



TH 6X4 Gas Gator™ Utility Vehicle



JOHN DEERE



OPERATOR'S MANUAL

Gator™ Utility Vehicle TH 6X4 Gas

OMUC16256 ISSUE F8 (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.



Introduction

Thank You for Purchasing a John Deere Product

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

MX00654,000020B-19-10MAY17

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 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 that 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.

MX00654,000020C-19-05JUN17

Special Messages

Your manual contains special messages to bring attention to potential safety concerns and 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.

MX00654,000020D-19-05JUN17

Attachments for Your Machine

There is 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, 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 is a John Deere attachment or kit to fill every need.

OUMX068,000051C-19-05JUN17

Service Literature

If you would like to purchase a copy of the Parts Catalog or Technical Manual for this machine, visit The John Deere Technical Information Store at:

https://techpubs.deere.com/?cid=VURL_TechInfoStore
or call:

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

TH84124,0000199-19-15AUG17

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.

TC00531,00000E9-19-06MAR15

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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.

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Product Identification

Record Identification Numbers

TH 6x4 Gas

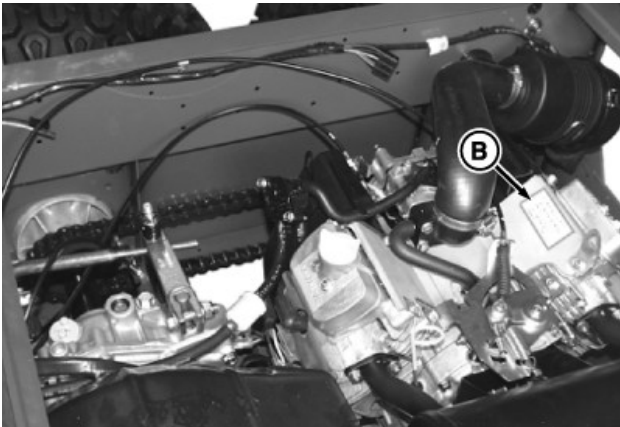
PIN (130001-)

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 identification numbers for the product. Record the information in the spaces provided below.



MXAL47638—UN—16APR13



MXT008147—UN—10AUG13

DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:

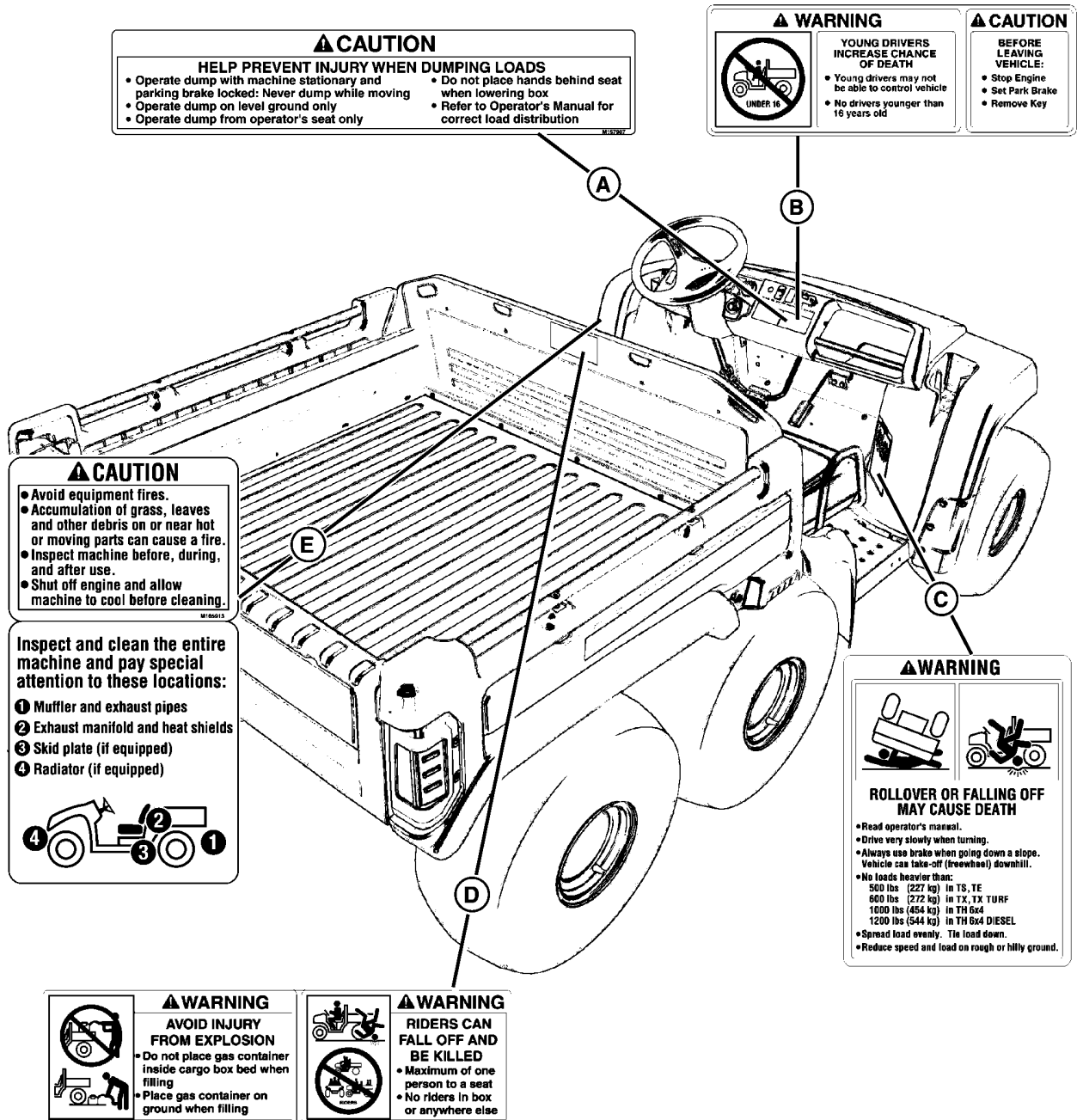
PRODUCT IDENTIFICATION NUMBER (A):

ENGINE SERIAL NUMBER (B):

MX10673,000001B-19-01AUG17

Safety Labels Text

Safety Label Location



MXT010579—UN—21JUL14

A—CAUTION M157907
B—WARNING M150928
C—WARNING M154111

D—WARNING M157240 (2 used)
E—CAUTION M165913

OUMX068,0000BEA-19-29MAY15

Safety Labels Text

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. DANGER or WARNING safety labels are located near specific 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.

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

- **DANGER;** The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING;** The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION;** The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

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.

MP47322.00F4601-19-26OCT16

CAUTION

HELP PREVENT INJURY WHEN DUMPING LOADS



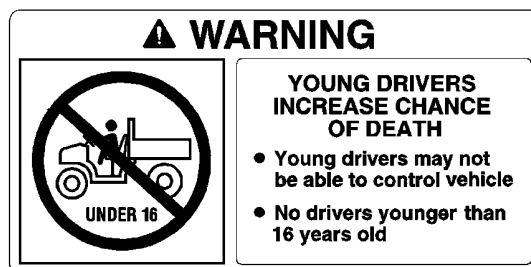
MXT007815—UN—02JUL13

- Operate dump with machine stationary and parking brake locked: Never dump while moving
- Operate dump on level ground only
- Operate dump from operator's seat only
- Do not place hands behind seat when lowering box
- Refer to Operator's Manual for correct load distribution

OUMX068,00005A4-19-03JUL13

WARNING

YOUNG DRIVERS INCREASE CHANCE OF DEATH



MXT007812—UN—02JUL13

- Young drivers may not be able to control vehicle.
- No drivers younger than 16 years old.

OUMX068,00005A2-19-03JUL13

CAUTION

BEFORE LEAVING VEHICLE:



MXT007811—UN—02JUL13

- Stop engine
- Set park brake

Safety Labels Text

- Remove key

OUMX068,00005A1-19-03JUL13

WARNING

ROLLOVER OR FALLING OFF MAY CAUSE DEATH



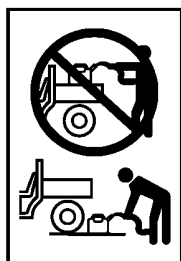
MXT007810—UN—02JUL13

- Read operator's manual.
- Drive very slowly when turning.
- Always use brake going down a slope. Vehicle can takeoff (freewheel) downhill.
- No loads heavier than:
 - 500 lb. (227 kg) in TS, TE
 - 600 lb. (272 kg) in TX, TX TURF
 - 1000 lb. (454 kg) in TH 6x4
 - 1200 lb. (544 kg) in TH 6x4 DIESEL
- Spread load evenly. Tie load down.
- Reduce speed and load on rough or hilly ground.

OUMX068,00005A0-19-03JUL13

WARNING

AVOID INJURY FROM EXPLOSION



- Do not place gas container inside cargo box bed when filling
- Place gas container on ground when filling

MXT007813—UN—02JUL13

- Do not place gas container inside cargo box bed when filling.

- Place gas container on ground when filling.

RIDERS CAN FALL OFF AND BE KILLED

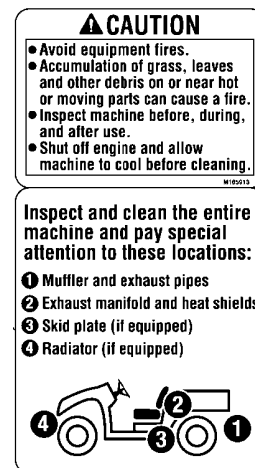


M157240
MXT007814—UN—02JUL13

- Maximum of one person to a seat
- No riders in box or anywhere else

OUMX068,00005A3-19-03JUL13

CAUTION



MXAL44069—UN—27MAR13

- 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.

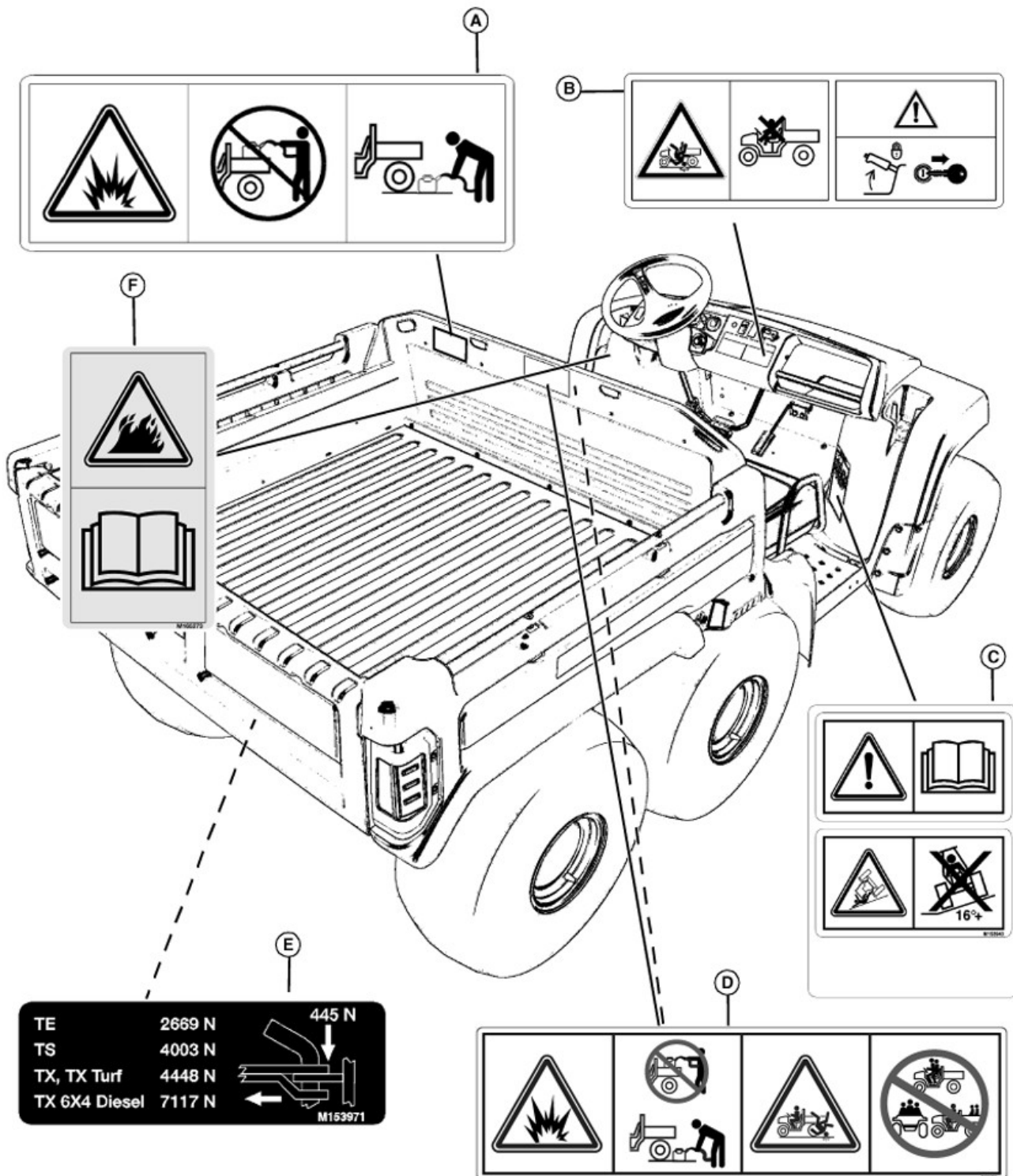
Inspect and clean the entire machine and pay special attention to these locations:

1. Muffler and exhaust pipes
2. Exhaust manifold and heat shields
3. Skid plate (if equipped)
4. Radiator (if equipped)

SP66632,00042F9-19-03APR13

Safety Labels No-Text

Safety Label Location



A—AVOID INJURY FROM EXPLOSION M151630
 B—YOUNG DRIVERS INCREASE CHANCE OF DEATH M153941
 C—ROLLOVER OR FALLING OFF MAY CAUSE DEATH M153943

D—AVOID INJURY FROM EXPLOSION OR RIDERS FALLING OFF M161725
 E—DRAWBAR LOAD M153971
 F—AVOID INJURY FROM EQUIPMENT FIRES M165273

MXAL47640—UN—16APR13

OUMX068,0000BCD-19-06JUL16

Safety Labels No-Text

Understanding the No-Text Machine Safety Labels



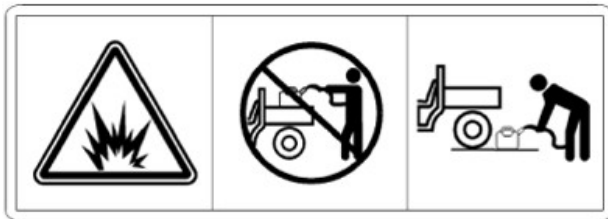
TCT005498—UN—11SEP12

At several important places on this machine, safety signs are affixed which signify potential danger. The hazard is identified by a pictorial in a warning triangle. An adjacent pictorial provides information on 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.

MX00654,0000389-19-05JUN17

Avoid Injury From Explosion

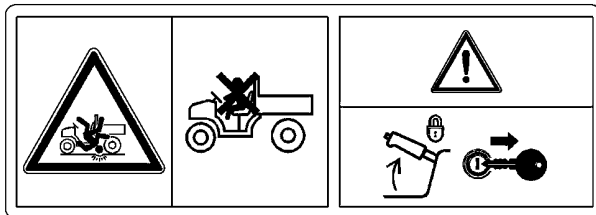


MXAL47572—UN—16MAY13

- Do not place gas container inside cargo box bed when filling.
- Place gas container on ground when filling.

OUMX068,0000026-19-27JUL13

Young Drivers Increase Chance of Death

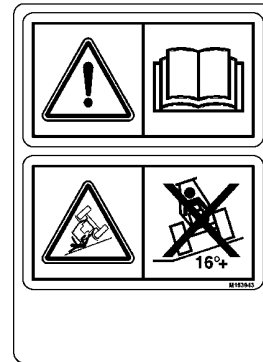


MXAL47569—UN—16MAY13

- Young drivers may not be able to control vehicle.
- No drivers younger than 16 years old.
- Before leaving vehicle:
 - Stop engine.
 - Set park brake.
 - Remove key.

OUMX068,0000023-19-27JUL13

Rollover or Falling Off May Cause Death



MXAL47570—UN—16MAY13

- Read operator's manual.
- Drive very slowly when turning.
- Always use brake when going down a slope. Vehicle can take-off (freewheel) downhill.
- No loads heavier than:
 - 227 kg (500 lbs) in TS
 - 272 kg (600 lbs) in TX, TX TURF
 - 454 kg (1000 lbs) in TH 6x4
 - 544 kg (1200 lbs) in TH 6x4 Diesel
- Spread load evenly. Tie loads down.
- Reduce speed and load on rough or hilly ground.

OUMX068,0000024-19-27JUL13

Avoid Injury From Explosion or Riders Falling Off



MXAL47568—UN—16MAY13

AVOID INJURY FROM EXPLOSION

- Do not place gas container inside cargo bed when filling
- Place gas container on ground when filling

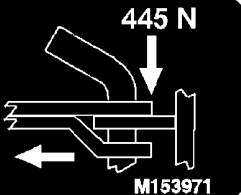
RIDERS CAN FALL OFF AND BE KILLED

- Maximum of one person to a seat
- No riders in box or anywhere else

OUMX068,0000022-19-27JUL13

Safety Labels No-Text

Drawbar Load

TE	2669 N	
TS	4003 N	
TX, TX Turf	4448 N	
TX 6X4 Diesel	7117 N	

MXAL47571—UN—16MAY13

Do not exceed recommended drawbar loads stated on label.

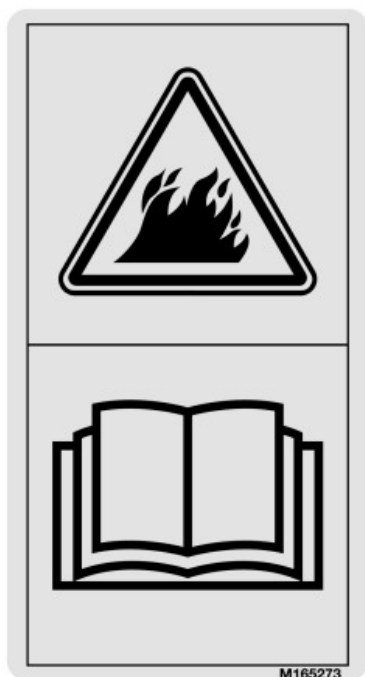
- Horizontal
 - TE: 2669 N (600 lb-force)
 - TS: 4003 N (900 lb-force)
 - TX, TX Turf: 4448 N (1000 lb-force)
 - TX 6x4 Diesel: 7117 N (1600 lb-force)
- Vertical
 - 445 N (100 lb-force)

OUMX068,0000025-19-27JUL13

- Carefully read Operator's Manual Machine Clean out section for details.

OUMX068,0000027-19-08JUL16

Avoid Injury From Equipment Fires



M165273

MXT010007—UN—13MAY14

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

Safety

Supervisor Safety Responsibilities

- Make sure all operators of this machine are thoroughly trained and are familiar with the operator's manual and understand the machine warning labels.
- Be sure to establish any special safety procedures for existing work conditions and train operators in those procedures.
- Supervisors, operators and mechanics should be familiar with and practice the safety standards that apply to this machine.

RH75544,0000159-19-08APR13

Operator Training Required

- Read the operator's manual and other training material. If the operator or mechanic cannot read English, it is the owner's responsibility to explain this material to them. This publication is available in other languages.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner of the machine is responsible for training the users.
- Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people, or property.
- Operate the machine in an open, unobstructed area under the direction of an experienced operator when training.

RH75544,000015A-19-03APR18

Operating Safely

- Read, understand, and follow all instructions in the operator's manual, on the machine, and on the safety video before starting.
- Misuse can lead to accidents, severe bodily injury, or death.
- The utility vehicle's tires are designed for off-road use only. Paved surfaces may seriously affect handling and control of the vehicle. If you must operate on a paved surface, travel slowly and do not make sudden turns or stops.
- Do not operate this vehicle on a frozen body of water. The vehicle could break through the ice, causing injury or even death.
- Go slowly and be extra careful when riding on snow-covered or ice-covered terrain.
- Slow down and be careful of traffic when operating near or crossing roadways. Use care when

approaching blind corners, shrubs, trees, or other objects that may obscure vision.

- The operator should always make sure that the passenger is aware of correct safety procedures while riding in the utility vehicle.
- Use the correct flags, lights, signs, and reflectors on the vehicle to warn other drivers when operating near roadways. Make sure these features are clean and visible for 152 m (500 ft.).
- The passenger should always use the hand holds.
- On machines with seat belts, to avoid serious injury, always ensure that occupants have safely secured their seat belts prior to starting this vehicle.
- Horseplay can lead to accidents, severe bodily injury, or death. Do not attempt stunts, jumps, or quick acceleration to raise front wheels off the ground. These actions can result in accidents or vehicle overturns.
- Sit on the center of the seat and keep both feet within the foot platform perimeter. Clean foot platform if dirty, and remove any debris from around foot controls.
- Check for debris in engine compartment, especially around exhaust system components.
- Always use both hands for steering.
- Know location of controls and how and what they operate.
- Never operate utility vehicle while standing.
- Never operate utility vehicle with the cargo box raised.
- Check brake action before beginning vehicle operation. Adjust or service the brakes as necessary.
- To provide adequate braking ability and traction, do not tow any attachment or loaded trailer unless the cargo box is fully loaded.
- Do not allow the Gross Vehicle Weight (GVW) to exceed the Gross Vehicle Weight Rating (GVWR) of the vehicle.
- Before shifting into reverse, always check for obstacles or people behind the machine.
- Always back slowly.
- Inspect vehicle before operating. 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 operating.
- Do not leave vehicle unattended when it is running.
- Operate during daylight or with good artificial light, and if you drive at night, use the lights.
- Do not operate vehicle if under the influence of alcohol or other drugs.
- Avoid sudden starts, stops, or turns.
- Always use a level turn-around area.

Safety

- Do not wear radio or music headphones. Safe service and operation require your full attention.

OUMX068,000094A-19-05JUL17

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.

RH75544,000015C-19-08APR13

Parking Safely

1. Stop vehicle on a level surface, not on a slope.
2. Fully lower the cargo box and any attachments on the machine that can be lowered.
3. Lock park brake.
4. Stop engine.
5. Remove key.
6. Before you leave the operator's seat, wait for engine and all moving parts to stop.
7. Disconnect the negative battery cable before servicing the machine.

OUMX068,00005F5-19-11DEC17

Protect Children/Small Adults and Prevent Accidents

- This utility vehicle should not be operated by anyone under the age of 16 years.
- This utility vehicle should not be operated by anyone without a valid driver license.
- Young drivers may not be physically able to control the machine or may not be mature enough to make safe driving decisions.

- Do not allow small children to ride as passengers in this vehicle because they may not be able to sit safely in the seat and use handholds properly. All passengers must be able to grasp handholds with their back against the seat, both feet on the floor, and seat belt on (if equipped).
- Passenger should always use the handholds while the vehicle is moving.
- Seat belts installed on utility vehicles are not designed to restrain children.
- Never carry passengers, especially children, in the cargo box area. Do not tow children in a cart or trailer.
- Never assume that children will remain where you last saw them. Stay alert to the presence of children.
- Before backing or turning, look behind and around the utility vehicle for children.
- Be alert at all times; drive forward and in reverse carefully. People, especially children, can move quickly into an area of operation.
- Use extra care when coming to blind corners, shrubs, trees, or other objects that may block vision.
- Misuse can lead to accidents, severe bodily injury, or death.

OUMX068,0000D6A-19-05JUL17

Avoid Excessive Speeds



MXAL43283—UN—19MAR13

- Always travel at a speed that is safe and proper for the terrain, visibility and operating conditions, and your experience operating the machine.
- Use caution when operating the machine in reverse. Use a slow speed and do not make sharp turns. Always look behind before backing.
- Never travel at excessive speeds on slopes, either going up or down. Use a slow speed and do not make sharp turns. Become experienced driving the machine on small slopes before driving on larger hills.

OUC1023,0000A5B-19-19APR13

Avoid Tipping



MXAL43283—UN—19MAR13

Accidents resulting in serious injury or death can occur

Safety

from tipping the utility vehicle. Observe the following practices to help prevent accidents.

- Do not misuse the utility vehicle. The utility vehicle is not designed for recreational riding.
- Drive very slowly when turning. Sharp turns could cause the utility vehicle to tip over.
- Reduce speed and exercise extreme caution on slopes or on rough ground.
- Do not overload vehicle and avoid shifting loads. Reduce load when operating over rough or hilly terrain.
- Do not stop or start suddenly when going uphill or downhill. Be especially cautious when changing direction on slopes.
- Stay alert for holes, rocks, and other hidden hazards in the terrain.
- Keep away from drop-offs, ditches, embankments, as well as ponds and other bodies of water. The machine could suddenly roll over if a wheel goes over the edge of a cliff or ditch or if the edge caves in.
- Keep front wheels straight at crest of hill or going over bumps.
- When descending a hill, remove foot from accelerator pedal and apply brakes to reduce speed and maintain control.
- Do not make changes or modifications to the utility vehicle.
- This list of potential overturning hazards is not exhaustive.

OUMX068,000002B-19-27JUL13

Keep Riders Off Vehicle



MXAL46805—UN—10APR13

- Seating is provided for operator and one adult passenger.
- Never allow riders in the cargo box or other areas where seats are not provided.
- Riders on vehicle are subject to injury such as being struck by foreign objects or being thrown off of the vehicle and severely injured or killed.
- Riders affect the operator's ability to control the vehicle as well as its center of gravity. Also, riders could obstruct the operator's view resulting in the vehicle being operated in an unsafe manner.

OOU1023,0000A5E-19-19APR13

Using Front Attachments

Remove front attachments such as drawbar hitches,

hitch mounted winches, or blades when operating on rough or uneven terrain. Front attachments may contact the ground when operating on rough or uneven terrain which may cause loss of control or rollover.

OUMX068,0000634-19-22SEP16

Transport Loads Safely

- Be sure load is evenly distributed in cargo box.
- Do not load above load guard.
- Securely anchor all loads in cargo box.
- Reduce cargo box load when operating on rough or hilly terrain.

OOU1023,0000A5F-19-19APR13

Towing Loads Safely With Utility Vehicle

- To provide adequate braking ability and traction, the weight of towed load (trailer plus cargo) must never exceed the vehicle payload.
- Do not tow a load that exceeds the maximum allowable towing load for this vehicle, as specified in this operator's manual.
- Stopping distance increases with speed and weight of towed load. Travel slowly and allow extra time and distance to stop.
- Tow load at a speed slow enough to maintain control.
- 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.
- If you cannot back up a slope with a towed load, the slope is too steep to operate on with the towed load. Reduce the towed load or do not operate.
- 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.
- Secure towed loads before transporting.

OUMX068,000091B-19-25SEP17

Before Driving

1. Clean foot platform if dirty, and remove any debris from around foot controls. Sit on the center of seat and keep both feet inside foot platform perimeter.

Safety

2. Inspect utility vehicle for signs of wear or damage.
3. All safety equipment must be in good condition and fastened in place:
 - Lights.
 - Shields.
 - Safety start devices.
4. Before moving, check around utility vehicle, be sure no one is near it.
5. Inspect mechanical condition of your vehicle before each use to minimize chance of injury or being stranded. Remember, you can ride farther in an hour than you can walk in a day.

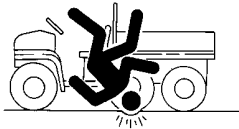
Be sure to check condition of tires and wheels, wheel hardware torque, and maintain proper tire pressure.
6. Securely anchor all loads.

OUO1023,0000A61-19-19APR13

- Sit on center of seat and keep both feet within foot platform.
- Never drive past the limit of visibility. Slow down near crest of hill until getting a clear view of the other side. Never go over the top of any hill at a high speed. An obstacle, sharp drop, another vehicle or person, could be on the other side of the hill.
- Keep front wheels straight at crest of hill or going over bumps.
- Do not stop or start suddenly when going uphill or downhill. Be especially cautious when changing direction on slopes.
- If vehicle stops or loses power going up a hill, lock park brake to hold vehicle on slope. Maintain direction of travel and release brake slowly. Back straight down hill slowly while maintaining control. Do not turn vehicle sideways. Vehicle is more stable in a straight forward or rearward position.
- When descending a hill, remove foot from accelerator and apply brakes to reduce speed and maintain control.

OUO1023,0000A63-19-19APR13

Driving On Rough Terrain

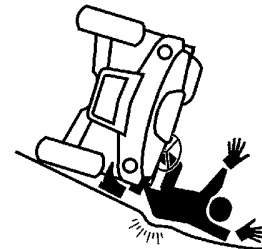


MXAL43284—UN—19MAR13

- Always wear a helmet when operating the vehicle on uneven or rough terrain.
- Use existing trails. Avoid terrain, such as dangerous slopes and impassable swamps. Watch carefully for bumps, holes, ruts, loose terrain, or other obstacles.
- Look ahead at terrain. Know what is coming and be prepared to react. Be alert for hazards.
- Keep front wheels straight at crest of hill or going over bumps.
- Reduce speed according to trail, terrain, and visibility conditions.
- The passenger should always use the hand holds.

MX00654,00000BA-19-05JUL17

Driving Across Slopes



MXT008510—UN—10JAN17

- Reduce speed and use caution on slopes and in sharp turns.
- Stay alert for holes, rocks, and other hidden hazards in the terrain.
- When riding on soft terrain, turn front wheels slightly uphill to keep utility vehicle on a straight line across the hill.
- If utility vehicle begins to tip, turn front wheel downhill to gain control before proceeding.

SP66632,0004717-19-05JUL17

Climbing Or Descending A Hill



MXAL43283—UN—19MAR13

- Always use the brakes when going down slopes, the utility vehicle can speed up (freewheel) going down a slope. Engine or clutch braking effect is minimal.
- Balance loads evenly and secure them. Braking could shift the load and affect vehicle stability.

Riding Through Water

- Avoid water whenever possible. If drive belt becomes wet, slippage will occur and vehicle will lose power.
- Never cross any body of water where depth may be unknown to the operator. As an operational guideline, deep water is considered anything in excess of 152 mm (6 in.) in depth. Tires may float, making it difficult to maintain control.

Safety

- Choose a course within the waterway where both banks have a gradual incline. Cross at a point known to be safe.
- Proceed at a slow steady speed to avoid submerged obstacles and slippery rocks.
- Avoid water crossings where the operation of a utility vehicle may cause damage to waterway beds or erode waterway shoreline.
- Never operate this vehicle in fast-moving water.
- Stopping ability of vehicles with external disk brakes may be affected after driving through water. If necessary, apply brakes several times to dry them out.

OUO1023,0000A65-19-19APR13

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.

OUO1023,0000A66-19-19APR13

Wear Appropriate Clothing



MXAL41935—UN—18FEB13

- Wear close fitting clothing and safety equipment appropriate for the job.
- Certain operating conditions may dictate that the operator and any passenger wear appropriate safety equipment while operating the vehicle. Be prepared for any existing and potential conditions before operating machine.
- Local safety or insurance regulations may require additional safety equipment such as eye protection or a hard hat.
- Always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.

OUO1023,0000A67-19-19APR13

Practice Safe Maintenance



MXAL41933—UN—18FEB13

- Only qualified, trained adults should service this machine.
- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate, service, or adjust machine while it is moving. Keep safety devices in place and in working condition.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
- Disconnect battery(ies) or remove spark plug wires (for gasoline engines) before making any repairs.
- Keep all nuts and bolts tightened.
- Securely support any machine elements that must be raised for service work. Lock service latches before working on machine with raised attachments.
- Never run engine unless park brake is locked.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.
- To prevent fires, remove any buildup of grease, oil, or debris from the machine, especially the engine.
- Do not modify machine or safety devices. Unauthorized modifications may impair its function and safety.
- Do not wear radio or music headphones while servicing the machine. Safe service requires your full attention.
- Disconnect battery ground cable(s) (-) on the machine or remove attachment from machine before welding on the machine.

RH75544,000016E-19-08APR13

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's 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.

Safety

- 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 the mower deck or cutting units 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.

OUO2005,0000221-19-05JUL17

Do Not Modify Machine

Do not make any unauthorized modifications to the machine in any way.

Modifications can result in making the machine

unstable, increasing the possibility of rollover causing severe bodily injury or death.

RH75544,0000170-19-08APR13

Tire Safety



TCAL25965—UN—24MAY12

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.

OUO2005,0000222-19-10MAY17

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

Safety

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.

RH75544,0000172-19-16APR13

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.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. The seller of the chemical products used with your machine is responsible for providing the MSDS for that product.

RH75544,0000173-19-08APR13

Use Electronic Display Properly

Electronic displays are secondary devices intended to aid the operator in performing field operations, increase comfort and provide entertainment. Displays offer a wide range of functionality, are used in many different machine system applications and can be used with other secondary devices such as handheld electronic devices.

A secondary device is any device that is not required to operate your machine for its primary use. The operator is always responsible for safe operation and control of the machine.

To prevent injury while operating the machine:

- Position the display according to the installation instructions. Ensure that the device is secured and does not obstruct the driver's view or interfere with the machine operating controls.
- Do not become distracted by the display. Stay alert. Pay attention to the machine and surrounding environment.
- Do not change settings or access any functions that require prolonged use of the display controls while machine is moving. Stop the machine in a safe location and place in park position before attempting such operations.
- Never set the volume so high that you cannot hear outside traffic and emergency vehicles.

To promote safe operation, certain functions of displays may be disabled unless the machine movement is restricted and/or has been placed in the park position. Overriding this safety feature may violate applicable law and can result in damage, serious injury, or death.

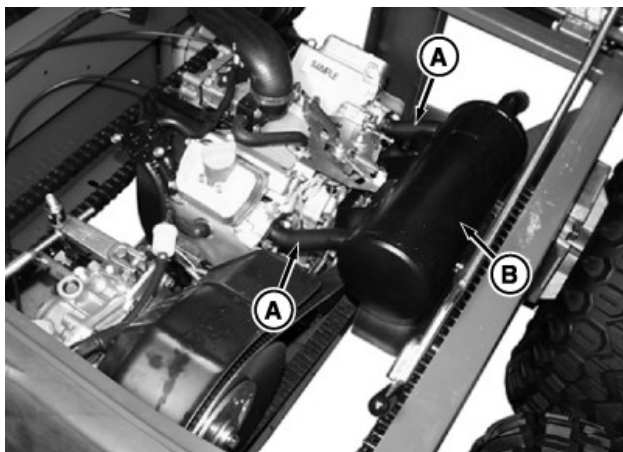
Only use available display functionality when conditions permit you to do so safely and in accordance with instructions provided. Always observe safe driving rules, state, or local laws and traffic regulations when using any secondary device.

DX,ELEC,DISPLAY-19-13JAN15

Machine Cleanout

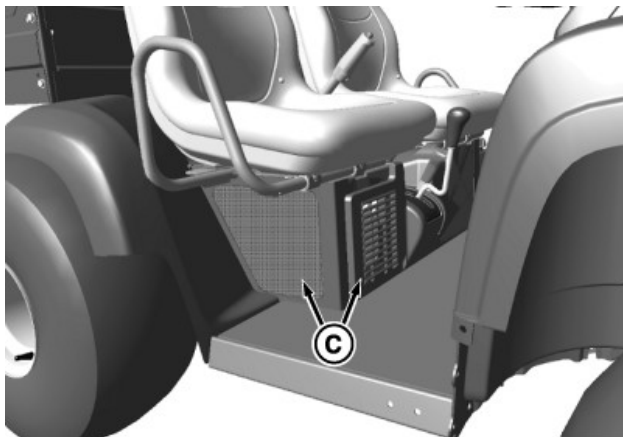
Cleanout Areas

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



MXT008149—UN—11AUG13

- Muffler pipes (A) and muffler (B).

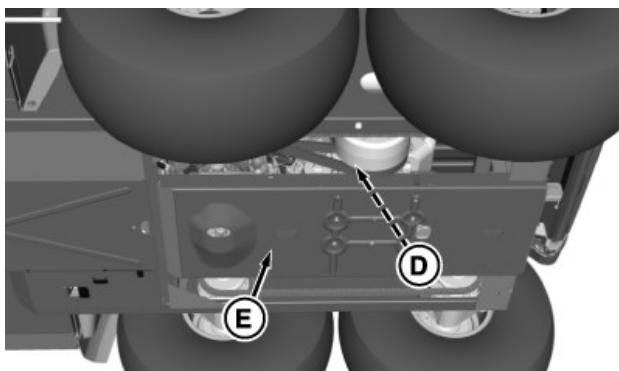


MXT008150—UN—11AUG13



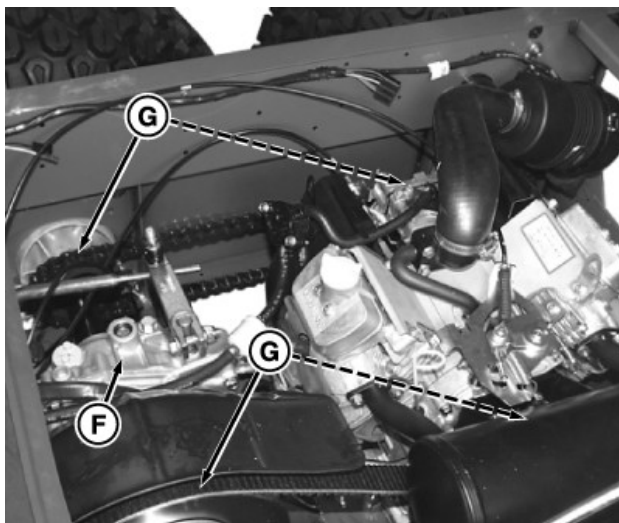
MXT008154—UN—11AUG13

- Engine intake screens (C).



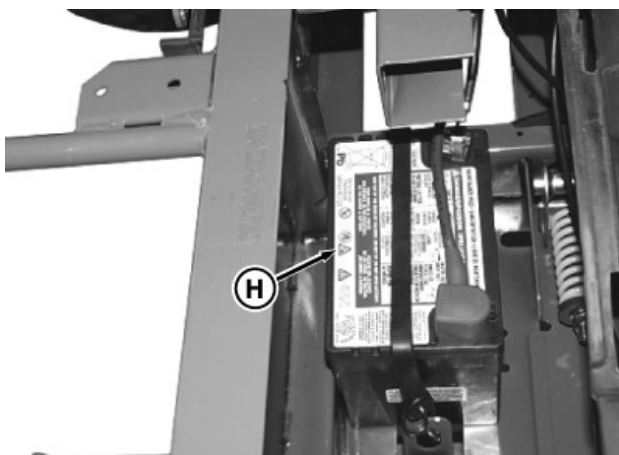
MXT008151—UN—11AUG13

- Between engine (D) and skid plates (E) (if equipped).



MXT008152—UN—11AUG13

- On or near transmission (F) and driveline (G).



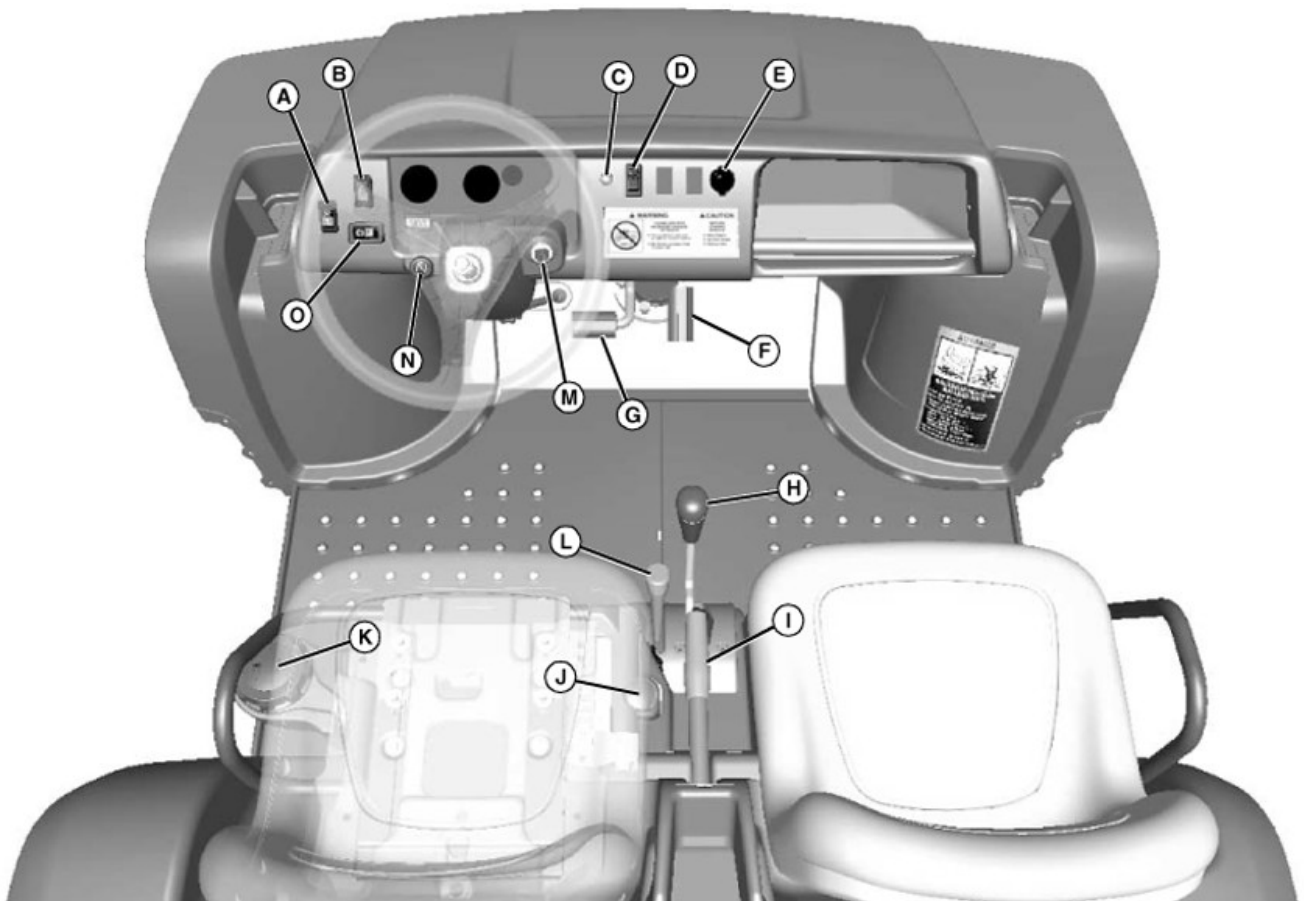
MXT008153—UN—11AUG13

- Battery (H) and related wiring harnesses.

OUMX068,0000BCE-19-27MAY15

Operating Controls

Operator Station Controls



MXAL47575—UN—16MAY13

A—Cargo Box Power Lift Switch*
B—Hazard Light Switch*
C—Horn Switch*
D—Headlight Switch
E—12 VDC Accessory Outlet
F—Accelerator Pedal
G—Brake Pedal
H—Gear Shift Lever

I—Park Brake Lever
J—Fuel Gauge
K—Fuel Tank Cap
L—Traction Assist (Differential Lock) Lever
M—Key Switch
N—Choke Knob
O—Turn Signal Switch*

*Optional Equipment

OUMX068,0000100-19-11AUG13

Operating

Daily Operating Checklist

- ☐ Test safety systems.
- ☐ Check tire pressure.
- ☐ Check fuel level.
- ☐ Check engine oil level.
- ☐ Tighten loose hardware.
- ☐ Remove debris from engine compartment, especially around brake linkage on each side of the transaxle.
- ☐ Check to make sure air intake is clean.
- ☐ Check area below machine for leaks.
- ☐ Check brakes and park brake operation.

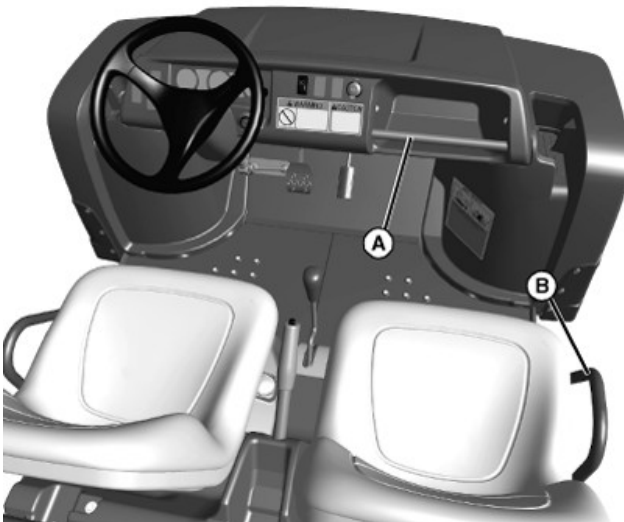
SP66632,0004724-19-19APR13

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 hood surfaces.

SP66632,0004725-19-19APR13

Using Hand Holds



MXAL47655—UN—16APR13

The dash bar (A) and side rail (B) hand holds are provided for passenger balance.

- Use hand holds when entering and exiting the machine.
- When a passenger is present, the passenger must

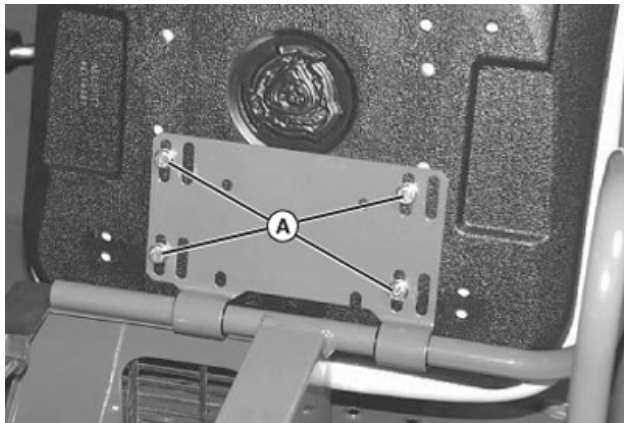
use at least one hand hold at all times while the machine is moving.

SP66632,0004726-19-19APR13

Adjusting Standard Seat

1. Tip seat forward.

NOTE: If seat is removed, install seat hardware in the correct slots in the bracket. Always use set of slots closest to center of vehicle when installing seat.



MXAL47760—UN—12APR13

Passenger seat shown

2. Hold onto seat and loosen cap screws (A).
3. Slide seat forward or rearward for desired position.
4. Tighten seat cap screws to specification.

Specification

Cap Screw—Torque. 12.2 N·m (9 lb-ft)

SP66632,0004727-19-14MAY13

Adjusting Driver Seat With Optional Lever System

CAUTION: Never adjust seat while machine is moving. Stop machine before adjusting seat to prevent loss of machine control.

1. Stop machine and move transaxle shift lever to the neutral position.
2. Lock park brake.

Operating



MXAL47657—UN—16APR13

3. Pull up on lever (A), and slide seat forward or rearward until seat locks in place.
4. Release lever.

SP66632,0004728-19-14MAY13

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.

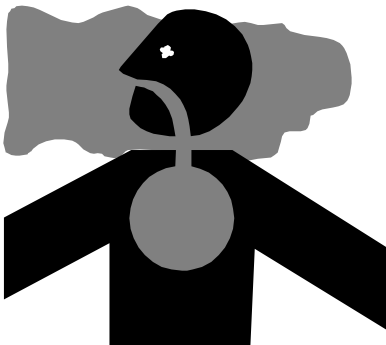
SP66632,0004729-19-19APR13

Testing the Safety Start System

1. Sit on the operator's seat.
2. Put key in STOP position.
3. Lock park brake.
4. Move gear shift lever to forward position.
5. Move key to start position. Engine should not crank. Turn key off.
6. Move gear shift lever to reverse position.
7. Move key to start position. Engine should not crank. Turn key off.

SP66632,000472A-19-19APR13

Testing Safety Systems



MXAL41828—UN—18FEB13

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

- Move the machine to an outside area before running the engine.
- Do not run an engine in an enclosed area without adequate ventilation.
- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

The safety systems installed on your machine should be checked before each machine use. Be sure you have read the machine operator manual and are completely

Using Park Brake

Locking the Park Brake:



MXAL47659—UN—16APR13

1. Push down on brake pedal to hold machine in place.
2. Pull up on lever (A) and lock lever into position engaging park brake.

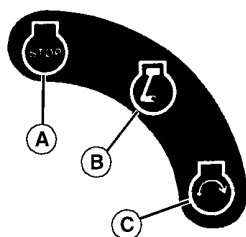
Operating

Unlocking the Park Brake:

1. Push down on brake pedal to hold machine in place.
2. Pull up on lever (A).
3. Depress button (B).
4. Release lever down completely.

SP66632,000472B-19-19APR13

Using Key Switch



MXAL44082—UN—27MAR13

A - STOP Position - With key in STOP position, all switched power is off, and engine should not run.

B - ON Position - Turn key from STOP to ON position and all switched power circuits will be energized, and machine is ready for use.

C - START Position - Used only for starting machine in neutral.

SP66632,000472C-19-19APR13

Using Headlights

Ignition switch/key must be in the run position to operate the lights. If the Ignition switch/key is in the run position and the engine is not running, the battery will discharge if the lights are allowed to remain on for an extended period of time.

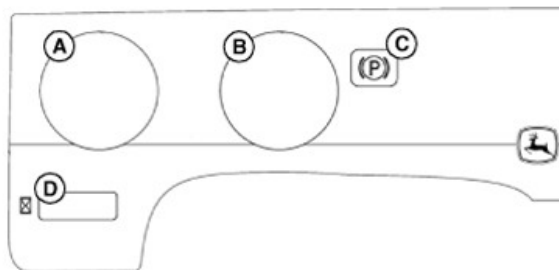
- Press top of light switch to turn headlights on.

NOTE: Be sure to turn lights off and turn the ignition switch/key to STOP position, or lights will discharge battery.

- Press bottom of light switch to turn headlights off.

SP66632,000472D-19-19APR13

Using Instrument Panel



MXAL47582—UN—16MAY13

A - **Optional Voltmeter** - This gauge indicates system voltage. Indicator should be near center position while engine is running. If indicator is in either low or high (red) positions, stop engine and go through diagnostic procedures to repair problem.

B - **Optional Speedometer** - The speedometer indicates machine speed in Km/hr (mph).

C - **Park Brake Light** - This light will turn on when the key switch is in the on position, engine is running, and park brake lever is locked.

D - **Hour Meter** - The hour meter operates and displays when the engine is running. The hour meter shows the accumulated number of hours the engine has run. The hour meter is intended to provide a means of monitoring machine usage for maintenance purposes. Use the hour meter to determine when your machine has reached the recommended service intervals.

OUC1023,0000A7A-19-19APR13

Using Accessory Outlet

CAUTION: Safe operation requires your full attention. Do not wear radio or music headphones while operating machine.

NOTE: Accessory must be rated at 10 amps or less.

The accessory plug does not turn off with the key switch. Items connected to the accessory plug will continue to draw power, discharging the battery.

- Remove 12-volt outlet cover and install accessory cord in outlet.
- Install cover in outlet after use.

SP66632,000472F-19-19APR13

Using Optional Turn Signal Switch

NOTE: Turn signals will continue to flash when the ignition switch/key is in the STOP position, discharging the battery.

Operating

- Press at left end of turn signal switch to signal a left turn.
- Press at right end of turn signal switch to signal a right turn.
- Press at opposite end of turn signal switch until switch is centered to turn signal light off.

SP66632,0004730-19-19APR13

Using Optional Hazard Lights

NOTE: Hazard lights will continue to flash when the ignition switch/key is in the STOP position, discharging the battery.

- Press at top of hazard light switch to turn hazard lights on.
- Press at bottom of hazard light switch to turn hazard lights off.

SP66632,0004731-19-19APR13

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.**

1. Sit on operator seat. Do not start engine at this time.
2. Push down on accelerator pedal to check free movement of pedal assembly. Release pedal.

NOTE: The machine has a neutral start safety switch. The engine will not crank unless the gear shift lever is in N (Neutral) position.

3. Verify that transaxle shift lever is in N (Neutral) position.
4. Verify that park brake is locked.

 **CAUTION: Avoid injury! Do not start engine by shorting across starter terminals. Bypassing normal circuitry will allow vehicle to start in gear.**

Never start engine while standing on ground. Start engine only from operator's seat.

5. Turn key switch to the ON position.

IMPORTANT: Avoid damage! Open the choke by pushing the knob in to its full off position as soon as possible. Running the engine with the choke on beyond the warm up period may lead to plug fouling.

NOTE: The choke is designed with a snap and seal option and can be utilized for maximum weather protection such as pressure washing or inclement weather. Under normal use this feature does not necessarily need to be used. Push in fully to snap and seal the knob. Pull out to unseal the knob for normal operation.

6. Pull the choke knob out fully if engine is cold.
7. Turn key to start position.
8. Push choke in as needed to obtain a stable engine idle and push knob all the way in once the engine is running smoothly.

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.**

9. Release key to the ON position when engine starts.
 - If engine does not start within five seconds, turn key to off and wait ten seconds before trying to start again.
 - In very cold conditions, attempt starting engine three times only, then wait 5 minutes before trying again. This will allow time for starter to cool and prevent damage to starter.

10. Push in on the choke.

IMPORTANT: Avoid damage! Do not operate the engine at full throttle or under load until engine has warmed up, or engine damage could occur.

11. Run engine at half speed for 2 or 3 minutes to warm the engine.

OUMX068,0000101-19-11AUG13

Stopping Engine

 **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.

Operating

IMPORTANT: Do not stop engine immediately after hard or extended operation. Keep engine running at low idle for about 2 minutes to prevent heat build-up.

1. Release accelerator pedal and apply brake pedal to stop machine.
2. Move transaxle shift lever to N (Neutral) position.
3. Lock park brake.
4. Turn key switch to STOP position.
5. Remove key.

SP66632,0004733-19-19APR13

Emergency Stopping

1. Remove foot from accelerator pedal.
2. Depress brake pedal. Do not release brake pedal until machine has stopped.
3. After machine has stopped, lock the park brake.
4. Turn ignition key switch to STOP position.

SP66632,0004734-19-19APR13

Using Travel Controls

1. Push down brake to stop vehicle.
2. Allow engine to come to a low idle speed.

IMPORTANT: Do not shift gears when vehicle is moving or with engine running above low idle speed. Push down brake to stop vehicle motion and push shift lever firmly to engage.

Gears may grind when shifting if engine idle speed is set higher than factory specification.

3. Select a gear position:
 - Forward - Push shift lever forward to forward gear.
 - Neutral - Push shift lever to center (neutral) position.
 - Reverse - Push shift lever rearward to reverse gear.
4. Use the traction assist as needed.
5. Look in the direction the vehicle will travel.

CAUTION: Reduce speed before braking or turning, when hauling loads, and while operating around obstacles or on hazardous off-road conditions.

6. Push down accelerator pedal slowly and smoothly to begin vehicle travel.

7. Release accelerator and apply brake pedal evenly and firmly to slow down or stop.

SP66632,0004735-19-19APR13

Using Traction Assist (Differential Lock)

Traction assist is a differential lock system which provides better traction to the rear wheels when needed. Engaging the traction assist will cause both rear wheels to turn together at equal speed.

On the TH 6x4 model, the traction assist light will turn on when the traction assist lever is engaged and the differential lock system within the transaxle is engaged. Traction assist light will go out when lever is disengaged, and the differential lock system within the transaxle is disengaged.

CAUTION: Driving at high speed with the traction assist engaged may result in loss of steering control. Do not engage traction assist while operating vehicle at speeds in excess of 16 km/h (10 mph).

Turning with the traction assist engaged increases the turning radius of the machine. Do not turn with the traction assist engaged while operating vehicle at speeds in excess of 16 km/h (10 mph).

Engaging the Traction Assist:

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

- Reduce speed and allow drive wheels to rotate at same speed before engaging or disengaging traction assist.
- Disengage traction assist when driving on dry asphalt or concrete.
- Use traction assist only when necessary for improved ground engagement.

1. Stop engine or reduce engine speed to 1/3 throttle or less.
2. Push traction assist lever forward to locked position.
 - Traction assist will remain engaged as long as lever is forward.

Disengaging the Traction Assist

1. Pull lever rearward to unlocked position.
2. Drive the vehicle straight ahead at a constant speed.
3. Reduce engine speed to 1/3 throttle or less.

SP66632,0004736-19-19APR13

Operating

Using the Cargo Box

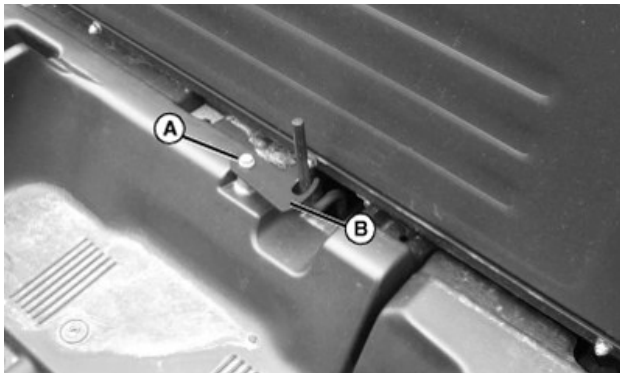
CAUTION: Seating is provided for the operator and one passenger. Do not allow riders in the cargo box or on the tailgate. Extra riders can fall off and be seriously injured or killed.

Raising and Lowering with Manual Lift (Machines Without Cabs)

CAUTION: Park machine on a level surface and lock park brake before manually raising and securing cargo box in raised position.

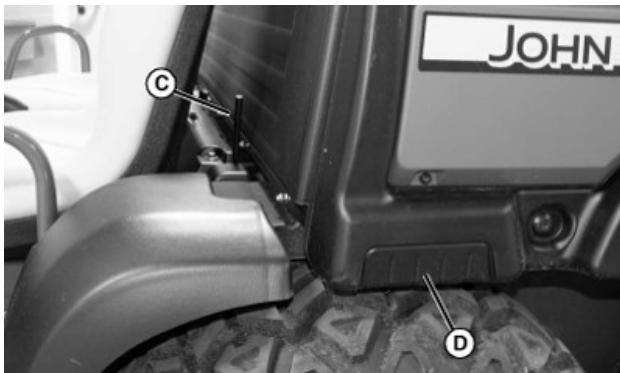
A cargo box containing material can be heavy. Empty some or all material until cargo box can safely be raised manually.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Empty cargo box by hand.



MXAL47662—UN—16APR13

3. Loosen bolt (A) and disengage cargo box lock (B).



MXAL47663—UN—16APR13

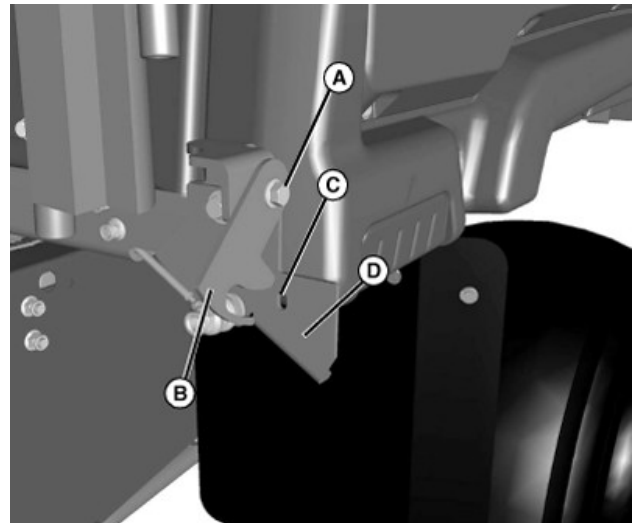
4. Release latch (C) by pulling latch towards handle (D) on cargo box. Allow lift cylinder to raise cargo box.
5. Engage lock and tighten bolt after fully lowering cargo box. Tighten bolt.

Raising and Lowering with Manual Lift (Machines with Cab)

CAUTION: Park machine on a level surface and lock park brake before manually raising and securing cargo box in raised position.

A cargo box containing material can be heavy. Empty some or all material until cargo box can safely be raised manually.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Empty cargo box by hand.



MXAL47664—UN—16APR13

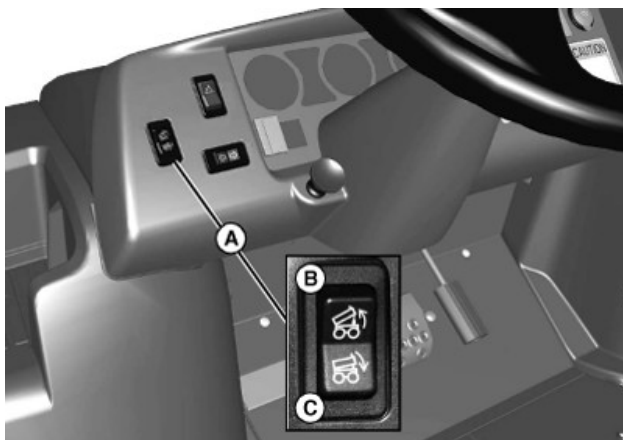
3. Loosen bolt (A) and rotate locking plate (B) out of slot (C) on handle (D). Pull up on handle to release the latch. Allow lift cylinder to raise cargo box.
4. Rotate locking plate into slot on handle after fully lowering the cargo box. Tighten bolt.

Raising and Lowering with Power Lift

IMPORTANT: A “clicking” or “ratcheting” sound when cargo box is fully raised or lowered or when box is heavily loaded indicates actuator clutch slippage. To prevent unnecessary wear or damage, keep clutch slippage to a minimum. Do not operate the Power Lift actuator beyond full stroke or exceed the cargo box weight capacity.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Disengage cargo box lock if installed.
3. Turn key to on position.

Operating



MXAL47665—UN—16APR13

4. The cargo box switch (A) is located on the left side of the instrument panel.

5. Raise cargo box by pressing and holding top of rocker switch (B). Release switch when box is at desired dump height or when reaching maximum height.

NOTE: Allowing the Power Lift actuator clutch to slip briefly (click or ratchet) after cargo box is fully lowered will help keep cargo box secure and reduce rattling caused by travel vibrations.

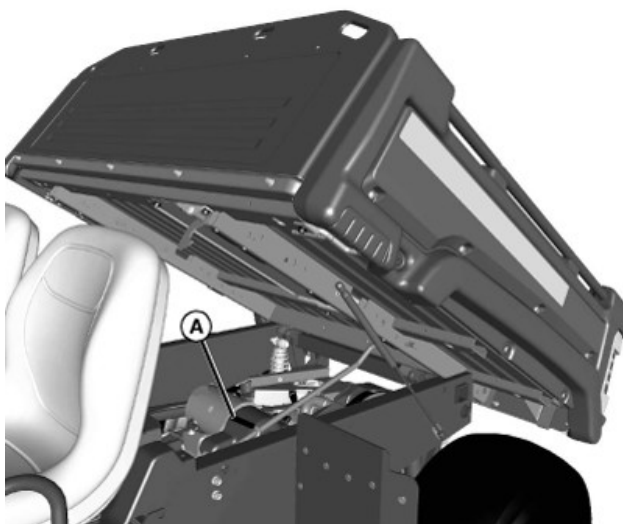
6. Completely lower cargo box by pressing and holding bottom of rocker switch (C).

7. Turn key to OFF position.

Locking Box in Raised Position

CAUTION: Cargo box can fall if not secured properly. Remove key from ignition and lock support rod securely before doing any service under raised cargo box.

1. Raise the cargo box.



MXAL47666—UN—16APR13

2. Pull down on the cargo box slightly and push rod (A) in toward center of box to locked position.
3. Check to be sure box is locked in raised position.
4. To lower cargo box, lift rod up and slowly push cargo box downward until it latches in fully lowered position.

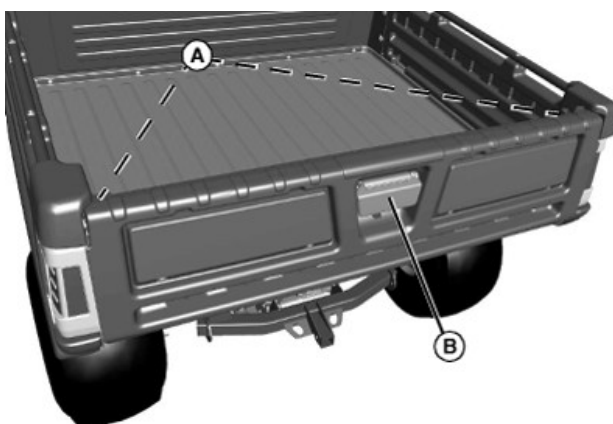
Operating the Tailgate

CAUTION: Never operate tailgate with one lanyard attached (always use both).

Check condition of lanyards for wear or damage. Replace if cable is kinked or frayed.

IMPORTANT: Do not attempt to tilt or dump cargo box when lanyards are detached. Tailgate damage from contact with hitch may result.

Keep lanyards attached when loading and unloading loose materials to avoid jamming material in the gap between the cargo box bed and tailgate.



MXAL47667—UN—16APR13

1. Check to be sure lanyards (A) are in place to support lowered tailgate.
2. Disconnect lanyards if you want to lower tailgate more than 90 degrees.

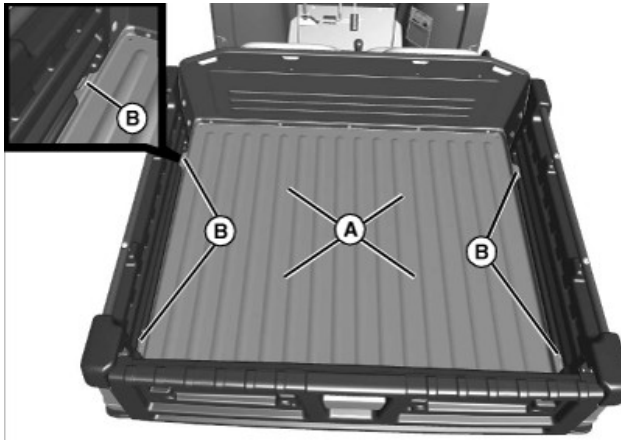
IMPORTANT: Lower tailgate completely to unload cargo box only. Never drive with the tailgate hanging down. Tailgate can contact tires and cause damage.

3. Pull back on handle (B) to unlock and lower tailgate.
4. Before raising tailgate, check for stones and debris caught in the gap between the tailgate and cargo box floor. To remove debris:
 - a. Lock the cargo box in raised position.
 - b. Rotate the tailgate slightly to free debris, and brush out the gap.
 - c. Lower the cargo box.
5. To raise tailgate, slowly push tailgate upward and lock into closed position.

Operating

6. Check to be sure tailgate is securely locked.

Using Cargo Box Tie Downs



MXAL47668—UN—16APR13

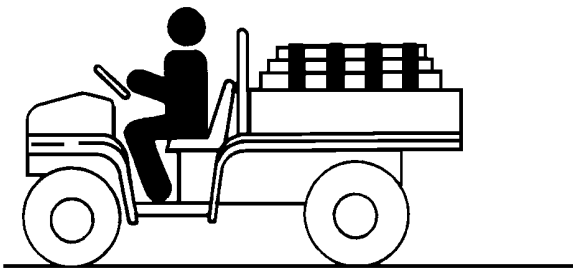
1. Arrange load so the weight is centered over the main cargo area (A).
2. Secure loads to the tie downs (B) in a safe and secure manner.

SP66632,0004737-19-16MAY13

Loading the Cargo Box

CAUTION: Avoid injury! The utility vehicle may become unstable if the cargo box is loaded incorrectly. Avoid loose and shifting loads or uneven loading of material.

- Do not load above height of load guard.
- Securely anchor all loads in cargo box.
- Do not load beyond maximum capacity.



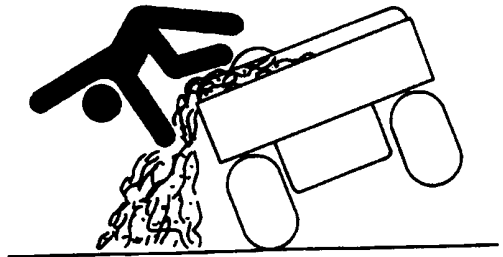
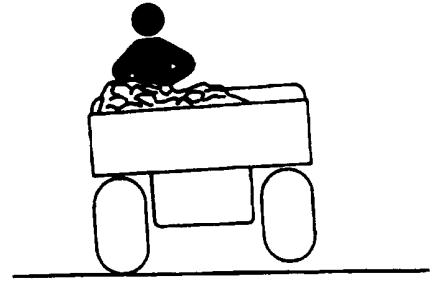
MXAL47435—UN—12APR13

Reduce load by half when operating over rough, hilly, or steep terrain. Do not overload vehicle. Limit loads to those that can be safely controlled.

Reduce speed and exercise extreme caution when operating over rough, hilly, or steep terrain.

Securely anchor and evenly distribute loads in cargo box, when loading objects into vehicle. Shifting loads will affect stability.

Do not load above load guard.



MXAL47436—UN—12APR13

Avoid concentrated loads at rear or side of cargo box to prevent vehicle from tipping over. Be sure load is evenly distributed.

Because there is a big difference in weight between dry and wet sand, the only way of getting true weight of the load you are carrying is by using a scale.

Printed weight is normally on bagged and other material.

OUMX068,0000A3F-19-11OCT14

Emptying Cargo Box

CAUTION: Raising a loaded cargo box changes the center of gravity. Keep vehicle a safe distance from the edge of ravine or drop-off when raising cargo box to empty.

A loaded cargo box can be very heavy. Do not attempt to manually raise a loaded cargo box. Unload cargo box before raising it by hand.



MXAL44093—UN—27MAR13

1. Back up vehicle to dump site.
2. Park the vehicle safely. (See Parking Safely in the SAFETY section.)

Operating

3. Open tailgate.

IMPORTANT: Stop emptying immediately if actuator clutch slippage occurs. Lower cargo box completely and remove excess load by hand before dumping.

4. Raise cargo box to dump load.
5. Lower cargo box when empty.
6. Close tailgate. Do not drive vehicle with cargo box in raised position.

SP66632,0004739-19-19APR13

Towing Loads

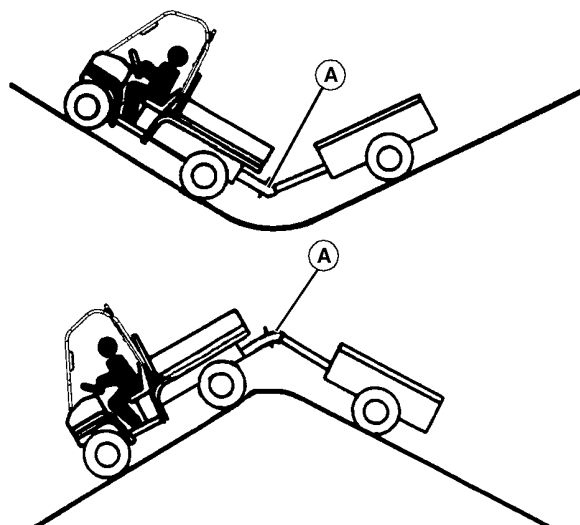
CAUTION: Avoid injury! Excessive towed load can cause loss of traction and loss of control on slopes. Stopping distance increases with speed and weight of towed load.

Do not tow a load that exceeds the maximum allowable towing load for this vehicle, as specified in this operator's manual.

Secure towed loads before transporting.

- To provide adequate braking ability and traction, weight of towed load (trailer plus cargo) must never exceed the vehicle payload (operator plus passenger plus cargo box load).
- When operating over rough, hilly, or steep terrain and reducing cargo load by half, any towed load should also be reduced accordingly.
- Do not tow a load that exceeds towing capacity listed in SPECIFICATIONS.
- Do not exceed trailer tongue weight listed in SPECIFICATIONS. (The tongue load of a trailer should be approximately 10% of the total trailer weight.)
- Tow load at a speed slow enough to maintain control.

IMPORTANT: Avoid damage! When operating on terrain with extreme angles, use a ball type hitch (A).



MXAL44186—UN—10APR13

- Always use approved hitch and hitch point provided for the utility vehicle. Do NOT modify the hitch or hitch point in any way.

Capacity Label



MXT007935—UN—18JUL13

Labels shown are for reference only. Confirm capacities on labels on your machine.

Your machine may have a hitch capacity label installed near the hitch area. The label indicates vertical and horizontal load capacities.

The vertical load capacity is the maximum down force which can be applied for safe operation. The horizontal load capacity is the total weight of what is being towed which must not be exceeded for safe operation.

OUMX068,000091A-19-10SEP14

Using Correct Tires and Inflation

See tire descriptions and inflation pressures in SPECIFICATIONS.

Operating

Tires

CAUTION: Help prevent severe bodily injury or death, failure to observe these recommendations may result in loss of stability and operator control.

Use of John Deere approved original equipment or optional equipment is recommended. To ensure maximum machine performance and ride quality, do not mix size, type, or placement of tires. Failure to place tires per the guidelines could result in reduced machine performance, diminished traction and poor handling.

Inflation

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.
- Do not inflate the tires above the recommended pressure.
- 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.

IMPORTANT: Over inflation may damage tires and diminish ride quality. Under inflation could cause wheel damage when riding over rough terrain.

An accurate low pressure gauge is available at your John Deere dealer.

SP66632,000473B-19-19APR13

Using Tire Chains

IMPORTANT: Loose tire chains can cause machine damage. Periodically check chain tightness and adjust as necessary.

Chains are available for two rear wheels only from your John Deere dealer.

SP66632,000473C-19-19APR13

Transporting Machine

Towing the Vehicle

IMPORTANT: Towing is not recommended. If towing is necessary, tow in the neutral position, and never tow the vehicle above 25 km/h (15.5 mph). Towing a vehicle at speeds above 25 km/h (15.5 mph) will result in transaxle damage. To avoid damage, haul the vehicle on a heavy-duty trailer or on a full-size truck.

Never use a car type dolly with the front wheels on the dolly.

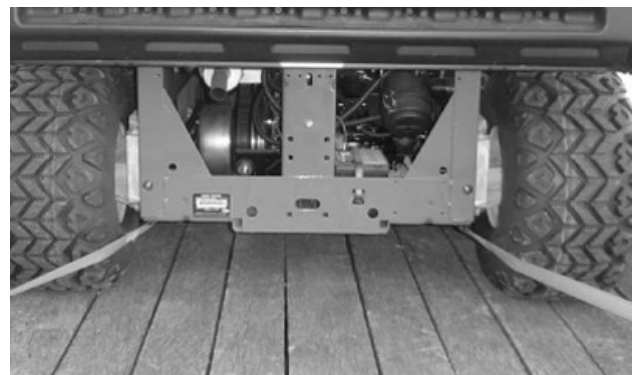
1. Check to be sure that the ignition key switch is in the STOP position.
2. Unlock the park brake and move the transaxle shift lever to the neutral (N) position for towing.
3. Move the four wheel drive control to Disengaged/Off position.

Vehicle Tie Down Locations



MXAL47674—UN—16APR13

On the front of the machine, route straps or chains over the arms and under the frame as shown.



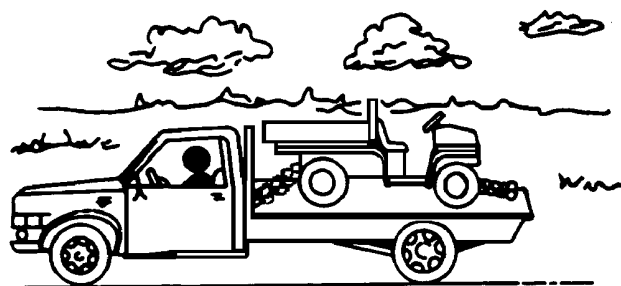
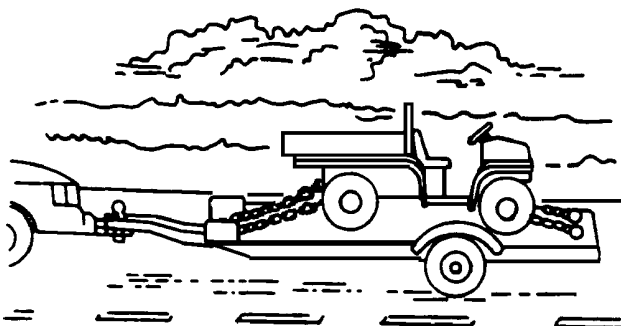
MXAL47675—UN—16APR13

On the rear of the machine, attach straps or cables to corners of the frame as shown.

Operating

Hauling the Vehicle

NOTE: Space limitations may vary from one truck manufacturer to another. Short bed trucks do not have the necessary length requirement to accommodate the machine.



MXT007937—UN—27JUL13

1. Back utility vehicle onto the trailer or truck.
2. Leave transaxle shift lever in forward or reverse gear.
3. Park vehicle safely. (See Parking Safely in the SAFETY section.)
4. Fasten vehicle to trailer or truck with straps, chains, or cables.
5. Equip the trailer or truck with all the necessary lights and signs required by local, state, provincial, or federal laws.
6. Remove or secure optional attachments, if equipped.

OUMX068,0000914-19-08AUG14

Service Intervals

Servicing Your Machine

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.

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

OUMX068,0000102-19-11AUG13

Break In

After First 8 Hours:

- Check and tighten wheel bolts to correct torque.
- Change engine oil and filter.

OUMX068,0000103-19-11AUG13

Every 50 Hours or Annually (whichever comes first)

- Grease fittings (front spindles and transaxle couplers).
- Check drive chain tension.
- Lubricate drive chain.
- Grease cargo box tailgate strikers.

OUMX068,0000104-19-11AUG13

Every 100 Hours or Annually (whichever comes first)

- Change engine oil and filter.
- Check transaxle oil level.

OUMX068,0000105-19-11AUG13

Every 200 Hours

- Adjust engine valve clearance (see your John Deere dealer for service).

OUMX068,0000106-19-11AUG13

Every 200 Hours or Annually (whichever comes first)

- Change spark plug.

- Change air cleaner element.
- Check air cleaner dust unloading valve.
- Change fuel filter.
- Check spark arrestor.
- Check drive belt condition.
- Check driven clutch wear buttons.
- Inspect battery; clean if necessary.
- Check and tighten wheel bolts to correct torque.
- Check and tighten hardware.
- Inspect cargo box tailgate lanyards. Replace if kinked or frayed.

OUMX068,0000107-19-11AUG13

Every 800 Hours or 24 Months

- Change transaxle oil.
- Replace drive belt.

OUMX068,0000108-19-11AUG13

Service Lubrication

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.

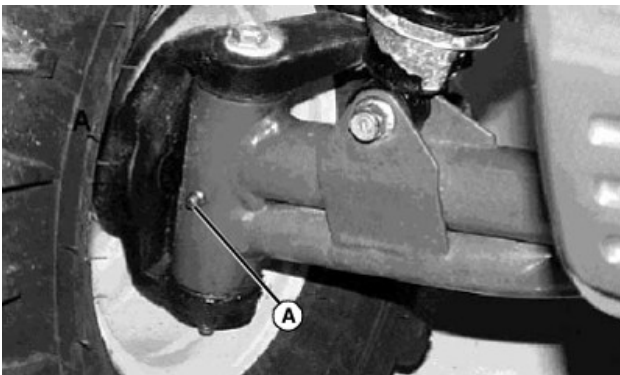
OUMX068,0000642-19-27AUG14

Chain Lubricant

Use John Deere molybdenum disulfide (Moly) Chain & Cable Lubricant or an equivalent oil meeting John Deere specifications to lubricate drive chains. In dry dusty conditions, use of a dry lube is recommended.

SP66632,000474F-19-19APR13

Lubricating Front Spindles



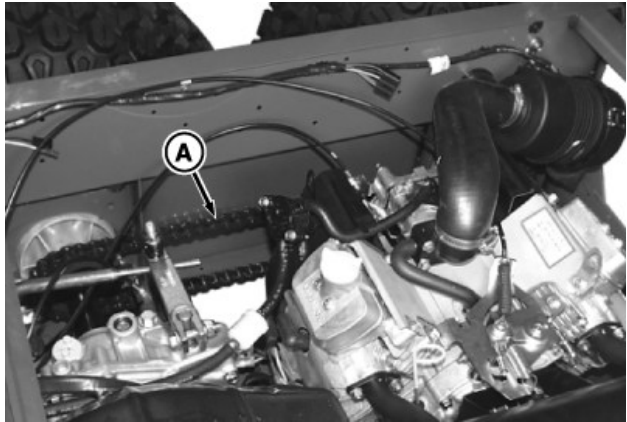
MXAL47679—UN—16APR13

Lubricate one grease fitting (A) on each spindle bushing with one or two shots of grease.

SP66632,0004750-19-19APR13

Lubricating Drive Chain

NOTE: Use a dry lubricant in dusty conditions. (See your authorized dealer.)



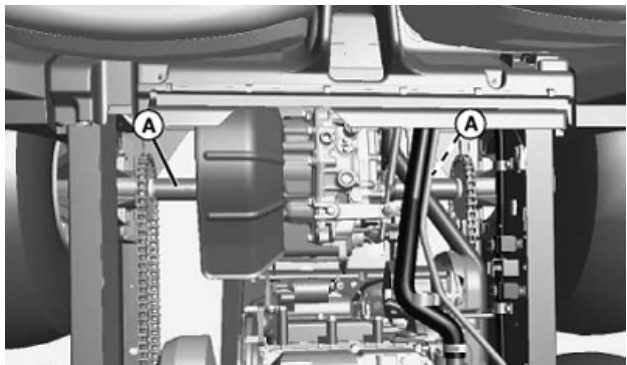
MXT008155—UN—11AUG13

Apply chain lubricant to chain (A) at each side of vehicle. Lubricate the entire surface of the chain.

OUMX068,0000109-19-11AUG13

Lubricating Transaxle Couplers

IMPORTANT: Wipe excess grease from coupler at transmission end. Excess grease can contaminate belt and cause it to slip.



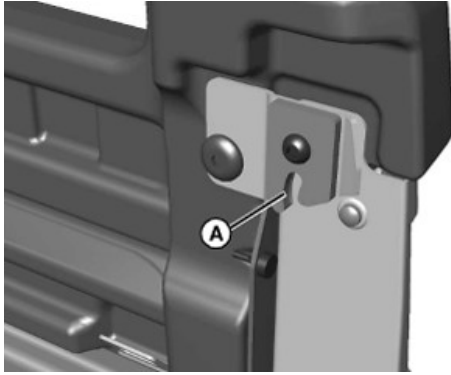
MXAL47681—UN—16APR13

Lubricate one grease fitting (A) on each transaxle coupler with one or two shots of grease.

SP66632,0004752-19-19APR13

Service Lubrication

Lubricating Cargo Box Tailgate Strikers



MXAL47682—UN—16APR13

1. Open the tailgate.
2. Apply recommended grease to the inside surface of the strikers (A) on both sides of the cargo box.

SP66632,0004753-19-28MAY13

Service Engine

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.

TC00531,00000EC-19-28MAR16

Avoid Fumes

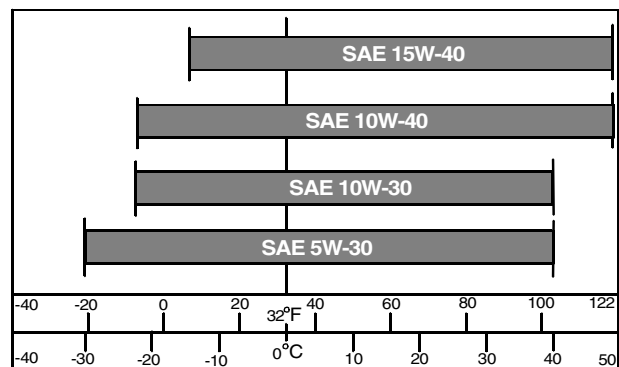
CAUTION: Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- 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.

OUC1023,0000A98-19-19APR13

Engine Oil

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



MXAL47600—UN—16MAY13

The following John Deere oils are preferred:

- TURF-GARD™
- Plus-4™
- Plus-50™ II 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

OUC1023,0000A99-19-19APR13

Checking Engine Oil Level

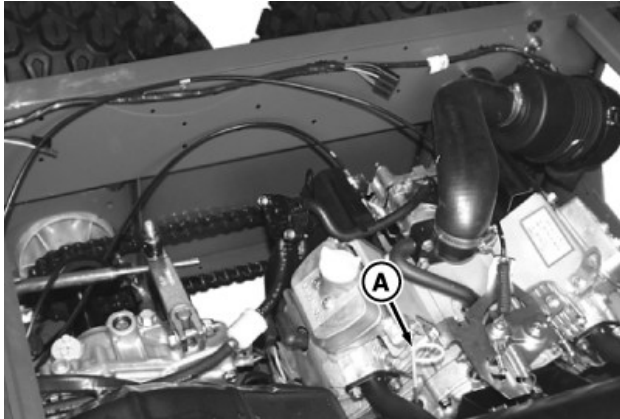
IMPORTANT: Avoid damage! Failure to check the oil level regularly could lead to serious engine problems if oil level is out of the operating range:

TURF-GARD is a trademark of Deere & Company
Plus-4 is a trademark of Deere & Company
Plus-50 is a trademark of Deere & Company

Service Engine

- 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.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.



MXT008156—UN—11AUG13

3. Check oil level:
 - Remove and wipe dipstick (A) clean.
 - Install dipstick. Remove and check oil level.
4. When checking oil level:
 - Oil level must be between upper and lower fill marks on dipstick.
 - If oil level is below lower mark on dipstick, add oil to bring oil level no higher than upper mark on dipstick.
 - If oil level is above upper mark, drain to proper level. Determine cause of this condition and correct.
5. Install dipstick.
6. Lower the cargo box.

OUMX068,000010F-19-11AUG13

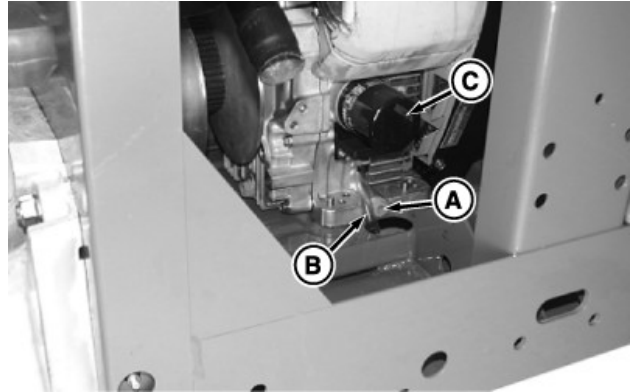
Changing Engine Oil and Filter

IMPORTANT: Avoid damage! Change the oil more often if the vehicle is used in extreme conditions:

- Extremely dusty conditions.
- Frequent slow or low-speed operation.
- Frequent short trips.

1. Run engine to warm the oil.

2. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
3. Raise and secure cargo box.
4. Place drain pan under engine drain plug.
5. Clean any debris from oil filter.

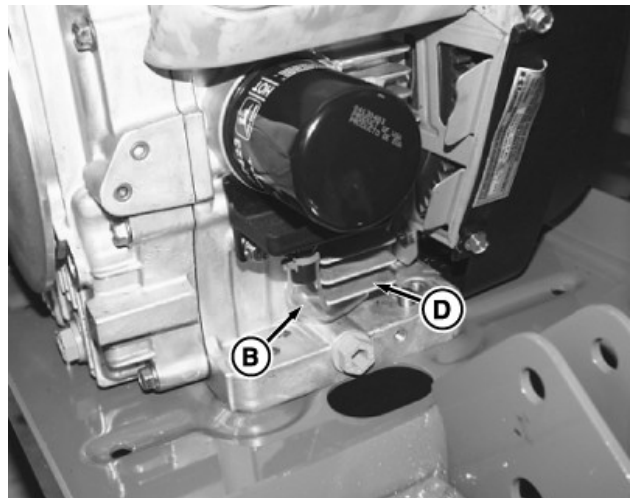


MXT008157—UN—11AUG13

6. Remove drain plug (A) on the rear side of engine and drain oil into oil drain pan. Allow oil to drain completely.
7. Guide drain hose (B) into bottom drain hole in frame.
8. Remove and discard oil filter (C) on rear of engine. Wipe off filter base on engine.
9. Put a light coat of clean engine oil on gasket of new oil filter.
10. Install new filter until rubber gasket contacts filter base. Tighten filter an additional one-half turn.
11. Install drain plug and tighten to specification.

Specification

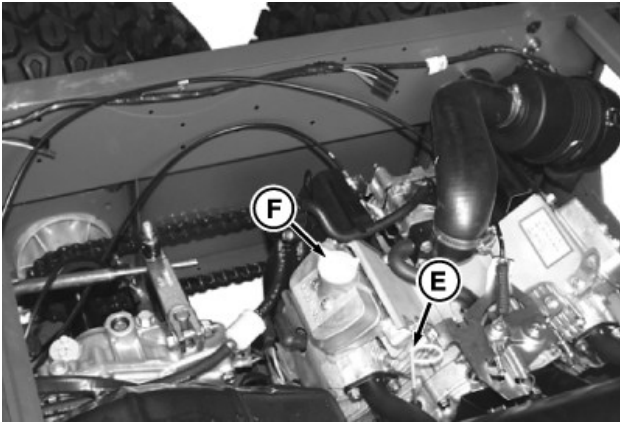
Engine Oil Drain Plug—Torque. 6.9 N·m (61 lb.-in.)



MXT008244—UN—11AUG13

12. Raise bottom of drain hose (B) out of drain hole and secure tucked below bottom engine cooling fin (D).

Service Engine



MXT008158—UN—11AUG13

13. Remove oil fill cap (F) from filler opening and add engine oil.

IMPORTANT: Avoid damage! Do not overfill crankcase with oil. Oil capacities given are with engine and crankcase completely dry. Some oil will remain in engine after draining.

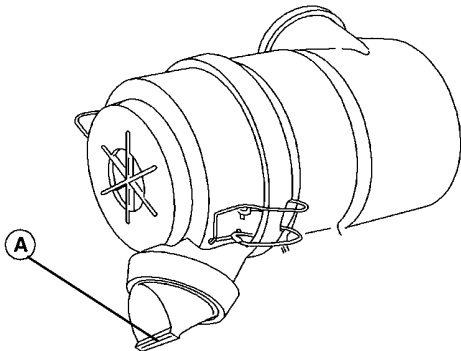
14. Add oil no higher than upper mark on dipstick (E). Do not overfill.
15. Install dipstick and oil fill cap (F).
16. Start and run engine at idle to check for leaks. Stop engine. Fix any leaks before operating.
17. Check oil level, add oil if necessary.
18. Lower the cargo box.

OUMX068,0000110-19-11AUG13

Cleaning Dust Unloading Valve

IMPORTANT: Avoid damage! Do not operate engine without air cleaner element and rubber dust unloading valve installed.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Access the engine compartment.



MXAL44550—UN—28MAR13

4. Squeeze dust unloading valve (A) to clean. Remove and replace if damaged.

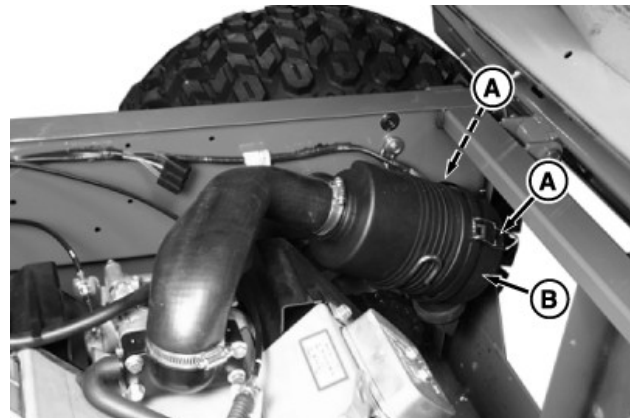
OUMX068,000010A-19-11AUG13

Servicing Air Cleaner Element

IMPORTANT: Avoid damage! Dirt and debris can enter engine when air cleaner canister is opened. Do not open canister unless required for scheduled service. This will keep contamination of the intake system to a minimum.

Check filter element more frequently if operating in dusty conditions.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Raise and secure cargo box.



MXT008159—UN—11AUG13

4. Release latches (A) and remove air cleaner canister cover (B).
5. Remove and discard primary filter element. Replace with a new filter element.
6. Install air cleaner canister cover with rubber dust unloading valve pointing downward. Check instruction molded into canister cover for proper installation.
7. Hook the canister cover latches.
8. Lower the cargo box.

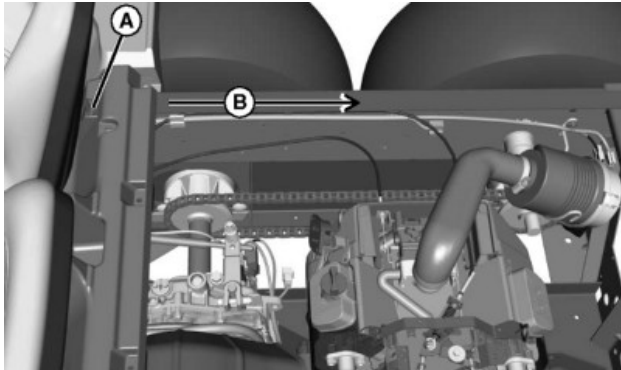
OUMX068,0000111-19-11AUG13

Checking Air Intake, Hoses and Clamps

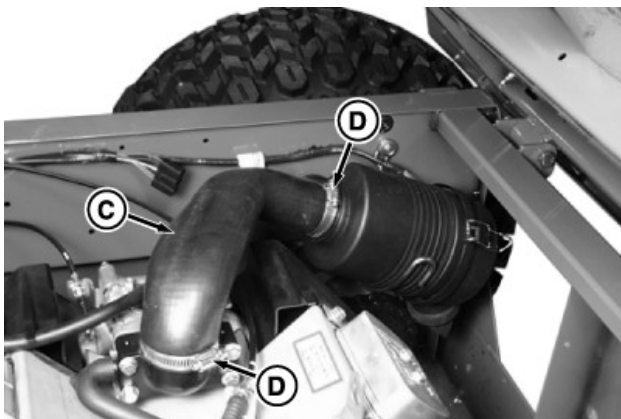
1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.

Service Engine

IMPORTANT: Avoid damage! Be sure air intake opening (A) behind passenger seat is clear from any obstructions. Opening should be clear, so channel (B) obtains adequate air supply for air intake system to work properly.



MXT008160—UN—11AUG13



MXT008241—UN—11AUG13

3. Check intake hose (C) for damage or cracking. Replace if necessary.
4. Check and tighten air intake hose clamps (D) (both sides of hose) as needed.
5. Lower the cargo box.

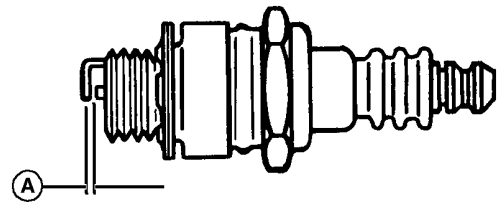
OUMX068,0000112-19-11AUG13

Checking Spark Plug

CAUTION: Avoid injury! 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 the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.
3. Disconnect spark plug wire(s).
4. Remove spark plug(s) using appropriate spark plug socket.

5. Inspect spark plug(s) for:
 - Cracked porcelain.
 - Pitted or damaged electrodes.
 - Other wear or damage.
 6. Clean spark plug(s) carefully with a wire brush.
- NOTE: In Canada, replace with resistor spark plug only.*
7. Replace spark plug(s) if necessary.



MXAL47609—UN—16MAY13

8. Check and adjust spark plug gap (A). Gap must be within specifications.

Specification

Spark Plug—Gap. 0.80 mm (0.031 in.)

9. Install and tighten spark plug(s). Tighten to specifications.

Specification

Spark Plug—Torque. 25 N·m (18 lb-ft)

10. Install spark plug wire(s).
11. Lower the cargo box.

OUMX068,000010B-19-11AUG13

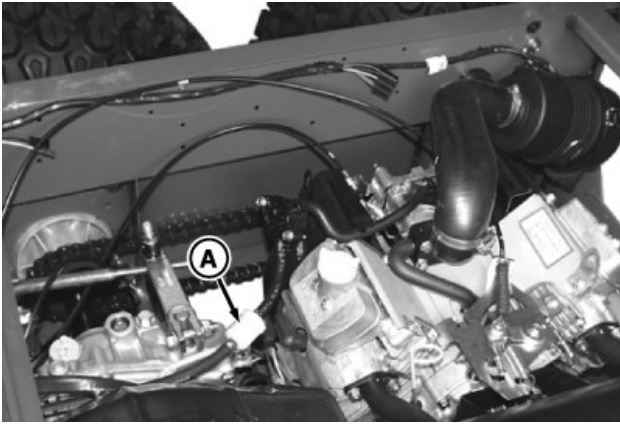
Replacing Fuel Filter

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

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

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.

Service Engine



MXT008242—UN—11AUG13

3. Locate the fuel filter (A).
4. Check element of fuel filter for debris. Replace if dirt or sediment is visible on element.
5. Slide hose clamps away from the fuel filter.
6. Place a drain pan or cloth under hoses to catch any fuel left in hoses.
7. Disconnect hoses from the filter.

NOTE: Install fuel filter with arrow pointing in direction of fuel flow towards the engine.

8. Install new filter.
9. Connect hoses to new filter.
10. Install clamps.
11. Lower the cargo box.

OUMX068,000010C-19-11AUG13

Adjusting Carburetor

NOTE: The carburetor is calibrated by the engine manufacturer and should not require any adjustments.

If engine is operated at altitudes above 1829 m (6,000 ft.), some carburetors may require a special high altitude main jet. See your John Deere dealer.

If engine is hard to start or runs rough, check the TROUBLESHOOTING section of this manual.

After performing the checks in the troubleshooting section and your engine is still not performing correctly, contact your John Deere dealer.

OUMX068,000010D-19-11AUG13

Cleaning Engine Compartment

CAUTION: Avoid injury! 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 the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.

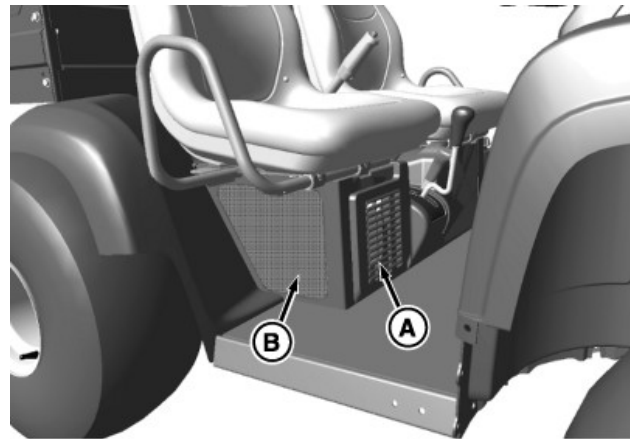
IMPORTANT: Avoid damage! Do not spray water on a hot engine or transaxle. Damage may occur to cast aluminum parts. Allow engine to cool before servicing.

3. Remove any debris in engine compartment.
4. Check and remove any obstructions around the control cables and linkages.

OUMX068,0000113-19-11AUG13

Cleaning Frame Screen and Intake Louver

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.



MXT008243—UN—11AUG13

1. Check screens (A) and (B) for dirt, grass clippings and debris.
2. Clean screens by washing or with a brush or cloth.

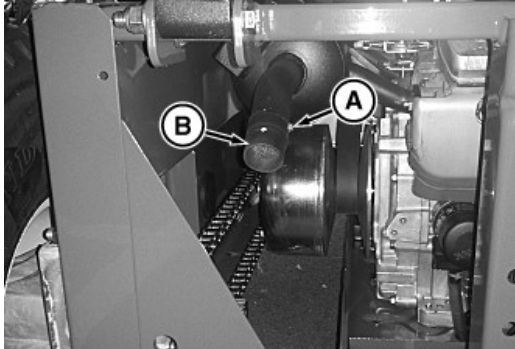
OUMX068,000010E-19-11AUG13

Service Engine

Checking Spark Arrestor

⚠ CAUTION: Avoid injury! Touching hot surfaces burns skin. The engine, components, and fluids are hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Allow engine to cool completely.



MXT021070—UN—02AUG17

Picture Note: Viewed from Rear of Machine.

3. Remove screw (A) securing spark arrestor (B) to muffler exhaust pipe. Retain the screw.
4. Remove the spark arrestor.
5. Make sure the deflector screen inside the arrestor is not plugged or damaged:
 - If plugged, spray with carburetor/choke cleaner and blow dry with low pressure compressed air.
 - If damaged, replace the spark arrestor.
6. Install the spark arrestor with original hardware.

MX10673,0000049-19-10MAY18

Service Transmission

Transaxle Oil

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

John Deere HY-GARD™ transmission and hydraulic oil is recommended for most normal operating temperatures.

NOTE: For temperatures below -13° C (0° F) John Deere low viscosity HY-GARD™ can be used. If used at temperatures above -13° C (0° F) some brake squeal may be heard due to lower viscosity of the oil at higher temperatures.

Other oils may be used if they meet John Deere standards JDM J20C and JDM J20D.

OUMX068,0000114-19-11AUG13

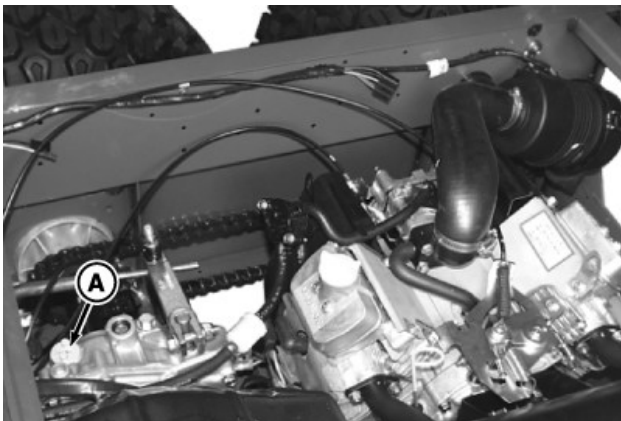
Checking Transaxle Oil Level

IMPORTANT: Avoid damage! Hot hydraulic oil expands and shows incorrect oil level. Check oil level:

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

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.

IMPORTANT: Avoid damage! Dirt and debris in oil can cause damage to the transaxle. Clean area around opening before removing dipstick.



MXT008245—UN—11AUG13

3. Remove dipstick (A) located on the top of the transaxle housing. Wipe dipstick clean.
4. Check oil level by setting dipstick on threads in transaxle case, then removing and checking oil level.
5. Add oil as needed through the dipstick fill hole.
6. Install and tighten dipstick.

7. Lower the cargo box.

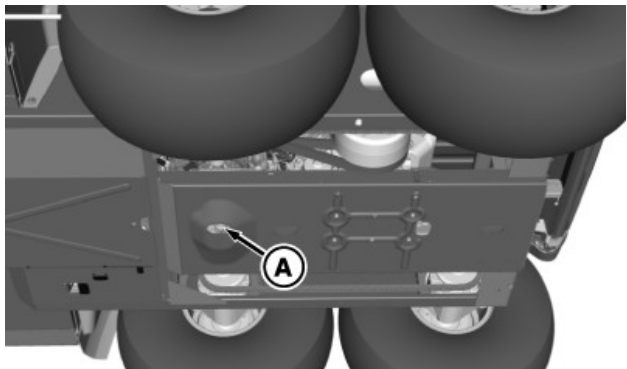
OUMX068,0000115-19-11AUG13

Changing Transaxle Oil

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.

IMPORTANT: Avoid damage! Dirt and debris in oil can cause damage to the transaxle. Clean area around opening before removing plug or dipstick.

Be sure dipstick is installed before removing drain plug. Slowly remove dipstick after plug is removed to control rate of oil flow draining into drain pan.



MXT008246—UN—11AUG13

3. Position drain pan under transaxle drain plug (A).
4. Remove plug and drain oil.
5. Check washer on drain plug. Replace if missing or in poor condition.
6. Install and tighten drain plug to specification.

Specification

Drain Plug—Torque. 30—35 N·m (22—26 lb.-ft.)

7. Remove dipstick located on top of transaxle housing. Wipe dipstick clean.
8. Add oil: Start by adding approximately 4.7 L (5.0 qt.).
9. Check oil level by setting dipstick on threads in transaxle case, then removing and checking oil level.
10. Wait for two minutes then check oil level. Add oil if necessary.
11. Install dipstick and tighten.
12. Lower the cargo box.

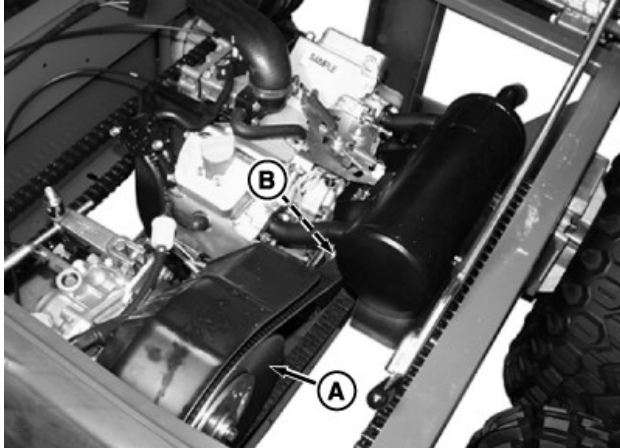
OUMX068,0000117-19-11AUG13

Service Transmission

Replacing Drive Belt

CAUTION: Avoid injury! Rotating parts can catch fingers, loose clothing, or long hair. Wait for engine and all moving parts to stop before leaving operator's station to adjust or service machine.

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.



MXT008247—UN—11AUG13

3. Route the belt over pulley (A) of the driven clutch. Rotating the driven pulley aids in removing the belt.
4. Route belt over drive pulley (B) to remove.
5. Install new belt by routing over drive pulley and then over the driven clutch pulley.
6. Lower the cargo box.

OUMX068,0000118-19-11AUG13

Checking Drive Chain Tension

NOTE: Drive chain is set taught at the factory and does not reach normal stretch limits until vehicle has experienced reasonable hours of operation.

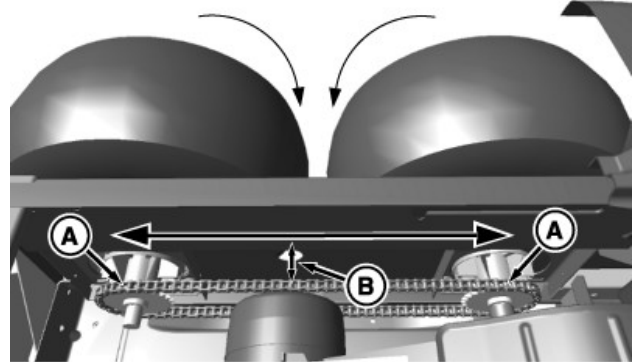
1. Stop vehicle on level surface. Stop engine, but do not lock park brake.
2. Put transmission in neutral and traction assist in off position.

CAUTION: Avoid injury! 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.
3. Use a safe lifting device to raise all four rear wheels

off ground. Place jack stands or wooden blocks under vehicle.

4. Raise and secure cargo box.



MXT008248—UN—11AUG13

5. Rotate rear wheels toward each other so that chain sag is at top of chain.
6. Place straight edge across top of sprockets (A) and measure distance (sag) (B) from bottom of straight edge to top of chain. Sag must be within specification.

Specification

Drive Chain Tension—Sag. 13—25 mm (0.5—1.0 in.)

7. Adjust chain tension if necessary.

OUMX068,0000119-19-11AUG13

Adjusting Drive Chain Tension

CAUTION: Avoid injury! Rotating parts can catch fingers, loose clothing, or long hair. Wait for engine and all moving parts to stop before leaving operator's station to adjust or service machine.

1. Park vehicle on a level surface. Stop engine, but do not lock park brake.
2. Put transmission in neutral and traction assist in off position.

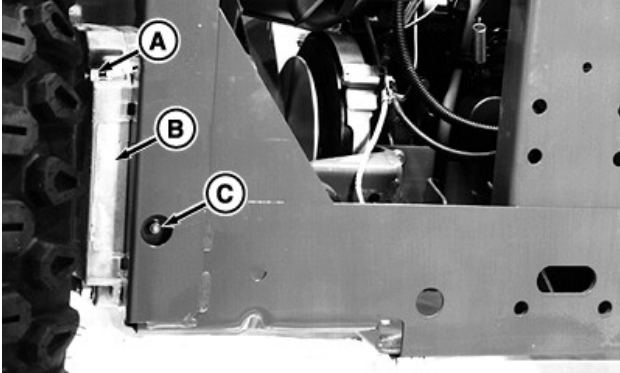
CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports.

- 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.
3. Use a safe lifting device to raise all four rear wheels off ground. Place jack stands or wooden blocks under vehicle.

Service Transmission

4. Raise and secure cargo box.

IMPORTANT: Avoid damage! Avoid stripping threads from adjustment bolt (C). Loosen housing nuts (A) before turning adjustment bolts.



MXT008249—UN—11AUG13

5. Loosen four nuts (A) for both axles so axle housings (B) can slide easily forward and rearward.

IMPORTANT: Avoid damage! Adjusting chain too tightly causes damage..

6. Turn adjustment bolts (C) at both sides to remove chain sag. Make sure that the chain tension is the same at both sides of vehicle.
7. Tighten axle housing nuts (A) to specification, then back off adjustment bolts (C) one half turn to relieve force on bolt.

Specification

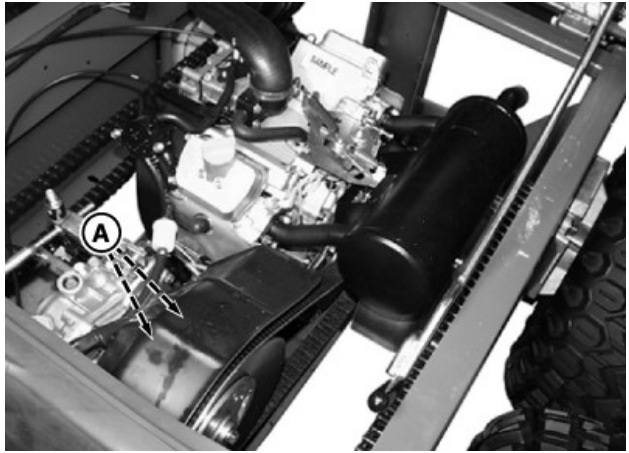
Axle Housing Nut—Torque. 90 N·m (70 lb.-ft.)

8. Check for proper and equal chain tension at both sides of vehicle.
9. Rotate drive wheels approximately 120°. Check again at both sides of vehicle for equal chain tension, making sure no tight spots exist. Repeat two more times.
10. Remove jack stands and lower vehicle to ground.

OUMX068,000011A-19-11AUG13

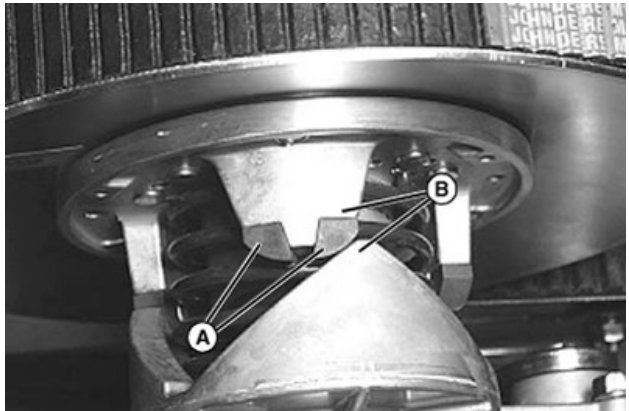
Checking Secondary Driven Clutch Buttons

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.



MXT008250—UN—11AUG13

3. Check for missing or worn clutch buttons (A).



MXAL47618—UN—16MAY13

Good Clutch Buttons

- There must not be any excessive wear on clutch buttons (A).
- Replace buttons before there is metal-to-metal (B) contact.
- If replacement is necessary, see your authorized dealer.

4. Lower the cargo box.

OUMX068,0000116-19-11AUG13

Service Steering & Brakes

Adjusting Park Brake

For proper adjustment of the park brake system, see your John Deere Dealer.

JG81906,0000742-19-01APR13

Service Electrical

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.**

MP47322,00F466E-19-15MAR13

Service the Battery Safely



MXAL44610—UN—28MAR13

CAUTION: The battery produces a flammable and explosive gas. The battery may explode:

- 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.

OUMX068,000011C-19-11AUG13

Checking the Battery (Sealed Batteries)

NOTE: Do not attempt to open, add fluid or service battery. Any attempt to do so will void warranty.

- Keep battery and terminals clean.
- Keep battery bolts tight.
- Keep small vent holes open.

IMPORTANT: This battery comes fully charged. If the machine is not used by the service expiration date indicated on the battery, charge the battery.

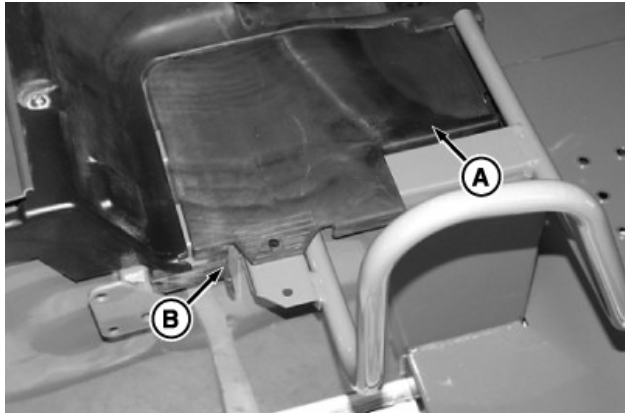
- Recharge, if necessary, at 6-10 amperes for 1 hour.

OUMX068,000011D-19-11AUG13

Removing and Installing Battery

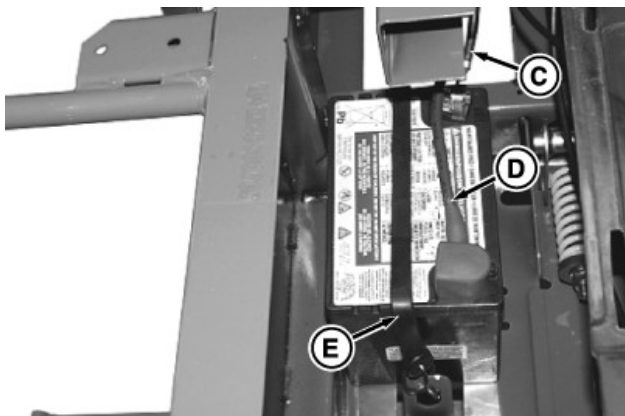
Removing

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



MXT008251—UN—11AUG13

2. Locate service access panel (A) under passenger seat. Pull back on latch (B), and remove panel.



MXT008252—UN—11AUG13

3. Disconnect all black negative cables (C) from battery first.
4. Slide back rubber protective cover (D) and disconnect all red positive cables.
5. Disconnect rubber hold-down strap (E).
6. Lift battery from vehicle.

Installing

1. Install battery into vehicle with negative (-) terminal positioned toward rear of vehicle.
2. Install battery hold-down strap.
3. Connect all red positive cables to positive (+) battery terminal first. Tighten the connections.
4. Connect all black negative cables to negative (-) battery terminal. Tighten the connections.
5. Apply spray lubricant to battery terminals to help prevent corrosion.

Service Electrical

- Slide protective cover down the battery positive cable and seat it over the positive (+) terminal.
- Install service access panel, and lower passenger seat.

OUMX068,000011B-19-11AUG13

Cleaning Battery and Terminals

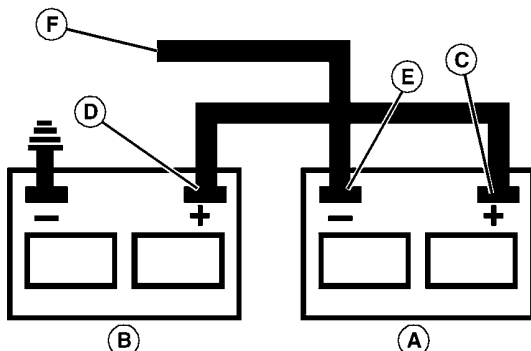
- Park machine safely. (See Parking Safely in the SAFETY section.)
- Disconnect and remove battery.
- Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
- Rinse the battery with plain water and dry.
- Clean terminals and battery cable ends with wire brush until bright.
- Install battery.
- Attach cables to battery terminals, beginning with the positive cable, using washers and nuts.
- Apply spray lubricant to terminal to prevent corrosion.

OUMX068,000011E-19-11AUG13

Using Booster Battery

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

- 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 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.



MXAL44612—UN—28MAR13

A—Booster Battery
B—Disabled Vehicle Battery

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

IMPORTANT: Avoid damage! Electric charge from booster battery can damage 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.

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

OUMX068,000011F-19-11AUG13

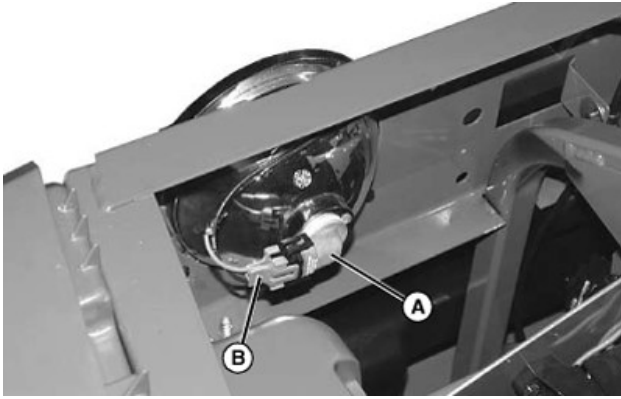
Replacing Headlight Bulb

- Park the vehicle safely. (See Parking Safely in the SAFETY section.)
- Remove hood, and locate headlight housing in the front frame.

CAUTION: Halogen light bulb contains gas under pressure. The bulb may shatter if the glass is scratched or dropped. Wear eye protection and handle bulb with care when replacing.

IMPORTANT: Do not touch glass portion of new bulb with bare skin. Contact with oils or dirt will reduce bulb life. Handle bulb by the base or with a clean cloth or gloves.

Service Electrical



MXAL47733—UN—16APR13

7. Install hood.

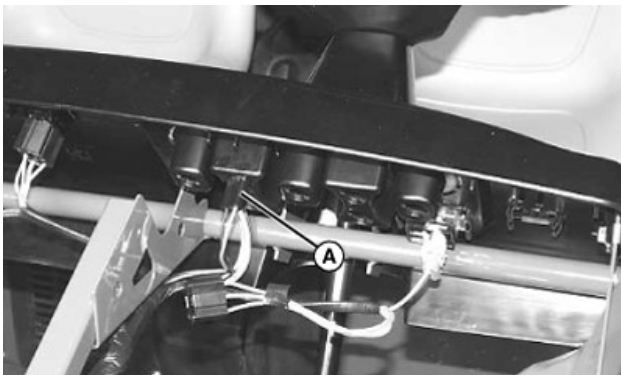
SP66632,0004778-19-14MAY13

3. Rotate bulb socket (A) 1/8 of a turn counterclockwise and remove socket from housing.
4. Disconnect wire connector (B) from socket. Discard the bulb/socket assembly.
5. Connect wiring connector to new bulb/socket assembly. Install the assembly into housing and rotate 1/8 turn to lock in place.
6. Test head lamp function.
7. Install hood.

SP66632,0004777-19-19APR13

Replacing Instrument Panel Bulbs

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Remove hood.

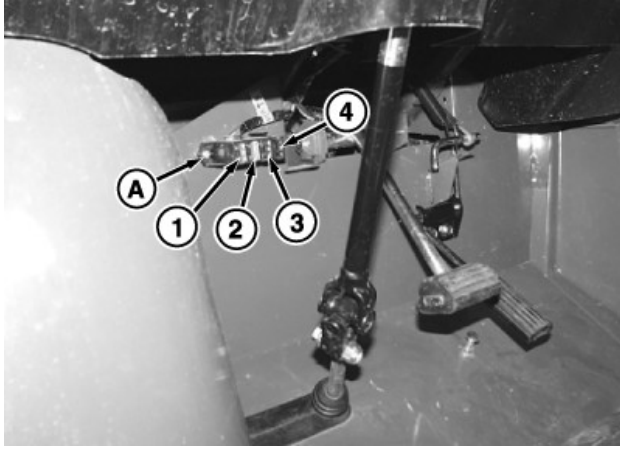


MXAL47734—UN—16APR13

3. Reach under instrument panel and remove appropriate bulb socket (A) from plastic housing.
 - Rotate bulb socket 1/8 turn.
 - Pull socket straight outward.
4. Remove bulb from socket. Discard bulb.
5. Install new bulb in socket.
6. Align and insert bulb socket into plastic housing. Turn socket 1/8 turn to lock in place.

Checking and Replacing Fuses

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



MXT008253—UN—11AUG13

2. Fuse identification:

Position	Circuit	Fuse Size
1	Starting Motor Solenoid and Charging Circuit	25 amp
2	Front and Rear Attachment Circuit	40 amp
3	Ignition Switch ON Circuit	15 amp
4	Accessory Power Plug	10 amp

3. Pull fuse from fuse block (A) (next to foot pedal linkage).
4. Check visually for broken filament in fuse.

IMPORTANT: Avoid damage! The electrical system can be damaged if incorrect replacement fuses are used. Replace the bad fuse with a fuse of the same amp rating.

5. Push new fuse of correct amp rating into proper position in fuse block.

OUMX068,00009E3-19-18SEP14

High Capacity Alternator Recommendations

NOTE: See your authorized dealer for purchase of a High Capacity Alternator Kit.

If your vehicle is equipped with accessories that place a higher demand on the charging system, the vehicle's charging system may be supplemented with the use of a High Capacity Alternator Kit.

OUMX068,0000120-19-11AUG13

Service Miscellaneous

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 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 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 daily.

OUMX068,0000122-19-11AUG13

Filling Fuel Tank

CAUTION: 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 well ventilated area.

- Clean up spilled fuel immediately.
- Use clean approved non-metal container to prevent static electric discharge.

IMPORTANT: Dirt and water in fuel can cause engine damage:

- Clean dirt and debris from the fuel tank opening.
- Use clean, fresh, stabilized fuel.
- Fill the fuel tank at the end of each day's operation to keep condensation out of the fuel tank.
- If using a funnel, make sure it is plastic and has no screen or filter.

Fill fuel tank at the end of each day's operation to prevent condensation and freezing during cold weather.

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.

SP66632,000477C-19-29JUL16

Lifting Machine

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: Be certain to include any bolt heads or embossed areas inside jack saddle to prevent slipping.

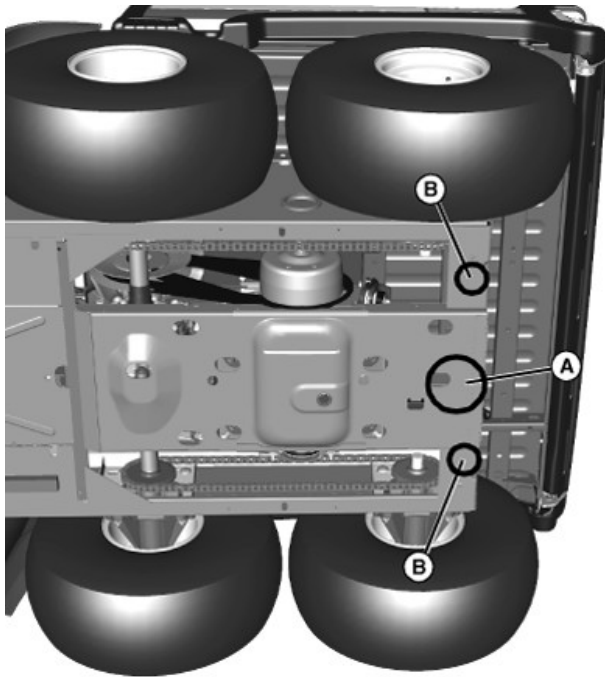
NOTE: Remove all attachments prior to lifting machine.

Lifting Rear

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. If only lifting rear of machine, block front wheels remaining on ground to avoid movement of machine.

Service Miscellaneous

NOTE: Rear of machine may be raised using one of any of the three points shown (A) or points (B). Be certain to always use jack stands close to raise point of jack to support machine before servicing.



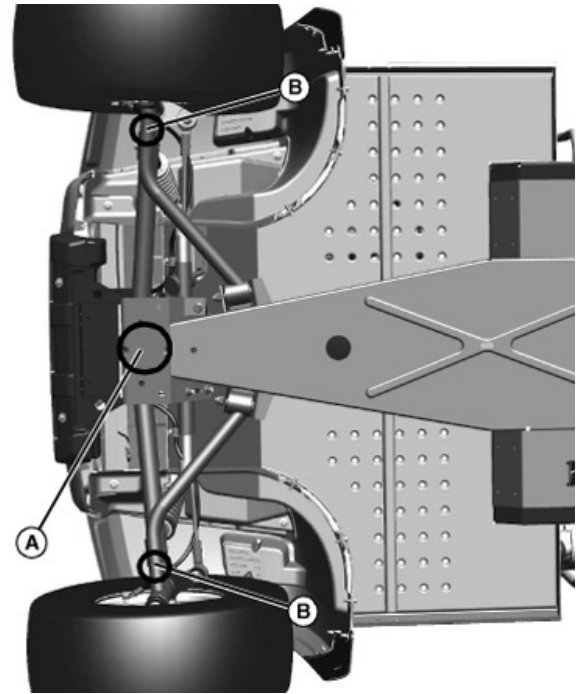
MXAL47739—UN—16APR13
Your machine model may not be shown, but jack locations are as shown.

3. Safely lift rear of machine frame point (A) or locations (B).
4. If raising entire rear of machine, place jack stands or other stable supports under two frame locations (B).
5. To lower machine, lift rear of machine, and remove jack stands or supports. Lower machine.

Lifting Front

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. If only lifting front of machine, block rear wheels remaining on ground to avoid movement of machine.

NOTE: Front of machine may be raised using one of any of the three points shown (A) or points (B). Be certain to always use jack stands close to raise point of jack to support machine before servicing.



MXAL47740—UN—16APR13
Your machine model may not be shown, but jack locations are as shown.

3. Safely lift front of machine at machine frame point (A) or locations (B).
4. If raising entire front of machine, place jack stands or other stable supports under two machine frame locations (B).
5. To lower machine, lift front of machine, and remove jack stands or supports. Lower machine.

SP66632,000477D-19-19APR13

Removing and Installing Front Wheel Assembly

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.

Service Miscellaneous

Block wheels remaining on the ground to prevent machine movement.



MXAL47741—UN—16APR13

3. Remove the cap (A) from the end of the axle hub.
4. Remove flange head bolt (B).
5. Tap on backside of wheel rim with a soft-faced mallet to remove 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.
2. Install wheel assembly with valve stem to the outside.

IMPORTANT: Over tightening front wheel bolts can result in bearing damage.

3. Tighten flange head bolt to specification.

Specification

Bolt—Torque. 88 N·m (65 lb-ft)

4. Install cap.

SP66632,000477E-19-19APR13

Removing and Installing Rear Wheel Assembly

Removing

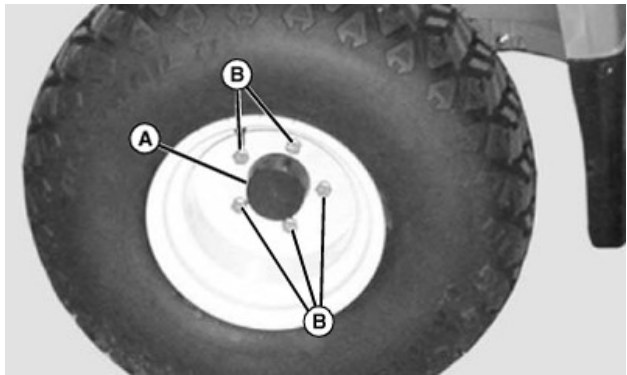
1. Park machine safely. (See Parking Safely in the Safety section.)

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.



MXAL47742—UN—16APR13

Wheel may have a cap (A) to be removed with 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 Bolt—Torque. 88 N·m (65 lb-ft)

SP66632,000477F-19-19APR13

Service Miscellaneous

Removing and Installing Hood

CAUTION: Prevent injury from moving parts. Stop engine and remove key before adjusting or servicing the machine.

Removing Hood

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



MXAL47743—UN—16APR13

2. Stand in front of vehicle, and grasp hood near arrow marks (A). Pull out firmly.

IMPORTANT: When removing hood (B), set hood in an upright position and not on top side of hood.

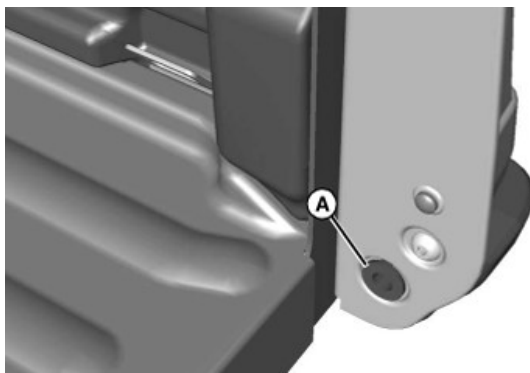
3. Pull forward on hood (B) and remove hood from under dash panel (C).

Installing Hood

1. Install hood (B) under dash panel (C).
2. Pivot hood downward, pushing near arrows (A) to secure rubber retainers on hood tabs onto molded retainers on front fenders.

SP66632,0004780-19-19APR13

Replacing Cargo Box Tailgate Bushings



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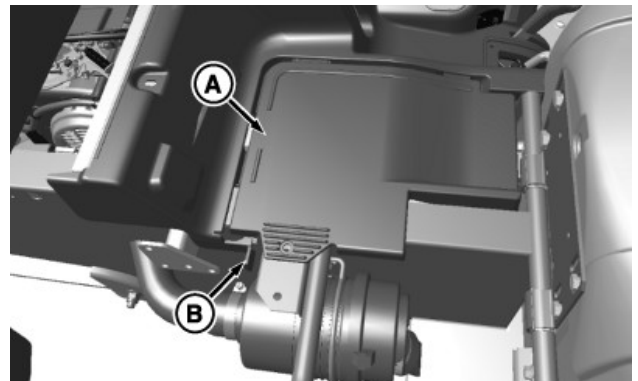
1. Remove the cargo box tailgate (See Removing the Tailgate in OPERATING).
2. Remove snapfit bushing (A) from both sides of cargo box.
3. Replace bushings and reinstall the tailgate.

SP66632,0004781-19-19APR13

Opening and Closing Service Access Panel

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

IMPORTANT: Avoid damage! For proper vehicle operation, always operate with panel (A) installed.



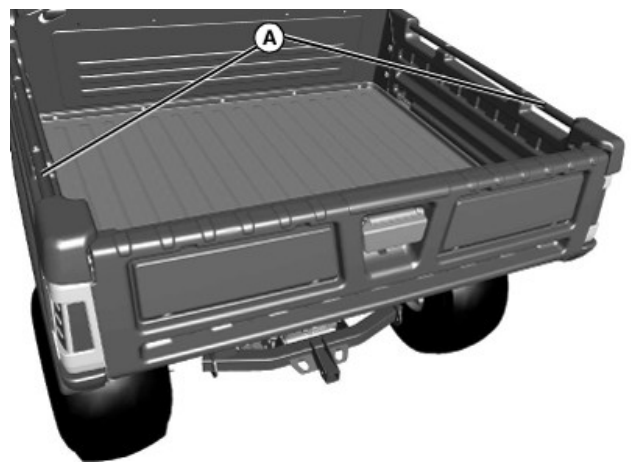
MXT008254—UN—11AUG13

2. Locate service access panel (A) under passenger seat. Pull back on latch (B), and remove panel.

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Cleaning and Repairing Cargo Box

Repairing Accessory Tubes



MXAL47748—UN—16APR13

Use 3M™ Scotchbrite™ pad to polish and smooth nicks, scrapes or scratches in the vinyl surface of the tubes (A).

Service Miscellaneous

Cargo Box Floor

A rejuvenating product is available for cargo boxes with the optional spray-in liner. See your John Deere dealer.

SP66632,0004784-19-19APR13

3. Smooth out surface using an automotive polishing compound. Do not use power buffer.
4. Apply wax to surface.

SP66632,0004786-19-19APR13

Cleaning Plastic Hood and Body Panel 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 with clean water to remove dirt and dust.
 2. Dry thoroughly to avoid water spots.
 3. Spray PLEDGE® onto hood and surfaces and leave on for 30 to 60 seconds.
 4. Wipe off with cheesecloth to bring out lustre.

SP66632,0004785-19-19APR13

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: 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.

Troubleshooting

Using Troubleshooting Chart

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

When you have checked all the possible causes listed

and you are still experiencing the problem, see your authorized dealer.

SP66632,0004787-19-19APR13

Engine

IF	CHECK
Engine will not start	Check to make sure vehicle is in neutral position and/or function of neutral switch. Battery has low voltage. Loose or corroded battery connections. Blown fuse(s). Spark plug wire(s) is loose or disconnected. Faulty spark plug(s) or coil. No fuel or improper fuel. Plugged fuel filter. Defective starter solenoid. Open-circuit in wiring.
Engine is hard to start	Engine is cold. Plugged fuel filter. Engine oil viscosity too heavy. Spark plug(s) is fouled. Faulty spark plug(s) or wire(s). Loose or corroded electrical connections. Stale or improper fuel. Choke not being used or adjusted incorrectly.
Engine misses under load	Stale or dirty fuel. Plugged fuel filter. Faulty coil or wire. Faulty spark plug(s).
Engine vapor locks	Poor quality fuel or methanol. Very hot weather conditions and very high loading condition. Fuel tank vent plugged. Dirt in fuel filter.
Engine runs unevenly	Loose electrical connections. Choke or throttle cable sticking. Fuel line or fuel filter plugged. Stale or dirty fuel. Improper fuel. Air cleaner element plugged. Spark plug(s) is fouled.
Engine overheats	Air cleaner element missing or plugged. Carburetor air intake tube plugged. Engine oil low. Engine operated too long at slow engine speed.
Engine loses power	Engine overheating. Too much oil in engine. Faulty spark plug(s). Fuel supply being restricted. Fuel filter plugged. Fuel line pinched or kinked. Improper fuel. Air cleaner element plugged.
Engine knocks	Low engine speed. Stale or low octane fuel. Engine overloaded.

OUMX068,00000FB-19-10AUG13

Troubleshooting

Electrical

IF	CHECK
Starter does not work	Check to make sure vehicle is in neutral position and/or function of neutral switch. Loose or corroded connections. Blown fuse. Low battery output. Sulfated or worn out battery. Faulty starter.
Starter cranks slowly	Low battery output. Sulfated or worn out battery. Engine oil too heavy. Loose or corroded connections.
Entire electrical system does not work	Blown fuse. Blown fusible link. Loose or corroded connections. Sulfated or worn out battery.
Dead battery	Shorted starter solenoid. Key switch not turned to "OFF" position. Component connected to accessory outlet left ON with engine off. Turn signal and/or hazard lights left ON with engine off. Sulfated or worn out battery. Low engine speed or excessive idling. Battery cables and terminals are dirty. Dead cell in the battery. Blown fuse. Faulty charging system. Current draw higher than charging system output. (If several attachments are added and used frequently at the same time with the standard charging system. Especially at low engine speeds.)
Correct indicator light(s) do not come on when checking instrument panel.	Faulty bulb. Faulty wiring. Faulty switch or sensor.
Battery will not take a charge	Dead cell in battery. Loose or corroded connections. Sulfated or worn out battery. Low engine speed or excessive idling. Faulty charging system.

OUMX068,00000FC-19-10AUG13

Brakes

IF	CHECK
Brakes squeal or make noise	Change transaxle oil. Check for debris or moisture in oil.
Excessive foot pedal freeplay	Adjust brake linkage. (See your authorized dealer for service.)

OUMX068,00000FD-19-10AUG13

Cargo Box

IF	CHECK
Tailgate does not latch properly	Bushings worn/damaged - inspect bushings. Strikers not connecting - inspect and lubricate strikers.
Power lift does not operate	No power - check all power connections. Actuator motor overheated - allow actuator to cool.
Power lift actuator ratchets/clicks/squeals when operating	Too much weight in box - remove weight or move it rearward in box.

Troubleshooting

SP66632,000478B-19-19APR13

Storage

Storing Safety

CAUTION: Fuel vapors are explosive and flammable. Engine exhaust fumes contain carbon monoxide and can cause serious illness or death:

- Run the engine only long enough to move the machine to or from storage.
- Do not store vehicle with fuel in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing the machine in any enclosure.

SP66632,000478C-19-19APR13

Preparing Machine for Storage

1. Repair any worn or damaged parts. Replace parts if necessary. Tighten loose hardware.
2. Repair scratched or chipped metal surfaces to prevent rust.
3. Remove grass and debris from machine.
4. Wash the machine with low pressure water and apply wax to metal and plastic surfaces.
5. Run machine for five minutes to dry belts and pulleys.
6. Apply light coat of engine oil to pivot and wear points to prevent rust.
7. Lubricate grease points.
8. Check tire pressure.

SP66632,000478D-19-19APR13

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: 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 cylinder(s).
 - Install spark plugs, but do not connect spark plug wires.
 - Crank the engine five or six 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 shut-off 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: Prolonged exposure to sunlight could damage the hood surface. 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 on it.

Removing Machine From Storage

1. Check tire pressure.

Storage

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. Be sure all shields and guards or deflectors are in place.

SP66632,000478E-19-19APR13

Specifications

Engine

Manufacturer	Kawasaki
Model	FH601
Power Rating Information	http://www.kawasaki-criticalpower.com
Type	Gasoline
Cylinders	2
Strokes/Cycle	4
Bore	75 mm (2.953 in.)
Stroke	76 mm (2.992 in.)
Displacement	675 cm ³ (41.2 cu in.)
Armature Air Gap	0.2—0.4 mm (0.008—0.016 in.)
Intake and Exhaust Valve Clearance (cold)	0.75—0.125 mm (0.008—0.016 in.)
Oil Filter	Spin On Filter
Air Cleaner	Replaceable, Paper Element
Cooling	Air

OUMX068,0000BD6-19-28MAY15

Drivetrain and Travel Speeds

Type	Continuously Variable Transmission (CVT), With Gear-Driven Transaxle
Gear Ranges	Forward—Neutral—Reverse
Drive Chain (TH 6x4)	#60 Industrial Roller Chain
Traction Assist	Mechanically Activated Differential Lock
Travel Speed (Forward)	0—32 km/h (0—20 mph)
Travel Speed (Reverse)	0—31.2 km/h (0—19.4 mph)

OUMX068,0000BD7-19-28MAY15

Electrical System

Type	12 Volt
Battery Size	340 Cold Cranking Amps @ -18°C (0°F)
Alternator	16.6 Amp @ 3700 rpm (regulated)
Headlights	(Two) 37.5 Watt Halogen
Spark Plug Gap	0.80 mm (0.031 in.)
Spark Plug Torque	25 N·m (18 lb.-ft.)

OUMX068,00000F9-19-10AUG13

Fuel System

Fuel Filter	Replaceable Element
Fuel	Gasoline

OUMX068,00000F8-19-10AUG13

Specifications

Steering and Brakes

Steering	Rack and Pinion
Brakes	Mechanical Internal Wet Disk (Rear)

OUMX068,00009BE-19-10SEP14

Specifications

Tires

All tires can carry permissible axle loads.

NOTE: All tire load conditions are not to exceed Gross Vehicle Weight Rating (GVWR).

Knobby

Front 22.5x10-8
Rear 25x12-9

Heavy-Duty All Purpose (HDAP)

Front 22.5x10-8
Rear 25x13-9

Turf

Front 22.5x10-8
Rear 25x12-9

Run-Flat

Front 22x11-10
Rear 25x11-10

Inflation Pressure

Front and Rear (Knobby, Turf, and HDAP) 41 kPa (6 psi)
Front and Rear (Run-Flat) 28-34 kPa (4-5 psi)

SP66632,0004795-19-14MAY13

Capacities

Fuel Tank 19 L (5 gal.)
Crankcase (with filter) 1.7 L (1.8 qt.)
Transaxle (approximate, See Changing Transaxle Oil) 5.8 L (6.1 qt.)
Cargo Box Volume Capacity 0.46 cubic m (16.4 cubic ft.)

OUMX068,0000BD8-19-28MAY15

Dimensions

Width (overall) 1.52 m (60.0 in.)
Length (with bumper) 2.65 m (104.0 in.)
Height (overall) 1.11 m (43.6 in.)
Ground Clearance (under transaxle) 152.4 mm (6.0 in.)

OUMX068,0000F6-19-10AUG13

Specifications

Weights

Weight (includes fuel/fluids)	539 kg (1188 lb.)
Gross Vehicle Weight Rating (GVWR)	1545 kg (3406 lb.)
Cargo Box Capacity	544 kg (1200 lb.)
Towing Capacity	635 kg (1400 lb.)
Maximum Front Axle Load	518 kg (1142 lb.)
Maximum Rear Axle Load	674 kg (1486 lb.)

OUMX068,0000BD9-19-18NOV16

Recommended Lubricants

Engine Oil	TURF-GARD™ OR PLUS-4™
Grease	John Deere Multi-Purpose HD Lithium Complex Grease
	Grease-Gard™ Premium Plus
Transmission Oil	John Deere HY-GARD™ (JDM J20C)
Chain Lubricant	John Deere Chain and Cable Lubricant (Moly)

(Specifications and design subject to change without notice.)

OUMX068,00009BF-19-10SEP14

Warranty

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.

MP47322,00F4690-19-09JUL15

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 2018 or 2019 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 leading to the failure of the evaporative emissions system.

Your emissions control system may include parts such as: carburetors or fuel-injection system, ignition system, catalytic converters, fuel tanks, valves, filters, clamps, connectors, fuel lines (for liquid fuel and fuel vapors) 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, Z335M, Z345M, Z345R, Z355E, Z355R, Z375R, Z525E, Z535M, Z535R, E100, E110, E120, E130, E140, E150, E160, E170, E180 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 coverage 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 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 shall 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/utills/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

Warranty

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 to the ultimate purchaser 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 or an authorized John Deere service provider.

- 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
- Gaskets

Exhaust System:

- Exhaust manifold
- Catalyst muffler

Miscellaneous Items Used in Above Systems

- Valves and Switches: vacuum, temperature, position, check, time-sensitive

Warranty

- 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.

TC00531,00000ED-19-23APR18

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.)

MX00654,0000314-19-21AUG14

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

Warranty

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
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

OUMX068,0000504-19-10MAY17

Warranty

John Deere Quality Statement

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.

SP66632,00043A7-19-10MAY17

Service Record

Record Service Dates

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

OUMX068,00000F3-19-10AUG13

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