XUV590E, XUV590M, XUV590E S4, XUV590M S4 Gator™ Utility Vehicles (Serial No. 040001-)

JOHN DEERE

OPERATOR'S MANUAL

XUV590E, XUV590M, XUV590E S4, XUV590M S4 Gator™ Utility Vehicles (Serial No. 040001-)

OMUC25929 ISSUE G0 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

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

If this product contains a gasoline engine:

⚠ WARNING

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

The State of California requires the above two warnings.

Additional Proposition 65 Warnings can be found in this manual.

John Deere Horicon Works
North American Edition
PRINTED IN U.S.A.

Thank You for Purchasing a John Deere Product

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

MX00654,000020B-19-10MAY17

Using Your Operator's Manual

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

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

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

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

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

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

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

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

MX00654,000020C-19-05JUN17

Special Messages

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

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

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

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

MX00654,000020D-19-05JUN17

Attachments for Your Machine

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

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

OUMX068,000051C-19-05JUN17

Service Literature

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

https://techpubs.deere.com/

or call:

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

TH84124,0000199-19-05FEB20

Parts

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

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

Order Service Parts Online

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

TC00531,00000E9-19-06MAR15

Contents

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

Record Identification Numbers

XUV590, XUV590 S4

PIN (040001-)

If contacting an Authorized Service Center for information on servicing, always provide the product model and identification numbers.

Locate the identification numbers for the product and record the information in the following spaces provided.

DATE OF PURCHASE:

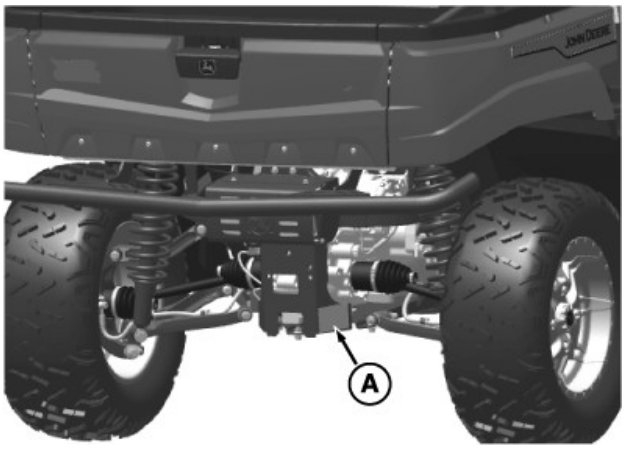
_____

DEALER NAME:

_____

DEALER PHONE:

_____



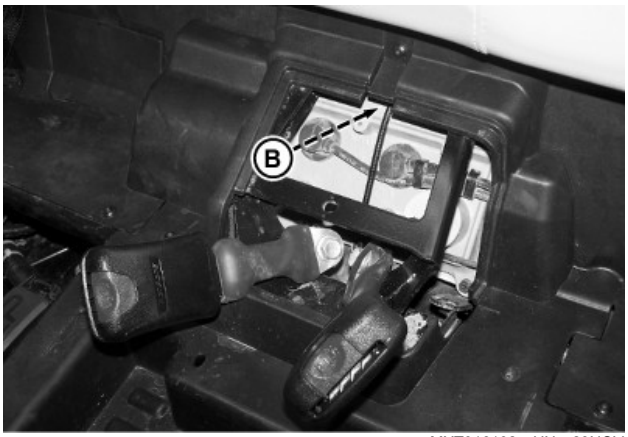
MX101561—UN—12MAY20

PRODUCT IDENTIFICATION NUMBER (A):

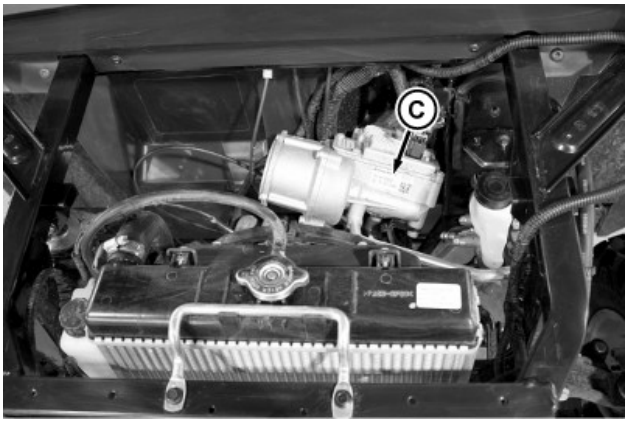
_____

DATE OF MANUFACTURE (A):

_____



MXT016192—UN—23NOV15



MXT016191—UN—02NOV15

ENGINE SERIAL NUMBER (B):

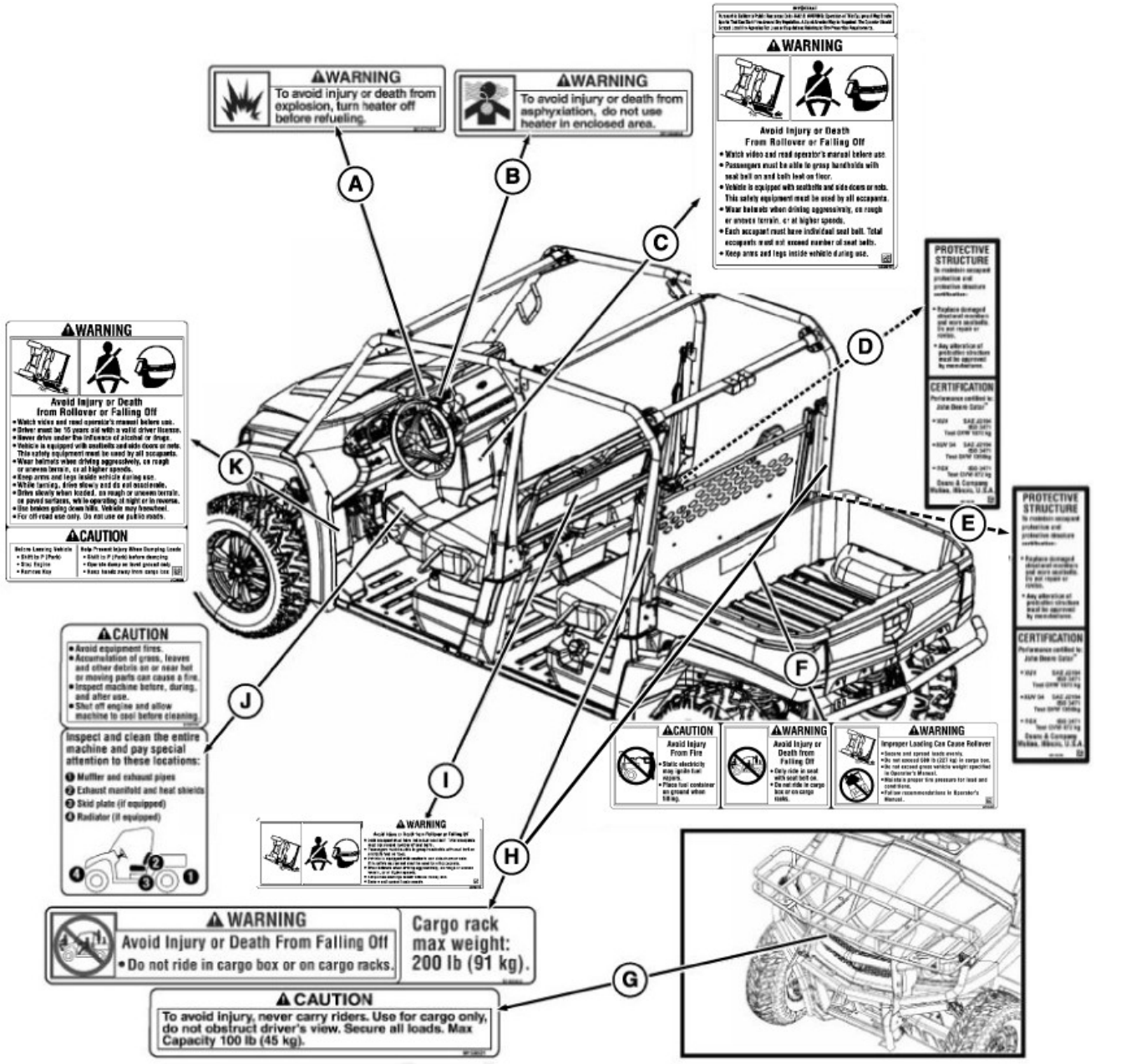
_____

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

_____

MX00654,000033F-19-27MAY20

Safety Label Location



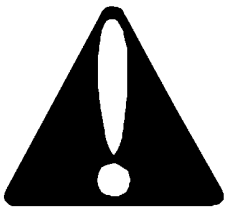
MX101493—UN—12MAY20

S4 Model Shown

A—WARNING M157159 (on optional heater)
B—WARNING M156904 (on optional heater)
C—WARNING UC26474
D—Protective Structure Safety and Certification M176766
E—Protective Structure Safety and Certification M176766 (S4 models)
F—CAUTION/WARNING UC26443
G—CAUTION M159501 (on optional front rack)
H—WARNING M165302 (S4 model only)
I—WARNING UC26478 (S4 model only)
J—CAUTION M165798
K—WARNING/CAUTION UC26438

MX00654,0000302-19-12MAY20

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.

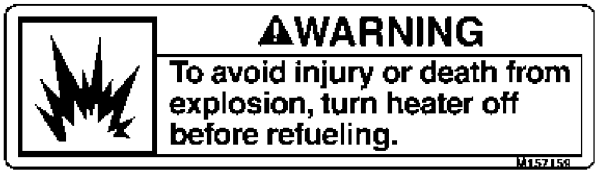
French or Spanish Safety Labels and Operator's Manual

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.

MP47322,00F4601-19-24APR19

WARNING

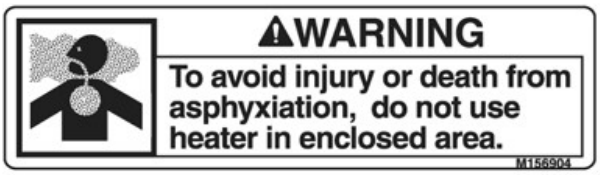


MXAL47282—UN—16APR13

To avoid injury or death from explosion, turn heater off before refueling.

OUO2005,000015A-19-29AUG13

WARNING



MXAL47283—UN—16APR13

To avoid injury or death from asphyxiation, do not use heater in enclosed area.

OUO2005,000015B-19-29AUG13

WARNING

MX101490—UN—11MAY20

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.
- Passenger 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.

MX00654,0000318-19-01MAY20

Protective Structure Safety and Certification Label

MX100534—UN—08MAR19

One label is installed on your machine depending upon your region. Labels shown are for reference only.

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™

• XUV
SAE J2194, ISO 3471, Test GVW 1070 kg

• XUV S4
SAE J2194, ISO 3471, Test GVW 1350 kg

• RSX
ISO 3471, Test GVW 872 kg

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

BS62576,00002BC-19-08MAR19

Safety Labels with Text

CAUTION—WARNING

MX101487—UN—11MAY20

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.

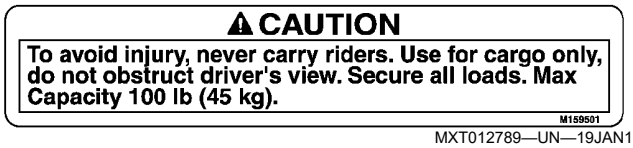
WARNING

Improper Loading Can Cause Rollover

- Secure and spread loads evenly.
- Do not exceed 500 lb (227 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.

MX00654,0000319-19-01MAY20

CAUTION

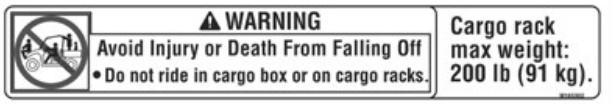


MXT012789—UN—19JAN15

To avoid injury, never carry riders. Use for cargo only, do not obstruct driver's view. Secure all loads. Max Capacity 100 lb. (45 kg).

OUMX068,0000B06-19-05MAY20

WARNING



MXAL44646—UN—28MAR13

Avoid Injury or Death From Falling Off

• Do not ride in cargo box or on cargo racks.

Cargo rack max weight: 200 lb. (91 kg).

OUO2005,0000194-19-19JAN15

WARNING

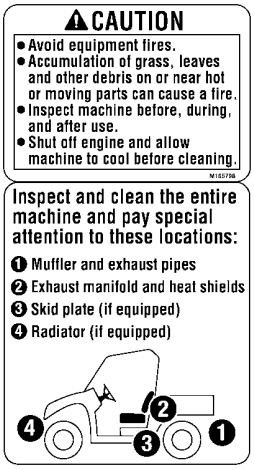
MX101491—UN—11MAY20

Avoid Injury or Death from Rollover or Falling Off

- Each occupant must have individual seat belt. Total occupants must not exceed number of seat belts.
- 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.
- Keep arms and legs inside vehicle during use.
- Secure and spread loads evenly.

MX00654,000031A-19-13MAY20

CAUTION



MXAL47291—UN—16APR13

- 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-19-29AUG13

WARNING—CAUTION

MX101486—UN—11MAY20

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

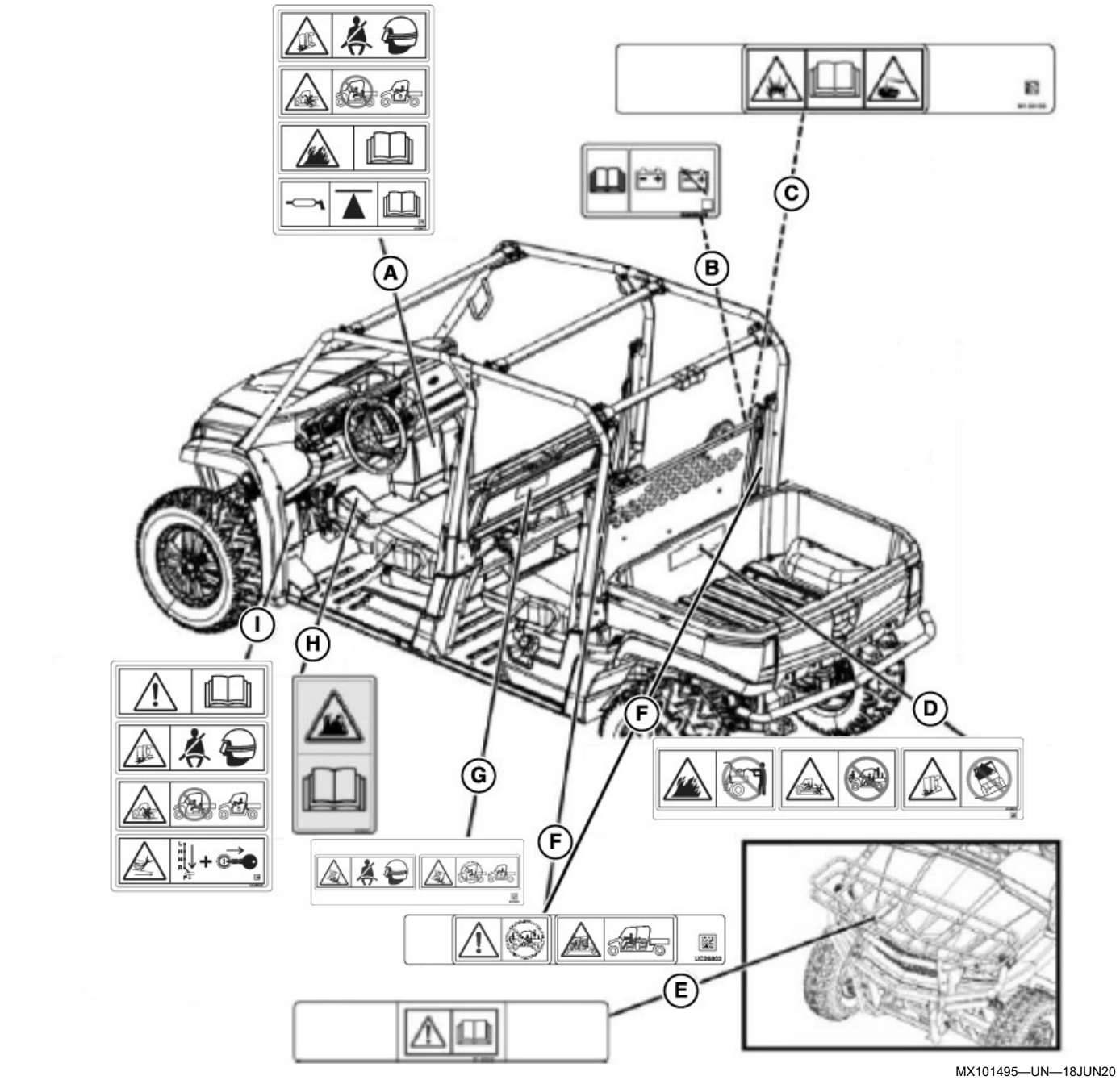
- Shift to P (Park)
- Stop Engine
- Remove Key

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

Safety Label Location



MX101495—UN—18JUN20

S4 Model Shown

A—Avoid Injury or Death from Rollover or Falling Off UC26477
B—Read Operators Manual, Service Battery SU49461
C—Avoid Injury From Battery Gases and Acid M133159
D—Avoid Injury from Fire, Falling Off or Improper Loading UC26470
E—Avoid Injury M160658 (on optional front rack)
F—Avoid Injury or Death from Falling Off UC26803 (S4 model only)
G—Avoid Injury or Death from Rollover or Falling Off UC26481 (S4 model only)
H—Avoid Injury From Equipment Fires M165273
I—Avoid Injury or Death from Rollover or Falling Off UC26422

MX00654,0000305-19-18JUN20

Understanding the Machine Safety Labels without Text

TCT005498—UN—11SEP12

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

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

MX00654,0000389-19-21JUN18

Avoid Injury or Death from Rollover or Falling Off

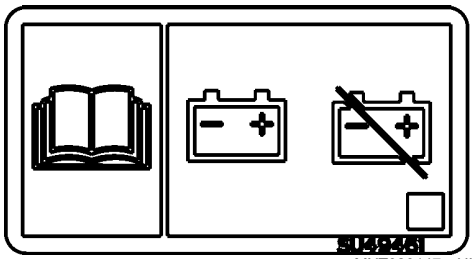
MX101562—UN—13MAY20

Avoid Injury or Death from Rollover or Falling Off

- Watch video and read operator's manual before use.
- Passenger 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.

MX00654,0000332-19-13MAY20

Read Operator's Manual, Service Battery



MXT020147—UN—16MAY17

- Read Operator's Manual
- Service Battery

OUMX068,0001296-19-16MAY17

Avoid Injury From Battery Gases and Acid

MXT020148—UN—16MAY17

- 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.

OUMX068,0001297-19-16MAY17

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.
- Do not exceed 500 lb (227 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.

MX00654,0000333-19-13MAY20

Avoid Injury

MXT007998—UN—29AUG13

Avoid Injury

To avoid injury, never carry riders. Use for cargo only, do not obstruct driver's view. Secure all loads. Max Capacity 100 lb. (45 kg).

OUO2005,0000164-19-19JAN15

Avoid Injury or Death from Falling Off

MX101564—UN—13MAY20

Avoid Injury or Death from Falling Off

Do not ride in cargo box or on cargo racks.

Cargo rack max weight: 200 lb (91 kg).

MX00654,0000334-19-13MAY20

Avoid Injury or Death from Rollover or Falling Off

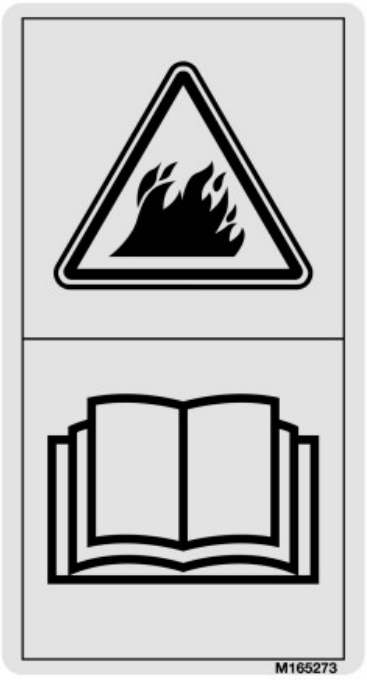
MX101566—UN—13MAY20

Avoid Injury or Death from Rollover or Falling Off

- No more than two passengers in rear seat.
- 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.
- Keep arms and legs inside during use.
- Secure and spread loads evenly.

MX00654,0000335-19-14MAY20

Avoid Injury From Equipment Fires



MXT010007—UN—13MAY14

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

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

OUMX068,0000027-19-08JUL16

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 slow 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.

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

MX00654,0000336-19-13MAY20

Supervisor Safety Responsibilities

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

RH75544,0000159-19-08APR13

Operator Training Required

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

RH75544,000015A-19-03APR18

Operating Safely

- Read, understand and follow all instructions in the operator's manual, on the machine and on the safety video before starting.
- Misuse can lead to accidents, severe bodily injury or death.
- The utility vehicle's tires are designed for off-road use only. Paved surfaces may seriously affect handling and control of the vehicle. If you must operate on a paved surface, travel slowly and do not make sudden turns or stops.
- Do not operate this vehicle on a frozen body of water. The vehicle could break through the ice, causing injury or even death.
- Go slowly and be extra careful when riding on snow-covered or ice-covered terrain.
- Slow down and be careful of traffic when operating near or crossing roadways. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- The operator should always make sure that the passenger is aware of correct safety procedures while riding in the utility vehicle.
- Use the correct flags, lights, signs and reflectors on the vehicle to warn other drivers when operating near roadways. Make sure these features are clean and visible for 152 m (500 ft.).
- The passenger should always use the hand holds.
- On machines with seat belts, to avoid serious injury, always ensure that occupants have safely secured their seat belts prior to starting this vehicle.
- Horseplay can lead to accidents, severe bodily injury or death. Do not attempt stunts, jumps, or quick acceleration to raise front wheels off the ground. These actions can result in accidents or vehicle overturns.
- Sit on the center of the seat and keep both feet within the foot platform perimeter. Clean foot platform if dirty, and remove any debris from around foot controls.
- Check for debris in engine compartment, especially around exhaust system components.
- Always use both hands for steering.
- Know location of controls and how and what they operate.
- Never operate utility vehicle while standing.
- Never operate utility vehicle with the cargo box raised.
- Check brake action before beginning vehicle operation. Adjust or service the brakes as necessary.
- 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.
- Do not wear radio or music headphones. Safe service and operation require your full attention.

OUMX068,00009BC-19-10SEP14

Using a Spark Arrestor

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

No person shall sell, offer for sale, lease, or rent to any person any internal combustion engine subject to Section 4442 or 4443, and not subject to Section 13005 of the Health and Safety Code, unless the person provides a written notice to the purchaser or bailee, at the time of sale or at the time of entering into the lease or rental contract, stating that it is a violation of Section 4442 or 4443 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrestor, as defined in Section 4442, maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443. Cal. Pub. Res. Code 4442.5.

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

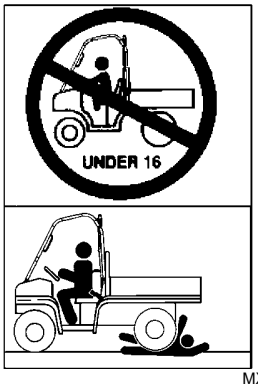
MP47322,00F4616-19-08JUL13

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

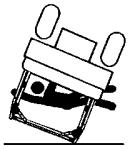


MXAL43278—UN—15MAR13

- 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.

OUO2005,0000169-19-16AUG18

Avoid Excessive Speeds



MXAL43279—UN—15MAR13

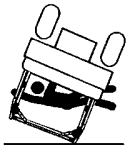
- Always wear an approved helmet when operating the

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.

MX00654,00000B4-19-27APR18

Avoid Tipping



MXAL43279—UN—15MAR13

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 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.

MX00654,00000B5-19-27APR18

Use Seat Belts, Nets, and Doors Properly

MXT008507—UN—10JAN17

- This vehicle is equipped with a seat belt interlock feature. This feature limits vehicle travel speed to approximately 24 km/h (15 mph) when the driver's seat belt is not fastened.
- 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.

OUMX068,00012D5-19-13JUN17

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

MXAL43281—UN—15MAR13

- Seating is provided for operator and one front seat passenger. Seating may also be provided for two rear seat passengers on some models. 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.

OUMX068,0000BC5-19-08MAY15

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 height of cargo box.
- Securely anchor all loads in cargo box.
- Reduce cargo box load when operating on rough or hilly terrain.

RH75544,0000165-19-08APR13

Using Front Attachments

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

OUMX068,0000634-19-22SEP16

Towing Loads Safely With Utility Vehicle

- Do not tow a load that exceeds the maximum allowable towing load for this vehicle, as specified in this operator's manual. (See Determining Vehicle Load Capacity and Weights sections).
- Stopping distance increases with speed and weight of towed load. Travel slowly and allow extra time and distance to stop.
- Tow load at a speed slow enough to maintain control.
- Excessive towed load can cause loss of traction and loss of control on slopes. Reduce towed weight when operating on slopes.

- Never allow children or others in or on towed equipment.
- Use only approved hitches. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the approved hitch point.
- Follow the manufacturer's recommendations for weight limits for towed equipment and towing on slopes.
- If you cannot back up a slope with a towed load, the slope is too steep to operate on with the towed load. Reduce the towed load or do not operate.
- Do not turn sharply. Use additional caution when turning or operating under adverse surface conditions. Use care when reversing.
- Do not shift to neutral and coast downhill.
- Secure towed loads before transporting.

OUMX068,000091B-19-25JUN20

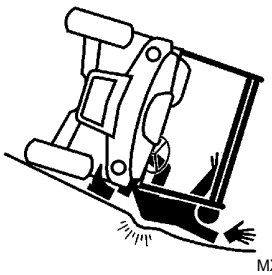
Driving On Rough Terrain

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.

BB87125,0000D46-19-27APR18

Climbing or Descending a Hill or Slope

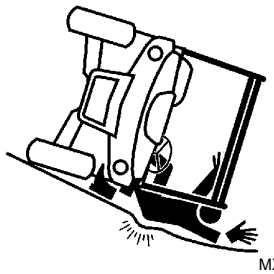


MXT008509—UN—10JAN17

- Always use the brakes when going down slopes. The utility vehicle can speed up (freewheel) going down a slope. Engine or clutch braking effect is minimal.
- Balance loads evenly and secure them. Braking could shift the load and affect vehicle stability.
- 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 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 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 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-19-09MAY20

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 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 re-start 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 attemps, discontinue trying.
  f. After driving through water when the air temperature is below freezing, clear the 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-19-02MAY13

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

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, 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

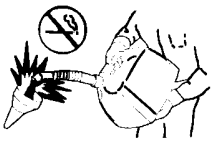
TCAL25965—UN—24MAY12

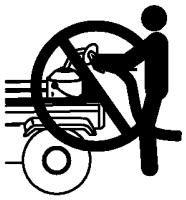
Explosive separation of a tire and rim parts can cause serious injury or death:

- 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.
- 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.

OUO2005,0000223-19-12OCT16

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.

OUO2005,0000224-19-11OCT18

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

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.

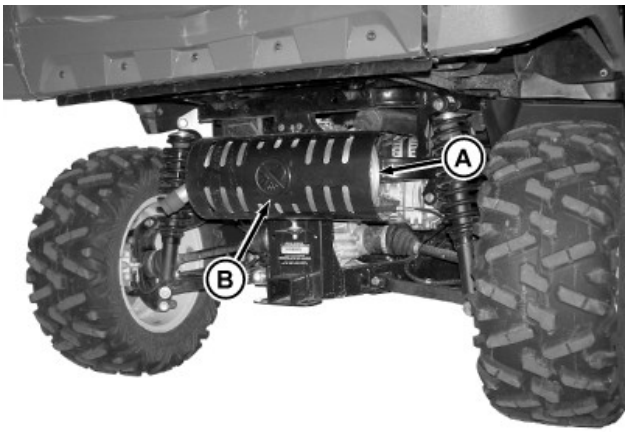
Always follow all safety procedures posted on the machine and in the Operator's Manual. Before carrying out any inspection or cleaning, always park machine safely. (See Parking Safely in the Safety Section).

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

OUMX068,0001043-19-20JUL20

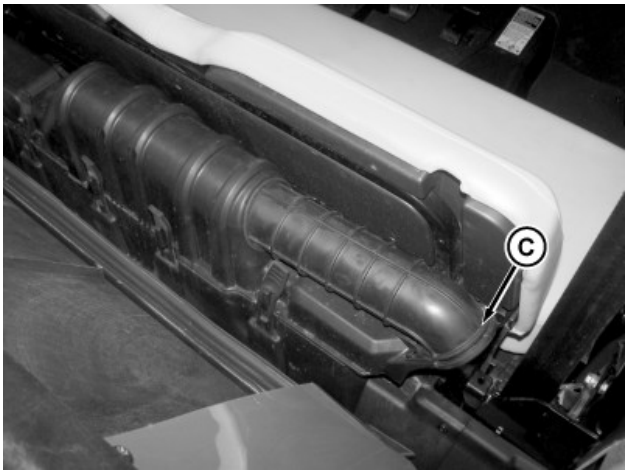
Cleanout Areas

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



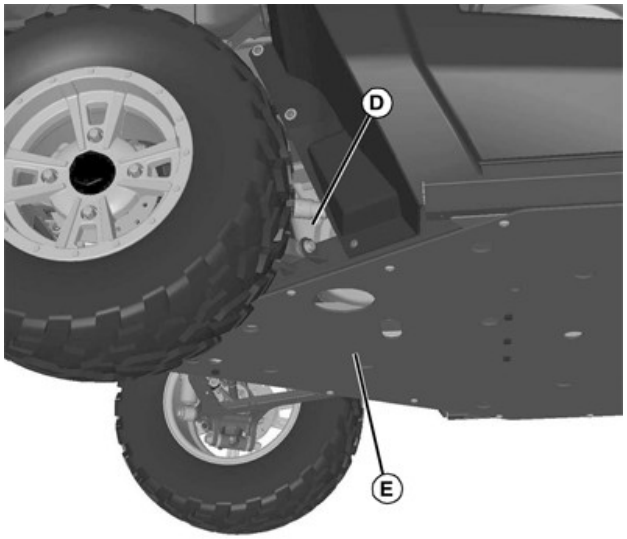
MXT016251—UN—05NOV15

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



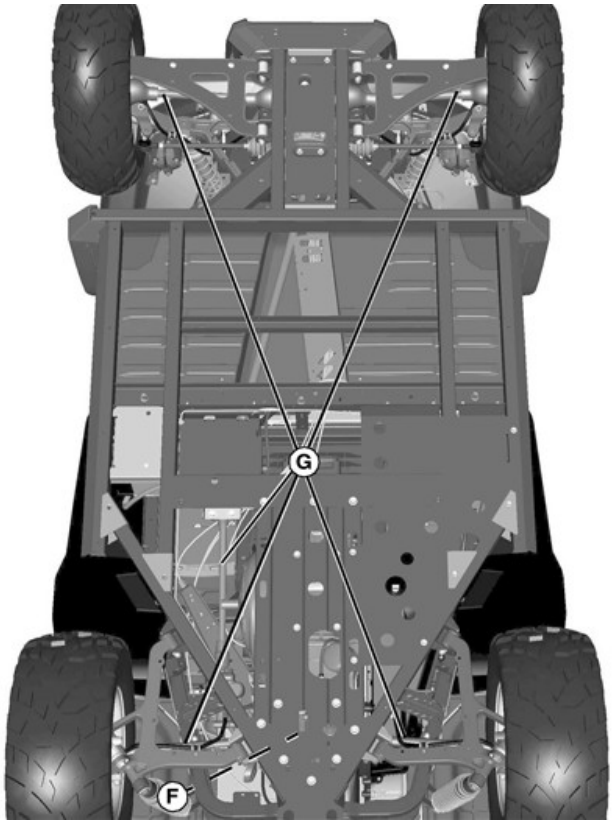
MXT016252—UN—05NOV15

- Engine intake screens (C).



MXAL47294—UN—16APR13

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



MXAL47295—UN—16APR13

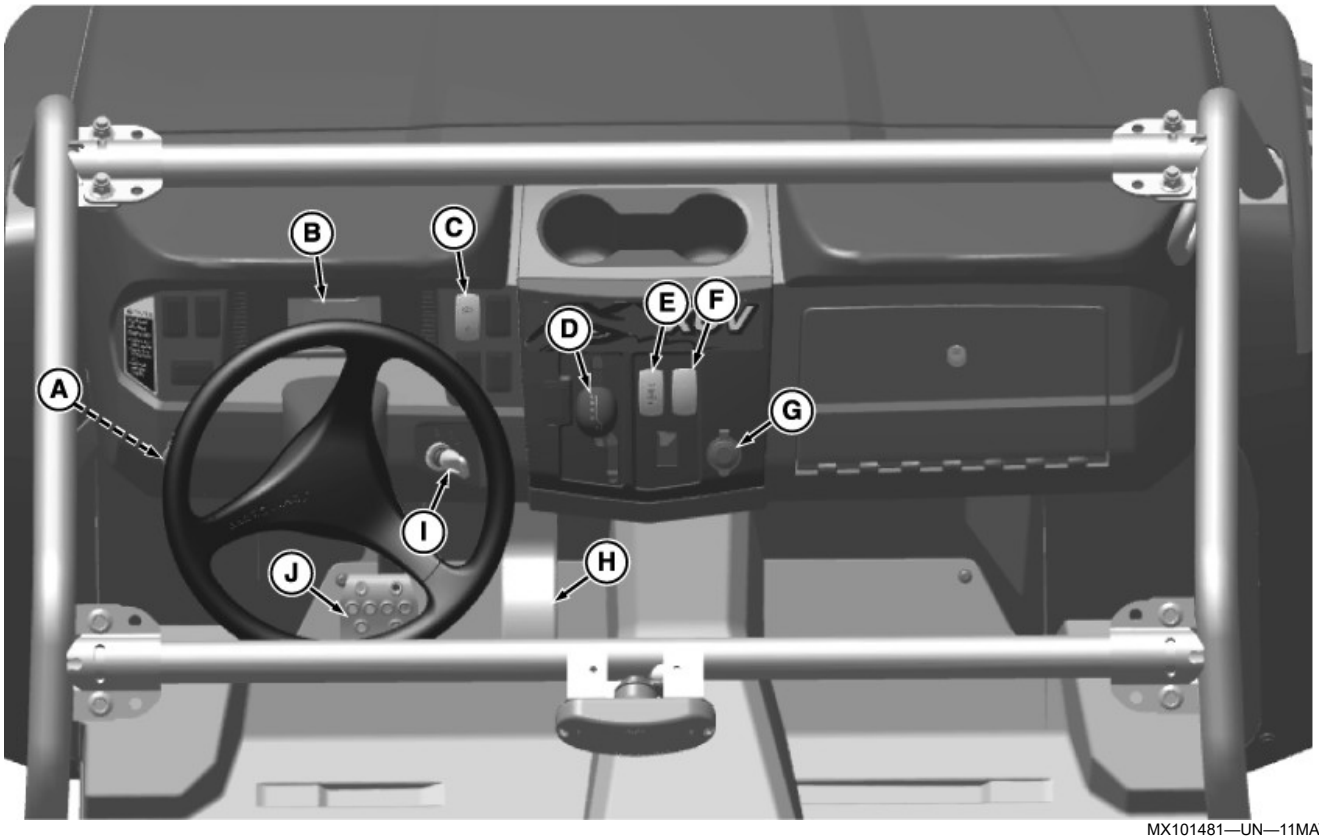
- On or near transmission (F) and drive line (G).

MXT016253—UN—05NOV15

- Battery (H) and related wiring harnesses.

OUMX068,0000EC0-19-05NOV15

Operator Station Controls



MX101481—UN—11MAY20

Some controls may not be installed on your machine.

A—Choke (if equipped)
B—Instrument Panel
C—Headlight Switch
D—Transmission Shift Lever
E—2WD/4WD Switch
F—Rear Differential Lock Switch
G—12V DC Accessory Outlet
H—Accelerator Pedal
I—Ignition Key Switch
J—Brake Pedal

MX00654,0000306-19-26JUN20

Daily Operating Checklist

- ☐ Test safety systems.
- ☐ Check tire pressure.
- ☐ Check fuel level.
- ☐ Check engine oil level.
- ☐ Remove grass and debris from engine compartment, muffler area, and front grille, before and after operating machine.
- ☐ Check area below machine for leaks.
- ☐ Check brake operation and park lock function.
- ☐ Inspect driveline CV boots for tears or punctures.
- ☐ Inspect steering tie rod boots for tears or punctures.
- ☐ Tighten any loose hardware.
- ☐ Check seat belt function.
- ☐ Check nets or doors function.

MX00654,0000307-19-06MAY20

Avoid Damage to Plastic and Painted Surfaces

- Do not wipe plastic parts unless rinsed first.
- Insect repellent spray may damage plastic and painted surfaces. Do not spray insect repellent near machine.
- Be careful not to spill 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.

BB87125,0000D55-19-19APR13

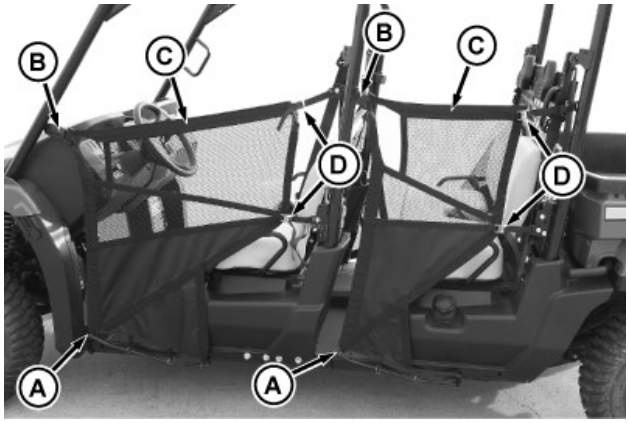
Using Nets

CAUTION: Avoid injury! Do not operate vehicle with doors or nets removed. Always park vehicle safely before opening door or net to exit.

Do not operate vehicle with doors or nets in the open position. All doors or nets must be closed while the vehicle is in use.

Entering Vehicle:

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



MXT016164—UN—22OCT15

Picture Note: XUV590 S4 model is shown.

2. Move bottom of net fully forward (A) and insert the metal tab of the net into buckle (B) until it latches securely.
3. After entering and exiting vehicle several times, check to be sure that the top strap (C) of the net is taut when net is latched securely. Tighten or loosen net at adjusting buckles (D) as needed.

Exiting Vehicle:

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

OUMX068,0001480-19-28MAR18

Using Doors

CAUTION: Avoid injury! Do not operate vehicle with doors or nets removed. Always park vehicle safely before opening door or net to exit.

Do not operate vehicle with doors or nets in the open position. All doors or nets must be closed while the vehicle is in use.

Entering Vehicle

MXAL45651—UN—09APR13

1. To unlatch the door, reach through the door opening and pull handle (A) upward.
2. After entering the vehicle, check to be certain the door is securely latched.

Exiting Vehicle

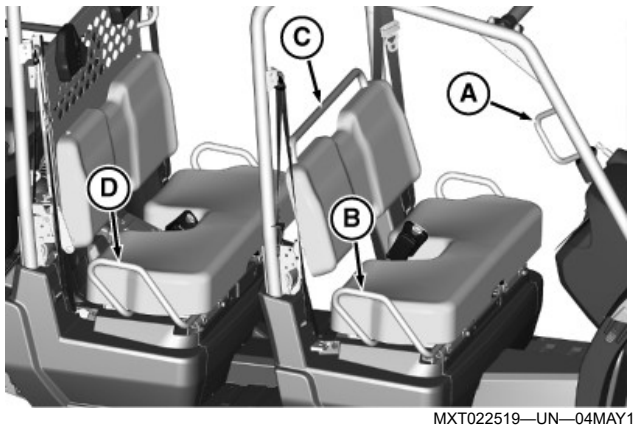
1. Park the machine safely. (See Parking Safely in Safety section.)

MXAL45651—UN—09APR13

2. To unlatch and open the door, pull handle (A) upward.
3. After exiting the vehicle, check to be certain the door is securely latched.

OUMX068,0001482-19-14MAY18

Using Hand Holds



MXT022519—UN—04MAY18

NOTE: XUV590 S4 model is shown. Nets and doors are hidden for a clearer view. Side rail (B) is not available on an XUV590 model with doors.

Hand holds are provided for passenger balance.

- On machines equipped with nets, when a front seat passenger is present, they must use one of the two hand holds at all times while the machine is moving: The Protective Structure handle (A) or side rail (B).
- On machines equipped with doors, when a front seat passenger is present, they must use the Protective Structure handle (A) at all times while the machine is moving.
- When a rear seat passenger is present, they must use one of the two hand holds at all times while the machine is moving: Seat handle (C) or side rail (D).

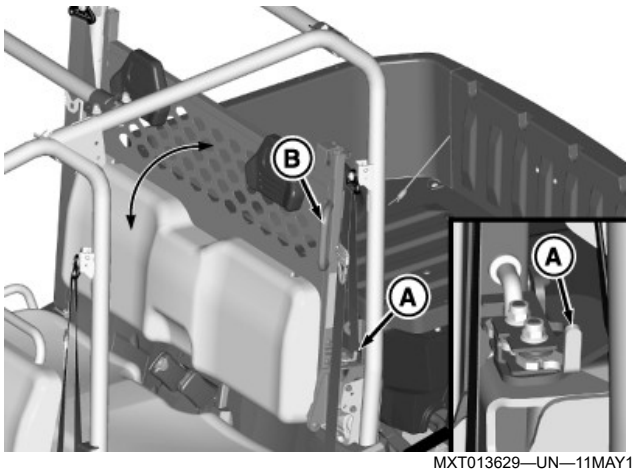
OUMX068,0001481-19-04MAY18

Using Bench Seat Fold Down Rack

For extra storage or cargo box capacity, fold down the rear bench seat cargo rack.

CAUTION: Avoid injury! Fingers and hands can be pinched or crushed. Be aware of potential pinch points and keep hands away.

Lowering Bench Seat with Fold Down Rack



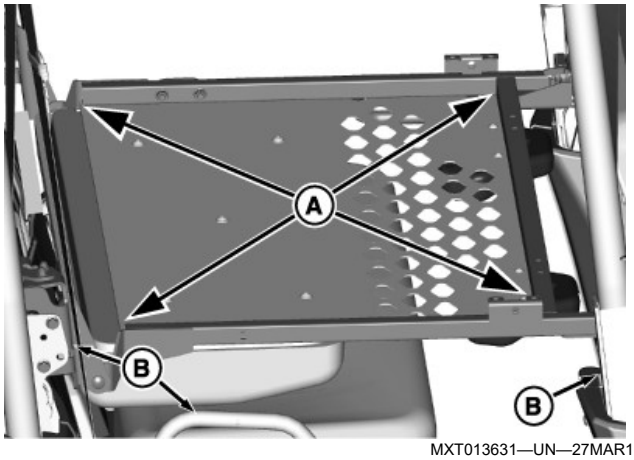
MXT013629—UN—11MAY15

1. Push latch lever (A) inward and use handle (B) to lower seat.

Using Cargo Rack

CAUTION: Avoid injury! Riders can fall off and be injured or killed. Never carry riders in or on an attachment.

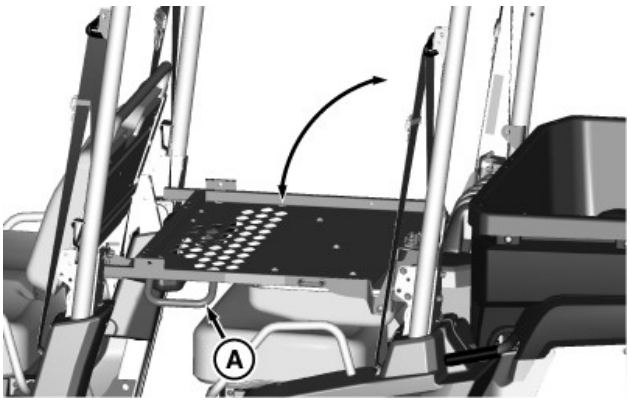
IMPORTANT: Avoid damage! Do not allow load to exceed width of fold-down rack and machine. Do not load cargo rack beyond weight capacity of 90 kg (200 lb).



MXT013631—UN—27MAR15

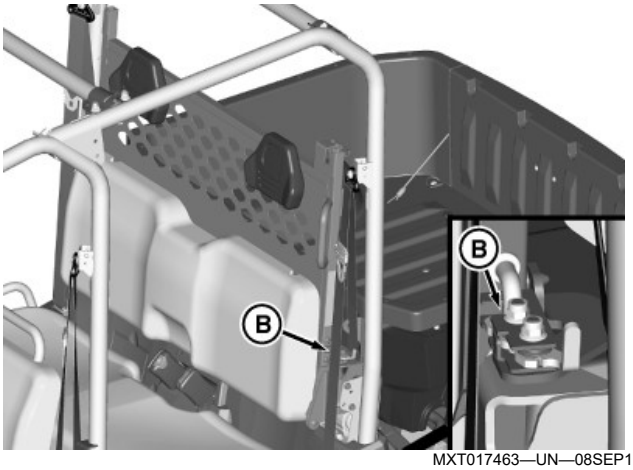
1. Arrange load so the weight is centered over the main cargo area (A).
2. Secure the load to the tie-downs (B) on both sides in a safe and secure manner.

Raising Bench Seat with Fold Down Rack



MXT017462—UN—08SEP16

1. Remove load from cargo rack.
2. Raise seat and cargo rack using handle (A).



MXT017463—UN—08SEP16

3. Raise assembly until latch (B) secures cargo rack in raised position.

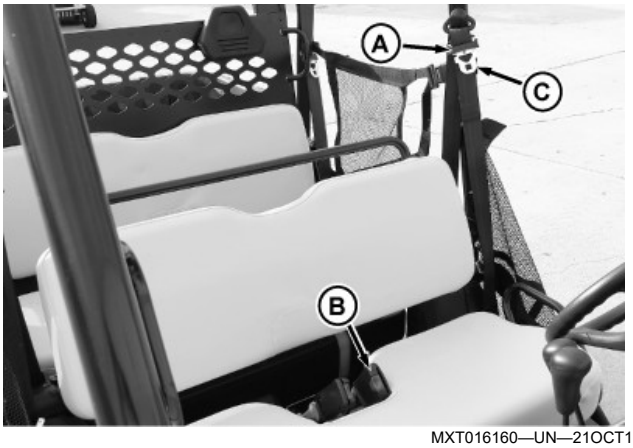
KL66860,00000B9-19-09SEP16

Using Seat Belt

NOTE: Shoulder harness is sensitive. An emergency lock device is built into the belt for your protection. To engage harness, pull harness slowly. Attempting to pull too fast or in a jerking motion engages the locking mechanism and the harness does not release.

Periodically inspect seat belts for wear or damage. See Inspecting Seat Belt in SERVICE MISCELLANEOUS.

Fasten Belt



MXT016160—UN—21OCT15

Picture Note: Machine with front bench seat shown. Seat belt components are in same locations with front bucket seats.

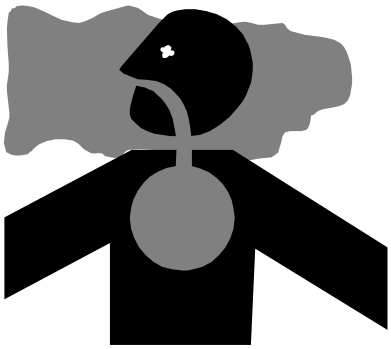
1. Grasp outer seat belt connector (A) from behind seat, pull out and across body to inner connector (B), at inside of seat.
2. Adjust outer connector up or down along belt for best fit.
3. Push outer connector lower half (C) firmly into inner connector until it locks.
4. Snug the seat belt across the hips, on top of the thighs.

Release Belt

1. To release seat belt, press red button on inner connector.

OUMX068,0000E4F-19-06NOV15

Testing Safety Systems



MXAL41828—UN—18FEB13

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

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

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

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

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

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

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

BB87125,0000D5A-19-14MAY13

Testing the Safety Start System

NOTE: The engine can start with the transmission in gear. The machine has a brake pedal safety start switch. The 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 STOP position.
3. Move transmission shift lever to N (Neutral) position.
4. Turn ignition key switch to START position. Engine should not start. Turn ignition key switch to STOP position.
5. Push down on 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. Allow engine to run a few seconds.
12. Turn ignition key switch to STOP position.

MX00654,000030A-19-09MAY20

Testing the Park Interlock System

1. Sit on the operator seat with the vehicle on level ground and the key in the ON position.
2. Move shift lever from reverse to park with your foot on the brake pedal.
3. Continue to hold down brake pedal while releasing shift lever.
4. Release brake pedal and try to move shift lever forward out of P (Park). Lever should not move.
5. Verify that P is illuminated on the instrument cluster display.
6. With foot off of the brake pedal attempt to shift backwards from Park. Verify that shift lever is locked and P remains illuminated on the instrument cluster display.
7. With foot on the brake pedal, shift forward from Park to verify park interlock disengages and instrument cluster displays new gear position.
8. Turn ignition back to STOP position.
9. Return shift lever to P (Park) position.

MX00654,000033A-19-19MAY20

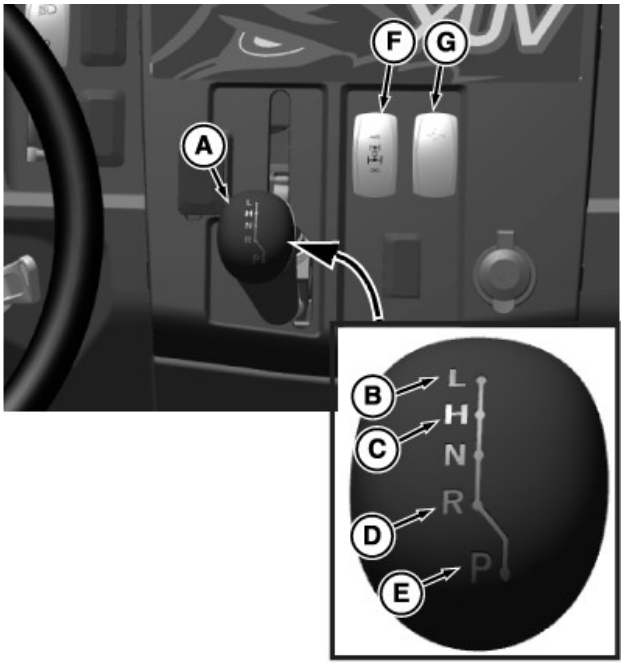
Using Travel Controls

1. Stop machine.
2. Allow engine to come to a low idle speed.

IMPORTANT: Avoid damage! Do not shift gears when vehicle is moving or with engine running higher than low idle speed. Push down brake to stop vehicle motion and engage shift lever with a firm positive action.

NOTE: Always shift into low range when operating on wet, uneven, or steep terrain. Also when towing or pushing heavy loads, or operating at less than 16 km/h (10 mph).

If it is difficult to shift into gear, or grinding occurs, return vehicle to a low idle speed. Tap the throttle and increase the rpm slightly. Return to idle before attempting to shift again.



MX101483—UN—11MAY20

3. Select a gear position:
   - Forward - Push transmission shift lever (A) up to either High (C) or Low (B) range.
   - Reverse - Pull lever down to Reverse (D) gear.
4. Select 2WD or 4WD position:
   - Pushing the top of 2WD/4WD switch (F) engages 4WD.
   - Pushing the bottom of the 2WD/4WD switch (F) engages 2WD.

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

5. Select rear unlock or lock position:
   - Pushing the top of the rear differential lock switch (G) engages the rear differential lock. See Using Rear Differential Lock instructions before operating machine with the rear differential lock engaged.
   - Pushing the bottom of the rear differential lock switch (G) disengages the rear differential lock.
6. Look in the direction of machine travel.

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

7. Push down on the speed control pedal slowly and smoothly to begin machine travel.
8. Release speed control pedal and apply the brake pedal evenly and firmly to slow down or stop.
9. Pull transmission shift lever down to the Park (E) position.

MX00654,000030C-19-26JUN20

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.

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 low steady speed, in a straight line, to engage rear differential lock.

1. Stop or reduce engine speed to 1/3 throttle or less.
2. Push the top of the rear differential lock switch.

Disengaging Rear Differential Lock

NOTE: To ensure true disengagement of the rear differential lock, torque on both axles must be equalized. Turn right and left after disengaging.

1. Travel in a straight line.
2. Push the bottom of the rear differential lock switch.
3. Turn wheel right and left to equalize torque on both axles.

MX00654,000030D-19-14JUL20

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 traction and can make dangerously sloped terrain accessible, increasing possibility of a tip-over.

Use extra caution when driving on slopes. To increase traction, use 4WD when driving on slopes.

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

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

Selecting 2WD or 4WD position:

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

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

Tips for Operating 4WD:

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

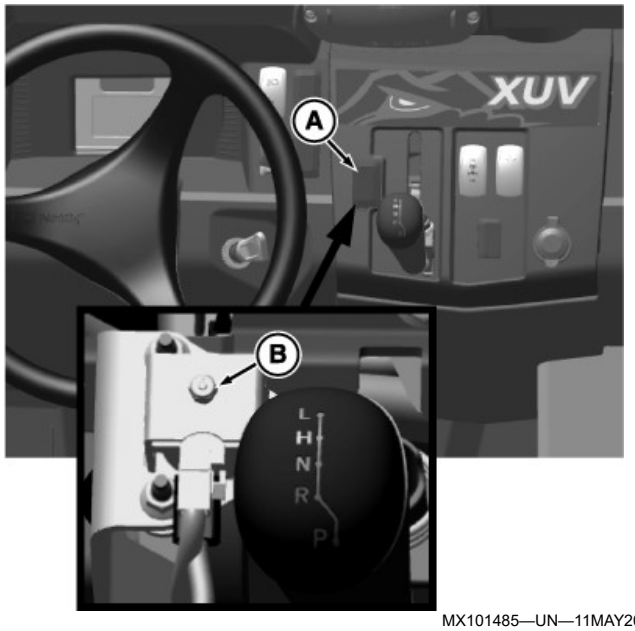
MX00654,0000326-19-01JUL20

Using Park Lock Override

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

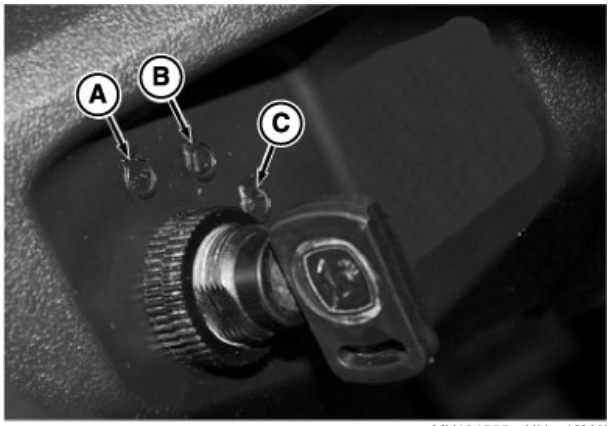


MX101485—UN—11MAY20

1. Remove cover (A).
2. Pull up on actuator plunger (B) while shifting out of P (Park). Release plunger.
3. Push vehicle to desired location.
4. Move shift lever to the P (Park) position.

MX00654,0000317-19-14MAY20

Using Ignition Key Switch



MX101555—UN—12MAY20

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

B - RUN Position - Turn key from STOP to this position and all switched power circuits are on.

C - START Position - Turn key to START position to start the engine. Release key after engine has started and it will automatically return to the RUN position. The engine continues to run.

MX00654,0000327-19-11MAY20

Using Headlights

The key switch must be in the RUN position to operate the lights. If the key switch is in the RUN position and the engine is not running, the battery discharges when the lights are left on for an extended time.

- 590E: To turn on headlights and running tail light (if equipped), press top of light switch.
- 590M: To turn on low-beam headlights and running tail light (if equipped), press light switch to the middle position.
- 590M: To turn on high-beam headlights, low-beam headlights, and running tail light (if equipped), press light switch to the top position.

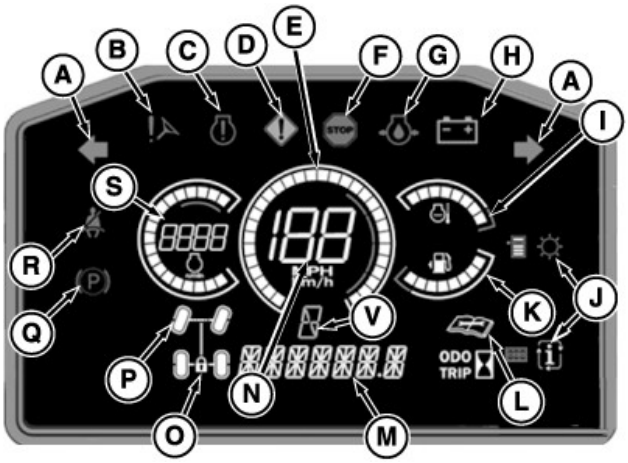
NOTE: Be sure to turn off lights and turn the ignition key switch to STOP position, or lights discharge the battery.

- To turn off headlights and running tail light (if equipped), press bottom of the light switch.

OUMX068,0001483-19-30MAR18

Using Instrument Cluster Controller Display

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



MX101550—UN—16JUL20

NOTE: "Troubleshooting Required" indicates that additional diagnosis is required to isolate the problem. See your Authorized John Deere Dealer for service.

A - Turn Signal Indicator - The left or right signal indicator flashes when turn signal is active.

B - Electric Power Assist Steering (EPAS) Malfunction Indicator - This indicator illuminates or flashes when the EPAS system detects a fault. The level

of assist may also be decreased. Troubleshooting required.

C - Engine Malfunction Indicator - This indicator illuminates or flashes when an engine fault has been detected. Troubleshooting required.

D - Operator Alert Indicator - This indicator illuminates when a fault has been detected that does not require the machine to be stopped immediately. Troubleshooting required.

E - Speedometer Gauge - The bar gauge shows wheel speed.

F - Stop Indicator - This indicator illuminates or flashes alerting the operator to a condition that requires immediate attention and to stop the machine. Troubleshooting required.

G - Low Engine Oil Pressure Indicator - This indicator illuminates or flashes when the engine is running and the engine oil pressure is too low. Troubleshooting required.

H - Battery Indicator - This indicator illuminates or flashes when a low or high voltage has been detected. Turn off electrical loads.

I - Coolant Temperature Gauge - This gauge displays the current engine temperature. If the temperature rises to an overheat condition, the stop indicator (G) illuminates.

J - Instrument Cluster Controller Buttons - These buttons are used to activate certain instrument cluster controller functions. For detailed instructions, see Using Instrument Cluster Controller Buttons in Operating section.

K - Fuel Gauge - The bar graph has eight segments representing actual fuel level. Each bar displays approximately 1/8 of a full fuel tank. If there is less than 1/8 of a tank (no bars illuminated) the fuel symbol blinks.

L - System Diagnostic Indicator - This indicator illuminates or flashes for system malfunctions that do not have a specific indicator. Troubleshooting required.

M - Odometer, Trip Meter, Hour Meter Gauge - This indicator shows the accumulated kilometers/miles the machine has traveled, along with a trip meter. The hour meter portion shows the accumulated number of operating hours the engine has run. The hour meter displays operating hours and accumulates and displays operating hours when the engine is running. The hour meter is intended to provide a means of monitoring machine usage for maintenance purposes. Use the hour meter to determine when your machine has reached the recommended service intervals.

N - Speedometer - The speedometer indicates machine speed in km/h or mph.

O - Rear Differential Lock Indicator - This indicator illuminates when the rear differential lock is enabled and machine is not in P (Park). Rear differential is always locked when machine is in the P (Park) position.

P - 4WD Indicator - This indicator illuminates when four-wheel drive is enabled.

Q - Park Brake Indicator (if equipped) - This indicator illuminates when the park brake is partially or fully engaged.

R - Seat Belt Indicator - This indicator illuminates or flashes when the driver seat belt is not secured.

S - RPM Gauge - This gauge shows a digital readout of the current engine RPM value.

T- Gear Position Indicator - This indicator displays the letter of the gear position of the transmission.

MX00654,0000346-19-30JUN20

Using Instrument Cluster Controller Buttons

NOTE: If vehicle speed is greater than 4.8 km/h (3 mph), no menu settings are allowed.

While in a main or sub menu item, if no button is pressed within the required time, the settings menu returns to the current Home screen. Press and hold the select button for 2 seconds to get back to the settings menus.

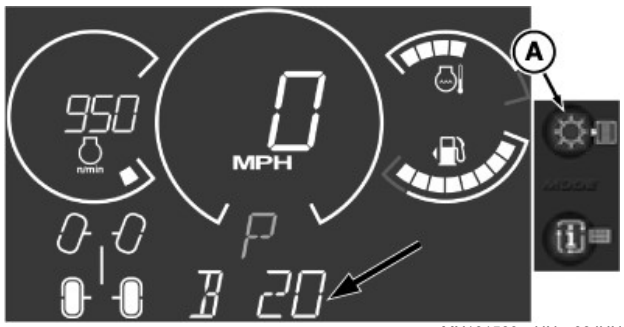
1. Park machine safely. (See the Safety section.)
2. Turn the ignition key switch to the run position which activates the display.

NOTE: When you enter a menu by pressing the select button, the menu title starts flashing, indicating that you can scroll to change or just re-select the current value to save.

MX101568—UN—26JUN20

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

Adjusting Display Brightness



MX101569—UN—03JUN20

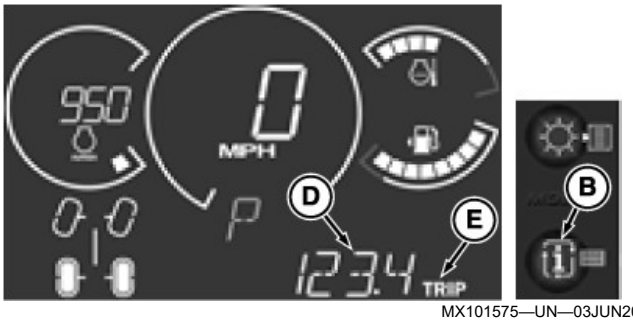
Adjust the display brightness by pressing the select button (A). The brightness changes in increments of 20 percent.

Using Odometer, Trip Meter, and Hour Meter

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

MX101574—UN—03JUN20

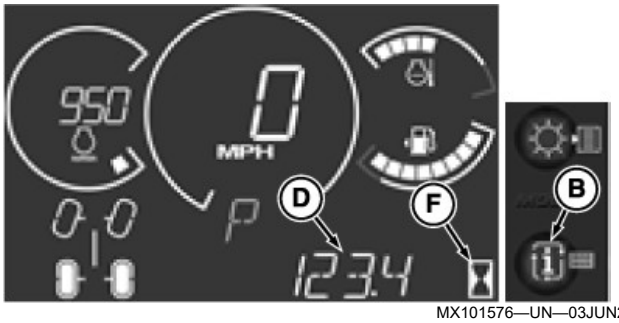
- When “ODO” (C) is displayed, the odometer indicator (D) displays the number of miles or kilometers (km/h) the machine has moved. The Speedometer indicates whether miles (MPH) or kilometers (km/h) are displayed. (To change between miles or kilometers (km/h) displayed, see System Settings Menu.)



MX101575—UN—03JUN20

- When “TRIP” (E) is displayed, the indicator (D) displays the number of miles or kilometers (km/h) the machine has moved for a certain trip. (To change between miles or kilometers (km/h) displayed, see System Settings Menu.)

  Reset the trip odometer, by holding the cycle button (B) for at least two seconds until the indicator changes to 0.0.



MX101576—UN—03JUN20

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

System Settings Menu

MX101568—UN—26JUN20

To enter the System Settings Menu from the Home screen, press and hold the select button (A) for 2 seconds. Pressing the cycle button (B) toggles through the Speed Limiter, Tire Size, Display Units, Display Language, Service Interval Indicator, and the Diagnostic Trouble Codes (DTC) menus.

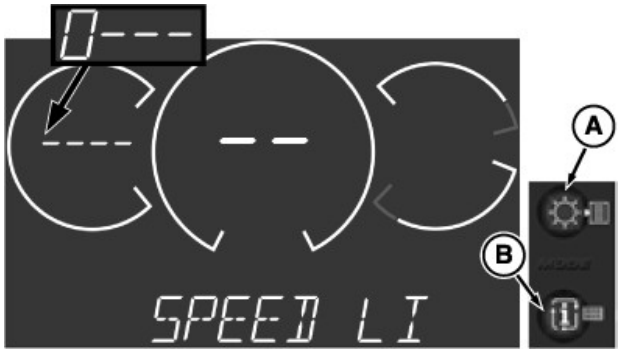
Speed Limiter Menu

NOTE: "Speed Limiting" scrolls across the bottom when this screen is showing. Text changes based on language selected.

Engaging the Speed Limiter alerts an operator when the vehicle ground speed goes beyond:

- 46 km/h (29 mph) with the seat belt buckled.
- 24 km/h (16 mph) with the seat belt unbuckled.

All vehicles are initially set up with Speed Limiter mode disabled, to enable Speed Limiter mode:

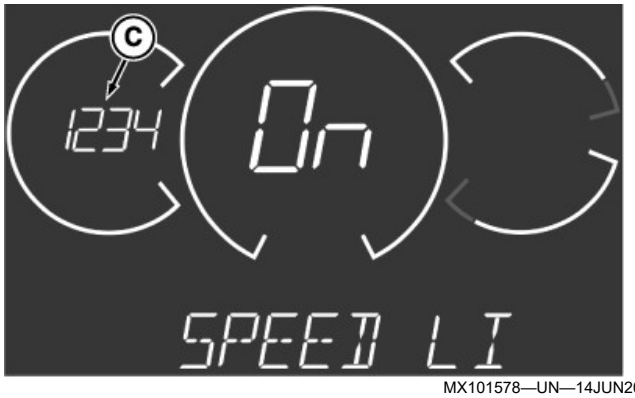


MX101577—UN—14JUN20

1. Hold select button (A) to enter the menu. Speed Limiter menu appears first.

NOTE: When activating the Speed Limiter, you will be creating a password that must be securely stored somewhere for disabling it in the future. If forgotten, there is a master pass code stored in the controller that only a dealer is able to access.

2. Press select button (A) and begin activation/ deactivation of speed limiting. The first digit in the left gauge begins flashing and looks like "0---". The display remains on for 10 seconds, and then the display returns to the Main Menu for this setting.
3. Press cycle button (B) to scroll through the digits 0—9.
4. Press select button (A) to select the desired number, next digit will begin flashing.



MX101578—UN—14JUN20

5. Repeat steps 3 and 4 until all four digits (C) have been entered.
   - If you are enabling, the center gauge changes from “- -” to “On”.
   - If disabling and correct pass code is entered, "On" changes back to "--". Process can then be repeated to enable with same or new pass code.
   - If disabling and an incorrect pass code is entered, incorrect pass code flashes three times and "On" remains. Operator can attempt again. See note for forgotten pass code information.

Tire Size Selection Menu

MX101570—UN—03JUN20

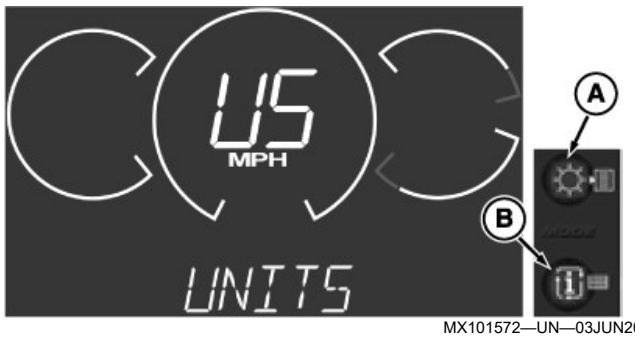
25 inch Tire Size Shown

This menu allows the operator to adjust for the tire sizes available. The current setting is displayed when entering the option menu structure.

To enter the tire size menus:

1. Press the select button (A).
2. Press the cycle button (B) to toggle through and display the tire sizes. The tire size value displayed flashes every 1 second.
3. Press the select button (A) when the desired tire size is displayed. The tire size remains on for 5 seconds, and then the display returns to the Main Menu for this setting.

Display Units Selection Menu



MX101572—UN—03JUN20

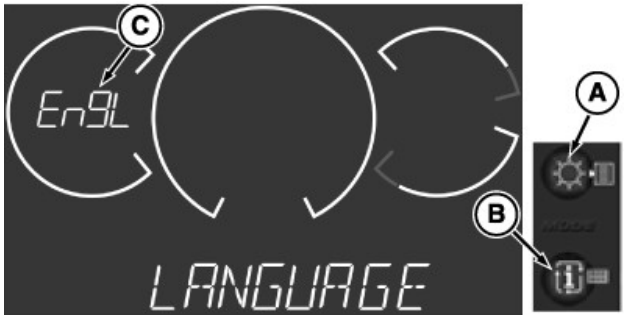
English Display Units Shown

This menu allows the operator to select either English or metric units when applicable. The current setting is displayed when entering the option menu structure.

To enter the display units menus:

1. Press the select button (A).
2. Press the cycle button (B) to toggle between US/mph and SI/km/h. The display unit text and icon flashes every 1 second.
3. Press the select button (A) when the desired unit is displayed. The display unit text and icon remains on for 5 seconds, and then the display returns to the Main Menu for this setting.

Display Language Selection Menu



MX101579—UN—14JUN20

This menu is to select the display of either English, Spanish, or French language where applicable. The stored option value is shown on the engine RPM gauge (C) when entering the option menu structure.

To enter display language menus:

1. Press the select button (A).
2. Press the cycle button (B) to toggle between languages.
3. Press the select button (A) when the desired language is displayed. The language text and icon remains on for 5 seconds, and then the display returns to the Main Menu for this setting.

Service Interval Indicator Menu

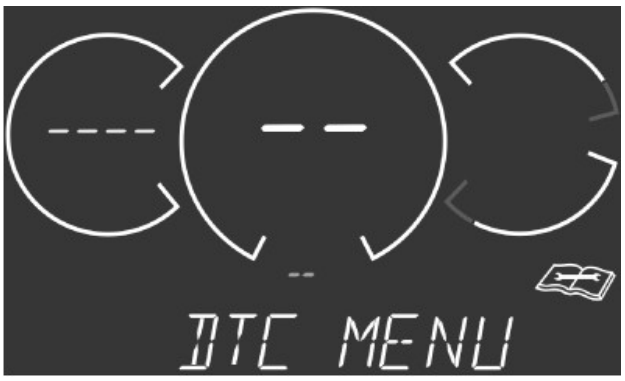
MX101584—UN—03JUN20

This feature provides the option to alert machine operator when it is time to review their operator manual and conduct the service interval maintenance. The stored option value is shown on the engine RPM gauge when entering the option menu structure. The word “Service” appears in the language chosen in the Language Selection Menu.

To turn the service indicator on or off:

1. Press the select button (A) from the Service menu.
2. Press the cycle button (B) to toggle between “on” and “off”.
3. Press the select button (A) when the desired option is displayed. The Service text and icon remains on for 5 seconds, and then the display returns to the Main Menu for this setting.

DTC Menu

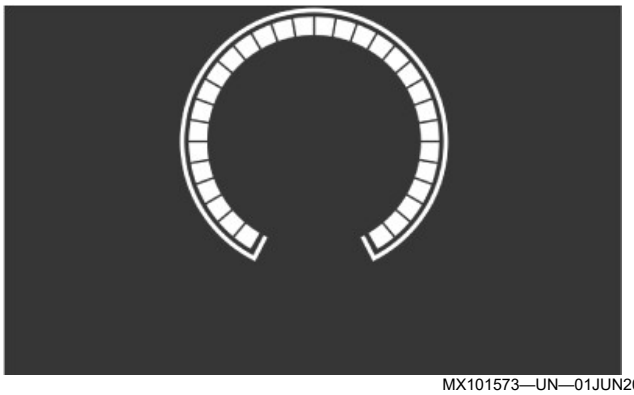


MX101571—UN—03JUN20

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

MX00654,0000342-19-26JUN20

Exit Lighting Operation



MX101573—UN—01JUN20

Function

A method for a “soft” shutdown of lighting after the ignition key switch is turned off.

Operation

When the ignition key switch is turned off, certain circuits remain on. The bar gauge represents a countdown to power removal.

MX00654,000034D-19-14JUN20

Using Accessory Outlet

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

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

- Remove 12 volt outlet cover and install accessory cord in the outlet.

- Install cover in the outlet after use.

SB31882,0000195-19-19APR18

Using Turn Signal Switch (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.

BB87125,0000D62-19-19APR13

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.

OUMX068,0000EA9-19-30OCT15

Opening and Closing Hood

CAUTION: Avoid injury! Never store flammable, heavy, or loose breakable objects in the storage tray. Always latch hood before operating machine.

IMPORTANT: Avoid damage! Do not store items that will not allow the hood to close properly. Properly secure loose or sharp items. These items may damage the storage tray or other items within the tray.

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

MXAL47388—UN—16APR13

2. Remove pin (A) on each side of front bumper assembly (B).
3. Rotate top of the front bumper forward.
4. Release rubber latch (C) attached to each side of machine.
5. Raise hood (D).
6. Close hood. Secure with two rubber latches. Lower front bumper and secure with two pins.

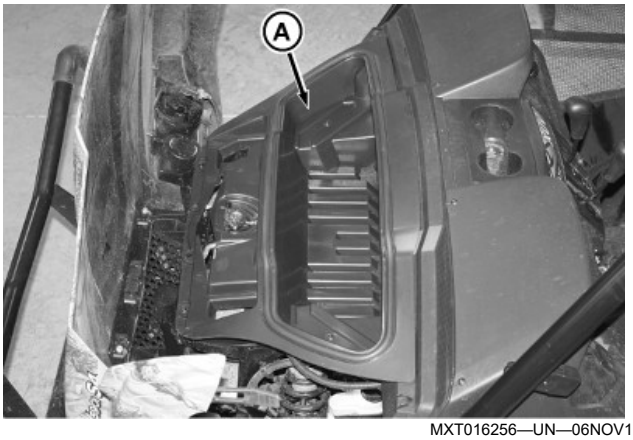
BB87125,0000DAE-19-10MAR20

Using Storage Trays

CAUTION: Avoid injury! Never store flammable, heavy, or loose breakable objects in the storage tray. Always latch hood before operating machine.

IMPORTANT: Avoid damage! Do not store items that prevent the hood from closing properly. Properly secure loose or sharp items. These items can damage the storage tray or other items within the tray.

Under Hood

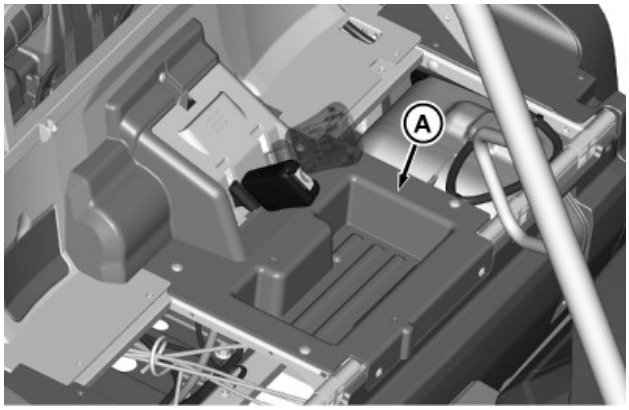


MXT016256—UN—06NOV15

Storage tray (A) is located in the front of the machine under the hood.

1. Open hood to access the storage tray.
2. Secure all items properly, preventing damage from movement while operating the machine.
3. Close hood.

Under Seat (XUV590 with Front Bench Seat)



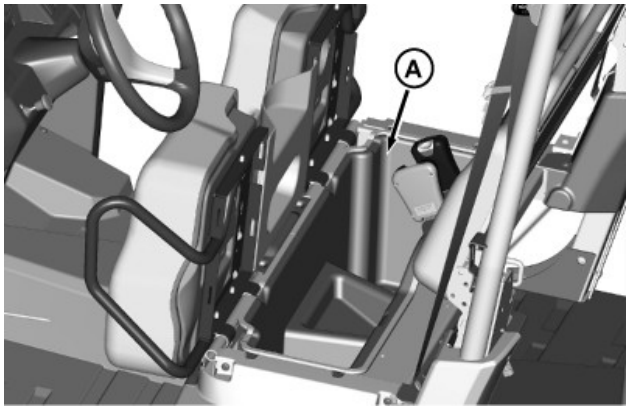
MXT016238—UN—03NOV15

Storage tray (A) is located under the bench seat.

1. Raise bench seat to access the storage tray.
2. Secure all items properly, preventing damage from movement while operating the machine.
3. Lower bench seat.

Under Seat (XUV590 S4 with Front Bench Seat)

Front Seat (If Equipped)

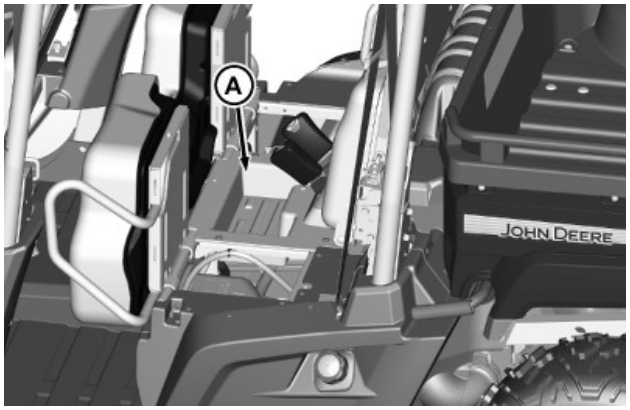


MXT016170—UN—23OCT15

Storage tray (A) is located under the front bench seat.

1. Raise front bench seat to access the storage tray.
2. Secure all items properly, preventing damage from movement while operating the machine.
3. Lower bench seat.

Rear Seat



MXT016257—UN—06NOV15

Storage tray (A) is located under the rear bench seat.

1. Raise rear bench seat to access the storage tray.
2. Secure all items properly, preventing damage from movement while operating the machine.
3. Lower bench seat.

OUMX068,0001485-19-14MAY18

Starting the Engine

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

- **Move the machine to an outside area before running the engine.**
- **Only run an engine in an enclosed area with adequate ventilation.**
- **To direct the exhaust fumes out of the area, connect a pipe extension to the engine exhaust pipe.**
- **To clear out the exhaust fumes, allow fresh outside air into the work area.**

CAUTION: Avoid injury! Do not start engine by shorting across starter terminals.

Do not use starting fluid to aid engine starting.

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

1. Sit on the operator seat and fasten seat belt. Do not start engine.
2. Check free movement of pedal assembly by pushing down on the speed control pedal. Release pedal.
3. Shift to P (Park) if vehicle is not already in P (Park).

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

On some machine models, starter crank protection can engage and you cannot start the engine for approximately ten seconds.

4. Turn ignition key switch to START position.
5. When engine starts, release ignition key switch to the RUN position.
   - If engine does not start within five seconds, turn ignition key switch to STOP position and wait ten seconds before trying to start again.
   - In cold conditions, attempt starting engine three times only, then wait 5 minutes before trying again. It allows time for the starter to cool and prevent damage to starter.

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

NOTE: When the vehicle is stopped, revving the engine above 3500 rpm for greater than 25 seconds can cause the system diagnostic light to illuminate.

6. To warm up the engine manually with the speed control pedal, first shift to P (Park), and push down on the brake pedal.
7. To allow the machine to move, shift to desired gear, L (Low), H (High), or R (Reverse).

MX00654,0000343-19-26JUN20

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! Do not stop engine immediately after hard or extended operation. Keep engine running at a low idle for a few seconds to prevent heat buildup.

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

MX00654,0000311-19-04MAY20

Emergency Stopping

1. Remove foot from travel pedal or accelerator pedal.
2. Depress brake pedal. Do not release brake pedal until machine has stopped.
3. After machine has stopped, shift to P (Park).
4. Turn ignition key switch to STOP position.

MX00654,0000312-19-04MAY20

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.

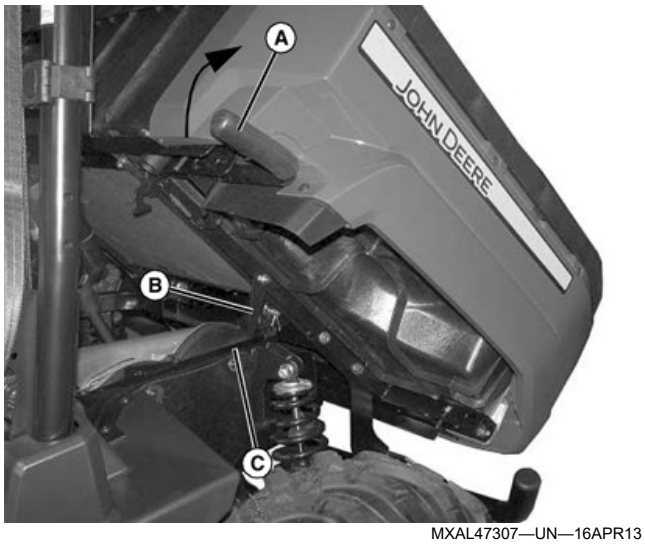
Raising and Lowering

CAUTION: Avoid injury!

Park machine on a level surface and shift to P (Park) before manually raising and securing cargo box in raised position.

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

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



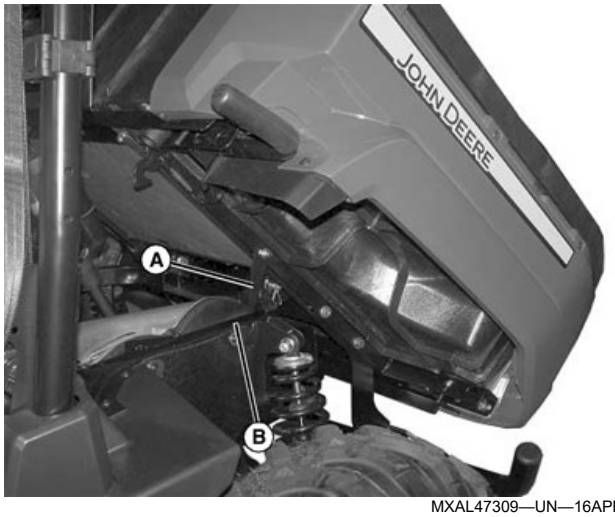
MXAL47307—UN—16APR13

3. Rotate handle (A) upward and raise cargo box. While holding cargo box in position, lower latch support (B) onto frame (C).
4. To lower the cargo box, raise latch support (B) and slowly push cargo box downward until it latches in fully lowered position.

Locking Cargo Box in Raised Position

CAUTION: Avoid injury! If not secured properly, cargo box can fall. Remove key from ignition and lower latch support onto frame before doing any service under the raised cargo box.

1. Raise the cargo box.



MXAL47309—UN—16APR13

2. Lower latch support (A) onto frame (B).
3. Check to be sure that the cargo box is locked in raised position.
4. To lower the cargo box, raise latch support (A) up and slowly push cargo box downward until it latches in fully lowered position.

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! Do not attempt to tilt or dump cargo box when lanyards are detached, or tailgate damage results.

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

MXAL47310—UN—16APR13

1. Check to be sure lanyards (A) are in place for supporting lowered tailgate.
2. To unlock and lower tailgate, pull back on handle (B).
3. Before raising tailgate, check for stones and debris caught in the gap between the tailgate and cargo box floor. To remove debris:
   - Secure the cargo box in raised position using latch support.
   - Rotate the tailgate slightly to free debris, and brush out the gap.
   - Lower the cargo box.
4. To raise the tailgate, slowly push tailgate upward and lock into closed position.
5. Check to be sure that tailgate is securely locked.

Using Cargo Box Tie-Downs

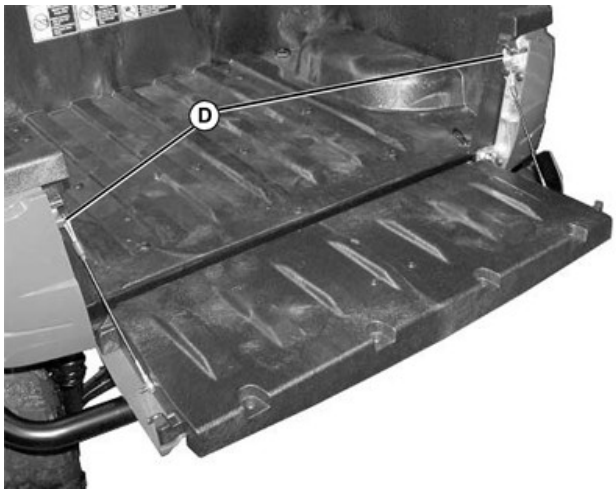
MXAL47311—UN—16APR13

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

Removing the Tailgate

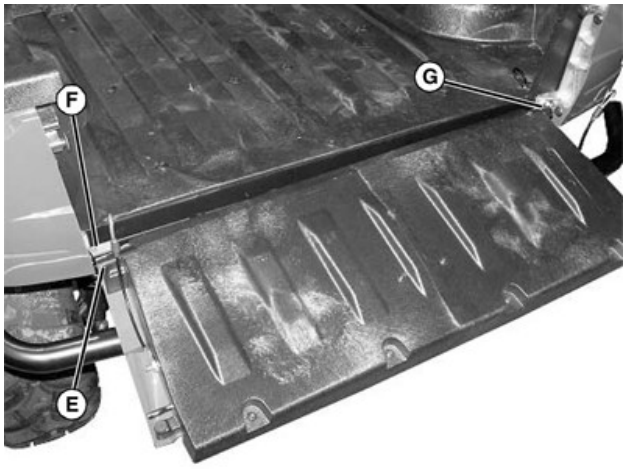
MXAL47312—UN—16APR13

1. Check to be sure lanyards (A) are in place for supporting lowered tailgate.
2. Pull back on handle (B) to unlock and lower tailgate (C).



MXAL47313—UN—16APR13

3. Remove top loop (D) on top of lanyards from studs on the cargo box side, and lower tailgate downward.



MXAL47314—UN—16APR13

4. Lower tailgate so that slotted opening (E) on tailgate matches pin (F) on the side panel. Remove left side of tailgate first and then remove right side (G) and entire tailgate assembly from the side panel.
5. Install in reverse order of removal.

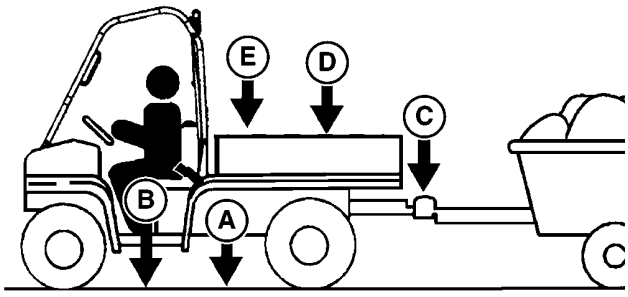
MX00654,0000313-19-13MAY20

Determining 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.**



MXT022520—UN—14MAY18

The picture shows a Protective Structure installed on a two-passenger machine. Some machines do not have a Protective Structure installed as some models are not designed to include it.

Factors in Determining Vehicle Load Capacity

NOTE: Optional equipment, and attachments that are not standard equipment, reduce your cargo box capacity; so they must be included when determining gross vehicle weight.

- **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.

  Payload = B+C+D+E
- **(A) Empty vehicle weight** is the weight of the vehicle (full fluids) without occupants or load or attachments.
- **(B) Occupant load** is the combined weight of the operator and passenger (or passengers).
- **(C) Trailer tongue weight** is the weight measured if the tongue of a loaded trailer was placed on a scale. The tongue weight must be approximately 10% of the total of the trailer weight and the weight of its load.
- **(D) Cargo load** is the weight of the cargo.
- **(E) Attachment and option weight** is the combined weight of all attachments and options that were not standard equipment. For help with this information, contact your John Deere dealer.
- **Vehicle load capacity** is the remaining amount of weight that the vehicle is able to haul.
- **Determine maximum vehicle load capacity:**
  a. Calculate GVW = A+B+C+D+E
  b. Subtract the Gross Vehicle Weight (GVW) from the Gross Vehicle Weight Rating (GVWR).
  c. The weight difference between the two numbers is the vehicle load capacity.

     Vehicle Load Capacity = GVWR-GVW
  d. The Gross Vehicle Weight must be less than or equal to the Gross Vehicle Weight Rating. If GVW exceeds GVWR, remove excess weight from the vehicle before operating.

Example:

The following is for a vehicle with 68 kg (150 lb) of cargo load, a 91 kg (200 lb) operator, 100 kg (220 lb) of attachments. Attachments include a heavy-duty brush guard, Protective Structure poly roof, cargo box power lift kit; towing a trailer with 23 kg (50 lb) of tongue weight.

Find the correct specifications for your machine model in the Specifications section in this manual. To determine your machine capacity, use those numbers.

Key	Description
(A) Empty Vehicle Weight:	553 kg (1220 lb)
(B) Operator Weight:	91 kg (200 lb)
(C) Trailer Tongue Weight:	23 kg (50 lb)
(D) Cargo Load:	68 kg (150 lb)
(E) Attachments and/or Options:	100 kg (220 lb)

GVW = 835 kg (1840 lb)

• 91 kg (200 lb) + 553 kg (1220 lb) + 23 kg (50 lb) + 68 kg (150 lb) + 100 kg (220 lb)

Vehicle Load Capacity = 81 kg (180 lb)

• GVWR 916 kg (2020 lb) less GVW 835 kg (1840 lb)

Utilize the remaining vehicle load capacity of 81 kg (180 lb) to haul an additional passenger (or passengers), cargo, trailer tongue, and attachment weight.

MX10673,000008A-19-11MAY20

Loading the Cargo Box

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

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

See capacities in SPECIFICATIONS.

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

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

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

Do not load above height of cargo box.

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

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

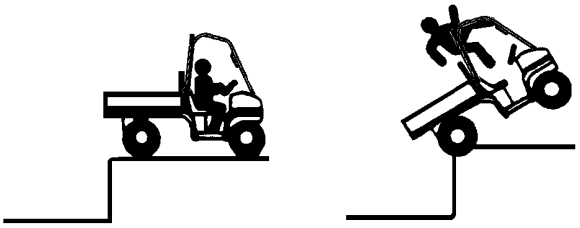
Printed weight is normally on bagged and other material.

KL66860,00000BF-19-12SEP16

Emptying Cargo Box

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

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



MXAL43175—UN—19MAR13

1. Back up the machine to dump site.
2. Park the machine safely. (See Parking Safely in SAFETY.)
3. Open tailgate.
4. Raise cargo box to dump load.
5. Lower cargo box when empty.
6. Close tailgate. Do not drive machine with the cargo box in raised position.

BB87125,0000D6D-19-09MAR20

Towing Loads

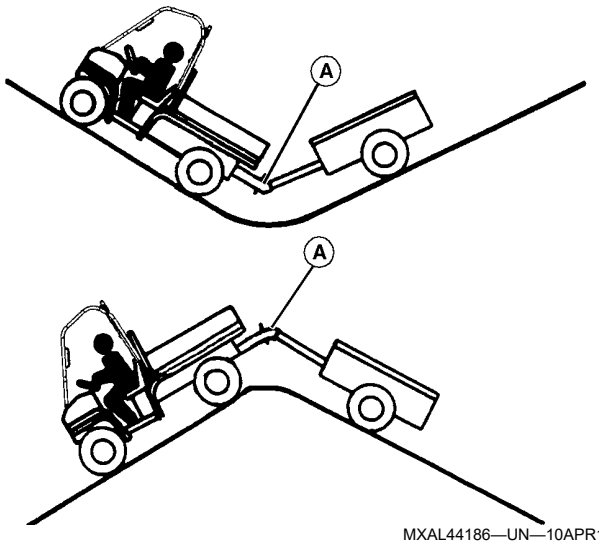
CAUTION: Avoid injury! Excessive towed load can cause loss of traction and loss of control on slopes. Stopping distance increases with speed and weight of towed load.

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

Secure towed loads before transporting.

- When operating over rough, hilly, or steep terrain and reducing cargo load by half, any towed load must also be reduced accordingly.
- 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. (The tongue load of a trailer must be approximately 10% of the total trailer weight.)
- Tow load at a speed slow enough to maintain control.

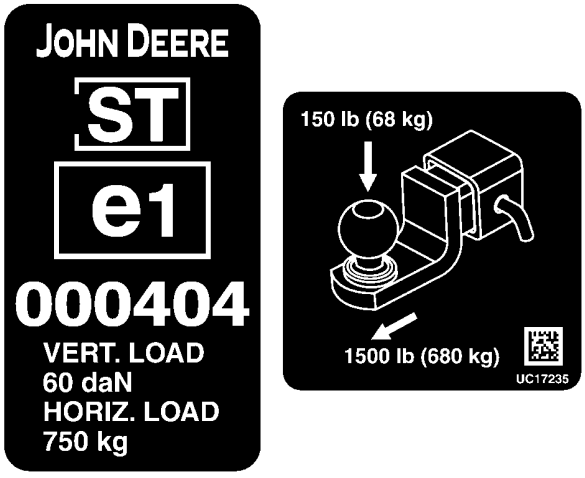
IMPORTANT: Avoid damage! When operating on terrain with extreme angles, use a ball type hitch (A).



MXAL44186—UN—10APR13

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

Capacity Label



MXT022275—UN—14MAR18

Labels shown are for reference only. Confirm capacities in your operators manual Specifications section.

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

The vertical load capacity is the maximum down force which can be applied for safe operation. The horizontal

load capacity is the total weight of what is being towed which must not be exceeded for safe operation.

OUMX068,0001487-19-24APR18

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 in SPECIFICATIONS.

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 low pressure gauge is available at your John Deere dealer.

BB87125,0000D6F-19-09MAR20

Tire Chains

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

BB87125,0000D70-19-09MAR20

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.

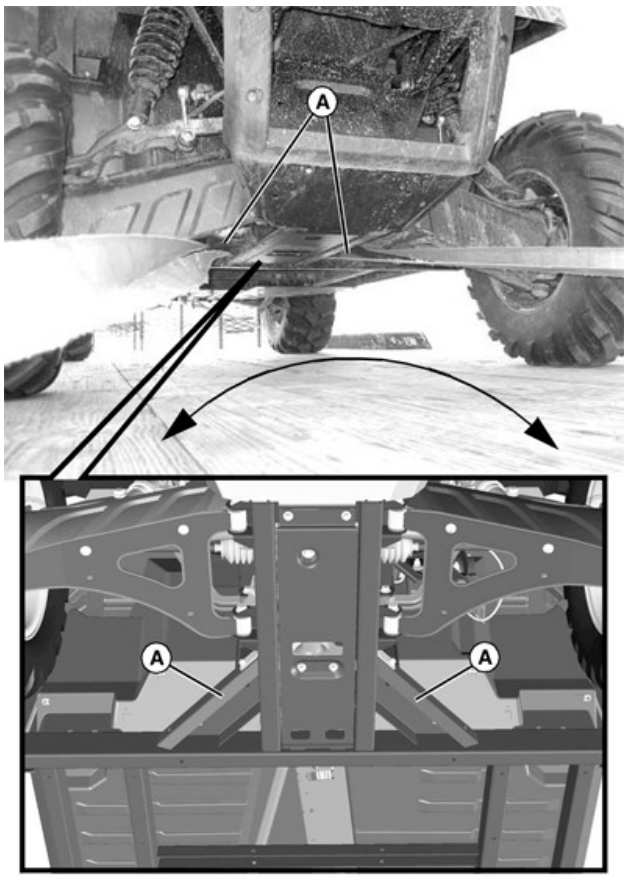
To avoid damage, haul the vehicle in an enclosed trailer. If an open trailer must be used, haul on a heavy-duty trailer or on a full-size truck. Be cautious and travel at reduced speeds.

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.

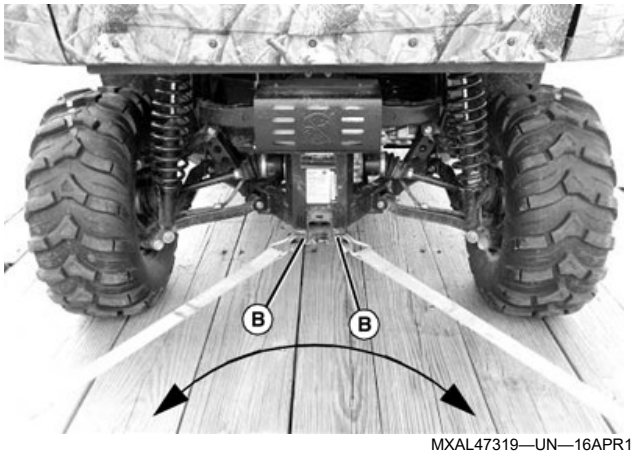
1. Move the transmission shift lever to the neutral (N) position for towing.
2. Make sure that the 2WD/4WD switch is in the 2WD (two-wheel drive) position. Cycle the switch power to ensure that the 4WD actuator has released.
3. Check to be sure that the ignition key switch is in the STOP position.

Machine Tie Down Locations



MXAL47318—UN—16APR13

Fasten front of machine around frame braces (A) to trailer with a heavy-duty strap, chain, or cable. Strap must be directed down and outward from machine.

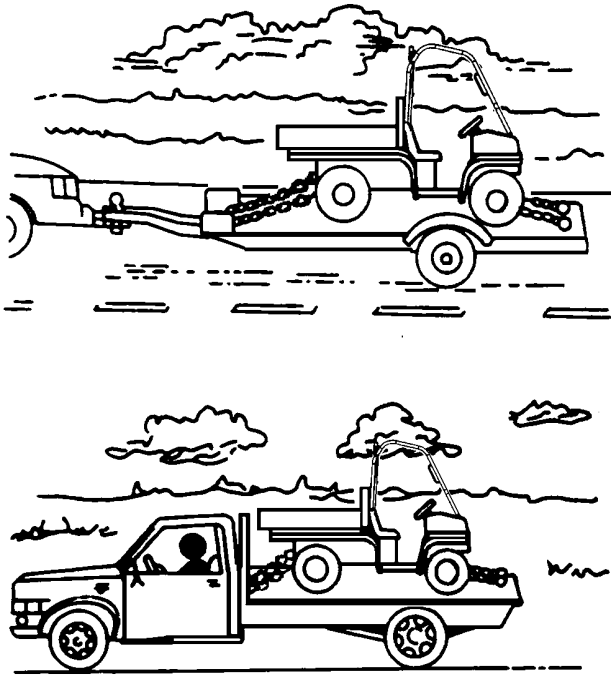


MXAL47319—UN—16APR13

Fasten rear of machine through tie-down points (B) to 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.



MXAL43179—UN—19MAR13

1. Back machine onto the trailer or truck.
2. Park the machine safely. (See Parking Safely in 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.

MX00654,0000314-19-17JUL20

Attachments and Kits

NOTE: All attachments and kits are not shown. Attachments and kits vary by machine model and may not be available in all regions. Specifications and design are subject to change without notice. See your John Deere dealer for availability in your region.

MX00654,00000E3-19-04SEP13

Using Quick Clamps

Most optional attachments and kits use quick clamps to attach to the machine.

Using Clamps

1. Check and adjust the tightness of the clamps after the first 30 days of use.
2. If clamps are loose:

MXAL44361—UN—28MAR13

   a. Open clamp arm lever (A).
   b. Increase tension by turning lever (A) one full turn clockwise. Repeat as needed.
   c. Lock clamps.

3. If clamps are tight:
   a. Open clamp arm lever (A).
   b. Decrease tension by turning lever (A) one full turn counter-clockwise. Repeat as needed.
   c. Lock all clamps.

BB87125,0000D72-19-19APR13

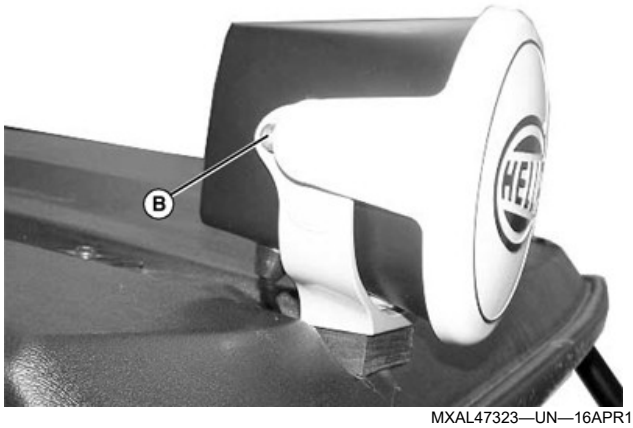
Light Kits

Adjusting Lights

1. Adjust light direction:

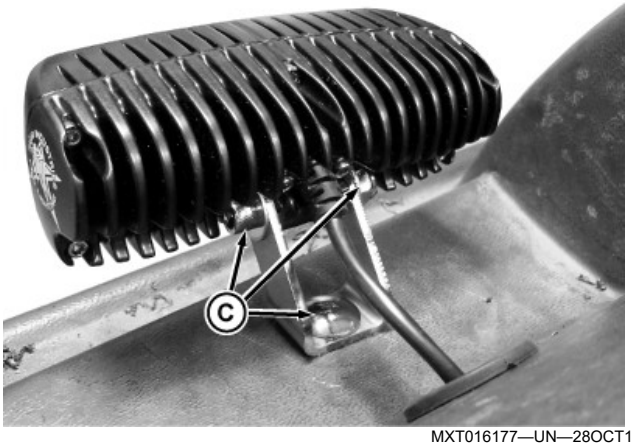
MXAL47322—UN—16APR13

- Type A - Loosen locknut (A) on carriage bolt and direct light where needed. Tighten locknut to secure in position.



MXAL47323—UN—16APR13

- Type B - Loosen two hex head bolts (B) on light and direct light where needed. Tighten both hex head bolts to secure in position.



MXT016177—UN—28OCT15

- LED Lights - Loosen hardware (C) and direct light where needed. Tighten hardware to secure in position.

Replacing Fuses

Most light kits have a replaceable fuse located on the

wiring harness near the Protective Structure switch bank.

OUMX068,0000E98-19-06NOV15

Backup Alarm

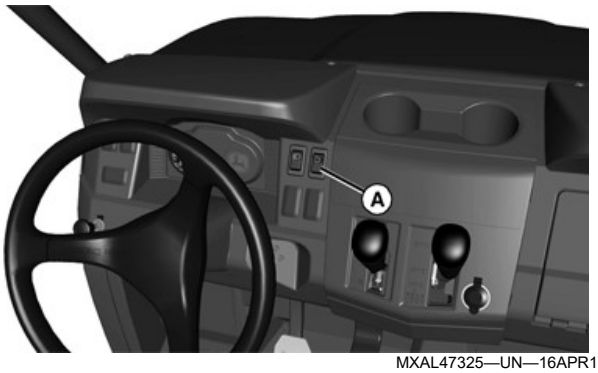
Periodically Check Alarm Function

1. Start machine.
2. Move transmission shift lever into Reverse gear and listen for the alarm to sound.
3. Contact your John Deere dealer if alarm does not function properly.

SB31882,000016E-19-20APR18

Horn

Horn Switch Location



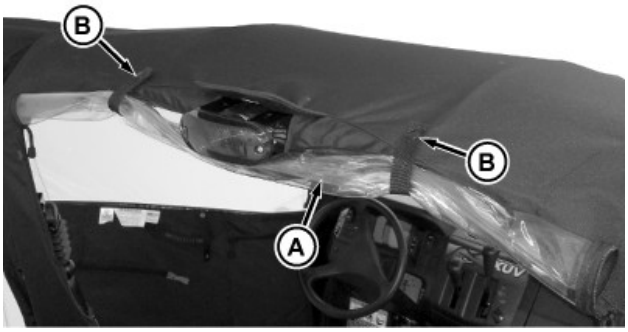
MXAL47325—UN—16APR13

1. Press switch (A) to activate horn. Release switch to deactivate.

BB87125,0000D75-19-19APR13

Canvas Cab

Opening Rear Panel



MXT016157—UN—21OCT15

1. Unzip plastic window (A).
2. Roll window up, wrap straps (B) around window, and snap into position as shown.

Using Transport Strap

To avoid damage to doors, use the transport strap when towing the machine on a trailer.

1. Open the rear panel.
2. Close cab doors.

MXT016175—UN—28OCT15

3. Reach through the open rear panel to attach the transport strap (A) to one of the doors.
4. Route transport strap to attach to the other door.

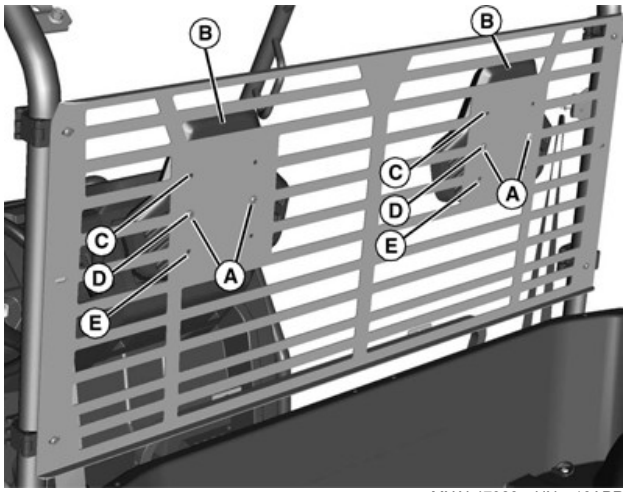
Servicing Rear Panel

Snaps and zipper on the rear panel can be lubricated as needed with commercially available products.

OUMX068,0000E99-19-06NOV15

Protective Structure Rear Screen

Adjusting Headrest Position



MXAL47328—UN—16APR13

Headrest shown in center position.

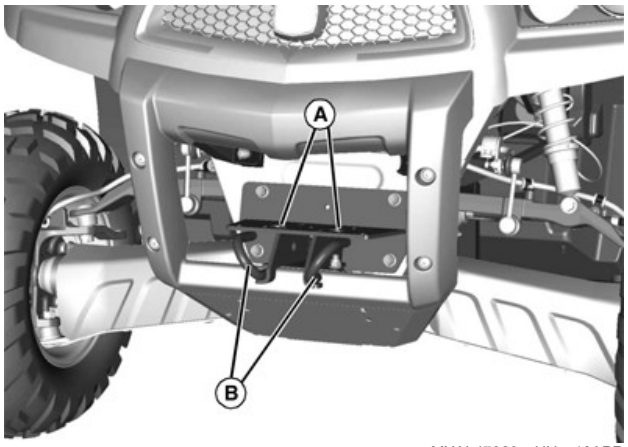
1. Remove two screws (A) and move each headrest (B)

to either top (C), center (D) or bottom (E) position. Secure with two screws.

OUMX068,0000E6A-19-26OCT15

Front Receiver Hitch

Using Hitch



MXAL47329—UN—16APR13

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

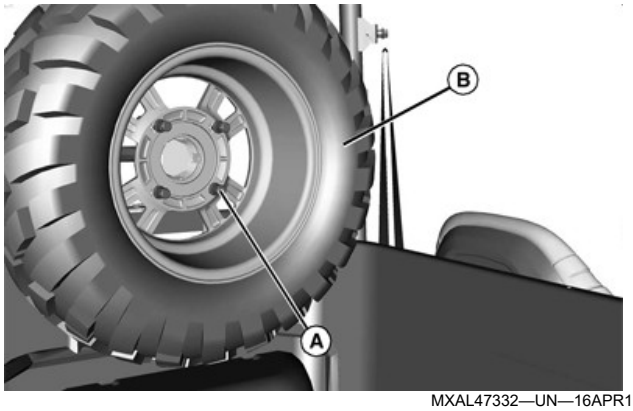
BB87125,0000D78-19-19APR13

Tire Rack

Using Tire Rack

MXT008882—UN—05SEP13

1. Remove four lug nuts from four lug bolts (A).



MXAL47332—UN—16APR13

2. Install tire (B) as shown (facing outward same as tires on machine) on four lug bolts (A) and secure with lug nuts.

OUO2005,0000187-19-05SEP13

Using a Trailer

Follow all trailer manufacturers instructions for safe operation.

Follow all instructions in this Operators Manual for attaching optional equipment and towing loads safely.

MP47322,00F4860-19-23JUN15

Servicing Your Machine

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

Operating in extreme conditions require 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 slow or 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 the Safety section.)

OUMX068,000052F-19-12APR19

Break In

After First 8 Hours:

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

OUMX068,0000F18-19-01DEC15

Every 50 Hours or Annually

- Check brake fluid level and brake line connections.
- Lubricate drive line.
- Check 4WD front differential oil level.
- Check transaxle oil level.
- Inspect driveline CV boots for tears or punctures.
- Inspect park/shift lever for proper function. (See your John Deere dealer for any adjustments needed.)
- Inspect rear differential lock engagement. (See your John Deere dealer for any adjustments needed.)
- Grease cargo box tailgate strikers.
- Grease rear control arm.

MX00654,0000320-19-26JUN20

Every 100 Hours or Annually (whichever comes first)

- Change engine oil and filter.

OUMX068,0000AA0-19-19NOV14

Every 200 Hours or Annually (whichever comes first)

- Change fuel filter.
- Change spark plugs.
- Change engine air cleaner element.
- Check air cleaner dust unloading valve
- Check drive belt condition.
- Inspect and clean primary and secondary clutch.
- Inspect alternator belt.
- Inspect battery. Clean if necessary.
- Check toe-in.
- Check brake pad wear.
- Check and tighten wheel bolts to correct torque.
- Check/clean spark arrestor if equipped.
- Check and tighten all hardware.
- Inspect cargo box lanyards.
- Check shift cable adjustment/tension.

BS62576,00002D2-19-01APR19

Every 400 Hours or 24 Months (whichever comes first)

- Inspect timing belt.
- Inspect timing belt idler/bearing.
- Change engine coolant.
- Test or replace radiator cap. (See your John Deere dealer for this service.)
- 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.)

OUMX068,0000F01-19-29MAR19

Every 800 Hours or 24 Months (whichever comes first)

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

SB31882,000016F-19-07MAR19

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.

BB87125,0000D85-19-19APR13

Grease

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

The following grease is recommended for service:

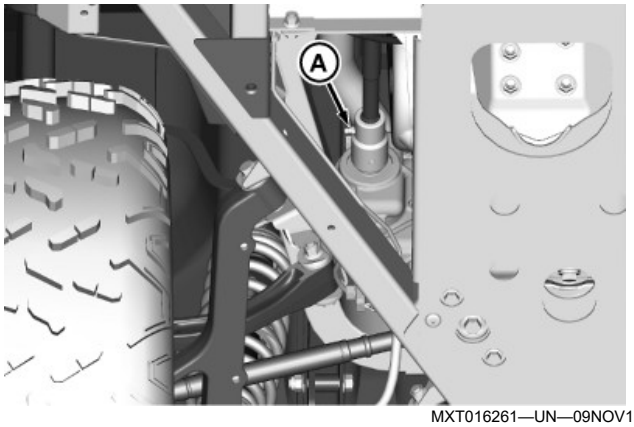
- John Deere Multi-Purpose HD Lithium Complex Grease
- Grease-Gard™ Premium Plus

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.

OUMX068,0000642-19-03APR19

Lubricating Drive Line

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



MXT016261—UN—09NOV15

Picture Note: Viewed from under the machine.

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

OUMX068,0000EC9-19-09NOV15

Lubricating Suspension

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

MXAL47334—UN—16APR13

2. Using a grease gun, apply grease to rear control arm through the grease fittings (A) until grease is visible at joint interface (B).
3. Repeat on opposite side of machine.
4. Remove exposed grease from joint.

BB87125,0000D88-19-26OCT15

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

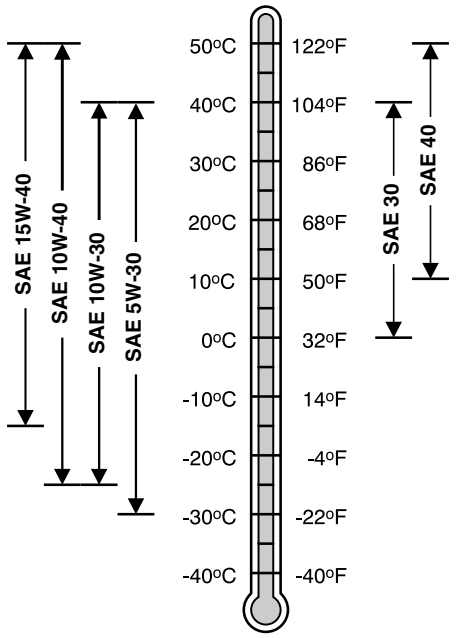
Avoid Fumes

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.**

BB87125,0000D8A-19-15APR20

Gasoline Engine Oil



TS1734—UN—04SEP13

Oil Viscosities for Air Temperature Ranges

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

Using single viscosity grade oils such as SAE 30 or SAE 40 can reduce oil consumption in air cooled engines.

John Deere Turf-Gard™ is preferred.

The following oils are also recommended:

Turf-Gard is a trademark of Deere & Company

- John Deere Plus-4™
- John Deere Plus-50™ II

Other oils may be used if they meet one or more of the following:

- ILSAC GF-5
- API Service Category SN
- API Service Category SM
- API Service Category SL
- API Service Category SJ
- ACEA Oil Sequence A5
- ACEA Oil Sequence A3
- ACEA Oil Sequence A1
- ACEA Oil Sequence C4
- ACEA Oil Sequence C3
- ACEA Oil Sequence C2
- ACEA Oil Sequence C1

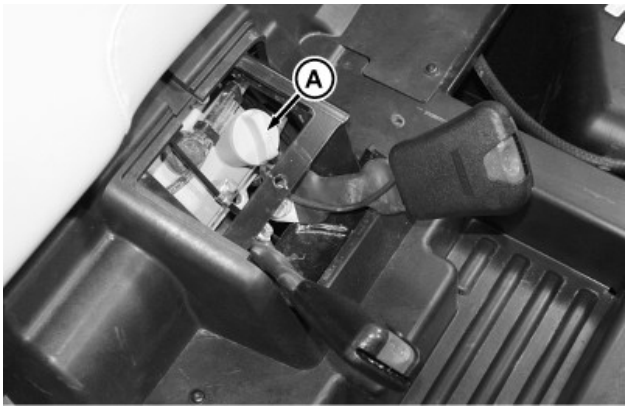
DX,ENOIL2-19-20JUL15

Checking Engine Oil Level

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

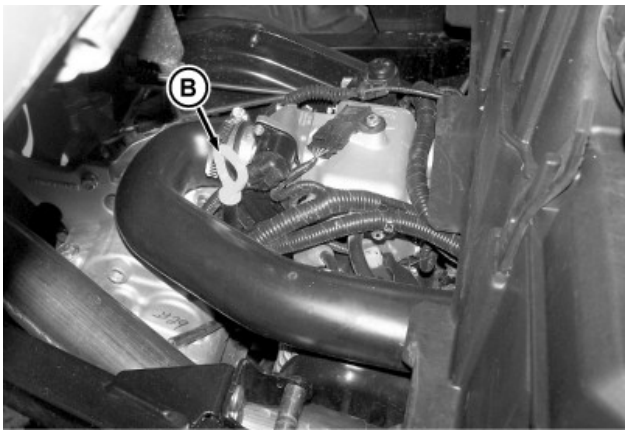
- **Check oil level before operating.**
- **Check oil level when the engine is cold and not running.**
- **Keep oil level between the dipstick marks.**
- **Shut off engine before adding oil.**

1. Park the machine safely. (See Parking Safely in SAFETY.)
2. Tilt seats forward.
3. Raise and secure cargo box with latch support.



MXT016262—UN—09NOV15

4. To gain access to oil fill cap (A), remove access cover.



MXT016263—UN—09NOV15

5. Remove dipstick (B) and wipe it clean.
6. Install dipstick.
7. Remove dipstick.
8. Check oil level:
   - Oil level must be between hatch marks on dipstick.
   - If oil level is low, remove oil fill cap (A) and add oil to bring oil level no higher than upper mark on dipstick.
   - If oil level is above upper mark, drain to proper level. Determine cause of this condition and correct.
9. Install dipstick.
10. Install the access cover.
11. Lower the cargo box.
12. Lower seats.

OUMX068,0000ECA-19-09NOV15

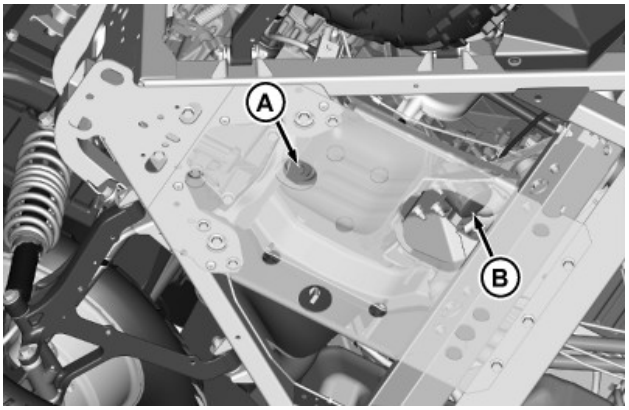
Changing Engine Oil and Filter

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

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

1. To warm the oil, run engine.
2. Park the machine safely. (See Parking Safely in SAFETY.)
3. Tilt seats forward.
4. Raise and secure cargo box with latch support.

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



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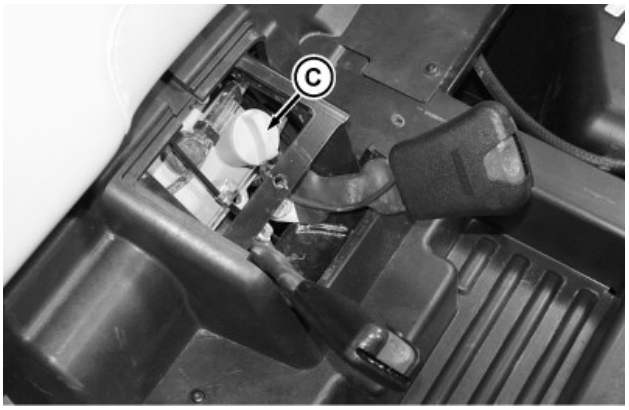
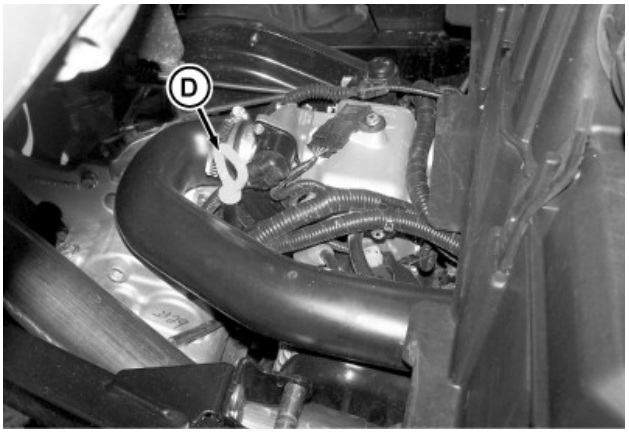


MXT016265—UN—09NOV15



MXT016266—UN—09NOV15

5. Place drain pan under engine drain plug (A) and oil filter (B).
6. To gain access to oil fill cap (C), remove access cover.
7. Remove oil fill cap from filler opening.
8. Remove drain plug (A) and drain oil into oil drain pan. Allow oil to drain completely. Place oil fill cap (C) back on filler opening.
9. Remove and discard oil filter (B) on engine. Wipe off filter base on engine.
10. Put a light coat of clean engine oil on gasket of new oil filter.
11. Install new filter until rubber gasket contacts filter base. Tighten filter an additional one-half turn.
12. Install drain plug and tighten to specifications.

Specification

Engine Oil Drain Plug—Torque. . . . . 13.6 N·m (10 lb·ft)

13. Remove oil fill cap (C) from filler opening.

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

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

OUMX068,0000ECB-19-09NOV15

Servicing Air Intake

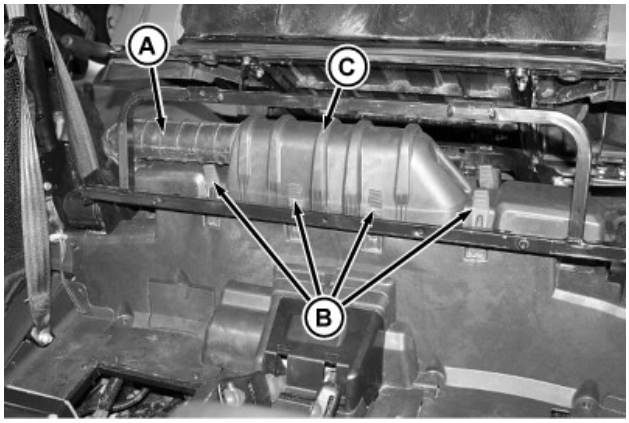
1. Park the machine safely. (See Parking Safely in SAFETY.)
2. Allow engine to cool.

Checking and Cleaning Air Intake

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

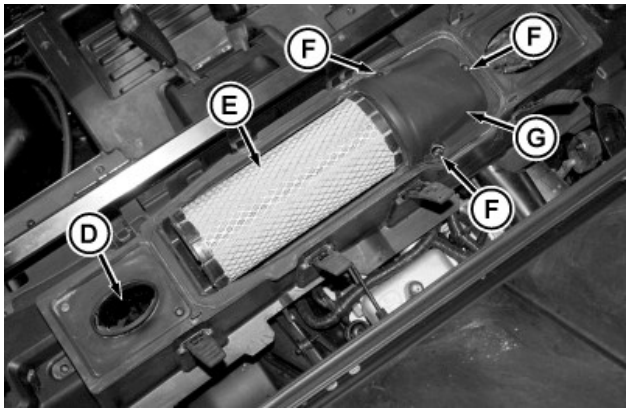
Check filter element more frequently if operating in dusty conditions.

1. Tip bucket seats forward or remove bench seat back as needed.
2. Raise and secure cargo box with latch support.



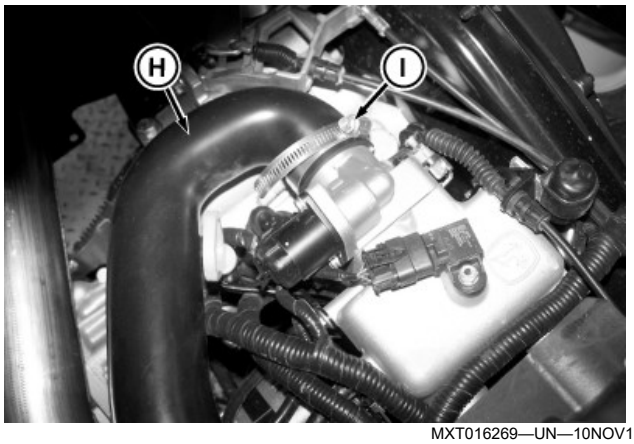
MXT016267—UN—10NOV15

3. Check intake hose (A) for damage or cracking. Replace if needed.
4. Remove four rubber latch straps (B) on each side of cover (C). Remove cover.



MXT016268—UN—10NOV15

5. Clean any debris from CVT duct inlet (D).
6. Check filter element (E) for dirt or debris. Replace if needed.
7. Remove three screws (F) and cover (G).



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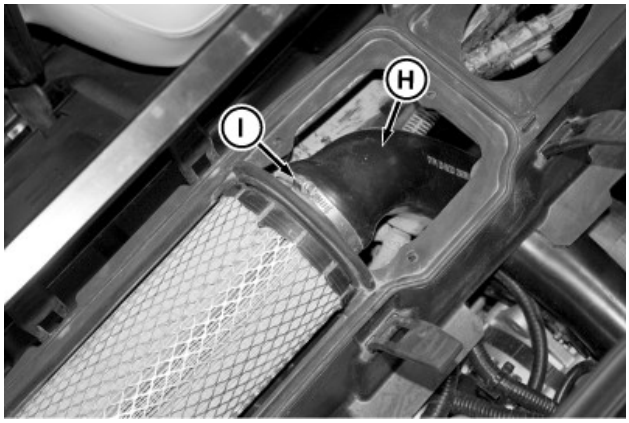


MXT016270—UN—10NOV15

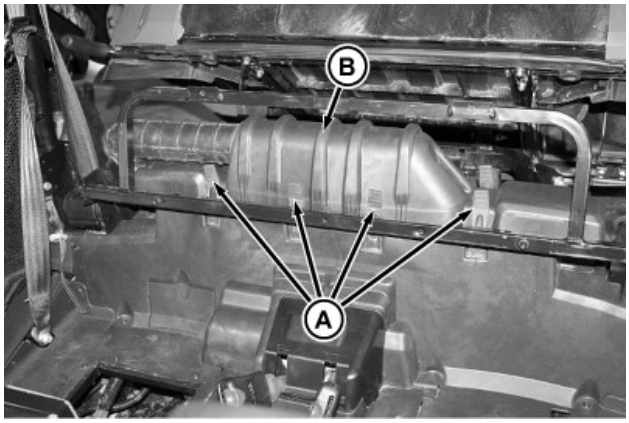
8. Check intake hoses (H) for damage or cracking. Replace if necessary.
9. Check and tighten air intake hose clamps (I) as needed.
10. Install cover and secure with three screws.
11. Install cover back onto air intake and secure with eight rubber straps.
12. Lower the cargo box.
13. Lower bucket seats, install bench seat back, or raise fold down rack.

Servicing Air Cleaner Element

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

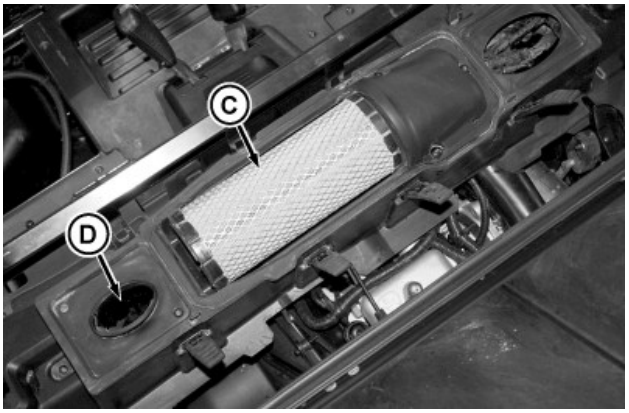
Check filter element more frequently if operating in dusty conditions.

1. Tip bucket seats forward or remove bench seat back as needed.
2. Raise and secure cargo box with latch support.



MXT016271—UN—10NOV15

3. Remove four rubber latch straps (A) on each side of cover (B). Remove cover.



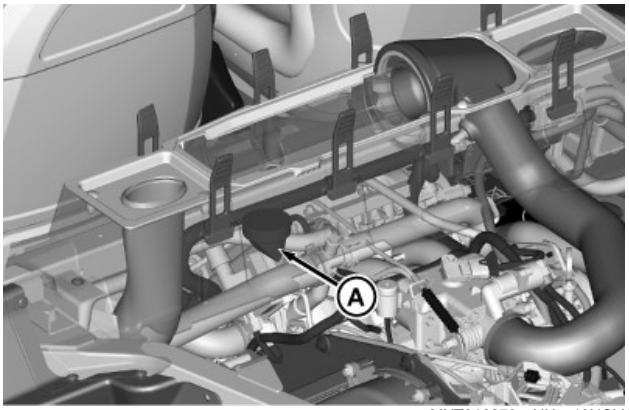
MXT016272—UN—10NOV15

4. Remove and discard filter element (C). Replace with a new filter element.
5. Clean any debris from CVT duct inlet (D).
6. Clean dust unloading valve.
7. Install cover back onto air intake and secure with eight rubber straps.
8. Lower the cargo box.
9. Lower bucket seats, install bench seat back, or raise fold down rack.

Cleaning Dust Unloading Valve

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

1. Allow engine to cool.
2. Raise and secure cargo box with latch support.



MXT016273—UN—10NOV15

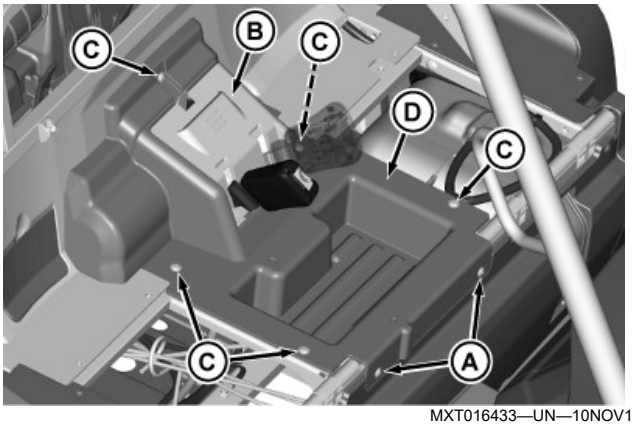
3. Squeeze dust unloading valve (A) to clean.
4. Remove and replace if damaged.
5. Lower the cargo box.

OUMX068,0000ECC-19-01DEC15

Checking Spark Plug

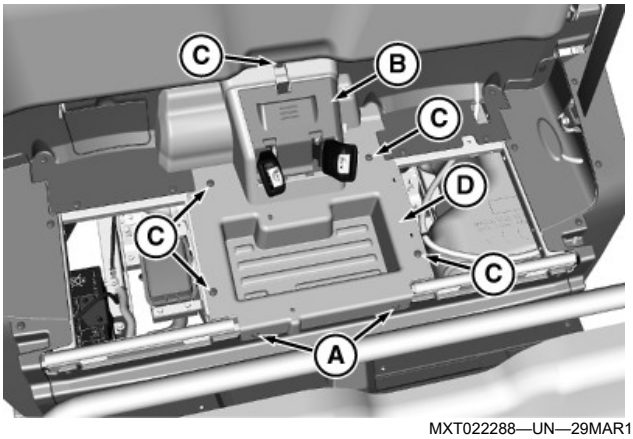
CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids are hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

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



MXT016433—UN—10NOV15

Picture Note: XUV590 with seat removed for a better view.

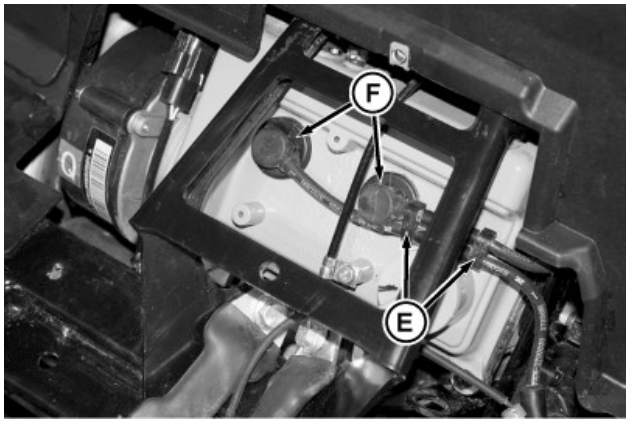


MXT022288—UN—29MAR18

Picture Note: XUV590 S4 with seat removed for a better view.

2. Remove two TORX® head screws (A).
3. Tilt seats forward.
4. Remove access cover (B).
5. Remove five TORX® head screws (C) and remove center panel (D).

TORX is a trademark of Camcar/Textron

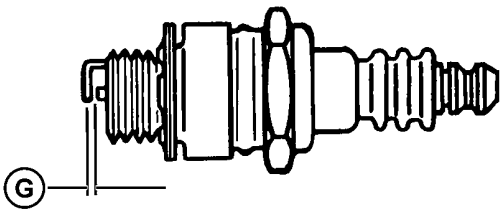


MXT016436—UN—11NOV15

6. Remove two retaining clips (E).
7. Disconnect spark plug wires (F).
8. Remove spark plugs using appropriate spark plug socket.
9. Inspect spark plugs for:
   - Cracked porcelain
   - Pitted or damaged electrodes
   - Other wear or damage
10. Clean spark plugs carefully with a wire brush.

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

11. Replace spark plugs if necessary.



MXT016437—UN—11NOV15

12. Check and adjust spark plug gap (G):
    - See Specifications section for gap distance.
13. Install and tighten spark plugs. Tighten to specification.

Specification

Spark Plug—Torque. . . . . 25 N·m (216 lb·in)

14. Install spark plug wires and retaining clips.
15. Install center panel with five TORX® head screws.
16. Install access cover.
17. Lower seat and install two remaining TORX® head screws on the center panel.
18. Lower the cargo box.

OUMX068,0001488-19-19APR18

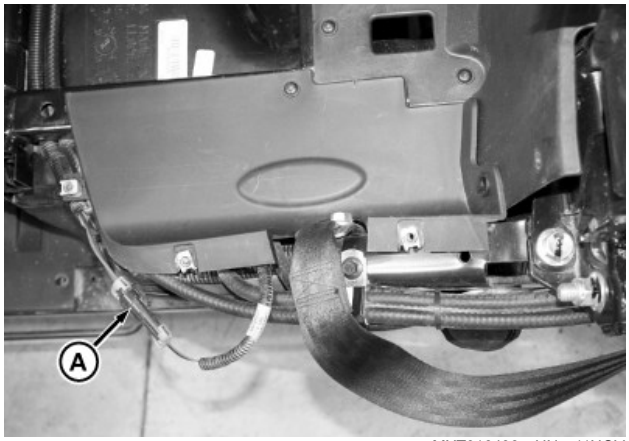
Replacing Fuel Filter

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

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

Relieve Fuel Line Pressure

1. Park the machine safely. (See Parking Safely in SAFETY.)
2. Raise seats.
3. Remove left side panel. (See Removing and Installing Side Panels in SERVICE MISCELLANEOUS.)
4. Start and run engine.



MXT016438—UN—11NOV15

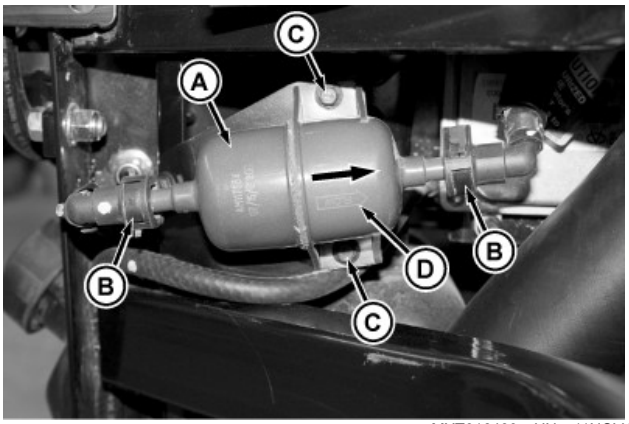
5. Disconnect wiring connector (A) for fuel pump and run until engine quits.

Remove Old Filter

1. Raise and secure cargo box with latch support.

CAUTION: Avoid injury! To avoid fuel spray from residual pressure in system, cover connections with a cloth while disconnecting fuel line.

IMPORTANT: Avoid damage! Do not pry the plastic clip out from the fuel line quick connect end. Push the closed end of the plastic clip in toward the fuel line and disconnect the line.



MXT016439—UN—11NOV15

2. Locate the fuel filter (A) mounted to the frame behind the drivers seat.
3. To catch any fuel left in lines, place a drain pan or cloth under fuel lines.
4. Pull colored tab (B) up, then press couplers inward to release.
5. Remove two self-tapping screws (C) holding fuel filter to frame.

Install New Filter

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

1. Install new filter making sure filter arrow (D) is pointed in the direction of fuel flow (towards the engine). Secure filter onto frame with two self-tapping screws.
2. Connect fuel line couplers to new filter, making sure that couplers are securely connected.
3. Connect wiring connector for fuel pump.
4. Turn ignition key to the RUN position for several seconds. Turn key off and check for leaks.
5. Install left side panel.
6. Lower seats.
7. Lower cargo box.

KL66860,00000B7-19-07SEP16

Cleaning Engine Compartment

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

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

Severe Duty Service

If engine has been operated in severe conditions, more frequent engine maintenance is required.

NOTE: Severe Duty Conditions:

- *Immersion in water: Results in water contaminating the oil. Inspect and/or change oil as required.*
- *Extended engine idling: Results in spark plug fouling. Inspect and/or clean plugs as required.*
- *Short trip cold-weather operation: Results in spark plug fouling. Inspect and/or clean plugs as required.*

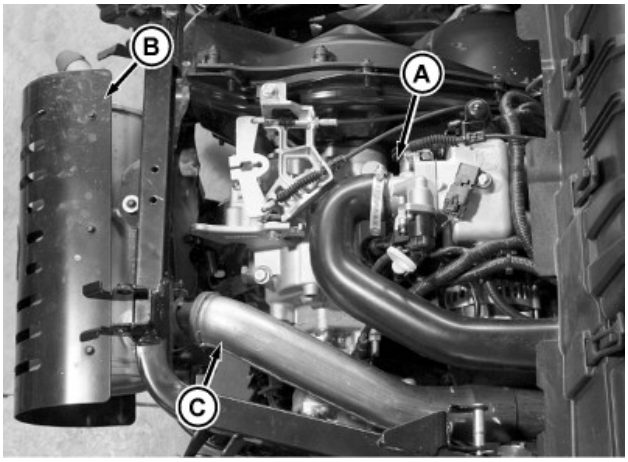
Engine Compartment Inspection and Cleaning

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

- **Clear work area of bystanders.**
- **Wear eye protection when using compressed air for cleaning purposes.**
- **Reduce compressed air pressure to 210 kPa (30 psi)**

IMPORTANT: Avoid damage! High-pressure water can damage seals, gaskets, and force water into electrical connectors. Use water from a garden hose or pressure washer with pressures less than 420 kPa (60 psi).

1. Stop engine and inspect external parts of the engine for signs of debris or mud buildup.



MXT016274—UN—10NOV15

2. If excessive mud or debris is apparent inside of engine compartment (A), under the muffler heat shield (B), or around exhaust pipe (C), clean the compartment:
   a. Stop engine before cleaning.

   IMPORTANT: Avoid damage! Do not use water on a hot engine.

   b. Allow engine to cool approximately 20 minutes before cleaning with water.
   c. Remove light debris like grass and chaff buildup with compressed air and soft bristle brush.
3. Check and remove any obstructions around the control cables and linkages.

OUMX068,0001489-19-19APR18

Cleaning Radiator Cooling Fins

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

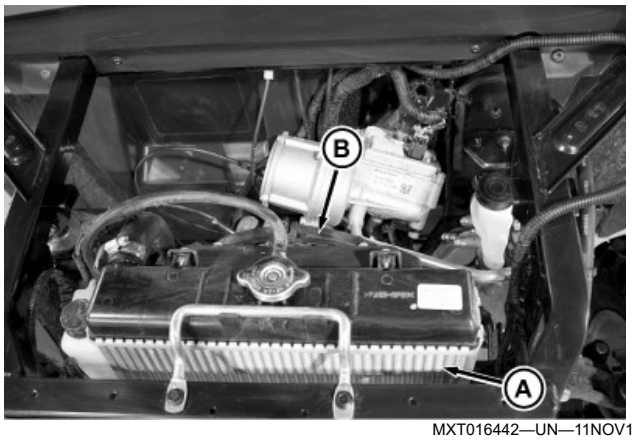
- **Clear work area of bystanders.**
- **Wear eye protection when using compressed air for cleaning purposes.**
- **Reduce compressed air pressure to 210 kPa (30 psi).**

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

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

IMPORTANT: Avoid damage! High-pressure water or air damages cooling fins or other engine components. Use water from a garden hose or reduce compressed air pressure to 210 kPa (30 psi).

Turn off engine before cleaning radiator screen and fins.



MXT016442—UN—11NOV15

4. 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.
5. Install storage tray.
6. Close hood.

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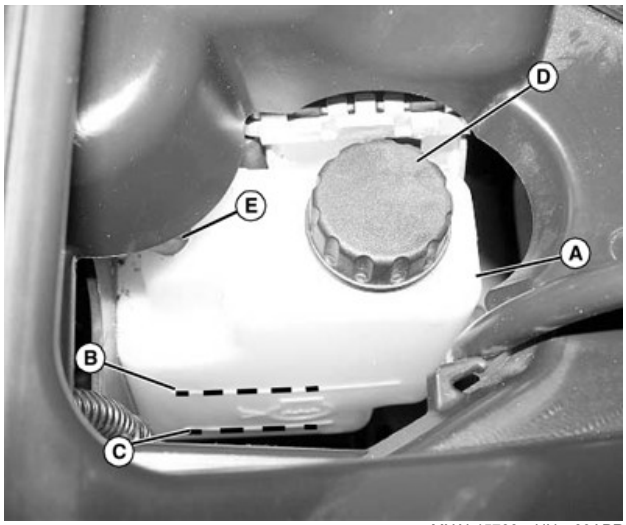
Checking Coolant Level

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



MXAL45700—UN—09APR13

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 recovery tank.

IMPORTANT: Avoid damage! Installing suction hose (E) incorrectly will not allow coolant into the coolant system. Do not allow bottom of hose to touch bottom of bottle or bend upwards out of coolant.

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

RH75544,00001B1-19-22APR20

Service Cooling System Safely

MXAL42730—UN—22MAR13

CAUTION: Avoid injury! The radiator is hot and burns skin. Built-up pressure causes an explosive release of coolant when the radiator cap is removed:

- **Shut off engine and allow to cool.**
- **Do not remove the cap until the radiator and the engine are cool enough to touch with bare hands.**
- **Release all pressure by slowly loosen the cap to the first stop. Then remove the cap.**

MX00654,0000028-19-12APR19

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 vehicle safely. (See Parking Safely in the SAFETY.)
2. Raise cargo box.
3. Tip seats forward.
4. Open hood.
5. Remove storage tray.
6. Remove side panels. (See Removing and Installing Side Panels in SERVICE MISCELLANEOUS.)
7. Remove seat closeout panel. (See Removing and Installing Seat Closeout Panel in SERVICE MISCELLANEOUS.)
8. When the coolant system service is completed:
   - Install seat closeout panel.
   - Install side panels.
   - Install storage tray.
   - Close hood.
   - Tip seats back.
   - Lower cargo box.

Draining Cooling System

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

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

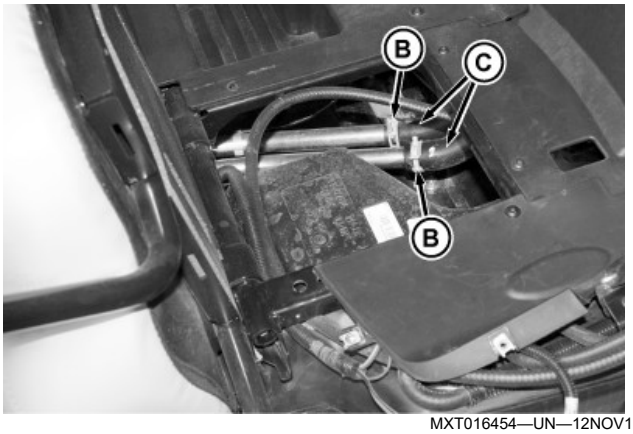
1. Make sure that the engine has cooled completely.

MXT016453—UN—12NOV15

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

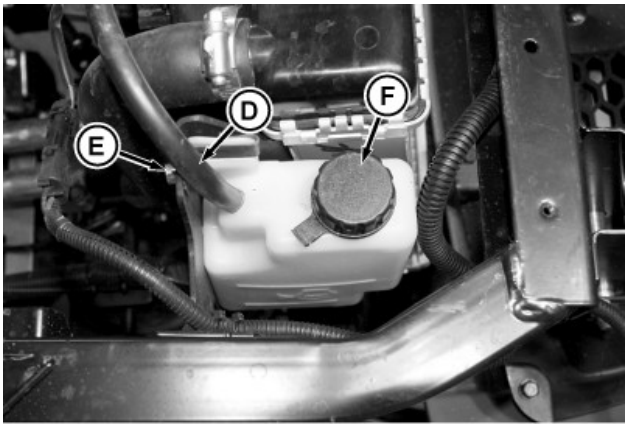
NOTE: Visually inspect hoses for cracks and wear. Squeeze hoses to check for deterioration. Hoses must not be hard and brittle, nor soft or swollen.

4. Place a coolant drain pan under area where engine coolant hoses connect to intermediate tubes.



MXT016454—UN—12NOV15

5. Loosen hose clamps (B), and disconnect coolant lines (C) from intermediate tubes.
6. Route coolant lines over the drain pan and allow coolant to drain into the pan.
7. To ensure complete drainage of coolant, raise front of the vehicle.
8. After all coolant has drained, lower front of vehicle and connect coolant lines (C).



MXT016455—UN—12NOV15

9. Remove overflow hose (D) from the recovery tank.
10. Remove screw (E) and lift recovery tank out of machine.
11. Remove cap (F) and empty recovery tank into the drain pan.
12. Check condition of all hoses. Replace as needed. Check all hose clamps and tighten as needed.
13. Install recovery tank to machine frame with screw (E).

IMPORTANT: Avoid damage! Install overflow 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.

14. Install overflow hose (D) and cap (F).
15. Fill and bleed cooling system.

Specification

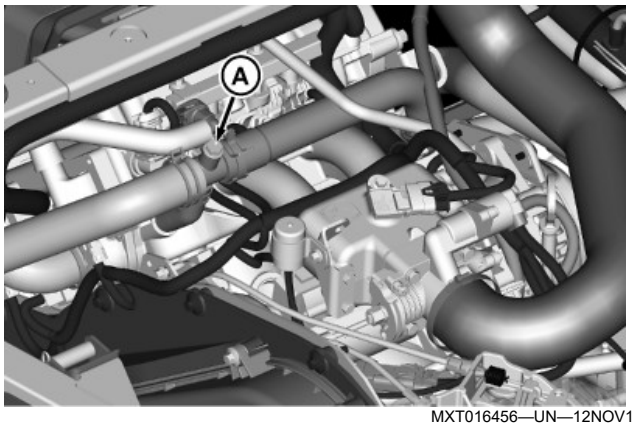
Coolant (XUV590)—Capacity (with reservoir)	4.9 L (1.3 gal)
Coolant (XUV590 S4)—Capacity (with reservoir)	5.6 L (1.5 gal)

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.



MXT016456—UN—12NOV15

1. Remove bleed valve screw (A).
2. Remove radiator cap and add recommended coolant mixture to radiator until coolant runs out of the bleed port.
3. Install bleed valve screw and tighten.

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4. Add additional coolant mixture to radiator until coolant runs out of the overflow port and into the recovery tank.
5. Install radiator cap.

IMPORTANT: Avoid damage! Position hose slightly above bottom of the recovery tank. Do not allow the hose to contact bottom of the recovery tank or bend upwards out of the coolant.

6. Remove recovery tank cap and add coolant mixture to the 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 upper and lower radiator hoses have become warm (10 - 15 minutes). Warming engine ensures that the thermostat has opened and coolant is circulating.
9. Allow engine to cool.
10. Loosen bleed valve screw and allow air to bubble out until air bubbles are no longer visible at the bleed port. Tighten bleed valve screw completely.
11. Remove radiator cap and add recommended coolant mixture to radiator until coolant runs out of the overflow port and into the recovery tank.

Specification	
Coolant (XUV590)—Capacity (with reservoir)	4.9 L (1.3 gal)
Coolant (XUV590 S4)—Capacity (with reservoir)	5.6 L (1.5 gal)

12. Install radiator cap.
13. Run engine until cooling fan starts, indicating the engine and coolant has reached operating temperature.
14. Stop engine and remove key.
15. Allow engine to cool and suction back any excess coolant from the overflow recovery tank. Fill recovery tank to the lower line, as needed.

Flushing Cooling System

1. Drain cooling system.
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 it reaches operating temperature.
5. Stop engine.

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

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

6. To release system pressure, turn radiator cap slowly to the stop. Remove radiator cap.
7. Drain cooling system immediately into a container before rust and dirt settle:
   - Disconnect coolant lines at intermediate tubes.
8. After all solution has drained, connect coolant lines.
9. Remove and clean recovery tank.
10. Install the recovery tank.
11. Fill cooling system with recommended coolant mixture.

Specification	
Coolant (XUV590)—Capacity (with reservoir)	4.9 L (1.3 gal)
Coolant (XUV590 S4)—Capacity (with reservoir)	5.6 L (1.5 gal)

OUMX068,0000ED7-19-01JUN20

Recommended Engine Coolant

IMPORTANT: Avoid damage! Using incorrect coolant mixture overheats and damages 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. Winter freeze protection is -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.

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 coolant that meets the following specification:

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

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

Water Quality

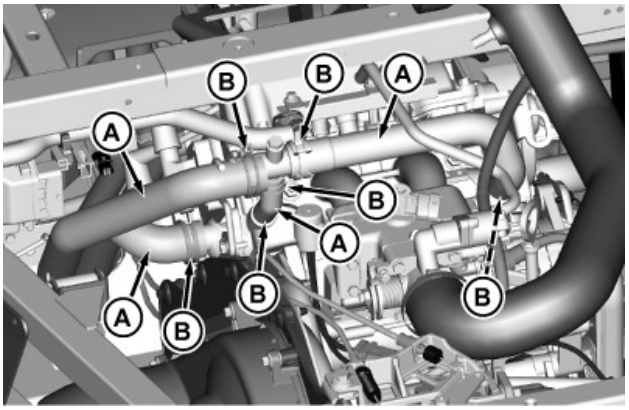
- Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended with ethylene glycol coolant concentrate.

MX00654,0000029-19-12APR19

Checking Radiator Hoses and Clamps

1. Park the vehicle safely. (See Parking Safely in the SAFETY.)
2. Raise cargo box.
3. Open hood.
4. Remove storage tray.
5. Tip seats forward.

NOTE: Visually inspect hoses for cracks and wear. To check for deterioration, squeeze hoses. Hoses must not be hard and brittle, nor soft or swollen.



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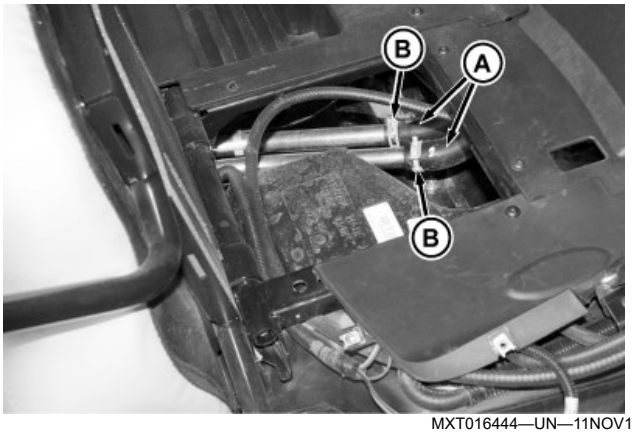
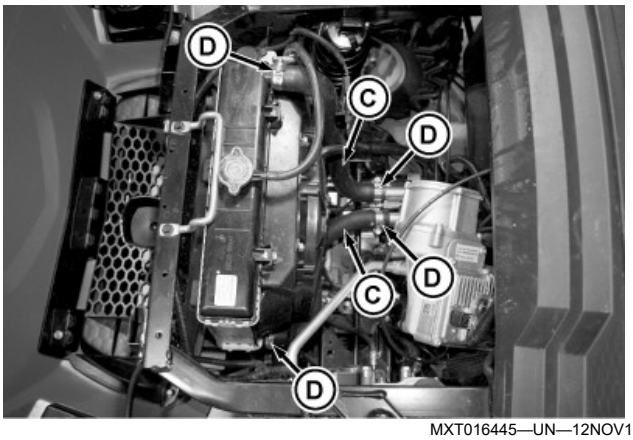


MXT016444—UN—11NOV15

6. Check coolant hoses (A) between intermediate tubes and engine for damage or cracking. Replace if necessary.
7. Check hose clamps (B) and tighten or replace as needed.



MXT016445—UN—12NOV15

8. Check radiator hoses (C) between intermediate tubes and radiator for damage or cracking. Replace if necessary.
9. Check hose clamps (D) and tighten or replace as needed.
10. Lower seats.
11. Install storage tray.
12. Close hood.

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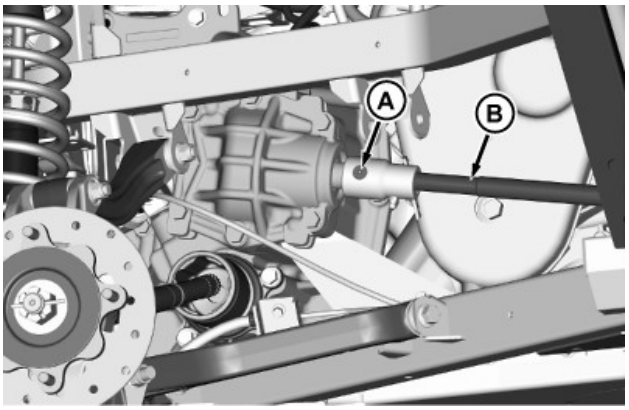
13. Lower cargo box.

OUMX068,0000ED8-19-12NOV15

Inspecting Timing Belt

Inspecting Belt

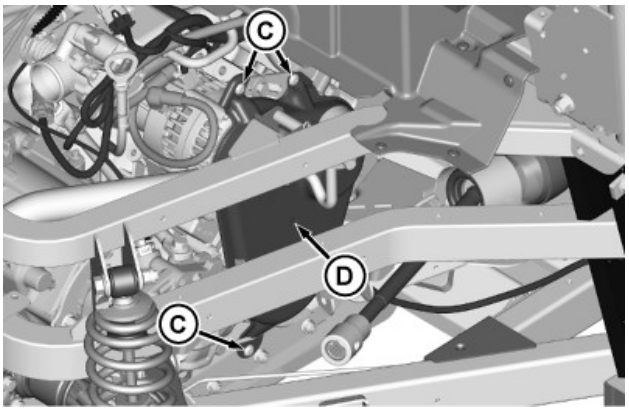
1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Disconnect negative (-) battery cable.



MXT016457—UN—12NOV15

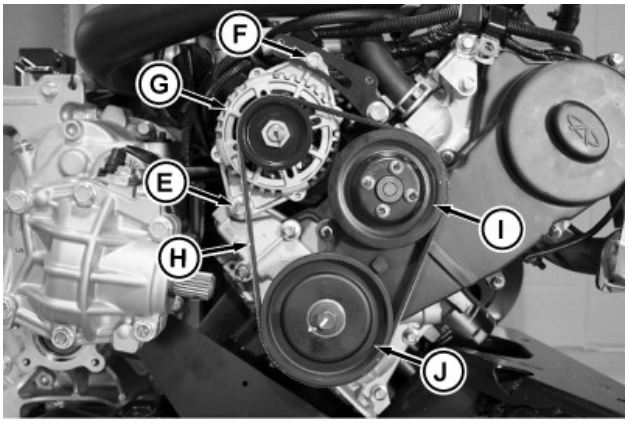
Picture Note: Components removed for better view.

3. Remove bolt (A) and slide coupler forward onto drive shaft (B).
4. Move drive shaft away from engine.



MXT016458—UN—13NOV15

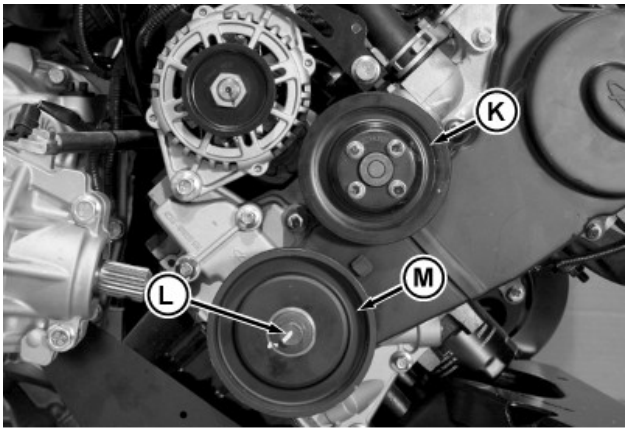
5. Remove three Torx head screws (C) and belt cover (D).



MXT016461—UN—13NOV15

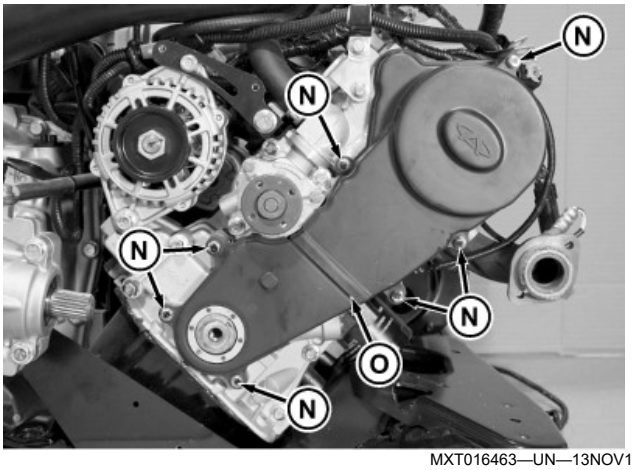
Engine shown removed from machine for better view.

6. Loosen bolt (E) and bolt (F).
7. Rotate alternator (G) and remove belt (H) from alternator pulley, water pump pulley (I), and crankshaft pulley (J).



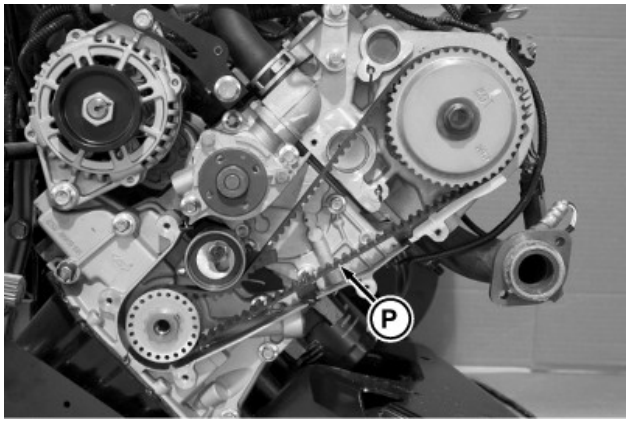
MXT016462—UN—13NOV15

8. Remove four bolts and water pump pulley (K).
9. Remove bolt (L) and crankshaft pulley (M), use a puller if necessary.



MXT016463—UN—13NOV15

10. Remove seven bolts (N) and timing belt cover (O).

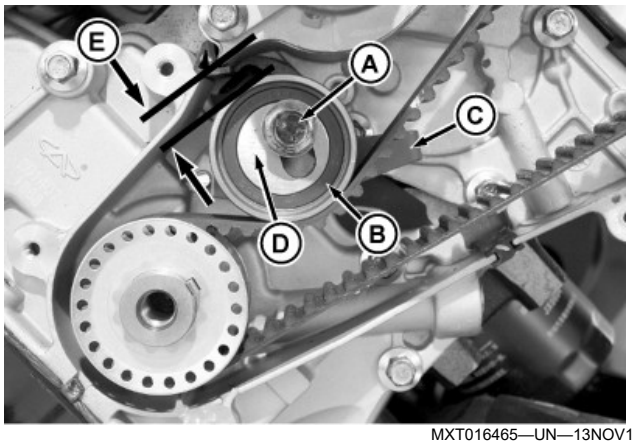


MXT016464—UN—13NOV15

11. Inspect timing belt (P) for cracks, fraying, wear, or damage. If replacing timing belt is necessary, see the technical manual for your machine, or see your John Deere Dealer.
12. Inspect tensioning pulley before reinstalling components.

Inspecting Tensioning Pulley

IMPORTANT: Avoid damage! Do not rotate belt or engine pulleys from the current position. There are timing marks on bottom and top of engine that aligns critical internal engine components.



MXT016465—UN—13NOV15

1. Loosen bolt (A) on tensioning pulley (B). Push tension arm (C) inward slightly to release tensioning pulley tension from timing belt. Rotate tensioning pulley (B) and check for any noise or if it is loose. If it is loose, tighten bolt on tensioning pulley to specification.

Specification

Tensioning Pulley Bolt—Torque. . . . . 25 N·m (18 lb·ft)

2. If tensioning pulley is noisy, remove bolt (A) and pulley (B).
3. Install tensioning pulley. Push tension arm in direction of arrow (D) until the gap between the tensioning pulley (B) and the bottom of the water pump housing is approximately 5 mm (0.2 in) (E) as shown.
4. Tighten bolt (A) to specification.

Specification

Tensioning Pulley Bolt—Torque. . . . . 25 N·m (18 lb·ft)

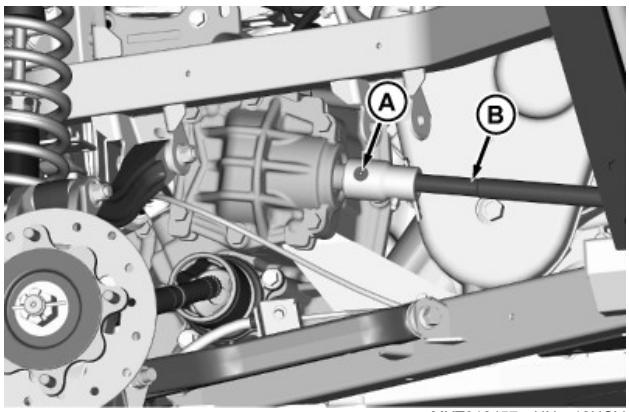
5. Installation of components is the reverse order of removal.
6. Connect negative (-) battery cable.

OUMX068,0000ED9-19-15JUN20

Inspecting Alternator Belt

Inspect Belt

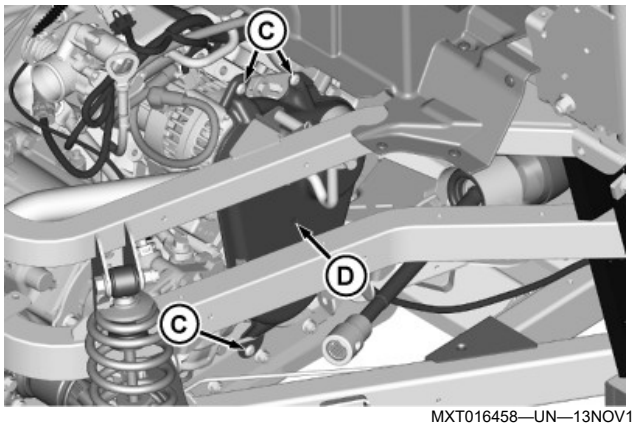
1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Disconnect negative (-) battery cable.



MXT016457—UN—12NOV15

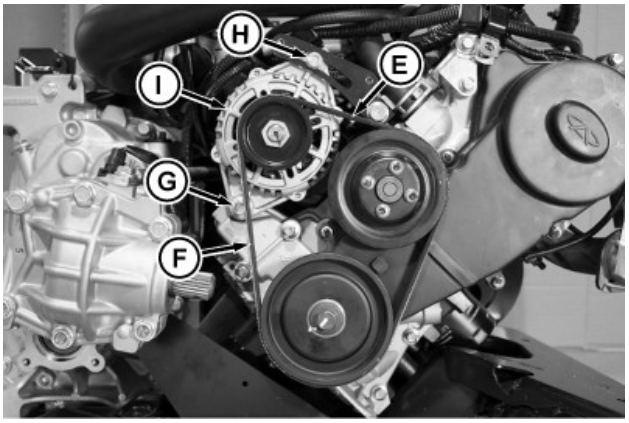
Picture Note: Components removed for better view.

3. Remove bolt (A) and slide coupler forward onto drive shaft (B).
4. Move drive shaft away from engine.



MXT016458—UN—13NOV15

5. Remove three Torx head screws (C) and belt cover (D).



MXT016459—UN—13NOV15

Engine shown removed from machine for better view.

6. Inspect belt (E) for wear or damage. Replace if worn or damaged. (See “Replace Belt” for procedure.)
7. Test belt tension at location (F) (half way between alternator and engine pulley). Check deflection and force to specification.

Specification

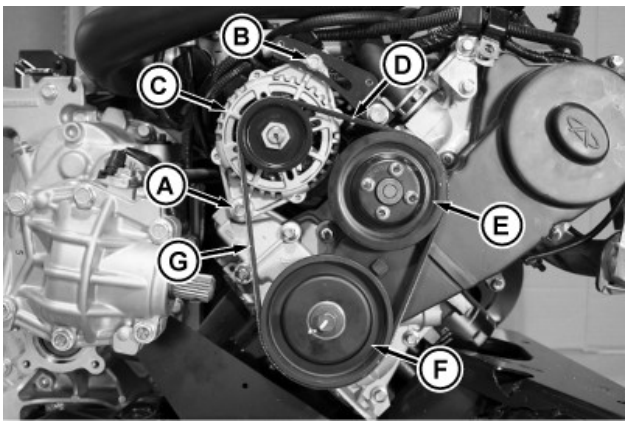
Belt—Deflection. . . . . 5 mm (13/64 in.)
Belt—Force. . . . . 89 N (20 lb)

- To adjust belt tension, loosen bolt (G) and bolt (H). Rotate alternator (I) to obtain the specified deflection and force at location (F), and tighten bolt (H). Tighten bolt (G).

8. Install belt cover with bolts.
9. Connect negative (-) battery cable.

Replace Belt

1. Remove belt cover.



MXT016460—UN—13NOV15

Engine shown removed from machine for better view.

2. Loosen bolt (A) and bolt (B).
3. Rotate alternator (C) and remove belt (D) from alternator pulley, water pump pulley (E), and crankshaft pulley (F).
4. Install new belt around all three pulleys. Rotate alternator (C) to obtain specified deflection and force at location (G), and tighten bolt (B). Tighten bolt (A).

Specification

Belt—Deflection. . . . . 5 mm (13/64 in.)
Belt —Force. . . . . 89 N (20 lb)

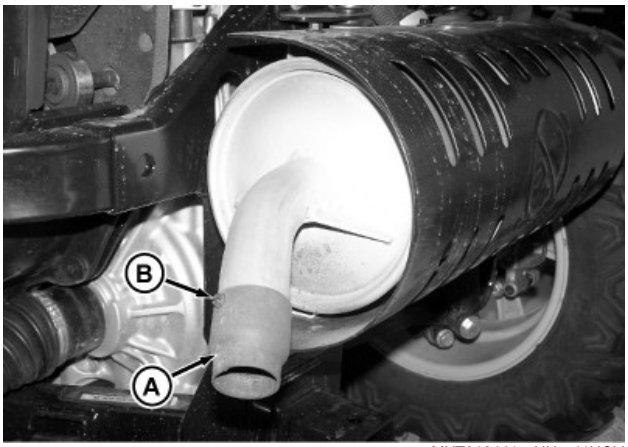
5. Install belt cover with bolts.

OUMX068,0000EDA-19-13NOV15

Checking Spark Arrestor

CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids are hot if the engine has been running. Keep hands and body away from hot surfaces when servicing or working near the engine and components.

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

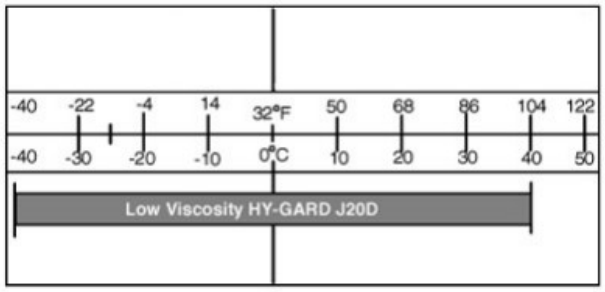


MXT016441—UN—11NOV15

3. Inspect spark arrestor (A) on muffler.
4. If spark arrestor is plugged or corroded remove self-tapping screw (B) and spark arrestor.
5. Spray with carburetor/choke cleaner and blow dry with low pressure compressed air.
6. If damaged, replace spark arrestor.
7. Install spark arrestor with self-tapping screw.

OUMX068,0000ED0-19-11NOV15

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:

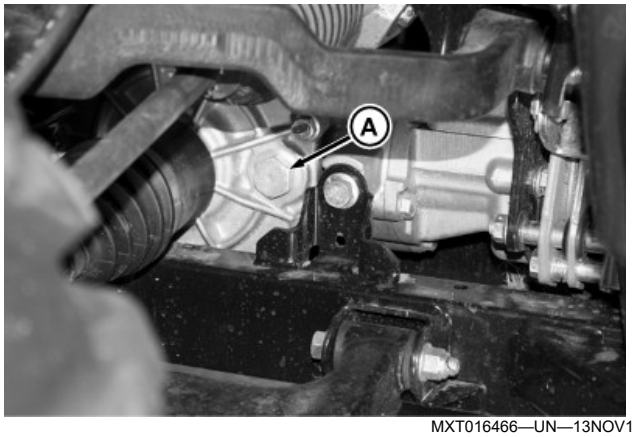
- John Deere Standard JDM J20D

MX00654,0000329-19-11MAY20

Checking 4WD Front Differential Oil Level

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

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



MXT016466—UN—13NOV15

Picture Note: Fill plug under left front side.

3. Remove fill plug (A) on left side of 4WD front differential.
4. Oil must be level with the bottom of the fill port. If oil level is low:
   a. Add oil through fill port until level is correct.
   b. Install and tighten fill plug to specification.

Specification

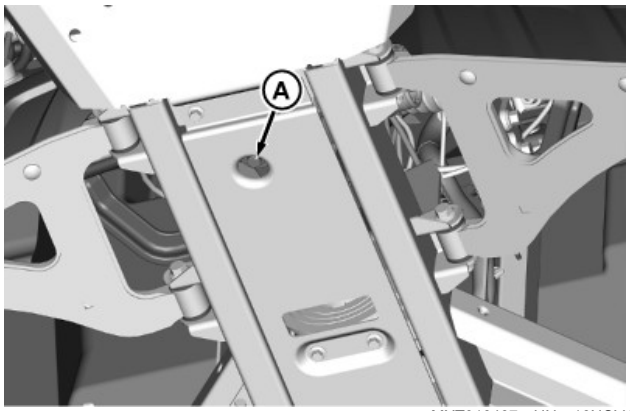
Front Differential Fill Plug—Torque. . . . . 45-54 N·m (33-40 lb·ft)

OUMX068,0000EDD-19-13NOV15

Changing 4WD Front Differential Oil

1. To warm the front differential oil, operate machine.
2. Park the machine safely. (See Parking Safely in Safety section.)

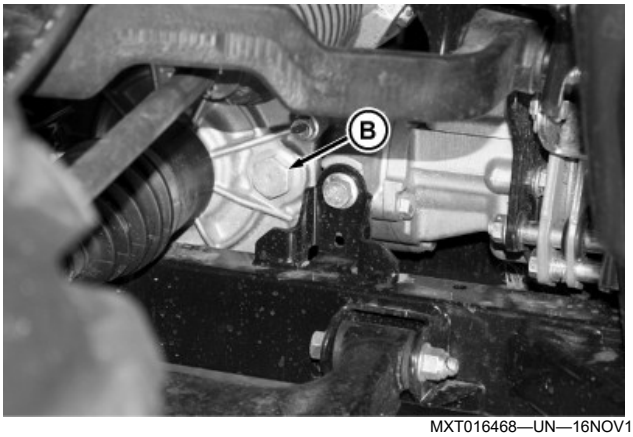
IMPORTANT: Avoid damage! Dirt and debris in oil can damage the 4WD differential. Clean area around opening before removing plug or dipstick.



MXT016467—UN—16NOV15

Drain plug under front center of machine.

Hy-Gard is a trademark of Deere & Company



MXT016468—UN—16NOV15

Fill plug under left front side.

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

Specification	
Front Differential 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.

Specification	
Front Differential Fill Plug—Torque	45—54 N·m (33—40 lb·ft)

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

OUMX068,000148B-19-30MAR18

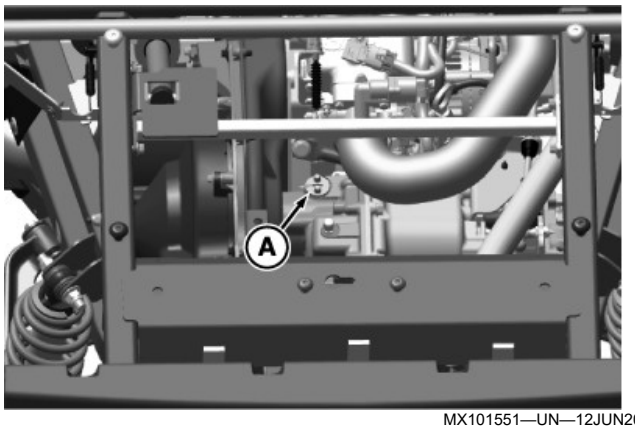
Checking Transmission Oil Level

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

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

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

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



MX101551—UN—12JUN20

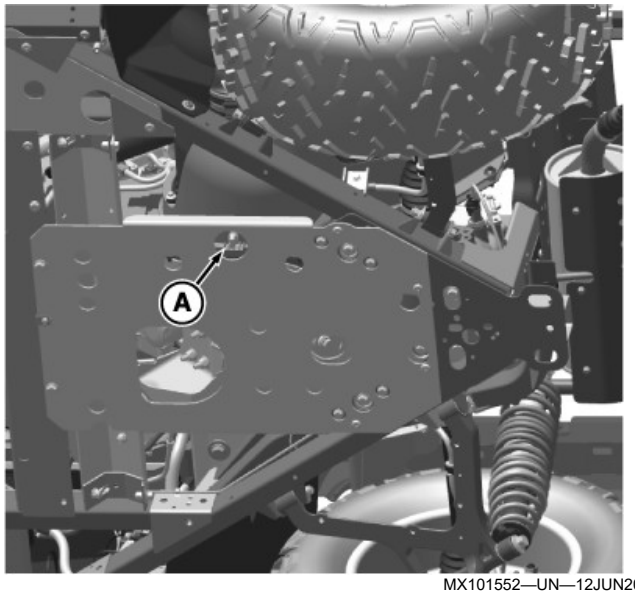
3. Remove dipstick (A) on the top of the transmission housing. Wipe dipstick clean.
4. Check oil level by setting dipstick on threads in transmission case, then removing and checking oil level.
5. Add oil as needed through the dipstick fill hole.
6. Install and tighten dipstick.
7. Lower the cargo box.

MX00654,0000348-19-12JUN20

Changing Transmission Oil

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

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

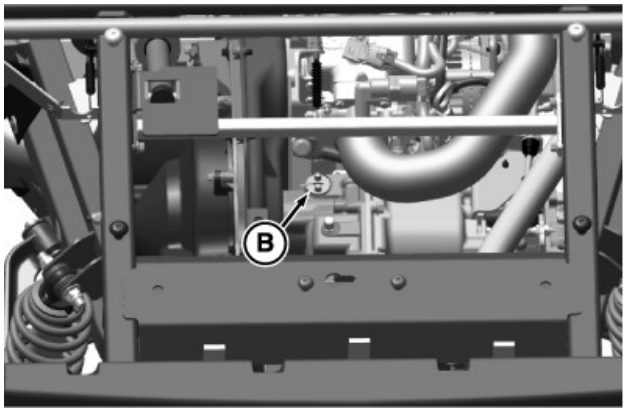


MX101552—UN—12JUN20

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 specification.

Specification

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



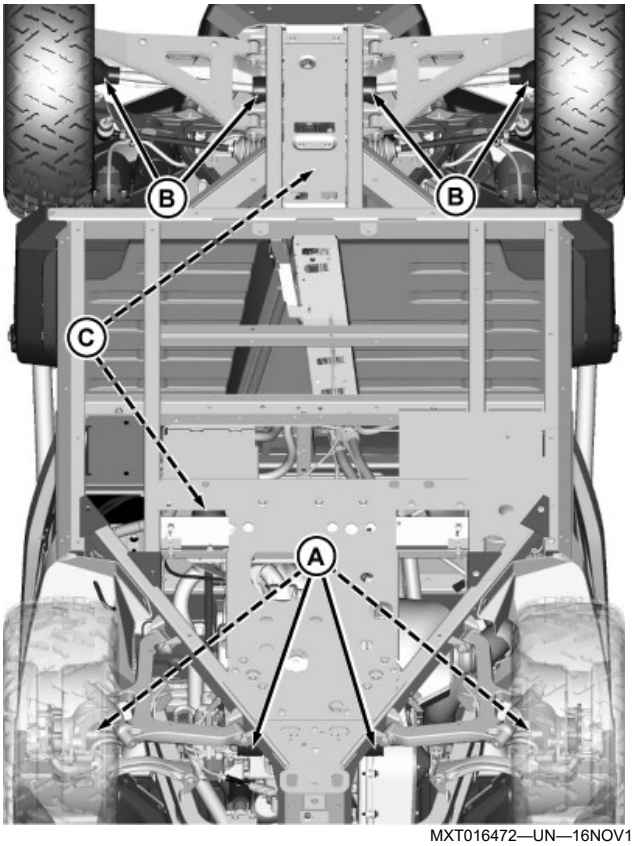
MX101585—UN—09JUN20

7. Remove dipstick (B) on top of the transmission housing. Wipe dipstick clean.
8. Add recommended fluid.
9. Wait for two minutes, and then check the oil level. Add oil if necessary.
10. Install dipstick and tighten.
11. Lower the cargo box.

MX00654,0000349-19-04JUN20

Inspecting Driveline CV Boots

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



MXT016472—UN—16NOV15

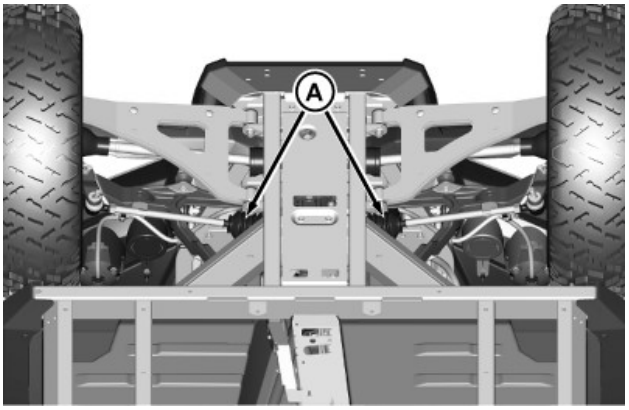
Viewed from under the machine.

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 boot (C) for tears or punctures.
5. If replacement of a boot is necessary, see your John Deere dealer.

OUMX068,0000EE1-19-30MAR18

Inspecting Steering Tie Rod Boots

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



MXT016513—UN—16NOV15

Viewed from under machine.

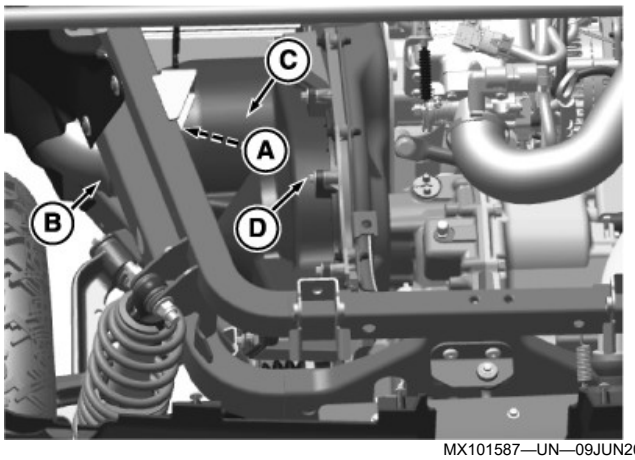
2. Inspect two front steering tie rod boots (A) for tears or punctures.
3. If replacement of a boot is necessary, see your John Deere dealer.

OUMX068,0000EE3-19-16NOV15

Servicing Clutches and Drive Belt

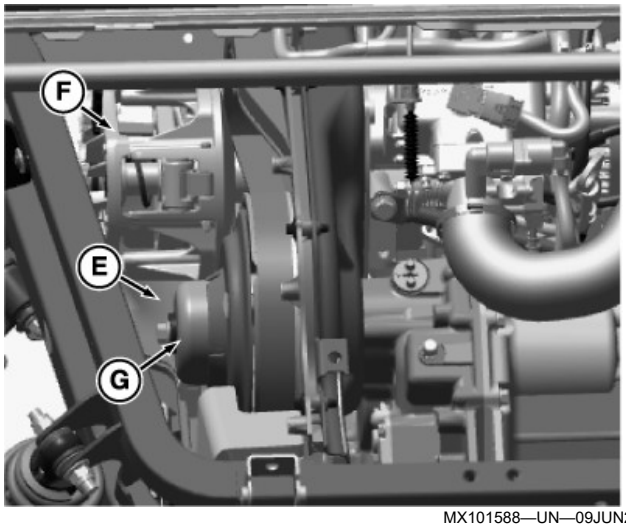
CAUTION: Avoid injury! Rotating parts catch fingers, loose clothing, or long hair. To adjust or service machine, wait for engine and all moving parts to stop before leaving operators station.

1. Park the machine safely. (See Parking Safely in Safety section.)
2. Remove cargo box. (See Removing and Installing Cargo Box in Service Miscellaneous section.)



MX101587—UN—09JUN20

3. Loosen inner clamp (A) and remove the air inlet duct (B) from upper enclosure cover (C).
4. Remove ten bolts (D) and upper enclosure cover (C).

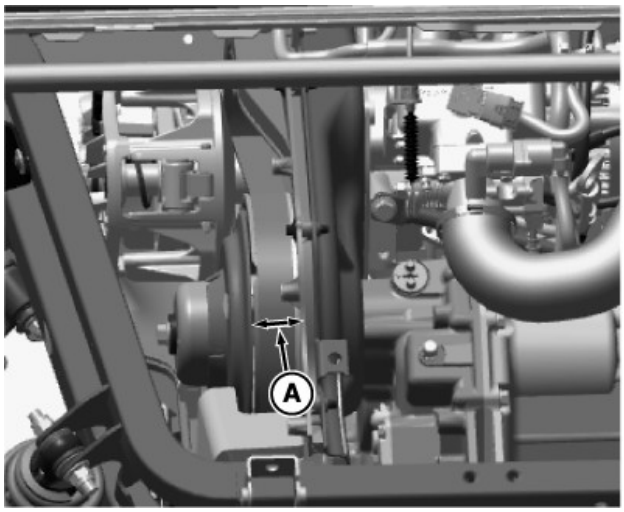


MX101588—UN—09JUN20

5. Using compressed air, clean inside of upper enclosure cover, lower enclosure cover (E), drive clutch (F), and driven clutch (G).
6. Check drive belt. (See Checking Drive Belt in this section.)
7. Inspect and clean air intake. (See Servicing Air Intake in Service Engine section.)
8. Install upper enclosure cover.
9. Install air inlet duct with hose clamps.
10. Install cargo box. (See Removing and Installing Cargo Box in Service Miscellaneous section.)

Checking Drive Belt

1. Rotate and inspect drive belt for wear or damage.



MX101589—UN—09JUN20

2. Measure the top surface of the belt width at point (A). Verify that belt width meets minimum width specification.

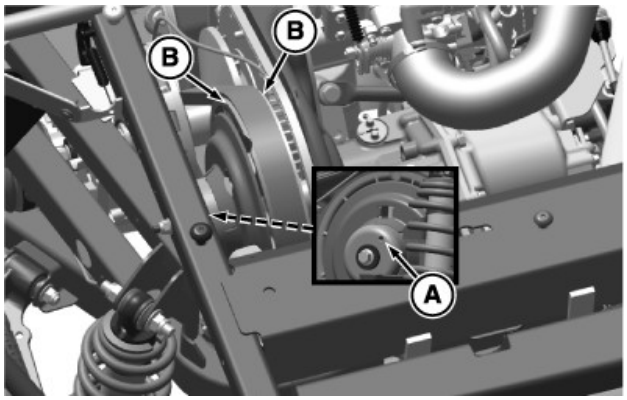
Specification	
Drive Belt Top Surface—Width (minimum)	30 mm (1.2 in)

3. Replace drive belt if necessary. (See Replacing Drive Belt in this section.)

Replacing Drive Belt

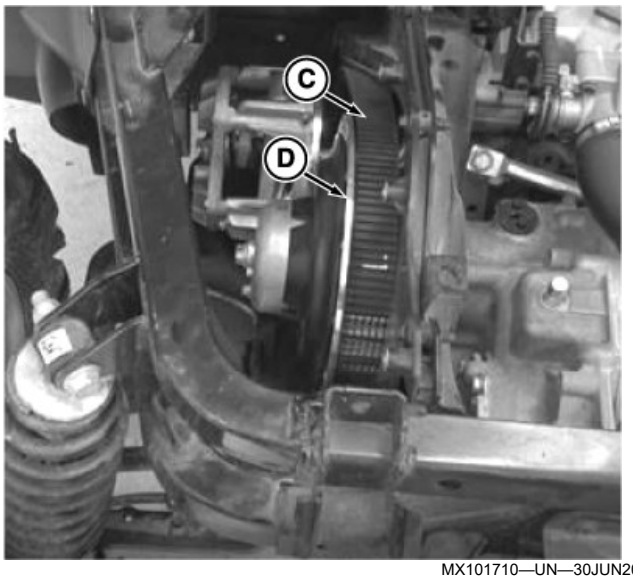
CAUTION: Avoid injury! Rotating parts catch fingers, loose clothing, or long hair. To adjust or service machine, wait for engine and all moving parts to stop before leaving operators station.

NOTE: Your machine comes with a sheave spreader tool from the factory.



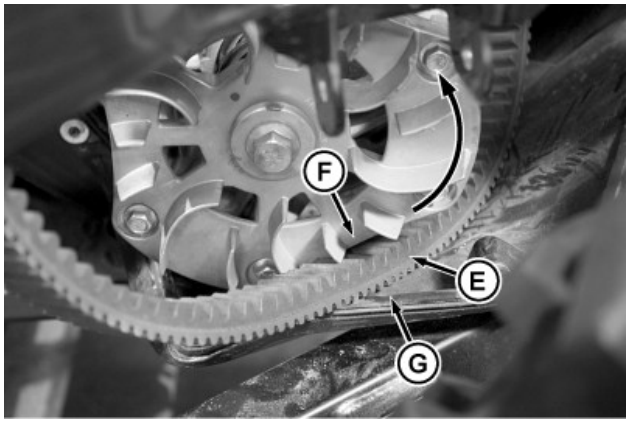
MX101591—UN—09JUN20

1. Thread the sheave spreader provided with your vehicle into the hole (A) in driven clutch to separate the sheaves (B).



MX101710—UN—30JUN20

2. Remove drive belt (C) from driven clutch (D).



MXT016683—UN—02DEC15

3. Rotate drive clutch counterclockwise so that belt (E) clears clutch fan (F) and housing (G).
4. Remove belt.
5. Install new belt.
6. Remove sheave spreader and install cover.

MX00654,000034C-19-30JUN20

Brake Fluid

John Deere DOT4 heavy duty brake fluid is preferred. Other brands of DOT4 brake fluid may be used.

BB87125,0000D9F-19-19APR13

Checking Brake Fluid Level

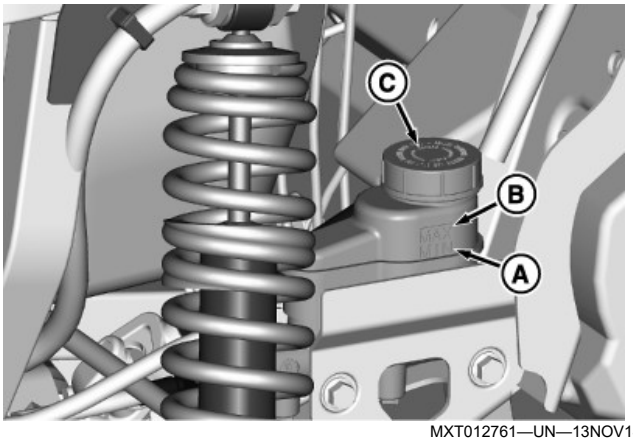
IMPORTANT: Avoid damage! Avoid contamination of the brake fluid. Thoroughly clean area around the filler cap before removing. Do not open the brake fluid reservoir cap unless necessary.

Use extreme care when filling the reservoir. Fluid spilled on painted surfaces can cause damage.

Use only brake fluid from a sealed container.

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

NOTE: Do not overfill reservoir. If you do overfill, leakage occurs.



MXT012761—UN—13NOV14

3. 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 reservoir cap (C).
   - Remove reservoir cap and add fluid to the “MAX” mark.
4. Install reservoir cap.
5. Close hood.

OUMX068,0000A8B-19-13NOV14

Checking Brake Pads

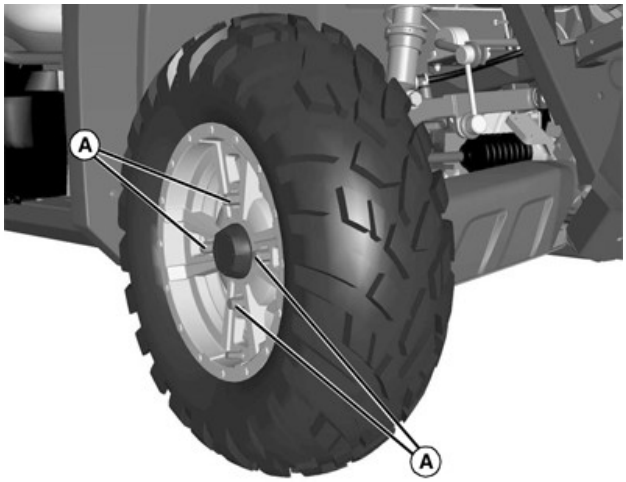
1. Park the machine safely. (See Parking Safely in SAFETY.)

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.**

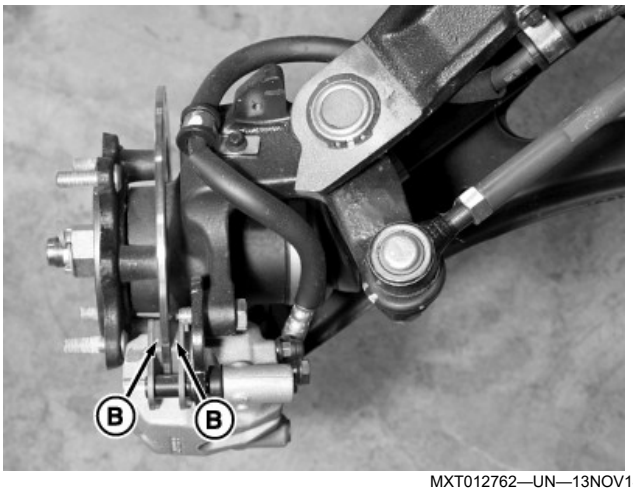
IMPORTANT: Avoid damage! Place jack stands under frame, not under transmission or engine, when raising or supporting machine.

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



MXAL47375—UN—16APR13

3. Remove four wheel nuts (A).
4. Remove the wheel assembly.



MXT012762—UN—13NOV14

5. Inspect brake pad friction material (B) for wear or damage. Check each pads friction material thickness per specification.

Specification	
Brake Pad—Minimum Thickness	1 mm (3/64 in.)

If below this specification or brake pad friction material is damaged, see your John Deere dealer for replacement service.

6. Install wheel assembly with valve stem to the outside.
7. Tighten wheel nuts evenly in alternating sequence until snug.
8. Repeat procedure for remaining three wheels.
9. Lower machine completely to the ground.
10. Tighten wheel nuts to specification.

Specification	
Standard Wheel Assembly (Steel)—Torque	54 N·m (40 lb.-ft.)
Sport Wheel Assembly (Alloy)—Torque	142 N·m (105 lb.-ft.)

OUMX068,0000A8C-19-13NOV14

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-19-03MAY20

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.**

OUO1023,000009A-19-26MAY15

Checking the Battery (Sealed Batteries)

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

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

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

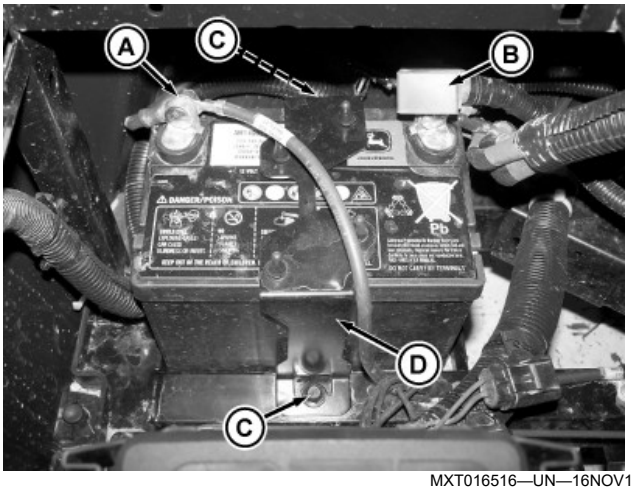
- Recharge, if necessary, at 6-10 amperes for 1 hour.

BB87125,0000DA4-19-09MAR20

Removing and Installing Battery

Removing

1. Park the machine safely. (See Parking Safely in SAFETY.)
2. Tilt seat forward.



MXT016516—UN—16NOV15

3. Disconnect all black negative cables (A) from battery first.
4. Slide back red protective cover (B) and disconnect all red positive cables.
5. Remove two bolts (C) that secures battery hold-down (D) and remove hold-down from around battery.
6. Lift battery from machine.

Installing

1. Install battery into machine with negative (-) terminal positioned toward front of machine and the battery seated properly in the battery tray.
2. Install battery hold-down firmly against battery and install two bolts.
3. Connect all red positive cables to positive (+) battery terminal first. Tighten the connections.
4. Connect all black negative cables to negative (-) battery terminal. Tighten the connections.

5. To help prevent corrosion, apply general-purpose grease or silicone spray to battery terminals.
6. Slide red protective cover down the battery positive cable and seat it over the positive (+) terminal.
7. Lower seat.

OUMX068,0000EE5-19-16NOV15

Cleaning Battery and Terminals

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

MP47322,00F4671-19-15MAR13

Using Booster Battery

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

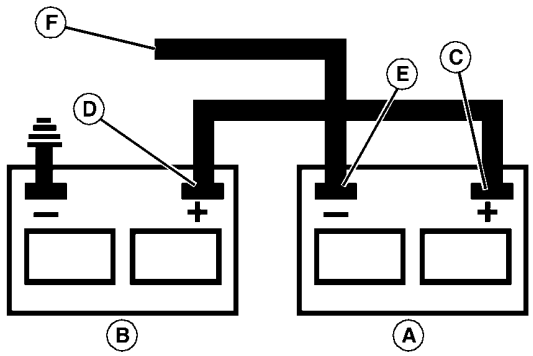
To prevent the battery from exploding:

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

Specification

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

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



MXAL42872—UN—09APR13

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

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

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

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

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

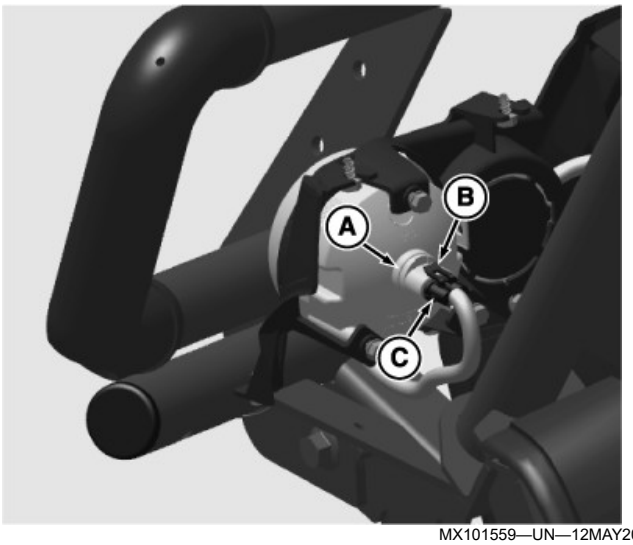
MP47322,00F4672-19-05JUN15

Replacing Headlight Bulb

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

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 the bulb life. Handle bulb by the base or with a clean cloth or gloves.



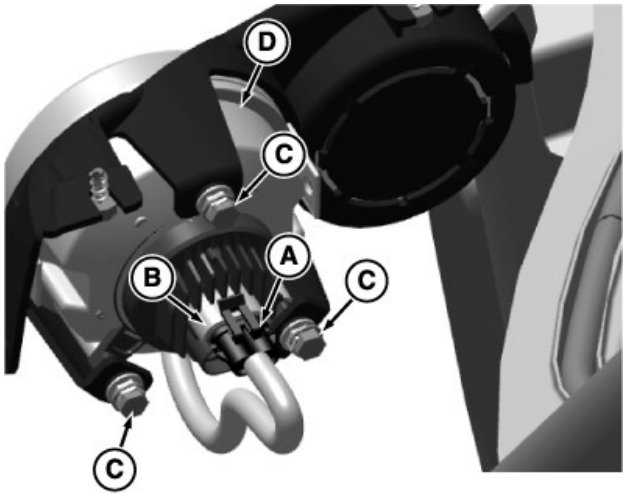
MX101559—UN—12MAY20

3. Rotate bulb socket (A) 1/8 of a turn counterclockwise and remove the socket from the housing.
4. Pull upward slightly on tab (B), and disconnect wire connector (C) from socket. Discard the bulb/socket assembly.
5. Connect wiring connector to new bulb/socket assembly. Install the assembly into housing and rotate 1/8 turn to lock in place.
6. Test the head lamp function.

MX00654,000032B-19-11MAY20

Replacing LED Headlight

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



MX101586—UN—09JUN20

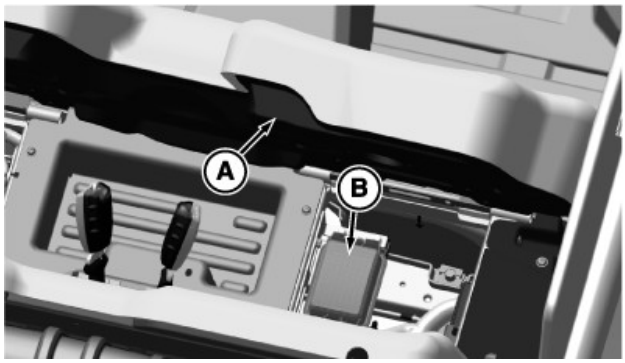
4. Disconnect wire connector (A) from socket (B).
5. Remove three screws (C).
6. Remove headlight assembly (D) from the front side of the bezel.
7. Install new headlight assembly with three screws.
8. Connect wiring connector to socket.
9. Test headlight function.

MX00654,000034B-19-05JUN20

Checking and Replacing Fuses

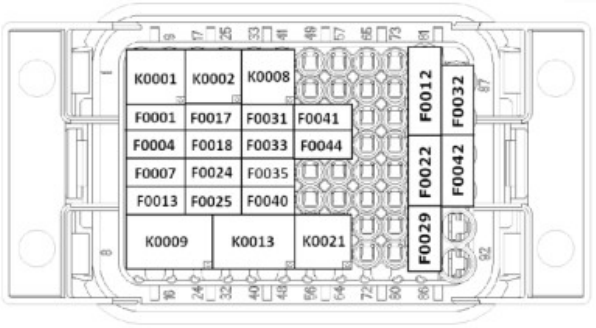
IMPORTANT: Avoid damage! If incorrect replacement fuses are used, the electrical system can be damaged. Replace the bad fuse with a fuse of the same amperage rating.

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



MX101554—UN—15JUN20

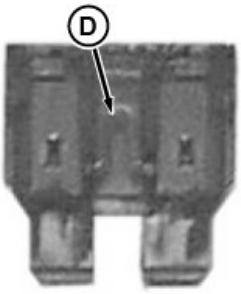
2. Tilt seat (A) forward.
3. Remove cover (B).



MX101553—UN—12JUN20

4. Pull fuse from the fuse block (C) under seat.
5. Fuse identification:

Position	Circuit	Fuse Size
MINI FUSES		
F0001	Relayed Key Power	20A
F0004	Headlights	10A
F0007	Key Switch Power	20A
F0013	Fuel Pump	20A
F0017	Starter	20A
F0018	Dash Power Port	10A
F0024	Diagnostic Power	5A
F0025	Engine Control Unit	5A
F0031	Brake Light	5A
F0033	Box Lift	10A
F0035	Reverse Lights	5A
F0040	MFWD	10A
F0041	Instrument Cluster	20A
F0044	Engine Components	20A
ATO FUSES		
F0012	Engine Fan	15A
F0022	Rear Attachment Power	40A
F0029	Switch Bank Power	40A
F0032	Front Attachment Power	40A
F0042	EPAS Power (M Series Only)	35A
RELAYS		
K0001	Start	4 Pin
K0002	Fuel Pump	4 Pin
K0008	Main Engine	4 Pin
K0009	Key Switch	5 Pin
K0013	Engine Fan	5 Pin
K0021	Back-Up	4 Pin



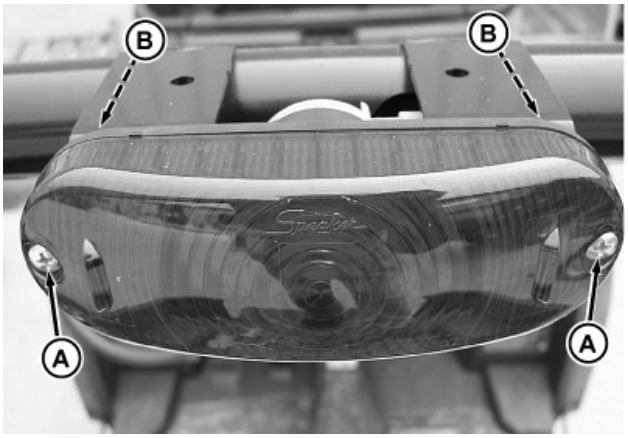
MXT020165—UN—23MAY17

6. Check visually for broken filament at location (D) in fuse.
7. Push new fuse of the correct amperage rating into proper position in the fuse block.
8. Install fuse block cover and lower seat.

MX00654,0000344-19-14JUN20

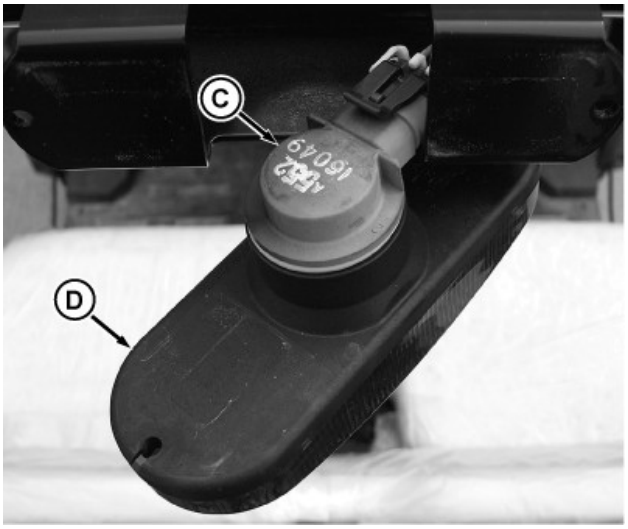
Replacing Tail Light Bulb

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



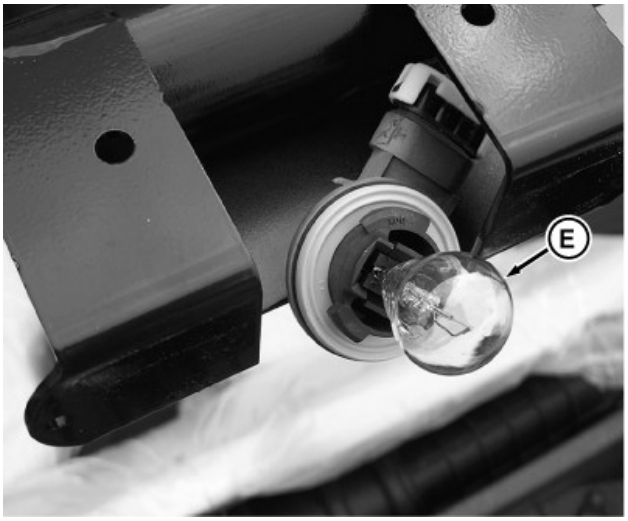
MXT020154—UN—17MAY17

2. Remove screws (A), nuts (B), and tail light lens.



MXT019090—UN—25AUG16

3. Rotate bulb socket (C) 1/8 of a turn counterclockwise and remove socket from the bracket (D).



MXT019091—UN—25AUG16

4. Pull bulb (E) outward slightly. Discard the bulb.
5. Install new bulb and test function.
6. Install lens.

JK79365,0000689-19-17MAY17

Using Proper Fuel and Stabilizer

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

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

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

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

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

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

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

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

MP47322,00F4674-19-26MAY15

Filling Fuel Tank

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

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

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

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

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

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

MXT016520—UN—17NOV15

3. Remove any trash from area around fuel tank cap (A).

IMPORTANT: Avoid damage! No pressure is built up in fuel tank under normal operating conditions. Contact your John Deere dealer if you notice pressure built up when removing fuel tank cap.

4. Remove fuel tank cap slowly to allow any pressure built up in tank to escape.
5. Fill fuel tank to top of tank. Do not overfill.
6. Install fuel tank cap.

OUMX068,0000EE7-19-01AUG16

Removing and Installing Wheel Assembly

Removing

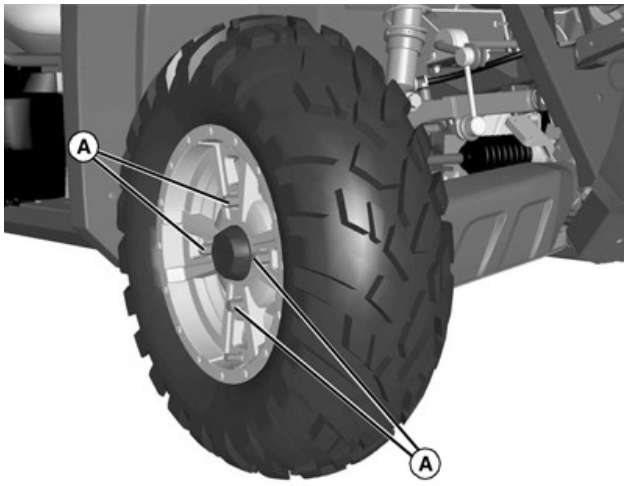
1. Park the machine safely. (See Parking Safely in SAFETY.)

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.**

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

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



MXAL47385—UN—16APR13

3. Remove the four wheel nuts (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 nuts evenly in alternating sequence until snug.
3. Repeat procedure for remaining three wheels.
4. Lower machine completely to the ground.
5. Tighten wheel nuts to specification.

Specification	
Standard Wheel Assembly (Steel)—Torque	54 N·m (40 lb·ft)
Sport Wheel Assembly (Alloy)—Torque	142 N·m (105 lb·ft)

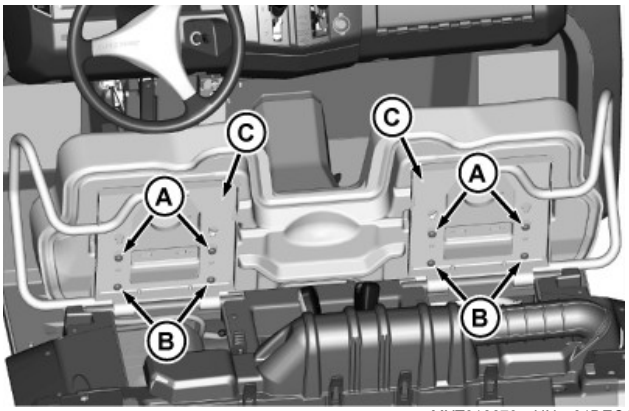
6. If new nuts or wheels are used, tighten nuts again after 8 hours of machine use.

BB87125,0000DAC-19-09MAR20

Removing and Installing Seats

Remove Bench Seat

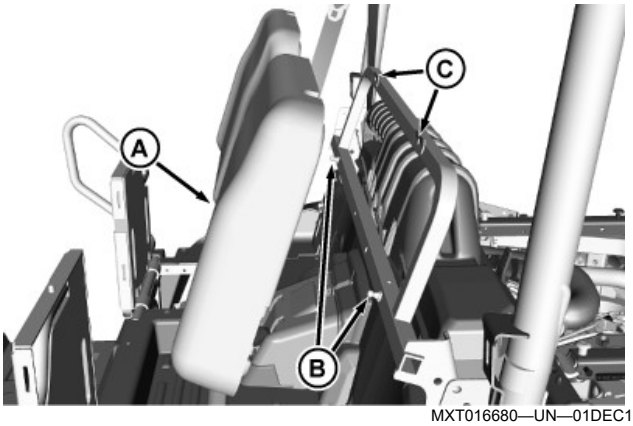
1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Tip seat forward.



MXT016679—UN—01DEC15

3. Loosen upper four screws (A).
4. Remove bottom four screws (B).
5. Lift seat up and remove from seat brackets (C).
6. Installation is the reverse of removal.

Remove Seat Back



MXT016680—UN—01DEC15

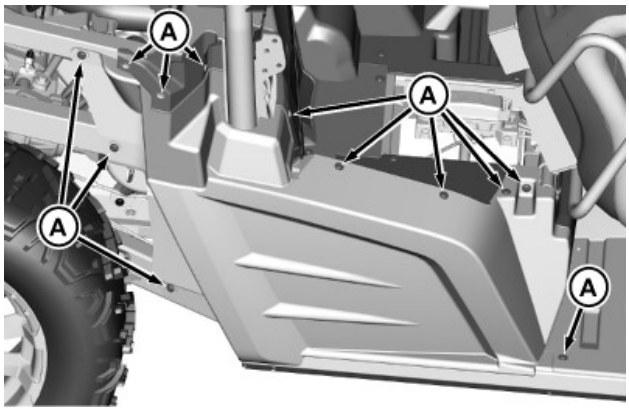
1. Pull out on bottom of seat back (A) and remove seat back from both studs (B) on seat frame.
2. Lift seat back and remove from tabs (C) on seat frame.

3. Installation is the reverse of removal.
   - Make sure that the tabs on the seat frame are inserted into the slots in the top of the seat back.

OUMX068,0000F19-19-01DEC15

Removing and Installing Side Panels

1. Park machine safely. (See Parking Safely in SAFETY.)
2. Tilt seats forward.
3. Raise cargo box.



MXT016440—UN—11NOV15

Picture Note: Right side of machine shown.

4. Remove 12 screws (A) and remove right side panel.

CAUTION: Avoid injury! Fuel is flammable. DO NOT SMOKE. Always work in a well-ventilated area away from open flame or spark-producing equipment, including equipment that utilizes pilot lights.

5. **For left side panel:** Remove fuel filler cap first, then remove 12 screws and side panel.
6. Install fuel filler cap back on fuel tank.

Installation

IMPORTANT: Avoid damage! Check to be sure that no wire harness is pinched between frame and side panels when installing.

Installation is the reverse of removal.

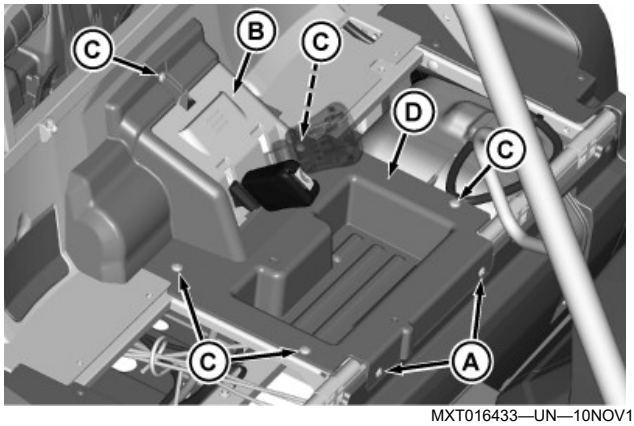
OUMX068,0000ED5-19-11NOV15

Removing and Installing Seat Closeout Panel

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

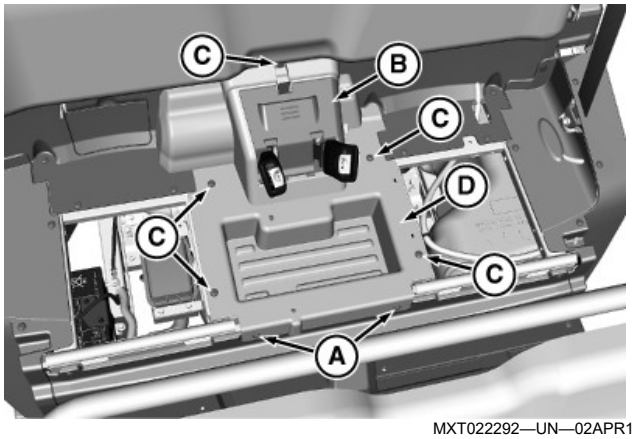
Removing

1. Park the machine safely. (See Parking Safely in Safety section.)
2. Allow engine to cool.
3. Raise and secure cargo box with latch support.



MXT016433—UN—10NOV15

Picture Note: XUV590 with seat removed for a better view.

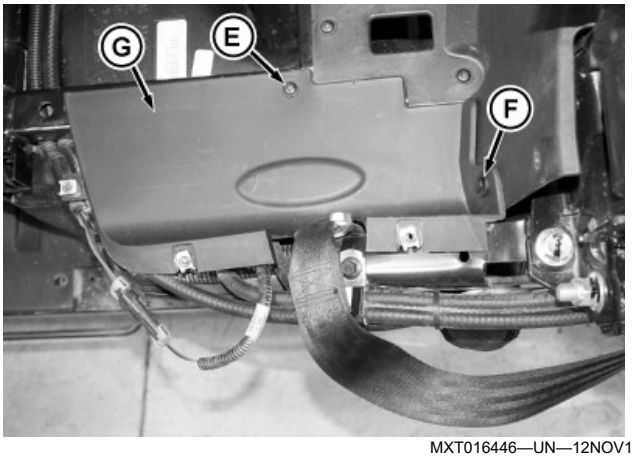


MXT022292—UN—02APR18

Picture Note: XUV590 S4 with seat removed for a better view.

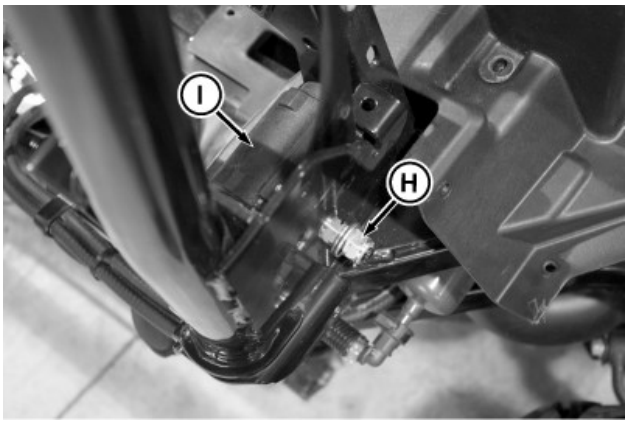
4. Remove two TORX® head screws (A).
5. Tilt seats forward.
6. Remove access cover (B).
7. Remove five TORX® head screws (C) and remove center panel (D).
8. Remove side panels. (See Removing and Installing Side Panels in Service Miscellaneous section.)

TORX is a trademark of Camcar/Textron



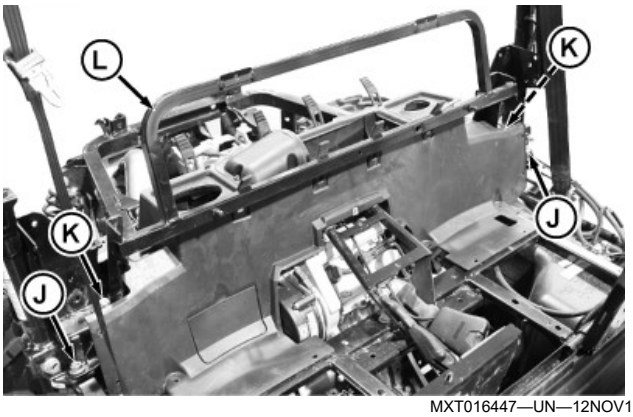
MXT016446—UN—12NOV15

9. Remove TORX® head screw (E) and push retainer (F). Remove panel (G).
10. Repeat for the opposite side.



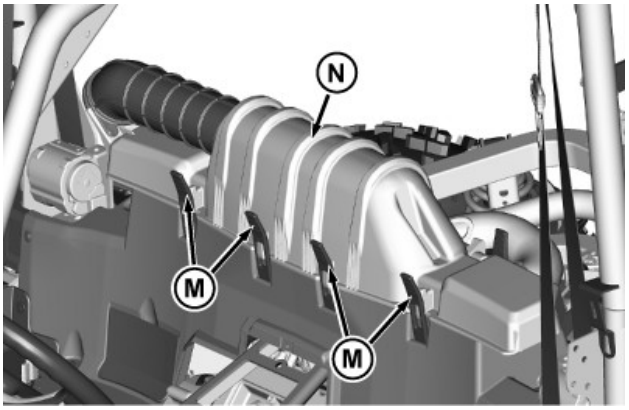
MXT016448—UN—12NOV15

11. **Machines with a front bench seat:**
    a. Remove seat back.
    b. Remove nut (H) and seat belt retractor (I) from frame. Repeat on the opposite side.



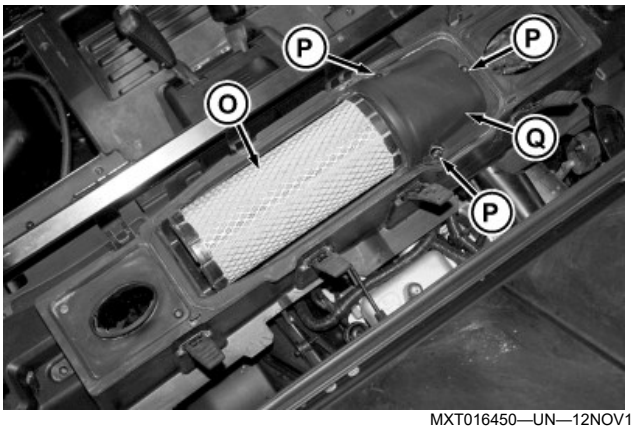
MXT016447—UN—12NOV15

    c. Remove lower bolt and nut (J).
    d. Remove upper nut (K) and remove support (L).
12. **Machines with a rear bench seat:**
    - Lower the fold down rack.



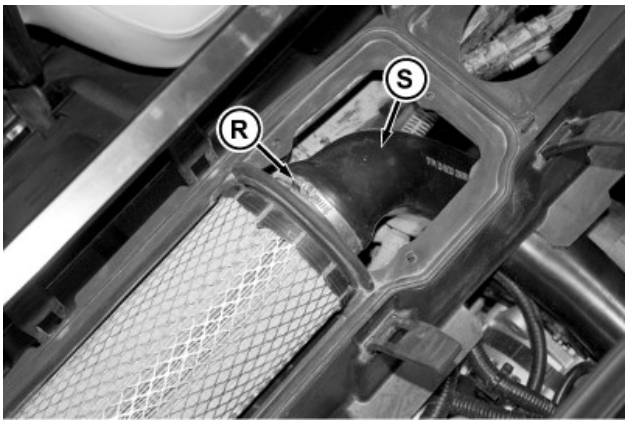
MXT016449—UN—12NOV15

13. Remove four rubber latch straps (M) on each side of cover (N). Remove cover.



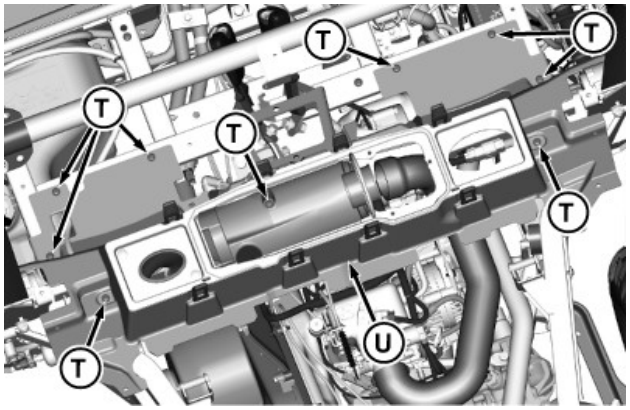
MXT016450—UN—12NOV15

14. Remove filter element (O).
15. Remove three screws (P) and cover (Q).



MXT016452—UN—12NOV15

16. Loosen clamp (R) and remove intake hose (S) from housing.



MXT016451—UN—12NOV15

17. Remove nine TORX® head screws (T) and remove seat closeout panel (U).

Installing

- Installation is the reverse order of removal.

OUMX068,000148E-19-19APR18

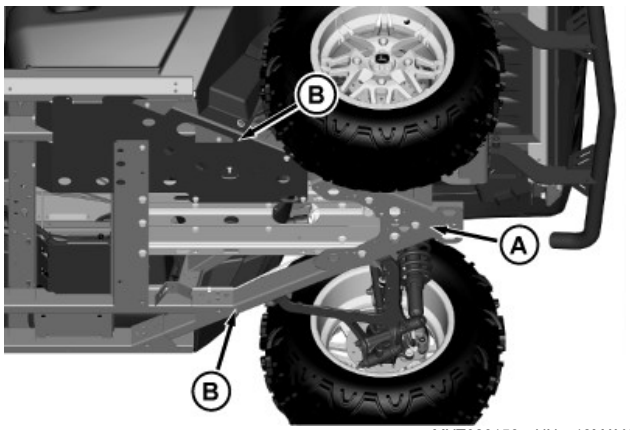
Lifting Machine

1. Park the 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.**

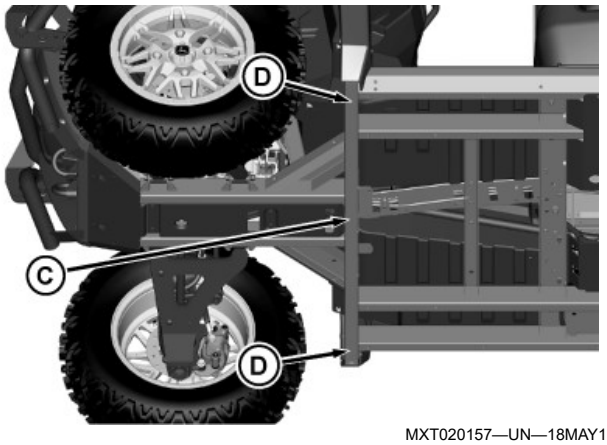
NOTE: Remove all attachments before lifting machine.



MXT020156—UN—18MAY17

Your machine model may not be shown, but jack locations are as shown.

2. Safely lift rear of the machine at the frame point (A).
3. Place jack stands or other stable supports under frame locations (B).
4. To avoid movement of the machine when only lifting rear of machine, block front wheels remaining on ground.



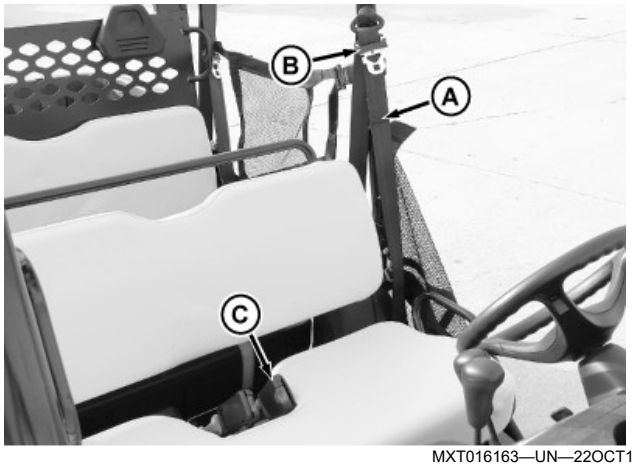
MXT020157—UN—18MAY17

Your machine model may not be shown, but jack locations are as shown.

5. Safely lift front of the machine at the frame point (C). Place jack stands or other stable supports under frame locations (D).
6. To avoid movement of the machine when only lifting front of machine, block rear wheels remaining on ground.
7. To lower the machine, lift front and/or rear of machine. Remove jack stands or supports and lower machine.

OUMX068,000129F-19-18MAY17

Inspecting Seat Belt



MXT016163—UN—22OCT15

IMPORTANT: Avoid damage! Do not bleach or dye webbing. Webbing can 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 garden hose and mild soap. Rinse thoroughly and air dry.
- Inspect outer seat belt connector (B) and inner connector (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.

OUMX068,0000E54-19-22OCT15

Inspecting Nets or Doors

- Keep nets, doors, and supporting components clean.
- If needed hand wash with garden hose and mild soap.
- Latch and unlatch metal tab of net from buckle during washing for better cleaning. Allow to dry before use.
- Extended machine operation under harsh conditions may require more frequent inspection and cleaning.

OUMX068,00002E5-19-04OCT13

Servicing Nets (XUV590 S4)

NOTE: Perform the following procedure for all the nets on your machine.

1. To make sure that the net is taut, follow the Using Nets instructions in OPERATING.

MXT016165—UN—22OCT15

2. To keep nets taut, loosen hardware and adjust clamp (A) as needed. Tighten to 16 N·m (12 lb·ft).

OUMX068,00012B4-19-24MAY17

Cleaning and Repairing Cargo Box

Repairing Accessory Tubes

MXAL47390—UN—16APR13

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

BB87125,0000DB0-19-19APR13

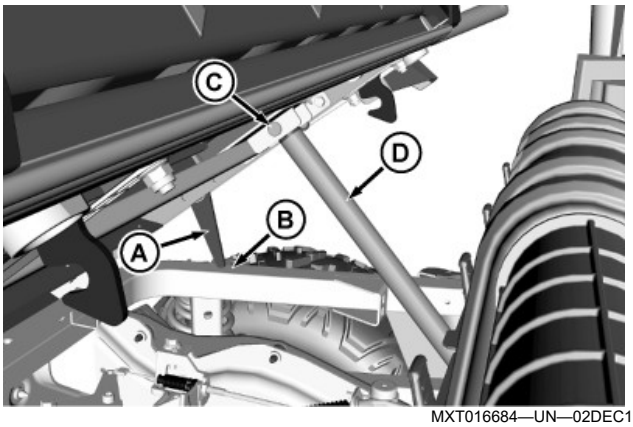
Removing and Installing Cargo Box

Removing Cargo Box

CAUTION: Avoid injury! Do not attempt removal of the cargo box without using the latch support.

Empty all material from the cargo box before removing.

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



MXT016684—UN—02DEC15

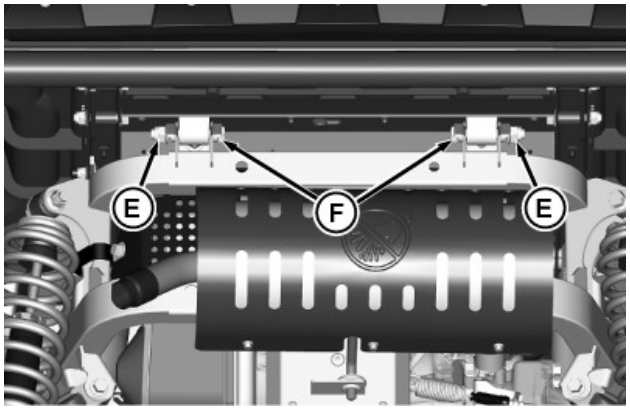
3. On machines with a power lift, disconnect power lift:
   a. Fully raise cargo box, and lower latch support (A) downward.
   b. Lower cargo box with latch support onto frame (B).

c. Remove top cylinder pin and spring locking pin (C), and lower top of the lift cylinder (D) downward.

d. Install cylinder pin and spring locking pin back into the lift cylinder for storage.

e. Raise latch support and fully lower cargo box.

CAUTION: Avoid injury! Machine component or attachment is heavy. To help lift, install, or remove component or attachment, use a safe lifting device or get an assistant.



MXT016521—UN—17NOV15

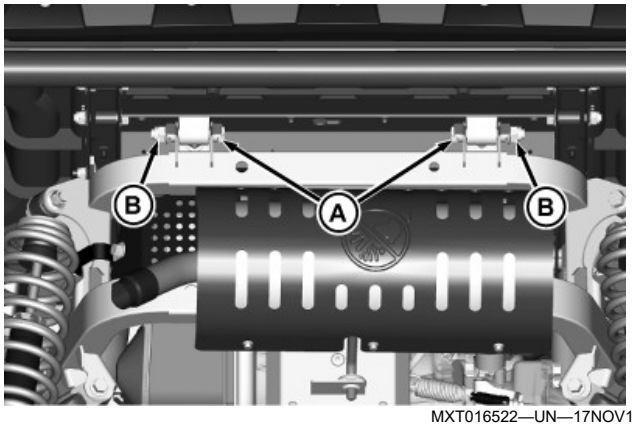
4. Remove nuts (E), bolts (F), and four cargo box shims (if equipped). Remove cargo box from the machine.
5. Install bolts, nuts, and four cargo box shims (if equipped) back into machine brackets for storage.

Installing Cargo Box

1. Remove bolts, nuts, and four cargo box shims (if equipped) stored in brackets at the rear of the machine.

CAUTION: Avoid injury! Machine component or attachment is heavy. To help lift, install, or remove component or attachment, use a safe lifting device or get an assistant.

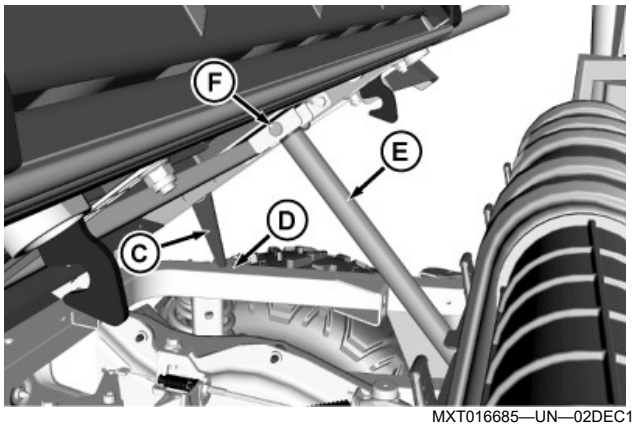
2. Carefully position cargo box on top of the machine frame with a safe lifting device.



MXT016522—UN—17NOV15

3. Align cargo box tabs and brackets at the rear of the machine.
4. Install four cargo box shims (if equipped) and attach the rear of the cargo box to the frame with bolts (A) and nuts (B).

CAUTION: Avoid injury! Make sure that cargo box is safely supported in the raised position before connecting the lift cylinder to the bottom of the cargo box.



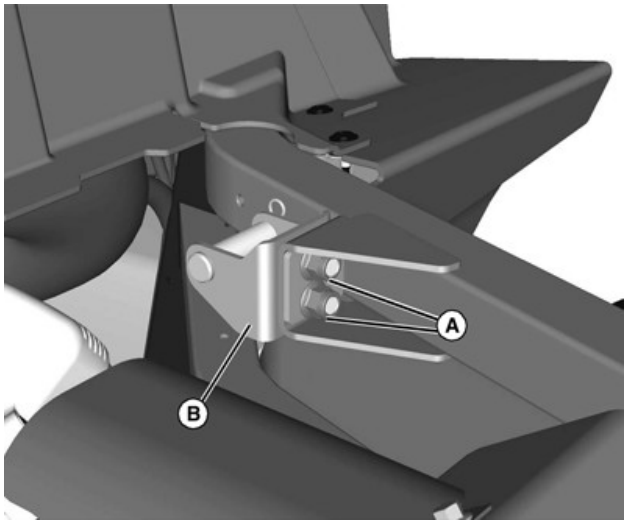
MXT016685—UN—02DEC15

5. On machines with a power lift, connect power lift:
   a. Fully raise cargo box and lower latch support (C) downward.
   b. Lower cargo box with latch support onto frame (D).
   c. Remove spring locking pin and cylinder pin stored in the lift cylinder.
   d. Install top of the lift cylinder (E) to bracket on the cargo box and secure with cylinder pin (F) and spring locking pin.
   e. Raise latch support and fully lower cargo box.

OUMX068,00014AB-19-08MAY18

Adjusting Cargo Box Latch Brackets

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



MXAL45787—UN—09APR13

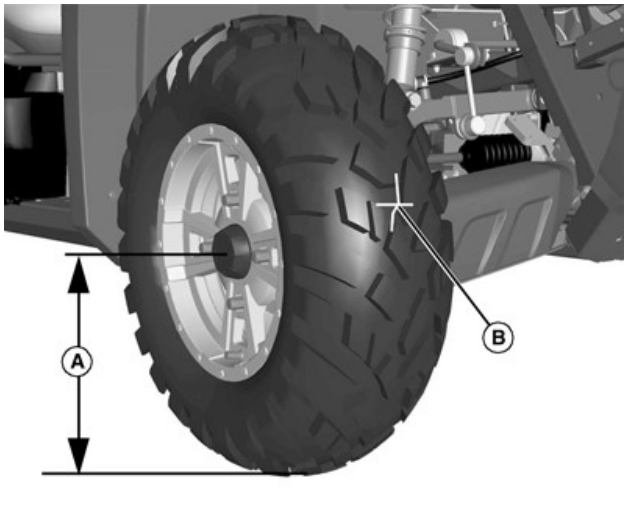
3. Loosen nuts (A) on brackets on both sides of machine.
4. Slide bracket (B) down or up as needed and tighten nuts.
5. Lower cargo box.

RH75544,00001D3-19-08APR13

Checking and Adjusting Toe-In

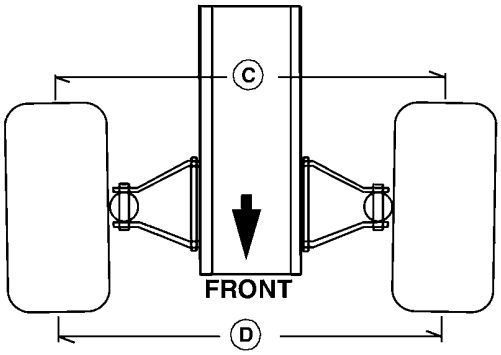
In order to set front wheel toe-in suspension and steering components must be in good condition. All fasteners must be tightened to specification.

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



MXAL47395—UN—16APR13

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



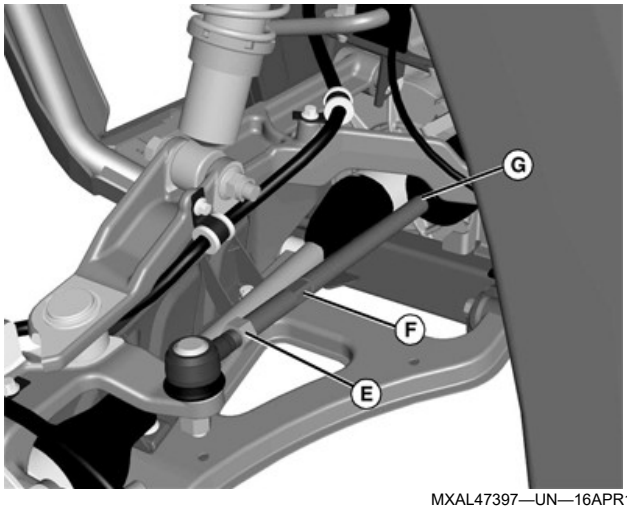
MXAL47396—UN—16APR13

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

Specification

Toe-in—Length. . . . . 6 mm (0.24 in.)

NOTE: If the tie rod boot clamp is too tight, the steering rack rubber boot turns with the tie rod. Loosen the boot clamp enough allowing the rubber boot to remain stationary when the tie rod is turned.



MXAL47397—UN—16APR13

Left side shown.

a. Loosen M12 jam nuts (E) on left and right tie rod.
b. Rotate tie rod by placing 14 mm wrench on flats (F).
c. Loosen boot clamps (G) if necessary to prevent boot rotation with tie rod adjustment.

d. Adjust left and right tie rods equally until toe-in is within specification.

e. Tighten jam nuts to specification.

Specification

Tie Rod Jam Nuts—Torque. . . . . 54N·m (40 lb.-ft.)

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

OUMX068,0000B8A-19-27MAR15

Adjusting Suspension (Standard Shocks)

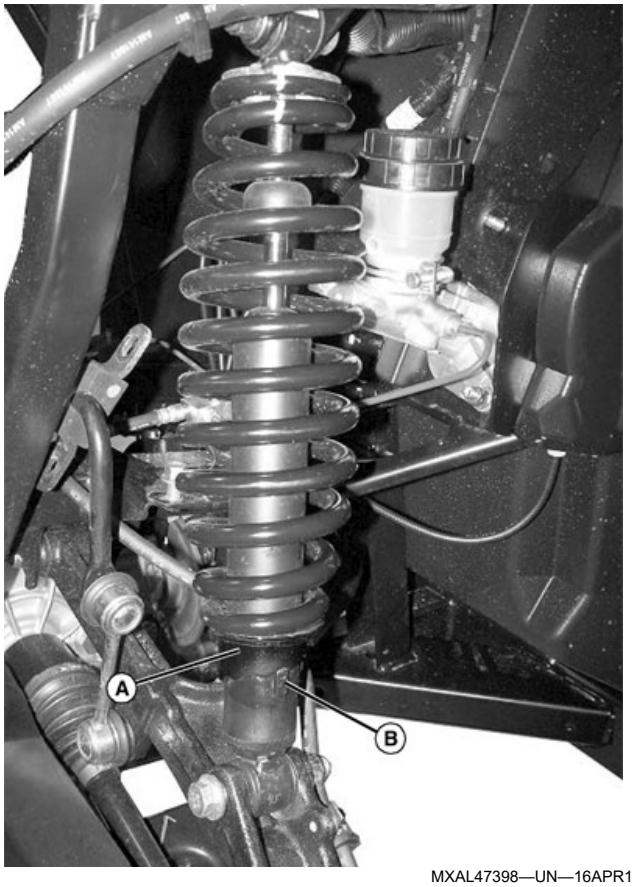
Preload Adjustment

When to Adjust:

- 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:

1. Park the machine safely. (See Parking Safely in SAFETY.)
2. Block tire not intended to be lifted off the ground.
3. Raise the machine with a safe lifting device and lower machine onto jack stands or other stable support.



MXAL47398—UN—16APR13

4. 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 that both front shock preload collars are set to the same position. Be sure that both rear shock preload collars are set to the same position.

5. Repeat this operation on all shocks as needed.

BB87125,0000DB3-19-09MAR20

Adjusting Suspension (Fox Monotube Shocks)

Preload Adjustment

Reason to Adjust:

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

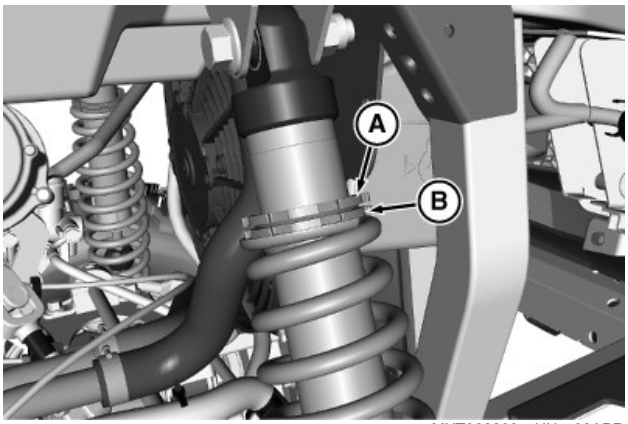
How to Adjust:

1. Park the 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.**

2. Block rear tires and raise the front of the machine with a safe lifting device. Lower the machine onto jack stands or other stable supports.



MXT022293—UN—02APR18

Picture Note: Front shock is shown. Rear adjustment is the same.

3. Loosen the upper lock nut (A) tightened against the preload collar (B) using the supplied spanner wrench.
4. Engage the preload collar using the spanner wrench. Rotate the preload collar to desired setting.
5. Tighten the upper lock nut against the preload collar using the spanner wrench.

CAUTION: Avoid injury! Be sure that both preload collars on the front shock are set to the same position. Be sure that both preload collars on the rear shock are set to the same position.

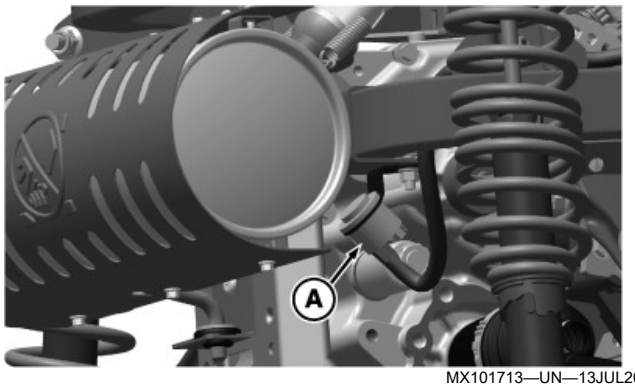
6. Repeat this operation on all shocks as needed.
7. Remove supports and lower machine.
8. Measure chassis height from a flat surface to the bottom of the frame behind the front wheels. Measure chassis height from a flat surface to the bottom of the rear hitch plate. The measured distances must be nearly equal at the front or rear.

OUMX068,000148F-19-02APR18

Cleaning Back Up Alarm (if equipped)

Buildup of debris must be removed to ensure proper machine function. Frequency of these inspections and cleaning vary depending on a number of factors including operating conditions, machine configuration, operating speeds, and weather conditions.

Always park machine safely, before carrying out any inspection or cleaning.



MX101713—UN—13JUL20

Be sure to keep the back up alarm (A) and surrounding area clean and free of debris and mud.

MX00654,0000374-19-16JUL20

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 (bath towel, diaper, automotive mitt).**
- **Do not use abrasive materials, such as polishing compounds, on plastic surfaces.**

Washing Vehicle:

The recommended and safest way to clean your vehicle is with a garden hose and a pail of mild, soapy water. Use a professional type wash mitten. Clean the upper body first and the lower parts last. Rinse frequently with water and dry with a chamois to prevent water spotting.

1. Rinse hood and entire machine with clean water to remove dirt and dust that may scratch the surface.

IMPORTANT: Avoid damage! High pressure may damage vehicle components. It is recommended that your vehicle be washed by hand or with a garden hose using mild soap.

Avoid spraying water with any great force near or into the following places:

- **Clutch enclosure air outlet**
- **Air intake**
- **Electrical connections (including battery compartment)**
- **CV boots**
- **Wheel bearings**
- **Master cylinder**
- **Pillow block bearings**
- **Radiator**
- **Warning labels**
- **Decals**
- **Ignition switch**
- **Instrument panel (gauges and switches)**
- **Breather/tube vents**

2. Wash surface with clean water and a mild liquid automotive washing soap.
3. Immediately after washing, lubricate all grease fittings with grease.
4. Dry thoroughly to avoid water spots.
5. Wax the surface with a liquid automotive wax. Use products that specifically say “contains no abrasives.”

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

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

RH75544,00001D6-19-09MAR20

Cleaning and Repairing Metal Surfaces

Cleaning:

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

Repairing Minor Scratches (surface scratch):

1. Clean area to be repaired thoroughly.

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

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

Repairing Deep Scratches (bare metal or primer showing):

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

MP47322,00F467A-19-26MAY15

Cleaning Plastic Hood and Body Panel 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 will result in minor surface scratches.**
- **Use a soft, clean cloth (bath towel, diaper, automotive mitt).**
- **Do not use abrasive materials, such as polishing compounds, on plastic surfaces.**

1. Rinse with clean water to remove dirt and dust.
2. Dry thoroughly to avoid water spots.
3. Spray Pledge® onto hood and surfaces and leave on for 30 to 60 seconds.
4. Wipe off with cheesecloth to bring out lustre.

OUMX068,0000BC1-19-06MAY15

Polycarbonate Windshield Maintenance

Inspecting Windshield

CAUTION: Avoid injury! If cracks or surface crazing are observed, or viewing through windshield is impaired, replace the windshield.

1. Inspect windshield condition.
2. Fill in existing scratches.
3. Polish or wax windows regularly.

Pledge is a trademark of SC Johnson

Cleaning Windshield

IMPORTANT: Avoid damage! Some cleaning compounds attack the polycarbonate material, resulting in cracks that weaken the material.

Never use compounds that contain substances such as ammonia, gasoline, lacquer thinner, and turpentine.

Use of abrasive cleaners on windshield causes damage.

Never use substances such as acetic acid, acetone, benzene, benzyl alcohol, brake fluid, butyric acid, carbon tetrachloride, ethyl ether, methyl alcohol, phenol, sodium sulfide, sodium hydroxide, sodium nitrate, trichloroethylene, toluene, xylene, or petroleum products.

NOTE: The windshield and windscreen are a polycarbonate material which is softer, but stronger than, glass.

The following polycarbonate window cleaners and wash offered by John Deere are approved and recommended for cleaning polycarbonate windows to avoid damage caused by unapproved products: John Deere Polycarbonate Cleaner is sprayed on for removal with a soft cloth while John Deere Polycarbonate Wash pours into the vehicle dispensing systems.

1. Rinse as much loose dirt off as possible with warm water and a soft cloth or sponge before washing.
2. Wash with mild soap or detergent and rinse thoroughly with clean water.
3. Cleaning in direct sunlight causes streaking on surface.
4. Thoroughly dry windshield with a chamois or moist sponge to prevent water spots.

Polishing or Waxing Windshield

Minimize scratches and minor abrasions with a mild automobile polish.

Test effectiveness of polish or wax in a small corner of windshield before using on the entire windshield.

OUMX068,0000BC0-19-15MAY19

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 does not start	Battery has low voltage. Loose or corroded battery connections. Blown fuses. Spark plug wires is loose or disconnected. Faulty spark plugs or coil. No fuel or improper fuel. Plugged fuel filter. Defective starter solenoid. Open-circuit in wiring. Foot not pressing brake pedal.
Engine is hard to start	Engine is cold. Plugged fuel filter. Engine oil viscosity too heavy. Spark plug is fouled. Faulty spark plugs or wires. Loose or corroded electrical connections. Stale or improper fuel.
Engine misses under load	Faulty spark plugs. Stale or dirty fuel. Plugged fuel filter. Faulty coil or wire.
Engine vapor locks	Poor quality fuel or methanol. Hot-weather conditions and high loading condition. Fuel tank vent plugged. Dirt in the fuel filter.
Engine runs unevenly	Loose electrical connections. Throttle cable sticking. Fuel line or fuel filter plugged. Stale or dirty fuel. Improper fuel. Air cleaner element plugged. Spark plug is fouled.
Engine overheats	Air cleaner element missing or plugged. Engine oil low. Engine operated too long at slow engine speed. Check thermostat. Check water pump. Check coolant level.
Engine loses power	Engine overheating. Too much oil in engine. Faulty spark plugs. Fuel supply being restricted. Fuel filter plugged Fuel line pinched or kinked. Improper fuel. Air cleaner element plugged.
Engine knocks	Low engine speed. Stale or low octane fuel. Engine overloaded.

OUMX068,0000F1B-19-04MAY18

Electrical

IF	CHECK
Starter does not work	Starter fuse or relay. Loose or corroded connections. Low battery output. Sulfated or worn out battery. Faulty starter. Faulty brake switch. Faulty key switch.
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 (F6) for the key switch. Loose or corroded connections. Sulfated or worn out battery. Check fusible link between the positive battery terminal and chassis harness. Faulty key switch.
Dead battery	Shorted starter solenoid. Key switch not turned to OFF position. Component connected to an accessory outlet 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 lights do not come on when checking instrument display	Faulty wiring. Faulty switch or sensor. Wrong software configuration or software update needed.
Battery does 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.
Cannot shift out of park	Dead battery. Defective solenoid.

MX00654,0000345-19-27MAY20

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.)

BB87125,0000DBB-19-21MAY13

Cargo Box

IF	CHECK
Tailgate doesn't latch properly	Strikers not connecting - inspect and lubricate strikers.

MX00654,000032D-19-11MAY20

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.

RH75544,00001E0-19-08APR13

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 little fuel is left in the fuel tank.

2. For machines equipped with a key switch, turn key to off position.

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

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

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

Engine:

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

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

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

OUMX068,00012D2-19-14JUN17

Removing Machine From Storage

1. Check tire pressure.
2. Check engine oil level.
3. Check battery electrolyte level, if your battery is not maintenance free. Charge battery if necessary.
4. Install battery.
5. On gas engines: Check spark plug gap. Install and tighten plugs to specified torque.
6. Lubricate all grease points.
7. Open fuel shut-off valve, if your machine is equipped.
8. Be sure all shields and guards or deflectors are in place.

RH75544,00001E2-19-08APR13

Specifications

Engine

Manufacturer	Chery
Type	4-cycle Gas, Electronic Fuel Injection (EFI)
Cylinders	2
Displacement	0.586 L (35.8 in^3)
Bore	72 mm (2.83 in)
Stroke	72 mm (2.83 in)
Lubrication	Pressurized
Oil Filter	Spin On Filter
Air Cleaner	Dry replaceable single element with remote intake
Cooling System	Liquid
Idle Speed	1000 ± 50 rpm
Fast Idle Speed	5750 ± 100 rpm

OUMX068,0001491-19-29MAR19

Drivetrain

Type	Continuously Variable Transmission (CVT) with Clutch Enclosure
Gear Ranges	Forward HI and LO - Neutral - Reverse - Park

MX00654,000032F-19-24JUN20

Electrical System

Battery Type	12 Volt
Battery Reserve Capacity @ 25A	38 Minutes
Battery Amp Hour Rating @ 27° C (80° F)	30
Cold Cranking Amps @ -18° C (0° F)	340
Alternator	75 A
Voltage Rectifier and Regulator Module Output at 1050 rpm (Idle)	30 A
Voltage Rectifier and Regulator Module Output at 3400 rpm (Not Full Throttle)	65 A
Spark Plug Gap	0.762 mm (.030 in.)

OUMX068,0000EFF-19-23NOV15

Fuel System

Fuel Filter	Mesh Screen
Fuel	Gasoline

MX00654,000036B-19-26JUN20

Steering and Brakes

Steering	Rack and Pinion
Brakes	Front/Rear Hydraulic Disc
Brake Pad Minimum Thickness	1 mm (3/64 in.)
Toe-In	6 mm (0.24 in.)

BB87125,0000DC5-19-10APR15

Tires

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

Front Tires	
Terrahawk AT	25x8-12
Maxxis Bighorn 2.0	26x8R14
Inflation Pressure (all front tires unloaded)	97 kPa (0.97 bar) (14 psi)
Inflation Pressure (all front tires loaded @GVWR)	97 kPa (0.97 bar) (14 psi)
Rear Tires	
Terrahawk AT	25x10-12
Maxxis Bighorn 2.0	26x10R14
Inflation Pressure (all rear tires unloaded)	97 kPa (0.97 bar) (14 psi)
Inflation Pressure Terrahawk (rear tires loaded @GVWR) (XUV560)	110 kPa (1.10 bar) (16 psi)
Inflation Pressure Maxxis (rear tires loaded @GVWR) (XUV560)	97 kPa (0.97 bar) (14 psi)
Inflation Pressure Terrahawk (rear tires loaded @GVWR) (XUV560 S4)	176 kPa (1.79 bar) (26 psi)
Inflation Pressure Maxxis (rear tires loaded @GVWR) (XUV560 S4)	166 kPa (1.66 bar) (24 psi)

MX00654,000032E-19-11MAY20

Dimensions (XUV590)

Width (overall)	1.45 m (57 in)
Length (with bumper)	2.92 m (115 in)
Height (with Protective Structure)	1.88 m (74 in)
Ground Clearance	26.7 cm (10.5 in)

OUMX068,00012DF-19-14JUN17

Dimensions (XUV590 S4)

Width (overall)	1.45 m (57 in)
Length (with bumper)	3.71 m (146 in)
Height (with Protective Structure)	1.88 m (74 in)
Ground Clearance	23.6 cm (9.3 in)

SB31882,000004A-19-29JAN19

Specifications

Weights (XUV590)

Weight (XUV590E) (empty vehicle with full fluids)	645 kg (1422 lb)
Weight (XUV590M) (empty vehicle with full fluids)	676 kg (1490 lb)
Gross Vehicle Weight Rating (GVWR)	1115 kg (2458 lb)
Maximum Front Axle Load	545 kg (1202 lb)
Maximum Rear Axle Load	850 kg (1874 lb)
Maximum Payload	408 kg (900 lb)
Maximum Cargo Box (not to exceed GVWR)	227 kg (500 lb)
Maximum Towing	680 kg (1500 lb)
Maximum Inertia Braked Towing (not to exceed GVWR)	680 kg (1500 lb)
Maximum Trailer Tongue	68 kg (150 lb)

MX00654,0000351-19-25JUN20

Weights (XUV590 S4)

Weight (XUV590E S4) (empty vehicle with full fluids)	761 kg (1678 lb)
Weight (XUV590M S4) (empty vehicle with full fluids)	788 kg (1737 lb)
Gross Vehicle Weight Rating (GVWR)	1395 kg (3075 lb)
Maximum Front Axle Load	545 kg (1202 lb)
Maximum Rear Axle Load	880 kg (1940 lb)
Maximum Payload	590 kg (1300 lb)
Maximum Cargo Box (not to exceed GVWR)	227 kg (500 lb)
Maximum Towing	680 kg (1500 lb)
Maximum Inertia Braked Towing (not to exceed GVWR)	680 kg (1500 lb)
Maximum Trailer Tongue	68 kg (150 lb)

MX00654,0000352-19-25JUN20

Capacities

Fuel Tank	28 L (7.4 gal)
Coolant System XUV590 (with reservoir)	4.9 L (1.3 gal)
Coolant System XUV590 S4 (with reservoir)	5.6 L (1.5 gal)
Engine Oil Capacity (with filter change)	2.17 L (2.3 qt)
4WD Front Differential	0.5 L (16.9 oz)
Transmission	4.3 L (4.5 qt)

MX00654,000034F-19-22JUL20

Recommended Lubricants

Engine Oil	John Deere Plus-4™
	John Deere Turf-Gard™
Grease	John Deere Multi-Purpose HD Lithium Complex Grease
	Grease-Gard™ Premium Plus
Transmission and 4WD Front Differential Oil	John Deere Low Viscosity Hy-Gard™ (JDM J20D)

(Specifications and design subject to change without notice.)

MX00654,0000331-19-14MAY20

Sound Measurements

Tested per Australian Standards AS 2012.2-1990

Measured Noise Level at Operator Position: = or < 85 dB(A)

BS62576,00002BB-19-29MAR19

Product Warranty

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

United States

Website:

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

Toll Free: 1-800-537-8233

Dealer Locator:

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

Canada

Website (English):

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

Website (French):

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

Toll Free: 1-800-537-8233

Dealer Locator:

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

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

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

MP47322,00F4690-19-09JUL15

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.

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 INCIDENTIAL 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 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."

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 2020 or 2021 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 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 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 INCIDENTIAL 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

Limited Battery Warranty For Factory Installed Batteries

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

TO SECURE WARRANTY SERVICE

The purchaser must request warranty service from a

John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

FREE REPLACEMENT PERIOD

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

PRO RATA ADJUSTMENT (batteries with letter code identification only)

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

THIS WARRANTY DOES NOT COVER

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

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

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

D. Batteries that are merely discharged.

LIMITATION OF IMPLIED WARRANTIES AND PURCHASER'S REMEDIES

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

NO DEALER WARRANTY

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

WARRANTY TERMS TABLE

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

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

John Deere Quality

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

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

Step 1

Refer to your operator's manual

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

B. It gives troubleshooting procedures, and specification information.

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

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

Step 2

Contact your dealer

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

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

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

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

Step 3

Contact John Deere

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

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

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

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

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

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

SP66632,00043A7-19-10MAY17

Record Service Dates

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

OUO1082,00066CA-19-15MAY17

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