

# **XUV865E, XUV865M, XUV865R Gator™**

## **Utility Vehicles**

### **(Serial No. 070001-)**

### **(North America)**



**JOHN DEERE**

## **OPERATOR'S MANUAL**

**XUV865E/M/R Gator™**

**OMUC36658    ISSUE E3    (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.

**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](http://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/>

or call:

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

TH84124,0000199-19-29JUN22

## 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 <https://partscatalog.deere.com/jdrc/> for your Internet connection to parts ordering and information.

TC00531,00000E9-19-17MAY22

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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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Previous Editions  
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# Product Identification

## Record Identification Numbers

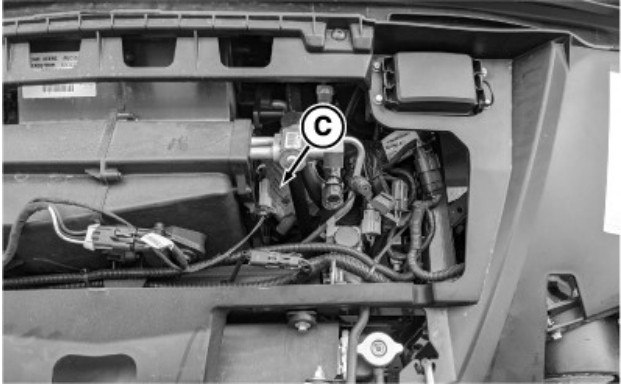
Contact an Authorized Service Center for information on servicing. Always provide the product model and identification numbers.

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

DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:



MX101771—UN—26AUG20

OPTIONAL ELECTRIC POWER ASSIST STEERING  
(EPAS) SERIAL NUMBER (C):

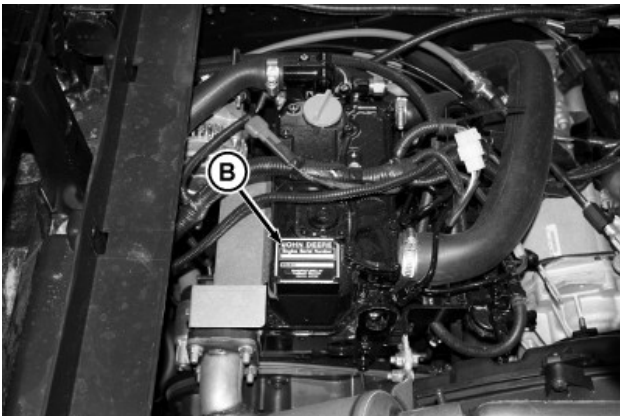
MX00654,000052B-19-14MAR22



MX101726—UN—26AUG20

PRODUCT IDENTIFICATION NUMBER (A):

DATE OF MANUFACTURE (A):



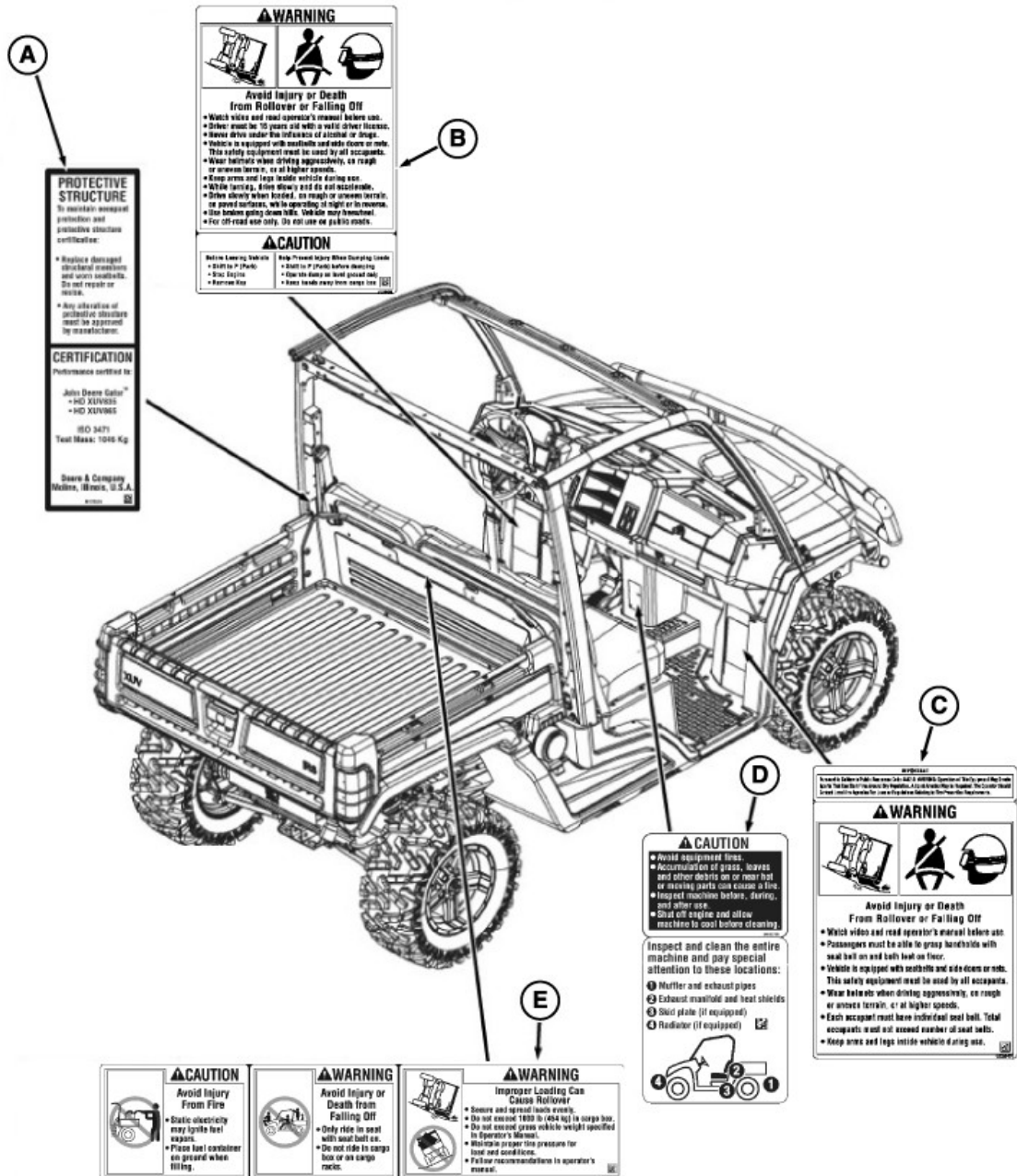
MXT018940—UN—28NOV16

ENGINE SERIAL NUMBER (B):



# Safety Labels with Text

## Safety Label Location



Components May Be Removed For Better Viewing

MX101727—UN—25FEB21

A—Protective Structure Label - M178524  
B—WARNING - UC26438  
C—WARNING - UC26474

D—CAUTION - M165798  
E—CAUTION/WARNING/WARNING - UC29137

MX00654,0000396-19-02MAY23

# Safety Labels with 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.

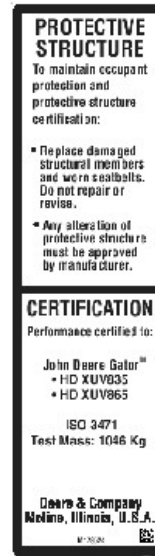
### French or Spanish Safety Labels and Operator's Manual

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.

MP47322,00F4601-19-21FEB23

## Protective Structure Safety and Certification Label



MX102233—UN—21MAR22

### PROTECTIVE STRUCTURE

To maintain occupant protection and protective structure certification:

- Replace damaged structural members and worn seat belts. Do not repair or revise.
- Any alteration of protective structure must be approved by manufacturer.

### CERTIFICATION

Performance certified to:

John Deere Gator™

- HD XUV835
- HD XUV865

ISO 3471

Test Mass: 1046 Kg

Deere & Company Moline, Illinois, U.S.A.

MX00654,0000530-19-21MAR22

# Safety Labels with Text

## WARNING—CAUTION



MX101486—UN—30JAN23

## WARNING

### Avoid Injury or Death from Rollover or Falling Off

- Watch video and read operator's manual before use.
- Driver must be 16 years old with a valid driver license.
- Never drive under the influence of alcohol or drugs.
- Vehicle is equipped with seatbelts and side doors or nets. This safety equipment must be used by all occupants.
- Wear helmets when driving aggressively, on rough or uneven terrain, or at higher speeds.
- Keep arms and legs inside vehicle during use.
- While turning, drive slowly and do not accelerate.
- Drive slowly when loaded, on rough or uneven terrain, on paved surfaces, while operating at night or in reverse.
- Use brakes going down hills. Vehicle may freewheel.
- For off-road use only. Do not use on public roads.

## CAUTION

### Before Leaving Vehicle

- Shift to P (Park)
- Stop Engine
- Remove Key

### Help Prevent Injury When Dumping Loads

- Shift to P (Park) before dumping
- Operate dump on level ground only
- Keep hands away from cargo box

MX00654,000031B-19-13MAY20

## WARNING



MX101490—UN—30JAN23

## Important

Pursuant to California Public Resources Code 4442.6: WARNING: Operation of This Equipment May Create Sparks That Can Start Fires Around Dry Vegetation. A Spark Arrestor May be Required. The Operator Should Contact Local Fire Agencies For Laws or Regulations Relating to Fire Prevention Requirements.

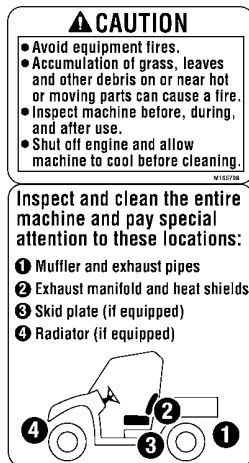
### Avoid Injury or Death From Rollover or Falling Off

- Watch video and read operator's manual before use.
- Passengers must be able to grasp handholds with seat belt on and both feet on floor.
- Vehicle is equipped with seatbelts and side doors or nets. This safety equipment must be used by all occupants.
- Wear helmets when driving aggressively, on rough or uneven terrain, or at higher speeds.
- Each occupant must have individual seat belt. Total occupants must not exceed number of seat belts..
- Keep arms and legs inside vehicle during use.

MX00654,000031B-19-07AUG20

# Safety Labels with Text

## CAUTION



- 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)

OUO2005,000015F-19-31MAR21

## WARNING

### Improper Loading Can Cause Rollover

- Secure and spread loads evenly.
- Do not exceed 1000 lb (454 kg) in cargo box.
- Do not exceed gross vehicle weight specified in Operator's Manual.
- Maintain proper tire pressure for load and conditions.
- Follow recommendations in Operator's Manual.

MX00654,0000356-19-01DEC20

## CAUTION—WARNING



MX101708—UN—23JUN20

## CAUTION

### Avoid Injury From Fire

- Static electricity may ignite fuel vapors.
- Place fuel container on ground when filling.

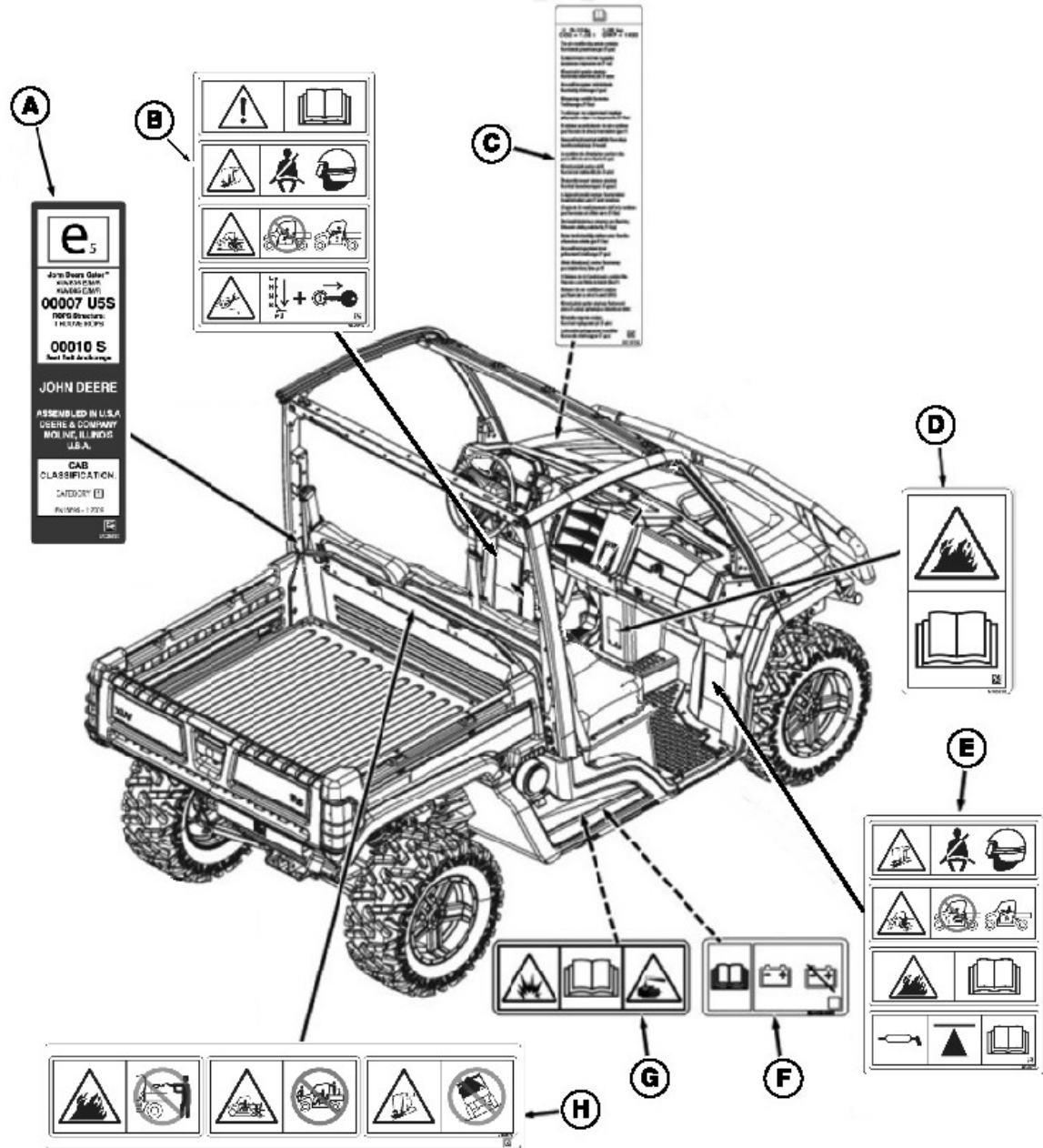
## WARNING

### Avoid Injury or Death from Falling Off

- Only ride in seat with seat belt on.
- Do not ride in cargo box or on cargo racks.

# Safety Labels without Text

## Safety Label Location



Components May Be Removed For Better Viewing

MX102237—UN—28MAR22

A—Protective Structure Label - UC25327  
 B—Avoid Injury or Death from Rollover or Falling Off - UC26442  
 C—Fluorinated Greenhouse Gas Label - UC23957  
 D—Avoid Injury From Equipment Fires - M165273  
 E—Avoid Injury or Death from Rollover or Falling Off - UC26477

F—Read Operator's Manual, Service Battery - SU49461  
 G—Avoid Injury From Battery Gases and Acid - M133159  
 H—Avoid Injury From Explosion, Rollover or Falling Off - UC29138

MX00654,0000536-19-16MAY23

# Safety Labels without Text

## Understanding the Machine Safety Labels without Text



TCT005498—UN—11SEP12

The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

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

MX00654,0000389-19-09JAN23

## Protective Structure Safety and Certification Label



MX102234—UN—21MAR22

### PROTECTIVE STRUCTURE

To maintain occupant protection and protective structure certification:

- Replace damaged structural members and worn seat belts. Do not repair or revise.
- Any alteration of protective structure must be approved by manufacturer.

### CERTIFICATION

Performance certified to:

John Deere Gator™

- HD XUV835
- HD XUV865

ISO 3471

Test Mass: 1046 Kg

Cab Classification: Category 1

Deere & Company Moline, Illinois, U.S.A.

MX00654,0000531-19-21MAR22

## Avoid Injury or Death from Rollover or Falling Off



MX101565—UN—13MAY20

### Avoid Injury or Death from Rollover or Falling Off

- Watch video and read operator's manual before use.
- Driver must be 16 years old with a valid driver license.
- Never drive under the influence of alcohol or drugs.
- Vehicle is equipped with seat belts and side doors or nets. This safety equipment must be used by all occupants.
- Wear helmets when driving aggressively, on rough or uneven terrain, or at higher speeds.
- Keep arms and legs inside vehicle during use.
- While turning, drive slowly and do not accelerate.
- Drive slowly when loaded, on rough or uneven terrain, on paved surfaces, while operating at night or in reverse.
- Use brakes going down hills. Vehicle may freewheel.
- For off-road use only. Do not use on public roads.

# Safety Labels without Text

## Before Leaving Vehicle:

- Shift to P (Park)
- Stop engine
- Remove key

## Help Prevent Injury When Dumping Loads

- Shift to P (Park) before dumping
- Operate dump on level ground only
- Keep hands away from cargo box

MX00654,0000336-19-29JUL20

## Fluorinated Greenhouse Gas



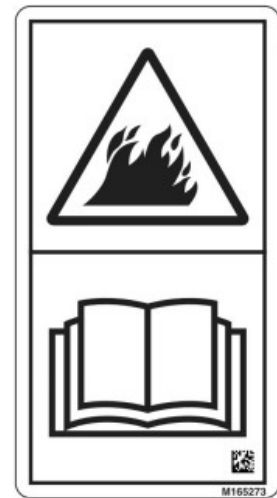
MX100736—UN—10MAY19

R-134a                      0.68 kg  
CO<sub>2</sub> = 1.56 t              GWP = 1430

The air-conditioning system contains fluorinated greenhouse gas (F-gas)

SB31882,00000C1-19-10MAY19

## Avoid Injury From Equipment Fires



MX102238—UN—29MAR22

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

OUMX068,0000027-19-29MAR22

## Safety Labels without Text

### Avoid Injury or Death from Rollover or Falling Off



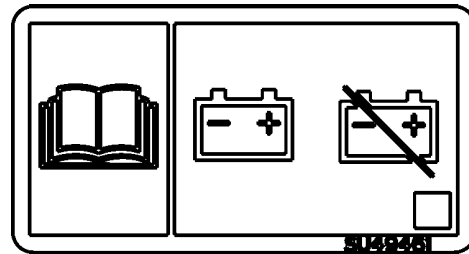
MX101562—UN—13MAY20

### Avoid Injury or Death from Rollover or Falling Off

- Watch video and read operator's manual before use.
- Passengers must be able to grasp handholds with seat belt on and both feet on floor.
- Vehicle is equipped with seat belts and side doors or nets. This safety equipment must be used by all occupants.
- Wear helmets when driving aggressively, on rough or uneven terrain, or at higher speeds.
- Each occupant must have individual seat belt. Total occupants must not exceed number of seat belts.
- Keep arms and legs inside vehicle during use.

MX00654,0000332-19-10AUG20

### Read Operator's Manual, Service Battery

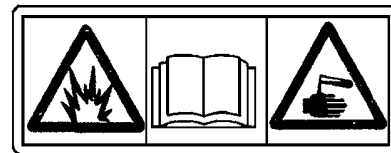


MX0020147—UN—16MAY17

- Read Operator's Manual
- Service Battery

OUMX068,0001296-19-16MAY17

### Avoid Injury From Battery Gases and Acid



MXT007302—UN—23MAY13

- Shield eyes, explosive gases can cause blindness or injury.
- No sparks, flames, smoking.
- Sulfuric acid can cause blindness or severe burns.
- Keep out of the reach of children.
- Do not tip.
- Keep vent caps tight and level.
- Flush eyes immediately with water. Get medical help fast.

MX00654,0000394-19-21AUG14

### Avoid Injury from Fire, Falling Off, or Improper Loading



MX101563—UN—13MAY20

### Avoid Injury From Fire

- Static electricity may ignite fuel vapors.
- Place fuel container on ground when filling.

### Avoid Injury or Death from Falling Off

- Only ride in seat with seat belt on.
- Do not ride in cargo box or on cargo racks.

### Improper Loading Can Cause Rollover

- Secure and spread loads evenly.



## Safety Labels without Text

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- Do not exceed 1000 lb (454 kg) in cargo box.
- Do not exceed gross vehicle weight specified in Operator's Manual.
- Maintain proper tire pressure for load and conditions.
- Follow recommendations in operator's manual.

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OUO2005,00007D1-19-01DEC20

# Safety

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## 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

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## 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

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## 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, towed weight must not exceed the towing capacity stated in the Specifications section of this manual.
- 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.

MX00654,0000523-19-08MAR22

## Using a Spark Arrestor

The engine in this machine is equipped with a spark arrestor muffler. 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 replacement spark arrestor for your machine is available from your authorized dealer. An installed spark arrestor must be maintained in good working order by the operator.

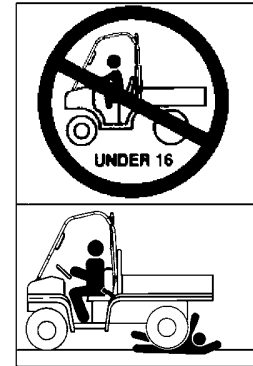
BB87125,0000D3A-19-19APR13

## Parking Safely

1. Stop vehicle on a level surface, not on a slope. Be sure vehicle has come to a complete stop.
2. Shift to P (Park).
3. Fully lower the cargo box and any attachments on the machine that can be lowered.
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.

MX00654,000031C-19-06MAY20

## Protect Children/Small Adults and Prevent Accidents



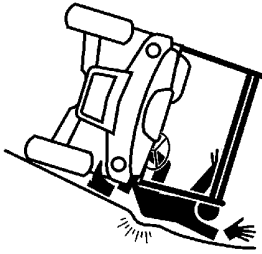
MXAL43278—UN—15MAR13

- 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 children to ride as a passenger in this vehicle. Children may not be able to sit safely in the passenger seat and use handholds properly. Passengers must be able to grasp handholds with their back against the seat, seat belt on, and both feet on the floor.
- 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 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 and reckless riding can lead to accidents, severe bodily injury, or death.

OUC02005,0000169-19-16AUG18

# Safety

## Avoid Excessive Speeds

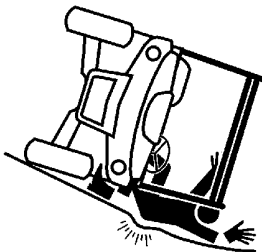


MX10673,0000023-19-20APR21

- Always wear an approved helmet when operating the vehicle in an aggressive manner, on rough or uneven terrain, or at higher speeds.
- 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.

MX10673,0000023-19-20APR21

## Avoid Tipping



MX10673,0000023-19-20APR21

Accidents resulting in serious injury or death can occur from tipping the utility vehicle. Observe the following practices to help prevent accidents and always wear an approved helmet when operating the vehicle in an aggressive manner, on rough or uneven terrain, or at higher speeds.

- 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 service brakes to reduce speed and maintain control.
- Do not make unauthorized changes or modifications to the utility vehicle.
- This list of potential overturning hazards is not exhaustive.

MX10673,0000022-19-24AUG21

## Use Seat Belts, Nets, and Doors Properly



MX10673,0000022-19-24AUG21

- This vehicle is equipped with a seat belt interlock feature. An audible alarm will sound if the vehicle's forward travel speed exceeds approximately 24 km/h (15mph).
- Use a seat belt and doors or nets, if equipped, to minimize chance of injury from an accident, such as an overturn.
- Do not operate machine with any portion of the operator safety system inoperative or removed.
- Inspect seat belts, nets, and doors for proper operation before each machine use.
- Insert metal tab of net, if equipped, into buckle until it clicks, indicating it is latched. Pull back on net to confirm that it is securely latched.
- Layers of heavy clothing can interfere with proper positioning of the seat belt and can reduce the effectiveness of the seat belt.
- Never modify, disassemble, or attempt to repair a seat belt, nets, or doors.
- Inspect seat belts, nets, and doors, if equipped, at least once a year. Look for signs of loose hardware or material damage, such as cuts, fraying, extreme or unusual wear, or abrasion. Replace only with John Deere approved replacement parts.
- Replace entire seat belt if mounting hardware, buckle, belt, or retractor show signs of damage.

MX00654,00003DB-19-01SEP20

# Safety

## Keep Protective Structure Installed Properly

- Never operate the machine without the Protective Structure installed.
- If the Protective Structure is loosened or removed for any reason, make certain all parts of the Protective Structure are installed correctly. All Protective Structure hardware must be tightened to the proper torque per manufacturer recommendations.
- Any alteration of the Protective Structure must be approved by the manufacturer. The protection provided by the Protective Structure can be impaired if the Protective Structure is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting.
- Never attempt to repair a damaged or altered Protective Structure. It must be replaced to maintain the manufacturer certification of the structure.

MX00654,00000B6-19-06NOV15

## Keep Riders Off Vehicle



MXT008506—UN—10JAN17

- Seating is provided for operator and one or two front seat passengers when equipped with bench seat. All passengers must be able to grasp handholds with seat belt on and both feet on the floor.
- 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.

MX00654,000053A-19-01APR22

## Operator Ability

- Machine owners must make sure that operators are responsible, trained, have read the operating instructions and warnings, and know how to operate the machine properly and safely.
- Age, physical ability, and mental capacity can be factors in machine-related injuries. Operators must be mentally and physically capable of accessing the

operator station and/or controls, and operating the machine properly and safely.

- Never allow a child or an untrained person to operate the machine. Instruct all operators not to give children a ride on the machine or an attachment.
- Never operate machine when distracted, fatigued, or impaired. Proper machine operation requires the operator's full attention and awareness.

DX,ABILITY-19-07DEC18

## Before Driving

1. Perform Daily Operating Checklist in Operating section.
2. 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.
3. Inspect utility vehicle for signs of wear or damage.
4. All safety equipment must be in good condition and fastened in place:
  - Lights
  - Shields
  - Safety start devices
5. Before moving, check around utility vehicle, be sure no one is near it.
6. 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.
7. Securely anchor all loads.

MX00654,00000B8-19-27APR18

## 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.

SP66632,0004712-19-19APR13

## 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

# Safety

the ground when operating on rough or uneven terrain which may cause loss of control or rollover.

OUMX068,0000634-19-22SEP16

## Towing Loads Safely With Utility Vehicle

- Do not tow loads exceeding maximum allowable towing capacity, as shown in the Specifications section of this operator manual.
- Select proper gear range based on the weight of the towed load. Use L (Low) range when towing loads above 2000 lbs.
- When the weight of the towed load is less than 2000 lbs., vehicle weight must be at least 1.5 times the weight of the towed load but not exceeding GVWR. When the weight of the towed load is more than 2000 lbs., vehicle weight must be at GVWR. (See the Specifications section.)
- Stopping distance increases with speed and weight of the 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.
- Do not operate on slopes exceeding 15 degrees.
- Never allow children or others in or on the towed equipment.
- Use only approved hitches. Tow only with a machine that has a hitch designed for towing. Do not attach the towed equipment except at the approved hitch point.
- Follow the manufacturer's recommendations for weight limits for the 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.

MX00654,0000524-19-21MAR22

## Driving On Rough Terrain



MXAL43282—UN—15MAR13

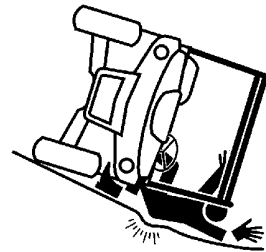
- Always wear an approved helmet when operating the

vehicle in an aggressive manner, on rough or uneven terrain, or at higher speeds.

- 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.

MX10673,0000024-19-19JUL17

## Climbing or Descending a Hill or Slope



MXT008509—UN—10JAN17

- Always use the service 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.
- 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, apply service brake to hold vehicle on slope. Maintain direction of travel and release service 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.
- Always descend hill or slope at slow speeds and in a controlled manner. When descending a hill, remove foot from accelerator pedal and apply service brakes to reduce speed and maintain control.
- The vehicle has a limited amount of engine braking that can assist when going down a hill or slope, but it

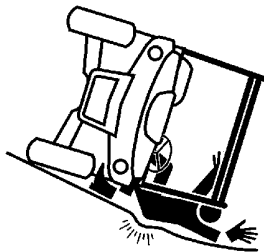
# Safety

is highly recommended to remove foot from throttle pedal and to use service brakes during descent as well.

- If the vehicle is freewheeling (engine braking is not engaged), use the service brakes to slow vehicle travel. Do not reengage engine braking (do not depress the throttle pedal) when freewheeling as that may cause the vehicle to skid.

MX00654,000031F-19-24AUG21

## Driving Across Slopes



MXT008509—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.

BB87125,0000D48-19-28FEB17

## Riding Through Water

- Driving through water can contaminate the power train and electrical systems resulting in long-term vehicle damage.
- Your vehicle is capable of driving through still water in depth equal to the floorboard height.
- Never drive through deep or fast flowing water. The vehicle may become unstable and difficult to control.
- Never cross any body of water where depth may be unknown to the operator.
- If you must ride through water:
  - Cross at a designated route if possible. 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.
- Stopping ability of vehicles with external brakes may

be affected after driving through water. If necessary, apply service brakes several times to dry them out.

- If water levels exceed the floorboard height at any time, contact your dealer to have the engine, transmission, differential fluids, and fuel tank checked for contamination.
- If the engine stops during water crossing, do not restart the engine. Major engine damage can result if the machine is not thoroughly inspected. Take the vehicle to your dealer before starting the engine.
- If you must continue to operate the vehicle prior to dealer inspection, perform the following inspection and service:
  - a. Move the vehicle to dry land, or at the very least to water below the floorboard.
  - b. Dry any water present in the air intake. Clean the air filter. Filter replacement is required if water is present.
  - c. Remove the spark plugs, keeping plug wires away from the spark plug mounting hole to avoid igniting fuel that may be in the cylinder. Turn the engine over several times using the electric start.
  - d. Dry the spark plugs and reinstall, or replace with new plugs.
  - e. Attempt to start the engine. If necessary, repeat the drying procedure. If engine does not start after three attempts, discontinue trying.
  - f. After driving through water when the air temperature is below freezing, clear the service brake system of excess water, snow, mud, or other material to prevent freezing.
  - g. If water has been ingested into the clutch enclosure, remove the drain plug to allow water to drain, then reinstall the plug. Run the engine for one minute to dry the drive belt. In Neutral, run engine up to full speed and back down several times to help dry the clutch sheave faces.
  - h. Take the vehicle to your dealer for service as soon as possible, whether you succeed in starting the engine or not. It is critical that services are performed to the engine, transmission, differential fluids, and fuel tank to check for contamination.

RH75544,000016B-19-24AUG21

## 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.

RH75544,000016C-19-08APR13

# Safety

## Wear Appropriate Clothing



MXAL41935—UN—18FEB13

- Always wear an approved helmet when operating the vehicle in an aggressive manner, on rough or uneven terrain, or at higher speeds.
- Helmets should fit properly and be approved for motorcycle use on standard roadways by the appropriate governing organizations for the region in which the vehicle is being used.
- 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. Do not operate the equipment when barefoot or wearing open sandals.

MX00654,00000BD-19-05MAR19

## 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 machine is in the P (Park) position.

- 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.

MX00654,000031E-19-13MAY20

## 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.
- 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 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,



# Safety

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.

OUO2005,0000221-19-27MAR19

## 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



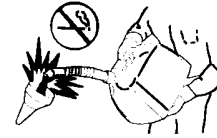
TCAL25965—UN—24MAY12

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:**

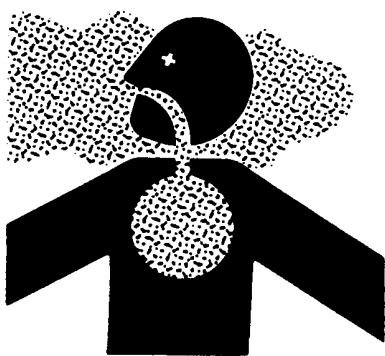
- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only an approved fuel container. Use only non-metal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM). If using a funnel, make sure it is plastic 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.

## Safety

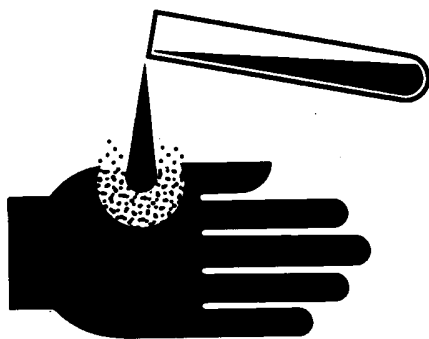
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until the fueling is complete. Do not use a nozzle lock-open device.
- Never overfill fuel tank. Replace fuel tank cap and tighten securely.
- Replace all fuel container caps securely after use.
- For gasoline engines, do not use gas with methanol. Methanol is harmful to your health and to the environment.

RH75544,0000172-19-16APR13

### Avoid Contact with Agricultural Chemicals - Cab Category 1, 2, 3, and 4 According to EN 15695-1



TS220—UN—15APR13



TS272—UN—23AUG88

**CAUTION:** Read the information and be aware about the machine cab category stated on the label placed inside the cab.

**Category 1 cabs do not provide a specified level of protection against hazardous substances.**

***Europe Only – tractors or other machines fitted with this cab shall not be used under conditions requiring protection against hazardous substances.***

**Category 2 cabs provide protection against dust.**

***Europe Only – tractors or other machines fitted with this cab shall not be used under conditions requiring protection against aerosols and vapors.***

**Category 3 cabs provide protection against dust and aerosols.**

***Europe Only – tractors or other machines fitted with this cab shall not be used under conditions requiring protection against vapors.***

**Category 4 cabs provide protection against dust, aerosols, and vapors.**

If utilizing a cab with a rating less than Category 4 under conditions requiring protection, the operator must follow the chemical manufacturer label instructions to protect against dust, aerosols, and vapors when the cab does not provide protection.

Follow the product label provided by the chemical manufacturer for proper use of personal protective equipment.

Follow operational and service instructions for cab and recommended filter replacement intervals.

**NOTE:** EN 15695-1 is a European Union regulation that defines cab requirements. If this machine is used outside of the European Union, consult national, regional, and local regulations.

1. If the pesticide use instructions require respiratory protection and do not specify the cab category according to EN 15695-1, and the filter according to EN 15695-2, wear an appropriate respirator inside the cab.
2. When operating in an environment where pesticides are present, wear a long-sleeved shirt, long-legged pants, shoes, and socks.
3. Wear personal protective equipment as required by the pesticide use instructions when leaving the enclosed cab:
  - Into a treated area.
  - To work with contaminated application equipment, such as nozzles, which must be cleaned, changed or redirected.
  - To become involved with mixing and loading activities.
4. Before reentering the cab, remove protective equipment and store outside the cab. If the machine is equipped with a protective clothing locker, store protective equipment in the used side of the locker.
5. To prevent soil or other contaminated particles from entering the cab, clean shoes or boots before entering.

# Safety

6. Never store chemical containers inside the cab.
7. Always close the windows and doors during spraying to generate an overpressure inside the cab, preventing polluted air from entering the cab.

DX,CABS,ALL-19-15FEB21

## 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 Safety Data Sheet (SDS) 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 SDS for that product.

RH75544,0000173-19-19APR19

## 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

## Avoid Backover Accidents



PC10857XW—UN—15APR13

Before moving machine, be sure that all persons are clear of machine path. Turn around and look directly for best visibility. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.

DX,AVOID,BACKOVER,ACCIDENTS-19-30AUG10

## Read Operator's Manuals for ISOBUS Controllers

In addition to GreenStar™ Applications, this display can be used as a display device for any ISOBUS Controller that meets ISO 11783 standard. This includes capability to control ISOBUS implements. When used in this manner, information and control functions placed on the display are provided by the ISOBUS Controller and are the responsibility of the ISOBUS Controller manufacturer. Some of these functions could pose a hazard to either the operator or a bystander. Read the Operator's Manual provided by the ISOBUS Controller manufacturer and observe all safety messages in manual and on ISOBUS Controller product prior to use.

*GreenStar is a trademark of Deere & Company*

## Safety

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*NOTE: ISOBUS refers to the ISO Standard 11783*

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DX,WW,ISOBUS-19-15JUL15

# Machine Cleanout

## General Cleaning Guidelines

Machine must be inspected periodically throughout the day. Buildup of debris must be removed to ensure proper machine function and to reduce the risk of fire. Frequency of these inspections and cleanings vary depending on a number of factors including operating conditions, machine configuration, operating speeds, and weather conditions. Inspections and cleanings may be required multiple times throughout the day particularly in dry, hot, and windy conditions.

**IMPORTANT: Avoid fire! Regular and thorough cleaning of machine combined with other routine maintenance procedures listed in the Operator's Manual greatly reduce the risk of fire, downtime, and improve machine performance.**

Besides proper maintenance the condition of the material being handled is the most significant factor contributing to fires. Dry, light, and fluffy materials that can create a dust cloud are the most likely to catch fire. Debris can accumulate in various areas especially on horizontal surfaces. Conditions such as wind speed and direction can change where the material accumulates. Be aware of these changing conditions and adjust your cleaning schedule and practices to ensure proper machine function and to reduce the risk of fire.

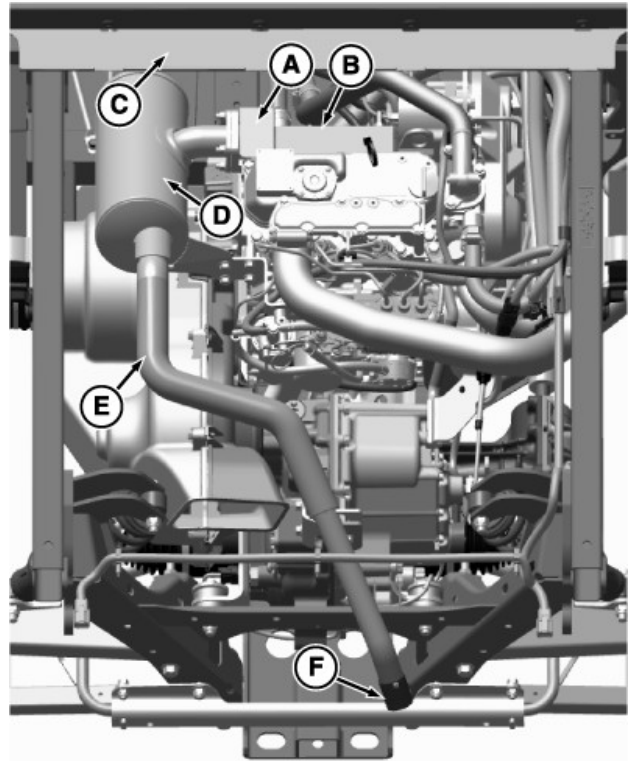
Always follow all safety procedures posted on the machine and in the Operator's Manual. Before carrying out any inspection or cleaning, always park machine safely. (See Parking Safely in the Safety Section).

The entire machine should be inspected, with extra attention given to the areas noted below.

OUMX068,0001043-19-03NOV21

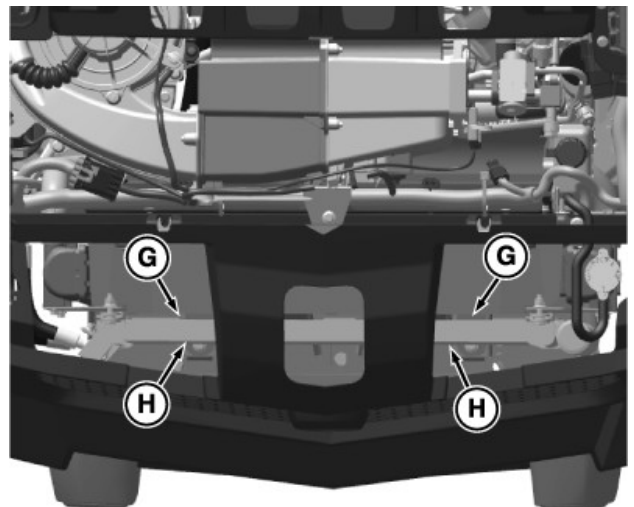
## Cleanout Areas

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



MX101966—UN—26MAR21

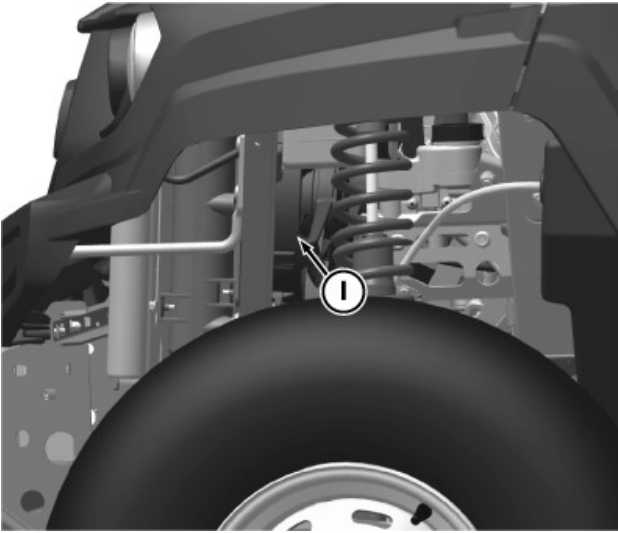
1. Exhaust manifold (A), shield (B), closeout panel (C), muffler (D), muffler pipe (E), and spark arrestor (F).



MX101967—UN—26MAR21

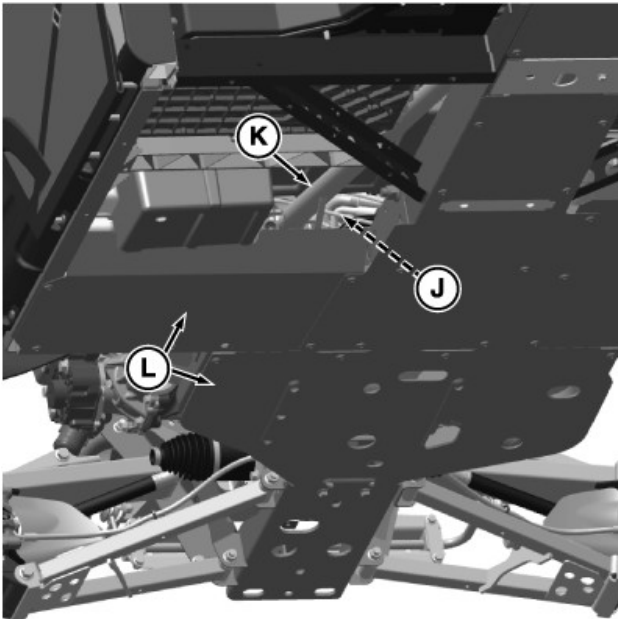
2. Radiator cooling fins. Accessible through gap (G).
3. Air-conditioning condenser fins (H) on models with HVAC.

## Machine Cleanout



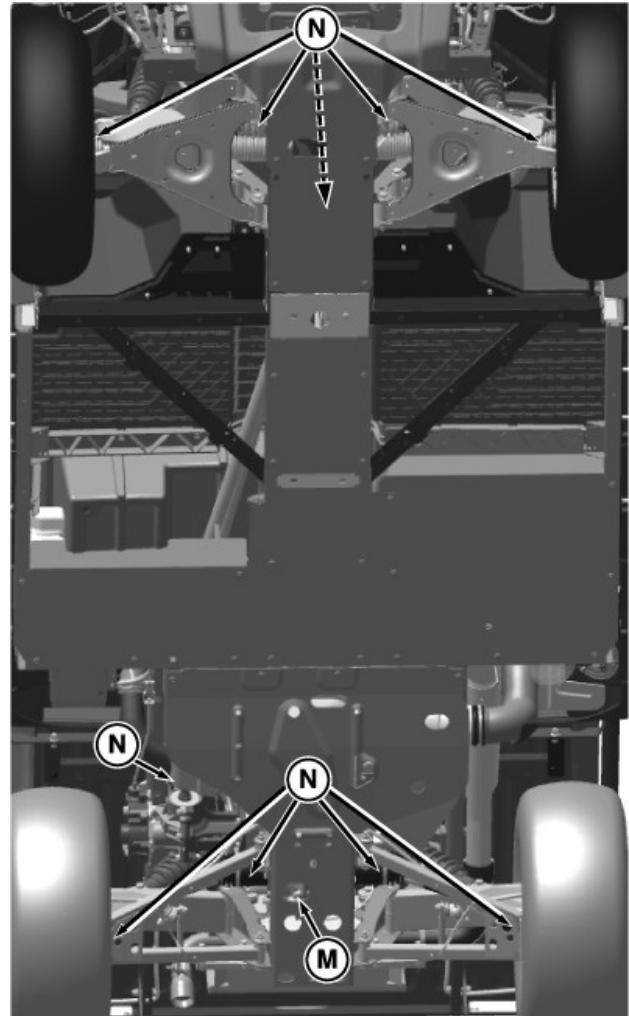
MX101968—UN—26MAR21

4. Fan shroud (I).



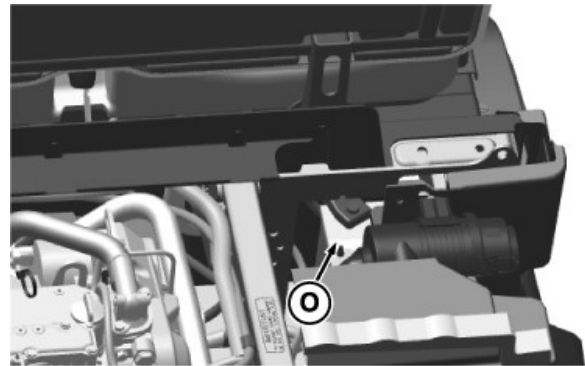
MX101969—UN—26MAR21

5. Between engine (J), driveline (K), and skid plates (L).



MX101970—UN—26MAR21

6. On or near transmission (M) and driveline (N).



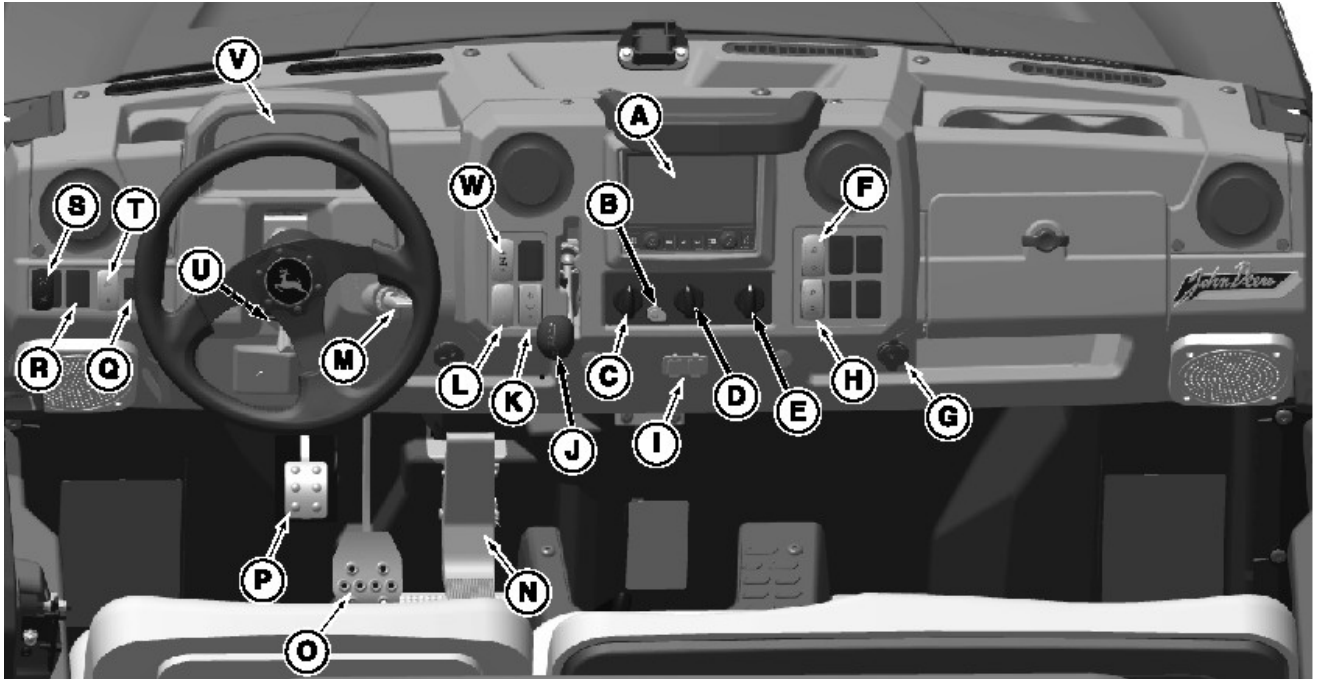
MX101971—UN—26MAR21

7. Battery (O) and related wiring harnesses.

MX52301,0000610-19-25MAR21

# Operating Controls

## Operator Station Controls



MX102231—UN—09MAR22

*Some Controls Are Optional and May Not Be Installed On Your Machine*

A—Touch Screen Radio\*  
B—Air-Conditioning Button and Indicator Light  
C—Blower Speed Control Knob  
D—Temperature Control Knob  
E—Airflow Selector Knob  
F—Work Light Switch  
G—12 V DC Accessory Outlet  
H—Hazard Lights Switch  
I—Auxiliary and USB Inputs\*  
J—Transmission Shift Lever  
K—Windshield Wiper/Washer Switch  
L—Rear Differential Lock Switch

M—Ignition Key Switch  
N—Accelerator Pedal  
O—Service Brake Pedal  
P—Park Brake Pedal  
Q—Turn Signal Switch  
R—Horn Switch  
S—Cargo Box Power Lift Switch  
T—Headlight Switch  
U—Tilt Steering Lever  
V—Instrument Display  
W—2WD/4WD Switch

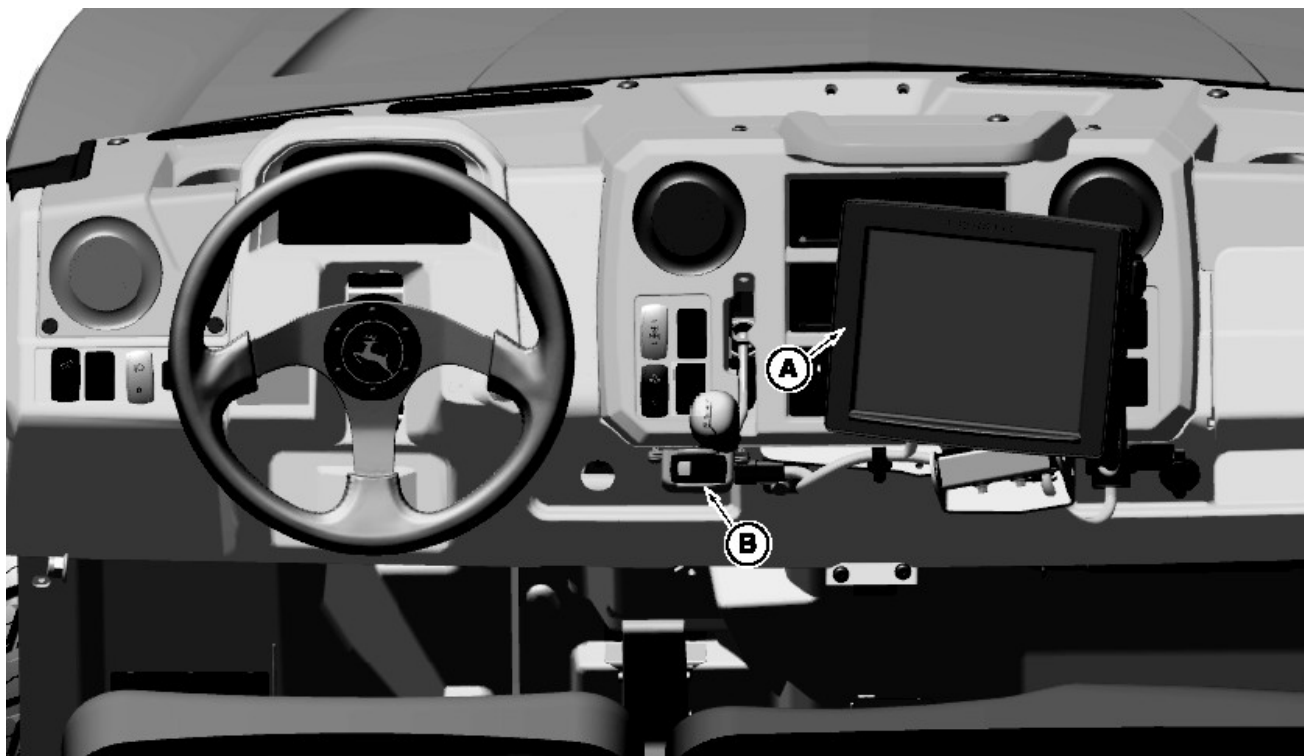
*NOTE: \*Refer to the Radio Manual for operating instructions.*

MX00654,00004CB-19-01APR22

## Operating Controls

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### AutoTrac™ Integrated 300 (ATI300) Controls (If Equipped)



MX102230—UN—09MAR22

**A—4640 Universal Display**

**B—Road and Resume Switch**

*NOTE: Refer to the AutoTrac.™ Integrated 300 manuals  
for operating instructions.*

MX00654,000052A-19-01APR22



# Operating

## Daily Operating Checklist

- ☐ Test safety systems.
- ☐ Check tire pressure.
- ☐ Check fuel level.
- ☐ Check engine oil level.
- ☐ Remove grass and debris as outlined in the Machine Cleanout section before and after operating machine.
- ☐ Check area below the machine for leaks.
- ☐ Check service brake operation and park lock function.
- ☐ Check brake fluid level.
- ☐ Check park brake operation (if equipped).
- ☐ Check coolant level (if equipped).
- ☐ Check air filter restriction indicator (if equipped).
- ☐ Check seat belt function.
- ☐ Tighten any loose hardware.
- ☐ Inspect driveline CV boots for tears or punctures.
- ☐ Inspect steering tie rod boots for tears or punctures.
- ☐ Check nets or doors condition and function.

MX00654,0000359-19-13SEP21

## 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 brake fluid on machine components. Brake fluid may damage painted surfaces. Wipe up spilled brake fluid immediately.
- 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.

MX00654,00003C1-19-31AUG20

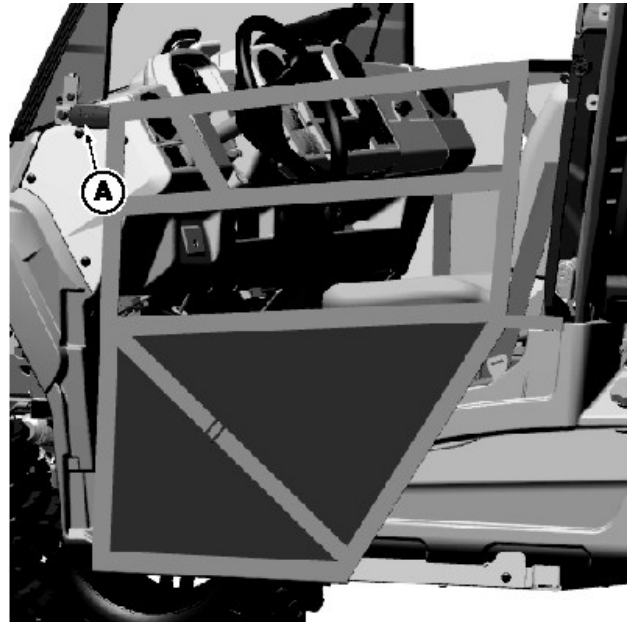
## Using Nets

**⚠ CAUTION: Avoid injury! A person can fall out or be crushed if vehicle tips.**

- Do not operate the vehicle with nets removed.
- All nets must remain closed while the vehicle is in use.
- Always park the vehicle safely before opening net to exit.

## Entering Vehicle:

1. Move net rearward out of entry and exit area, and enter the vehicle.



MX102203—UN—11NOV21

2. Move net forward and insert the metal tab of the net into buckle (A) until it latches. Be certain the net is securely latched before operating vehicle.

## Exiting Vehicle:

1. Park vehicle safely. (See Parking Safely in the Safety section.)
2. Push the button to release the metal tab from buckle.
3. Move net rearward out of entry and exit area, and exit vehicle.

MX00654,0000399-19-29MAR22

## Using Doors

**⚠ CAUTION: Avoid Injury! A person can fall out or be crushed if vehicle tips:**

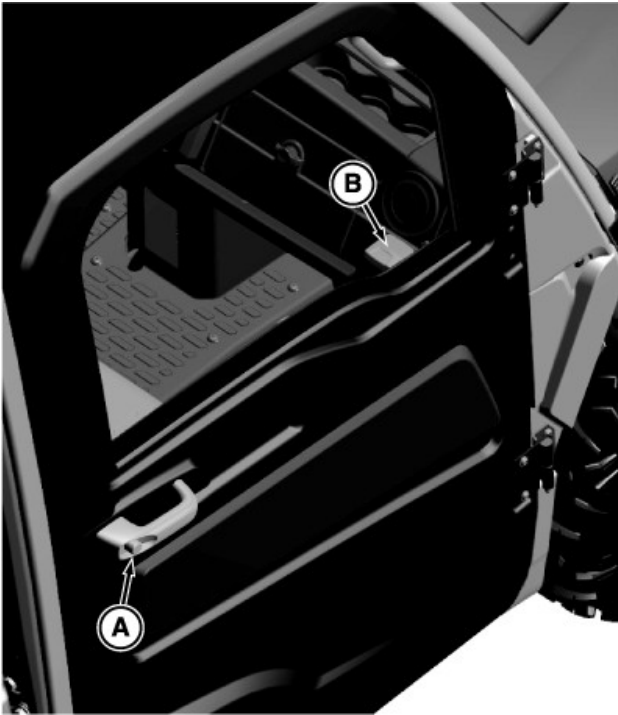
- Do not operate the vehicle with doors removed.
- All doors must be closed while the vehicle is in use.
- Always park the vehicle safely before opening door to exit.

## Using Full Doors

### Entering:

*NOTE: Full doors are equipped with a door lock. Use the ignition key to lock and unlock the door.*

## Operating



MX102287—UN—12JAN23

1. Press button (A) on the door handle and enter the vehicle.
2. Pull the door closed until it latches. Be certain the door is securely latched before operating vehicle.

### Exiting:

1. Park vehicle safely. (See Parking Safely in the Safety section.)
2. Pull the handle (B) toward you to release the door latch. Swing door outward and exit vehicle.
3. Close the door and ensure that it is securely latched.

### Using Half Doors

#### Entering:



MX102183—UN—29SEP21

1. Reach over the door to the inside handle. Pull the

door handle (A) rearward to unlatch and enter the vehicle.

2. Pull the door closed until it latches. Be certain the door is securely latched before operating vehicle.

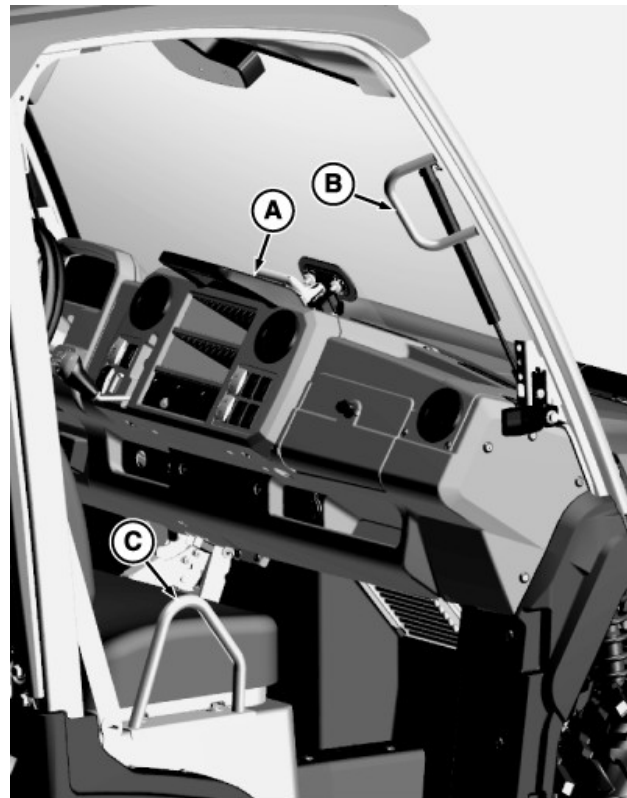
### Exiting:

1. Park vehicle safely. (See Parking Safely in the Safety section.)
2. Pull the handle (A) toward you to release the door latch. Swing door outward and exit vehicle.
3. Close the door and ensure that it is securely latched.

MX00654,000039A-19-26JAN23

## Using Hand Holds

The hand holds are provided for passenger balance and are to be used at all times while the machine is moving as follows:



MX102288—UN—27JAN23

- A center passenger must use the dash bar (A) hand hold.
- On machines equipped with doors, a right side passenger must use one of the two hand holds – the dash bar (A) and Protective Structure handle (B).
- On machines equipped with nets, a right side passenger must use one of the three hand holds – the dash bar (A), Protective Structure handle (B), or seat side rail (C).

MX00654,000039B-19-26JAN23

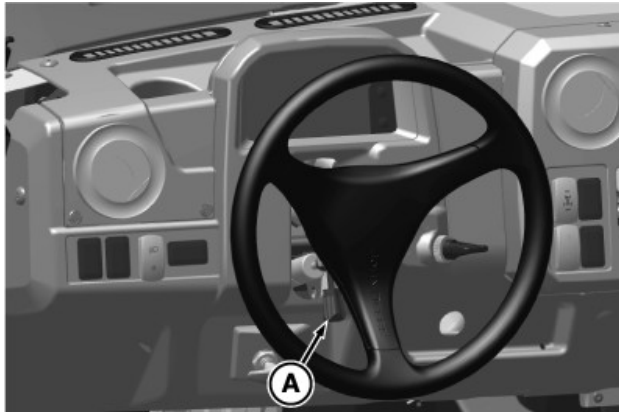
# Operating

## Adjusting Tilt Steering Wheel

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

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

1. Stop machine travel.



MX101730—UN—26AUG20

*Standard Steering Wheel Shown*

2. Release steering wheel by pressing down on lever (A).
3. Adjust steering wheel to the desired position and release lever.

MX00654,000039E-19-24AUG21

## Adjusting Operator Seat

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

**CAUTION:** Avoid injury! Never adjust the seat while machine is moving. Stop machine before adjusting seat to prevent loss of machine control.



MX102006—UN—16APR21

1. Push lever (A) to the left.
2. Slide seat forward or rearward to desired position.
3. Release lever.
4. Ensure that seat has locked into position by trying to slide seat forward or backward. Seat does not move.

MX00654,0000538-19-30MAR22

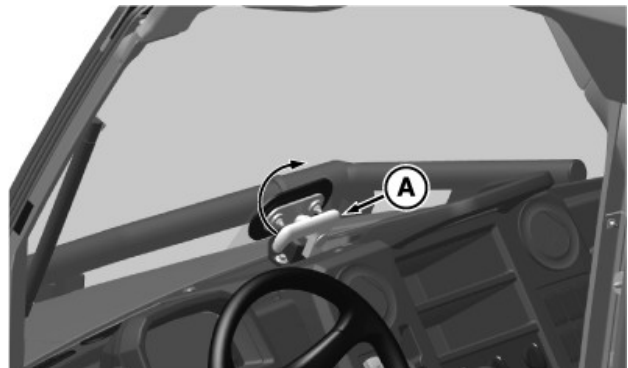
## Using Cab Windshield (If Equipped)

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

**CAUTION:** Avoid injury! Never adjust the windshield while machine is moving. Stop machine travel before adjusting windshield to prevent loss of machine control.

### Using Vent Position

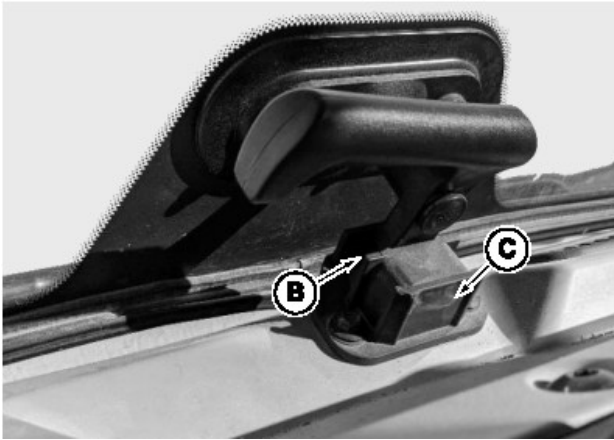
Open to the vent position:



MX101927—UN—08MAR21

1. Unlatch windshield by rotating handle (A) clockwise.

# Operating



MX101928—UN—30SEP21

2. Push windshield open to the vent position. Rotate handle counterclockwise and secure it in the second slot (B).

## Close from the vent position:

1. Unlatch windshield by rotating handle (A) clockwise.
2. Pull windshield closed.
3. Rotate handle counterclockwise securing it first slot (C).

## Using Service Position

### Open to the service position:

**IMPORTANT: Avoid damage! Do not operate vehicle with the windshield in the service position.**

1. Unlatch windshield by rotating handle (A) clockwise.
2. Push windshield fully open.

### Close from the service position:

**CAUTION: Avoid injury! Windshield can pinch fingers. Only use handles to close and secure the windshield.**

1. Pull windshield closed.
2. Rotate handle counterclockwise securing it in the first slot (C).

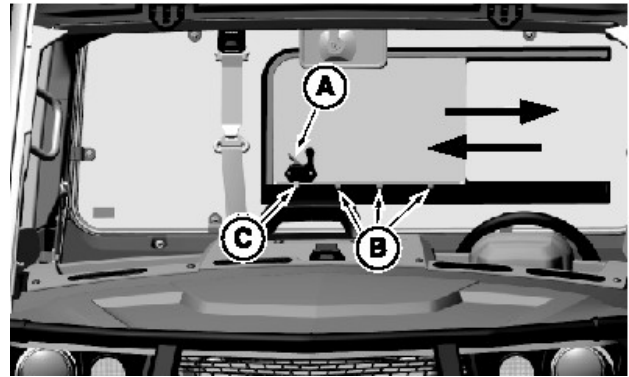
MX00654,0000474-19-26MAR21

## Using Sliding Rear Window (If Equipped)

**CAUTION: Avoid injury! Never adjust the window while the machine is moving. Stop the machine to prevent loss of control.**

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

## Open Window:



MX102177—UN—28SEP21

1. Unlatch the window by squeezing latch (A).
2. Slide the window open to the desired position (B).
3. Release latch when it is secure in the desired position notch.

## Close Window:

1. Squeeze latch (A).
2. Slide window to the closed position (C).
3. Release latch when it is secure in the closed position notch.

MX00654,00004CE-19-30SEP21

## Using Seat Belt

**NOTE: Seat belt is sensitive. An emergency lock device is built into the belt for your protection. Pull belt slowly. Attempting to pull it too fast or in a jerking motion engages the locking mechanism and the belt does not release.**

*All seat belts operate the same way.*

Periodically inspect seat belts for wear or damage. (See Inspecting Seat Belt in the Service Miscellaneous section.)

# Operating

## Using Seat Belts



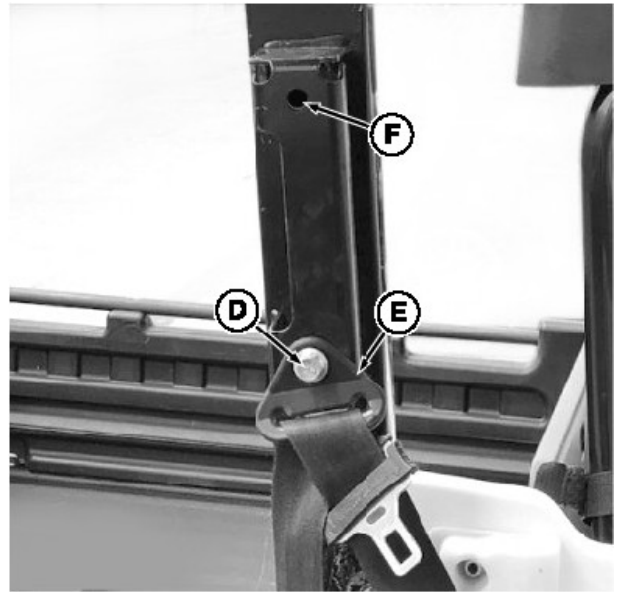
MX102252—UN—01APR22

**NOTE:** For center seat belt, grasp center seat belt from behind seat, and connect to the roof connector (C) first.

1. Grasp seat belt connector (A) from behind seat. Pull out and across body to the appropriate buckle (B).
2. Slide connector up or down along the belt for the best fit.
3. Snug the seat belt across the hips, on top of the thighs.
4. Push connector firmly into the appropriate buckle (B) until it clicks indicating it is locked.
5. Release seat belt by pressing the red button on the connector.

### Adjust Outer Belt Height

The seat belt can be raised for the comfort of taller operators.



MX102253—UN—01APR22

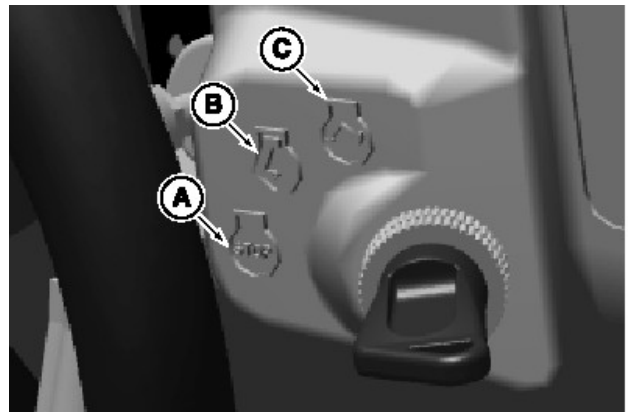
1. Remove bolt (D) and position bracket (E) over the upper mounting hole (F).
2. Install bolt (D) and tighten to:

#### Specification

Seat Belt Bracket Bolt—Torque. . . . 70.5 N·m ± 13.5 N·m (52 lb·ft ± 10 lb·ft)

MX00654,000039D-19-01APR22

## Using Ignition Key Switch



MX101555—UN—29SEP21

A - STOP Position - Power is off. The engine does not run.

**NOTE:** If the ignition key switch is in the RUN position and the engine is not running, the battery will discharge if accessories are allowed to remain on for an extended period of time.

B - RUN Position - Power is on. The engine may or may not be running.

# Operating

C - START Position - Engine starts. Key returns to the RUN position. The engine continues to run.

MX00654.0000327-19-29SEP21

## Starting the Engine

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

- Do not run an engine in an enclosed area, such as a garage, even with doors or windows opened.
- Move the machine to an outside area before running the engine.

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

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

*NOTE: The engine can start with the transmission in gear. The machine has a brake pedal safety switch. The service brake pedal must be pushed down to start the engine, except in the P (Park) position.*

1. Sit on the operator seat. Do not start engine at this time.
2. Check free movement of pedal assemblies by pushing down on the accelerator and service brake pedals. Release pedals.
3. Shift to P (Park) if vehicle is not already in P (Park).
4. Depress the service brake pedal.
5. Turn key switch to the RUN position.

**⚠ CAUTION: Avoid injury! Never start engine while standing on the ground to avoid unexpected vehicle movement.**

**IMPORTANT: Avoid damage! Starter can be damaged when operated continuously for extended periods of time. Allow starter to cool down after several starting attempts.**

*NOTE: If the starter is engaged for more than 15 seconds without the engine starting up, the starter is disabled and a fault occurs. If it happens again within a minute, the starter is disabled for 60 seconds (as shown on the display) before another start can be attempted.*

6. When the glow plug indicator turns off, turn key to START position.

- If engine does not start within five seconds, turn key to STOP position and wait ten seconds before trying to start again.
- Attempt starting engine five times only, then wait 5 minutes before trying again. This allows time for starter to cool and prevent damage to starter.

7. Release key to the RUN position when engine starts.

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

8. Idle engine for 2 or 3 minutes to warm the engine.

MX00654.000035D-19-31JAN23

## Stopping Engine

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

**Always shift to P (Park) and remove the key before leaving the machine unattended.**

**IMPORTANT: Avoid damage! Liquid cooled engines:**

- Do not stop a hot engine immediately after hard or extended operation.
- Allow the engine to run until the radiator fan turns off.

1. Stop the machine.
2. Shift to P (Park).
3. Turn ignition key switch to STOP position.
4. Remove key.

MX00654.0000311-19-15SEP21

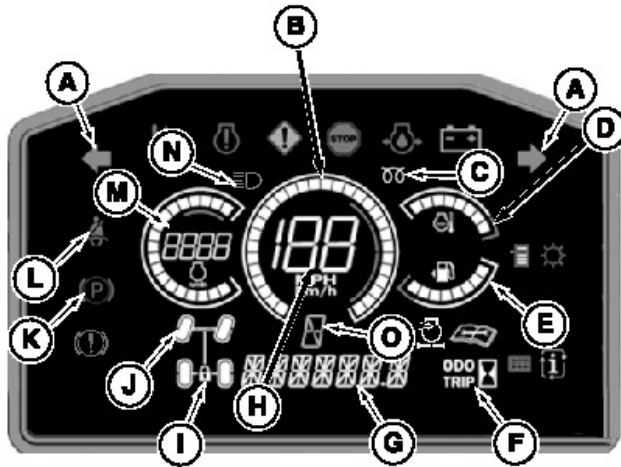
## Using Instrument Display

*NOTE: Depending on the machine model, some functions are not available.*

### Informational Indicators

*NOTE: Refer to the Index to locate additional information where applicable.*

## Operating



MX102241—UN—30MAR22

**A - Turn Signal** - The left or right arrow flashes when the corresponding turn signal is turned on. Both FLASH when hazard lights are turned on.

**B - Speedometer Gauge** - Displays the vehicle speed.

**C - Glow Plug (Diesel Models)** - Illuminates when the key switch is placed in the RUN position and the engine/glow plugs are cold.

**D - Coolant Temperature Gauge** - Displays the engine temperature. If the temperature rises to an overheat condition, the stop indicator illuminates. (See Servicing Cooling System in the Service Engine section.)

**E - Fuel Gauge** - Displays the fuel level in eight segments. If the fuel level is less than 1/8, no segments illuminate and the fuel pump symbol flashes.

**F - Travel Mode** - Displays what mode the Travel Value (G) is in:

- Odometer
- Trip Meter
- Hour Meter

**G - Travel Value** - Displays the value of the travel mode selected in (F):

- Odometer - accumulated kilometers/miles the machine has traveled.
- Trip Meter - accumulated kilometers/miles for the current trip.
- Hour Meter - accumulated number of operating hours the engine has run.

**H - Speedometer** - Displays the vehicle speed and MPH/km/h unit of measure display.

**I - Rear Differential Lock** - Illuminates when the rear differential lock is engaged.

**J - 4WD** - Illuminates when four-wheel drive is engaged.

**K - Park Brake** - Illuminates when the park brake is engaged.

**L - Seat Belt** - Illuminates or flashes when the driver seat belt is not secured.

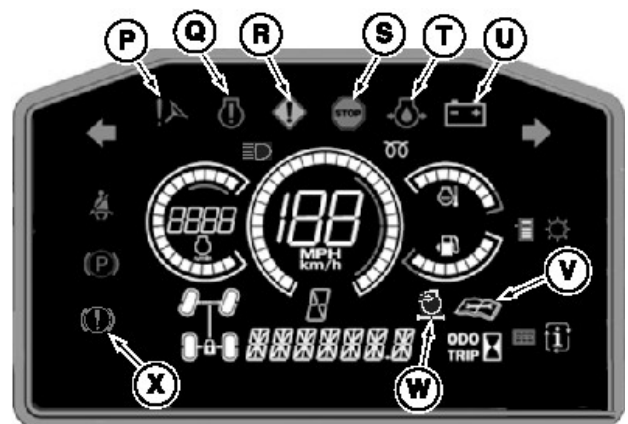
**M - RPM Gauge and Value** - Displays a bar gauge and numerical value of the engine RPM.

**N - High Beam Headlight** - Illuminates when the high beam headlights are on.

**O - Gear Position** - Displays the letter of the transmission gear position.

### Troubleshooting Indicators

*NOTE: Your dealer has special equipment to diagnose and troubleshoot your machine. See your Authorized John Deere Dealer for additional service if needed.*



MX102242—UN—30MAR22

**P - Electric Power Assist Steering (EPAS)**

**Malfunction** - Illuminates or flashes when the EPAS system detects a fault. The level of assist may also be decreased.

**Q - Engine Malfunction** - Illuminates or flashes when an engine fault has been detected.

**R - Operator Alert** - Illuminates when a fault has been detected that does not require the machine to be stopped immediately.

**S - Stop** - Illuminates or flashes alerting the operator to a condition that requires immediate attention. Stop machine use immediately.

**T - Low Engine Oil Pressure** - Illuminates or flashes when the engine is running and the engine oil pressure is too low. (See Checking Engine Oil in the Service Engine section.)

**U - Battery** - Illuminates or flashes when a charging system malfunction has been detected.

**V - System Diagnostic** - Illuminates or flashes for system malfunctions that do not have a specific indicator.

**W - Air Restriction (XUV865 Models)** - Flashes when air filter restriction is detected.

**X - Brake Fluid Alert** - Illuminates when the brake fluid

# Operating

falls below the MIN level. (See Checking Brake Fluid Level in the Service Steering and Brakes section.)

MX00654,0000346-19-14OCT22

## Using Instrument Display Buttons

**NOTE:** If vehicle speed is greater than 4.8 km/h (3 mph), changing some menu settings is not allowed.

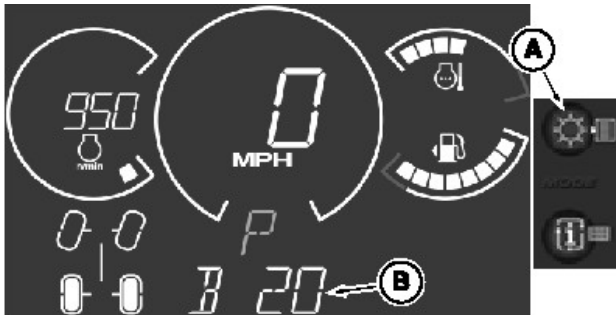
1. Park machine safely. (See Parking Safely in the Safety section.)
2. Turn on display by turning the ignition key switch to the run position.



MX101568—UN—09SEP21  
Home Screen With Odometer Shown

3. Use the select button (A) and cycle button (B) to navigate to the following submenus:

## Adjusting Display Brightness



MX101569—UN—23SEP21

Adjust the display brightness by pressing the select button (A). The brightness changes in increments of 20 percent (B). The Home screen reappears after 5 seconds of inactivity.

## Using Travel Modes

**NOTE:** Odometer and Trip Meter travel value can be displayed in either mph or km/h. (See the Display Units Selection submenu section to set the value.)

Toggle between odometer, trip meter, and hour meter by pressing the cycle button (B):



MX101574—UN—03JUN20

- When “ODO” (C) is displayed, the travel value (D) displays the number of miles or kilometers the machine has traveled.



MX101575—UN—03JUN20

- When “TRIP” (E) is displayed, the travel value (D) displays the number of miles or kilometers the machine has traveled for a certain trip.  
Reset the trip odometer by holding the cycle button (B) for 3 seconds until the travel value displays 0.0.



MX101576—UN—03JUN20

- When the hour meter (F) is displayed, the travel value (D) displays the number of operating hours the engine has run.

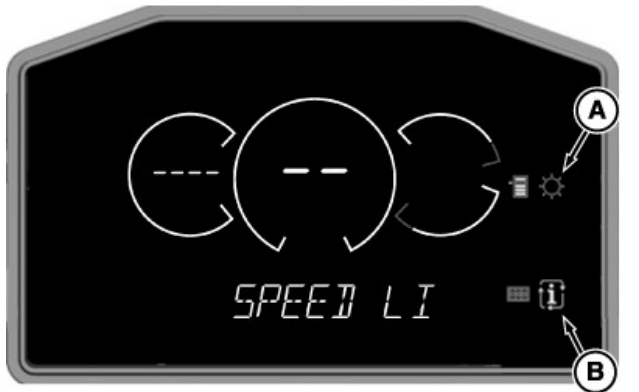
Operating hours are accumulated whenever the engine is running and are intended to determine when the machine has reached the recommended service intervals.

## System Settings Menu

**NOTE:** Diesel models display the Tire Size Selection submenu first.



## Operating



MX102170—UN—09SEP21

Gas Model Shown

Enter the System Settings Menu from the Home screen by holding the select button (A) for 2 seconds. Pressing the cycle button (B) toggles through the submenus:

- Speed Limiter (Gas models only)
- Tire Size
- Display Units
- Display Language
- Service Interval Indicator
- Diagnostic Trouble Codes (DTC)

### Speed Limiter Submenu (Gas Models Only)

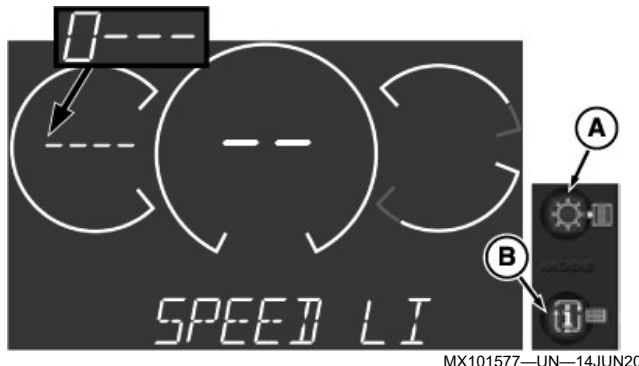
**NOTE:** All vehicles are factory programmed with the Speed Limiter mode disabled.

This submenu allows the operator to activate and deactivate the Speed Limiter function. Maximum vehicle speed is limited to 45km/h (28 mph) when the Speed Limiter is activated and the driver's seat belt is buckled.

#### Activating Speed Limiter

Center gauge displays "--". SPEED LIMITING scrolls across the bottom in the display language selected.

Display returns to the Home screen after 10 seconds of inactivity. Any value flashing is not saved.



MX101577—UN—14JUN20

1. Enter the Speed Limiter submenu by pressing the select button (A).

Activation of speed limiting begins. The first digit in the left gauge begins flashing "0".

**NOTE:** When activating the Speed Limiter, you will create a pass code that must be securely stored for disabling it in the future.

#### Record Pass Code

2. Press cycle button (B) to scroll through digits 0-9.
3. Press select button (A) to select the desired number. Next digit will begin flashing "0".
4. Repeat steps 2 and 3 until all four digits have been entered.

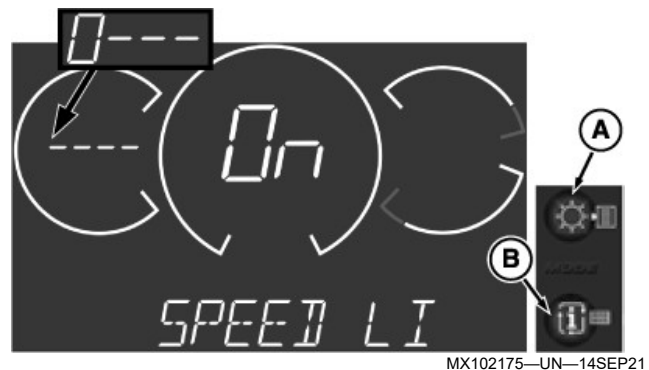
Center gauge changes from "--" to "On".

#### Deactivating Speed Limiter

**NOTE:** If the incorrect pass code is entered, pass code entered flashes three times in the left gauge and "On" remains in the center gauge. Operator can attempt to enter the pass code again. If forgotten, there is a master pass code stored in the controller that only a dealer is able to access.

Center gauge displays "On" and SPEED LIMITING scrolls across the bottom in the display language selected.

Display returns to the Home screen after 10 seconds of inactivity. Any value flashing is not saved.



MX102175—UN—14SEP21

1. Press select button (A) to enter the Speed Limiter submenu.
- Deactivation of speed limiting begins and the first digit in the left gauge begins flashing "0".
2. Press cycle button (B) to scroll through digits 0-9 until the correct pass code digit is displayed.
3. Press select button (A) to select the first number of the pass code. Next digit will begin flashing "0".
4. Repeat steps 2 and 3 until all four digits have been entered.

When the correct pass code is entered, the center

## Operating

gauge changes from "On" back to "--". Process can then be repeated to activate speed limiting with same or a new pass code.

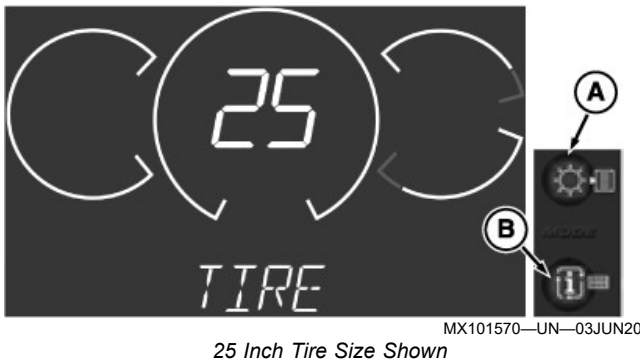
### Tire Size Selection Submenu

**NOTE:** All vehicles are factory programmed with the size tires installed on the machine at the factory.

This submenu allows the operator to adjust between available tire sizes.

The current tire size setting (in inches) is displayed in the center gauge. The word "TIRE" shows no matter what display language is selected.

Display returns to the Home screen after 5 seconds of inactivity. Any value flashing is not saved.



1. Press select button (A) to enter the Tire Size Selection submenu. The tire size value begins flashing.
2. Press the cycle button (B) to toggle through available tire sizes.
3. Press the select button (A) when the desired tire size is displayed. Tire size value stops flashing.

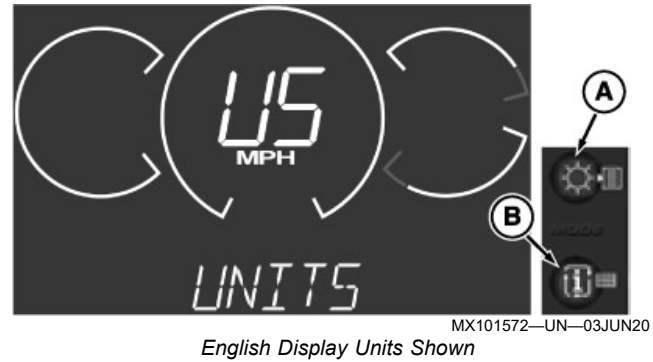
### Display Units Selection Submenu

**NOTE:** All vehicles are factory programmed with either US or SI units based on the machine destination.

This submenu allows the operator to select either English or metric units.

The current setting is displayed in the center gauge. The word "UNITS" shows in the display language selected.

Display returns to the Home screen after 5 seconds of inactivity. Any value flashing is not saved.



1. Press select button (A) to enter the Display Units Selection submenu. Unit value begins flashing.
2. Press the cycle button (B) to toggle between US/mph and SI/km/h.
3. Press the select button (A) when the desired unit is displayed. Unit value stops flashing.

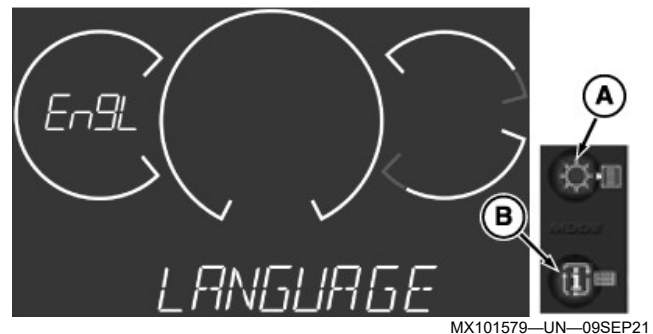
### Display Language Selection Submenu

**NOTE:** All vehicles are factory programmed with English as the language.

This submenu allows the operator to select either English, Spanish, or French as the display language.

The current language is shown on the left gauge. The word "LANGUAGE" shows in the display language selected.

Display returns to the Home screen after 5 seconds of inactivity. Any flashing value is not saved.



1. Press select button (A) to enter the Display Language Selection submenu. Language value begins flashing.
2. Press the cycle button (B) to toggle between languages.
3. Press the select button (A) when the desired language is displayed. The language value stops flashing.

### Service Interval Indicator Submenu

**NOTE:** All vehicles are factory programmed with the service interval indicator on.

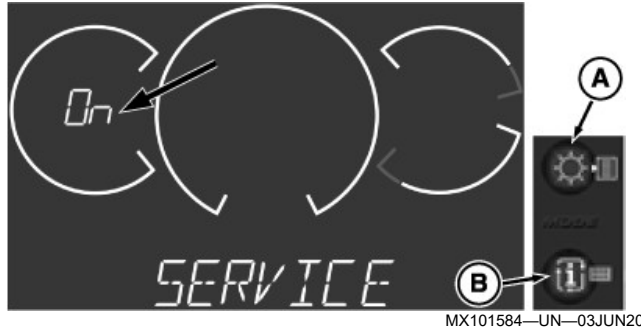
## Operating

This submenu allows the operator to have maintenance reminders appear on the display.

The current value is shown on the left gauge. The word "SERVICE" shows in the display language selected.

Display returns to the Home screen after 5 seconds of inactivity. Any flashing value is not saved.

**To turn the service indicator on or off:**

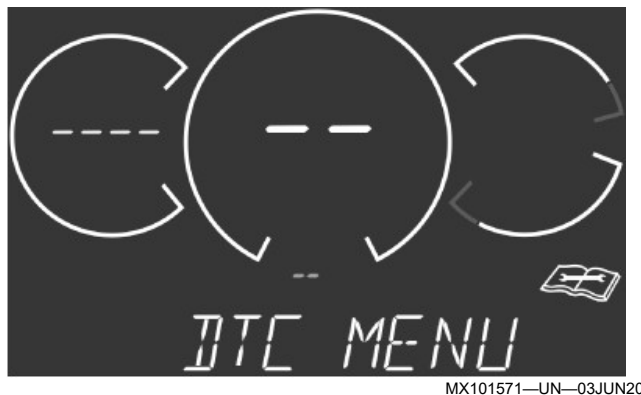


1. Press select button (A) to enter the Service Interval Indicator submenu. Current value begins flashing.
2. Press the cycle button (B) to toggle between "on" and "off".
3. Press the select button (A) when the desired option is displayed. Value stops flashing.

**Clearing the service interval indicator:**

- **Manual clear** - holding the cycle button (B) for 2 seconds clears the notification for the current interval.
- **Auto clear** - the service interval indicator clears 5 hours after the stated service interval.

### DTC Menu



DTC menus are provided for diagnosing a machine malfunction. (See your John Deere dealer for service.)

MX00654,0000342-19-30MAR22

### Exit Lighting Operation



When the ignition key switch is turned off, certain circuits briefly remain on. The bar gauge represents those circuits shutting down.

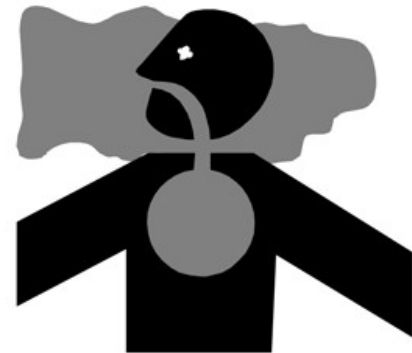
MX00654,000034D-19-14SEP21

### Load Shedding

While operating equipment or attachments on some machine models, power may be reduced or cut off to avoid damage to the battery. On HVAC equipped machines, the blue AC light flashes during a load shed condition. Other more severe load shedding conditions are indicated with a solid battery indicator on the display. See your John Deere dealer for additional information.

OUMX068,00011E3-19-28SEP21

### Testing Safety Systems



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

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

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

The safety systems installed on your machine should be

# Operating

checked before each machine use. Be sure that you have read the machine operator manual and are 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.

MP47322,00F4637-19-07JUN22

## Testing the Safety Start System

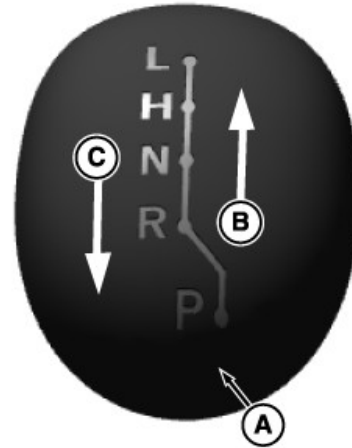
**NOTE:** The engine can start with the transmission in gear. The machine has a service brake pedal safety switch. The service brake pedal must be pushed down to start the engine, except in the P (Park) position.

1. Sit on the operator seat with the vehicle on level ground.
2. Turn ignition key switch to RUN position.
3. Press service brake pedal and move transmission shift lever to N (Neutral). Remove foot from service brake pedal.
4. Turn ignition key switch to START position. Engine should not start. Turn ignition key switch to STOP position.
5. Push down on service brake pedal.
6. Turn ignition key switch to START position. Engine should start.
7. Turn ignition key switch to STOP position.
8. Move transmission shift lever to the P (Park) position.
9. Remove foot from the service brake pedal.
10. Turn ignition key switch to START position. Engine should start.
11. Turn ignition key switch to STOP position.

MX00654,000030A-19-17JUN22

## Testing the Park Interlock System

1. Sit on the operator seat with the vehicle on level ground and the key in the RUN position.
2. With the transmission shift lever in P (Park), verify that P is illuminated on the instrument display.



MX101733—UN—26AUG20

A—P (Park) Area  
B—Forward  
C—Backward

3. With foot off the service brake pedal attempt to move transmission shift lever backward (C) past P (Park) area (A). Verify that transmission shift lever is locked and P remains illuminated on the instrument display.
4. With foot on the service brake pedal, move transmission shift lever forward (B) from P (Park) to another gear. Verify that park interlock disengages and instrument display indicates new gear position. Keep foot on the service brake pedal.
5. Return the transmission shift lever to P (Park) position. Release shift lever.
6. Release service brake pedal and try to move transmission shift lever forward out of P (Park). Lever must not move.
7. Turn ignition back to STOP position.

MX00654,000033A-19-24AUG21

## Using Park Brake (If Equipped)

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

**Always put transmission shift lever in P (Park), lock the park brake and remove the key before leaving the machine unattended.**

**IMPORTANT:** Avoid damage! Damage to park brake occurs when the machine travels with park brake locked.

**Unlock park brake before beginning machine travel.**

**NOTE:** Park brake alarm sounds if the machine is in gear and you try to move in forward or reverse before unlocking the park brake.

# Operating

## Locking the Park Brake:

1. Push down on the service brake pedal to stop or hold the machine in place.
2. Push down firmly on the park brake pedal in one motion with your other foot until several clicks are heard.
3. Release the service brake pedal and ensure that machine remains motionless before exiting.

## Unlocking the Park Brake (Foot Release Models):

1. Push down on the service brake pedal to hold the machine in place.
2. Place other foot on the park brake pedal and push down until you hear a click. Allow the pedal to return to the unlocked position.

## Unlocking the Park Brake (Hand Release Models):

1. Push down on the service brake pedal to hold the machine in place.

*NOTE: Place other foot on the park brake pedal (without applying pressure) when releasing park brake handle to avoid getting any debris on driver.*

2. Pull out the release handle on the dash under the steering wheel. Allow the park brake pedal to return to the unlocked position.

MX00654,000039F-19-24AUG21

## Using Travel Controls

1. Start the engine (See Starting the Engine in this section).
2. Allow engine to come to a low idle speed.



MX101731—UN—26AUG20

3. Select 2WD or 4WD position using switch (B). (See Using Four Wheel Drive in this section.)
4. Select rear differential unlock or lock position using switch (C). (See Using Rear Differential Lock in this section.)

*NOTE: Always shift into L (Low) range when:*

- Operating on wet, uneven, or steep terrain.
- Towing or pushing heavy loads.

5. Depress service brake pedal and select a gear position:
  - Forward - Move transmission shift lever (A) to either H (High) or L (Low) range.
  - Reverse - Move transmission shift lever to R (Reverse) gear.

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

**IMPORTANT: Avoid damage! Do not shift gears when vehicle is moving or with engine running higher than low idle speed. Push down service brake to stop vehicle motion.**

*NOTE: Anytime the transmission is in the park position, the rear differential lock engages. After shifting into a travel gear it may be necessary to turn the steering wheel left and right while machine begins moving to totally disengage rear differential lock. This will help prevent scuffing in groomed turf applications.*

## Operating

- Look in the direction of machine travel and push down on the accelerator pedal slowly and smoothly to begin machine travel.
- Release accelerator pedal and apply the service brake pedal evenly and firmly to slow down or stop.
- Move transmission shift lever to the P (Park) position.

MX00654,00003A0-19-28JAN23

### Emergency Stopping

- Remove foot from accelerator.
- Depress service brake pedal. Do not release service brake pedal until machine has stopped.
- After machine has stopped, shift to P (Park).
- Turn ignition key switch to STOP position.

MX00654,0000312-19-24AUG21

### Using Rear Differential Lock

**CAUTION: Avoid injury! Driving at high speeds with the rear differential lock engaged can result in loss of steering control. Do not turn machine with the rear differential lock engaged while operating machine at high speeds or on slopes.**

Rear differential lock provides better traction when rear wheels start to slip. Engaging rear differential lock causes both rear wheels to turn together at equal speed.

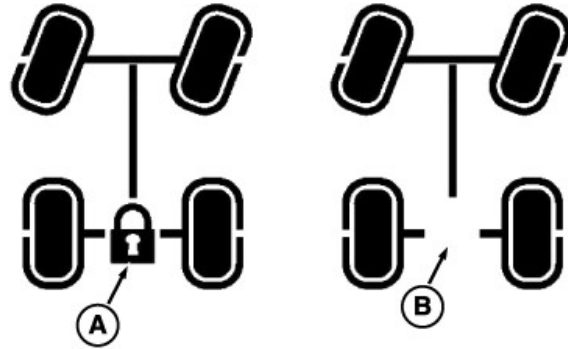
*NOTE: Rear differential is always locked when machine is in the P (Park) position.*

#### Engaging Rear Differential Lock:

**IMPORTANT: Avoid damage! Do not engage rear differential lock when the rear wheels are slipping, internal gears can be damaged. Machine must be stopped or traveling at a slow steady speed, in a straight line, to engage rear differential lock.**

- Stop or reduce engine speed to 1/3 throttle or less.

*NOTE: On some models, indicator flashes if switch is pushed when vehicle speed is above 13 km/h (8 mph) and rear differential lock does not engage. When vehicle speed drops below 13km/h (8 mph) the indicator becomes solid and differential lock automatically engages.*



MX102016—UN—13MAY21

- Push the top of the rear differential lock switch. The rear differential lock indicator on the instrument display shows a lock between the rear wheels indicating differential lock is engaged (A).

#### Disengaging Rear Differential Lock

*NOTE: Torque on both axles must be equalized to ensure true disengagement of the rear differential lock.*

- Travel in a straight line.
- Push the bottom of the rear differential lock switch.
- Turn wheel right and left to equalize torque on both axles. The lock indicator on the instrument display disappears indicating differential lock is disengaged (B).

MX00654,000048E-19-25AUG21

### Using Four Wheel Drive

The machine is equipped with an electronic four-wheel drive (4WD) system. This system allows the power train to drive the front wheels in addition to the rear wheels for improved traction on difficult ground conditions.

**CAUTION: Avoid injury! 4WD greatly increases the traction and can make dangerously sloped terrain accessible, increasing possibility of a rollover.**

Use extra caution when driving on slopes. Engage 4WD to increase traction.

Use 4WD when driving on icy, wet, or graveled surfaces; reduce speed to avoid skidding and loss of steering control.

Front implements can cause decreased traction at the rear wheels resulting in the loss of control. Always operate the machine with 4WD engaged when front implements are attached.

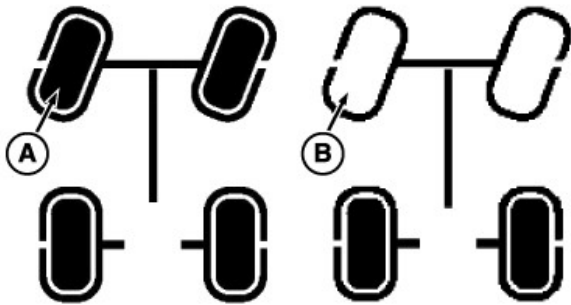
# Operating

**IMPORTANT: Avoid damage! Do not engage 4WD when the rear wheels are slipping, internal gears can be damaged. The machine must be stopped or traveling at a slow steady speed, in a straight line, to engage 4WD.**

*NOTE: On some models, the indicator flashes if the switch is pushed when vehicle speed is above 13 km/h (8 mph) and 4WD does not engage. When vehicle speed drops below 13km/h (8 mph) the indicator becomes solid and 4WD automatically engages.*

Selecting 2WD or 4WD position:

- Pushing the top of 2WD/4WD switch engages 4WD.
- Pushing the bottom of the 2WD/4WD switch disengages 4WD.



MX102015—UN—13MAY21

- All four tires (A) on the 4WD indicator on the instrument display are solid when 4WD is engaged. The front tires (B) are outline only when the vehicle is in 2WD.

## Tips for Operating 4WD:

- Maintain recommended front and rear tire pressures to ensure optimum performance on all surface conditions.
- Disengage 4WD when driving machine on paved or hard packed surfaces to increase front tire life and reduce drivetrain wear.
- Drive the machine in reverse and then forward, or drive straight turning the wheel slightly left and then right to help verify engagement/disengagement of 4WD.

MX00654,000048F-19-25AUG21

## Using Headlights and Taillights

*NOTE: Taillights are optional on some models and turn on with the headlights.*

*The ignition key switch must be in the RUN position to operate the lights.*

- Press at the top of light switch to turn lights on.

- Press at the bottom of light switch to turn off lights.

JG81906,0000701-19-01APR22

## Using Turn Signals (If Equipped)

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

- 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.

MP47322,00F4847-19-26MAR21

## Using Hazard Lights (If Equipped)

*NOTE: Hazard lights will continue to flash when the ignition key switch 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.

MP47322,00F4848-19-03APR13

## Using Work Lights (If Equipped)

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

MX00654,00004D1-19-09MAR22

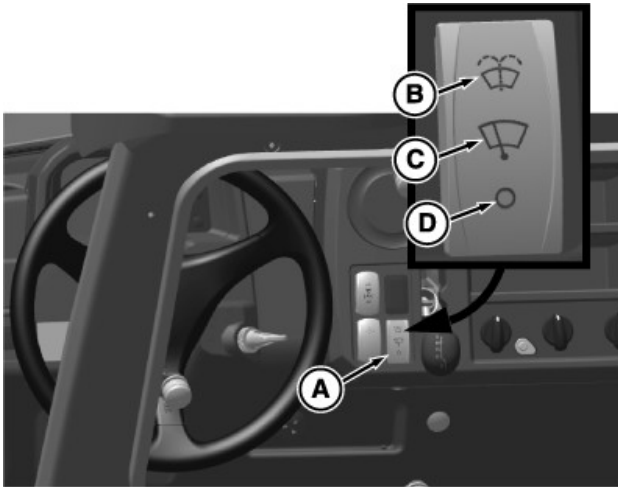
## Using Horn (If Equipped)

Press horn switch to activate. Release switch to deactivate.

OJ02005,00007D5-19-20AUG20

# Operating

## Using Windshield Wiper/Washer (Cab Models)



MX101930—UN—08MAR21

Push switch (A) to desired position:

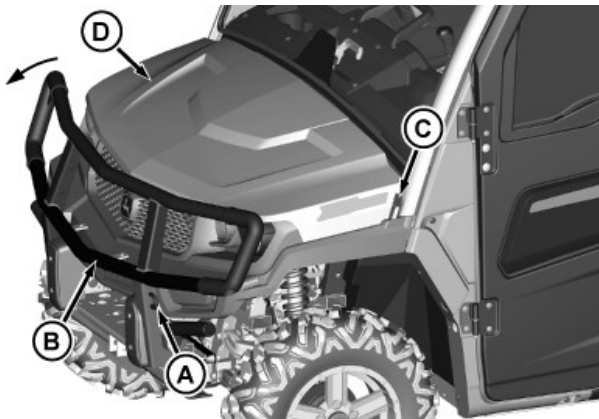
- (B) Washer and wiper when optional washer kit is installed.
- (C) Wiper only.
- (D) Off.

MX00654,0000475-19-26MAR21

## Opening and Closing Hood

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

### Vehicles Equipped with a Brush Guard



MXT019906—UN—28FEB17

1. Pull out and rotate locking pin (A) on each side of the brush guard (B).
2. Tilt brush guard forward.

**IMPORTANT: Avoid damage! Be sure that brush guard is secured in upright position before operating vehicle.**

3. Tilt brush guard backward and install pins after closing hood.

## Opening and Closing Hood

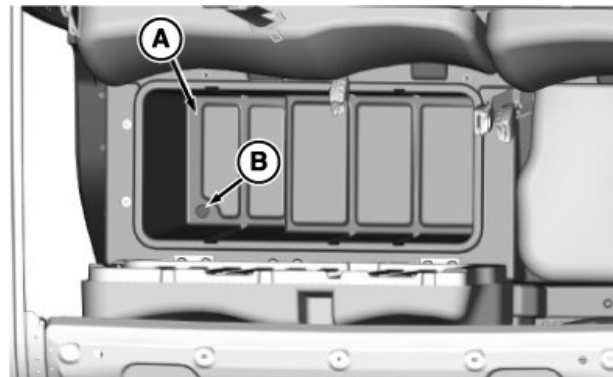
**CAUTION: Avoid injury! Rotating parts can catch fingers, loose clothing, or long hair. Wait for engine and all moving parts to stop before leaving operator station to adjust or service machine.**

1. Release the rubber strap (C) attached to each side of the hood (D).
2. Open the hood.
3. Pivot hood downward to closed position.
4. Secure with two rubber straps.

OUMX068,0001249-19-30MAR22

## Using Storage Areas

### Under Seat Storage Tray



MX101948—UN—17MAR21

1. Raise the passenger seat to access the storage tray (A).

**IMPORTANT: Avoid damage! Secure all items to prevent damage from movement while operating the machine.**

**On some models, electronic components or a subwoofer are contained in the storage tray. Do not place items on these components.**

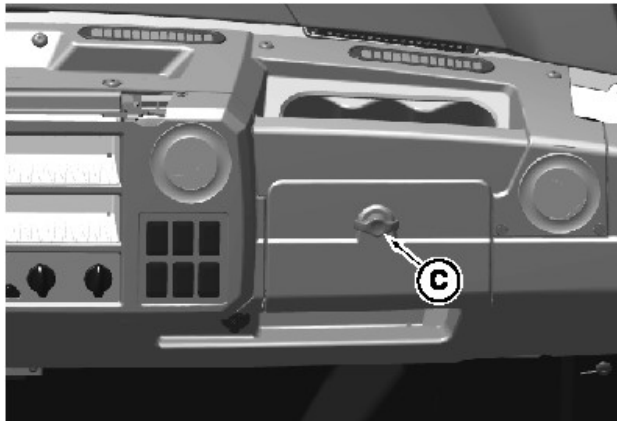
*NOTE: Storage tray is equipped with a drain plug (B).*

2. Secure all items.
3. Lower seat.



# Operating

## Glove Box



MX101929—UN—29SEP21

Turn the knob (C) clockwise to access glove box. Turn the knob counterclockwise to close.

MX00654,00003A4-19-31MAR22

## Using Accessory Outlets

Two outlets may be installed depending upon your machine model:

- 10 A outlet in the glove box (M-spec models equipped with HVAC and R models).
- 10 A outlet on the machine dashboard (All models).

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

**IMPORTANT:** Avoid damage! Accessory must be rated at given amps for outlet or less to avoid blowing a fuse.

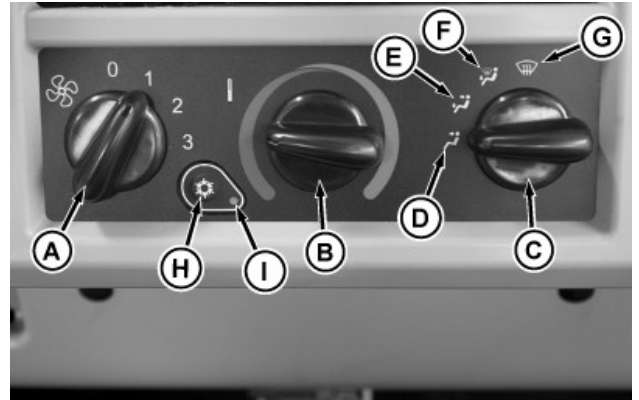
*NOTE: The accessory plug(s) are powered when the key is in the RUN position. Power quits when the key is moved to STOP and the Exit Lighting cycle is complete.*

1. Open 12 volt outlet cover and install the accessory cord in the outlet.
2. Close cover in the outlet after use.

OUMX068,00011FB-19-29SEP21

## Using HVAC Controls (If Equipped)

*NOTE: FOR GAS MODELS ONLY- Engine idle speed increases when the air conditioning is on and the accelerator pedal is NOT depressed.*



MXT018980—UN—04JAN17

1. Adjust blower speed using knob (A):

- 0 = Off
- 1 = Low
- 2 = Medium
- 3 = High

2. Adjust air temperature using knob (B):

- a. Turn knob counterclockwise for cooler temperature.
- b. Turn knob clockwise for warmer temperature.

3. Control the direction of airflow using knob (C):

- D = Dash Vents
- E = Dash and Floor Vents
- F = Defroster Vents and Floor Vents
- G = Defroster Vents

4. Press button (H) to turn on air conditioning. Blue indicator light (I) illuminates. Press button again to turn off air conditioning. Blue indicator light turns off.

OUMX068,00011FE-19-14SEP21

## Using Electric Power Assist Steering (EPAS)

The EPAS Malfunction Indicator illuminates if there is a malfunction in the power assist steering system.

The indicator will illuminate during operation when the level of assist has been reduced to protect the system. When this occurs reduce power steering use by allowing the wheels to straighten. If indicator turns off the fault has cleared automatically.

During normal operation, the level of assist decreases as the speed increases. Maximum assist is applied when turning the wheels while vehicle is not moving.

The EPAS Indicator should not illuminate during normal vehicle operation.

If the indicator remains illuminated or flashes during operation, contact your John Deere dealer.

# Operating

Steering effort is adversely affected by low tire air pressure. Always keep tires at recommended air pressure. (See Tires in the Specifications section).

MX10673,0000086-19-09SEP17

## Using Correct Tires and Inflation

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

See tire descriptions and inflation pressures for load conditions in Tires in the Specifications section.

### Tires

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

- Do not attempt to mount a tire without the proper equipment and experience to perform the job.
- 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:** Avoid damage! Over inflation may damage tires and diminish ride quality. Under inflation could cause wheel damage when riding over rough terrain.

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

JG81906,0000712-19-20SEP21

## Vehicle Load Capacity

Find weights and capacities for your machine model in the Specifications section.

**CAUTION:** Avoid injury! Overloading the vehicle or trailer causes loss of control, resulting in serious injury or death:

- Do not allow the Gross Vehicle Weight (GVW) to exceed the Gross Vehicle Weight Rating (GVWR) of the vehicle.
- Remove excess weight before operating vehicle.

*NOTE: Optional equipment, and attachments that are not standard equipment, reduce your cargo box capacity.*

- **Gross Vehicle Weight (GVW)** is the combination of the empty vehicle weight and payload.
- **Gross Vehicle Weight Rating (GVWR)** is the maximum permissible vehicle weight.
- **Payload** is the weight of all occupants, tongue weight, cargo, attachments, and options that were not standard equipment.

MX00654,0000526-19-11MAR22

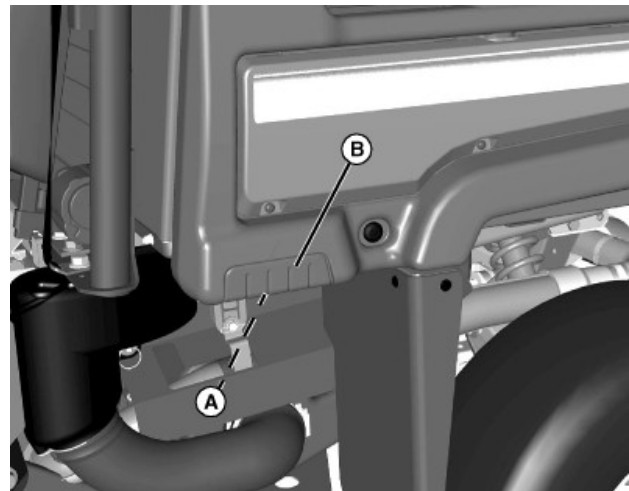
## Using the Cargo Box

**CAUTION:** Avoid injury! Do not allow riders in the cargo box or on the tailgate. Extra riders can fall off and be seriously injured or killed.

Park vehicle safely (See Parking Safely in the Safety section) on a level surface before raising the cargo box.

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

### Raising and Lowering with Manual Lift



MXAL44170—UN—10APR13

1. Release pressure against latch (A) by pushing down on the cargo box.

## Operating

2. Release latch by pulling it towards grip (B) on the cargo box. Allow the lift cylinder to raise the cargo box.
3. Lock box in the raised position (See Locking Box in Raised Position with Manual Lift in this section) when performing any service work.
4. Slowly push the cargo box down until it latches.

### Raising and Lowering with Power Lift (If Equipped)

**IMPORTANT: Avoid damage!** If you hear a “whine” or squealing sound, the power lift cannot apply any more force. The sound can occur when the cargo box is fully raised or lowered or when the box is heavily loaded. Keep this sound to a minimum to prevent the unnecessary wear or damage to power lift. Do not operate the power lift beyond full stroke or exceed the cargo box weight capacity.

1. Turn key to RUN position.
2. Raise the cargo box by pressing and holding the top of the power lift switch. Release switch when the box is at the desired dump height or when reaching maximum height.
3. Lock box in the raised position by removing the key before performing any service work.

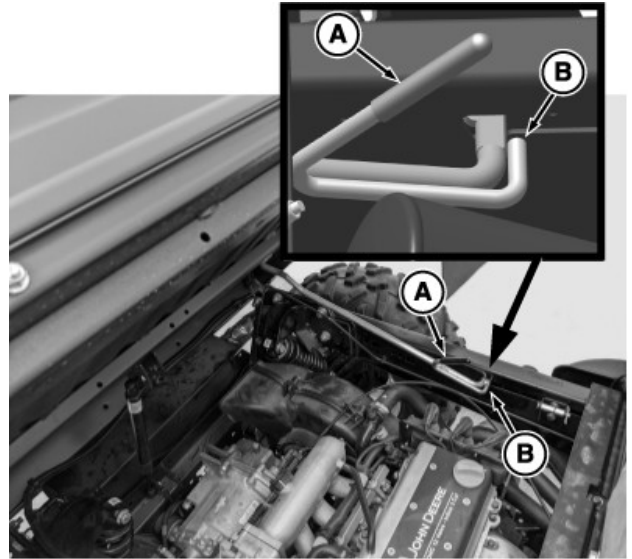
*NOTE: Ensure that cargo box is fully lowered to avoid rattling caused by travel vibrations.*

4. Lower cargo box by pressing and holding bottom of the power lift switch. Cargo box is fully lowered when power lift retracting sound changes. Release switch.
5. Turn key to STOP position.

### Locking Box in Raised Position with Manual Lift

**⚠ CAUTION: Avoid injury!** If not secured properly, cargo box can fall. Lock support rod securely before doing any service under the raised cargo box.

1. Raise and secure the cargo box.



MX101743—UN—18AUG20

2. Pull down on the cargo box slightly and push the rod handle (A) in toward the center of the box until it is locked in slot (B).
3. Check to be sure that box is locked in the raised position.
4. When the service is complete, lift up on the box and allow the rod to slide back toward the closed position. Slowly push the cargo box downward until it latches.

### Operating the Tailgate

**⚠ CAUTION: Avoid injury!** Never operate the tailgate with one lanyard attached (always use both).

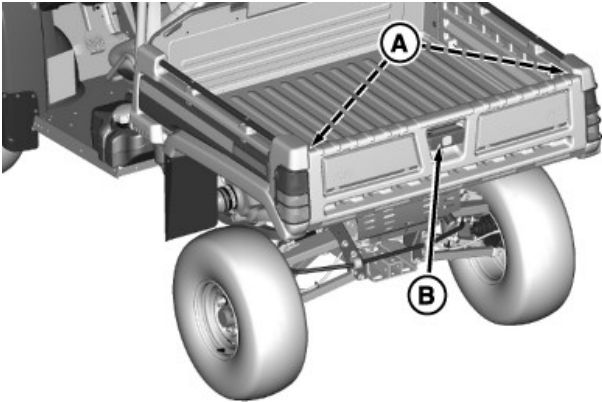
Check condition of lanyards for wear or damage. Replace if cable is kinked or frayed.

**IMPORTANT: Avoid damage!** Remove rear hitch before tilting or dumping the cargo box.

Do not attempt to tilt or dump the cargo box when lanyards are detached.

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

# Operating



MXT011039—UN—09SEP14

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

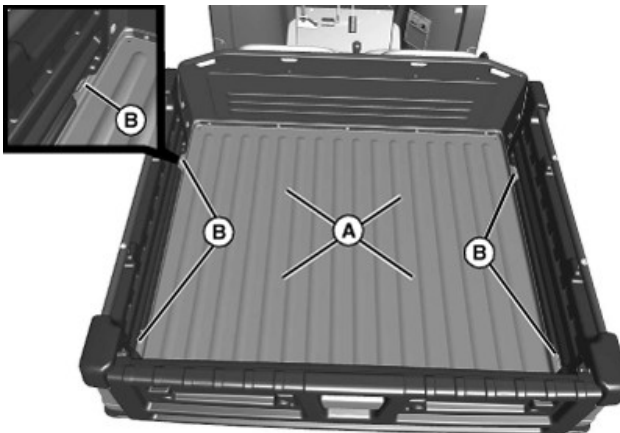
**IMPORTANT: Avoid damage! Lower tailgate completely to unload the cargo box only. Never drive with the tailgate hanging down, damage to the tailgate pivot bushings can occur.**

2. Pull back on handle (B) to unlock and lower tailgate.

**IMPORTANT: Avoid damage! Before raising tailgate, check for stones and debris caught in the gap between the tailgate and cargo box floor.**

3. Rotate the tailgate slightly to free debris if necessary.
4. Push tailgate upward to lock it into the closed position.
5. Check to be sure that tailgate is securely locked.

## Using Cargo Box Tie Downs



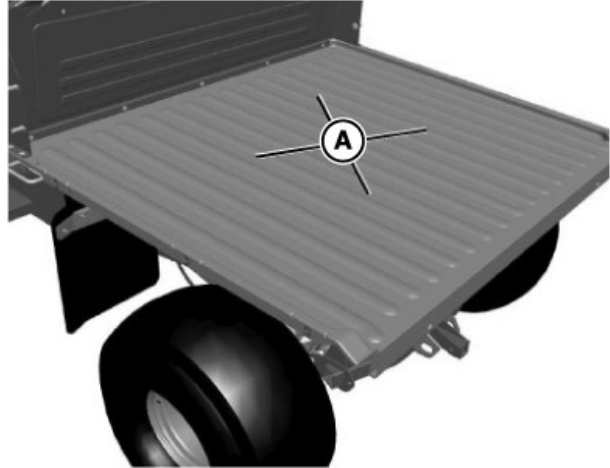
MXAL44173—UN—10APR13

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.

## Operating in Flatbed Mode

**CAUTION: Avoid injury! The load guard protects operator and passenger from shifting loads. Do not remove the load guard.**

1. Convert the cargo box to a flatbed (See Converting the Cargo Box to a Flatbed in the Service Miscellaneous section.)



MX101753—UN—14AUG20

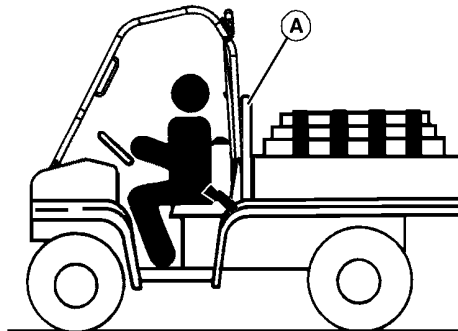
2. Arrange load so the weight is centered over the main cargo area (A).

OUMX068,0001326-19-09APR22

## Loading the Cargo Box

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

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



MXAL44182—UN—10APR13

Do not load above the load guard (A).

# Operating

Securely anchor and evenly distribute loads in the cargo box. Shifting loads affect stability.

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

Use low range, reduce speed, and exercise extreme caution when operating over rough, hilly, or steep terrain.



MX102008—UN—19APR21

Prevent the vehicle from tipping over, avoid concentrated loads at the rear or side of the cargo box. Be sure that load is evenly distributed.

Materials can vary greatly in weight under different conditions; wet versus dry, or densely packed versus loosely packed. The only way of getting the true weight of the load you are carrying is by using a scale.

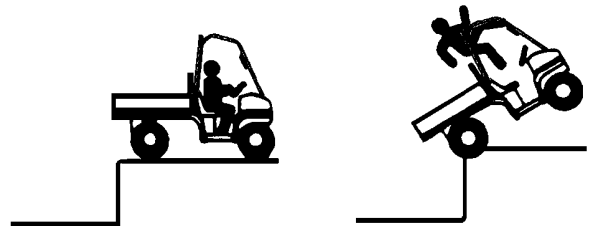
Printed weight is normally on bagged and other material.

See capacities in the Specifications section.

MX00654.00000D0-19-20SEP21

## Emptying Cargo Box

**CAUTION:** Avoid injury! Keep vehicle a safe distance from the edge of ravine or drop-off. Raising a loaded cargo box changes the center of gravity.



MXAL42924—UN—15MAR13

1. Back up the vehicle to dump site.
2. Park the vehicle safely. (See Parking Safely in the Safety section.)
3. Open tailgate.

**CAUTION:** Avoid injury! A cargo box containing material is heavy. Empty some or all material until cargo box can safely be raised manually.

**IMPORTANT:** Avoid damage! If equipped with a power lift and box does not raise, stop immediately. Lower cargo box completely and remove excess load by hand before dumping.

**Do not drive vehicle with the cargo box in raised position.**

4. Raise and secure cargo box to dump load.
5. Lower cargo box when empty.
6. Close tailgate.

JG81906.0000710-19-30MAR22

## Using a Trailer

Follow all trailer manufacturers instructions for safe operation.

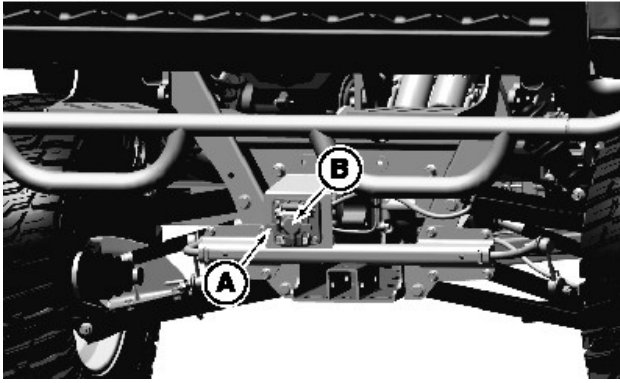
Follow all instructions in this operator's manual for attaching optional equipment and towing loads safely.

MP47322.00F4860-19-23JUN15

## Using AutoTrac™ Integrated 300 ISO Implement Connector (If Equipped)

Your vehicle may be equipped with an ISO 9-Pin connector allowing communication with the implement.

# Operating



MX102250—UN—31MAR22

1. Pull back on release (A) to open cover (B).
2. Install the implement plug.
3. Lock release.

MX00654,000053B-19-14APR22

## 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 the towed load.

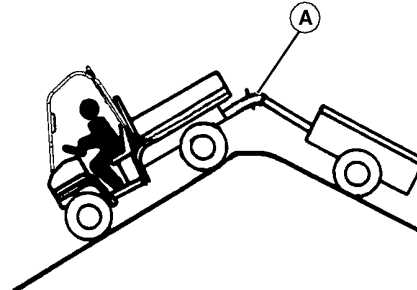
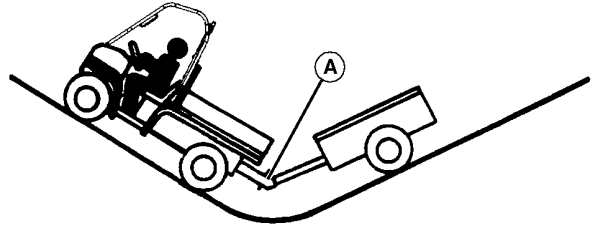
**Do not tow a load that exceeds the maximum allowable towing load for this vehicle, as specified in this operator's manual.**

**Secure towed loads before transporting.**

- To provide adequate braking ability and traction, the total towed weight must not exceed the towing capacity stated in the Specifications section of this manual.
- When operating over rough, hilly, or steep terrain, reduce the cargo load to half of the suggested load. Reduce towed loads accordingly under these conditions.
- Use low range, reduce speed, and exercise extreme caution when operating over rough, hilly, or steep terrain.
- Do not tow a load that exceeds towing capacity listed in the Specifications section.
- Do not exceed trailer tongue weight listed in the Specifications section.
- Be sure to include tongue weight as part of vehicle weight when preparing for towing. Tongue weight should be approximately 10% of towed load weight. Do not overload.
- Tow load at a speed slow enough to maintain control. When towing, do not drive aggressively, and do not turn sharply.
- Add weight to vehicle in accordance with the towed load. Add weight in a uniform manner to the cargo box. Secure weight properly.

- Reduce speeds when on slopes or turning.
- Allow more distance and time for stopping.

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



MXAL44186—UN—10APR13

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

MX00654,0000527-19-14APR22

## Tire Chains

**IMPORTANT:** Avoid damage! Tire chains are not approved for use on this vehicle.

MP47322,00F4857-19-10DEC20

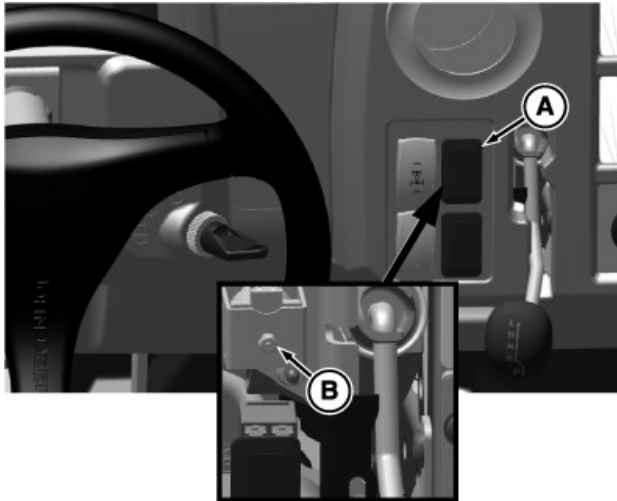
## Using Park Lock Override

**CAUTION:** Avoid injury! When the actuator plunger is disengaged, the machine has unrestricted motion. Be sure that machine is on a flat level surface before disengaging actuator.

Use the following procedure to move your vehicle when your battery no longer has power:

**NOTE:** You can use your vehicle key as a tool to remove the cover and to pull up on the actuator plunger using the rubber end.

# Operating



MX101732—UN—26AUG20

1. Remove plastic plug (A).
2. Pull up on actuator plunger (B) while moving transmission shift lever to N (Neutral). Release plunger.
3. Push vehicle to desired location.
4. Move shift lever to the P (Park) position.
5. Return plastic plug into the access hole in the dash panel.

MX00654,00003A3-19-28AUG20

## Using Front Receiver Hitch

*NOTE: Model shown may not match your machine exactly.*



MX101750—UN—14AUG20

1. Mount front accessories into front receiver hitch (A).
2. Use bar (B) as needed.

MP47322,00F485F-19-17MAR21

## Transporting Machine

### Towing the Machine

**IMPORTANT:** Avoid damage! Never tow the vehicle above 40 km/h (25 mph); towing a vehicle at speeds above 40 km/h (25 mph) results in transmission damage.

Haul the vehicle in an enclosed trailer to avoid damage. If an open trailer must be used, haul on a heavy-duty trailer or on a full-size truck. Be cautious and travel at reduced speeds.

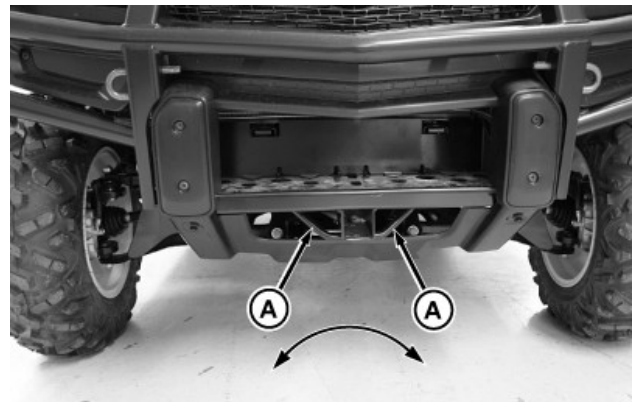
Remove optional accessories, such as a windshield, to avoid sudden unintentional separation from the vehicle.

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

1. Unlock the park brake (if equipped) and move the transmission shift lever to the neutral (N) position for towing.
2. Make sure that the 2WD/4WD switch is in the 2WD (two-wheel drive) position. Cycle the switch power to ensure that the 4WD actuator has released.
3. Check to be sure that the ignition key switch is in the STOP position.

### Machine Tie-Down Locations

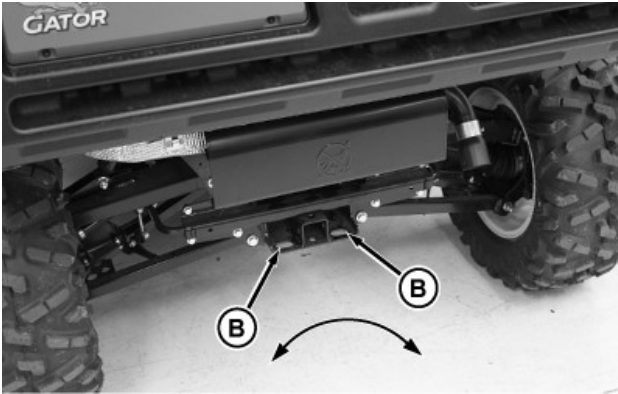
*NOTE: Models shown may not match your machine exactly.*



MXT018981—UN—04JAN17

Fasten the front of the machine through tie-down points (A) on the front of the machine to the trailer with a heavy-duty strap, chain, or cable. Strap must be directed down and outward from machine.

# Operating

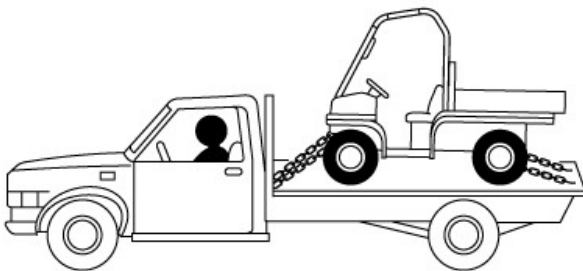
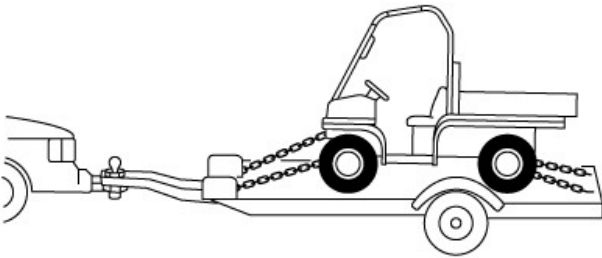


MXT018982—UN—04JAN17

Fasten the rear of the machine through tie-down points (B) on the rear of the machine to the trailer with a heavy-duty strap, chain, or cable. Strap must be directed down and outward from machine.

## Hauling the Machine

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



MX100739—UN—14MAY19

1. Drive the machine onto the trailer or truck.
2. Park machine safely. (See Parking Safely in the Safety section.)
3. Fasten machine to trailer or truck with straps, chains, or cables.
4. Equip the trailer or truck with all the necessary lights and signs required by local, state, provincial, or federal laws.
5. Remove or secure optional attachments, if equipped.

MX00654,000035E-19-20SEP21



# Service Intervals

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## Servicing Your Machine

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

**Operating in extreme conditions requires more frequent service intervals:**

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

Use the following timetables to perform routine maintenance on your machine.

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

OUMX068,000052F-19-23NOV21

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## Service Intervals

### Break In - After First 8 Hours

- Check and tighten wheel bolts to correct torque.
- Check brake fluid level.

### Every 50 Hours or Annually (whichever comes first)

- Lubricate drive line.
- Grease cargo box tailgate strikers.
- Check 4WD front differential oil level.
- Check transmission oil level.
- Check brake fluid level, lines, and connections.
- Inspect driveline CV boots for tears and punctures.
- Inspect park brake for proper function (if equipped). (See your John Deere dealer for any adjustment needed.)
- Inspect transmission shift lever for proper function. (See your John Deere dealer for any adjustments needed.)

### Every 100 Hours or Annually (whichever comes first)

- Check cab air filter - HVAC models.

### Every 200 Hours or Annually (whichever comes first)

- Change engine oil and filter.
- Change fuel filter.
- Check engine air cleaner element.
- Check air cleaner dust unloading valve.
- Check HVAC dust unloading valve - HVAC models.
- Clean radiator.
- Check drive belt condition.

- Inspect and clean primary and secondary clutch.
- Check compressor idler bearing - HVAC models.
- Inspect compressor belt - HVAC models.
- Inspect alternator belt.
- Inspect battery. Clean if necessary.
- Check toe-in.
- Check brake pad wear.
- Check park brake oil level - if equipped.
- Check and tighten wheel bolts to correct torque.
- Check/clean spark arrestor.
- Check and tighten all hardware.
- Inspect cargo box lanyards.

### Every 400 Hours or 24 Months (whichever comes first)

- Inspect ball joints for play.
- Inspect suspension bushings for play. (See your John Deere dealer for this service.)
- Inspect wheel bearings for play. (See your John Deere dealer for this service.)

### Every 800 Hours or 24 Months (whichever comes first)

- Change transmission oil.
- Change 4WD front differential oil.
- Replace drive belt.

### Every 1000 Hours or 24 Months (whichever comes first)

- Flush and refill brake fluid. (See your John Deere dealer for this service.)
- Inspect shocks and struts for leaks.
- Change engine coolant.
- Adjust engine valve clearance. (See your John Deere dealer for this service.)

MX00654,00004D9-19-14OCT21

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## Service Lubrication

### Grease

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

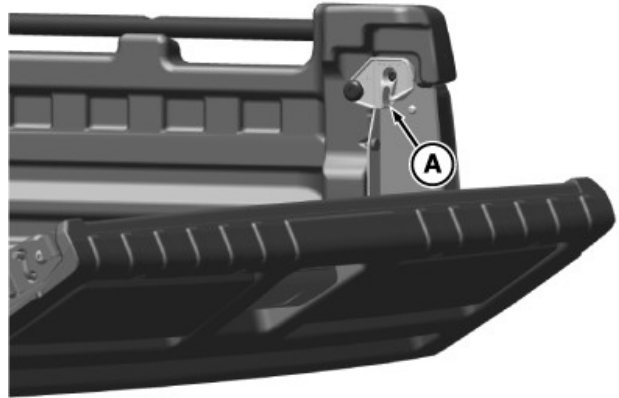
**The following grease is recommended for service:**

- 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 before application. If not practical, grease twice as often until all old grease is purged from the system.

OUMX068,0000642-19-20APR21

### Lubricating Cargo Box Strikers



MX101894—UN—04FEB21

Lubricate striker slots (A) on both sides of the cargo box.

MX00654,0000470-19-31MAR21

### Lubricating Drive Line

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



MX101972—UN—26MAR21

*View From Right Rear Side of Vehicle.*

2. Lubricate grease fitting (A) on rear driveshaft coupler with one or two shots of grease.

OUMX068,0001201-19-25MAR21

# 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

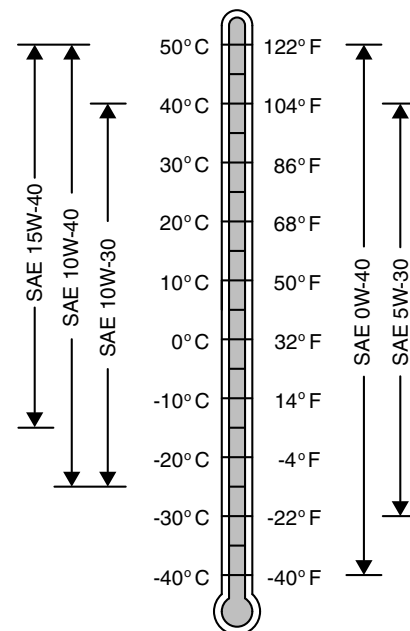
## Avoid Fumes

**CAUTION:** 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.

JG81906,0000723-19-22APR20

## Diesel Engine Oil



TS1691—UN—18JUL07

Oil Viscosities for Air Temperature Ranges

Failure to follow applicable oil standards and drain intervals can result in severe engine damage that might not be covered under warranty. Warranties, including any emissions warranty, are not conditioned on the use of John Deere oils, parts, or service.

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

**John Deere Plus-50™ II is the recommended engine oil.**

If John Deere Plus-50™ II engine oil is not available, engine oil meeting one or more of the following may be used:

*Plus-50 is a trademark of Deere & Company*

# Service Engine

- API Service Category CD or higher
- ACEA Oil Sequence E3 or higher

DO NOT use engine oil containing more than 1.0% sulfated ash, 0.12% phosphorus, or 0.4% sulfur.

**Multi-viscosity diesel engine oils are preferred.**

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

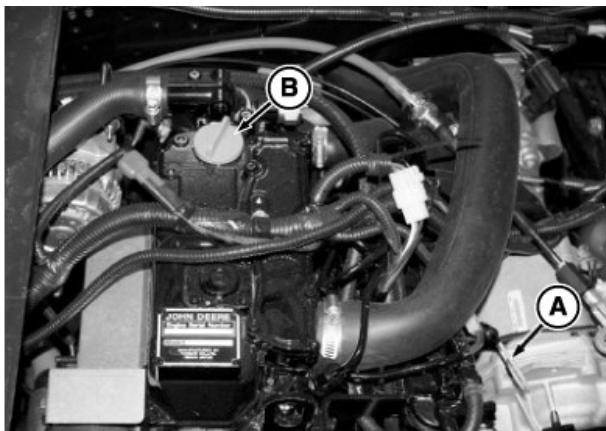
**IMPORTANT: Avoid damage! Use only ultra-low sulfur diesel (ULSD) fuel with a maximum sulfur content of 15 mg/kg (15 ppm).**

MK71445,000007F-19-14JUN18

## Checking Engine Oil Level

**IMPORTANT: Avoid damage! Failure to check the oil level regularly could lead to a serious engine problem when the oil level is out of the operating range:**

- Check oil level before operating.
  - Check oil level when the engine is cold and not running.
  - Keep oil level between the dipstick marks.
  - Shut off engine before adding oil.
  - Change engine oil if it appears dirty.
1. Park the vehicle safely. (See Parking Safely in the Safety section.)
  2. Raise and secure cargo box.



MX102162—UN—03SEP21

3. Remove dipstick (A) and wipe it clean.
4. Install dipstick.
5. Remove dipstick.
6. Check oil level:
  - Oil level must be between fill marks on dipstick.

- If oil level is low, remove oil fill cap (B) and add oil to bring oil level no higher than upper mark on dipstick.
- If oil level is above the upper mark, drain to the proper level.
- If oil appears dirty, change engine oil. (See Changing Engine Oil and Filter in this section.)

7. Install dipstick and oil fill cap.

8. Lower the cargo box.

OUMX068,000120B-19-01APR22

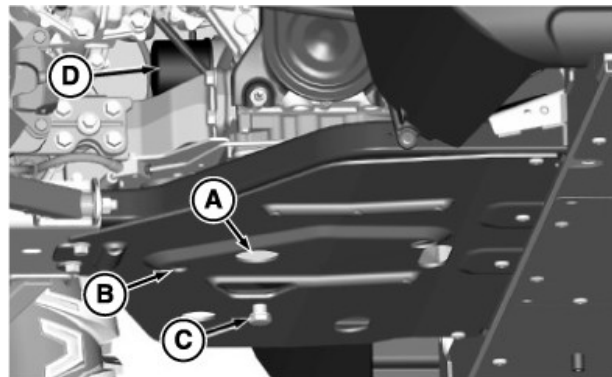
## Changing Engine Oil and Filter

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

- Dusty conditions.
- Frequent slow or low-speed operation.
- Frequent short trips.

*NOTE: Refer to Capacities in the Specifications section.*

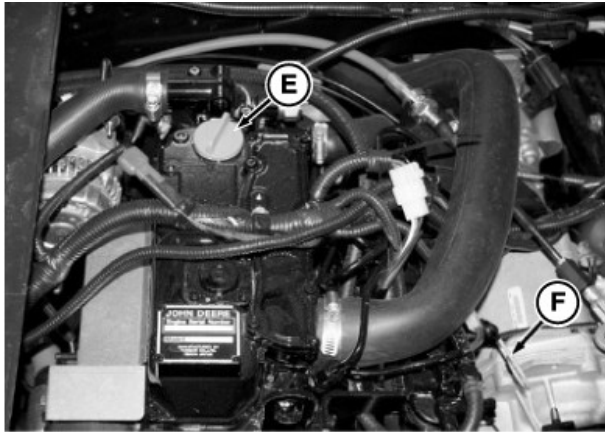
1. Run the engine to warm oil.
2. Park the vehicle safely. (See Parking Safely in the Safety section.)
3. Raise and secure the cargo box.



MX102163—UN—03SEP21

View From Under Right (Passenger) Side

## Service Engine



MX102164—UN—03SEP21

4. Place a drain pan under the engine drain hole (A) and filter drain hole (B) in frame.
  5. Remove oil fill cap (E) from filler opening.
  6. Remove drain plug (C). Allow oil to drain completely.
  7. Remove and discard the oil filter (D). Wipe off threads on engine.
  8. Put a light coat of clean engine oil on the gasket of the new oil filter.
  9. Install the new filter until the rubber gasket contacts the filter base. Tighten the filter an additional one-half turn.
  10. Install drain plug.
- IMPORTANT: Avoid damage! Do not overfill the crankcase with oil. Oil capacities given are with engine and crankcase dry. Some oil remains in engine after draining.**
11. Add recommended oil no higher than upper mark on dipstick (F). Do not overfill.
  12. Install the dipstick and oil fill cap.
  13. Start and run the engine at idle to check for leaks.
  14. Stop the engine. Fix any leaks before operating.
  15. Check the oil level, add oil if necessary.
  16. Install the dipstick and oil fill cap.
  17. Lower the cargo box.

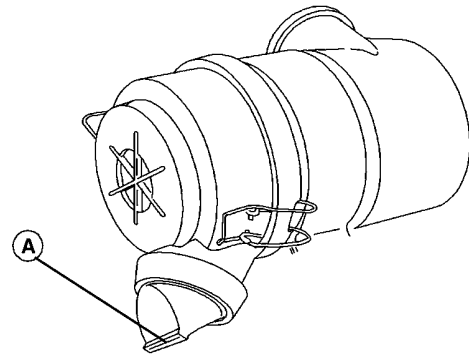
OUMX068,000120C-19-01APR22

### 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 and valve to cool.



MXAL42935—UN—15MAR13

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

JG81906,0000727-19-14SEP20

### Servicing Air Cleaner Element

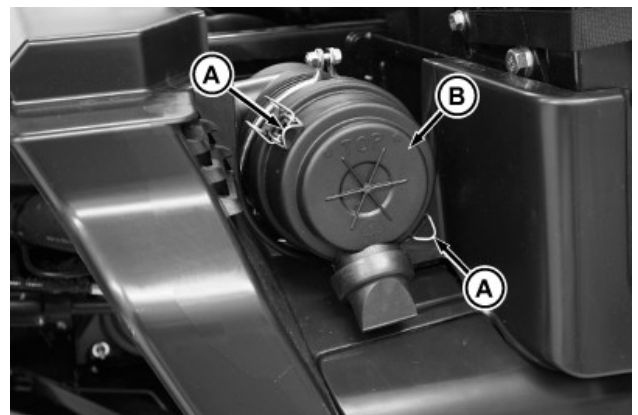
**IMPORTANT: Avoid damage! Dirt and debris can enter the engine when the air cleaner canister is opened. Do not open canister except for scheduled service to minimize intake system contamination.**

**Check the filter element more frequently when operating in dusty conditions.**

**Do not use compressed air to clean the air filter. It can damage the filter, which can cause engine damage.**

**Do not operate the engine without the air cleaner element and rubber dust unloading valve installed.**

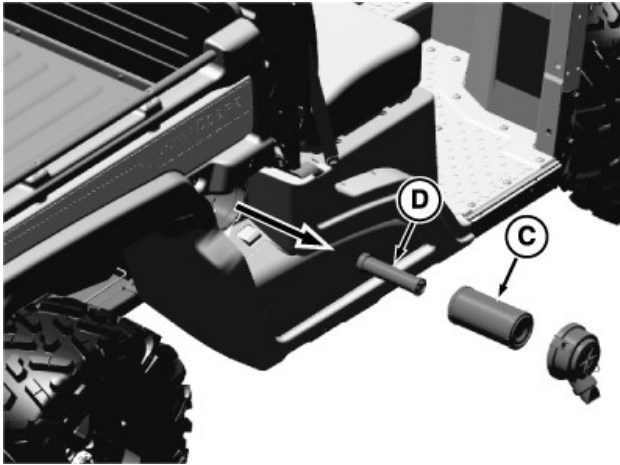
1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Allow the engine to cool.



MXT019799—UN—11JAN17

3. Release latches (A) and remove the air cleaner cover (B).

## Service Engine



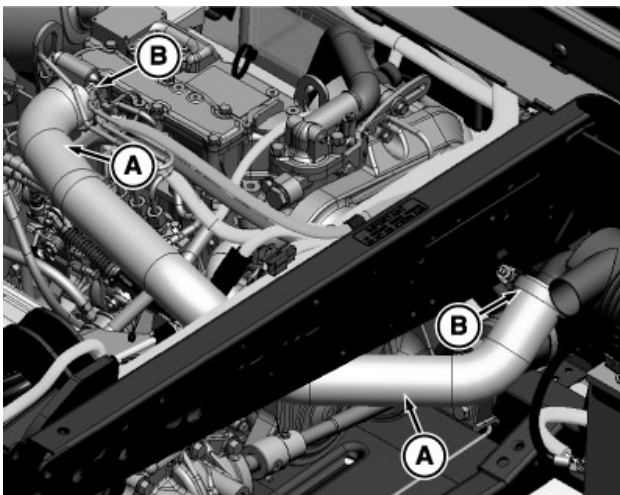
MX102169—UN—08SEP21

4. Remove and discard the primary filter element (C) and secondary element (D).
5. Install the new secondary filter element.
6. Install the new primary filter element.
7. Install the air cleaner cover with rubber dust unloading valve pointing downward.
8. Hook the canister cover latches.

OUMX068,000120D-19-01APR22

### Checking Air Intake Hoses and Clamps

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



MX102165—UN—03SEP21

Side Panel Hidden for Photo Clarity

3. Check intake hoses (A) for damage or cracking. Replace if necessary.
4. Check and tighten hose clamps (B) as needed.

5. Lower the cargo box.

SB31882,00000A8-19-14SEP21

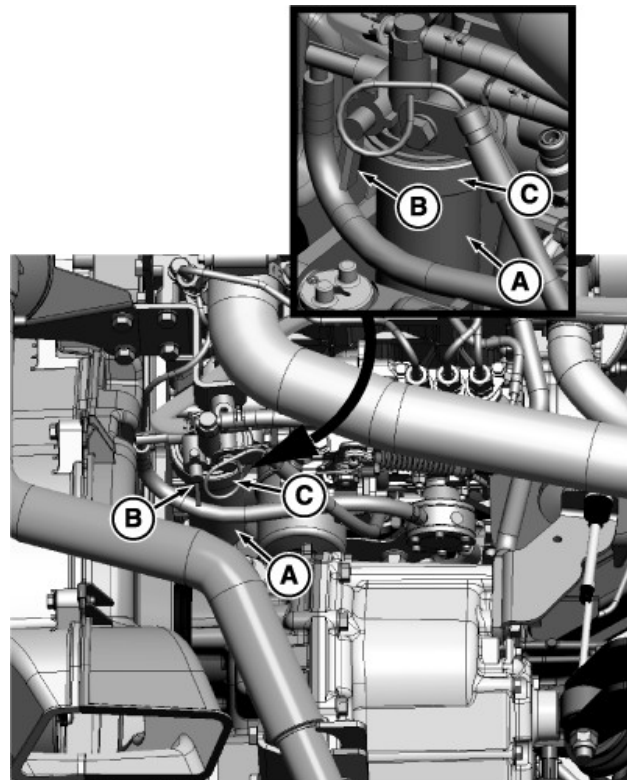
### Servicing Sediment Bowl

**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.
- Allow engine to cool before servicing.
- Work in a well-ventilated area.
- Clean up spilled fuel immediately.

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

### Checking



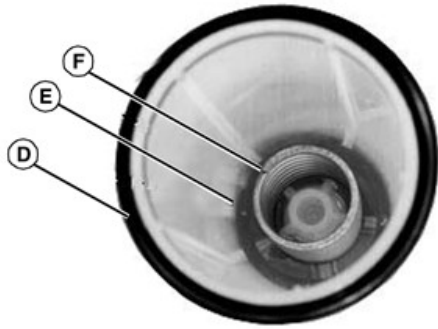
MX102166—UN—03SEP21

1. Check for water in sediment bowl (A):
  - Red ring will float on top of the water.
2. If necessary, clean bowl and replace filter.

# Service Engine

## Cleaning

1. Close fuel shut-off valve (B) by turning it 90 degrees clockwise (so lever points left).
2. Turn collar (C) to remove bowl (A).
3. Remove filter from inside bowl. Discard filter.



MXAL44559—UN—28MAR13

4. Remove and retain O-ring (D), float ring (E), and spring (F) from bowl. Clean bowl and let it dry.
5. Install O-ring, float ring, spring, and new filter into bowl.
6. Install bowl to filter head and tighten collar to secure.
7. Open fuel shut-off valve by turning it 90 degrees counterclockwise (so lever points down).
8. Lower the cargo box.
9. Bleed fuel system.

MX00654,000010A-19-01APR22

## Bleeding Fuel System

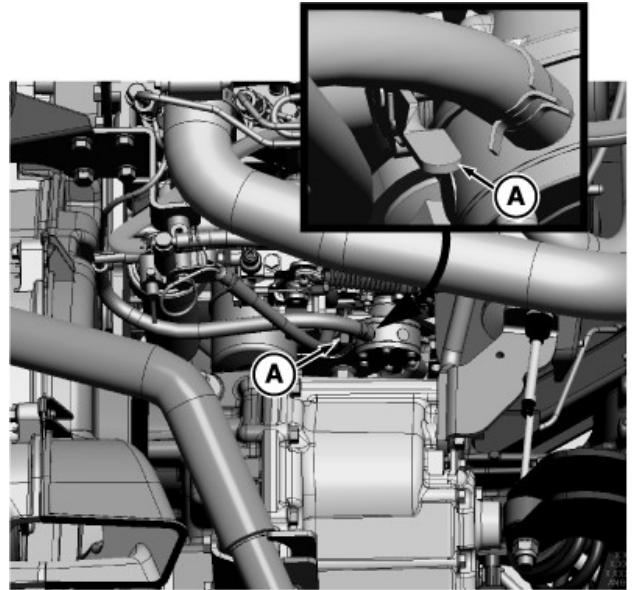
**IMPORTANT: Avoid damage! Modification or alteration of injection pump, pump timing, or fuel injectors in a manner not recommended by the manufacturers will terminate the warranty obligation to the purchaser.**

DO NOT attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. See your John Deere dealer.

Bleed air from fuel system after you service the fuel system or if you run out of fuel.

1. Make sure there is fuel in the tank.
2. Open fuel shut-off valve on filter.

*NOTE: If fuel filter has been cleaned or changed, fuel will be heard immediately returning to tank when primer lever is operated. Continue operating lever until you can hear the return flow stop and then start again.*



MX102167—UN—03SEP21

3. Cycle fuel pump primer lever (A) up and down until:
  - Fuel filter bowl is full of fuel.
  - You can hear fuel returning to tank through return hose.

MX00654,000010B-19-03SEP21

## Servicing Fuel Injection Pump

**IMPORTANT: Avoid damage! Fuel injection pump is calibrated by the engine manufacturer and must not be adjusted.**

**Do not clean a warm fuel injection pump with steam or water.**

Changing injection pump in any way not approved by the manufacturer ends warranty. See your John Deere warranty on this machine.

Do not service injection pump. See your John Deere dealer for service.

If engine is difficult to start, lacks power, or runs rough, check the Troubleshooting section of this manual. If after troubleshooting your engine is still not performing correctly, contact your John Deere dealer.

MX00654,000010C-19-22DEC20

## Servicing Fuel Injection Nozzles

**IMPORTANT: Avoid damage! Do not service or remove fuel injection nozzles. Service life of injection nozzles may be shortened by overheating, improper operation, poor fuel quality, or excessive idling.**

Incorrectly functioning, or dirty injection nozzles, will

# Service Engine

cause the engine to run poorly. See your John Deere dealer for service.

MX00654,000010D-19-14SEP20

## Cleaning Engine Compartment

**CAUTION:** Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids are hot when 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.

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

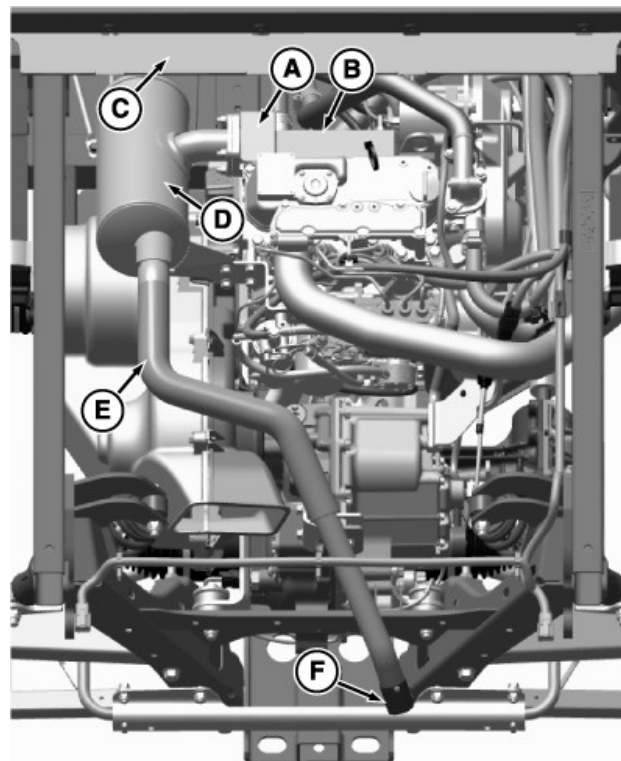
- Clear work area of bystanders.
- Wear eye protection when using compressed air for cleaning purposes.

**IMPORTANT:** Avoid damage! High-pressure water can damage seals, gaskets, and force water into electrical connectors. Use water from a hose or pressure washer with pressures less than:

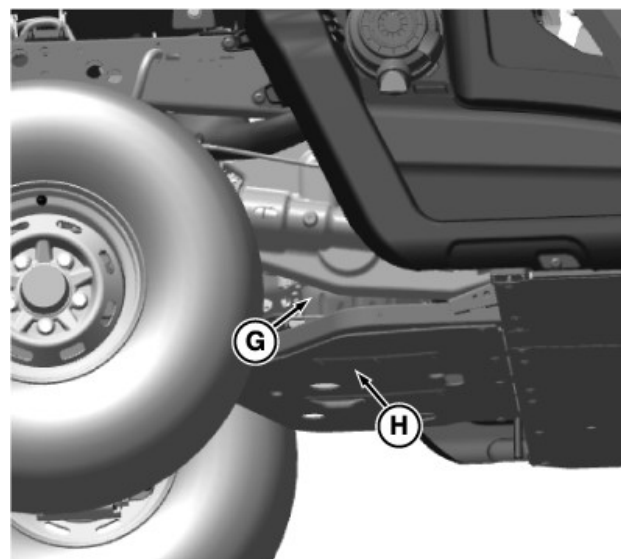
### Specification

Water—Pressure. . . . . 420 kPa (60 psi)

3. Remove any debris in engine compartment, especially around exhaust components:



MX101966—UN—26MAR21



MX101973—UN—26MAR21

- Exhaust manifold (A).
- Shield (B).
- Closeout panel (C).
- Muffler (D).
- Muffler pipes (E).
- Spark arrestor (F).
- Between engine (G) and skid plate (H).

4. Check and remove any obstructions around the control cables and linkages.

OUMX068,000120F-19-25MAR21



# Service Engine

## Service Cooling System Safely



MXAL42944—UN—28MAR13

**CAUTION:** Avoid injury! The radiator will be hot and can burn skin. Built-up pressure may cause explosive release of coolant when the radiator cap is removed:

- Shut off the engine and allow to cool.
- Do not remove the cap unless the radiator and the engine are cool enough to touch with bare hands.
- Slowly loosen the cap to the first stop to release all pressure. Then remove the cap.

JG81906,0000731-19-31MAR21

## Cleaning Cooling Fins

### Prepare Vehicle:

1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Open hood.

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

- Clear work area of bystanders.
- Wear eye protection when using compressed air for cleaning purposes.

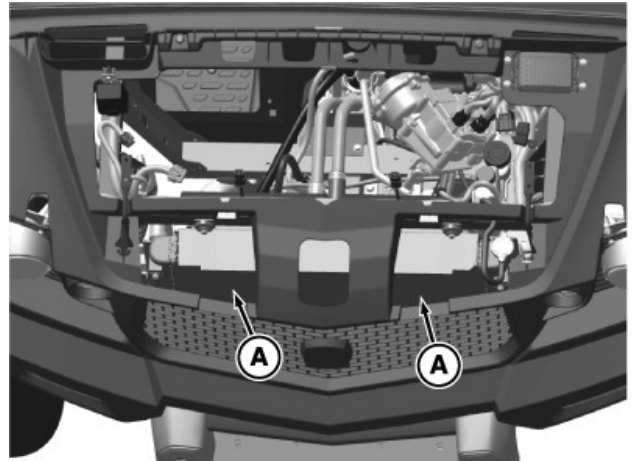
**IMPORTANT:** Avoid damage! Cooling fins must be clean to prevent engine from overheating and to allow adequate air intake.

High-pressure water or air can damage cooling fins or other engine components. Use water from a hose or reduce compressed air pressure to:

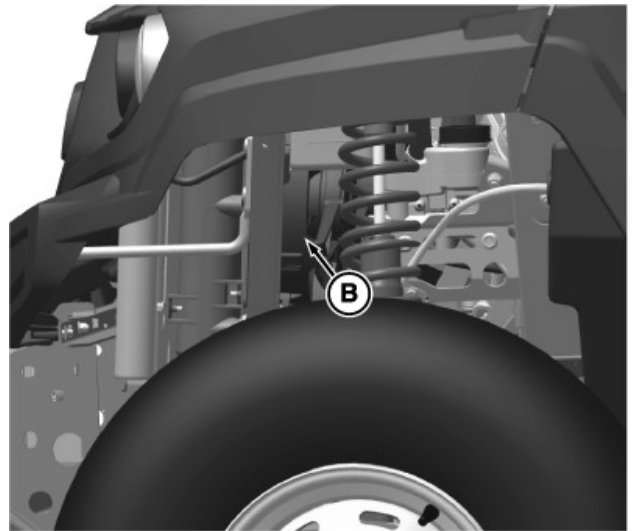
### Specification

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

## Without HVAC



MX101933—UN—09MAR21

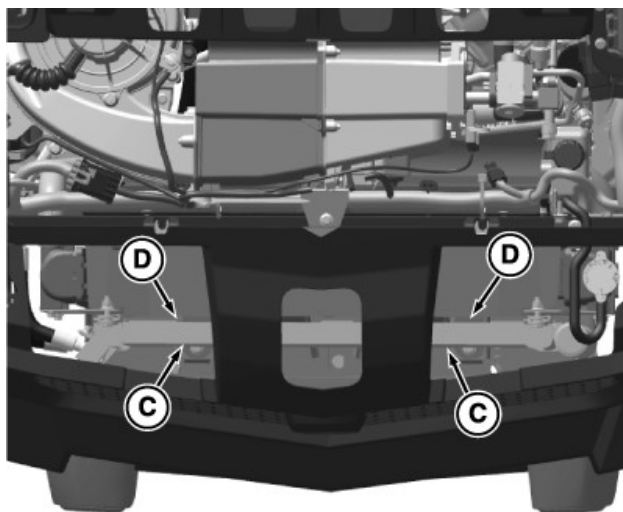


MX101932—UN—09MAR21

1. Remove all dirt and debris from radiator fins (A) and fan shroud (B) using compressed air or water. Flow of compressed air or water must be from back to front.
2. Close hood.

# Service Engine

## With HVAC



MX101931—UN—17MAR21

1. Remove all dirt and debris from condenser fins (C), radiator fins accessible through gap (D) and fan shroud (B) using compressed air or water. Flow of compressed air or water must be from back to front.
2. Close hood.

OUMX068,0001207-19-17MAR21

John Deere Cool-Gard™ PG Premix is available in a concentration of 55% propylene glycol.

### Additional recommended coolants:

- John Deere Cool-Gard™ II Concentrate in a 40% to 60% mixture of concentrate with water.
- John Deere Cool-Gard™ Concentrate in a 40% to 60% mixture of concentrate with water.

**If the recommended coolants are unavailable, use an ethylene glycol or propylene glycol base coolant that meets the following specification:**

- ASTM D3306 prediluted (50%) coolant.
- ASTM D3306 coolant concentrate in a 40% to 60% mixture of concentrate with water.

Check container label before using to be sure it has the appropriate specifications for your machine. Use coolant with conditioner or add conditioner to coolant before using.

### Water Quality

- Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended with ethylene glycol base engine coolant concentrate.

JG81906,0000733-19-10DEC20

## Recommended Engine Coolant

**IMPORTANT: Avoid damage! Using incorrect coolant mixture can cause overheating and damage to the radiator and engine:**

- Do not operate engine with plain water.
- Do not exceed a 50% mixture of coolant and water.
- Aluminum engine blocks and radiators require approved ethylene-glycol based coolant.

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner pitting, and winter freeze protection to -37 degrees C (-34 degrees F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

### The following coolants are preferred:

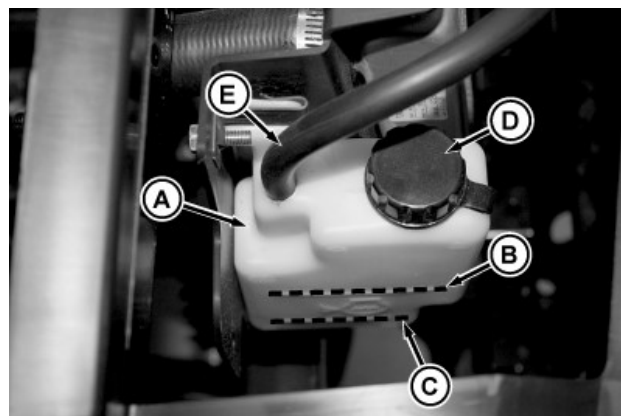
- John Deere Cool-Gard™ II Premix
- John Deere Cool-Gard™ Premix
- John Deere Cool-Gard™ PG Premix

John Deere Cool-Gard™ II Premix and John Deere Cool-Gard™ Premix are available in a concentration of 50% propylene glycol.

## Checking Coolant Level

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

*NOTE: Models without HVAC have the recovery tank mounted on the right side of the radiator. Models with HVAC have the recovery tank mounted on the left side of the radiator.*



MXT019806—UN—12JAN17

View From the Right Front Side of the Machine

Cool-Gard is a trademark of Deere & Company

# Service Engine

4. Check recovery tank (A) coolant level:
  - If engine is warm, coolant level should be between the FULL line (B) and the LOW line (C).
  - If engine is cold, coolant level should be at the LOW line (C) on the recovery tank.
5. Remove recovery tank cap (D) if necessary to add coolant.
6. Add coolant mixture to the recovery tank.

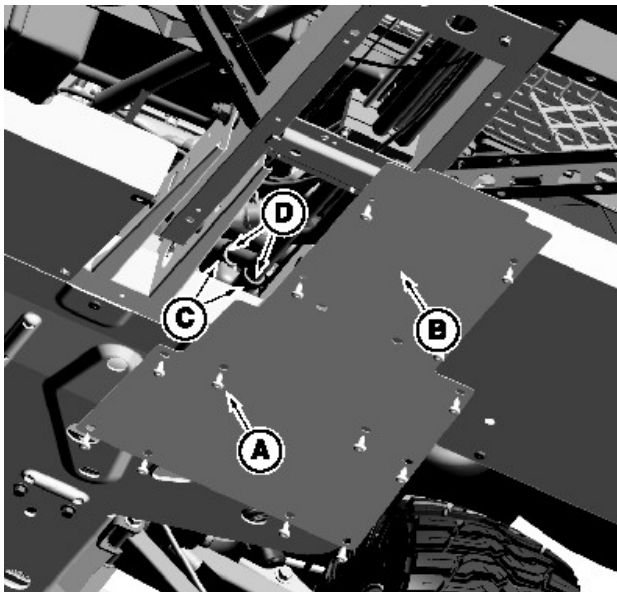
**IMPORTANT: Avoid damage! Be sure the suction hose (E) is installed correctly to allow coolant into the coolant system. Do not allow the bottom of the hose to touch bottom of bottle or bend upwards out of coolant.**

7. Install and tighten recovery tank cap.
8. Close hood.

OUMX068,0001208-19-26MAR21

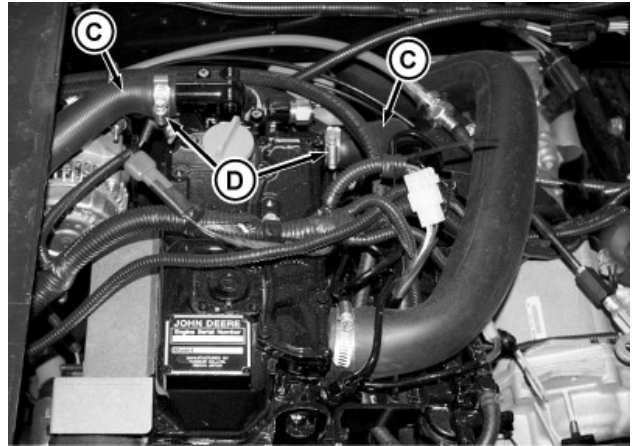
## Checking Radiator Hoses and Clamps

1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Raise and secure the cargo box.
3. Open hood.



View From Under Right (Passenger) Side

MX102207—UN—19NOV21

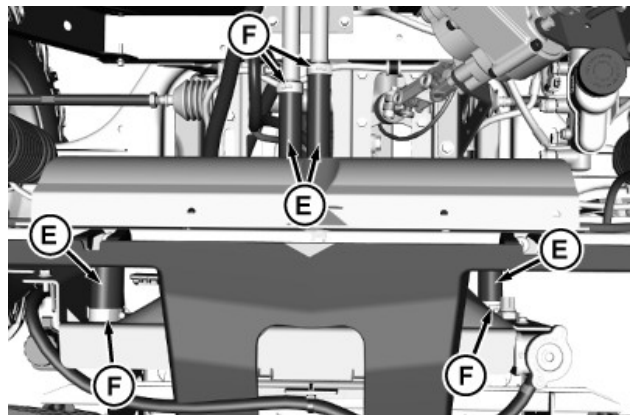


MXT019809—UN—17JAN17

4. Remove 13 screws (A) and closeout panel (B) from machine.

*NOTE: Visually inspect hoses for cracks and wear. Squeeze hoses to check for deterioration. If any hoses or clamps need replacement see Servicing Cooling System section.*

5. Check radiator hoses (C) between intermediate tubes and engine for damage or cracking. Replace if necessary.
6. Check hose clamps (D) and tighten or replace as needed.



MXT019810—UN—17JAN17

7. Check radiator hoses (E) between intermediate tubes and radiator for damage or cracking. Replace if necessary.
8. Check hose clamps (F) and tighten or replace as needed.
9. Install closeout panel with 13 screws.
10. Close hood.
11. Lower cargo box.

OUMX068,0001211-19-07SEP21

# Service Engine

## Servicing Cooling System

**IMPORTANT:** Avoid damage! Follow all service procedures exactly. If not equipped to perform this work, see your John Deere dealer for service.

### Prepare Vehicle

1. Park the machine safely. (See Parking Safely in the Safety section.)
2. Raise and secure the cargo box.
3. Open hood.
4. When the coolant system service is completed:
  - Close hood.
  - Lower cargo box.

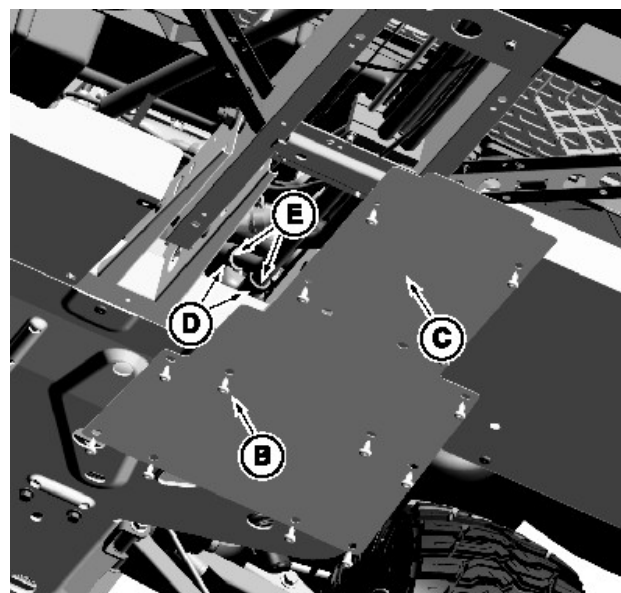
### Draining Cooling System

1. Make sure that engine has cooled completely.



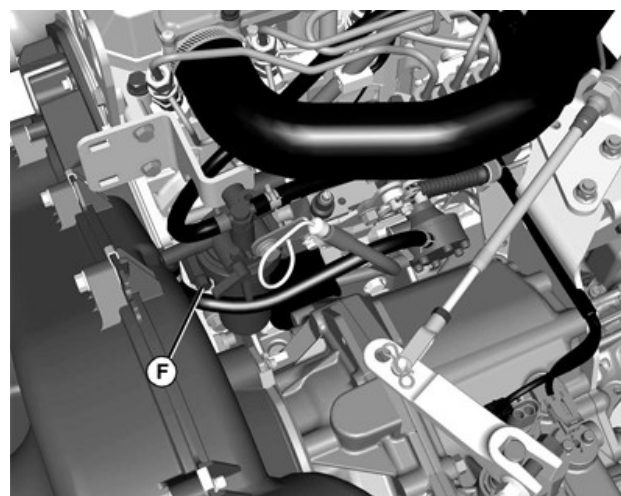
MXT020129—UN—05MAY17

2. Slowly open radiator cap (A) to the first stop to release all pressure.
3. Remove cap after all pressure is released.



MX102254—UN—01APR22

4. Remove 13 screws (B) and closeout panel (C) from machine.
5. Place a drain pan under the engine.
6. Loosen hose clamps (D), and disconnect radiator hoses (E) from intermediate tubes.
7. Route radiator hoses over the drain pan and allow coolant to drain.



MXAL44570—UN—28MAR13

8. Loosen engine block drain screw (F).

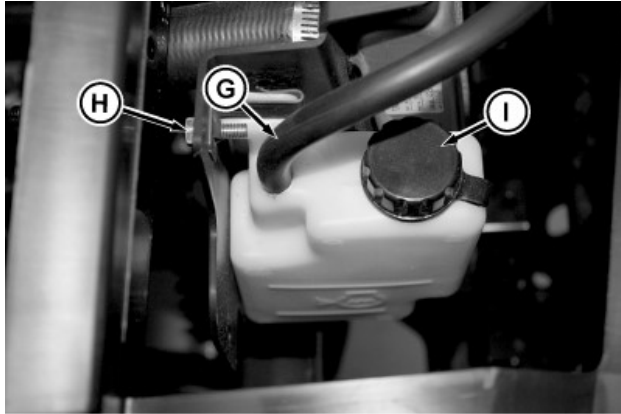
**CAUTION:** Avoid injury! The machine can fall or slip from an unsafe lifting device or supports. (See Lifting Machine in the Service Miscellaneous section).

9. Raise the front of the machine using a safe lifting device to ensure complete drainage of coolant. (See Lifting Machine in the Service Miscellaneous section.)
10. After all coolant has drained, lower front of machine,

## Service Engine

connect radiator hoses (E) and tighten the drain screw (F).

**NOTE:** Models without HVAC have the recovery tank mounted on the right side of the radiator. Models with HVAC have the recovery tank mounted on the left side of the radiator.



MXT020792—UN—31AUG17

11. Remove suction hose (G) from recovery tank.

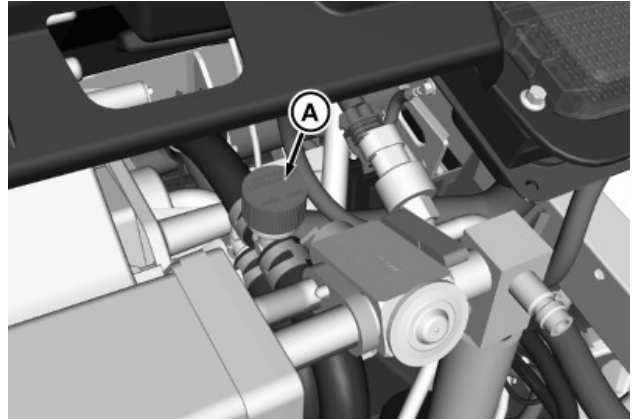
**NOTE:** The recovery tank on machines without HVAC is held in place with two screws.

12. Remove screw (H) and lift recovery tank out of machine.
13. Remove cap (I) and empty recovery tank.
14. Check condition of all hoses. Replace as needed. Check all hose clamps and tighten as needed.
15. Install recovery tank in machine and secure with screw (H).

**IMPORTANT:** Avoid damage! Install suction hose properly to ensure proper function of the cooling system. Position hose slightly above bottom of reservoir. Do not allow the hose to contact bottom of reservoir or bend upwards out of the coolant.

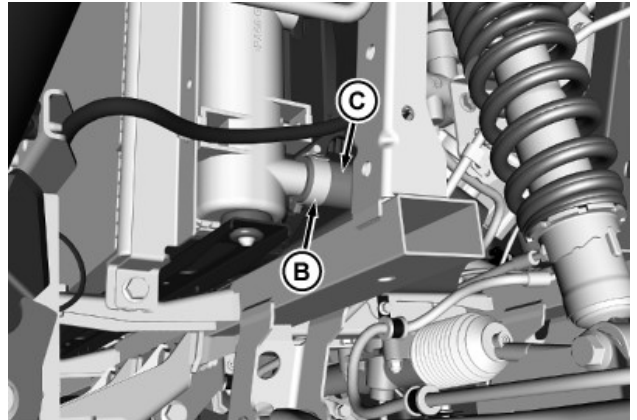
16. Install suction hose (G) and cap (I).
17. Fill and bleed cooling system. (See Filling and Bleeding Cooling System section.)

### Draining Coolant from Heater Core (Machines with HVAC)



MXT020793—UN—31AUG17

1. Remove cap (A) on the bleed/fill fitting.
2. Place a drain pan under the lower radiator hose on the left side of the machine.



MXT020142—UN—09MAY17

3. Loosen hose clamp (B) and disconnect the lower radiator hose (C).
4. Route radiator hose over the drain pan and allow coolant to drain.

**⚠ CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports. (See Lifting Machine in the Service Miscellaneous section).**

5. Raise the right side of the machine using a safe lifting device, to ensure complete drainage of coolant. (See Lifting Machine in the Service Miscellaneous section.)
6. After all coolant has drained, lower right side of the machine.
7. Connect lower radiator hose (C) and tighten the clamp (B).
8. Install cap on the bleed/fill fitting.

# Service Engine

## Filling and Bleeding Cooling System

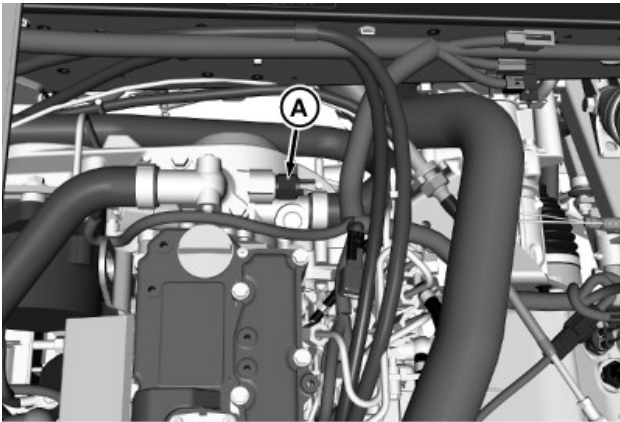
**IMPORTANT:** Avoid damage! Using incorrect coolant mixture can damage the radiator:

- Do not operate engine without coolant or with plain water.
- Do not exceed a 50% antifreeze mixture for the coolant.
- Use antifreeze approved for use in aluminum engines.
- Do not pour coolant or water into radiator when engine is hot.
- Do not add Stop Leak or other additives.

*NOTE: John Deere Cool-Gard™ coolant is recommended when adding coolant to the cooling system. Follow the directions on the container for the correct mixture ratio.*

*Cooling system capacity can be found in Capacities in the Specifications section.*

**IMPORTANT:** Avoid damage! Bleed screw uses a special aluminum seal washer. Do not lose or substitute with any other type of washer.



MXT020794—UN—31AUG17

1. Remove wiring connector from engine coolant switch (A) and remove switch from manifold bleed port.
2. Remove radiator cap and add recommended coolant mixture to radiator until coolant runs out of bleed port.
3. Install and tighten coolant switch.
4. Add additional coolant mixture to radiator until coolant runs out of suction port and into the recovery tank.
5. Install radiator cap.

**IMPORTANT:** Avoid damage! Installing suction hose incorrectly does not allow coolant into the coolant system. Do not allow the bottom of the hose to touch the bottom of the recovery tank or bend upwards out of the coolant.

6. Remove recovery tank cap and add coolant mixture to recovery tank until it is approximately half full.
7. Install recovery tank cap.

**IMPORTANT:** Avoid damage! If coolant temperature indicator comes on while engine is running, stop engine and add more coolant mixture to radiator.

8. Start and run engine at medium speed until cooling fan starts indicating thermostat has opened and coolant is circulating.
9. Allow engine to cool.
10. Loosen bleed screw and allow air to bubble out until air bubbles are no longer visible at bleed port. Tighten bleed screw completely.
11. Remove radiator cap and add recommended coolant mixture to radiator until coolant runs out of suction port and into the recovery tank.
12. Install radiator cap.
13. On models equipped with HVAC:

**CAUTION:** Avoid injury! The machine can fall or slip from an unsafe lifting device or supports. (See Lifting Machine in the Service Miscellaneous section).

- a. Raise the left front of the machine using a safe lifting device. (See Lifting Machine in the Service Miscellaneous section.)
  - b. Remove cap from the filler port near the heater core.
  - c. Add recommended coolant mixture until coolant appears at the base of the filler neck.
  - d. Install cap on the filler port.
  - e. Lower the machine.
14. Run engine until cooling fan starts, indicating the engine and coolant has reached operating temperature.
  15. Stop engine and remove key.
  16. Allow engine to cool and suction back any excess coolant from suction recovery tank. Fill recovery tank as needed to lower line.
  17. Install closeout panel with 13 screws.

# Service Engine

## Flushing Cooling System

1. Drain cooling system. (See Draining Cooling System in this section).
2. Prepare a cooling system flushing solution using clean water and John Deere Cooling System Cleaner, John Deere Cooling System Quick Flush, or an equivalent.
3. Fill radiator completely with flushing solution. Install and tighten radiator cap.
4. Start and run engine until cooling fan starts, indicating the engine and coolant has reached operating temperature.
5. Stop engine.

**CAUTION: Avoid injury! The radiator is hot and can burn skin. Use a thick rag or gloves to protect your skin. Built-up pressure can cause an explosive release of coolant when the radiator cap is removed.**

6. Slowly turn radiator cap to the first stop to release system pressure. Remove radiator cap once pressure is released.
7. Drain cooling system immediately into a container before rust and dirt settle:
  - Disconnect radiator hoses from engine.
  - Loosen engine block drain screw.
8. After all solution has drained, connect radiator hoses and tighten engine block drain screw.
9. Remove and clean recovery tank.
10. Install the recovery tank.
11. Fill cooling system with recommended coolant mixture. (See Filling and Bleeding Cooling System section.)

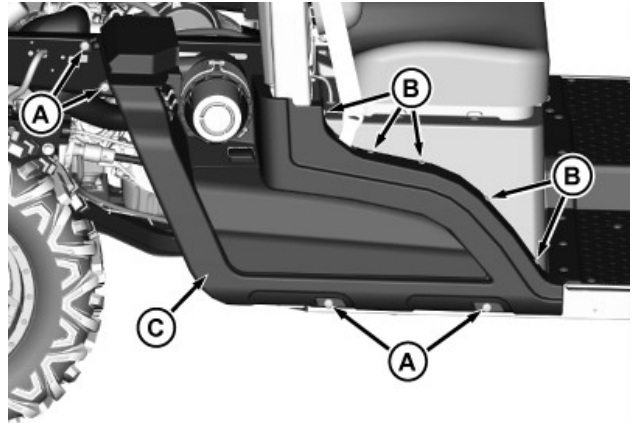
MX10673,000005B-19-03SEP21

## Servicing Alternator 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 station to adjust or service machine.**

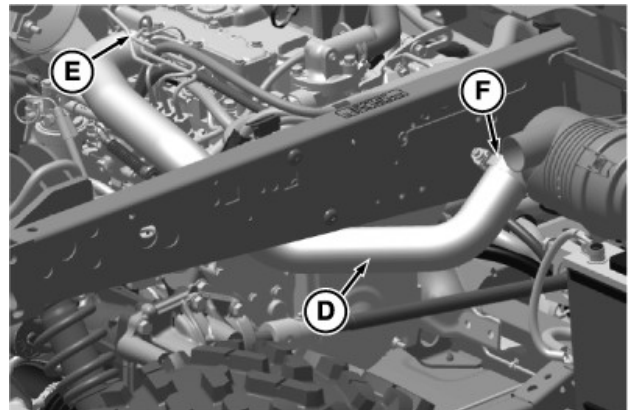
### Prepare Vehicle

1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Raise and secure cargo box.
3. Allow engine to cool.
4. Disconnect negative (-) battery cable.



MX1021415—UN—17NOV17

5. Remove four screws (A), five push retainers (B), and right side panel (C) from the machine.

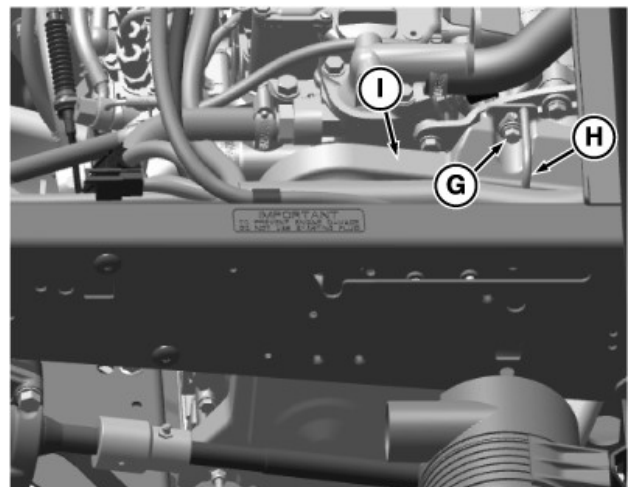


MX101974—UN—26MAR21

6. Disconnect air intake hose (D) from the engine intake manifold (E), and air filter housing (F). Remove air intake hose from the machine.

7. Remove belt cover:

### Non-HVAC Models:

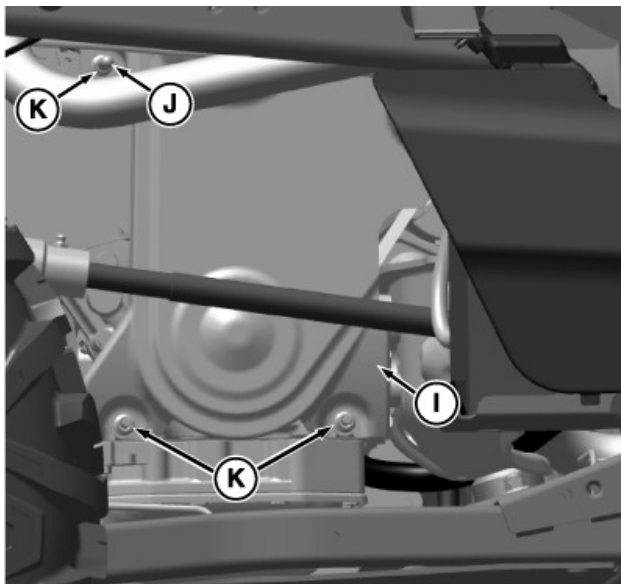


MX101975—UN—26MAR21

*Cargo Box Removed for Photo Clarity*

- a. Remove upper bolt (G) and hose bracket (H) securing the belt cover (I).

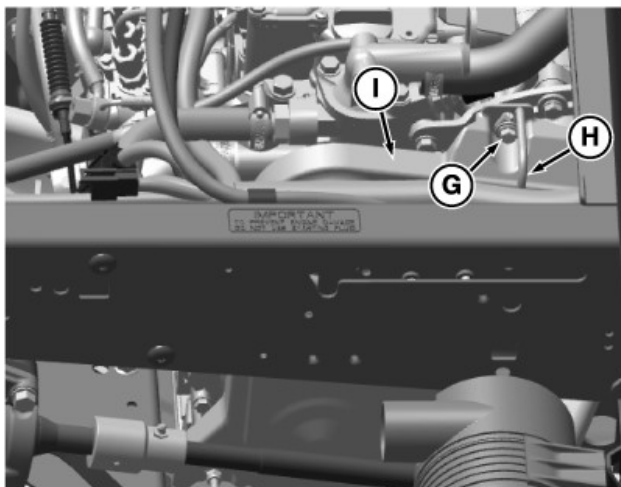
## Service Engine



MX101976—UN—26MAR21

- b. Remove rubber upper bolt cover (J) and lock nut (K).
- c. Remove two lower lock nuts (K) and remove belt cover (I).

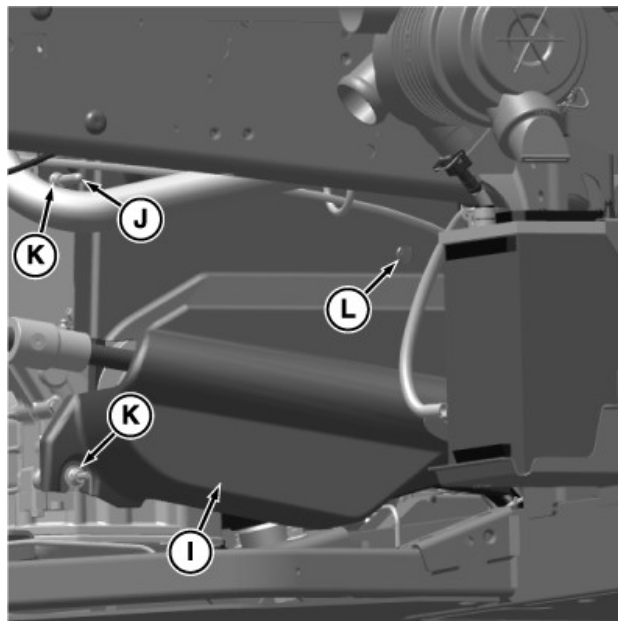
### HVAC Models:



MX101975—UN—26MAR21

*Cargo Box Removed for Photo Clarity*

- a. Remove upper bolt (G) and hose bracket (H) securing the belt cover (I).



MX101977—UN—03SEP21

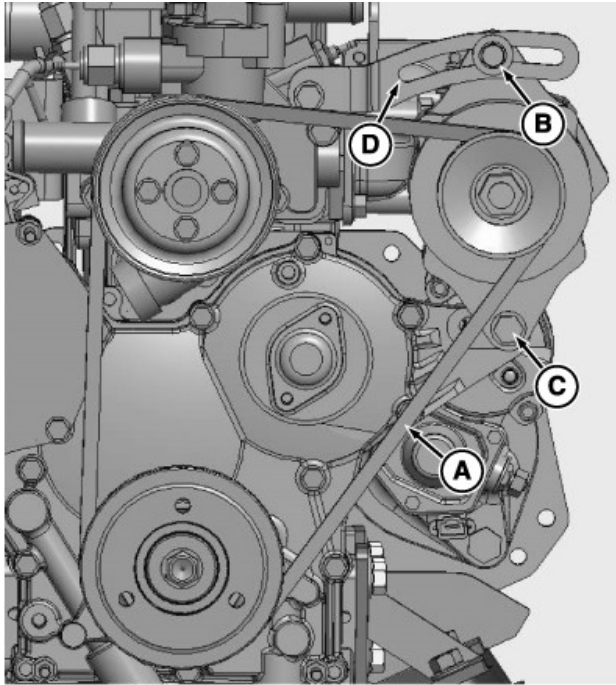
- b. Remove push retainer (L).
  - c. Remove rubber upper bolt cover (J) and lock nut (K).
  - d. Remove lower lock nut (K) and belt cover (I).
8. When service is completed:
    - Install belt cover.
    - Install air intake hose.
    - Install right side panel.
    - Connect negative (-) battery cable.
    - Lower cargo box.

### Checking Belt Tension

1. Inspect and replace alternator belt if worn or damaged. (See Replacing Belt in this section.)



# Service Engine



MX102168—UN—03SEP21

2. Apply moderate thumb pressure to belt halfway between pulleys at location (A). Belt deflection is approximately:

## Specification

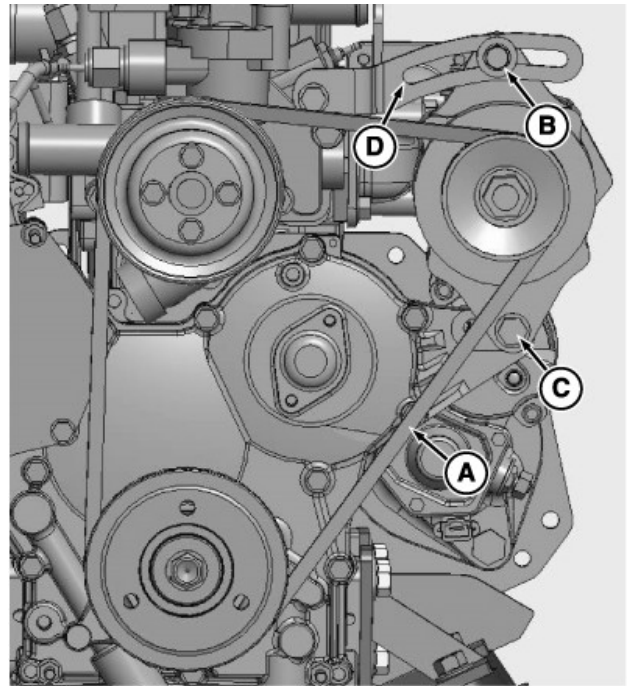
Belt—Deflection. . . . . 5 mm (13/64 in)

3. Adjust belt tension if deflection is more or less than specification. (See Adjusting Belt Tension in this section.)

## Adjusting Belt Tension

1. Loosen adjusting bolt (B).
2. Loosen mounting bolt (C).
3. Rotate alternator in slot (D) until belt tension is correct at location (A).
4. Tighten adjusting and mounting bolts.

## Removing/Replacing Belt



MX102168—UN—03SEP21

1. Loosen adjusting bolt (B).
2. Loosen mounting bolt (C).
3. Rotate alternator counterclockwise in slot (D) until belt is loose.

**NOTE:** Remove compressor belt on units equipped with HVAC.

4. Remove belt (A) from alternator pulley, coolant pump pulley, and crankshaft pulley.
5. Install new belt onto pulleys.
6. Rotate alternator clockwise in slot (D) until belt tension is to specification at location (A). (See Checking Belt Tension in this section.)
7. Tighten mounting and adjusting bolts.
8. Install compressor belt on units equipped with HVAC. (See Removing and Replacing Belt in Servicing HVAC Compressor Belt.)

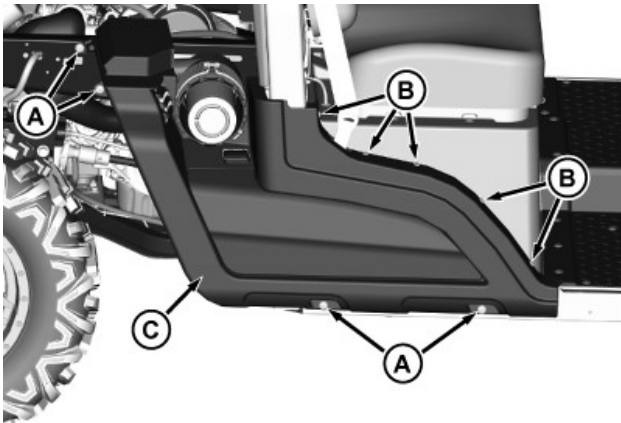
OUMX068,0001374-19-04APR22

## Servicing HVAC Compressor Belt

### Prepare Vehicle

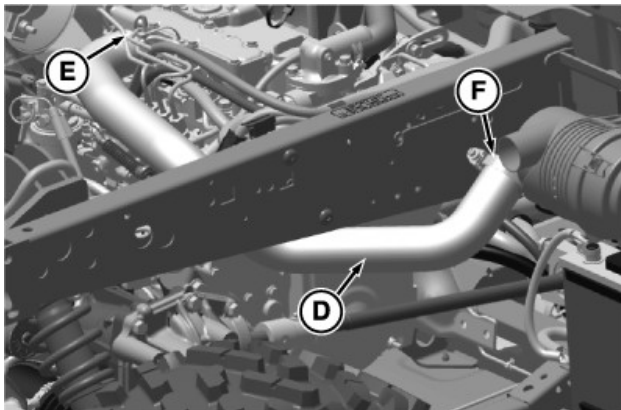
1. Park the vehicle safely. (See Parking Safely in the Safety section.)
2. Raise and secure cargo box.
3. Disconnect negative (-) battery cable.

## Service Engine



MXT021415—UN—17NOV17

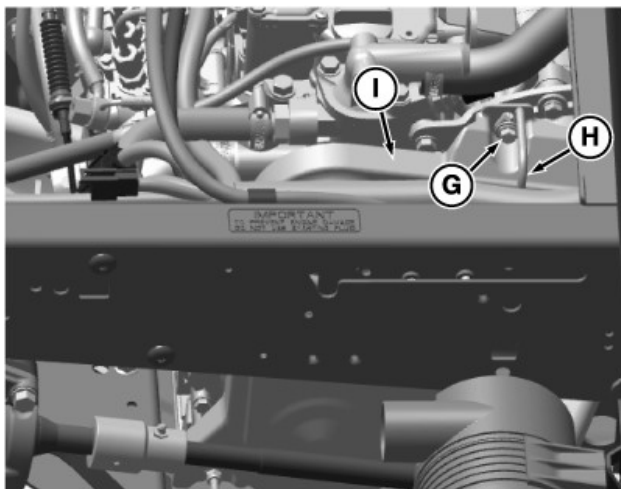
4. Remove four screws (A), five push retainers (B), and right side panel (C) from the machine.



MX101974—UN—26MAR21

5. Disconnect air intake hose (D) from the engine intake manifold (E), and air filter housing (F). Remove air intake hose from the machine.

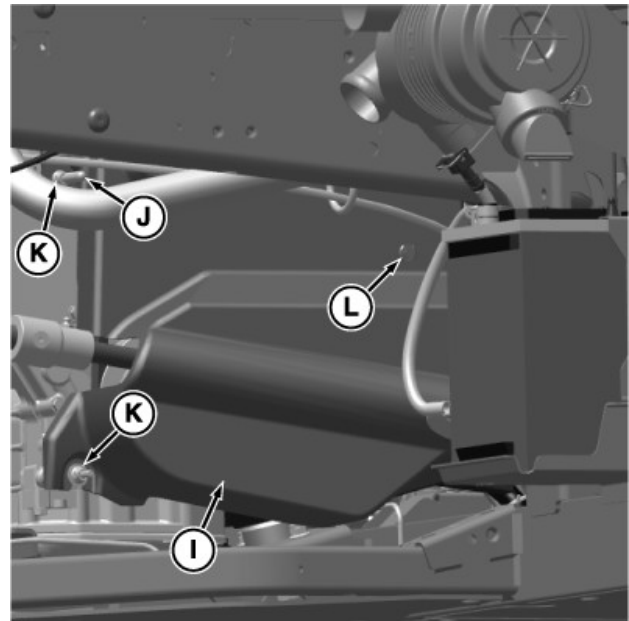
6. Remove belt cover:



MX101975—UN—26MAR21

*Cargo Box Removed for Photo Clarity*

- a. Remove upper bolt (G) and hose bracket (H) securing the belt cover (I).



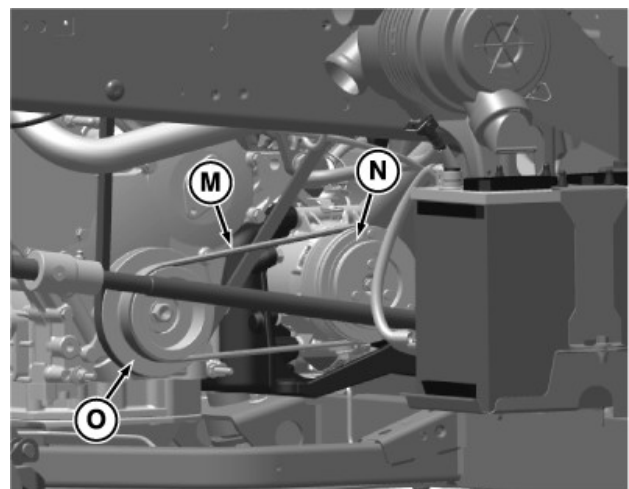
MX101977—UN—03SEP21

- b. Remove push retainer (L).
- c. Remove rubber upper bolt cover (J) and lock nut (K).
- d. Remove lower lock nut (K) and belt cover (I).

7. When service is completed:

- Install belt cover.
- Install air intake hose.
- Install right side panel.
- Connect negative (-) battery cable.
- Lower cargo box.

### Removing and Replacing Belt



MX101978—UN—03SEP21

1. Inspect belt (M) for wear or damage. If belt is worn or damaged, remove and replace the belt.
2. Install new drive belt (M) around HVAC compressor pulley (N) and bottom of crankshaft pulley (O).

# Service Engine

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3. Rotate the crankshaft pulley (O) until belt is fully installed. Verify that belt is fully installed onto the HVAC compressor pulley (N).

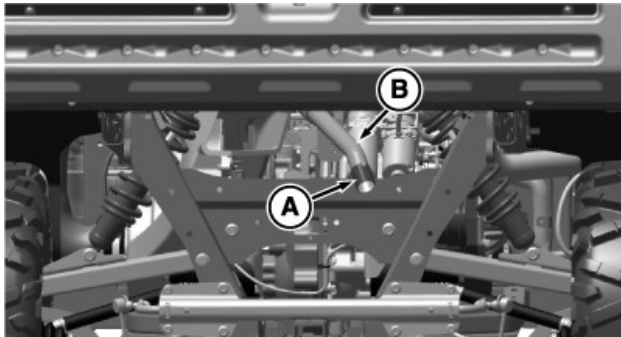
SB31882,00000A3-19-26OCT21

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## Checking Spark Arrestor

**⚠ CAUTION: Avoid injury! Touching hot surfaces can burn skin. The spark arrestor, muffler, and surrounding components 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 machine safely. (See Parking Safely in Safety.)
2. Allow machine to cool completely.



MX102007—UN—16APR21

3. Remove self-tapping screw (B) securing spark arrestor (A) to muffler exhaust pipe. Retain the screw.

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

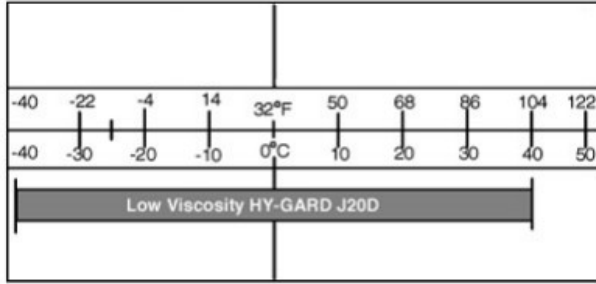
- Clear work area of bystanders.
  - Wear eye protection when using compressed air for cleaning purposes.
4. Make sure deflector screen inside arrestor is not plugged or damaged:
    - If plugged, spray with carburetor/choke cleaner and blow dry with low pressure compressed air.
    - If damaged, replace spark arrestor.
  5. Install spark arrestor with self-tapping screw.

OUMX068,000130C-19-16APR21

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# Service Transmission

## Transmission and 4WD Front Differential Oil



MX101556—UN—12MAY20

Use the appropriate oil viscosity based on these air temperature ranges. Operating outside of these recommended oil and air temperature ranges can cause premature hydrostatic transmission or hydraulic system failures.

**IMPORTANT: Avoid damage! DO NOT mix any other oils in this transmission. DO NOT use engine oil or “Type F” (Red) Automatic Transmission Fluid in this transmission.**

John Deere J20D Low Viscosity Hy-Gard™ transmission and hydraulic oil is recommended.

Other oils can be used if recommended John Deere oils are not available, provided they meet the following specifications:

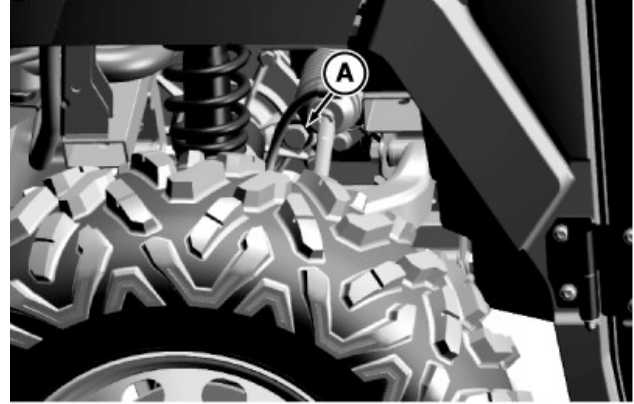
- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

MX00654,0000329-19-29MAR21

### Checking 4WD Front Differential Oil Level

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Allow machine to cool down for at least 1 hour.

**IMPORTANT: Avoid damage! Dirt and debris in the oil can damage the 4WD differential. Clean area around opening before removing plug. Change oil if it appears dirty.**



MX102541—UN—23JAN23

Fill Plug Under Left Front Side

3. Remove the fill plug (A) on the left side of the 4WD front differential.
4. Check oil:
  - Oil is level with the bottom of the fill port.
  - If oil level is low, add oil through the fill port until level is correct.
  - If oil appears dirty, change oil. (See Changing 4WD Front Differential Oil in this section.)
5. Install and tighten the fill plug to:

#### Specification

Fill Plug—Torque. . . . . 44—54 N·m (32—40 lb·ft)

OUMX068,0001214-19-27JAN23

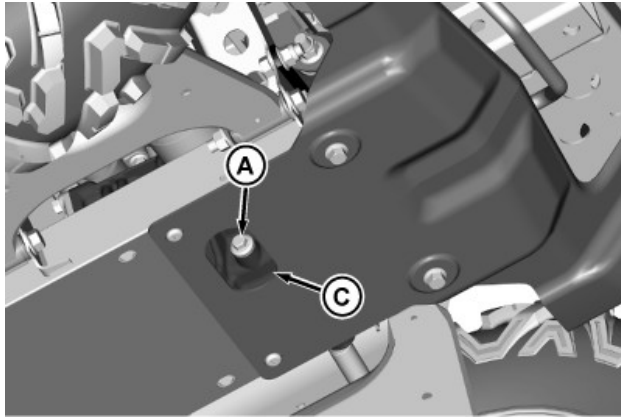
## Changing 4WD Front Differential Oil

*NOTE: See Capacities in the Specifications section.*

1. Warm 4WD front differential oil by operating machine.
2. Park machine safely. (See Parking Safely in the Safety section.)

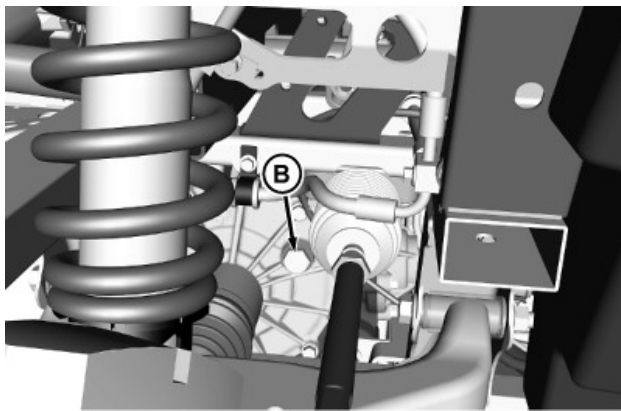
**IMPORTANT: Avoid damage! Dirt and debris in the oil can damage the 4WD differential. Clean area around opening before removing plug.**

## Service Transmission



MXT019815—UN—17JAN17

Drain Plug Under Right Front Side



MXT019816—UN—17JAN17

Fill Plug Under Left Front Side

3. Position drain pan under the 4WD front differential drain plug (A) at bottom right of housing.
4. Remove the fill plug (B) on the left side of the 4WD front differential.
5. Remove 4WD front differential drain plug (A) and allow oil to drain through opening (C) in skid plate.
6. Check washer on the drain plug. Replace if missing or in poor condition.
7. Install and tighten drain plug after all oil has drained. Tighten plug to:

### Specification

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

8. Add oil until the level is even with the bottom of the fill port.
9. Install and tighten the fill plug to:

### Specification

Fill Plug—Torque. . . . . 44—54 N·m (32—40 lb·ft)

10. Check oil level again after the first several hours of operation.

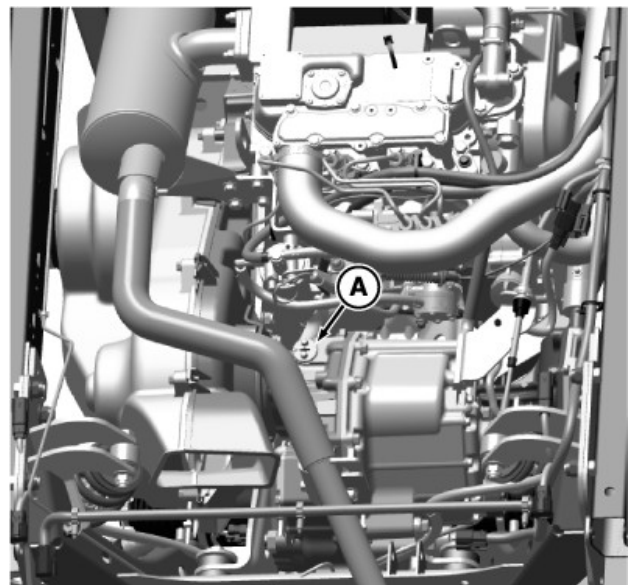
OUMX068,0001215-19-26MAR21

## Checking Transmission Oil Level

**IMPORTANT: Avoid damage! Hot hydraulic oil expands and shows an incorrect level. Check the oil level when it is cold and the engine is not running.**

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

**IMPORTANT: Avoid damage! Dirt and debris in oil can damage the transmission. Clean area around opening before removing dipstick. Change oil if it appears dirty.**



MX101799—UN—02SEP20

3. Remove the dipstick (A) on the top of the transmission housing. Wipe the dipstick clean.
4. Check oil:
  - Set dipstick on threads in the transmission case, then remove it and check the oil level. The oil should cover the notches on the dipstick but not go above them.
  - Add oil as needed through the dipstick fill hole.
  - If oil appears dirty, change oil. (See Changing Transmission Oil in this section.)
5. Add oil as needed through the dipstick fill hole.
6. Install and tighten dipstick.
7. Lower the cargo box.

MX00654,00003DF-19-04APR22

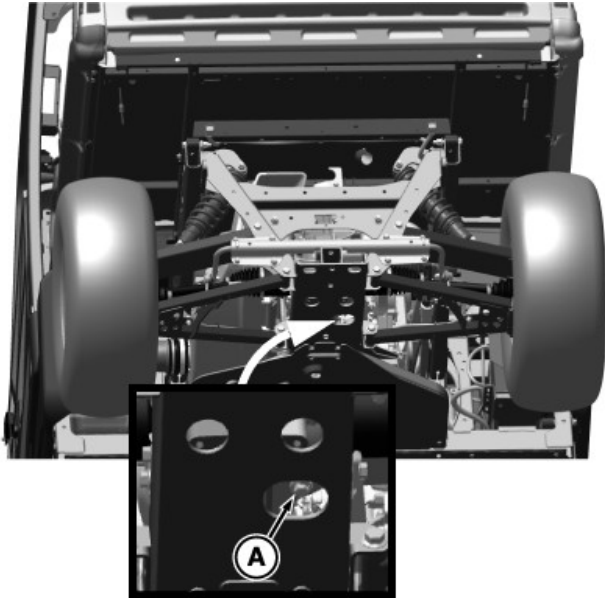
## Changing Transmission Oil

**NOTE: See Capacities in the Specifications section.**

## Service Transmission

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 the oil can damage the transmission. Clean area around opening before removing dipstick.**



MX101779—UN—26AUG20

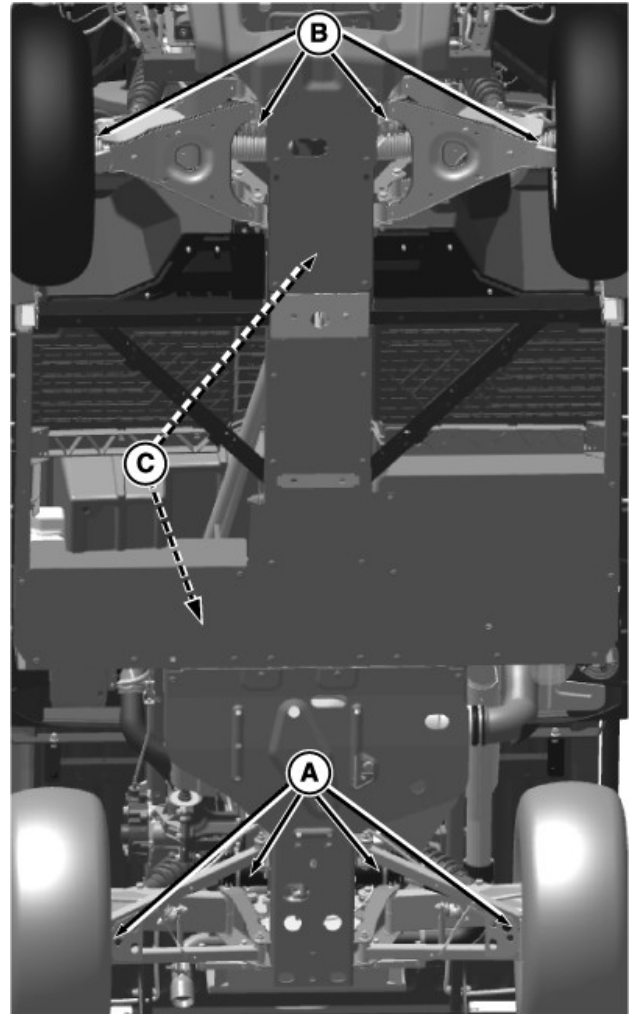
3. Position drain pan under the transmission drain plug (A).
4. Remove plug and drain oil.
5. Check washer on the drain plug. Replace if missing or in poor condition.
6. Install and tighten drain plug to:  

<b>Specification</b>	
Drain Plug—Torque. . . . .	30 — 35 N·m (22 — 26 lb-ft)
7. Remove dipstick on top of the transmission housing. Wipe dipstick clean.
8. Add recommended oil.
9. Wait for two minutes, then check oil level. Check oil level by setting dipstick on threads in transmission case, then removing and checking oil level.
10. Add oil if necessary. Install dipstick and tighten.
11. Lower the cargo box.

MX00654,00003A6-19-30MAR22

### Inspecting Driveline CV Boots

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



MX101982—UN—26MAR21

View From Under the Machine

2. Inspect four rear CV boots (A) for tears or punctures.
3. Inspect four front CV boots (B) for tears or punctures.
4. Inspect front and rear driveshaft boots (C) for tears or punctures.
5. If replacement of a boot is necessary, see your John Deere dealer.

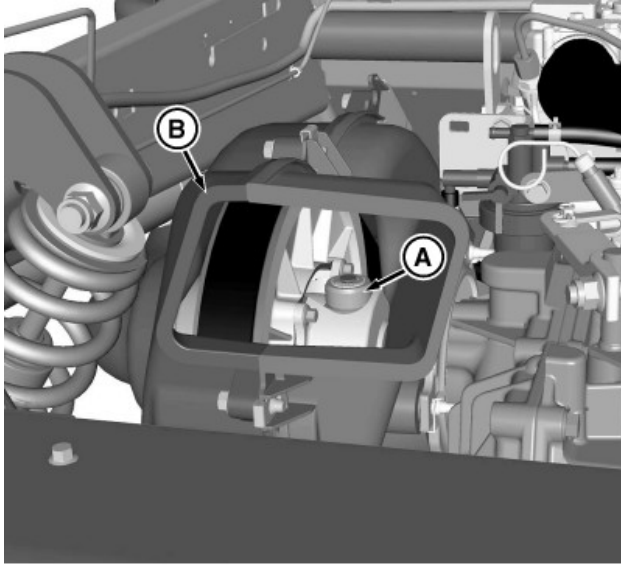
OUMX068,0001218-19-26MAR21

### Checking Driven Clutch Rollers

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

**NOTE:** Clutch rollers can be inspected through enclosure exhaust port (B) without removing clutch enclosure covers.

## Service Transmission



MXT008468—UN—07SEP13

3. Move machine slightly forward or backward so clutch roller (A) can be seen through the exhaust port (B).
4. Check worn clutch rollers (A):
  - a. There should not be any excessive wear, play, or metal-to metal contact.
  - b. If replacement is necessary, see your John Deere dealer.
5. Lower the cargo box.

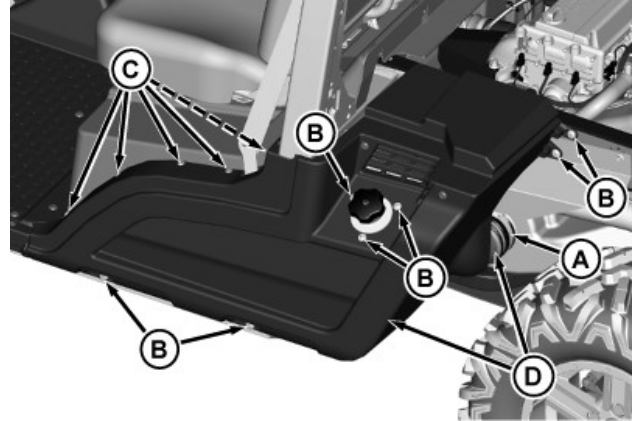
MX00654,0000123-19-18SEP14

### Cleaning Primary Drive Clutch and Enclosure

**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.

**IMPORTANT:** Avoid damage! Never lubricate any part of the primary drive clutch.

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

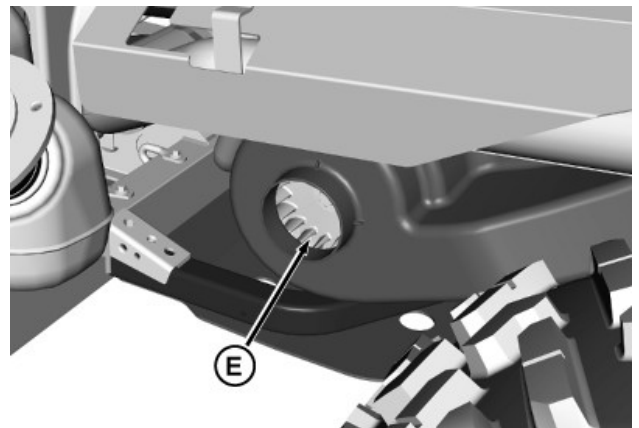


MXT020888—UN—18OCT17

3. Loosen the clamp (A).
4. Remove seven screws (B) and five push retainers (C).
5. Remove the side panel and air intake hose (D) as an assembly.

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

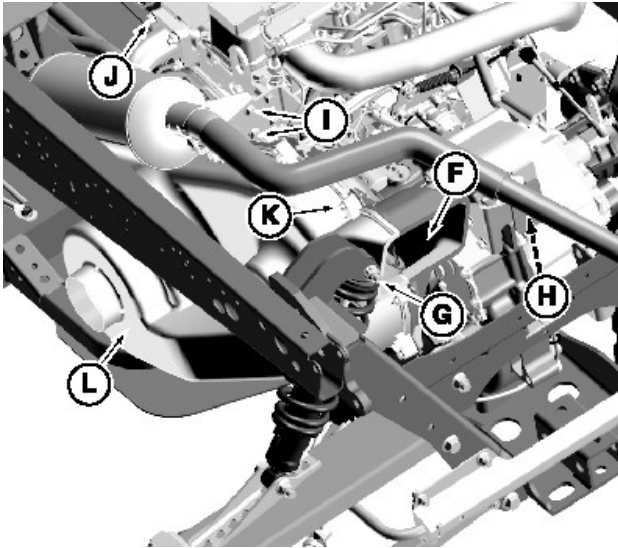
- Clear work area of bystanders.
- Wear eye protection when using compressed air for cleaning purposes.



MXT020125—UN—04MAY17

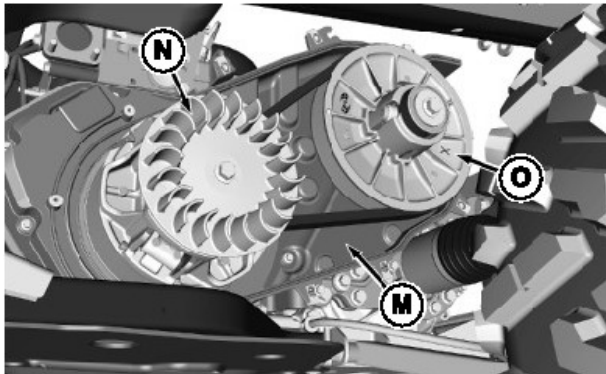
6. Blow dust and debris out of the clutch fan area through the access hole (E), using compressed air.

## Service Transmission



MX102251—UN—04APR22

7. Check the exhaust port (F) for debris. If debris is found, do the following:
  - a. Remove the left rear tire. (See Removing and Installing Tires in the Service Miscellaneous section.) Be sure the suspension hangs freely.
  - b. Remove the upper nut (G), bolt, and shock.
  - c. Remove the bolt and nut securing exhaust pipe to bracket (H).
  - d. Remove two bolts and nuts (I).
  - e. Remove four nuts (J) and remove the muffler and exhaust pipe.
  - f. Remove 11 bolts (K) and outer clutch enclosure cover (L).



MX102255—UN—04APR22

- g. Clean inside clutch enclosure cover, clutch enclosure base (M), and around drive (N) and driven clutch (O) assemblies.
- h. Install the cover.
  - i. Loosely install the muffler to exhaust manifold with four nuts.
  - j. Loosely install two bolts and nuts securing muffler to bracket.

- k. Install exhaust pipe to bracket with bolt and nut.
- l. Tighten all hardware.
- m. Install the shock. Tighten the nut to:

### Specification

Shock Mounting Bolt Hex

Nut—Torque. . . . . 140 N·m  
(105 lb·ft)

- n. Install the left rear tire.
8. Lower machine.
9. Install the air intake hose and side panel.
10. Lower the cargo box.

MX10673,000005D-19-04APR22

## Servicing Drive Belt

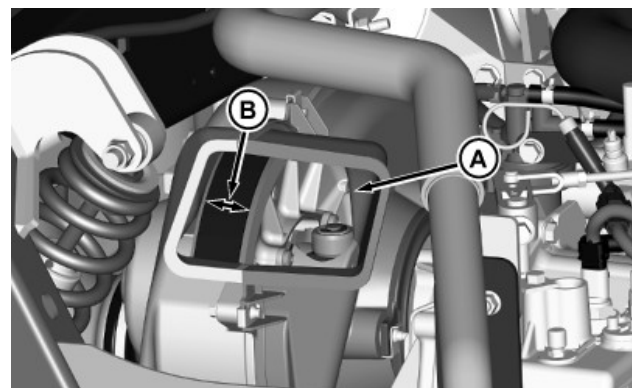
### Prepare Vehicle

**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 the cargo box. Lower cargo box when servicing is done.

### Inspecting Drive Belt

**NOTE:** Drive belt can be inspected through the enclosure exhaust port (A) without removing the clutch enclosure cover.



MXT020795—UN—31AUG17

1. Measure the top surface of the belt width at (B). Replace belt if the dimension is less than:

### Specification

Drive Belt Top Surface

(min.)—Width. . . . . 29 mm (1.1 in)

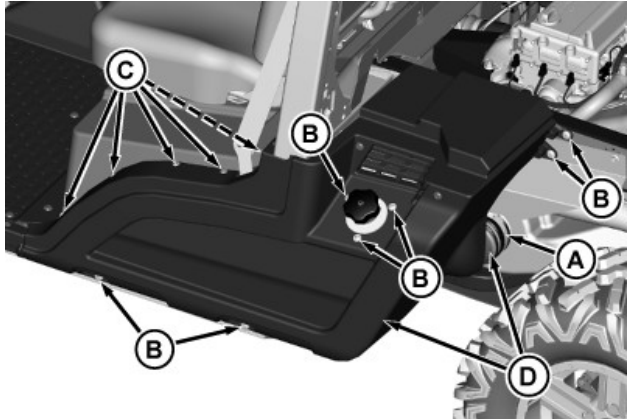


## Service Transmission

2. Check for debris inside the enclosure exhaust port and clean if needed.

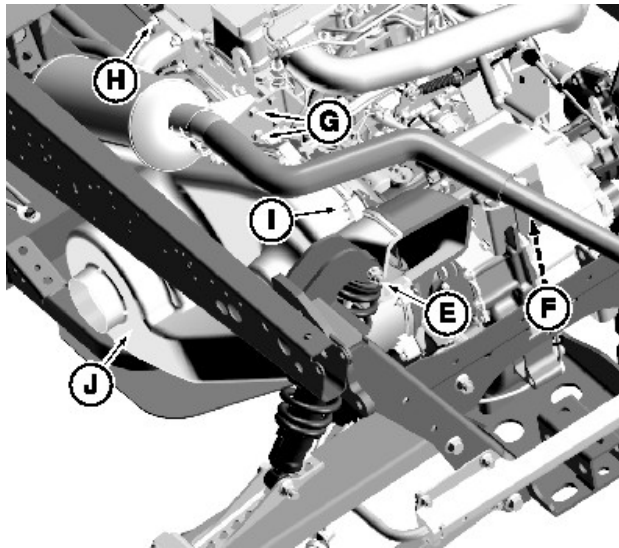
### Removing Drive Belt

1. Remove the left rear tire. (See Removing and Installing Tires in the Service Miscellaneous section.) Be sure that suspension hangs freely.



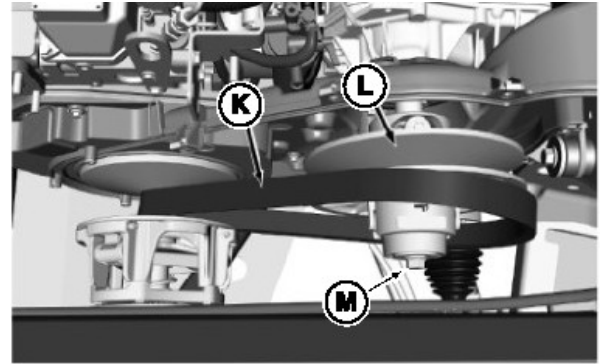
MX1020888—UN—18OCT17

2. Loosen the clamp (A).
3. Remove seven screws (B) and five push retainers (C).
4. Remove the side panel and air intake hose (D) as an assembly.



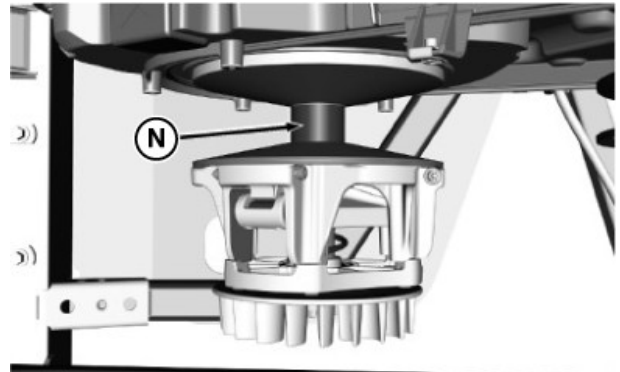
MX102256—UN—04APR22

5. Remove the upper nut (E), bolt, and shock.
6. Remove the bolt and nut securing exhaust pipe to bracket (F).
7. Remove two bolts and nuts (G).
8. Remove four nuts (H) and muffler and exhaust pipe.
9. Remove 11 bolts (I) and outer clutch enclosure cover (J).



MX102257—UN—04APR22

10. Loosen the drive clutch bolt (M).
11. Lift up on drive belt (K) until it is loose.
12. Slip drive belt over the edge of the driven clutch (L) and turn clockwise until drive belt is removed.

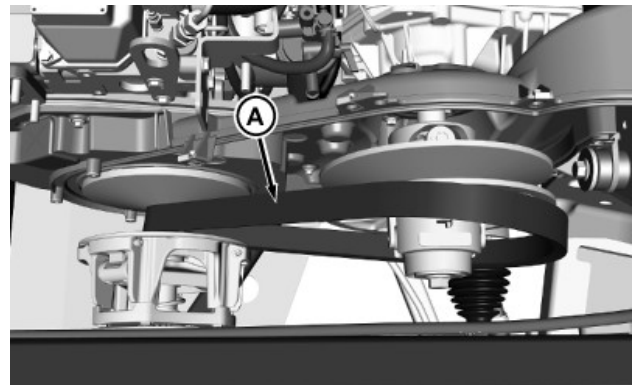


MX101992—UN—29MAR21

13. Spin idler sleeve bearing (N). Confirm that bearing rotates smoothly. If not, contact your John Deere dealer for possible bearing replacement.

### Replacing Drive Belt

**IMPORTANT: Avoid damage! Make sure arrows on the drive belt face towards the front of machine. Belt damage can occur.**



MX1020802—UN—31AUG17

1. Loop belt (A) over the drive clutch and around driven clutch, starting at bottom and slide belt into the driven clutch while turning.
2. Tighten the clutch bolt to:

# Service Transmission

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## Specification

Drive Clutch Bolt—Torque. . . . . 67.8 N·m  
(50 lb·ft)

3. Install the clutch cover.
4. Loosely install the muffler to exhaust manifold with four nuts.
5. Loosely install two bolts and nuts securing muffler to bracket.
6. Install exhaust pipe to bracket with bolt and nut.
7. Tighten all hardware.
8. Install the shock. Tighten the nut to:

## Specification

Shock Mounting Bolt Hex  
Nut—Torque. . . . . 140 N·m  
(105 lb·ft)

9. Install the left rear tire.
10. Lower machine.
11. Install the air intake hose and side panel.

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MX10673,000005C-19-04APR22

# Service Steering & Brakes

## Checking and Adjusting Toe-In

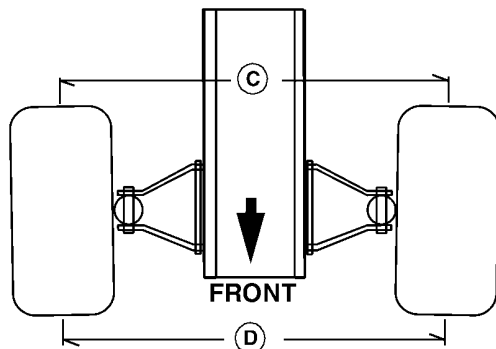
**NOTE:** In order to set front wheel toe-in accurately, suspension and steering components must be in good condition. All fasteners must be tightened to specification.

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Turn steering wheel so that front tires are in straight-ahead position.
3. Check tire pressure. Adjust to specification if needed (See Tires in the Specifications section).



MX200141—UN—14JUN19

4. Measure front wheel center height (A) from surface.
5. Mark tread centerline (B) and hub center height at front and back of both front tires.



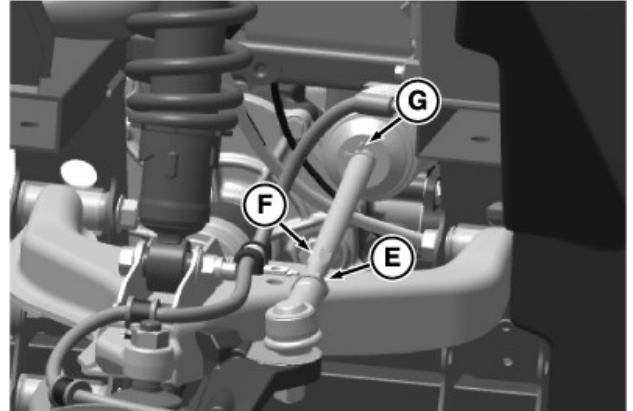
MXAL44297—UN—10APR13

6. Measure distance (C) between tread centerlines at the rear of the tires at hub height.
7. Measure distance (D) between tread centerlines at the front of the tires at hub height.
8. Subtract front measurement from rear measurement and determine toe-in.
9. Adjust toe-in if not within:

### Specification

Tire Centerline—Distance. . . . . 4±3 mm (0.16±0.12 in)

**NOTE:** If the tie rod boot clamp (G) is too tight, the steering rack boot may turn with the tie rod. If the boot rotates, loosen the boot clamp enough to allow the boot to remain stationary when the tie rod is turned.



MX101962—UN—21MAR21

Left Front Side Shown

- a. Loosen nuts (E) on left and right tie rod.
- b. Rotate tie rod by placing wrench on hex (F).
- c. Loosen boot clamps (G) if boots rotate with tie rod adjustment.
- d. Adjust left and right tie rods equally until the toe-in is within specification.
- e. Tighten nuts to:

### Specification

Nuts—Torque. . . . . 41—60 N·m (30—44 lb·ft)

- f. Check that front tires do not contact suspension when fully turned left or right.

OUMX068,000124B-19-20SEP21

## Adjusting Suspension (Standard Shocks)

### Preload Adjustment

#### When to adjust suspension:

- Front preload adjustment - increase preload if operating with front attachment or under heavy load condition.
- Rear preload adjustment - increase preload if operating under heavy load condition.

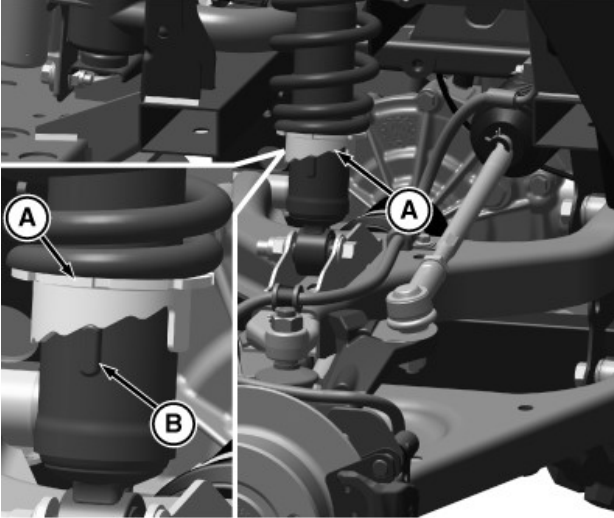
#### How to adjust suspension:

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

## Service Steering & Brakes

**CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports. (See Lifting Machine in this section).**

2. Raise the machine using a safe lifting device. (See Lifting Machine in this section.)



MX200139—UN—14JUN19  
Left Front Side Shown

3. Using the supplied spanner wrench, securely engage the adjustable preload collar (A) on shock. Rotate preload collar to desired preload condition making sure to engage detent feature (B) between shock and preload collar.

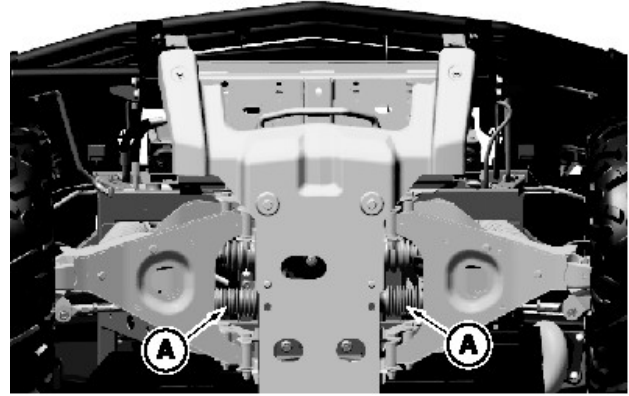
**CAUTION: Avoid injury! Be sure both front shock preload collars are set to the same position. Be sure both rear shock preload collars are set to the same position. Machine performance will be altered and machine could handle unexpectedly if settings are not the same.**

4. Repeat procedure on all shocks as needed.

MX52301,0000608-19-30MAR22

### Inspecting Steering Tie Rod Boots

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



MX102185—UN—29SEP21  
View From Under Machine

2. Inspect two front steering tie rod boots (A) for tears or punctures.
3. If replacement of a boot is necessary, see your John Deere dealer.

MX00654,00004D2-19-29SEP21

### Brake Fluid

The following heavy duty brake fluid is **PREFERRED** for all drum and disc brakes:

- Brake Fluid - DOT4  
Other brake fluids may be used if they provide the following:
- Conforms to Motor Vehicle Safety Standard No. 116.
- Minimum wet boiling point 155°C (311°F).
- Minimum dry boiling point 230°C (446°F) to prevent vapor lock.

JG81906,0000740-19-01APR13

### Prepare Vehicle

#### Service Brake System Safely

Park machine safely. (See Parking Safely in the Safety section.) Allow machine to cool.

#### Prevent Damage

**IMPORTANT: Avoid damage! Avoid contamination of the brake fluid, thoroughly clean area around the reservoir cap before removing. Only open the reservoir cap when necessary.**

Use only brake fluid from a sealed container.

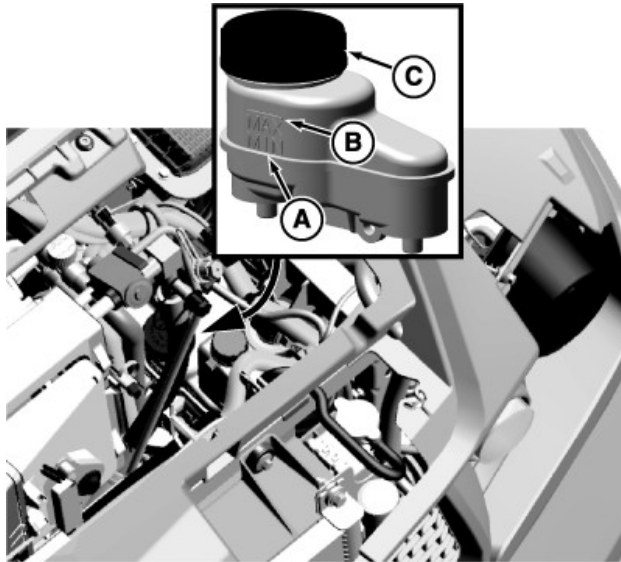
Fluid spilled or sprayed on painted surfaces causes damage. Use extreme care to cover painted surfaces when servicing brake system.

MX00654,0000468-19-30MAR22

## Service Steering & Brakes

### Checking Brake Fluid Level

1. Open hood.



MX102560—UN—26JAN23

Visually check brake fluid reservoir. Brake fluid level must be between “MIN” (A) and “MAX” (B) marks. If fluid is low:

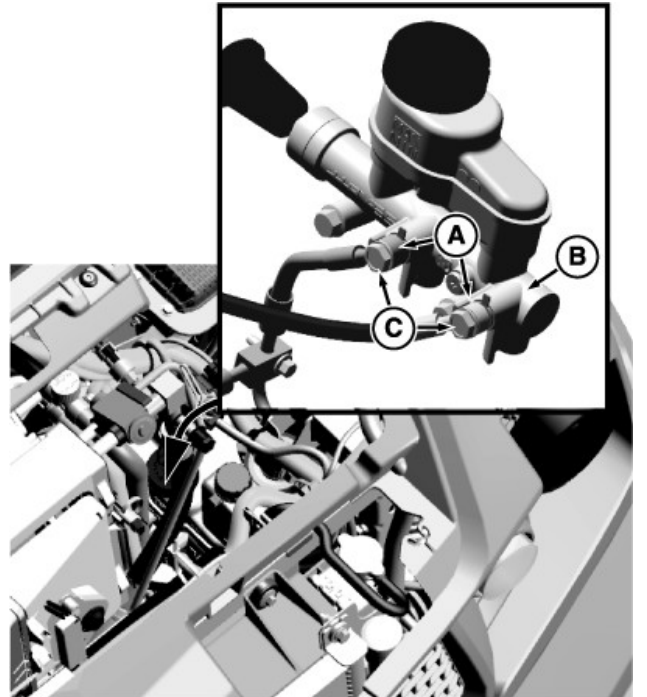
- Carefully clean area around the reservoir cap (C).
- Remove reservoir cap and add fluid to the “MAX” mark. Do not overfill the reservoir.

3. Install reservoir cap.
4. Close hood.

OUMX068,0001240-19-28JAN23

### Checking Brake Lines

1. Open hood.



MX102561—UN—26JAN23

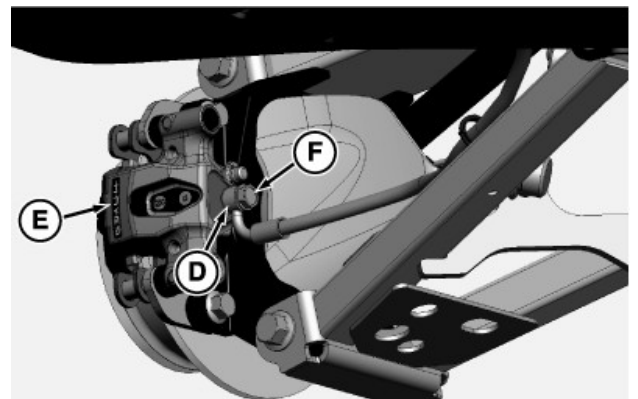
2. Check the brake line fittings (A) on the side of the master cylinder (B) for leaks.

3. Tighten banjo bolts (C) to:

#### Specification

Banjo Bolts—Torque. . . . . 27 N·m (20 lb·ft)

4. Remove wheels for easier access to brake calipers. (See Removing and Installing Wheel Assembly in the Service Miscellaneous section.)



MX102161—UN—01SEP21

5. Inspect brake line fitting (D) on each brake caliper (E) for leaks. Tighten banjo bolt (F) to:

#### Specification

Banjo Bolt—Torque. . . . . 27 N·m (20 lb·ft)

6. Press service brake pedal and verify that it has a firm feel and does not “sink” toward the floor when constant pressure is applied.

If the brake does not feel firm, bleed brakes (See

# Service Steering & Brakes

Bleeding Brake System in this section.) If leaks are still found, see your John Deere Dealer for service.

7. Lower hood.
8. Install wheels.

SB31882,0000099-19-27JAN23

## Bleeding Brake System

**CAUTION: Avoid injury! Wear eye protection when bleeding brakes to avoid eye injury from escaping fluid.**

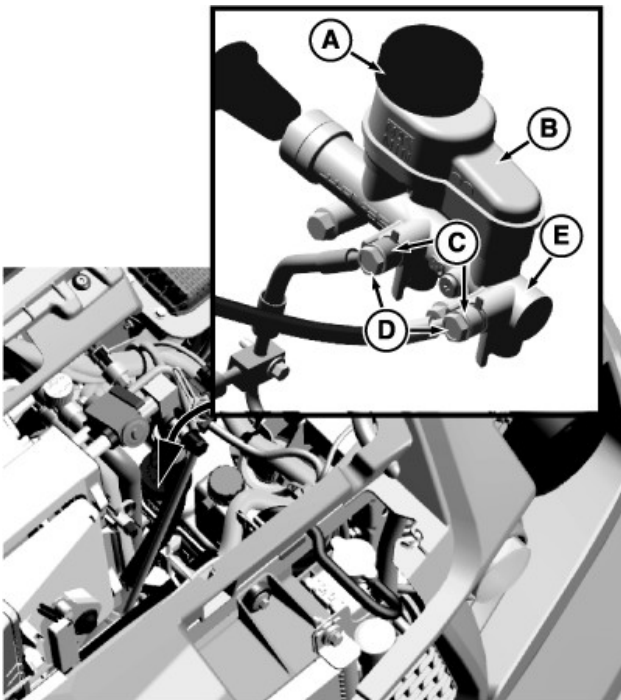
**NOTE:** The brake system must be bled any time a new component is installed or the system has run out of fluid. If only one component has been repaired or replaced it might only be necessary to bleed that component. If bleeding entire brake system, start with the master cylinder then the wheels in the following order:

- Right rear
- Left rear
- Right front
- Left front

*Procedures require the assistance of another person.*

## Bleed Master Cylinder

1. Open hood.



MX102562—UN—26JAN23

2. Remove reservoir cap (A) and check the fluid level in the master cylinder reservoir (B). Brake fluid level

must be between “MIN” and “MAX” marks. Top off if necessary.

3. Depress and keep constant pressure on service brake pedal while loosening brake line fittings (C) on master cylinder (E). Observe fitting connections for air bubbles.
4. Tighten banjo bolts (D) when either bubbles have stopped or pedal has bottomed out. Release pedal after tightening banjo bolts.
5. Repeat steps, starting with checking the fluid level, until air bubbles no longer appear. Tighten bolts to:

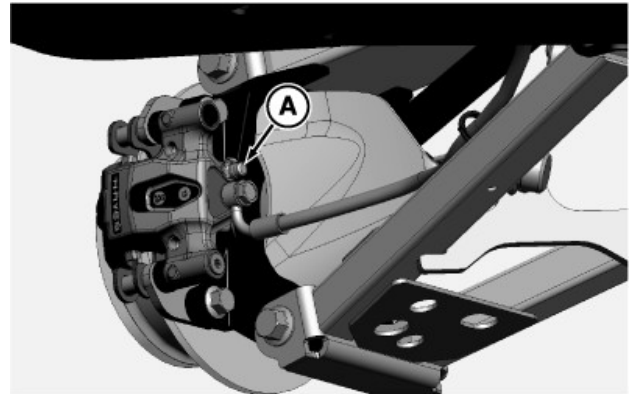
### Specification

Brake Line to Master  
Cylinder—Torque. . . . . 27 N·m  
(20 lb·ft)

6. Check fluid level and top off if necessary.
7. Close hood.
8. Bleed brake lines.

## Bleed Brake Lines

1. Remove wheels for easier access to brake calipers. (See Removing and Installing Wheel Assembly in the Service Miscellaneous section).



MX102160—UN—01SEP21

2. Attach one end of a clear piece of tubing to the bleeder screw (A). Put the other end into a clear container with approximately 13 mm (1/2 in) of fresh brake fluid.
3. Check the fluid level in the master cylinder, topping off as required.

**NOTE:** Be sure that the bleeder screw is closed before building pressure in the system.

4. Pump the service brake pedal slowly several times to build pressure in the system.
5. Stop pumping and keep constant pressure on the service brake pedal.
6. Open the bleeder screw, allowing brake fluid and air to escape.

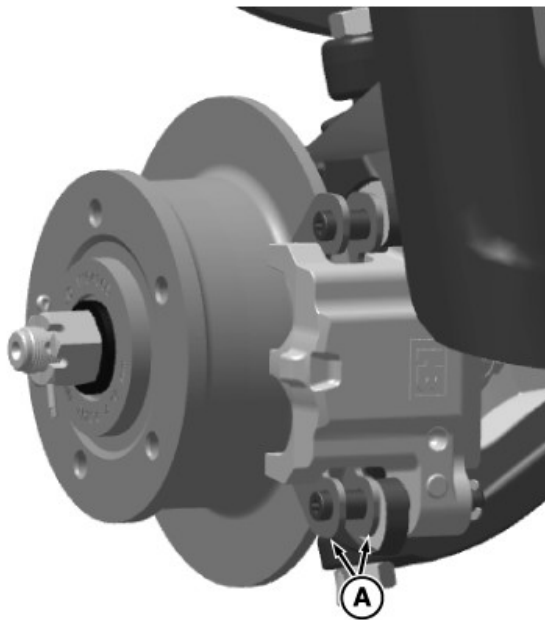
## Service Steering & Brakes

- Check the fluid entering the container for air bubbles. The fluid must be clear.
7. Close bleeder screw when either bubbles have stopped or pedal has bottomed out. Release service brake pedal.
  8. Repeat steps, starting with checking the fluid level, until the fluid running into the container is clear, and there are no air bubbles.
  9. Repeat entire procedure for each of the four wheels if bleeding entire brake system.
  10. Press service brake pedal and verify that it has a firm feel and does not "sink" toward the floor when constant pressure is applied.  
If the brake does not feel firm or if leaks are found, see your John Deere Dealer for service.
  11. Ensure that all bleeder screws are tight and the master cylinder fluid level is correct.
  12. Install the wheels.

MX00654,0000476-19-27JAN23

### Checking Brake Pads

1. Remove the wheel assembly. (See Removing and Installing Wheel Assembly in the Service Miscellaneous section.)



Front Left Wheel

MX101940—UN—11MAR21

2. Inspect brake pads (A) friction material for wear or damage. Check pads friction material thickness. Material must not be less than minimum specification. If below specification or pad is

damaged, see your John Deere dealer for replacement service.

### Specification

Pad Friction

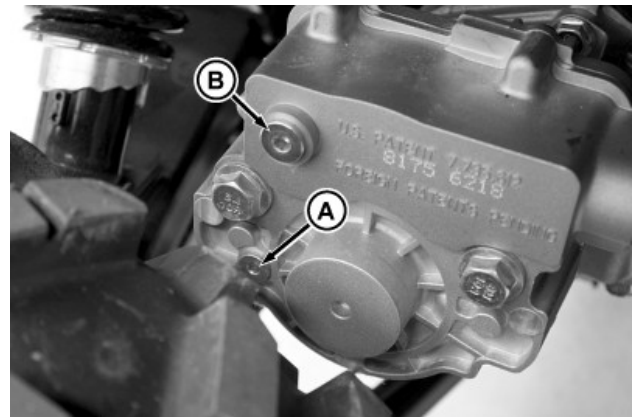
Material—Thickness. . . . . 1 mm (3/64 in)

3. Install wheel assembly. (See Removing and Installing Wheel Assembly in the Service Miscellaneous section.)
4. Repeat procedure for remaining three wheels.

OUMX068,0000986-19-31MAR21

### Checking Park Brake Fluid (If Equipped)

1. Raise and secure cargo box.



MXT019889—UN—22FEB17

View From Right Rear Side of Machine

2. Remove hex socket plug (A) and check lubricant level in the park brake housing. Fluid level must be at bottom of plug opening.
3. If not at the proper level, remove hex socket plug (B). Add recommended fluid until at bottom of plug (A) opening. Install plug (A).
4. Install plug (B).

OUMX068,0001242-19-17MAR21

### Adjusting Park Brake (If Equipped)

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

MX00654,0000373-19-15JUL20

# Service Electrical

## Electrical

**WARNING:** Avoid injury! 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-19-12JAN23

## Service the Battery Safely



MXAL41890—UN—18FEB13

**CAUTION:** Avoid Injury! Battery electrolyte contains sulfuric acid. It is poisonous and can cause serious burns:

- Wear eye protection and gloves.
- Keep skin protected.
- If electrolyte is swallowed, get medical attention immediately.
- If electrolyte is splashed into eyes, flush immediately with water for 15-30 minutes and get medical attention.
- If electrolyte is splashed onto skin, flush immediately with water and get medical attention if necessary.

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

- Do not smoke 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.

OUC1023,000009A-19-26MAY15

## Checking the Battery (Sealed Batteries)

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

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

- Keep battery and terminals clean.
- Keep battery bolts tight.
- Keep small vent holes open.
- Recharge, if necessary, at 6-10 amperes for 1 hour.

JG81906,0000744-19-08APR13

## Charging Battery

### Prepare Vehicle

**CAUTION:** Avoid injury! The battery produces a flammable and explosive gas. Wear eye protection and gloves.

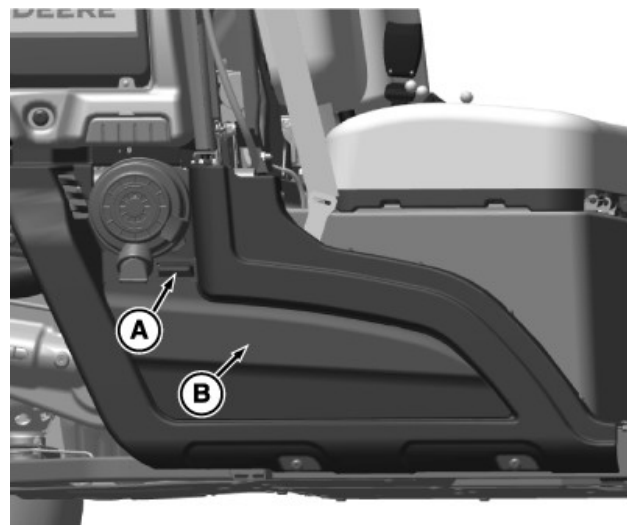
To prevent the battery from exploding:

- Do not smoke or have open flame near battery.
  - 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.
  - Do not jump-start or charge a frozen battery.
- Warm battery to:

### Specification

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

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



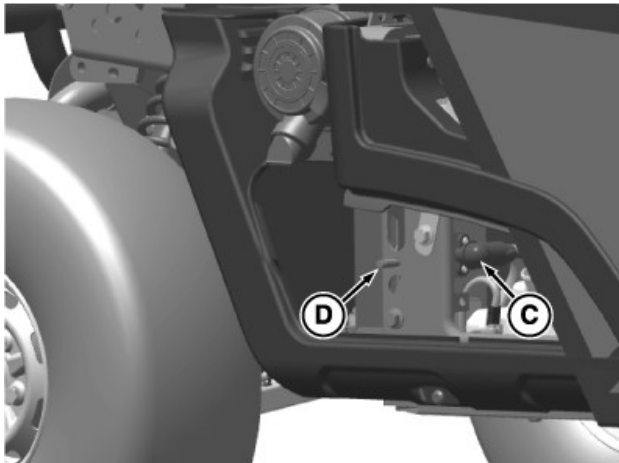
MX101941—UN—11MAR21

2. Push down on tab (A) and remove access panel (B).
3. Install access panel when charging is complete.



# Service Electrical

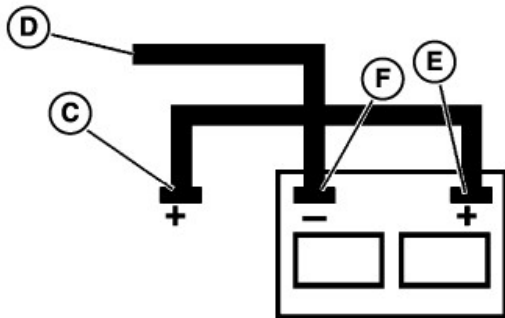
## Charging with a Battery Charger



MX101942—UN—12MAR21

1. Connect positive (+) charger cable to the vehicle battery positive (+) post under the red cap (C).
2. Connect the negative (-) charger cable to the vehicle post (D).
3. Start engine if jump starting the vehicle or allow battery to charge according to the directions included with your battery charger.
4. Carefully disconnect the cables in the exact reverse order: negative cable first and then the positive cable.

## Charging with a Booster Battery



MX101965—UN—24MAR21

1. Connect positive (+) booster cable to the booster battery positive (+) post (E).
2. Connect the other end of positive (+) booster cable to the vehicle battery positive (+) post under the red cap (C).
3. Connect negative (-) booster cable to the booster battery negative (-) post (F).
4. Connect the other end of negative (-) booster cable to the vehicle post (D).
5. Run the vehicle engine for several minutes.
6. Carefully disconnect the booster cables in the exact

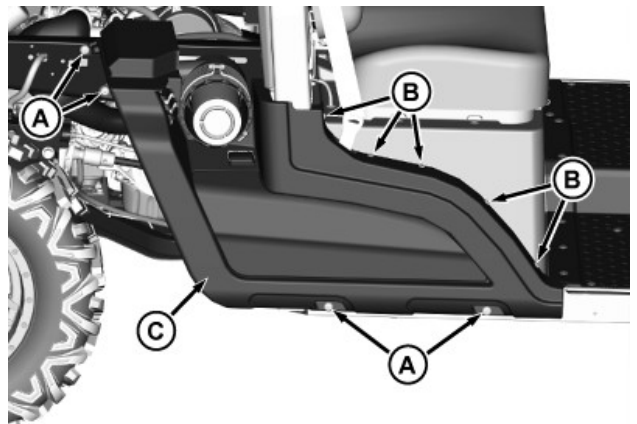
reverse order: negative cable first and then the positive cable.

MX00654.0000478-19-27JAN23

## Removing and Installing Battery

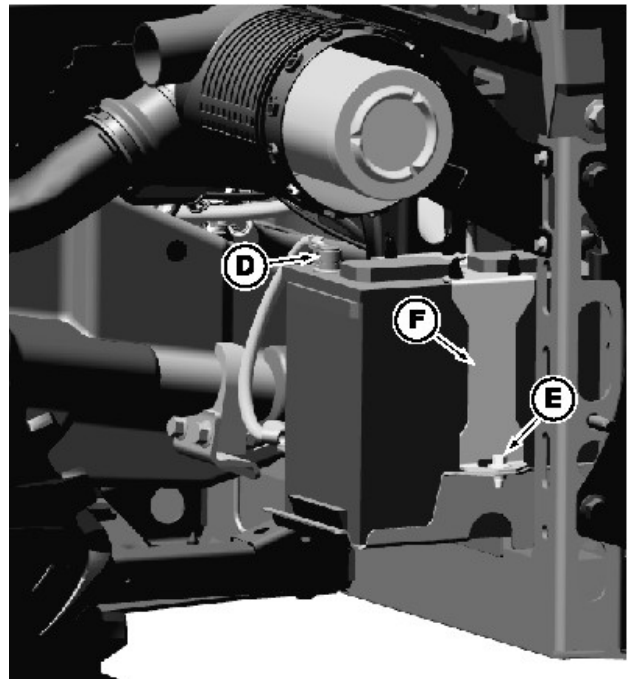
### Removing

1. Park the machine safely. (See Parking Safely in the Safety section.)
2. Raise and secure the cargo box.
3. Remove the air cleaner cover for clearance to aid in the removal of side panel.



MXT020778—UN—29AUG17

4. Remove four screws (A) and five push retainers (B), and remove the side panel (C).

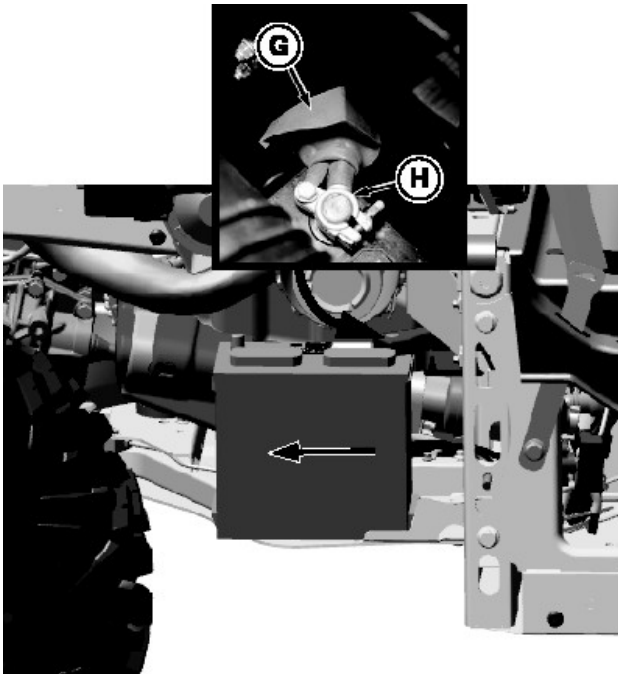


MX102180—UN—29SEP21

5. Disconnect the negative (-) battery cable (D) from the battery.

## Service Electrical

6. Remove the screw (E) on each side of the battery securing the retaining bracket (F).
7. Remove retaining bracket by lifting it over the negative (-) post.



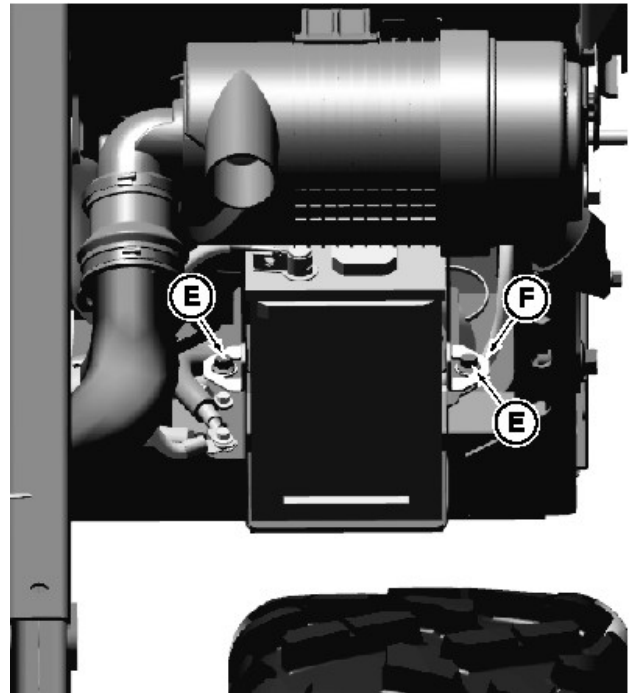
MX102181—UN—29SEP21

8. Lift and slide the battery half way off the tray toward the rear of the machine.
9. Slide back rubber protective cover (G) and disconnect the positive (+) battery cable (H) from the battery.
10. Remove battery from the machine.

### Installing

1. Install the battery half way into the battery tray with the negative (-) terminal positioned toward the rear of the machine.
2. Connect positive (+) cable to positive (+) battery terminal. Tighten the hardware.
3. Apply general-purpose grease or silicone spray to positive (+) battery terminal to help prevent corrosion.
4. Slide protective cover down the positive (+) cable and seat it over the positive (+) terminal.
5. Slide the battery forward until it is properly seated in the tray.

**IMPORTANT: Avoid damage! Do not pinch cables. Be sure that the retaining bracket (F) is clear of all cables.**



MX102182—UN—29SEP21

6. Slide the retaining bracket (F) over the negative (-) post and install with two screws (E). Tighten the screws.
7. Connect negative (-) cable to negative (-) battery terminal. Tighten the hardware.
8. Apply general-purpose grease or silicone spray to negative (-) battery terminal to help prevent corrosion.
9. Install the side panel.
10. Install the air cleaner cover.
11. Lower the cargo box.

MX10673.0000033-19-27SEP21

### Cleaning Battery and Terminals

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Disconnect and remove battery.
3. Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
4. Rinse the battery with plain water and dry.
5. Clean terminals and battery cable ends with wire brush until bright.
6. Install battery.
7. Attach cables to battery terminals, beginning with the positive cable, using washers and nuts.

## Service Electrical

8. Apply spray lubricant to terminal to prevent corrosion.

JG81906,0000746-19-01APR13

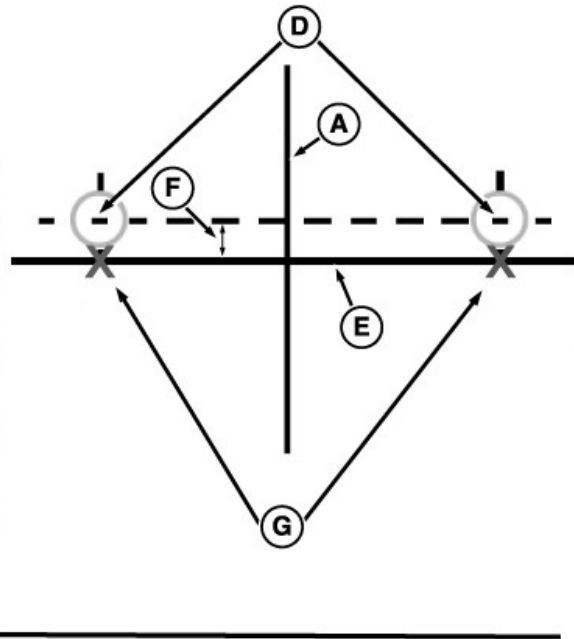
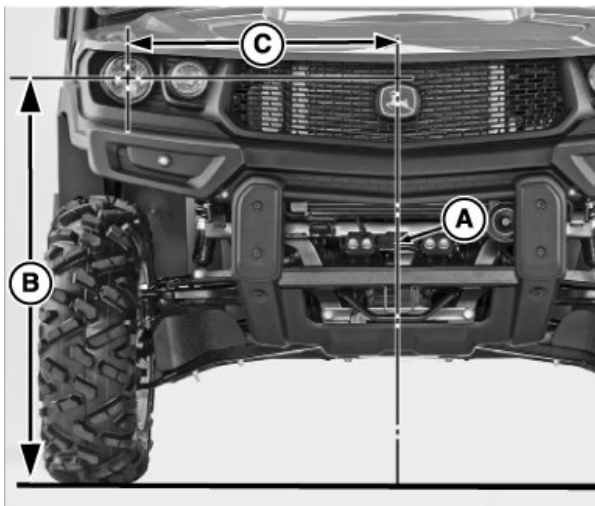
### Adjusting Headlights

**NOTE:** In order to adjust headlights accurately:

- Remove any attachments and empty the cargo box.

- Suspension and steering components must be in good condition.
- Check tire pressure. Adjust to specification if needed (See Tires in the Specifications section).

1. Orient the machine so it is on a level surface facing a flat wall. Move the machine as close as possible, so both lights shine squarely on the wall.



MX102262—UN—08APR22

Headlights should be centered on the wall at location (G).

2. Draw or mark a vertical line (A) on the wall corresponding to the centerline of the machine.
3. Move the machine straight back from the wall until the headlights are 7.62 m (25 ft) from the wall.
4. Determine the headlight center measurement:
  - Measure and record the distance (B) from the ground to the center of one of the headlight lenses.
  - Measure and record the distance (C) from the center of the headlight to the machine centerline.
5. Transfer measurements to the wall:
  - Draw or mark headlight centers (D) based on measurements.
  - Draw or mark a horizontal line (E) exactly 76.2 mm (3 in) (F) lower than headlight center measurement. The line should extend past the centerlines of the two headlights.
  - Draw or mark a vertical line from the headlight center marks to the horizontal line.
6. Press the top of the light switch and turn lights on.



MX102263—UN—08APR22

7. Adjust the headlights if necessary by turning the headlight adjustment screw (H) until headlights are centered.

SB31882,00000AB-19-09APR22

## Service Electrical

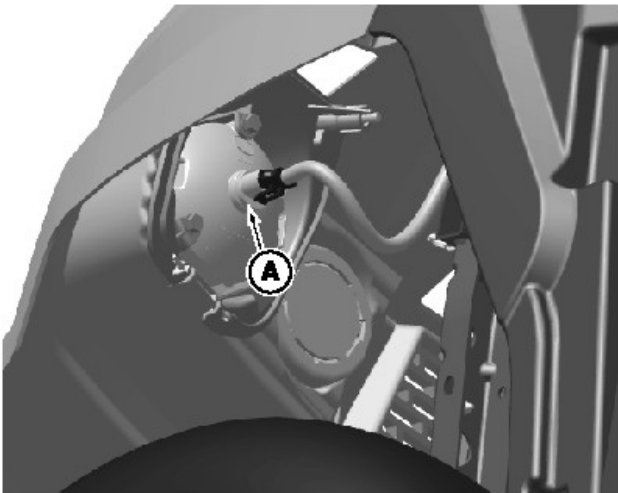
### Replacing Headlight

1. Park the machine safely. (See Parking Safely in the Safety section.)
2. Locate headlight housing under the front fender.

#### Standard Halogen Light (E and M Series)

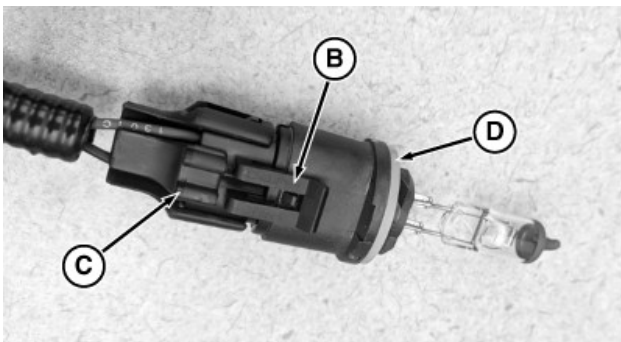
**⚠ CAUTION: Avoid injury! Halogen light bulb contains gas under pressure. The bulb may shatter if the glass is scratched or dropped. Wear eye protection and handle bulb with care when replacing.**

**IMPORTANT: Avoid damage! Do not touch glass portion of new bulb with bare skin. Contact with oils or dirt reduces bulb life. Handle bulb by the base or with a clean cloth or gloves.**



MX101776—UN—25OCT21

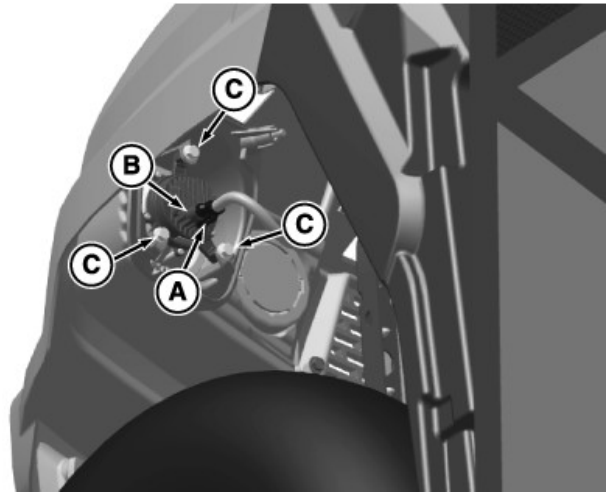
1. Rotate bulb socket (A) 1/8 of a turn counterclockwise and remove the socket from the housing.



MXT023329—UN—11JUL18

2. Pull outward on tab (B), and disconnect wire connector (C) from socket (D). Discard the bulb/socket assembly.
3. Connect wiring connector to new bulb/socket assembly. Install the assembly into housing and rotate 1/8 turn to lock in place.
4. Test headlight function.

#### LED Headlight (R Series)



MX101777—UN—26AUG20

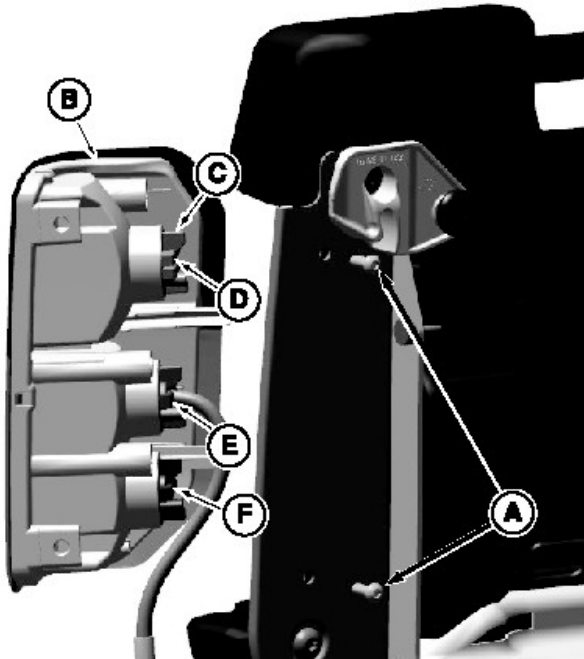
1. Pull downward on tab (A) and disconnect wire connector from socket (B).
2. Remove three screws (C).
3. Remove headlight assembly from the front side of the bezel.
4. Install new headlight assembly with three screws.
5. Connect wiring connector to socket.
6. Test headlight function.

MX00654,00003A7-19-26MAR21

### Replacing Rear Light Bulbs (If Equipped)

1. Park the machine safely. (See Parking Safely in Safety)
2. Open tailgate.

## Service Electrical



MX102246—UN—30MAR22

3. Remove two screws (A) and gently pull out tail light assembly (B).
4. Use tabs (C) to turn appropriate socket 1/4 turn counterclockwise to remove it:
  - (D) Brake/Running Light
  - (E) Turn Signal
  - (F) Reverse Light

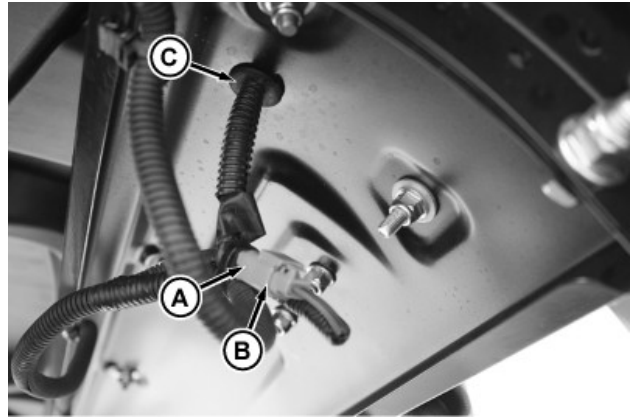
*NOTE: All bulbs are 13.5V/21W type except (D) which is a dual filament at 21W/5W.*

5. Replace bulb and install socket turning it 1/4 turn clockwise.
6. Install light assembly and secure with two screws.
7. Close tailgate.

MX00654,0000381-19-30MAR22

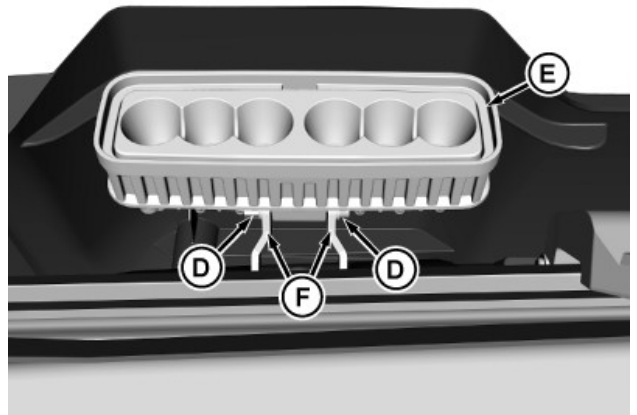
### Replacing LED Work Lights (If Equipped)

1. Park the machine safely. (See Parking Safely in the Safety section.)
2. Disconnect the microphone and remove the headliner.



MXT020783—UN—30AUG17

3. Unplug the light harness connector (A) from the roof harness connector (B).
4. Push grommet (C) and light harness through the hole in Protective Structure. Remove the grommet from the light harness.



MXT020784—UN—30AUG17

5. Remove hardware (D) securing light assembly (E) to bracket (F) and remove the light assembly.
6. Loosely install new light assembly to bracket with hardware.
7. Route the light harness through the hole in the Protective Structure.
8. Plug light harness connector into the roof harness connector.
9. Install grommet onto light harness and press into the hole in the Protective Structure. Make sure that the grommet is seated properly.
10. Position the light as desired and tighten the hardware.
11. Install the headliner, if equipped.

MX00654,00004CF-19-29SEP21

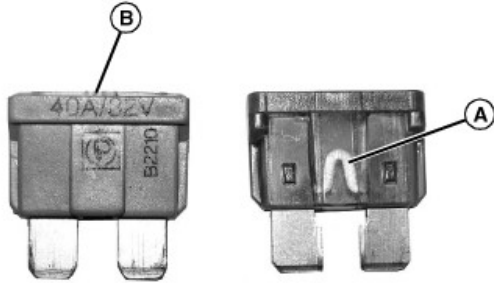
# Service Electrical

## Checking and Replacing Fuses

**IMPORTANT: Avoid damage! If incorrect replacement fuses are used, the electrical system can be damaged. Replace the bad fuse with a fuse of the same amperage rating.**

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

### Checking Fuse Filaments



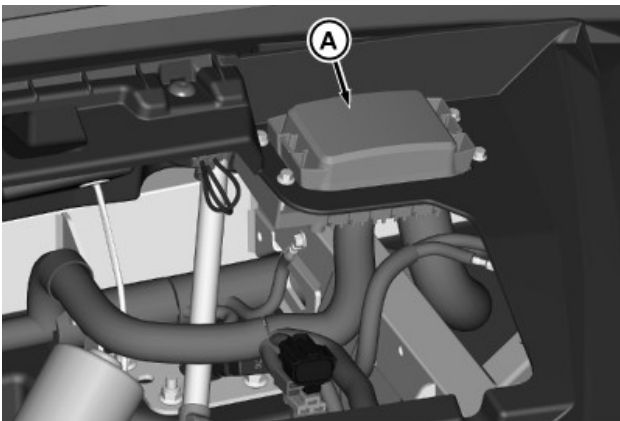
MXAL44294—UN—10APR13

Check visually for broken filament:

- For the clear housing fuses, check filament (A).
- For all other fuses, check filament (B) in top of the fuse housing.

### Load Center Fuses

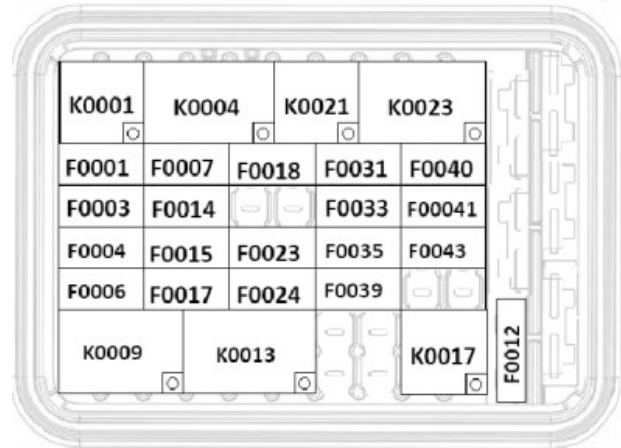
1. Open the hood.



MXT020089—UN—05APR17

2. Remove load center cover (A).
3. Pull fuse from the load center. (Refer to the appropriate Load Center in this section.)
4. Look for a broken filament in the fuse. (See Checking Fuse Filaments in this section.)
5. Push new fuse of the correct amperage rating into correct position in the load center.
6. Install cover and close hood.

## Load Center Fuse Identification—E Series

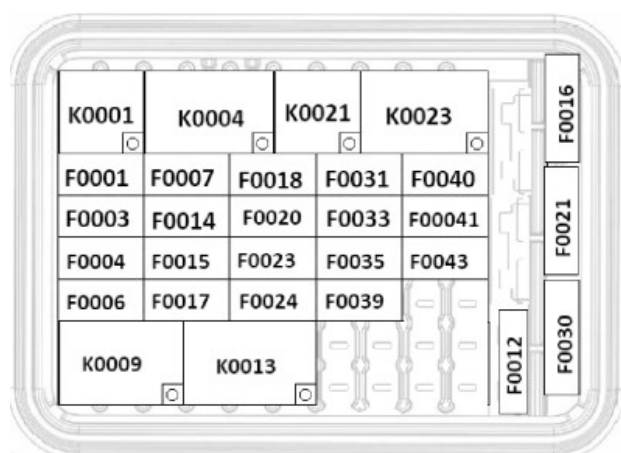


MX101789—UN—28AUG20

Position	Circuit	Fuse Size
<b>MINI FUSES</b>		
F0001	Relayed Key Power	20A
F0003	Work Lights	20A
F0004	Headlights	10A
F0006	Dash Attachment Fuse	20A
F0007	Key Switch Power	20A
F0014	Fuel Pump	25A
F0015	Glow Plug	30A
F0017	Starter	20A
F0018	Dash Power Port	10A
F0023	Flasher Module	15A
F0024	Diagnostic Power	5A
F0031	Brake Light	5A
F0033	Box Lift	10A
F0035	Reverse Lights	5A
F0039	Horn	10A
F0040	MFWD	10A
F0041	Instrument Display	20A
F0043	AMS	10A
<b>ATO FUSES</b>		
F0012	Engine Fan	30A
<b>RELAYS</b>		
K0001	Start	4 Pin
K0004	Fuel Flow Control	5 Pin
K0009	Key Switch	5 Pin
K0013	Engine Fan	5 Pin
K0017	Accessory	4 Pin
K0021	Back-Up	4 Pin
K0023	Glow Plug	5 Pin

# Service Electrical

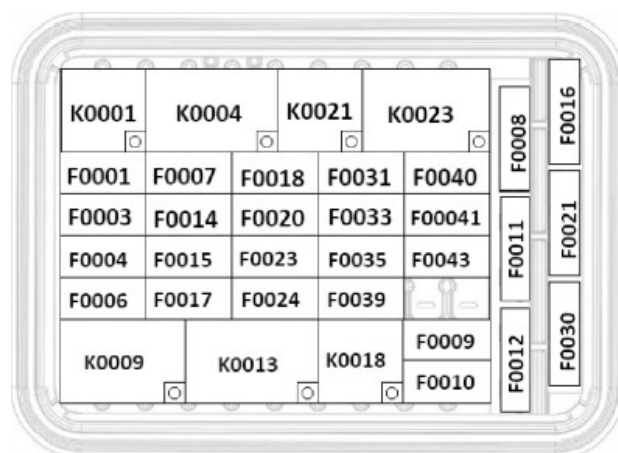
## Load Center Fuse Identification—M Series Without HVAC



MX101790—UN—28AUG20

Position	Circuit	Fuse Size
<b>MINI FUSES</b>		
F0001	Relayed Key Power	20A
F0003	Work Lights	20A
F0004	Headlights	10A
F0006	Dash Attachment Fuse	20A
F0007	Key Switch Power	20A
F0014	Fuel Pump	25A
F0015	Glow Plug	30A
F0017	Starter	20A
F0018	Dash Power Port	10A
F0020	Glove Box Power Port	10A
F0023	Flasher Module	15A
F0024	Diagnostic Power	5A
F0031	Brake Light	10A
F0033	Box Lift	10A
F0035	Reverse Lights	5A
F0039	Horn	10A
F0040	MFWD	10A
F0041	Instrument Display	20A
F0043	AMS	10A
<b>ATO FUSES</b>		
F0012	Engine Fan	30A
F0016	Load Shed	40A
F0021	Front Attachment Power	20A
F0030	Dash Attachment Power	20A
<b>RELAYS</b>		
K0001	Start	4 Pin
K0004	Fuel Flow Control	5 Pin
K0009	Key Switch	5 Pin
K0013	Engine Fan	5 Pin
K0021	Back-Up	4 Pin
K0023	Glow Plug	5 Pin

## Load Center Fuse Identification—R Series and M Series with HVAC



MX101791—UN—28AUG20

Position	Circuit	Fuse Size
<b>MINI FUSES</b>		
F0001	Relayed Key Power	20A
F0003	Work Lights	20A
F0004	Headlights	10A
F0006	Dash Attachment Fuse	20A
F0007	Key Switch Power	20A
F0009	HVAC Controller	10A
F0010	HVAC Compressor	7.5A
F0014	Fuel Pump	25A
F0015	Glow Plug	30A
F0017	Starter	20A
F0018	Dash Power Port	10A
F0020	Glove Box Power Port	10A
F0023	Flasher Module	15A
F0024	Diagnostic Power	5A
F0031	Brake Light	10A
F0033	Box Lift	10A
F0035	Reverse Lights	5A
F0039	Horn	10A
F0040	MFWD	10A
F0041	Instrument Display	20A
F0043	AMS	10A
<b>ATO FUSES</b>		
F0008	HVAC Radiator Fan	30A
F0011	HVAC Blower Motor	25A
F0012	Engine Fan	30A
F0016	Load Shed	40A
F0021	Front Attachment Power	20A
F0030	Dash Attachment Power	20A
<b>RELAYS</b>		
K0001	Start	4 Pin
K0004	Fuel Flow Control	5 Pin
K0009	Key Switch	5 Pin
K0013	Engine Fan	5 Pin
K0018	HVAC Compressor Clutch	4 Pin

## Service Electrical

Position	Circuit	Fuse Size
K0021	Back-Up	4 Pin
K0023	Glow Plug	5 Pin

### Electronic Power Assisted Steering (EPAS) Fuse (M and R Series Models)

1. Open hood.



MX101781—UN—27AUG20

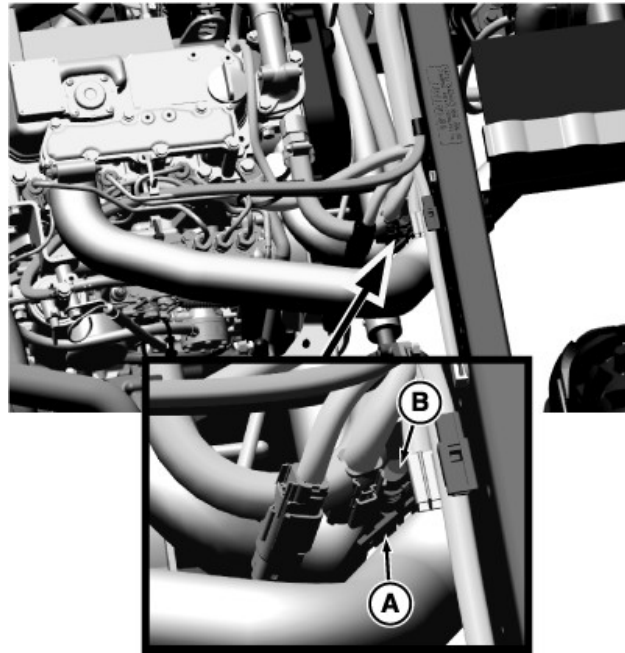
2. Locate fuse holder (A).
3. Lift tab, pull off cover and remove fuse.
4. Look for a broken filament in the fuse. (See Checking Fuse Filaments in this section.)
5. Push new fuse of the correct amperage rating into fuse holder:

Position	Circuit	Fuse Size
—	Electronic Power Assisted Steering (EPAS)	35A

6. Press cover onto fuse holder until tab clicks.
7. Close hood.

### Rear Attachment Fuse

1. Raise and secure the cargo box.



MX102171—UN—09SEP21

2. Locate fuse holder (A) on the right rear frame.
3. Lift tab, pull off cover (B) and remove the fuse.
4. Look for a broken filament in the fuse. (See Checking Fuse Filaments in this section.)
5. Push the new fuse of the correct amperage rating into fuse holder:

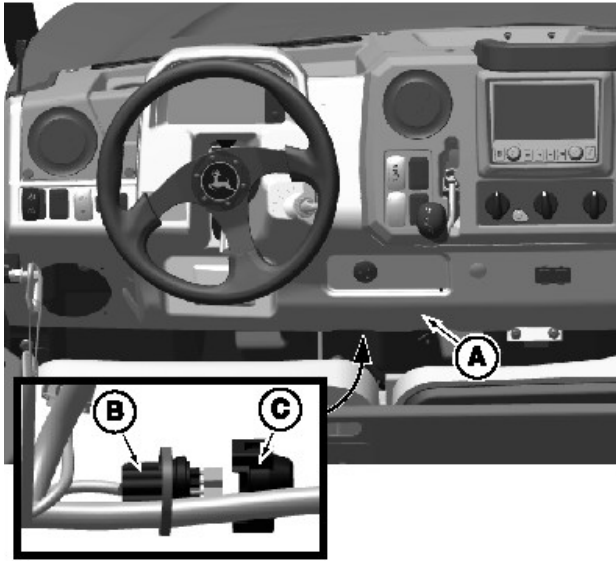
Position	Circuit	Fuse Size
—	Rear Attachment	40 A

6. Press cover onto the fuse holder until it clicks.
7. Lower cargo box.

MX00654,00003B5-19-26OCT21



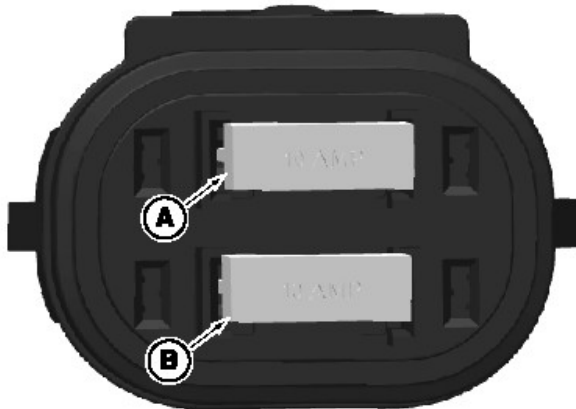
### Checking and Replacing Radio Fuses (If Equipped)



MX102188—UN—29SEP21

1. Reach under console (A) and locate wiring harness and fuse holder (B).
2. Squeeze tabs and remove the cover (C). Remove the fuse.
3. Look for a broken filament in the fuse. (See Checking Fuse Filaments in this section.)
4. Push the new fuse of the correct amperage rating into fuse holder.
5. Install the cover onto the fuse holder.

### Fuse Identification



MX102189—UN—30SEP21

Position	Circuit	Fuse Size
(A)	Battery Power	10A
(B)	Switched Power	10A

MX00654,00004D5-19-09MAR22

## Service Miscellaneous

### Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended.

### Required Fuel Properties

In all cases, the fuel shall meet the following properties:

**Cetane number of 45 minimum.** Cetane number greater than 47 is preferred, especially for temperatures below  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) or elevations above 1675 m (5500 ft).


**Cloud Point** should be below the expected lowest ambient temperature or **Cold Filter Plugging Point** (CFPP) should be a maximum  $10^{\circ}\text{C}$  ( $18^{\circ}\text{F}$ ) below the fuel cloud point.

**Fuel lubricity** should pass a maximum scar diameter of 0.52 mm (0.018 in) as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm (0.020 in) is preferred.

**Diesel fuel quality and sulfur content** must comply with all existing emissions regulations for the area in which the engine operates. DO NOT use diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm).

### E-Diesel fuel

DO NOT use E-Diesel (Diesel fuel and ethanol blend). Use of E-Diesel fuel in any John Deere machine may void the machine warranty.

 **CAUTION: Avoid injury! Avoid severe injury or death due to the fire and explosion risk from using E-Diesel fuel.**

### Sulfur content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV Engines, and Stage V engines

- Use ONLY ultra-low sulfur diesel (ULSD) fuel with a maximum of 15 mg/kg (15 ppm) sulfur content.

### Sulfur Content for Tier 3 and Stage III A Engines greater than 37 kW

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is REQUIRED.

### Sulfur Content for other Engines

- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 2000—5000 mg/kg (2000—5000 ppm) REDUCES the oil and filter change interval. Contact your dealer.

**IMPORTANT: Avoid damage! Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.**

**Improper fuel additive usage may cause damage to fuel injection equipment of diesel engines.**

MK71445,0000080-19-01AUG18

### Biodiesel Fuel

Biodiesel fuel is comprised of monoalkyl esters of long chain fatty acids derived from vegetable oils or animal fats. Biodiesel blends are biodiesel mixed with petroleum diesel fuel on a volume basis.

Before using fuel containing biodiesel, review the Biodiesel Use Requirements and Recommendations in this Operator's Manual.

Environmental laws and regulations can encourage or prohibit the use of biofuels. Operators should consult with appropriate governmental authorities prior to using biofuels.

### Stage V Engines Operating in the European Union

Where the engine is to be operated within the Union on diesel or non-road gas-oil, a fuel with a FAME content not greater than 8% volume/volume (B8) shall be used.

### Engines Except Stage V Engines Operating in the European Union

Biodiesel blends up to B20 can be used ONLY if the biodiesel (100% biodiesel or B100) meets ASTM D6751, EN 14214, or equivalent specification. Expect a 2% reduction in power and a 3% reduction in fuel economy when using B20.

Biodiesel blends above B20 cannot be used.

### Biodiesel Use Requirements and Recommendations

The petroleum diesel portion of all biodiesel blends must meet the requirements of ASTM D975 (US) or EN 590 (EU) commercial standard.

Biodiesel users in the U.S. are strongly encouraged to purchase biodiesel blends from a BQ-9000 Certified Marketer and sourced from a BQ-9000 Accredited Producer (as certified by the National Biodiesel Board). Certified Marketers and Accredited Producers can be found at the following website: <http://www.bq9000.org>.

Biodiesel contains residual ash. Ash levels exceeding the maximums allowed in either ASTM D6751 or EN14214 can result in more rapid ash loading and require more frequent cleaning of the exhaust filter (if present).

The fuel filter can require more frequent replacement when using biodiesel fuel, particularly if switching from diesel. Check engine oil level daily prior to starting engine. A rising oil level can indicate fuel dilution of the

## Service Miscellaneous

engine oil. Biodiesel blends up to B20 must be used within 90 days of the date of biodiesel manufacture.

When using biodiesel blends up to B20, the following must be considered:

- Cold-weather flow degradation
- Stability and storage issues (moisture absorption, microbial growth)
- Possible filter restriction and plugging (usually a problem when first switching to biodiesel on used engines)
- Possible fuel leakage through seals and hoses (primarily an issue with older engines)
- Possible reduction of service life of engine components

Request a certificate of analysis from your fuel distributor to ensure that the fuel is compliant with the specifications provided in this Operator's Manual.

Consult your John Deere dealer for John Deere fuel products to improve storage and performance with biodiesel fuels.

MK71445,0000081-19-01AUG18

### Filling Fuel Tank

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

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

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

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

1. Park machine safely. (See Parking Safely in the Safety section.)
2. Allow engine to cool.
3. Remove any debris 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.

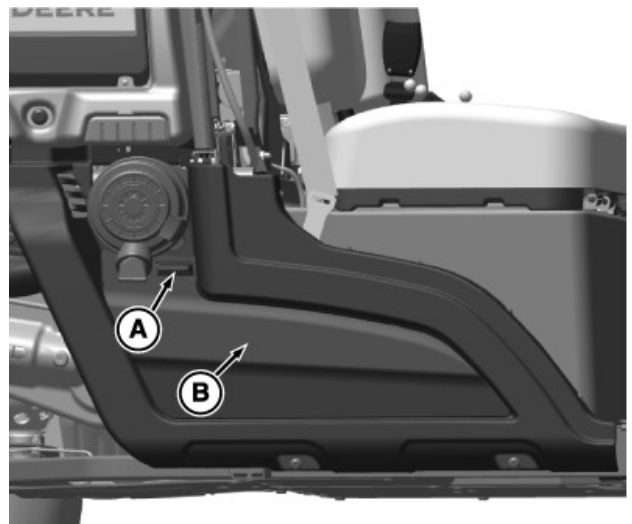
*NOTE: On some models, the fuel tank cap will click when it is tight.*

6. Install fuel tank cap and turn cap until it is tight.

MP47322,00F4675-19-24AUG21

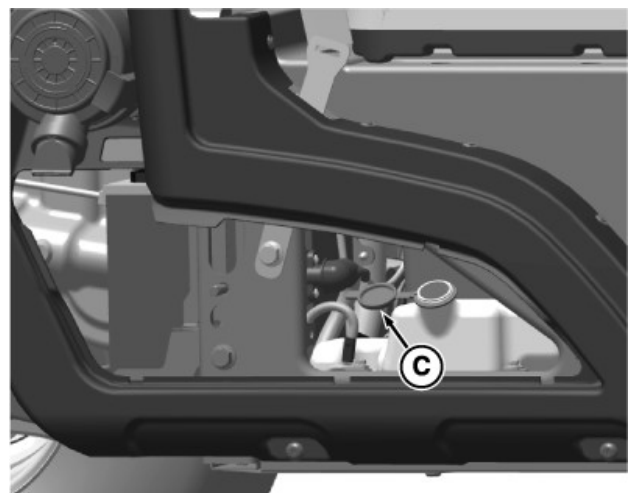
### Filling Windshield Washer Fluid

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



MX101941—UN—11MAR21

2. Push down tab (A) and remove access panel (B).



MX101943—UN—11MAR21

3. Open cap (C).
4. Fill tank.
5. Install cap.

## Service Miscellaneous

6. Install access panel.

MX00654,0000479-19-08APR21

### Lifting Machine

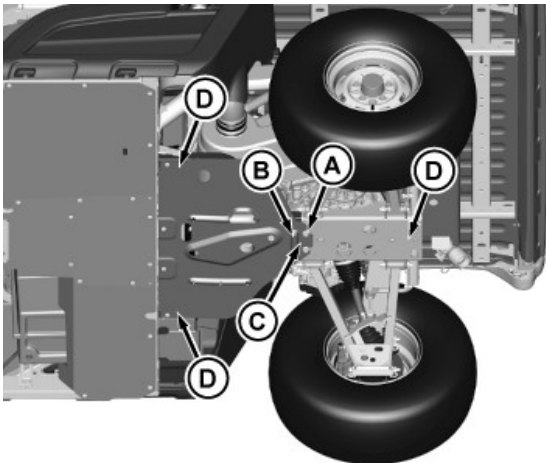
1. Park machine safely. (See Parking Safely in the Safety section.)

**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.
- Be certain to include bolt heads (A) and embossed area (B) inside the jack cup to prevent the machine from slipping.
- Remove all attachments before lifting machine.

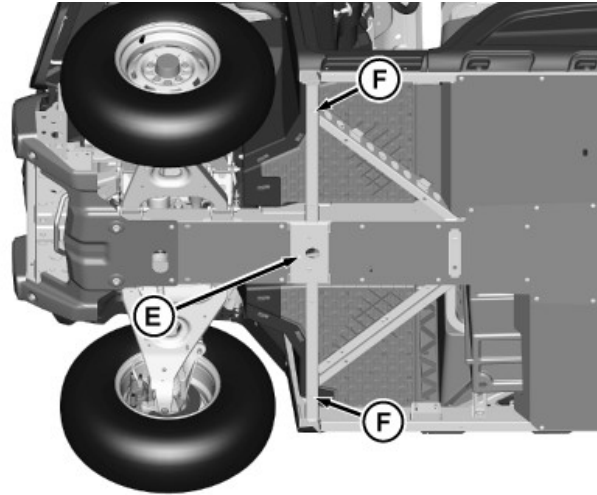
**IMPORTANT:** Avoid damage! Place jack stands under frame, not under transmission or engine, when raising or supporting machine.

*NOTE: Your machine model may not be shown, but jack locations are the same.*



MXT020830—UN—09SEP17

2. Safely lift the rear of the machine at the frame point (C).
3. Place jack stands or other stable supports under three frame locations (D).
4. If only lifting rear of machine, block front wheels.



MXT019902—UN—27FEB17

5. Safely lift the front of the machine at the frame point (E) or locations (F). Place jack stands or other stable supports under two machine frame locations (F).
6. If only lifting front of machine, block rear wheels.
7. Remove jack stands or supports and lower machine when the service is complete.

OUMX068,0001247-19-24AUG21

### Removing and Installing Wheel Assembly

#### Removing

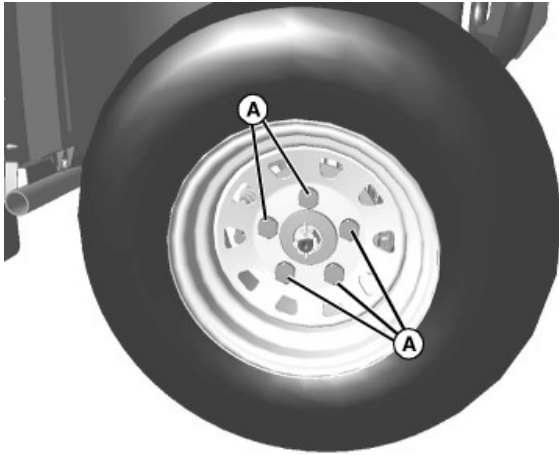
1. Park machine safely. (See Parking Safely in the Safety section.)

**CAUTION:** Avoid injury! The machine can fall or slip from an unsafe lifting device or supports. (See Lifting Machine in this section).

2. Raise the machine with a safe lifting device. (See Lifting Machine in this section).

*NOTE: If equipped with steel wheels, cap will come off after the wheel assembly. If equipped with alloy wheels, cap snaps off before removing wheel assembly. Squeeze cap to remove it.*

## Service Miscellaneous



MXAL44281—UN—10APR13

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

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

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

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

### Installing

1. Install wheel assembly with the valve stem to the outside.
2. Tighten wheel bolts evenly by alternating the sequence until snug.
3. Lower machine completely to the ground.

**IMPORTANT:** Avoid damage! Tighten wheel bolts again after 8 hours of vehicle use.

4. Tighten wheel bolts to:

#### Specification

Steel wheel assembly—Torque. . . . . 108 N·m (80 lb·ft)  
Alloy wheel assembly—Torque. . . . . 142 N·m (105 lb·ft)

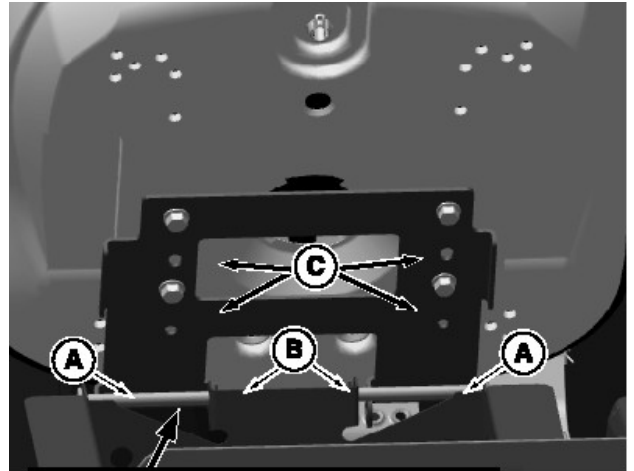
MP47322,00F489A-19-24AUG21

## Removing and Installing Seats

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

### Removing and Installing Operator Seat

1. Tip seat forward.



MX102248—UN—31MAR22

2. Remove spring locking pins (B) and drilled pins (A).
3. Remove the seat from brackets.
4. Installation is the reverse of removal.

### Removing Seat from Bracket

1. Remove bolts (C).
2. Remove the seat from the bracket.
3. Installation is the reverse of removal.
4. Tighten seat bracket bolts to:

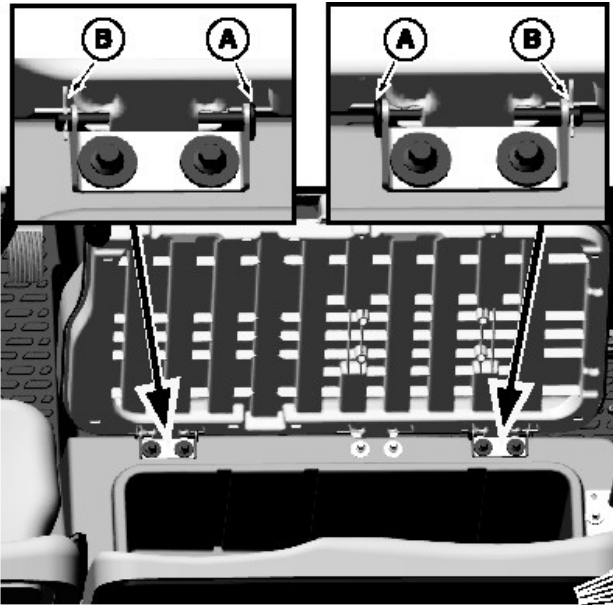
#### Specification

Seat Bracket Bolts—Torque. . . . . 10 N·m (7.4 lb·ft)

### Removing and Installing Passenger Seat

1. Tip seat forward.

## Service Miscellaneous



MX102179—UN—29SEP21

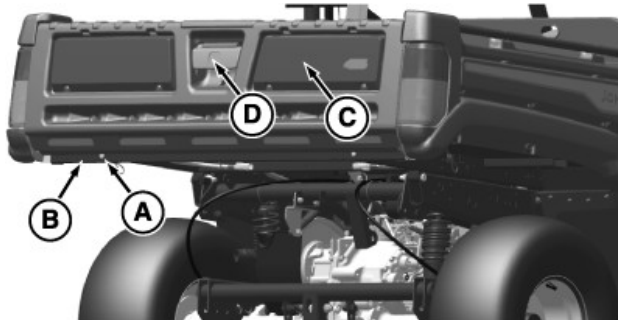
2. Remove spring locking pins (A) and pins (B).
3. Remove the seat from brackets.
4. Installation is the reverse of removal.

MX00654,0000539-19-31MAR22

### Removing and Installing Tailgate

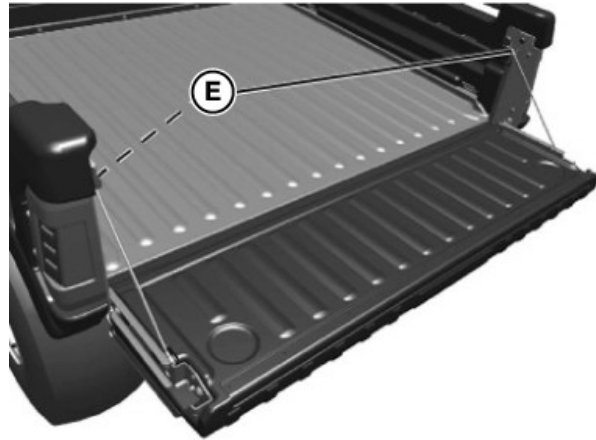
*NOTE: Your machine model may not be shown, but procedure is the same.*

#### Removing the Tailgate



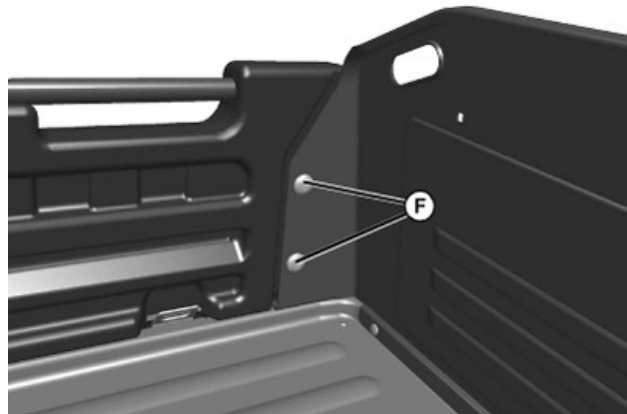
MX101740—UN—14AUG20

1. Loosen bolt (A) on the rear floor panel (B).
2. Pull back on handle (D), unlock and lower tailgate (C).



MX101741—UN—14AUG20

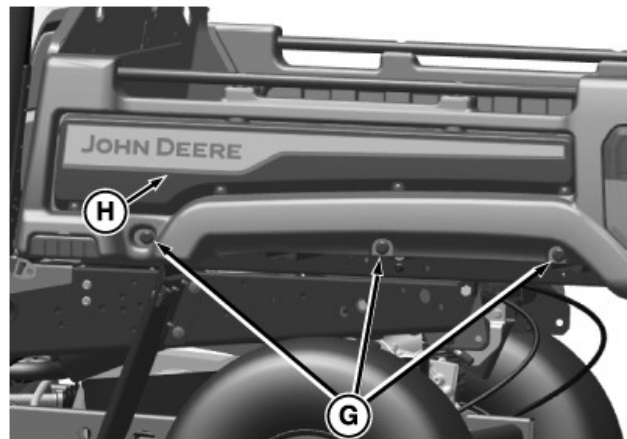
3. Loosen loop (E) on top of each lanyard, disconnect from studs on the cargo box side, and lower tailgate fully downward.



MXAL44177—UN—10APR13

4. Remove two bolts (F) inside the cargo box.

*NOTE: Only remove bolts from the box clip nuts, keep tie-down, and push nut assembled to panel.*



MX101734—UN—14AUG20

5. Remove three bolts (G) in the left side panel (H) from clip nuts.

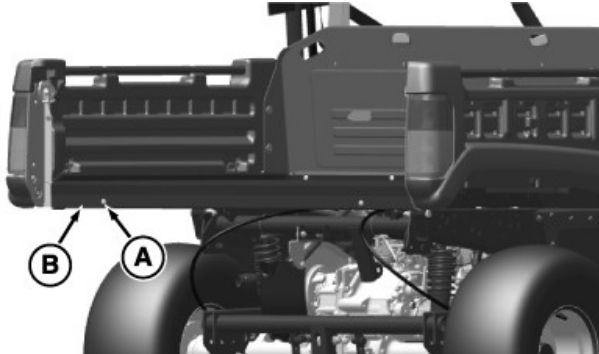
## Service Miscellaneous

**IMPORTANT:** Avoid damage! Support the tailgate or bushing damage can occur.

6. Move side panel slightly outward and remove tailgate.

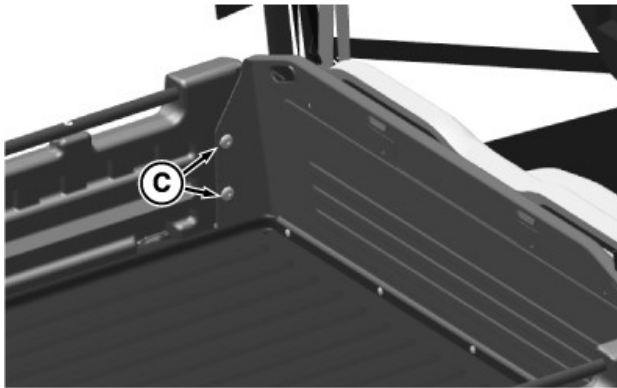
*NOTE: If machine is used without the tailgate, be sure to reinstall and tighten all loose hardware for the left side panel before operating.*

### Installing the Tailgate



MX101757—UN—18AUG20

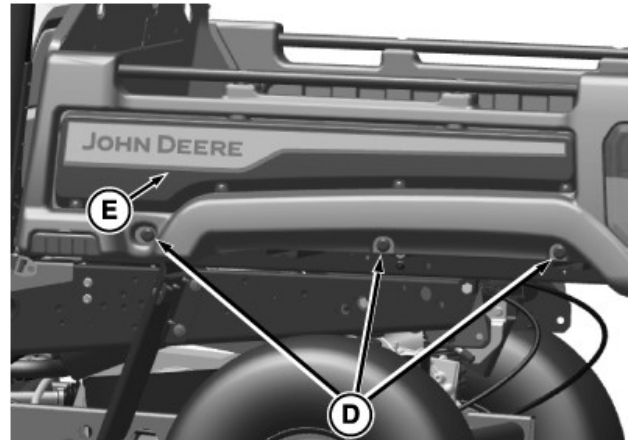
1. Loosen bolt (A) on the rear floor panel (B).



MX101758—UN—14AUG20

2. Remove two bolts (C) inside the cargo box.

*NOTE: Only remove bolts from the box clip nuts, keep tie-down, and push nut assembled to panel.*

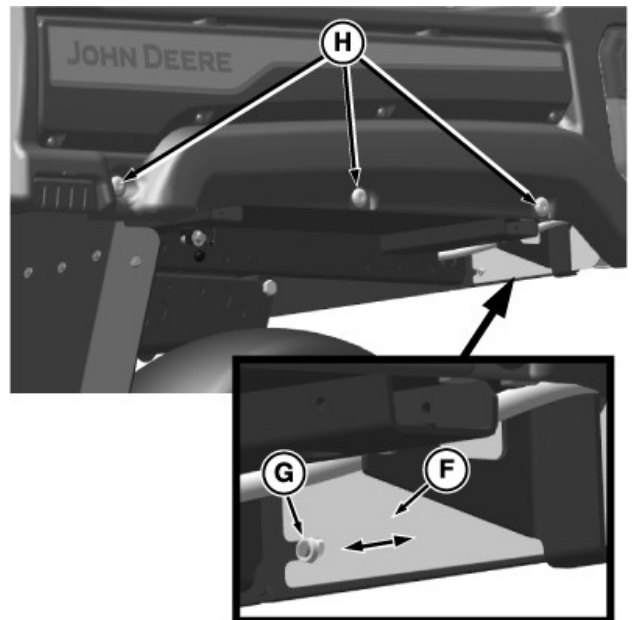


MX101759—UN—14AUG20

3. Remove three bolts (D) in the left side panel (E) from clip nuts.

**IMPORTANT:** Avoid damage! Support the tailgate or bushing damage can occur.

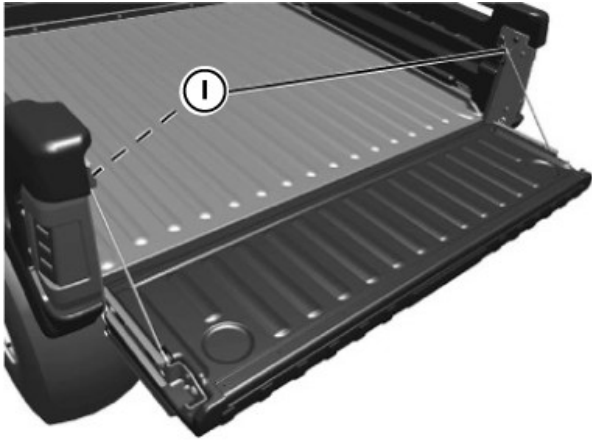
4. Move side panel slightly outward and install tailgate.



MX101760—UN—18AUG20

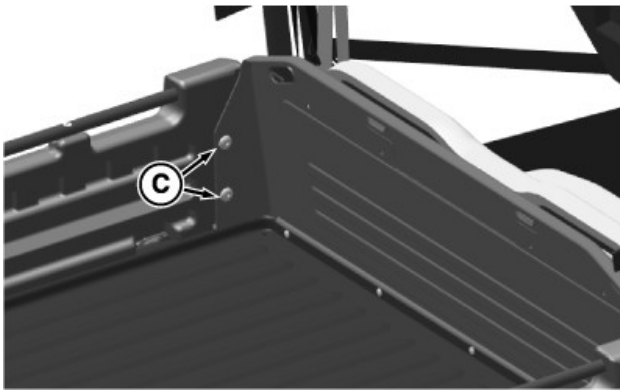
5. Move side panel back inward. Be sure bracket (F) is under nut (G).

## Service Miscellaneous



MX101761—UN—18AUG20

6. Install loop (I) on top of each lanyard onto studs on the cargo box sides.
7. Attempt to close and latch the tailgate. If necessary, adjust side panel inward or outward until tailgate latches.
8. Install and tighten three panel bolts (H).

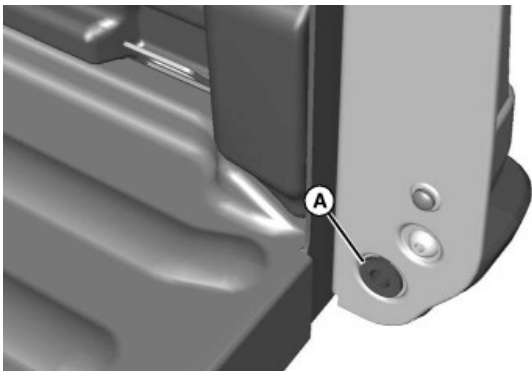


MX101758—UN—14AUG20

9. Install two bolts (C) inside the cargo box.
10. Tighten nut (G).

MX00654,0000386-19-16APR21

### Replacing Cargo Box Tailgate Bushings



MXAL44295—UN—10APR13

1. Remove the cargo box tailgate. (See Removing the Tailgate in this section).

2. Remove bushing (A) from both sides of cargo box.
3. Replace bushings and reinstall the tailgate.

MX00654,000038A-19-18AUG20

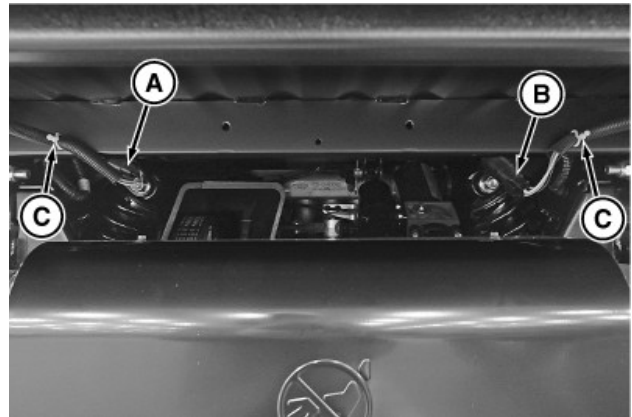
### Converting Cargo Box to Flatbed

#### Cargo Box to a Flatbed

*NOTE: The machine shown can differ slightly from your machine, but conversion is similar.*

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

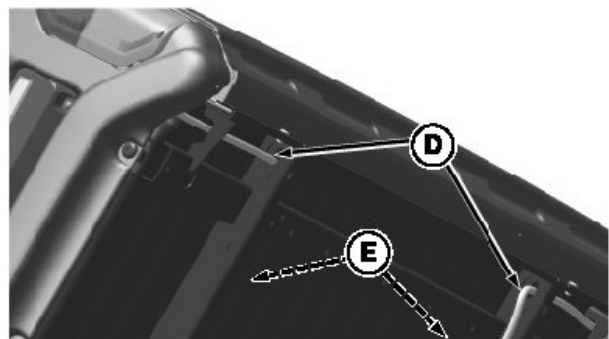
*NOTE: Perform steps 2-4 on units equipped with taillights.*



MX100723—UN—02MAY19

2. Disconnect the left taillight harness (A) and the right taillight harness (B). Remove both harnesses from clips (C).

*NOTE: Some clamps may be secured with a screw.*



MX102249—UN—31MAR22

3. Remove clamps (E) holding harness to the frame rail.
4. Pull the loose wire harness (D) out, routing it through the frame openings as required.
5. Remove the tailgate. (See Removing and Installing Tailgate in the Service Miscellaneous section.)
6. Remove the left side panel and store in a safe place.



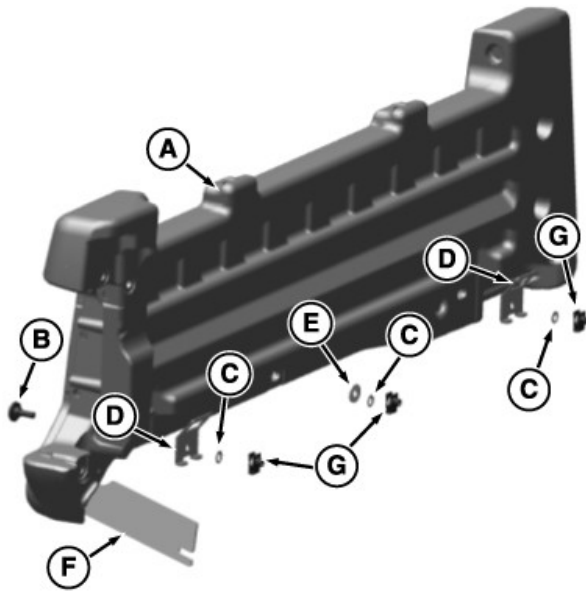
## Service Miscellaneous

7. Repeat appropriate steps and remove the right side panel.

### Flatbed to a Cargo Box

**NOTE:** The machine shown can differ slightly from your machine, but conversion is similar.

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

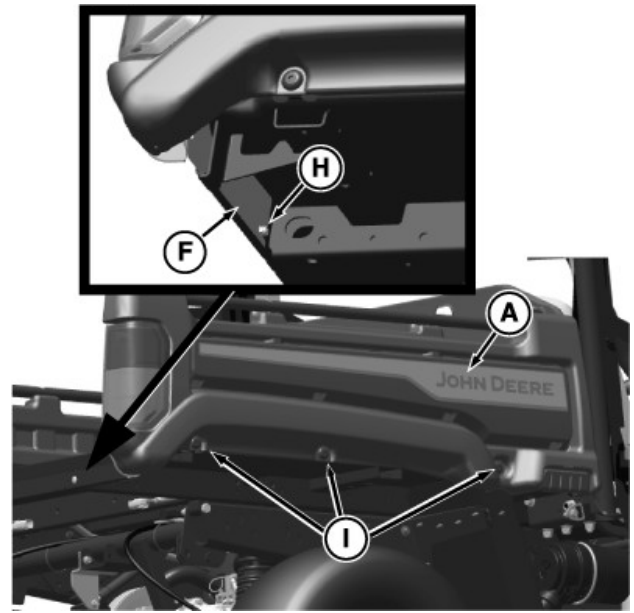


MX101745—UN—18AUG20

Left Side Panel Shown

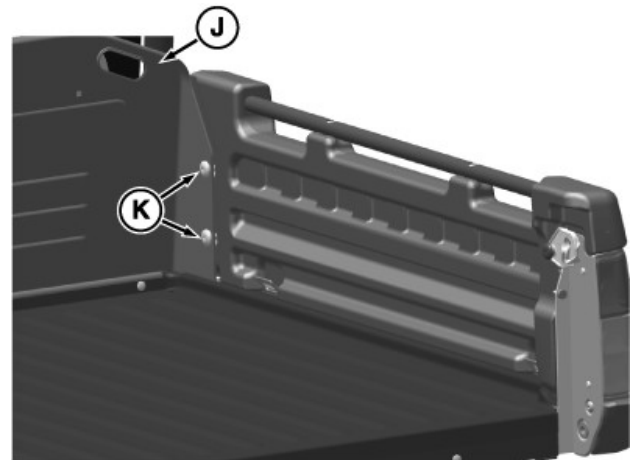
- A—Side Panel
- B—Screw, Socket Head (Qty 3 per panel)
- C—Push Nut (Qty 3 per panel)
- D—Anchor Bracket (Qty 2 per panel)
- E—Spacer, 2 mm thick (Qty 1 per panel)
- F—Support Bracket
- G—Box Bed Clip nuts (if removed) (Qty 3 per side)

2. Verify that each side panel (A) has the correct hardware installed before installation.



MX101754—UN—14AUG20

3. Loosen the nut (H).
4. Insert slot in the support bracket (F) into the frame channel and behind nut (H).
5. Secure side panel (A) with three bolts (I).



MX101755—UN—14AUG20

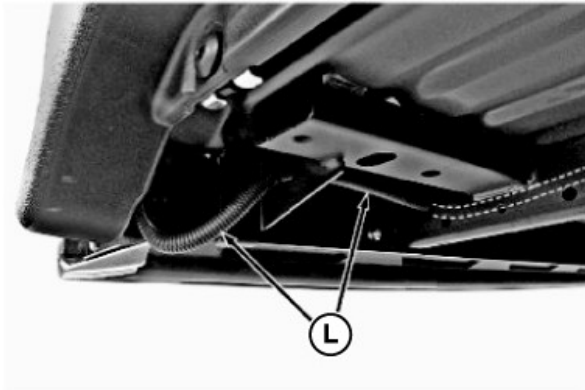
6. Secure side panel to the load guard (J) with two bolts (K).
7. Tighten the nut (H).

**NOTE:** When installing the tailgate, only repeat necessary steps as the side panel is already removed.

8. Install the tailgate. (See Removing and Installing Tailgate in the Service Miscellaneous section.)

**NOTE:** Perform the following steps on units equipped with taillights.

## Service Miscellaneous

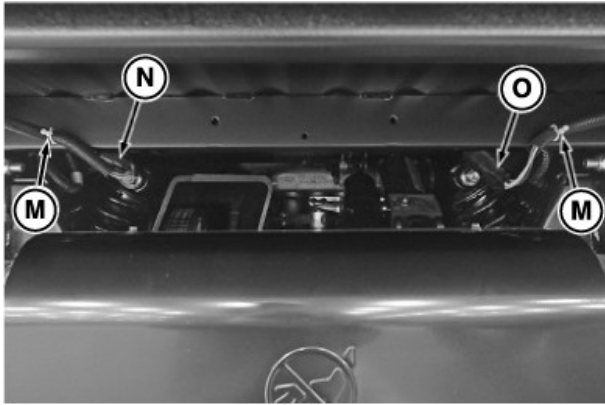


MX101742—UN—18AUG20

9. Route the loose wire harness (L) through the frame openings as required.

*NOTE: Some clamps may be secured with a screw.*

10. Run harness along frame rails and secure with clamps removed earlier.



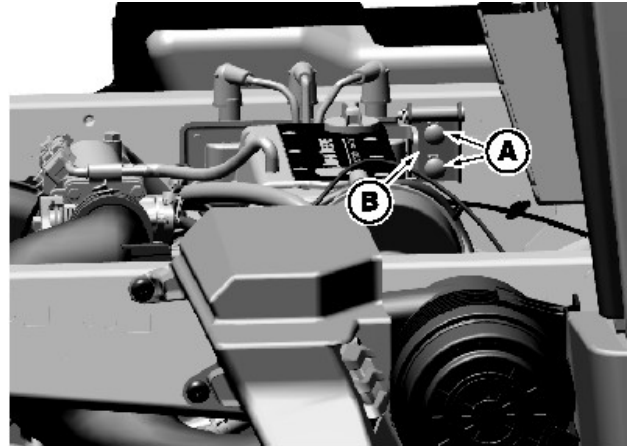
MX101756—UN—18AUG20

11. Connect the left taillight harness (N) and the right taillight harness (O). Secure each wire harness with clamps (M).

MX00654,0000387-19-01APR22

### Adjusting Cargo Box Latch Bracket (Manual Lift Models)

1. Park the machine safely. (See Parking Safely in the Safety section.)
2. Raise and secure the cargo box with support.



MX102186—UN—29SEP21

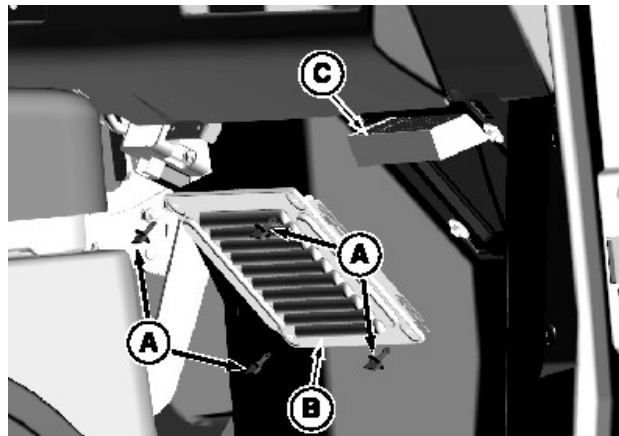
*Model shown may be different but procedure is the same.*

3. Loosen nuts on bracket bolts (A).
4. Slide bracket (B) down or up as needed and tighten nuts.
5. Lower cargo box.

MX00654,00004D3-19-21JUN22

### Replacing Cab Air Filter (HVAC Models)

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



MX102247—UN—30MAR22

2. Rotate four knobs (A) 1/4 turn and remove the filter cover (B).
3. Remove and inspect the filter (C). Replace as necessary.
4. Install the new filter. Make sure that the arrows on the filter point up.
5. Install the filter cover.

OUMX068,0001246-19-31MAR22

## Service Miscellaneous

### Inspecting and Cleaning Seat Belts



MXT019907—UN—28FEB17

**IMPORTANT: Avoid damage! Do not bleach or dye webbing. Webbing could become severely weakened by this process. Do not use a pressure washer or other automatic washing machine to clean belt or connectors.**

- Hand wash webbing (A) with warm water and mild soap. Rinse thoroughly and air dry.
- Inspect seat belt connectors (B) and buckles (C) for damage or wear. If assembly does not operate properly or if the webbing is torn or frayed, the seat belt must be replaced.

OUMX068,000124A-19-01APR22

### Inspecting and Cleaning Nets or Doors

#### Inspect Nets or Doors

- Check for loose hardware.
- Look for material damage, such as cuts, fraying, extreme or unusual wear, or abrasion.
- Replace only with John Deere approved replacement parts.

#### Cleaning Nets or Doors

- Keep nets, doors, and supporting components clean.

- If needed hand wash with garden hose and mild soap.
- Latch and unlatch the metal tab of the net from buckle during washing for a better cleaning. Allow to dry before use.
- Extended machine operation under harsh conditions can require more frequent inspection and cleaning.

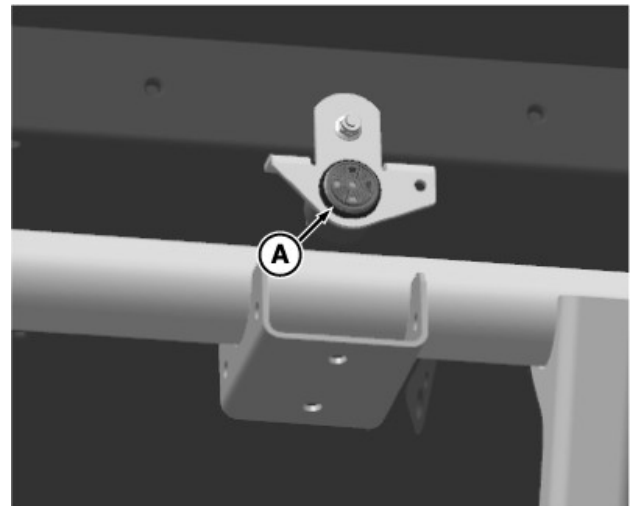
OUMX068,00002E5-19-19APR21

### Cleaning Back-Up Alarm (If Equipped)

Buildup of debris must be removed to ensure proper alarm function. Frequency of these inspections and cleaning varies depending on a number of factors including operating conditions, machine configuration, operating speeds, and weather conditions.

Always park the machine safely, before carrying out any inspection or cleaning.

*NOTE: Back-up alarm can be found on the back of your vehicle. Vehicle shown could be different, but back-up alarm appearance and function are the same on all vehicles.*



MX101718—UN—09JUN21

Be sure to keep the back-up alarm (A) and surrounding area clean and free of debris and mud.

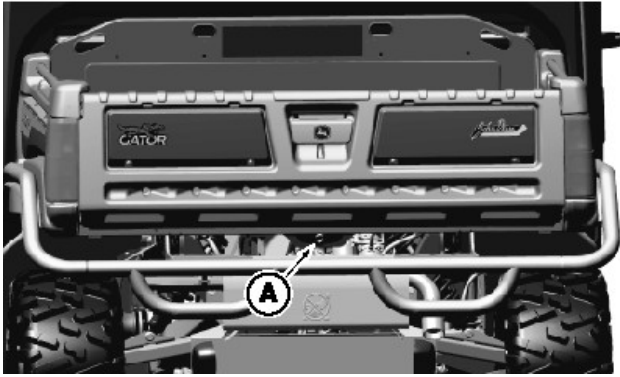
MX00654,0000375-19-28JUN21

### Cleaning Rear Facing Camera (If Equipped)

Buildup of debris must be removed to ensure proper camera function. Frequency of these inspections and cleaning varies depending on a number of factors including operating conditions, machine configuration, operating speeds, and weather conditions.

Always park the machine safely, before carrying out any inspection or cleaning.

## Service Miscellaneous



MX102187—UN—29SEP21

Be sure to keep the camera (A) and surrounding area clean and free of debris and mud.

MX00654,00004D4-19-09MAR22

### Cleaning Vehicle Surfaces

#### Cleaning:

Keeping your vehicle clean maintains its appearance and can also extend the life of various components. Immediately after your vehicle has been exposed to salt water or operated on muddy trails, rough terrain, or in dusty conditions, wash your vehicle. With some precautions, your vehicle can be cleaned much like a sport utility vehicle.

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

- Do not wipe plastic surfaces when they are dry. Dry wiping results in minor surface scratches.
- Use a soft, clean cloth (microfiber towel or automotive wash mitt).
- Do not use abrasive materials, such as polishing compounds, on plastic surfaces.
- Apply only a liquid automotive wax to gloss plastic surfaces of the vehicle. Do not apply wax of any type to any other plastic surfaces of the vehicle. The wax leaves a residue on the surface that is difficult to remove.

#### Washing Vehicle:

The recommended and safest way to clean your vehicle is with a garden hose and a mild automotive soap. Use a soft clean cloth. Clean the upper body first and the lower parts last. To prevent water spotting, avoid washing the vehicle in direct sunlight and dry the vehicle using a soft, clean cloth.

1. Rinse the entire machine with clean water to remove dirt and dust from the vehicle.

**IMPORTANT: Avoid damage! High-pressure water spray may damage vehicle components. It is recommended to wash your vehicle by hand using a garden hose and mild automotive soap.**

**Avoid spraying water with any great force near or into the following places:**

- Air outlet on clutch enclosure
- Air intake
- Electrical connections (including battery compartment)
- CV boots
- Wheel bearings
- Master cylinder
- Pillow block bearings
- Radiator
- Warning labels
- Decals
- Ignition switch
- Operator station control panel
- Instrument display
- Breather/tube vents

2. Using a soft clean cloth apply soap onto wet surface making sure to rinse the cloth often during the washing process.

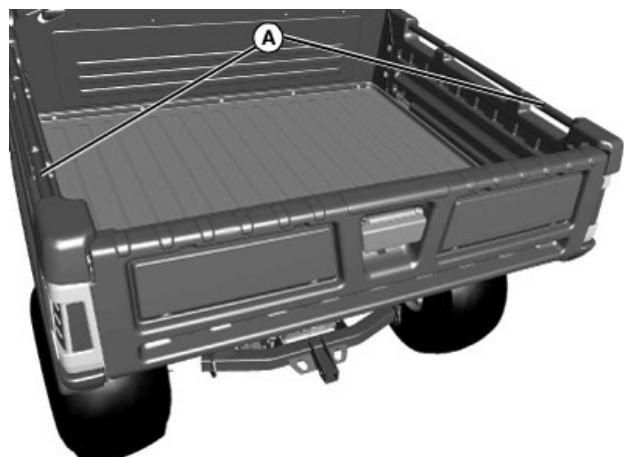
If dirt is embedded into the textured plastic surfaces of doors, roof or cargo box, a soft bristle brush can be used to help clean the surface.

3. Rinse the surface with water to remove the soap residue.
4. Dry the surface with a soft clean cloth.

OUC2005,0000708-19-13AUG20

### Cleaning and Repairing Cargo Box

#### Repairing Accessory Tubes



MXAL47748—UN—16APR13

## Service Miscellaneous

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Use 3M® Scotch-Brite® pad to polish and smooth nicks, scrapes or scratches in the vinyl surface of the tubes (A).

### Cargo Box Floor

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

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OUO1023,0000ABE-19-19APR13

## Cleaning Gloss Plastic Surfaces

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

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

1. Rinse with clean water to remove dirt and dust from surface.
2. Using a soft clean cloth apply soap and water onto wet surface. Make sure to rinse out the cloth often during the washing process.
3. Rinse surface with water to remove soap residue.
4. Dry the surface with a clean microfiber cloth to reduce water spotting.
5. If desired apply liquid automotive wax to the hood and front fenders of the vehicle.

**IMPORTANT: Avoid damage! Do not use a power buffer to remove wax.**

6. Remove applied wax by hand using a soft clean cloth.

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OUO2005,0000709-19-24AUG21

## Cleaning and Repairing Metal Surfaces

### Cleaning:

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

### Repairing Minor Scratches (surface scratch):

1. Clean area to be repaired thoroughly.

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

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

### Repairing Deep Scratches (bare metal or primer showing):

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

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MP47322,00F467A-19-20SEP21

# Troubleshooting

## Using Troubleshooting Chart

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

MP47322,00F467B-19-13NOV18

## Engine

IF	CHECK
Engine will not start	Wrong Engine oil viscosity. Battery has low voltage. Loose or corroded battery connections. Blown fuse(s). Cold start system not being used, or malfunctioning. Stale fuel/improper fuel/low fuel level. Dirty or Faulty Fuel Injectors. Fuel shut-off valve turned off. No fuel or improper fuel. Plugged fuel filter. Defective starter solenoid. Open-circuit in wiring.
Engine is hard to start	Check glow plug fuse. Engine is cold. Plugged fuel filter. Engine oil viscosity too heavy. Cold start system not being used, or malfunctioning. Dirty or Faulty Fuel Injectors. Loose or corroded electrical connections. Stale or improper fuel. Blown fuse.
Engine misses under load	Stale or dirty fuel. Plugged fuel filter.
Engine vapor locks	Fuel tank vent plugged. Dirt in fuel filter.
Engine runs unevenly	Loose electrical connections. Improper fuel. Stale or dirty fuel. Fuel line or fuel filter plugged. Dirty or faulty fuel injectors. Plugged air intake system.
Engine overheats	Air cleaner element missing or plugged. Defective radiator cap. Engine oil low. Engine operated too long at slow engine speed. Bleed cooling system. Check cooling fan switch. Check thermostat. Check water pump. Clean radiator screens. Check coolant level.
Engine loses power	Engine overheating. Too much oil in engine. Fuel supply being restricted. Fuel filter plugged. Fuel line pinched or kinked. Improper fuel. Air cleaner element plugged. Injection pump out of time. Dirty or faulty fuel injectors. Improper valve clearance.
Engine knocks	Low engine speed. Stale fuel. Engine overloaded. Excessively early timing of fuel injection pump.

MX00654,000011A-19-06SEP13

# Troubleshooting

## Electrical

IF	CHECK
Starter does not work	Loose or corroded connections. 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. Loose or corroded connections. Sulfated or worn out battery.
Dead battery	Shorted starter solenoid. Ignition key switch not turned to STOP position. 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. 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 display.	Faulty wiring. Faulty switch or sensor. Wrong software configuration or software update needed.
Battery will not take a charge	Dead cell in battery. Loose or corroded connections. Sulfated or worn out battery. Electrolyte level low. Low engine speed or excessive idling. Faulty charging system.
Headlights dim or flicker	Current draw higher than charging system output. (If installed, Electric Power Assist Steering will draw current.)
Power reduction or cut off to equipment or attachments.	This may be part of load shedding function. (See Load Shedding in the Operating Section.)
Cannot shift out of park	Dead battery. Defective solenoid.

MX00654,00003A9-19-30MAR22

## Brakes

IF	CHECK
Brakes not working correctly	Brake fluid level low - check fluid level. Air in brake system, system not bled properly. Replace worn brake pads. (See your John Deere dealer.)

JG81906,0000757-19-10AUG20

## Cargo Box

IF	CHECK
Tailgate doesn't latch properly	Bushings worn/damaged - inspect bushings. Strikers not connecting - inspect and lubricate strikers.
Power lift doesn't 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

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MP47322,00F48AE-19-11APR13

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## Steering

IF	CHECK
Steering effort feels "heavy"	Current battery draw higher than charging system output amperage. (If installed, Electric Power Assist Steering will draw current.) Turn off optional equipment. Tire pressure or tread below recommended levels. Toe-in may need adjustment. Electric Power Assist Steering (EPAS) malfunction.

MP47322,00F48AF-19-30AUG18

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# Storage

## Storing Safety

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

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

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

MP47322,00F4680-19-06MAY15

## 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.

MX00654,00000C8-19-24AUG13

## Preparing Fuel and Engine For Storage

### Fuel:

If you have been using "Stabilized Fuel," add stabilized fuel to the 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 an ignition key switch, turn the ignition key switch to the OFF position.

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

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

4. Mix fresh fuel and fuel stabilizer in a 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 the fuel system.

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

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

10. Charge the battery.

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

## Storage

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

MP47322,00F4682-19-20APR21

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### Removing Machine From Storage

1. Check tire pressure.
2. Check engine oil level.
3. Check battery electrolyte level, if your battery is not maintenance free. Charge battery as necessary.
4. Install battery.
5. On gas engines: Check spark plug gap. Install and tighten plugs to specified torque.
6. Lubricate all grease points.
7. Open fuel shut-off valve, if your machine is equipped.
8. Run the engine for 5 minutes to allow oil to be distributed throughout engine.
9. Be sure all shields and guards or deflectors are in place.

SB31882,0000290-19-09AUG18

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# Specifications

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## Engine

Make . . . . . Yanmar 3TNV70  
Type . . . . . Diesel  
Displacement. . . . . 854 cc  
Cylinders. . . . . 3  
Oil Filter . . . . . Spin On Filter  
Air Cleaner . . . . . Dual Element, Replaceable  
Cooling . . . . . Liquid

OUMX068,0000D1E-19-31JUL15

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## Drive Train and Travel Speeds

Type . . . . . Continuously Variable Transmission (CVT) with Clutch Enclosure  
Gear Ranges. . . . . Forward, High and Low - Neutral - Reverse - Park  
Travel Speeds:  
Forward H (High). . . . . 45 km/h (28 mph)  
Forward L (Low) . . . . . 26 km/h (16 mph)  
Reverse . . . . . 30 km/h (19 mph)  
*NOTE: Speed may vary based on operating conditions and vehicle configuration.*

MX00654,00003B6-19-28AUG20

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## Electrical System

Type . . . . . 12 Volt  
Battery Size. . . . . 480 Cold Cranking Amps @ -18° C (0° F)  
Alternator . . . . . 55 Amp

MX00654,000011D-19-06SEP13

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## Fuel System

Fuel Filter . . . . . Replaceable Element  
Fuel . . . . . Diesel

MX00654,000011E-19-06SEP13

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## Steering and Brakes

Steering . . . . . Rack and Pinion  
Brakes . . . . . Hydraulic Disc

OUMX068,000099C-19-09SEP14

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# Specifications

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## Tires

*All tires can carry permissible axle loads.*

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

### Front Tires

Terra Hawk All Terrain Tires . . . . .	25x9-12
Front Axle Load < 621 kg (1370 lb) . . . . .	97 kPa (14 psi)
Front Axle Load 621 - 764 kg (1370 - 1685 lb) . . . . .	138 kPa (20 psi)
Maxxis Bighorn 2.0 Extreme Terrain Radial Tires . . . . .	27x9-R14
Predator Heavy Duty All Terrain Radial Tires . . . . .	27x9-R14
Front Axle Load < 687 kg (1515 lb) . . . . .	97 kPa (14 psi)
Front Axle Load 687 - 839 kg (1515 - 1850 lb) . . . . .	138 kPa (20 psi)

### Rear Tires

Terra Hawk All Terrain Tires . . . . .	25x11-12
Rear Axle Load < 746 kg (1645 lb) . . . . .	97 kPa (14 psi)
Rear Axle Load 746 - 1064 kg (1645 - 2347 lb) . . . . .	179 kPa (26 psi)
Maxxis Bighorn 2.0 Extreme Terrain Radial Tires . . . . .	27x11-R14
Predator Heavy Duty All Terrain Radial Tires . . . . .	27x11-R14
Rear Axle Load < 843 kg (1860 lb) . . . . .	97 kPa (14 psi)
Rear Axle Load 843 - 1064 kg (1860 - 2347 lb) . . . . .	152 kPa (22 psi)

MX00654,0000482-19-24AUG21

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## Capacities

### Fluid

Fuel Tank . . . . .	42.4 L (11.2 gal)
Crankcase (with filter) . . . . .	1.7 L (1.8 qt)
4WD Front Differential . . . . .	0.66 L (22.3 oz)
Transmission . . . . .	4.1 L (4.3 qt)
Cooling System (including recovery tank) . . . . .	4.9 L (5.2 qt)
Brake . . . . .	364 mL (12.3 oz)
Park Brake . . . . .	50 mL (1.7 oz)

### Weight

Maximum Towed Load in Low Range (Maximum Slope 15 degrees) . . . . .	1814 kg (4000 lb)
Maximum Towed Load in High Range (Maximum Slope 15 degrees) . . . . .	907 kg (2000 lb)
Maximum Tongue Load at Hitch . . . . .	181 kg (400 lb)
Payload Capacity XUV865E . . . . .	680 kg (1498 lb)
Payload Capacity XUV865M . . . . .	665 kg (1467 lb)
Payload Capacity XUV865M w/ cab, HVAC . . . . .	507 kg (1118 lb)
Payload Capacity XUV865R . . . . .	484 kg (1068 lb)
Cargo Box Capacity (Not to exceed GVWR) . . . . .	454 kg (1000 lb)

MX00654,000052C-19-04APR22

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# Specifications

## Fluorinated Greenhouse Gas

Air Conditioner System contains Fluorinated Greenhouse Gas (F-Gas)	
Type of F-Gas:	R-134a
F-Gas Mass (kg):	0.68 kg (1.5 lb)
CO <sub>2</sub> Equivalent (tonnes):	1.56 t
Global Warming Potential (GWP):	1430

SB31882,00000C6-19-13MAY19

## Dimensions

Width (overall without cab) . . . . .	1.62 m (63.7 in)
Width (overall with cab) . . . . .	1.76 m (69.4 in)
Length (without bumper) . . . . .	3.23 m (127.1 in)
Length (with bumper) . . . . .	3.36 m (132.2 in)
Height (with Protective Structure) . . . . .	1.98 m (78 in)
Height (with Roof) . . . . .	1.99 m (78.25 in)
Ground Clearance . . . . .	28.4 cm (11.2 in)

MX10673,0000030-19-12JUL19

## Weights

Weight XUV865E (Empty vehicle with full fluids) . . . . .	862 kg (1901 lb)
Weight XUV865M (Empty vehicle with full fluids) . . . . .	877 kg (1932 lb)
Weight XUV865M w/ cab, HVAC (Empty vehicle with full fluids) . . . . .	1035 kg (2281 lb)
Weight XUV865R (Empty vehicle with full fluids) . . . . .	1058 kg (2332 lb)
Gross Vehicle Weight Rating (GVWR) . . . . .	1542 kg (3400 lb)
Maximum Front Axle Load . . . . .	841 kg (1850 lb)
Maximum Rear Axle Load . . . . .	1067 kg (2347 lb)

MX00654,000052D-19-04APR22

## Recommended Lubricants

Engine Oil . . . . .	John Deere Plus-50™
Grease . . . . .	John Deere Torq-Gard Supreme™
Brake Fluid . . . . .	DOT4
Transmission and 4WD Front Differential Oil . . . . .	John Deere Low Viscosity Hy-Gard™ (JDM J20D)
(Specifications and design subject to change without notice.)	
Grease-Gard is a trademark of Deere & Company	

MX00654,0000366-19-14JAN21

# Specifications

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## Sound Measurements

Tested per Australian Standard AS 2012.2-1990

Measured noise level at operator position . . . . .  $\leq 79.7$  dB(A)

SB31882.00000AA-19-17JUN19

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# 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](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](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](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.

MP47322,00F4690-19-01JUN22

## EMISSION-RELATED WARRANTY STATEMENT OFF-ROAD UTILITY VEHICLE OVER 25 MPH

### YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere off-road utility vehicle qualifies for the additional warranties set forth below, look for the "Vehicle Emission Control Information" label located on the vehicle. If the vehicle is operated in the United States or Canada and the "Vehicle Emissions Control Information" label states: "This vehicle meets U. S. EPA exhaust and evap regulations" refer to the "United States and Canada Emission-Related Warranty Statement." If the vehicle is operated in California, and the label states: "This vehicle meets California

regulations" also refer to the "California Evaporative Emissions Control System Warranty Statement."

## UNITED STATES AND CANADA EMISSIONS-RELATED WARRANTY STATEMENT

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. 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://www.deere.com/en/our-company/contact-us/>

### JOHN DEERE'S WARRANTY RESPONSIBILITY:

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road utility vehicle engine and equipment, including all parts of its emission-control system was designed, built and equipped so as to conform at the time of sale with 40 CFR Part 1051 and Section 213 of the Clean Air Act and is free from defects in materials and workmanship that would cause the engine to fail to conform with applicable US EPA regulations. The emission-related warranty period for vehicles without an odometer is 30 months from when the engine is placed into service. The emission-related warranty period for vehicles with an odometer is 30 months from when the engine is placed into service, 500 hours or 5000 kilometers, whichever comes first, after the engine and equipment is delivered to the ultimate purchaser.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. 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 present on the engine and equipment purchased. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission-related components include engine parts developed to control emissions related to the following:

**I.** For exhaust emissions, emission-related components include any engine parts related to the following systems:

1. Air-induction system.
2. Fuel system.
3. Ignition system.
4. Exhaust gas recirculation systems.

# Warranty

II. The following parts are also considered emission-related components for exhaust emissions:

1. Aftertreatment devices.
2. Crankcase ventilation valves.
3. Sensors.
4. Electronic control units.

III. The following parts are considered emission-related components for evaporative emissions:

1. Fuel Tank.
2. Fuel Cap.
3. Fuel Line.
4. Fuel Line Fittings.
5. Clamps\*.
6. Pressure Relief Valves\*.
7. Control Valves\*.
8. Control Solenoids\*.
9. Electronic Controls\*.
10. Vacuum Control Diaphragms\*.
11. Control Cables\*.
12. Control Linkages\*.
13. Purge Valves.
14. Vapor Hoses.
15. Liquid/Vapor Separator.
16. Carbon Canister.
17. Canister Mounting Brackets.
18. Carburetor Purge Port Connector..
19. Carburetor bowl gaskets

**\*As related to the evaporative emission control system.**

## EMISSION-RELATED WARRANTY EXCLUSIONS:

John Deere may deny emission-related warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual.
- The use of the engine / equipment in a manner for which it was not designed.
- Abuse, neglect, improper maintenance or unapproved modifications or alterations.
- Accidents for which John Deere does not have responsibility or by acts of God.

The off-road utility vehicle engine is designed to operate on those fuels specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine / equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise

covered by standard warranty, nor shall it be liable for travel or mileage expenses on emissions warranty service calls.

## Limited Liability

a. The liability of John Deere under this Emission-Related Warranty is limited solely to the remedying of defects in materials or workmanship. This warranty does not cover inconvenience or loss of use of the off-road utility vehicle engine and equipment or transportation of the equipment 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 or exemplary arising in connection with the sale or use of or inability to use the off-road utility vehicle engine and equipment for any other purpose.

**b. THIS WARRANTY AND ANY OTHER APPLICABLE JOHN DEERE WARRANTIES ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

c. No dealer is authorized to modify this John Deere and Federal Emission-Related Warranty.

## CALIFORNIA EVAPORATIVE EMISSIONS CONTROL WARRANTY STATEMENT

To determine if the John Deere off-highway recreational vehicle qualifies for the additional warranties set forth below, look for the "Vehicle Emission Control Information" label located on the vehicle. If the vehicle is operated in the United States or Canada and the "Vehicle Emissions Control Information" label states: "This vehicle meets U.S. EPA exhaust and evaporative regulations" refer to the "United States and Canada Emission-Related Warranty Statement." If the vehicle is operated in California, and the label states: "This vehicle meets California regulations" also refer to the "California Evaporative Emissions Control System Warranty Statement."

## YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and John Deere are pleased to explain the evaporative emissions control system warranty on your 2024 or 2025 off-highway recreational vehicle. In California, new off-highway recreational vehicles must be designed, built, and equipped to meet the State's stringent anti-smog standards. John Deere must warrant the evaporative emissions control system on your off-highway



# Warranty

recreational vehicle for the periods of time listed below provided there has been no abuse, neglect, improper maintenance, or unapproved modification of your off-highway recreational vehicle.

Your evaporative emissions control system may include parts such as the carburetor or fuel-injection system, fuel tank, fuel hoses, carbon canister, and engine computer. Also included may be hoses, belts, connectors and other evaporative emissions-related assemblies. Where a warrantable condition exists, John Deere will repair your off-highway recreational vehicle at no cost to you including diagnosis, parts and labor.

## JOHN DEERE'S WARRANTY COVERAGE:

For 2018 and later model year off-highway recreational vehicles, the warranty period for this off-highway recreational vehicle is 30 months, or 2500 miles, or 250 hours, whichever comes first, except for "high-priced" warranty parts [for example: fuel tanks, fuel injectors (if installed), and carburetors (if installed)], which are covered for 60 months, or 5000 miles, or 500 hours, whichever comes first, after the engine and equipment is delivered to the ultimate purchaser.

The following parts are considered emission-related components for evaporative emissions:

1. Fuel Tank\*\*
2. Fuel Cap
3. Fuel Line
4. Fuel Line Fittings
5. Clamps\*
6. Pressure Relief Valves\*
7. Control Valves\*
8. Control Solenoids\*
9. Electronic Controls\*
10. Vacuum Control Diaphragms\*
11. Control Cables\*
12. Control Linkages\*
13. Purge Valves
14. Vapor Hoses
15. Liquid/Vapor Separator
16. Carbon Canister
17. Canister Mounting Brackets
18. Carburetor Purge Port Connector
19. Carburetor bowl gaskets
20. Carburetor\*\*
21. Fuel Injector\*\*

**\*As related to the evaporative emission control system.**

**\*\*Denotes "high-priced" warranty parts.**

If any evaporative emissions-related part on your off-highway recreational vehicle is defective the part will be repaired or replaced by John Deere.

## OWNER'S WARRANTY RESPONSIBILITIES:

As the off-highway recreational vehicle owner you are responsible for the performance of the required maintenance listed in your owner's manual. John Deere recommends that you retain all receipts covering maintenance on your off-highway recreational vehicle, but John Deere cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of a scheduled maintenance.

As an owner you are responsible for presenting your off-highway recreational vehicle to a John Deere dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

As an off-highway recreational vehicle owner, you should also be aware that John Deere may deny you warranty coverage if your off-highway recreational vehicle or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

If you have any questions regarding your warranty rights and responsibilities, you should contact a John Deere Turf and Utility retailer, or the John Deere Customer Contact Center at 1-800-537-8233, or email John Deere from <https://www.deere.com/en/our-company/contact-us/>

## ADDITIONAL EVAPORATIVE EMISSIONS CONTROL SYSTEM WARRANTY INFORMATION:

Subject to the conditions and exclusions of the Limited Liability Section below, the warranty on emissions-related parts must function as follows:

(1) Any warranted part which is not scheduled for replacement as part of maintenance in the written instructions (see the "Service Intervals" section of the Operator's manual) must be warranted for the warranty period defined in the Warranty Coverage section above. If any such part fails during the warranty period, it must be repaired or replaced by John Deere according to part 4 of this section. Any such part repaired or replaced under warranty must be fully warranted.

(2) Any warranted part which is scheduled only for regular inspection in the written instructions (see the "Service Intervals" section of the Operator's manual) must be warranted for the Warranty Coverage section above. A statement in such written instructions to the effect of "repair or replace as necessary" must not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for the remaining warranty period.

(3) Any warranted part which is scheduled for replacement as part of maintenance in the written instructions (see the "Service Intervals" section of the Operator's manual) must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails before the first scheduled replacement point, the part must be repaired or replaced by John Deere according to part 4 of this

# Warranty

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section. Any such part repaired or replaced under warranty must be warranted for the remainder of the period prior to the first scheduled replacement point for the part.

(4) Repair or replacement of any warranted part under this warranty must be performed at no charge to the off-highway recreational vehicle owner, at a warranty station, except in the case of a temporary repair when a warranted part or a warranty station is not reasonably available to the off-highway recreational vehicle owner. In the event a temporary repair is permitted under this warranty, repairs may be performed at any available service establishment, or by the owner, using any replacement part. John Deere must reimburse the owner for his or her expenses including diagnostic charges for such temporary repair or replacement, not to exceed John Deere's suggested retail price for all warranted parts replaced and labor charges based on John Deere's recommended time allowance for the warranty repair and the geographically appropriate hourly labor rate.

(5) Warranty services or repairs must be provided at all John Deere dealerships.

(6) The off-highway recreational vehicle owner must not be charged for diagnostic labor which leads to the determination that a warranted part is, in fact, defective, provided that such diagnostic work is performed at a warranty station.

(7) John Deere is liable for damages to other vehicle components proximately caused by a failure, under warranty, of any warranted part.

(8) Throughout the off-highway recreational vehicle's warranty period defined in the Warranty Coverage section above, John Deere must maintain a supply of warranted parts sufficient to meet the expected demand for such parts. The lack of availability of such parts or the incompleteness of repairs within a reasonable time period, not to exceed 30 days from the time the off-highway recreational vehicle is initially presented to the warranty station for repair, will qualify the need for a temporary repair for purposes of part 4 of this section.

(9) Any replacement part designated by John Deere may be used in warranty repairs provided without charge to the off-highway recreational vehicle owner. Such use will not reduce the warranty obligations of John Deere, except that John Deere will not be liable under this Warranty for repair or replacement of any replacement part which is not a warranted part (except as provided under part 7 of this section).

(10) Any add-on or modified part exempted by the Air Resources Board from the prohibitions of section 27156 of the California Vehicle Code may be used on an off-highway recreational vehicle. Such use, in and of itself, will not be grounds for disallowing a warranty claim made under this Warranty. John Deere is not liable under this Warranty to warrant failures of warranted

parts caused by the use of an add-on or modified part(s) unless such part(s) are also warranted.

## Limited Liability

a. The liability of John Deere under this Evaporative Emissions Control Warranty is limited solely to the remedying of defects in materials or workmanship. This warranty does not cover inconvenience or loss of use of the off-highway recreational vehicle engine and equipment or transportation of the equipment 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 or exemplary arising in connection with the sale or use of or inability to use the off-road utility vehicle engine and equipment for any other purpose.

**b. THIS WARRANTY AND ANY OTHER APPLICABLE JOHN DEERE WARRANTIES ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

c. No dealer is authorized to modify this John Deere and California Evaporative Emissions Control Warranty.

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## 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

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## 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

# Warranty

batteries, and present the battery to the dealer with the top cover plate codes intact.

## FREE REPLACEMENT PERIOD

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

## PRO RATA ADJUSTMENT (batteries with letter code identification only)

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

## THIS WARRANTY DOES NOT COVER

- A. Breakage of the container, cover, or terminals.
- B. Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.
- C. Transportation, mailing, or service call charges for warranty service.
- D. Batteries that are merely discharged.

## LIMITATION OF IMPLIED WARRANTIES AND PURCHASER'S REMEDIES

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

## NO DEALER WARRANTY

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

## WARRANTY TERMS TABLE

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

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

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# John Deere Quality Statement

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## 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:

**<https://www.deere.com/en/global-country-selector/>**

Select your country and then click on the Contact Us link at the bottom of the page.

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## Transport Canada

To report a safety defect to Transport Canada, you may either fill out an online defect complaint form at their website:

English: <http://www.tc.gc.ca/recalls>

French: <http://www.tc.gc.ca/rappels>

Or contact their Defect Investigations and Recalls Division by calling toll-free 1-800-333-0510 (Canada) or 819-994-3328 (Ottawa-Gatineau area / International).

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## Service Record

## Record Service Dates

[illegible]

JG81906,000076C-19-25OCT21

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