloves.**
- **Do not allow direct metal contact across battery posts.**
- **Remove negative cable first when disconnecting.**
- **Install negative cable last when connecting.**

Removing and Installing the Battery

Removing

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



MXT014329—UN—15MAY15

3. Disconnect negative (–) battery cable (A).
4. Push red cover (B) away from positive (+) battery terminal and remove cable from battery.
5. Unhook rubber strap (C).
6. Remove battery.

Installing

IMPORTANT: Avoid damage! Follow instructions carefully. Battery and battery cables must be installed correctly.

When installing battery, make sure battery terminals are facing toward front of machine.

1. Place battery on battery tray so battery terminals are facing toward front of machine.
2. Secure black rubber strap (C).
3. Connect positive (+) battery cable to (+) battery terminal first.
4. Connect negative (–) battery cable to (-) battery terminal.
5. Apply spray lubricant to terminals to help prevent corrosion.
6. Slide red cover over positive battery terminal.

Cleaning Battery and Terminals

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Disconnect and remove battery.
3. Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
4. Rinse the battery with plain water and dry.

5. Clean terminals and battery cable ends with wire brush until bright.
6. Install battery.
7. Attach cables to battery terminals, beginning with the positive cable, using washers and nuts.
8. Apply spray lubricant to terminal to prevent corrosion.

Using Booster Battery

CAUTION: Avoid injury! The battery produces a flammable and explosive gas.

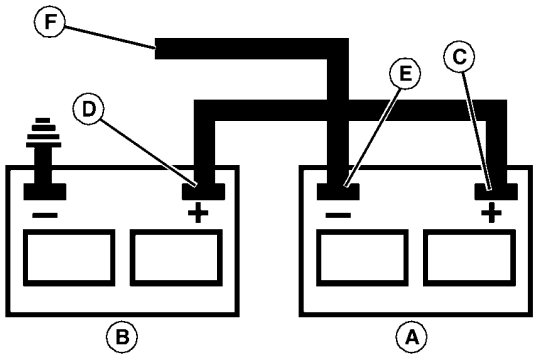
To prevent the battery from exploding:

- **Do not smoke or have open flame near battery.**
- **Wear eye protection and gloves.**
- **Do not jump-start or charge a frozen battery. Warm battery to specification.**

Specification

Battery — Temperature . . . . . .16°C (60°F)

- **Do not connect the negative (-) booster cable to the negative (-) terminal of the discharged battery. Connect at a good ground location away from the discharged battery.**



MXAL42872—UN—09APR13

A —Booster Battery
B —Disabled Vehicle Battery
C —Positive (+) Post
D —Positive (+) Post
E —Negative (-) Post
F —Negative (-) Booster Cable End

1. Connect positive (+) booster cable to booster battery (A) positive (+) post (C).
2. Connect the other end of positive (+) booster cable to the disabled vehicle battery (B) positive (+) post (D).
3. Connect negative (–) booster cable to booster battery negative (–) post (E).

IMPORTANT: Avoid damage! Electric charges from the booster battery damages machine components. Do not install negative booster cable to machine frame. Install only to the engine block.

Install negative booster cable away from moving parts in the engine compartment, such as belts and fan blades.

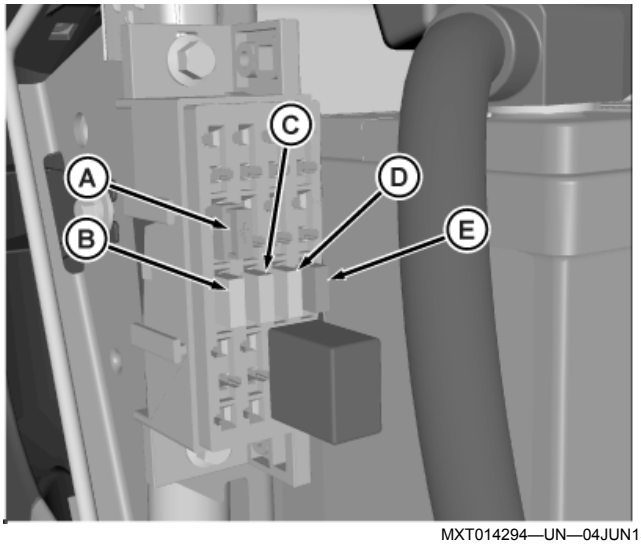
4. Connect the other end (F) of negative (–) booster cable to a metal part of the disabled machine engine block away from battery.
5. Start the engine of the disabled machine and run machine for several minutes.
6. Carefully disconnect the booster cables in the exact reverse order: negative cable first and then the positive cable.

Replacing Headlight Bulb

1. Raise hood.
2. Locate the headlight bulb.
3. Turn bulb socket counterclockwise to remove.
4. Replace defective bulb with new bulb.
5. Insert bulb socket into housing, push in and turn clockwise to install.
6. Lower hood.

Replacing Fuse

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



MXT014294—UN—04JUN15

3. Pull blown diode (A), 15 Amp fuse (B), 10 Amp fuse (optional) (C), 20 Amp fuse (D), or 7.5 Amp fuse (E), out of socket.
   - Fuse identification:

Position	Circuit	Fuse Size
A	Diode	
B	Main Circuit	15 Amp
C	Key Power Circuit (Optional)	10 Amp
D	Starter Circuit	20 Amp
E	PTO Circuit	7.5 Amp

4. Check metal strip in fuse window and discard fuse(s) if strip is broken.

IMPORTANT: Avoid damage! Install diode with arrow pointing up.

5. Push new diode, 20, 15, 10, or 7.5 Amp fuse into correct socket.
6. Lower hood.

Using Proper Fuel and Stabilizer

IMPORTANT: Avoid damage! Using stale, contaminated, or improper fuel can result in engine and fuel system damage. Repairs caused by stale, contaminated, or improper fuel are not covered by warranty.

Use regular grade unleaded fuel with an octane rating of 87 octane or higher. Fuel blends containing up to 10% ethanol or up to 15% MTBE reformulated fuel are acceptable. Do not use fuel or additives containing methanol as engine damage can occur.

Always use fresh, clean fuel that is purchased in a quantity that can be used within approximately 30 days. Fuel stabilizer should always be added to the fuel each time fuel is purchased. Add stabilizer before filling the fuel container to insure proper mixing. Such practice helps prevent engine performance problems and allows fuel storage in the machine all year without draining.

Store fuel in plastic containers to reduce condensation. Make sure that the cap on the fuel container is tight to reduce fuel contamination and evaporation. For best fuel storage life, use a self-sealing gas can.

Fuel is blended to give best seasonal performance. To avoid engine performance problems such as hard starting or vapor lock, use in-season fuel. Use fuel during warm weather that was purchased during that season, and use fuel during cold weather that was purchased during that season.

Fuel can become stale in machines with engines that are used seasonally or infrequently during a season. Stale fuel can produce varnish and plug carburetor or EFI components which can affect engine performance.

Keep fuel storage container tightly covered and in a cool area out of direct sunlight. Fuel can break down and degrade if not sealed properly or exposed to sun and heat.

Condensation may collect in the fuel tank because of a variety of operating or environmental conditions and, over time, may affect your machine's operation. Fill machine fuel tank at the end of the day.

Filling Fuel Tank

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

- **Shut engine off before filling fuel tank.**
- **Allow engine to cool before refueling.**
- **Do not smoke while handling fuel.**
- **Keep fuel away from flames or sparks.**
- **Fill fuel tank outdoors or in ventilated area.**
- **Clean up spilled fuel immediately.**
- **To prevent static electric discharge, use clean approved non-metal container.**

IMPORTANT: Avoid damage! Dirt and water in fuel causes engine damage:

- **Clean dirt and debris from the fuel tank opening.**
- **Use clean, fresh, stabilized fuel.**
- **To keep condensation out of the fuel tank, fill the fuel tank at the end of each days operation.**
- **Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.**

To prevent condensation and freezing during cold weather, fill fuel tank at the end of each days operation.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Remove any trash from area around fuel tank cap.
4. Remove fuel tank cap slowly to allow any pressure built up in tank to escape.
5. Fill fuel tank only to bottom of filler neck. Do not overfill.
6. Install fuel tank cap.
   - Gas models: Turn cap until clicks.

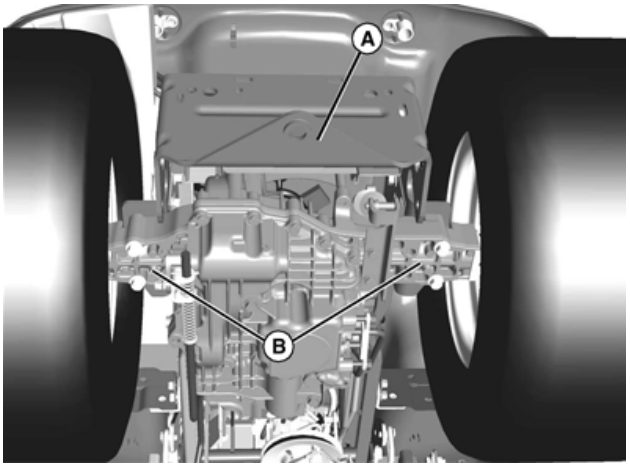
Lifting Machine

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

CAUTION: The machine can fall or slip from an unsafe lifting device or supports. If only lifting one side of the machine, be sure to block wheels remaining on ground to avoid movement of machine.

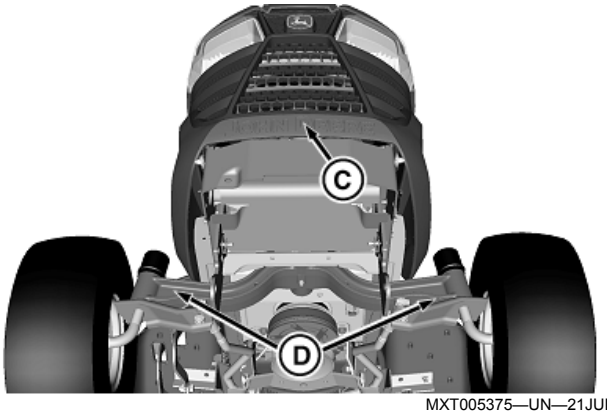
- **Use a safe lifting device rated for the load to be lifted.**
- **Lower machine onto jack stands or other stable supports and block wheels before servicing.**

NOTE: Remove all attachments prior to lifting machine.



MXAL46435—UN—05APR13

2. Safely lift rear of machine frame point (A). Place jack stands or other stable supports onto transaxle locations (B). Block front wheels if only lifting rear of machine.



MXT005375—UN—21JUL13

3. Safely lift front of machine at machine frame point (C). Place jack stands or other stable supports onto front axle locations (D). Block back wheels if only lifting front of machine.
4. To lower machine, lift front and/or rear of machine, and remove jack stands or supports. Lower machine.

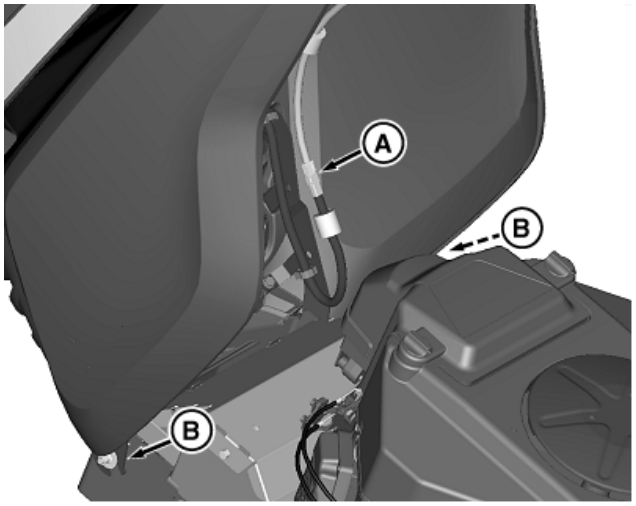
Removing and Installing Hood

Removing:

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

CAUTION: Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

2. Let engine cool.
3. Open hood.



MXT005384—UN—02AUG13

4. Disconnect wiring harness (A).
5. Lower hood slightly and lift hood from brackets (B).
6. Lift up and forward to remove hood from machine frame.

Installing:

1. Align hood brackets with tractor brackets and install hood.
2. Connect wiring harness (A).
3. Close hood.

Checking Tire Pressure

CAUTION: Avoid injury! Explosive separation of tire and rim parts is possible when they are serviced incorrectly:

- **Do not attempt to mount a tire without the proper equipment and experience to perform the job.**
- **Make sure that all tires are inflated to the recommended pressure, especially when operating on slopes. Low pressure can cause machine to become unstable on slopes.**
- **Do not weld or heat a wheel and tire assembly. Heat can cause an increase in air pressure resulting in an explosion. Welding can structurally weaken or deform the wheel.**
- **Do not stand in front or over the tire assembly when inflating. Use a clip-on chuck and extension hose long enough to allow you to stand to one side.**

1. Check tires for damage.
2. Check tire pressure with an accurate low-pressure gauge. (See SPECIFICATIONS Section for correct tire pressure.)
3. A lower pressure will improve traction and performance depending on turf conditions or if transport areas have steep inclines.
4. Add or remove air, if necessary.

Removing and Installing Wheel Assembly (Models with E-Clip)

Removing

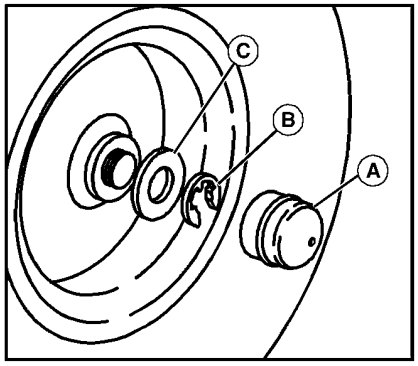
1. Park machine safely. (See Parking Safely in the Safety section.)

CAUTION: The machine can fall or slip from an unsafe lifting device or supports.

- **Use a safe lifting device rated for the load to be lifted.**
- **Lower machine onto jack stands or other stable supports and block wheels before servicing.**

IMPORTANT: Place jack stands under frame, not under transmission or engine, when raising or supporting machine.

2. Raise machine with a safe lifting device and lower machine onto jack stands or other stable supports. Block wheels remaining on the ground to prevent machine movement.



MXAL46438—UN—05APR13

3. Remove the cap (A) from the end of the axle hub.

CAUTION: Components are installed under spring tension. Wear eye protection and use proper tools when installing and removing components with spring tension.

4. Remove the E-clip (B) and washer (C).

NOTE: When removing rear wheel assembly, a shaft key may fall out of the axle shaft. If so, be sure to retain for installation.

5. Remove the wheel assembly.

CAUTION: Explosive separation of tire and rim parts is possible when they are serviced incorrectly:

- **Do not attempt to mount a tire without the proper equipment and experience to perform the job.**

6. Take wheel assembly to an authorized service dealer for repairs.

Installing

1. Apply multipurpose grease to spindle shaft before installing wheel assembly.

NOTE: On rear wheel, be sure shaft key is in place on axle shaft before installing wheel assembly.

2. Install wheel assembly with valve stem to the outside and align slot in wheel assembly with key in axle shaft.
3. Install washer and E-clip.
4. Install cap.

Removing and Installing Wheel Assembly (Models with Wheel Bolt)

Removing

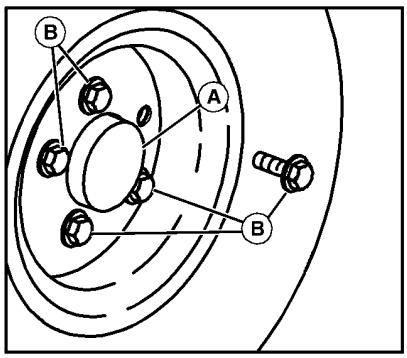
1. Park machine safely. (See Parking Safely in the Safety section.)

CAUTION: The machine can fall or slip from an unsafe lifting device or supports.

- **Use a safe lifting device rated for the load to be lifted.**
- **Lower machine onto jack stands or other stable supports and block wheels before servicing.**

IMPORTANT: Place jack stands under frame, not under transmission or engine, when raising or supporting machine.

2. Raise machine with a safe lifting device and lower machine onto jack stands or other stable supports. Block wheels remaining on the ground to prevent machine movement.



MXAL46439—UN—05APR13

Wheel may or may not have a cap (A) to remove when removing the wheel.

3. Remove the wheel bolts (B).
4. Remove the wheel assembly.

CAUTION: Explosive separation of tire and rim parts is possible when they are serviced incorrectly:

- **Do not attempt to mount a tire without the proper equipment and experience to perform the job.**

5. Take wheel assembly to an authorized service dealer for repairs.

Installing

1. Apply multipurpose grease to spindle shaft before installing wheel assembly.
2. Install wheel assembly with valve stem to the outside.
3. Tighten wheel bolts evenly in alternating sequence until snug.
4. Lower machine completely to the ground.
5. Tighten wheel bolts to specification.

Specification

Wheel Bolts — Torque . . . . . .88 N·m (65 lb-ft)

Cleaning Plastic Surfaces

IMPORTANT: Improper care of machine plastic surfaces can damage that surface:

- **Do not wipe plastic surfaces when they are dry. Dry wiping will result in minor surface scratches.**
- **Use a soft, clean cloth (bath towel, diaper, automotive mitt).**
- **Do not use abrasive materials, such as polishing compounds, on plastic surfaces.**

1. Rinse hood and entire machine with clean water to remove dirt and dust that may scratch the surface.
2. Wash surface with clean water and a mild liquid automotive washing soap.
3. Dry thoroughly to avoid water spots.
4. Wax the surface with a liquid automotive wax. Use products that specifically say “contains no abrasives.”

IMPORTANT: Do not use a power buffer to remove wax.

5. Buff applied wax by hand using a clean, soft cloth.

Cleaning and Repairing Metal Surfaces

Cleaning:

Follow automotive practices to care for your vehicle painted metal surfaces. Use a high-quality automotive wax regularly to maintain the factory look of your vehicle’s painted surfaces.

Repairing Minor Scratches (surface scratch):

1. Clean area to be repaired thoroughly.

IMPORTANT: Avoid damage! Do not use rubbing compound on painted surfaces.

2. Use automotive polishing compound to remove surface scratches.
3. Apply wax to entire surface.

Repairing Deep Scratches (bare metal or primer showing):

1. Clean area to be repaired with rubbing alcohol or mineral spirits.
2. Use paint stick with factory-matched colors available from your authorized dealer to fill scratches. Follow directions included on paint stick for use and for drying.
3. Smooth out surface using an automotive polishing compound. Do not use power buffer.
4. Apply wax to surface.

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

Engine

If	Check
Poor Engine Performance	Fuel: • Dirt in fuel system or fuel is old. Replace fuel with fresh stabilized fuel. Obtain fuel from another supplier before suspecting machine problems. Suppliers blend fuels differently and changing suppliers will generally solve any performance problems • Fuel blended with alcohol or ether may contribute to performance problems by causing gum and varnish deposits, especially if fuel is stored for several weeks or more. Obtain fresh fuel.
Engine Will Not Start - No Crank	• Brake pedal not depressed. • Mower/PTO is engaged. • Defective brake, mower engagement, or key switch. • Electrical problem - See Electrical Troubleshooting Section
Engine Cranks But Will Not Start	• Spark plug wire is loose or disconnected. • Improper fuel. • Plugged fuel filter. • Electrical problem - See Electrical Troubleshooting Section
Engine Is Hard To Start	• Carburetor is not adjusted properly or dirty. • Plugged fuel filter. • Faulty spark plug. • Stale or improper fuel. • Loose or corroded electrical connections. • Engine oil viscosity.
Engine Runs Unevenly	• Cooling fins plugged. • Loose electrical connections. • Choke or throttle cable sticking. • Fuel line or fuel filter plugged. • Stale or dirty fuel. • Improper fuel. • Air cleaner element plugged.
Engine Misses Under Load	• Faulty spark plug. • Stale or dirty fuel. • Plugged fuel filter.
Engine Vapor Locks	• Fuel tank vent plugged. • Dirt in fuel filter. • Cooling fins plugged. • Loose hose connection at fuel filter or fuel pump.
Engine Overheats	• Engine air intake screen plugged. • Cooling fins plugged. • Engine oil low or too high. • Engine operated too long at a slow idle speed.
Engine Will Not Idle	• Spark plug not gapped correctly. • Faulty spark plug.

If	Check
	• Operator raising off the seat.
Engine Knocks	• Stale or low octane fuel. • Engine overloaded. • Low engine speed. • Oil level low.
Engine Stops Or Misses When Operating On Hillsides	• Fuel tank less than half full of fuel. • Operator raising off of the seat.
Engine Backfires	• Faulty spark plug. • Operator raising off of the seat.
Engine Loses Power	• Engine overheating. • Too much oil in engine. • Dirty air cleaner. • Faulty spark plug. • Travel speed is too fast for conditions. • Improper fuel.
Excessive Fuel Consumption	• Choke is not fully open.
Black Exhaust Smoke	• Air filter is dirty or oil soaked.

Electrical

If	Check
Starter Does Not Work Or Will Not Turn Engine	• Brake pedal is not depressed. • Mower Engagement Lever is in ENGAGED position. • Battery terminals are corroded. • Battery not charged. • Blown fuse. • Defective key switch • Fusible Link is blown - See your John Deere Dealer.
Battery Will Not Charge	• Dead cell in the battery. • Battery cables and terminals are dirty. • Low engine speed or excessive idling.
Lights Do Not Work	• Light plug disconnected. • Loose or burned out bulb.

Machine

If	Check
Machine Vibrates Too Much or Rattles Excessively	• Attachment drive belts worn or damaged. • Traction drive belt damaged or worn. • Dirt on drive sheaves.
Machine Will Not Move With Engine Running	• Parking brake locked. • Transmission hydraulic oil level low. • Free-wheeling lever is engaged.
Machine Moves With Engine Running and Hydrostatic Control in Neutral	• Linkage out of adjustment.
Mower Lift Will Not Latch in Transport	• Deck is adjusted to high. Move the deck leveling knob to the next higher position and level deck.

Mower

If	Check
Discharge Chute Plugged	• Travel speed too fast. • Grass too long. • Grass too wet. • Engine rpm not at wide open throttle. • Restricted air flow. • Belt installed incorrectly. • Adjust cutting height to remove only 1/3 of grass at a time.
Patches Of Grass Uncut	• Travel speed too fast. • Engine rpm not at wide open throttle. • Dull blades. • Mower deck needs cleaning.
Belt Slipping	• Debris in sheaves. • Worn belt. • Belt tension is incorrect.
Too Much Vibration	• Debris on mower deck or in sheaves. • Damaged drive belt. • Damaged sheaves or sheaves out of alignment. • Blades out of balance.
Blades Scalping Grass	• Cutting too low. • Mower wheels not adjusted correctly. • Turning speed too fast. • Ridges in terrain. • Rough or uneven terrain. • Low tire pressure.
Tachometer drops out of Best Cut Zone	• Engine rpm too low. • Travel speed too fast. • Debris wrapped around mower spindles. • Adjust cutting height to remove only 1/3 of grass at a time.
Uneven Cut	• Mower deck not leveled properly. • Travel speed too fast. • Blades are dull. • Mower wheels not adjusted correctly. • Tire pressure unequal. • Adjust cutting height to remove only 1/3 of grass at a time.
Mower (Or Other Attachment) Stops When Reverse Foot Pedal Is Depressed And Attachment Is Engaged	• Normal condition. (See Using Reverse Implement Position in the Operating section.)

Storing Safety

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

Engine exhaust fumes contain carbon monoxide and cause serious illness or death:

- **Run the engine only long enough to move the machine to or from storage.**
- **If a machine is stored before allowing it to cool, machine fires and structure fires can occur. Fires can occur if debris is not removed from around the engine and muffler, or if stored near combustible materials.**
- **Do not store vehicle with fuel in the tank inside a building where fumes reach an open flame or spark.**
- **Allow the engine to cool before storing the machine in any enclosure.**

Preparing Machine for Storage

1. Repair any worn or damaged parts. Replace parts if necessary. Tighten loose hardware.
2. To prevent rust, repair scratched or chipped metal surfaces.
3. Remove grass and debris from machine.
4. Clean under the deck and remove grass and debris from inside chute and bagger, if applicable.
5. Wash the machine and apply wax to metal and plastic surfaces.
6. To dry belts and pulleys, run machine for five minutes.
7. To prevent rust, apply light coat of engine oil on pivot and wear points.
8. Lubricate grease points and check tire pressure.

Preparing Fuel and Engine For Storage

Fuel:

If you have been using “Stabilized Fuel,” add stabilized fuel to tank until the tank is full.

NOTE: Filling the fuel tank reduces the amount of air in the fuel tank and helps reduce deterioration of fuel.

If you are not using “Stabilized Fuel:”

1. Park machine safely in a well-ventilated area. (See Parking Safely in the SAFETY section.)

NOTE: Try to anticipate the last time the machine will be used for the season so very little fuel is left in the fuel tank.

2. Turn on engine and allow to run until it runs out of fuel.
3. For machines equipped with key switch, turn key to off position.

IMPORTANT: Avoid damage! Stale fuel can produce varnish and plug carburetor or injector components and affect engine performance.

- **Add fuel conditioner or stabilizer to fresh fuel before filling tank.**

4. Mix fresh fuel and fuel stabilizer in separate container. Follow stabilizer instructions for mixing.
5. Fill fuel tank with stabilized fuel.
6. Run engine for a few minutes to allow fuel mixture to circulate through carburetor on gas engine or fuel injectors on diesel engine.

Engine:

Engine storage procedure should be used when vehicle is not to be used for longer than 60 days.

1. Change engine oil and filter while engine is warm.
2. Service air filter if necessary.
3. Clean debris from engine air intake screen.
4. On gas engines:
   - Remove spark plugs. Put 30 mL (1 oz.) of clean engine oil in cylinders.
   - Install spark plugs, but do not connect spark plug wires.
   - Crank the engine 5 or 6 times to allow oil to be distributed.
5. Clean the engine and engine compartment.
6. Remove battery.
7. Clean the battery and battery posts. Check the electrolyte level, if your battery is not maintenance free.
8. Close fuel shutoff valve, if your machine is equipped.
9. Store the battery in a cool, dry place where it will not freeze.

NOTE: The stored battery should be recharged every 90 days.

10. Charge the battery.

IMPORTANT: Avoid damage! Prolonged exposure to sunlight could damage surfaces. Store machine inside or use a cover if stored outside.

11. Store the vehicle in a dry, protected place. If vehicle is stored outside, put a waterproof cover over it.

Removing Machine From Storage

1. Check tire pressure.
2. Check engine oil level.
3. Check battery electrolyte level, if your battery is not maintenance free. Charge battery if necessary.
4. Install battery.
5. On gas engines: Check spark plug gap. Install and tighten plugs to specified torque.
6. Lubricate all grease points.
7. Open fuel shut-off valve, if your machine is equipped.
8. Run the engine 5 minutes without the mower or any attachments running to allow oil to be distributed throughout engine.
9. Be sure all shields and guards or deflectors are in place.

Specifications

Engine

X330

Make	Briggs and Stratton
Model Number	44J677
Power Rating Information	http://www.briggsandstratton.com/
Bore	79.25 mm (3.12 in)
Stroke	73.4 mm (2.89 in)
Displacement	724 cm³ (44.2 cu in.)
Cylinders	2 (V-Twin)
Cycle	Four
Ignition Coil Air Gap	0.20—0.30 mm (0.008—0.012 in)
Valve Clearance (Intake and Exhaust) (Cold)	0.10—0.15 mm (0.004—0.006 in)
Spark Plug Gap	0.75 mm (0.030 in)
Spark Plug Torque	20 N·m (15 lb·ft)

X350 X354, and X370

Make	Kawasaki
Model Number	FS600V
Power Rating Information	http://www.kawasaki-criticalpower.com/
Bore	73 mm (2.87 in)
Stroke	72 mm (2.83 in)
Displacement	603 cm³ (36.8 cu in.)
Cylinders	2 (V-Twin)
Cycle	Four
Ignition Coil Air Gap	0.25—0.40 mm (0.010—0.016 in)
Valve Clearance (Intake and Exhaust) (Cold)	0.075—0.125 mm (0.003—0.005 in)
Spark Plug Gap	0.75 mm (0.030 in)
Spark Plug Torque	20 N·m (15 lb·ft)

X380, X384, X390, and X394

Make	Kawasaki
Model Number	FS651V
Power Rating Information	http://www.kawasaki-criticalpower.com/
Bore	78 mm (3.07 in)
Stroke	76 mm (2.99 in)
Displacement	726 cm³ (44.3 cu in.)
Cylinders	2 (V-Twin)
Cycle	Four
Ignition Coil Air Gap	0.25 - 0.40 mm (0.010—0.016 in)
Valve Clearance (Intake and Exhaust) (Cold)	0.075—0.125 mm (0.003—0.005 in)
Spark Plug Gap	0.75 mm (0.030 in)
Spark Plug Torque	20 N·m (15 lb·ft)

Drivetrain

Transmission	Kanzaki, Variable Speed Hydrostatic
Model X330, X350, X354	K46
Model X370	K57
Model X380, X384, X390, X394	K58

Travel Speeds at Full Engine RPM

X330, X350, X354, and X370

Forward	0—8.9 km/h (0—5.5 mph)
Reverse	0—6.4 km/h (0—4.0 mph)

X380, X390, and X394

Forward	0—10.0 km/h (0—6.2 mph)
Reverse	0—5.6 km/h (0—3.5 mph)

X384

Forward	0—9.5 km/h (0—5.9 mph)
Reverse	0—5.6 km/h (0—3.5 mph)

Electrical System

Battery Type	12 Volt
Cold Cranking Capacity	340 Amps

Fuel System

Fuel Types (Recommended):	
	Regular Grade 87 Octane Unleaded Fuel
	Ethanol Blended Fuel (Up to 10%)
	MTBE Reformulated Fuel (Up to 15%)
Fuel Filter	Replaceable - paper element
Fuel Pump	Pulse
Fuel Delivery	Carburetor

Tires

Front (X330, X350, X354, X370, X380)	15x6.00-6
Front (X384, X390, X394)	15x6.50-8
Rear (X330, X350, X370)	20x10.00-8
Rear (X354, X384)	20x10.00-10
Rear (X380, X390)	22x11.00-10
Rear (X394)	22x9.5-12
Inflation - Front	97 kPa (14 psi)
Inflation - Rear	69 kPa (10 psi)

Capacities

Crankcase with oil filter (X330)	1.9 L (2 qt)
Crankcase with oil filter (X350, X354 and X370)	1.7 L (1.8 qt)
Crankcase with oil filter (X380, X384, X390, and X394)	2.1 L (2.2 qt)
Fuel	12.5 L (3.3 gal)

Dimensions

X330

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 97 cm (38 in.)
Length (Overall) . . . . . 173 cm (72 in.)

X350

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 104 cm (41 in.)
Length (Overall) . . . . . 173 cm (72 in.)

X354

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 97 cm (38 in.)
Length (Overall) . . . . . 173 cm (72 in.)

X370

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 98 cm (38.5 in.)
Length (Overall) . . . . . 173 cm (72 in.)

X380

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 104 cm (41 in.)
Length (Overall) . . . . . 173 cm (72 in.)

X384

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 104 cm (41 in.)
Length (Overall) . . . . . 173 cm (72 in.)

X390

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 104 cm (41 in.)
Length (Overall) . . . . . 173 cm (72 in.)

X394

Height . . . . . 109 cm (43 in.)
Overall Width (without mower deck) . . . . . 104 cm (41 in.)
Length (Overall) . . . . . 173 cm (72 in.)

Weights

Machine Weights:

X330 (Without mower deck) . . . . . 210 kg (463 lb.)
X350 (Without mower deck) . . . . . 210 kg (464 lb.)
X354 (Without mower deck) . . . . . 247 kg (544 lb.)

X370 (Without mower deck) . . . . . 223 kg (491 lb.)
X380 (Without mower deck) . . . . . 230 kg (508 lb)
X384 (Without mower deck) . . . . . 253 kg (557 lb)
X390 (Without mower deck) . . . . . 243 kg (535 lb)
X394 (Without mower deck) . . . . . 278 kg (612 lb)

Machine with Deck Weights:

X330 (With Accel Deep™ 42 mower deck) . . . . . 238 kg (524 lb)
X330 (With Edge™ 42 mulch deck) . . . . . 252 kg (555 lb)
X350 (With Accel Deep™ 42 mower deck) . . . . . 238 kg (525 lb)
X350 (With Edge™ 42 mulch deck) . . . . . 252 kg (556 lb)
X350 (With Accel Deep™ 48 mower deck) . . . . . 310 kg (683 lb)
X354 (With Accel Deep™ 42 mower deck) . . . . . 283 kg (623 lb)
X354 (With Edge™ 42 mulch deck) . . . . . 288 kg (636 lb)
X370 (With Accel Deep™ 42 mower deck) . . . . . 259 kg (570 lb)
X370 (With Edge™ 42 mulch deck) . . . . . 264 kg (583 lb)
X380 (With Accel Deep™ 48 mower deck) . . . . . 295 kg (651 lb)
X380 (With Accel Deep™ 54 mower deck) . . . . . 299 kg (659 lb)
X384 (With Accel Deep™ 48 mower deck) . . . . . 318 kg (700 lb)
X390 (With Accel Deep™ 48 mower deck) . . . . . 303 kg (668 lb)
X390 (With Accel Deep™ 54 mower deck) . . . . . 308 kg (678 lb)
X394 (With Accel Deep™ 48 mower deck) . . . . . 342 kg (755 lb)

Deck Weights:

Accel Deep™ 42 mower deck . . . . . 33 kg (73 lb)
Edge™ 42 mulch deck. . . . . 42 kg (92 lb)
Accel Deep™ 48 mower deck . . . . . 60 kg (133 lb)
Accel Deep™ 54 mower deck . . . . . 69 kg (153 lb)

Mower Decks

Accel Deep™ 42 Mower Deck

Cutting Width. . . . . 107 cm (42 in)
Blades-Rotary 2
Blade Nut Torque. . . . . 88 N·m (65 lb·ft)
Cutting Height (Approximately) . . . . . 25—102 mm (1—4 in)

Edge™ 42 Mulch Deck

Cutting Width. . . . . 107 cm (42 in)
Blades-Rotary 2
Blade Nut Torque. . . . . 88 N·m (65 lb·ft)
Cutting Height (Approximately) . . . . . 25—102 mm (1—4 in)

Accel Deep™ 48 Mower Deck

Cutting Width. . . . . 1.22 cm (48 in)
Blades-Rotary 3
Blade Bolt Torque . . . . . 68 N·m (50 lb·ft)
Cutting Height (Approximately) . . . . . 25—102 mm (1—4 in)

Accel Deep™ 54 Mower Deck

Cutting Width. . . . . 1.37 cm (54 in)
Blades-Rotary 3
Blade Bolt Torque . . . . . 68 N·m (50 lb·ft)
Cutting Height (Approximately) . . . . . 25—102 mm (1—4 in)

Recommended Lubricants

Engine Oil	TURF-GARD™ OR PLUS-4™
Grease	John Deere Multi-Purpose SD Polyurea Grease
	John Deere Multi-Purpose HD Lithium Complex Grease
Transmission Oil (X370, X390, and X394)	John Deere Low Viscosity HY-GARD™ (JDM J20D)

(Specifications and design subject to change without notice.)

Product Warranty

John Deere offers a standard warranty on new John Deere products. For a copy of the product warranty statement or for details on the warranty terms and conditions for products purchased in the United States and Canada, please contact your local John Deere Dealer or utilize the following resources:

United States

Website:

http://www.deere.com/en_US/services_and_support/warranty/warranty.page

Toll Free: 1-800-537-8233

Dealer Locator:

http://dealerlocator.deere.com/servlet/country=US

Canada

Website (English):

http://www.deere.ca/en_CA/services_and_support/service_plans_warranties/service_plans_warranties.page

Website (French):

http://fr.deere.ca/en_CA/services_and_support/service_plans_warranties/service_plans_warranties.page

Toll Free: 1-800-537-8233

Dealer Locator:

http://dealerlocator.deere.com/servlet/country=CA

Emission-related warranties are included in this Operator's Manual, and applicable if required by law or regulation.

For products purchased in a country other than the United States or Canada, please contact your local John Deere dealer for assistance.

California and U.S. EPA Emissions Control System Warranty Statement (Off-Road Gas Engines)

Your Warranty Rights and Obligations

The California Air Resources Board, John Deere, and the United States Environmental Protection Agency are pleased to explain the emissions control system's warranty on your model year 2016 or 2017 spark ignited off-road engine equipment. In California, new equipment that uses small or large (less than 1 liter) spark ignited off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. John Deere must warrant the emissions control system on your spark ignited off-road engine equipment for the period listed below provided there has been no abuse, neglect or improper maintenance of your equipment.

Your emissions control system may include parts such as: carburetors or fuel-injection system, ignition system, catalytic converters, fuel tanks, valves, filters, clamps, connectors, and other associated components. Also included may be hoses, belts, sensors and other emission-related assemblies.

Where a warrantable condition exists, John Deere will repair your spark ignited off-road engine equipment at no cost to you including diagnosis, parts and labor.

Manufacturer's Warranty Coverage

This emissions control system is warranted for two years for models Z335E, Z355E, Z525E, D105, D110, D125, D130, D140, D155, D160, D170 and three years for all other models referenced in this operator's manual. If any emissions related part on your equipment is defective, the part will be repaired or replaced by John Deere.

Owner's Warranty Responsibilities

- As the spark ignited off-road engine equipment owner, you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that you retain all receipts covering maintenance on your spark ignited off-road engine equipment, but John Deere cannot deny warranty solely for lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the spark ignited off-road engine equipment owner, you should however be aware that John Deere may deny you warranty coverage if your spark ignited off-road engine equipment or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.
- You are responsible for presenting your spark ignited off-road engine equipment to a John Deere Turf and Utility distribution center or service center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have a question about your emissions warranty coverage, how to make an emissions warranty claim or how to make arrangements for emissions-related authorized repairs, you should contact your John Deere Turf and Utility retailer, or the John Deere Customer Contact Center at 1-800-537-8233, or email John Deere from https://groundscare.custhelp.com/app/utils/login_form/redirect/ask.

General Emissions Warranty Coverage

The warranty period begins on the date the equipment is delivered to an ultimate purchaser. John Deere warrants to the ultimate purchaser and each subsequent purchaser that the spark ignited off-road engine equipment is:

- Designed, built and equipped so as to conform to all applicable regulations adopted by the California Air Resources Board;
- Designed, built and equipped so as to conform at the time of sale with applicable U.S. Environmental Protection Agency regulations under 40 CFR Parts 1054 and 1060: and,
- Free from defects in materials and workmanship which cause such engine to fail to conform with applicable regulations for the Emissions Control System Warranty period provided herein.
- For owners located more than 100 miles from a John Deere authorized service center, John Deere will pay either for shipping costs to and from an authorized service center, provide for a service technician to come to the owner to make the warranty repair, or pay for the repair to be made at a local non-authorized service center. These provisions do not apply to Alaska, Hawaii, Arizona, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, Texas, Utah, and Wyoming.

Emissions Warranty Interpretation

- Any warranted part that is not scheduled for replacement as required by the maintenance instructions in the Operator's Manual is warranted as provided herein. If any such part fails during the period of warranty coverage it will be repaired or replaced by John Deere. Any such part repaired or replaced under warranty is warranted for the remaining warranty period.
- Any warranted part that is scheduled only for regular inspection in the maintenance instructions in the Operator's Manual is warranted as provided herein. A statement in the Operator's Manual to the effect of "repair or replace as necessary" does not reduce the period of warranty coverage. Any such part repaired or replaced under warranty is warranted for the remaining warranty period.
- Any warranted part that is scheduled for replacement as required maintenance in the Operator's Manual is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced by John Deere. Any such part repaired or replaced under warranty is warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- Repair or replacement of any warranted part under the warranty will be performed at no charge to the owner at any authorized John Deere Turf and Utility retailer.
- The owner will not be charged for diagnostic labor which leads to the determination that a warranted part is defective, provided such work is performed by John Deere.
- John Deere will repair damages to other engine components proximately caused by a failure under warranty of any emissions-related warranted part.
- Add-on or modified parts that are not exempted by the California Air Resources Board may not be used. The use of any non-exempted add-on or modified parts will be grounds for disallowing a warranty claim. John Deere will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

Emission Warranty Parts List

Coverage under this warranty includes, but is not limited to, the parts listed below (the emissions control system parts) to the extent these parts were on the engine and equipment purchased.

Fuel Metering System:

- Carburetor and internal parts (or fuel injection system)
- Air/fuel ratio feedback and control system
- Cold start enrichment system

Evaporative System:

- Fuel tank, fuel cap and tether
- Fuel hose, line, fittings, clamps
- Fuel pump, fuel shut-off valve
- Fuel vapor hoses, fittings
- Carbon canister
- Rollover/slant valve for fuel vapor control
- Purge and vent line

Air Induction System:

- Air cleaner
- Intake manifold

Ignition System:

- Spark plugs
- Magneto or electronic ignition system
- Spark advance/retard system

Exhaust System:

- Exhaust manifold
- Catalyst muffler

Miscellaneous Items Used in Above Systems

- Valves and Switches: vacuum, temperature, position, check, time-sensitive
- Electronic controls
- Hoses, belts, connectors and assemblies

Limited Liability

a) The liability of John Deere under this Emissions Control System Warranty is limited solely to the remedying of defects in materials or workmanship. Except as otherwise expressly provided herein, this warranty does not cover inconvenience or loss of use of the non-road equipment or engine or transportation of the equipment or engine to or from the John Deere Turf and

Utility retailer. John Deere shall not be liable for any other expense, loss, or damage, whether direct, incidental, consequential (except as listed above under “coverage”) or exemplary arising in connection with the sale or use of or inability to use the non-road equipment or engine for any other purpose.

b) No express emissions control system warranty is given by John Deere with respect to the equipment or engine except as specifically set forth in this document. Any emissions control system warranty implied by law, including any warranty of merchantability or fitness for a particular purpose, is expressly limited to the emissions control system warranty terms set forth in this document.

c) No dealer is authorized to modify this Federal, California and John Deere Emissions Control System Warranty.

Tire Warranty

John Deere warranty applies for tires available through the John Deere parts system. For tires not available through the John Deere parts system, the tire manufacturer’s warranty applicable to your machine may not apply outside the U.S. (See your John Deere dealer for specific information.)

Limited Battery Warranty For Factory Installed Batteries

NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.

TO SECURE WARRANTY SERVICE

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

FREE REPLACEMENT PERIOD

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within the FREE REPLACEMENT PERIOD will be replaced free of charge. Installation costs will be covered by warranty if the unserviceable battery was installed by a John Deere factory or dealer and the replacement battery is installed by a John Deere dealer.

PRO RATA ADJUSTMENT (batteries with letter code identification only)

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within the Pro Rata Warranty Period will be replaced upon payment of the battery’s current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and table below. Installation costs are not covered after the battery warranty period has ended.

THIS WARRANTY DOES NOT COVER

A. Breakage of the container, cover, or terminals.

B. Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

C. Transportation, mailing, or service call charges for warranty service.

D. Batteries that are merely discharged.

LIMITATION OF IMPLIED WARRANTIES AND PURCHASER’S REMEDIES

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations, or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER’S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

NO DEALER WARRANTY

The selling dealer makes no warranty of its own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

WARRANTY TERMS TABLE

NOTE: If your battery is not labeled with a warranty code, it is a warranty code 6.

Warranty Code	Free Replacement Period	Pro Rata Warranty Period
A	90 Days	40 Months
B	90 Days	36 Months
C	90 Days	24 Months
D	12 Months	48 Months

Warranty Code	Free Replacement Period	Pro Rata Warranty Period
E	90 Days	12 Months
F	90 Days	60 Months
G	12 Months	60 Months
H	12 Months	60 Months
6	6 Months	0 Months
12	12 Months	0 Months
18	18 Months	0 Months

John Deere Quality

John Deere equipment is more than just a purchase, it's an investment in quality. That quality goes beyond our equipment to your John Deere dealer's parts and service support. This support is needed to keep you a satisfied customer.

That's why John Deere has initiated a process to handle your questions or problems, should they arise. The following three steps will help guide you through the process.

Step 1

Refer to your operator's manual

A. It has many illustrations and detailed information on the safe and proper operation of your equipment.

B. It gives troubleshooting procedures, and specification information.

C. It gives ordering information for parts catalogs, service and technical manuals.

D. If your questions are not answered in the operator's manual, then go to Step 2.

Step 2

Contact your dealer

A. Your John Deere dealer has the responsibility, authority, and ability to answer questions, resolve problems, and fulfill your parts and service needs.

B. First, discuss your questions or problems with your dealer's trained parts and service staff.

C. If the parts and service people are unable to resolve your problem, see the dealership manager or owner.

D. If your questions or problems are not resolved by the dealer, then go to Step 3.

Step 3

Contact John Deere

A. Your John Deere dealer is the most efficient source in addressing any concern, but if you are not able to resolve your problem after checking your operator's manual and contacting your dealer, contact John Deere for assistance.

B. For prompt, effective service, please have the following ready before you call:

- The name of the dealer with whom you've been working.
- Your equipment model number.
- Number of hours on machine (if applicable).
- Your serial number which you recorded on the inside front cover of this manual.
- If the problem is with an attachment, your attachment identification number.

C. Then call 1-800-537-8233 (United States and Canada) and our advisor will work with your dealer to investigate your concern. If you are outside the United States and Canada, visit the following website:

http://www.deere.com/globalhome/deerecom/global_home.page?CC=true

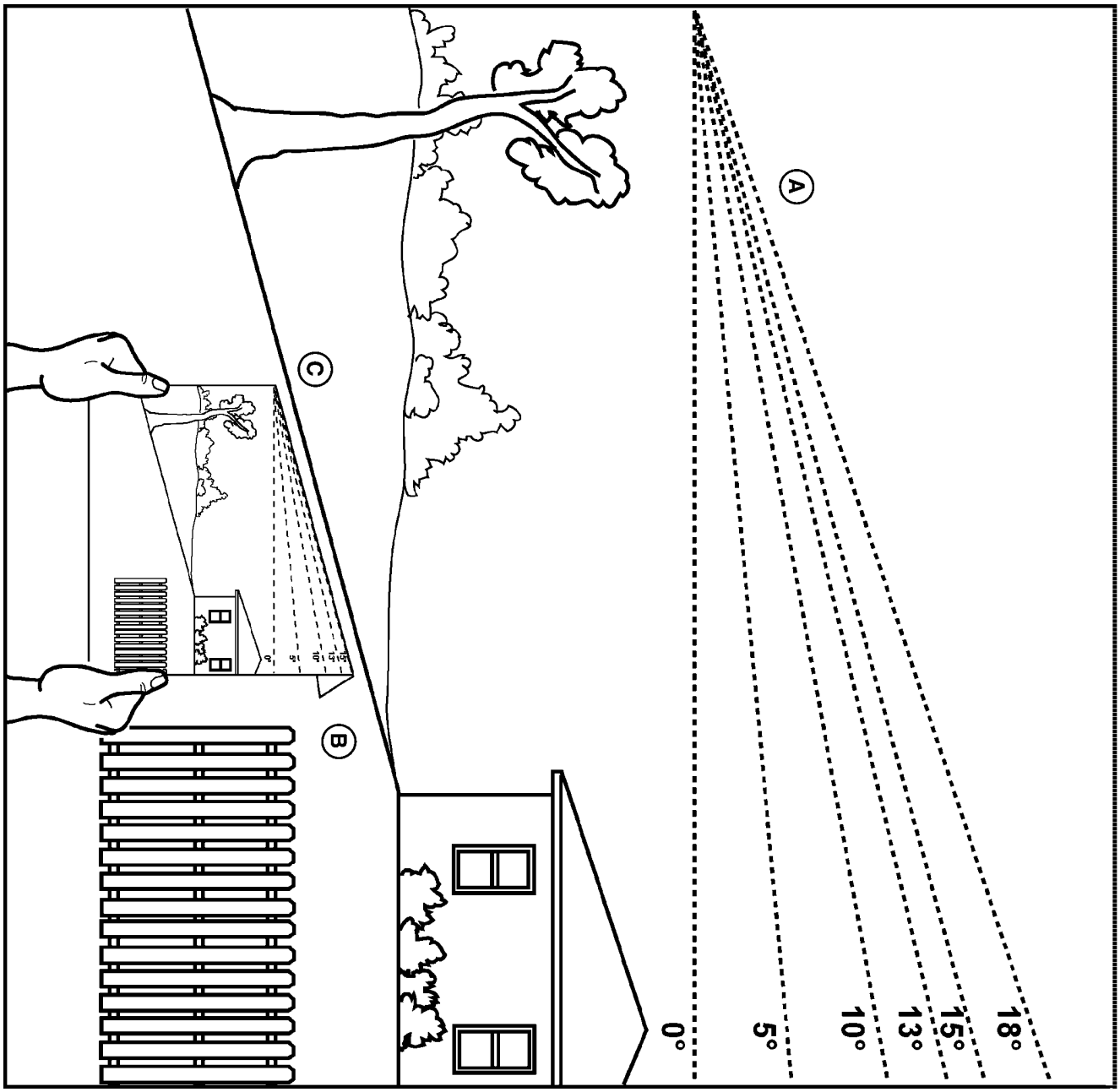
Select your country and then click on the Contact Us link.

Record Service Dates

Oil Change	Oil Filter Change (If Equipped)	Lubricate Machine	Air Cleaner Element Check/Clean	Fuel Filter Change

Slope Gauge Template

Hold up or copy this page and follow the directions below to use the Slope Gauge Template.



MXT013189—UN—22APR15

Use this slope gauge to determine if a slope is too steep for safe operation. Do not operate your machine on a slope greater than what is recommended in your Operator's Manual. See Operating on Slopes in the Safety Section.

- Fold along the appropriate line (A) to match the recommended slope.
- Align this edge (B) with a vertical surface, a tree, building, fence pole, etc.
- Compare slope (C) with folded edge.

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