

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

GATOR™ Utility Vehicle
TS and TH 6x4

OMM154966 J5

OPERATOR'S MANUAL

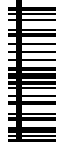


JOHN DEERE

⚠ WARNING: The Engine Exhaust
from this product contains chemicals known
to the State of California to cause cancer,
birth defects or other reproductive harm.

California Proposition 65 Warning

North American Version
Litho in U.S.A.



DCY



OMM154966

INTRODUCTION

Thank You for Purchasing a John Deere Product

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

Using Your Operator's Manual

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

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

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

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

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

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

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

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

Special Messages

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



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

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

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

Attachments for Your Machine

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

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

PRODUCT IDENTIFICATION

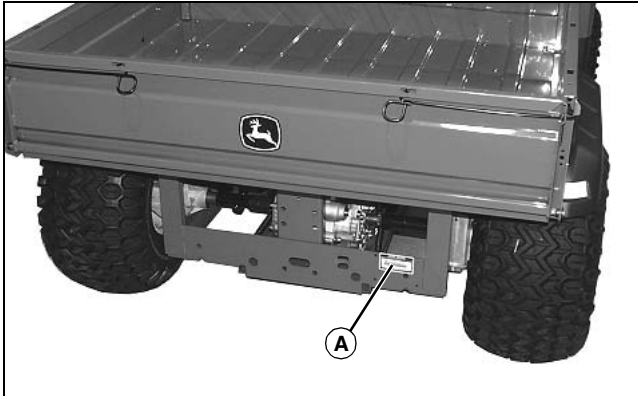
Record Identification Numbers

TS and TH 6x4

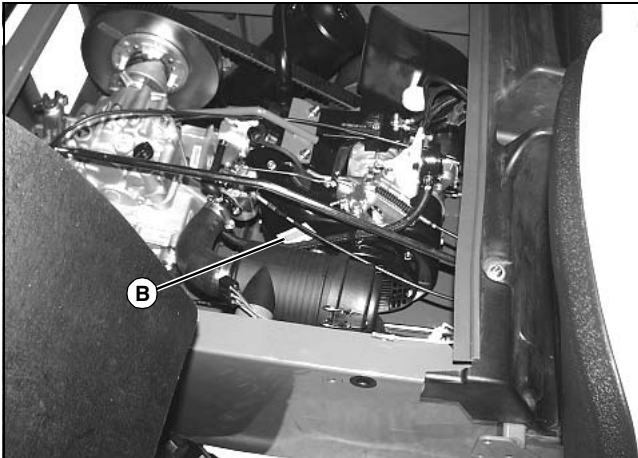
PIN (010001-)

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

You will need to locate the identification numbers for the product. Record the information in the spaces provided below.

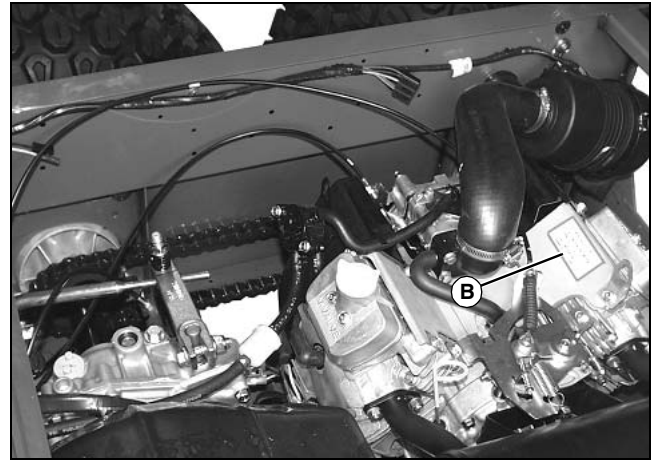


MX32931



MX33443

Picture Note: TS



MX33297

Picture Note: TH 6x4

DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:

PRODUCT IDENTIFICATION NUMBER (A):

ENGINE SERIAL NUMBER (B):

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OMM154966 J5 - English

SAFETY LABELS

Understanding The Machine Safety Labels



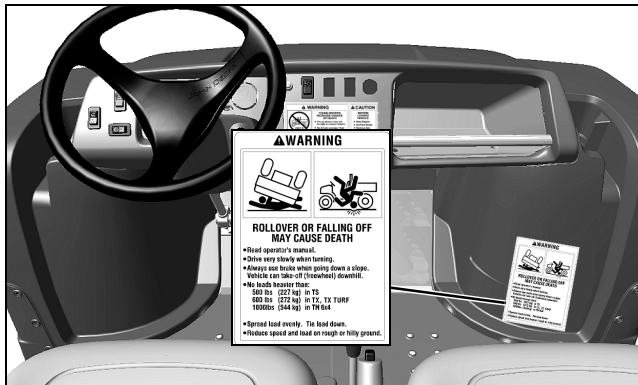
Safety-Alert Symbol

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

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

The operator's manual also explains any potential safety hazards whenever necessary in special safety messages that are identified with the word, CAUTION, and the safety-alert symbol.

WARNING: ROLLOVER OR FALLING OFF MAY CAUSE DEATH

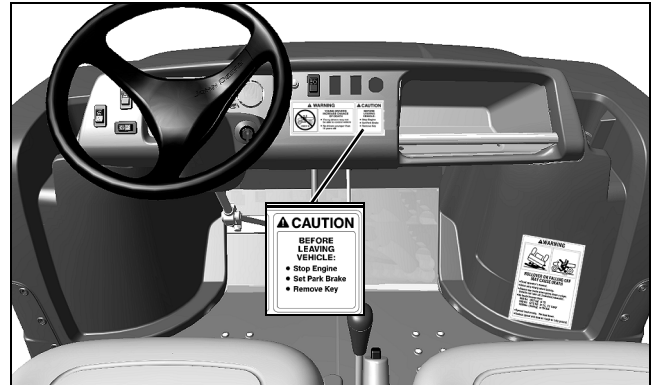


M151646, MX32932

- Read operator's manual.
- Drive very slowly when turning.
- Always use brake when going down a slope. Vehicle can take-off (freewheel) downhill.
- No loads heavier than:
500 lbs (227 kg) in TS
600 lbs (272 kg) in TX, TX TURF
1000 lbs (544 kg) in TH 6x4

- Spread load evenly. Tie loads down.
- Reduce speed and load on rough or hilly ground.

CAUTION: BEFORE LEAVING VEHICLE:



M150928, MX32932

- Stop engine
- Set park brake
- Remove key

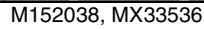
WARNING: YOUNG DRIVERS INCREASE CHANCE OF DEATH



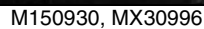
M150928, MX32932

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

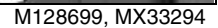
DANGER/CAUTION: BATTERY



- WARNING: RIDERS CAN FALL OFF AND BE KILLED**



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



SHIELD EYES.

NO

- SULFURIC ACID

CAN CAUSE BLINDNESS OR SEVERE BURNS.

FLUSH EYES IMMEDIATELY WITH WATER. GET MEDICAL HELP FAST.

KEEP OUT OF REACH OF CHILDREN. DO NOT TIP.
KEEP VENT CAPS TIGHT AND LEVEL.

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 Commercial and Consumer Equipment Retailer concerning emission controls and component questions.

Safety Labels - 2

SAFETY LABELS

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.

Emission Compliance Period

If your engine has the emission compliance category listed on the emission control system certification or air index label, this indicates the number of operating hours for which the engine has been certified to meet EPA and/or CARB emission requirements. The following table provides the engine compliance period in hours associated with the category found on the certification label.

Agency	Category	Hours
EPA	C	250
EPA	B	500
EPA	A	1000
CARB	Moderate	125
CARB	Intermediate	250
CARB	Extended	500

SAE J2258 and ASME B56.8 Compliance

This vehicle conforms to SAE J2258.

With installation of the optional horn kit, this vehicle conforms to ASME B56.8.

Canadian Electromagnetic Compatibility (EMC) Compliance

This spark ignition system complies with Canadian ICES-002.

SAFETY

Supervisor Safety Responsibilities

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

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.

Operating Safely

- Read, understand and follow all instructions in the operator's manual, on the machine and on the safety video before starting.
- Do not misuse the utility vehicle. It is a utility vehicle, not a recreation vehicle.
- The utility vehicle is not intended for use on highways or public roads. It is to be used for off-road use only.
- 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.
- The passenger should always use the hand holds.

- Horseplay or recreational riding can lead to accidents, severe bodily injury or death.
- 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 brake linkage on each side of the transaxle.
- Always use both hands for steering.
- Know location of controls and how and what they operate.
- Never operate utility vehicle while standing.
- Never operate utility vehicle with the cargo box raised.
- Check brake action before beginning vehicle operation. Adjust or service the brakes as necessary.
- To provide adequate braking ability and traction, do not tow any attachment or loaded trailer unless the cargo box is fully loaded.
- 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.

Using a Spark Arrestor

The engine in this machine is equipped with a spark arrestor muffler. It is a violation of California Public Resource Code Section 4442 to use or operate this engine on or near any forest-covered, brush-covered or grass-covered land unless the exhaust system is equipped with a spark arrestor meeting any applicable local or state laws. Other states or federal areas may have similar laws.

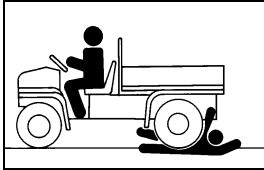
A replacement spark arrestor for your machine is available from your authorized dealer. An installed spark arrestor must be maintained in good working order by the operator.

Parking Safely

1. Stop vehicle on a level surface, not on a slope.

SAFETY

2. Lock park brake.
3. Stop engine.
4. Remove key.
5. Before you leave the operator's seat, wait for engine and all moving parts to stop.
6. Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

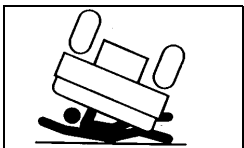


Protect Children and Prevent Accidents

- Never assume that children will remain where you last saw them. Stay alert to the presence of

children.

- Never carry children in the cargo box area. Do not let children ride in the cargo box of the utility vehicle or any attachment. Do not tow children in a cart or trailer.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may block vision.
- 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.
- Back up carefully. Look behind the vehicle, especially for children, before backing up.
- Misuse and recreational riding can lead to accidents, severe bodily injury or death.
- The utility vehicle should not be operated by anyone under the age of 16 years.
- Do not let children or an untrained person operate the vehicle.



Avoid Tipping

Accidents resulting in serious injury or death can occur from tipping the utility vehicle. Observe the following practices to help prevent accidents:

- Do not misuse the utility vehicle. The utility vehicle is not designed for recreational riding.
- Drive very slowly when turning. Sharp turns could cause the utility vehicle to tip over.
- Reduce speed and exercise extreme caution on slopes or on rough ground.

- Do not overload vehicle and avoid shifting loads. Reduce load when operating over rough or hilly terrain.
- Do not stop or start suddenly when going uphill or downhill. Be especially cautious when changing direction on slopes.
- Stay alert for holes, rocks, and other hidden hazards in the terrain.
- Keep away from drop-offs, ditches, embankments, as well as ponds and other bodies of water. The machine could suddenly roll over if a wheel goes over the edge of a cliff or ditch or if the edge caves in.
- Keep front wheels straight at crest of hill or going over bumps.
- When descending a hill, remove foot from accelerator and apply brakes to reduce speed and maintain control.
- Do not make changes or modifications to the utility vehicle.



Keep Riders Off Vehicle

- Seating is provided for operator and one passenger.

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

Transport Loads Safely

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

Towing Loads Safely With Utility Vehicle

- To provide adequate braking ability and traction, weight of towed load (trailer plus cargo) must never exceed the vehicle payload (operator plus passenger plus cargo box load).
- Do not tow a load that exceeds the maximum allowable

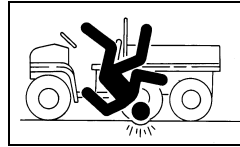
SAFETY

towing load for this vehicle, as specified in this operator's manual.

- Stopping distance increases with speed and weight of towed load. Travel slowly and allow extra time and distance to stop.
- Tow load at a speed slow enough to maintain control.
- Excessive towed load can cause loss of traction and loss of control on slopes. Reduce towed weight when operating on slopes.
- Never allow children or others in or on towed equipment.
- Use only approved hitches. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the approved hitch point.
- Follow the manufacturer's recommendations for weight limits for towed equipment and towing on slopes.
- If you cannot back up a slope with a towed load, the slope is too steep to operate on with the towed load. Reduce the towed load or do not operate.
- Do not turn sharply. Use additional caution when turning or operating under adverse surface conditions. Use care when reversing.
- Do not shift to neutral and coast downhill.

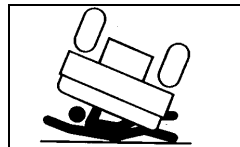
Before Driving

1. Clean foot platform if dirty, and remove any debris from around foot controls. Sit on the center of seat and keep both feet inside foot platform perimeter.
 2. Inspect utility vehicle for signs of wear or damage.
 3. All safety equipment must be in good condition and fastened in place:
 - Lights.
 - Shields.
 - Safety start devices.
 4. Before moving, check around utility vehicle, be sure no one is near it.
 5. Inspect mechanical condition of your vehicle before each use to minimize chance of injury or being stranded. Remember, you can ride farther in an hour than you can walk in a day.
- Be sure to check condition of tires and wheels, wheel hardware torque, and maintain proper tire pressure.
6. Securely anchor all loads.



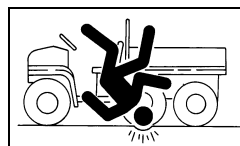
Driving On Rough Terrain

- Use existing trails. Avoid terrain such as dangerous slopes and impassable swamps. Watch carefully for bumps, holes, ruts, or 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.



Climbing Or Descending A Hill

- 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.
- Keep front wheels straight at crest of hill or going over bumps.
- Do not stop or start suddenly when going uphill or downhill. Be especially cautious when changing direction on slopes.
- If vehicle stops or loses power going up a hill, lock park brake to hold vehicle on slope. Maintain direction of travel and release brake slowly. Back straight down hill slowly while maintaining control. Do not turn vehicle sideways. Vehicle is more stable in a straight forward or rearward position.
- When descending a hill, remove foot from accelerator and apply brakes to reduce speed and maintain control.



Driving Across Slopes

- 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

SAFETY

to keep utility vehicle on a straight line across the hill.

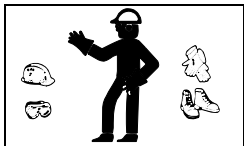
- If utility vehicle begins to tip, turn front wheel downhill to gain control before proceeding.

Riding Through Water

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

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.



Wear Appropriate Clothing

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



Practice Safe Maintenance

- 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 or remove spark plug wire before making any repairs.
- Keep all nuts and bolts tightened.
- Securely support any machine elements that must be raised for service work. Lock service latches before working on machine with raised attachments.
- Never run engine unless park brake is locked.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.
- To prevent fires, remove any buildup of grease, oil, or debris from the machine, especially the engine.
- Do not modify machine or safety devices. Unauthorized modifications may impair its function and safety.
- Do not wear radio or music headphones while servicing the machine. Safe service requires your full attention.
- Disconnect battery ground cable (-) on the machine or remove attachment from machine before welding on the machine.

Prevent Fires

- Remove grass and debris from engine compartment and muffler area, before and after operating machine.
- Always shut off fuel when storing or transporting machine, if the machine has a fuel shutoff.
- Do not store machine near an open flame or source of ignition, such as a water heater or furnace.
- Check fuel lines, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.

Do Not Modify Machine

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

SAFETY

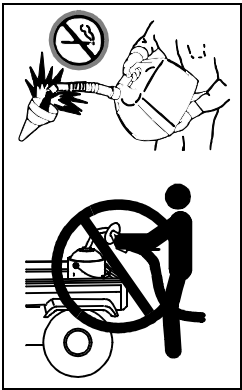
Modifications can result in making the machine unstable, increasing the possibility of rollover causing severe bodily injury or death.



Tire Safety

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.



Handling Fuel Safely

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.

Handling Waste Product and Chemicals

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

- Do not use beverage containers for waste fluids - someone may drink from them.
- See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.
- A Material Safety Data Sheet (MSDS) provides specific details on chemical products: physical and health hazards, safety procedures, and emergency response techniques. The seller of the chemical products used with your machine is responsible for providing the MSDS for that product.

OPERATING

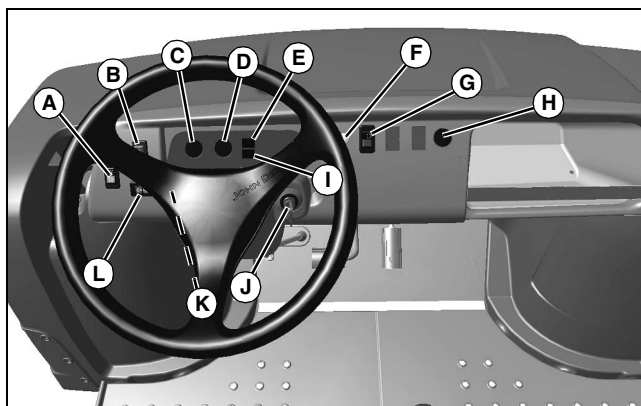
Daily Operating Checklist

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

Avoid Damage to Plastic and Painted Surfaces

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

Operator Station Controls

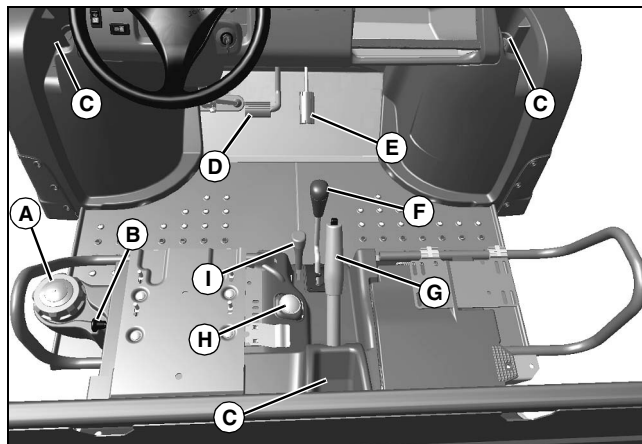


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Picture Note: TH 6x4 shown

- A - Cargo Box Power Lift Switch (Optional)
- B - Hazard Lights Switch (Optional)
- C - Voltmeter (Optional)
- D - Speedometer (Optional)
- E - Park Brake Light
- F - Horn Switch (Optional)
- G - Headlight Switch
- H - 12 VDC Accessory Outlet

- I - Traction Assist (Differential Lock) Light (TH 6x4 only)
- J - Key Switch
- K - Hour Meter
- L - Turn Signal Switch (Optional)

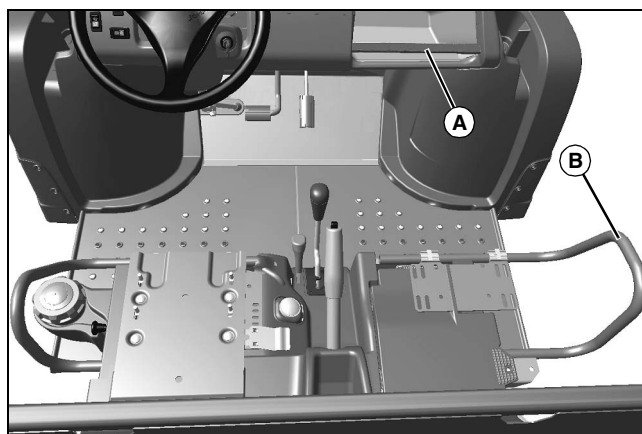


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Picture Note: Seats removed for clarity.

- A - Fuel Tank Cap
- B - Choke Knob
- C - Storage Bins
- D - Brake Pedal
- E - Accelerator Pedal
- F - Gear (Transaxle) Shift Lever
- G - Park Brake Lever
- H - Fuel Gauge
- I - Traction Assist (Differential Lock) Lever

Using Hand Holds



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Picture Note: Seats removed for clarity.

Hand holds are provided for passenger balance. When a passenger is present, they shall use both of the hand holds

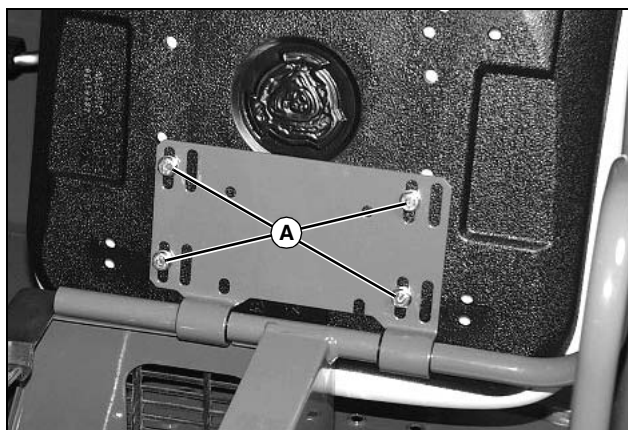
OPERATING

at all times while the machine is moving: the dash bar (A), and the side rail (B) to the right of the seat.

Adjusting Standard Seat

1. Tip seat forward.

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



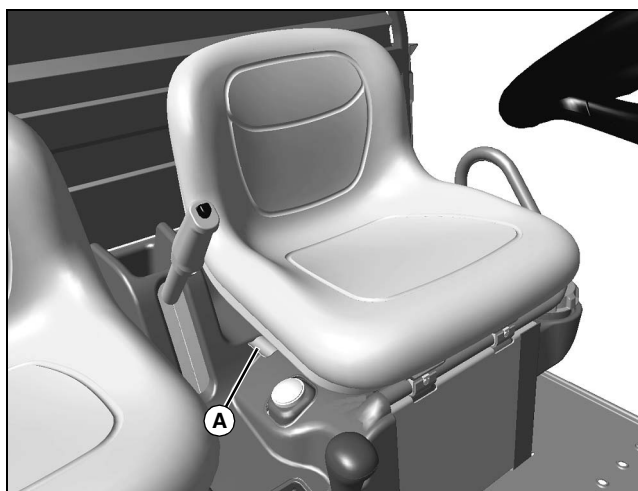
MX33430

Picture Note: Passenger seat shown.

2. Hold onto seat and loosen cap screws (A).
3. Slide seat forward or rearward for desired position.
4. Tighten seat cap screws to 10 N•m (7 lb-ft).

Adjusting Driver Seat with Lever System (If Equipped)

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

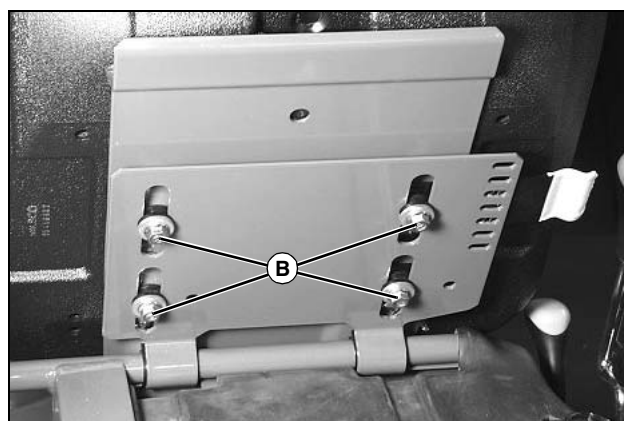


MX32935

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



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

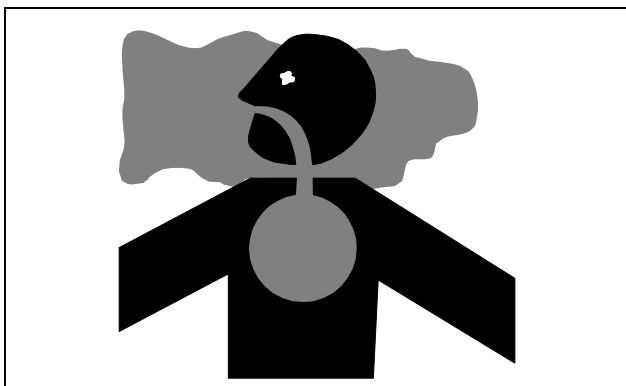


MX33434

5. If further adjustment is necessary, tip seat forward, hold onto seat, and loosen nuts (B).
6. Slide seat forward or rearward to desired position.
7. Tighten nuts to 24 N•m (18 lb-ft).

OPERATING

Testing Safety Systems



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

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

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

- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

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

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

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

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

Testing the Safety Start System

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

6. Move gear shift lever to reverse position.

7. Move key to start position. Engine should not crank. Turn key off.

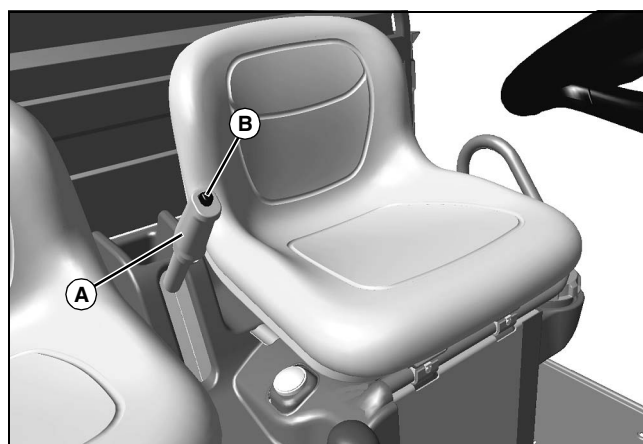
Using Park Brake



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

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

Locking the Park Brake:



MX32935

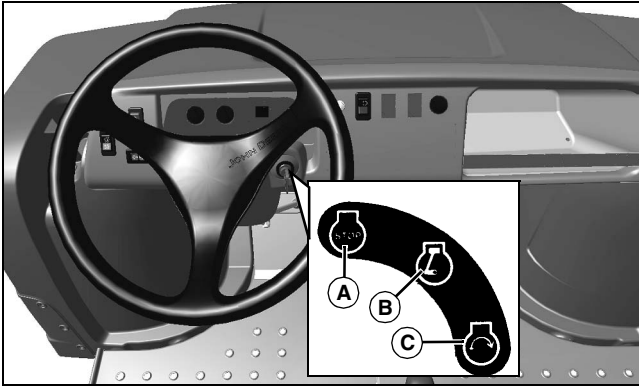
1. Push down on brake pedal to hold machine in place.
2. Pull up on lever (A) and lock lever into position engaging park brake.

Unlocking the Park Brake:

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

OPERATING

Using Key Switch



W00927, MX32933

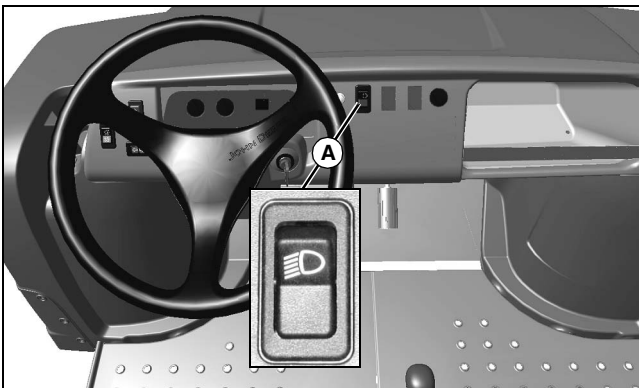
A - OFF Position - With key in stop (off) position, all switched power is off, and engine should not run.

B - ON Position - Turn key from off to this position and all switched power circuits will be on.

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

Using Headlights

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



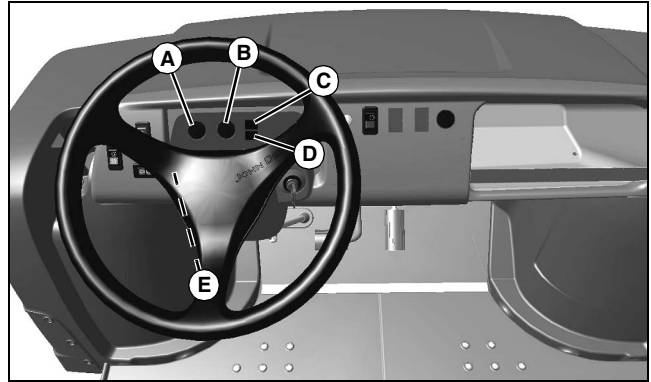
MX30606, MX32933

- Press at top of light switch (A) to turn headlights on.

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

- Press at bottom of light switch (A) to turn headlights off.

Using and Checking Instrument Panel



MX33295

Picture Note: TH 6x4 shown.

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

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

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

D - **Traction Assist (Differential Lock) Light (TH 6x4 only)** - The traction assist light will turn on when the traction assist lever is engaged and the differential lock system is engaged within the transaxle. Traction assist light will go out when lever is disengaged, and the differential lock system within the transaxle is disengaged.

IMPORTANT: Avoid damage! Hour meter will accumulate hours when the key switch is in the ON position, therefore, remember to turn key off to avoid a false hour meter reading.

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

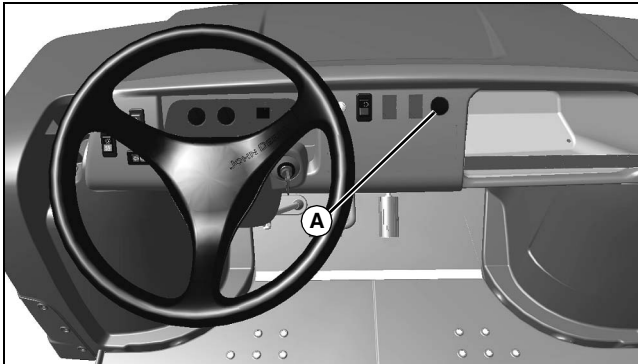
OPERATING

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.

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



MX32933

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

Using Turn Signal Switch (Optional)

NOTE: Turn signals will continue to flash when the key is in the off position, draining the battery.



MX30608, MX32936

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

Using Hazard Lights (Optional)

NOTE: Hazard lights will continue to flash when the key is in the off position, draining the battery.



MX30607, MX32936

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

Starting the Engine

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

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

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

- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

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

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

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

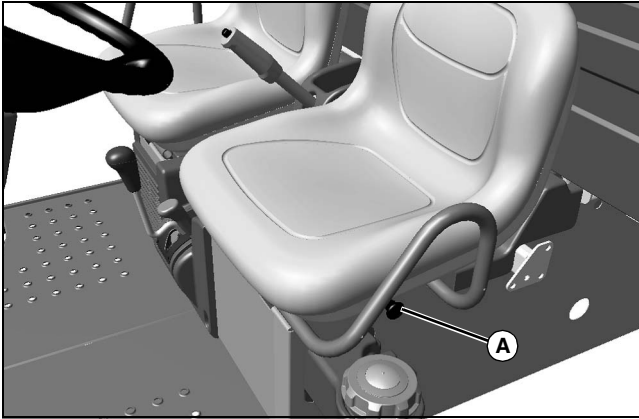
OPERATING



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

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

5. Turn key switch to the ON position.



MX32937

6. Pull out and hold choke knob (A) if engine is cold. The choke spring will return the choke to the open position when released.

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

- Wait two minutes before trying again if engine does not start.

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

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

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

Stopping Engine



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

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

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

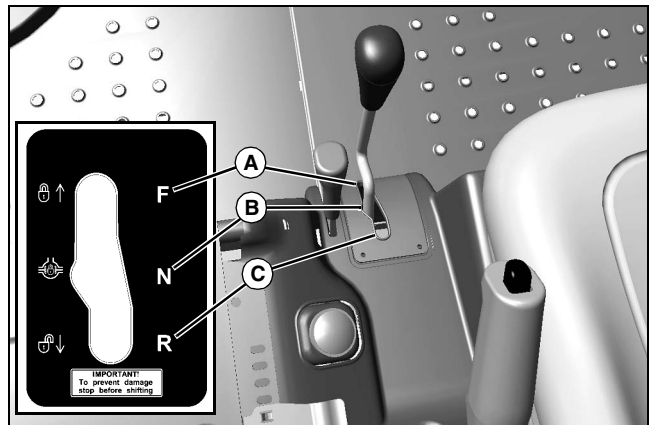
1. Stop machine.
2. Move transaxle shift lever to N (Neutral) position.
3. Lock park brake.
4. Turn key switch to OFF position.
5. Remove key.

Using Travel Controls

1. Push down brake to stop vehicle.
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 above low idle speed. Push down brake to stop vehicle motion and engage shift lever with a firm positive action.

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



M151644, MX32938

3. Select a gear position:
 - Forward - Push shift lever to right, then push forward to (A) gear.

OPERATING

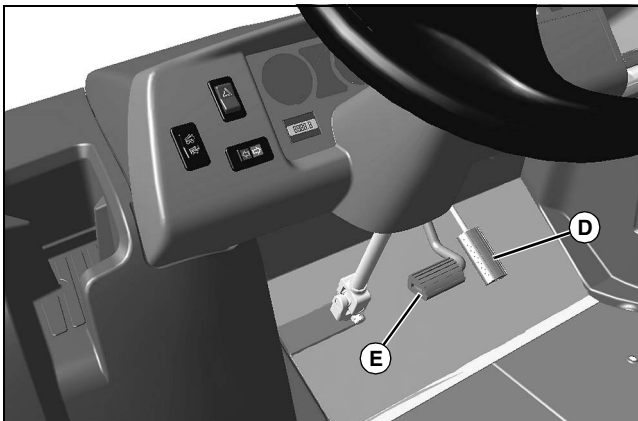
- Neutral - Push shift lever to right then to center (neutral) position (B).
- Reverse - Push shift lever to right, then pull rearward to reverse (C) gear.

4. Use the traction assist as needed.

5. Look in the direction the vehicle will travel.



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

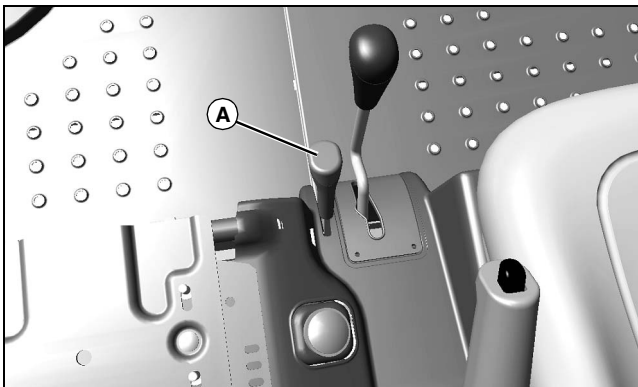


MX32936

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

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

Using Traction Assist (Differential Lock)



MX32938

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

On the TH 6x4 model, the traction assist light will turn on

when the traction assist lever is engaged and the differential lock system within the transaxle is engaged. Traction assist light will go out when lever is disengaged, and the differential lock system within the transaxle is disengaged.



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

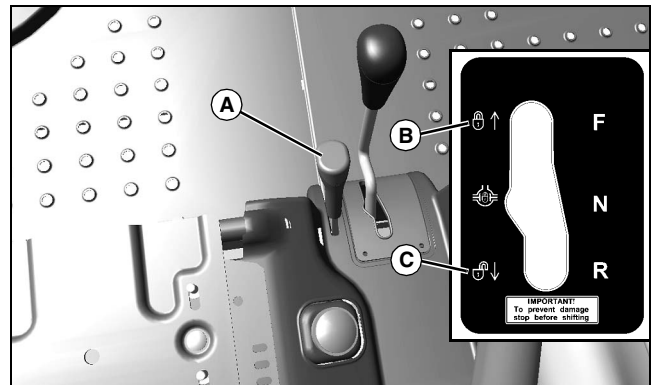
Turning with the traction assist engaged increases the turning radius of the machine. Do not turn with the traction assist engaged while operating vehicle at speeds in excess of 16 km/h (10 mph).

Engaging the Traction Assist:

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

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

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



M151644, MX32938

2. Push traction assist lever (A) forward to locked position (B):

- Traction assist will remain engaged as long as lever is forward.

Disengaging the Traction Assist

1. Pull lever rearward to unlocked position (C).

OPERATING

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

Raising and Lowering Cargo Box

Manual Lift



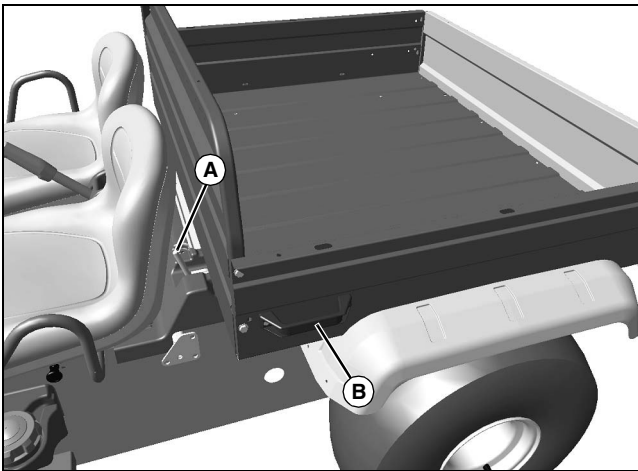
CAUTION: Avoid injury!

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

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

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

2. Empty cargo box by hand.

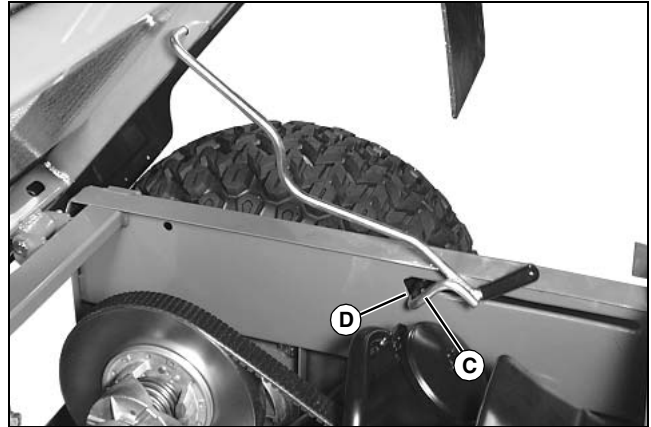


MX32939

3. Release latch (A) by pushing inward toward center of vehicle. Raise cargo box manually with lift handle (B) on side of cargo box.



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



MX33436

4. Push support rod (C) down to lock into slot (D) when cargo box is fully raised.
 5. To lower cargo box, raise cargo box slightly using lift handle.
 6. Release support rod from latch slot by pulling up on lower end of rod.
- NOTE: Lowering the box completely will allow the support rod to latch at the front of cargo box.**
7. Slowly lower cargo box. Support rod will slide along slotted channel.
 8. Push down on cargo box handle until support rod latches into cargo box with an audible snap.

Power Lift (Optional)

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

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Turn key to ON position.

OPERATING



MX30610, MX32936

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

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

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

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

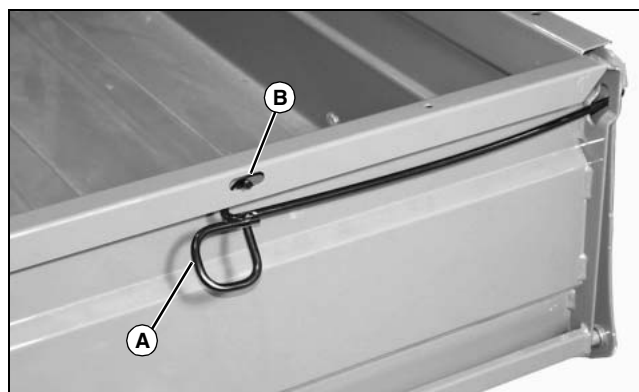
IMPORTANT: Avoid damage! Hour meter will accumulate hours when the key switch is in the ON position, therefore, remember to turn key off to avoid a false hour meter reading.

6. Turn key to OFF position.

Operating the Tailgate



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



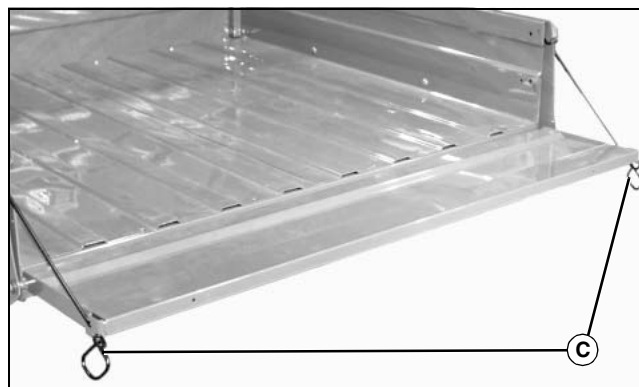
MX31765

1. Push in and down on loop (A) of tailgate latch rods to unhook rods from slot (B) in tailgate.

2. Pull latch rods out and down.



CAUTION: Avoid injury! When raising or lowering tailgate, latch rods can swing abruptly towards operator. Slowly lower or raise tailgate to make sure latch rods do not injure operator.



MX31766

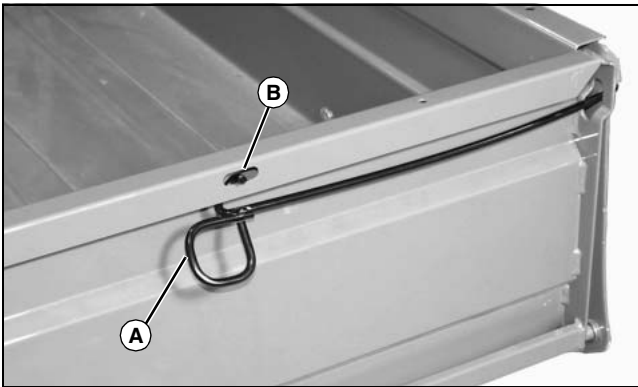
3. Lower tailgate until it rests on ends of latch rods (C).

OPERATING

IMPORTANT: Avoid damage! Do not drive vehicle with tailgate unsupported and hanging down. Lugs on tires will contact tailgate causing structural damage.



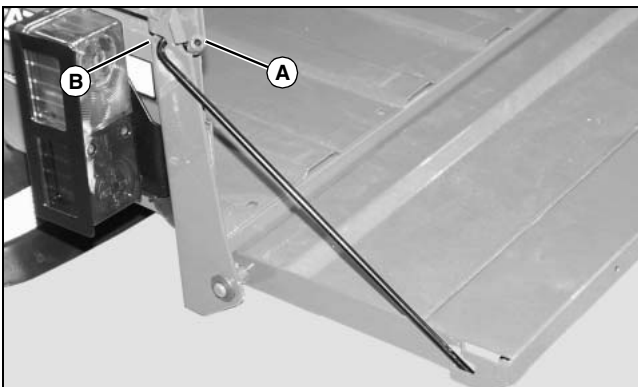
MX31009



MX31765

4. To raise tailgate, slowly push tailgate upward. Push inward and upward on loop (A) of latch rod to engage rod in slot (B) in tailgate.

Removing Tailgate



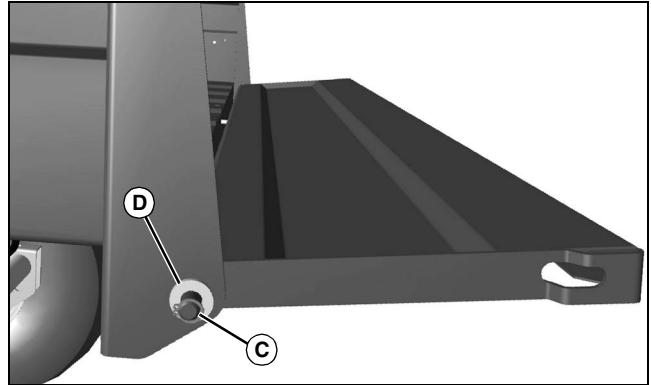
MX31006

1. Remove and retain rubber hose sleeves from latch rod ends (A).

2. Raise tailgate slightly and rotate latch rods to disengage from slots (B) in cargo box sides.

3. Remove latch rods from sides of tailgate.

4. Support tailgate by hand.



MX31008

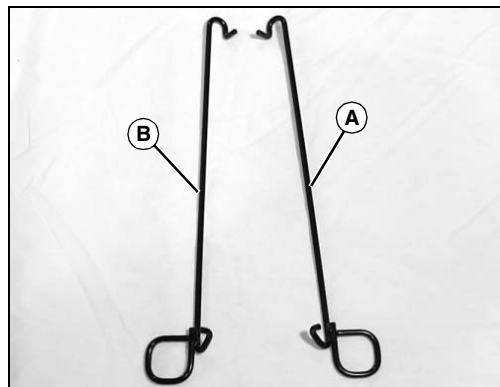
5. Remove retaining ring (C) and bushing (D) from each tailgate rod end.

6. Slide tailgate sideways so tailgate rod end is clear of the cargo box bracket.

7. Pull the detached end of tailgate away from the cargo box just enough to clear the cargo box bracket and allow the tailgate to slide in opposite direction to complete removal.

8. To install, reverse the steps.

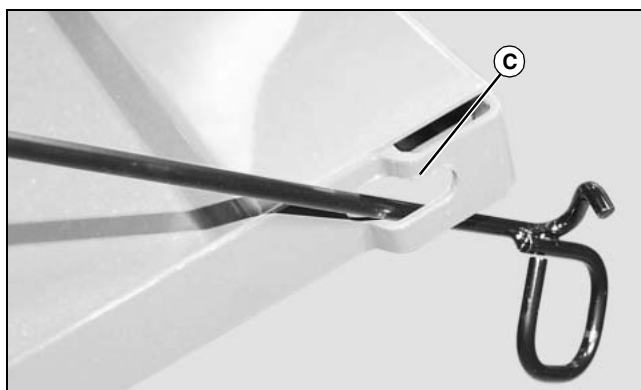
Installing Tailgate Latch Rods



MX31768

1. Identify right (A) and left (B) latch rods.

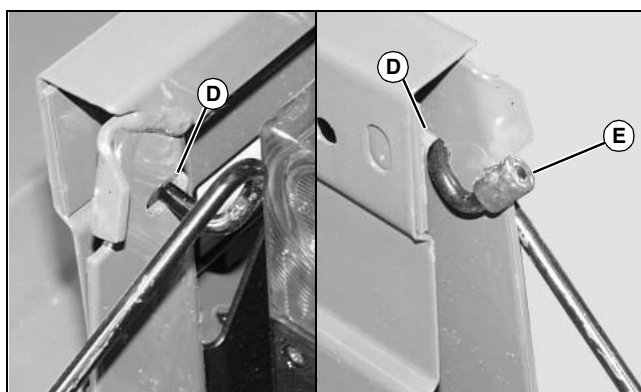
OPERATING



MX31769

Picture Note: Left side shown.

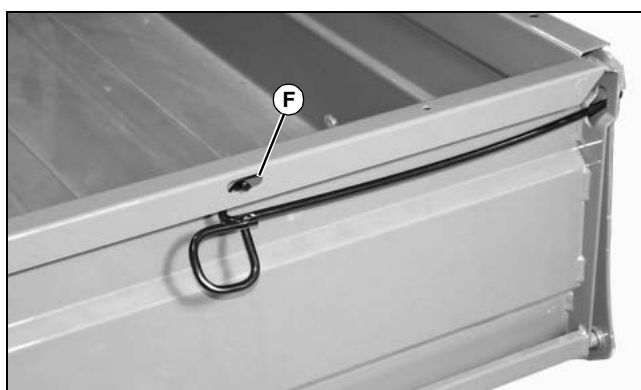
2. Route latch rod through tailgate opening (C) as shown.



MX31770, MX31771

3. Raise tailgate slightly from horizontal position. Insert end of latch rod through slot (D) in cargo box bracket. Rotate rod around the bracket to secure.

4. Install rubber hose sleeve onto rod end (E).



MX31765

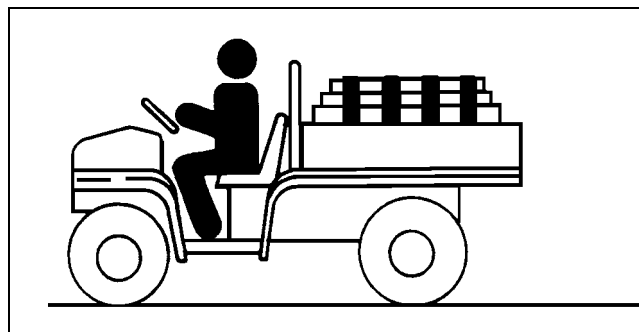
5. Raise tailgate, push inward and upward on latch rod to engage rod in slot (F) in top rail.

Loading the Cargo Box



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

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



M78553

Maximum payload capacity on level terrain for the cargo box is:

- TS - 227 kg (500 lb)
- TH 6x4 - 454 kg (1000 lb)

Reduce load by half when using run-flat (extended mobility) tires.

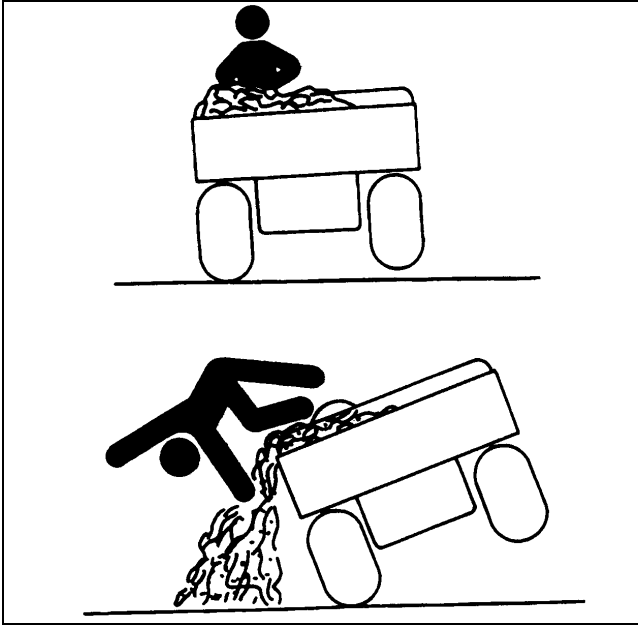
Reduce load by half when operating over rough, hilly, or steep terrain. Do not overload vehicle. Limit loads to those that can be safely controlled.

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

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

Do not load above load guard.

OPERATING



M78556

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

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

For example, dry sand weighing 114 kg (250 lb) would be approximately 1/2 of cargo box volume for the TS model.

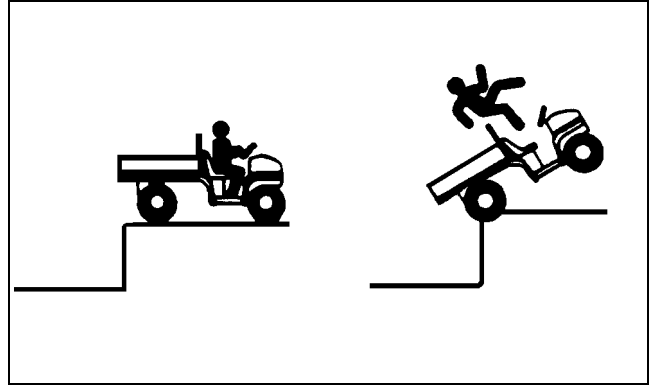
Printed weight is normally on bagged and other material.

Emptying Cargo Box



CAUTION: Avoid injury! Raising a loaded cargo box changes the center of gravity. Do not allow rear wheels to hang over the edge of a loading dock or ravine.

A loaded cargo box can be very heavy. Do not attempt to dump a loaded cargo box not equipped with Power Lift option. Unload cargo box before raising it by hand.



M78552

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

NOTE: If power lift system will not lift load, lower cargo box completely and remove excess load by hand before dumping.

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

Towing Loads



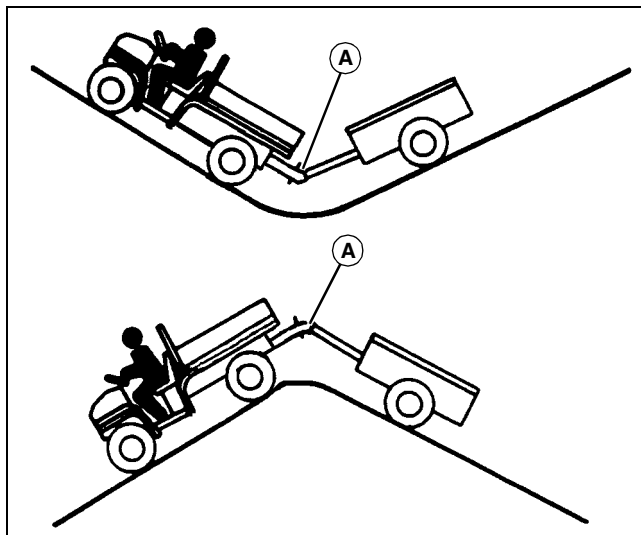
CAUTION: Avoid injury! Excessive towed load can cause loss of traction and loss of control on slopes. Stopping distance increases with speed and weight of towed load.

To provide adequate braking ability and traction, do not tow a load unless vehicle cargo box is loaded.

- To provide adequate braking ability and traction, weight of towed load (trailer + cargo) must never exceed the vehicle payload (operator + passenger + cargo box load).
- DO NOT tow a load that exceeds:
 - TS - 408 kg (900 lb)
 - TH 6x4 - 635 kg (1400 lb)
- DO NOT exceed a tongue weight of 45 kg (100 lb).
- Never exceed 16 km/h (10 mph) when towing a load. Tow load at a speed slow enough to maintain control.

OPERATING

IMPORTANT: Avoid damage! Extreme angles such as high railroad crossings can place high bending loads on hitch connection (A). Traversing terrain where the preceding conditions exist, use a ball or pintle type hitch.



M78554

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

Using Correct Tires and Inflation

Tires

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

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

Knobby tires

- 22.5x10-8 tires installed on front.
- 25x12-9 tires installed on rear.

Heavy Duty All Purpose (HDAP)

- 22.5x10-8 tires installed on front.
- 25x13-9 tires installed on rear.

Turf

- 22.5x10-8 tires installed on front.
- 25x12-9 tires installed on rear.

Run-Flat - EMT (Extended Mobility Tire)

- 22x11-10 tires installed on front.
- 25x11-10 tires installed on rear.

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.

1. Check tires for damage.
2. Check tire pressure with an accurate gauge.
3. Add or remove air, if necessary.

Tire	Pressure
Front and Rear (Knobby, Turf, and Heavy Duty All Purpose (HDAP))	41 kPa (6 psi)
Front and Rear (Run-Flat - EMT (Extended Mobility Tire))	28-34 kPa (4-5 psi)

OPERATING

Tire Chains

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

NOTE: For TH 6x4 models, chains are available for rearmost wheels only.

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

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

4. Fasten vehicle to trailer or truck with straps, chains, or cables.

5. Equip the trailer or truck with all the necessary lights and signs required by local, state, provincial, or federal laws.

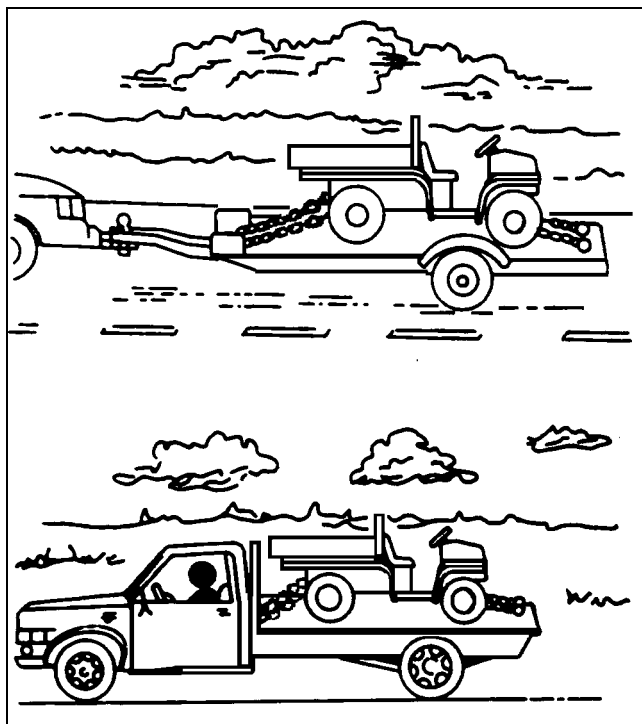
6. Remove or secure optional attachments, if equipped.

Transporting Vehicle

IMPORTANT: Avoid damage! Never tow the vehicle above 32 km/h (20 mph). Towing a vehicle at speeds above 32 km/h (20 mph) will result in transaxle damage. To avoid damage, haul the vehicle on a heavy-duty trailer or on a full-size truck.

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

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



M78557

1. Back utility vehicle onto the trailer or truck.

2. Leave gear shift lever in forward or reverse gear.

REPLACEMENT PARTS

Service Literature

If you would like a copy of the Parts Catalog or Technical Manual for this machine call:

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

ITEM	PART NUMBER
Head Lamp Assembly	VGA10008
Head Lamp Bulbs	AM118013
Instrument Panel Lamps	AR62407

(Part numbers are subject to change without notice. Part Numbers may be different outside the U.S.A.)

Parts

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

Part numbers may change, use part numbers listed below when you order. If a number changes, your dealer will have the latest number.

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.

Part Numbers

ITEM	PART NUMBER
Engine Oil Filter	AM107423
Air Filter Element	M113621
Fuel Filter	AM116304
Spark Plug	• TS - M802138 • TH 6x4 - M138938
Drive Belt	M149765
Fuses:	
10 Amp	57M7121
15 Amp	99M7065
20 Amp	57M7120
25 Amp	99M7069
30 Amp	57M7146
40 Amp	99M7104
Battery	TY25221

SERVICE INTERVALS

Servicing Your Machine

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

- **Engine components may become dirty or plugged when operating in extreme heat, dust or other severe conditions.**
- **Engine oil may lose efficiency if vehicle is operated constantly at slow or low engine speeds or with frequent short trips.**

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

Break In

After First 8 Hours:

- Check and tighten rear wheel bolts to correct torque.
- Change engine oil and filter (if equipped).
- Check drive chain tension (TH 6x4 model).

Every 50 Hours or Annually (whichever comes first)

- Change engine oil (engines without filter).
- Grease fittings (front spindles and transaxle couplers).
- Check drive chain tension (TH 6x4 model).
- Lubricate drive chain (TH 6x4 model).
- Check transaxle oil level.

Every 100 Hours or Annually (whichever comes first)

- Change engine oil and filter (engines with filter).

Every 200 Hours or Annually (whichever comes first)

- Change spark plug.
- Change air cleaner element.
- Check air cleaner dust unloading valve.
- Change fuel filter.
- Check spark arrestor.

- Check drive belt condition.
- Check driven clutch wear buttons.
- Inspect battery; clean if necessary.
- Check and tighten rear wheel bolts to correct torque.
- Check and tighten hardware.

Every 300 Hours

- Adjust engine valve clearance (see your John Deere dealer for service).
- Check and tighten front wheel bolts to correct torque.

Every 800 Hours or 24 Months

- Change transaxle oil.
- Replace drive belt.

SERVICE LUBRICATION

Grease

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

The recommended John Deere greases are effective within an average air temperature range of -29 to 135 degrees C (-20 to 275 degrees F).

If operating outside that temperature range, contact your Servicing dealer for a special-use grease.

The following greases are preferred:

- John Deere Multi-Purpose SD Polyurea Grease
- John Deere Multi-Purpose HD Lithium Complex Grease

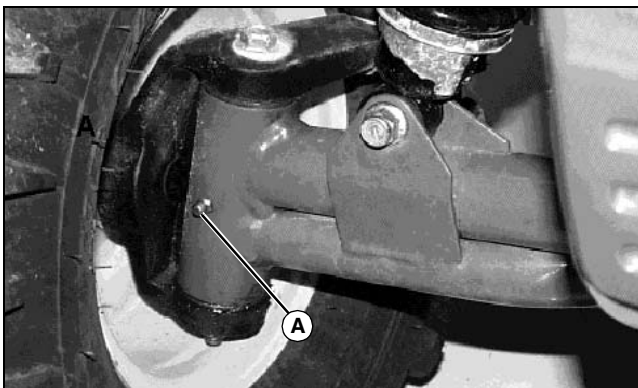
If not using any of the preferred greases, be sure to use a general all-purpose grease with an NLGI grade No.2 rating.

Wet or high speed conditions may require use of a special-use grease. Contact your Servicing dealer for information.

Chain Lubricant

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

Lubricating Front Spindles

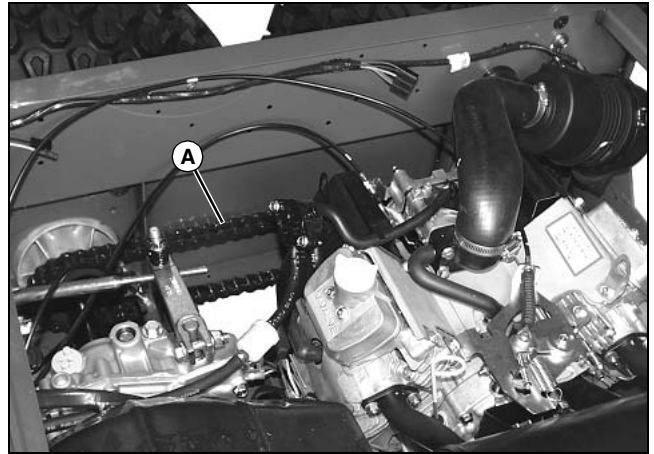


MX4657

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

Lubricating Drive Chain (TH 6x4)

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

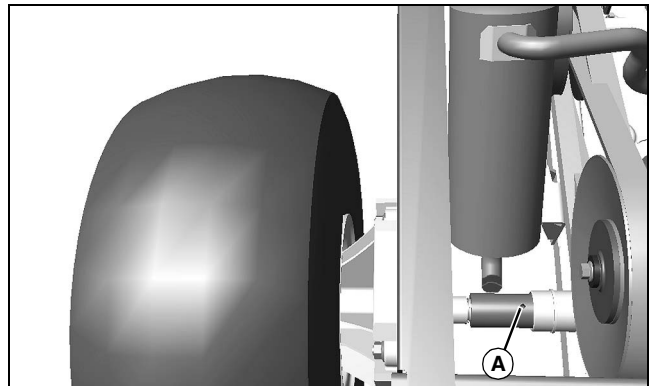


MX33297

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

Lubricating Transaxle Couplers

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



MX32941

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

SERVICE ENGINE

Engine Warranty Maintenance Statement

Maintenance, repair, or replacement of the emission control devices and systems on this engine, which are being done at the customers expense, may be performed by any non-road engine repair establishment or individual. Warranty repairs must be performed by an authorized John Deere dealer.

Avoid Fumes



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

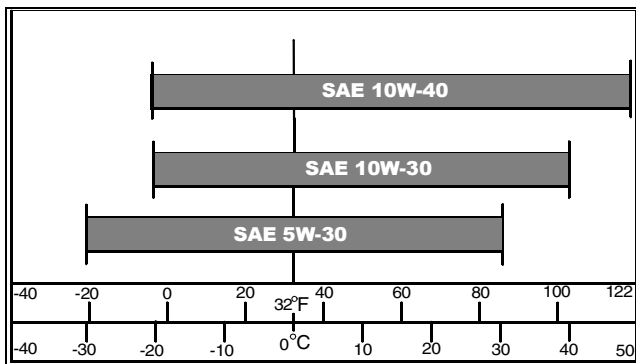
Move the machine to an outside area before running the engine.

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.**

Engine Oil

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



The following John Deere oils are preferred:

- TURF-GARD™
- PLUS- 4™

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

- API Service Classification SG or higher

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 vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.
3. Check oil level:

TS

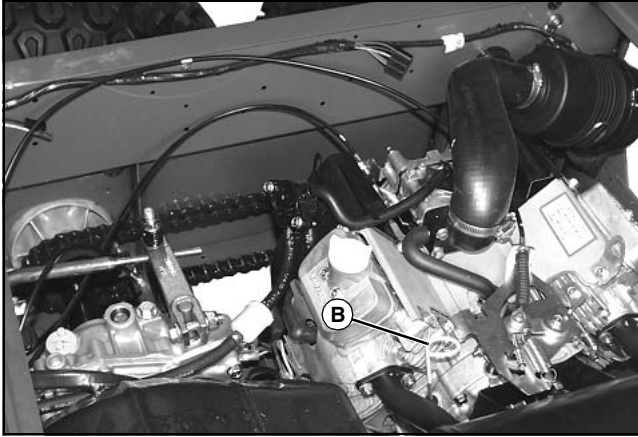


MX32965

- Remove and wipe dipstick (A) clean.
- Install dipstick, but do not thread on dipstick tube. Remove and check oil level.

SERVICE ENGINE

TH 6x4



MX33297

- Remove and wipe dipstick (B) clean.
- Install dipstick. Remove and check oil level.

4. When checking oil level:

- Oil level must be between upper and lower fill marks on dipstick.
- If oil level is below lower mark on dipstick, add oil to bring oil level no higher than upper mark on dipstick.
- If oil level is above upper mark, drain to proper level. Determine cause of this condition and correct.

5. Install dipstick.

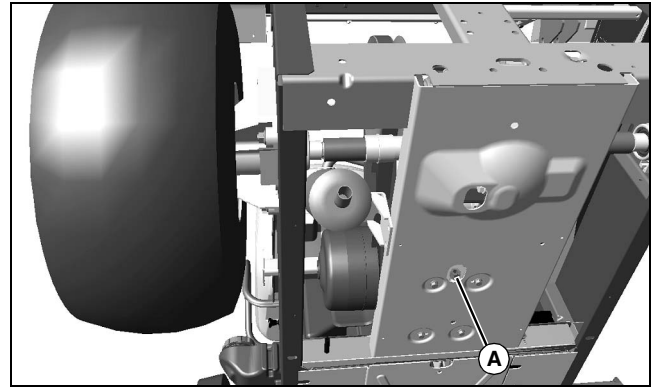
6. Lower the cargo box.

Changing Engine Oil and Filter

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

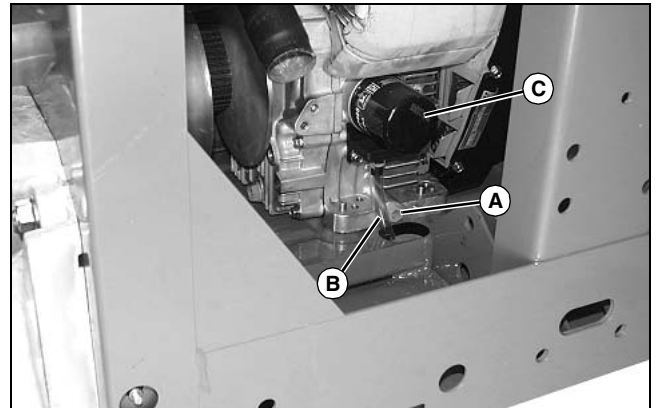
- **Extremely dusty conditions.**
- **Frequent slow or low-speed operation.**
- **Frequent short trips.**

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



MX32966

Picture Note: TS

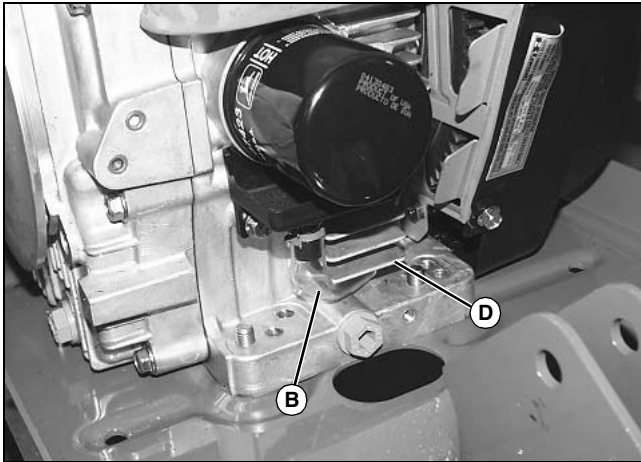


MX33441

Picture Note: TH 6x4

6. Remove drain plug (A) on the rear side of engine and drain oil into oil drain pan. Allow oil to drain completely.
7. Guide drain hose (B) into bottom drain hole in frame.
8. Remove and discard oil filter (C) on rear of engine (oil filter an option on TS models). Wipe off filter base on engine.
9. Put a light coat of clean engine oil on gasket of new oil filter.
10. Install new filter until rubber gasket contacts filter base. Tighten filter an additional one-half turn.
11. Install drain plug:
 - Tighten TS models to 32 N•m (24 lb-ft).
 - Tighten TH 6x4 models to 6.9 N•m (61 lb-in.).

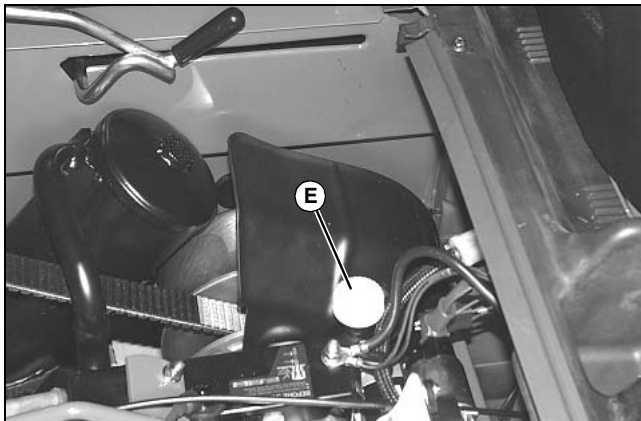
SERVICE ENGINE



MX33642

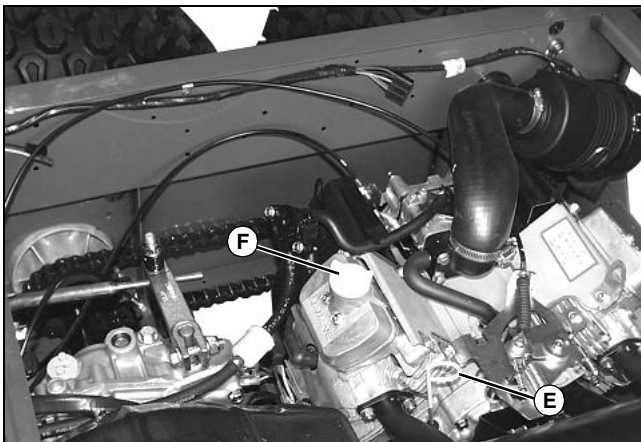
Picture Note: TH 6x4

12. Raise bottom of drain hose (B) out of drain hole and secure tucked below bottom engine cooling fin (D) (TH 6x4 only).



MX32965

Picture Note: TS



MX33297

Picture Note: TH 6x4

13. Add engine oil.

- TS: Remove dipstick (E) from filler tube.

- TH 6x4: Remove oil fill cap (F) from filler opening.

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

14. Add oil no higher than upper mark on dipstick (E) (for both models). Do not overfill.

- TS (without oil filter): 0.9 L (0.95 qt)
- TS (with oil filter): 1.2 L (1.26 qt)
- TH 6x4 (with oil filter): 1.6 L (1.7 qt)

15. Install dipstick (E) on both models, and oil fill cap (F) on TH 6x4 model.

16. Start and run engine at idle to check for leaks. Stop engine. Fix any leaks before operating.

17. Check oil level, add oil if necessary.

18. Lower the cargo box.

Cleaning Rubber Dust Unloading Valve

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

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

2. Raise and secure cargo box.

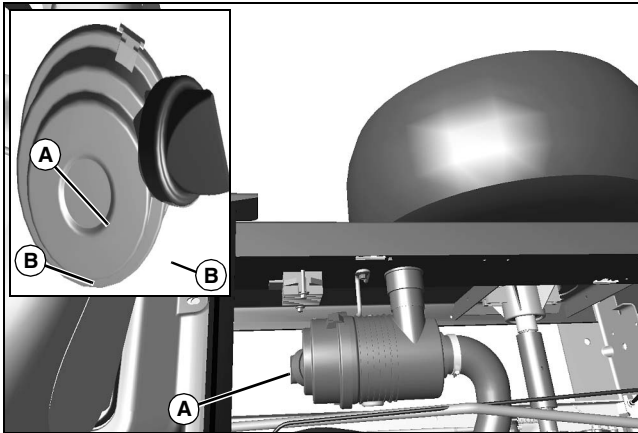
SERVICE ENGINE

Servicing Air Cleaner Element

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

Check filter element more frequently if operating in dusty conditions.

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



MX30612, MX32940

Picture Note: TS model shown. The air cleaner canister cover is removed for clarity only. Removal of the canister cover or dust unloading valve is not required.



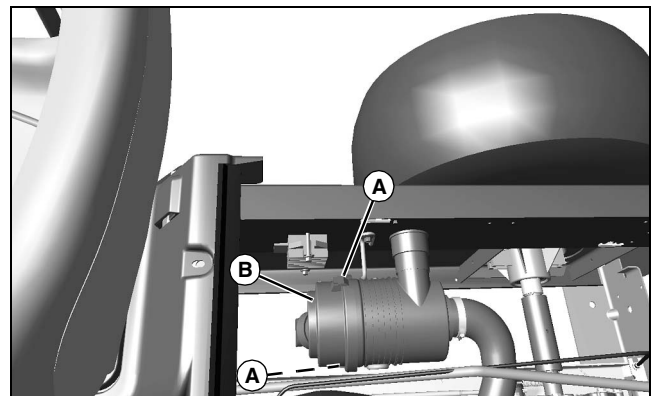
MX33298

Picture Note: TH 6x4 model shown.

3. Locate dust unloading valve (A) attached to the front of the air cleaner canister cover.

NOTE: If canister cover is removed, install with rubber dust unloading valve (A) pointing downward.

4. Visually check dust unloading valve (A). Replace with new valve if worn, damaged, or missing.
5. Pinch corners (B) to allow any dirt or debris to fall out of the valve.



MX32940

Picture Note: TS model shown.



MX33298

Picture Note: TH 6x4 model shown.

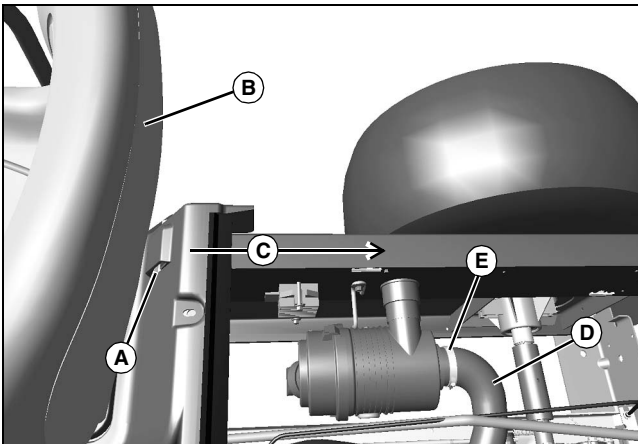
4. Release latches (A) and remove air cleaner canister cover (B).
5. Remove and discard filter element. Replace with a new filter element.
6. Install air cleaner canister cover with rubber dust unloading valve pointing downward. Check instruction molded into canister cover for proper installation.
7.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

SERVICE ENGINE

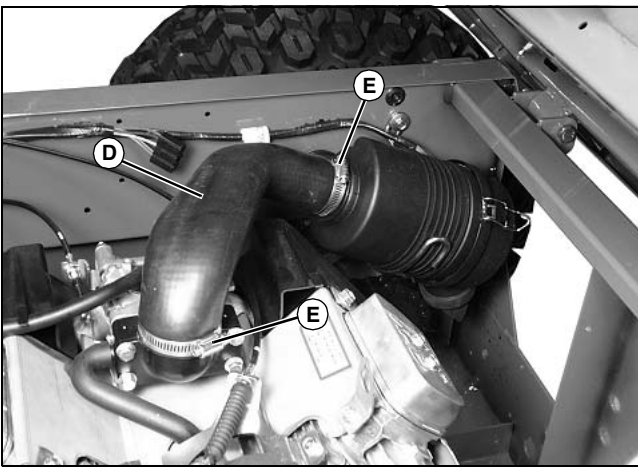
Checking Air Intake, Hoses and Clamps

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

IMPORTANT: Avoid damage! On both TS and TH 6x4 models, be sure air intake opening (A) behind passenger seat (B) is clear from any obstructions. Opening should be clear, so channel (C) obtains adequate air supply for air intake system to work properly.



Picture Note: TS model shown.



Picture Note: TH 6x4 model shown.

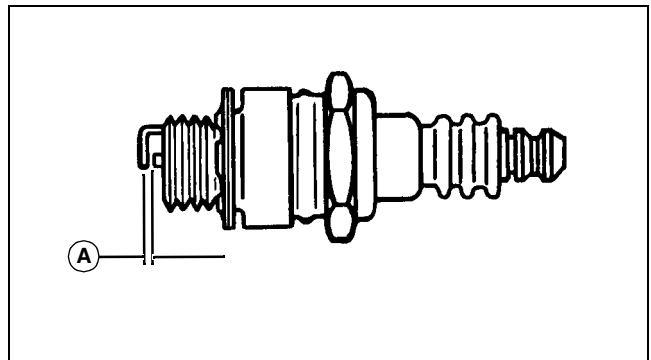
3. Check intake hose (D) for damage or cracking. Replace if necessary.
4. Check and tighten air intake hose clamps (E) (both sides of hose) as needed.
5. Lower the cargo box.

Checking Spark Plug



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

1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.
3. Disconnect spark plug wire(s).
4. Remove spark plug(s) using appropriate spark plug socket.
5. Inspect spark plug(s) for:
 - Cracked porcelain.
 - Pitted or damaged electrodes.
 - Other wear or damage.
6. Clean spark plug(s) carefully with a wire brush.
- NOTE: In Canada, replace with resistor spark plug only.**
7. Replace spark plug(s) if necessary.



8. Check and adjust spark plug gap (A):
 - Gap must be 0.80 mm (0.031 in.).
9. Install and tighten spark plug(s). Tighten to 25 N•m (18 lb-ft).
10. Install spark plug wire(s).
11. Lower the cargo box.

SERVICE ENGINE

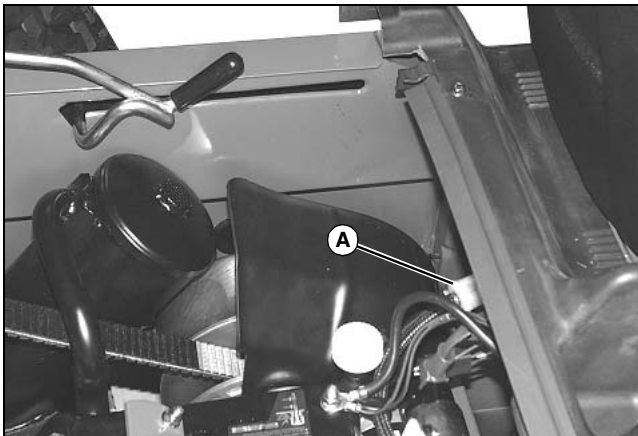
Replacing Fuel Filter



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

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

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



MX32965

Picture Note: TS



MX33297

Picture Note: TH 6x4

3. Locate the fuel filter (A).
4. Check element of fuel filter for debris. Replace if dirt or sediment is visible on element.
5. Slide hose clamps away from the fuel filter.

6. Place a drain pan or cloth under hoses to catch any fuel left in hoses.

7. Disconnect hoses from the filter.

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

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

Adjusting Carburetor

NOTE: Carburetor is calibrated by the engine manufacturer and is not adjustable.

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

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

Possible engine surging will occur at high throttle with transmission in "N" neutral. This is a normal condition due to the emission control system.

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

Cleaning Engine Compartment



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

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

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

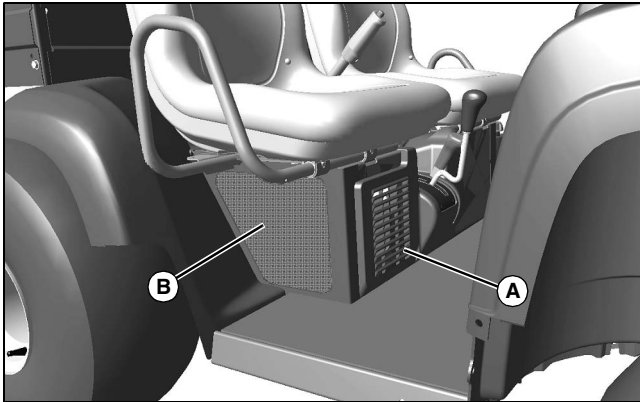
3. Remove any debris in engine compartment.
4. Check and remove any obstructions around the control cables and linkages.

SERVICE ENGINE

Cleaning Frame Screen and Intake Louvers

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

NOTE: Side screen (B) is located on TH 6x4 model only.



MX33581

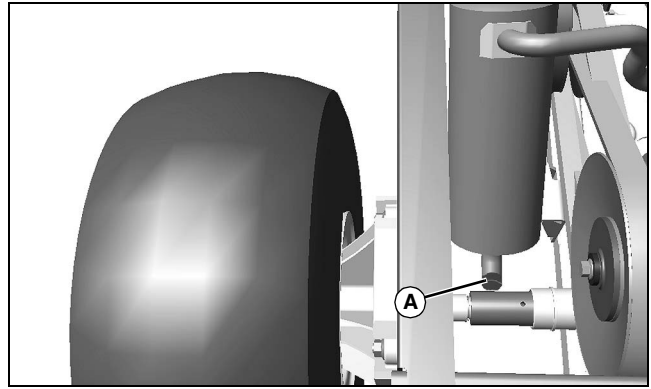
1. Check screens (A) and (B) for dirt, grass clippings and debris.
2. Clean screens by washing or with a brush or cloth.

Checking Spark Arrestor



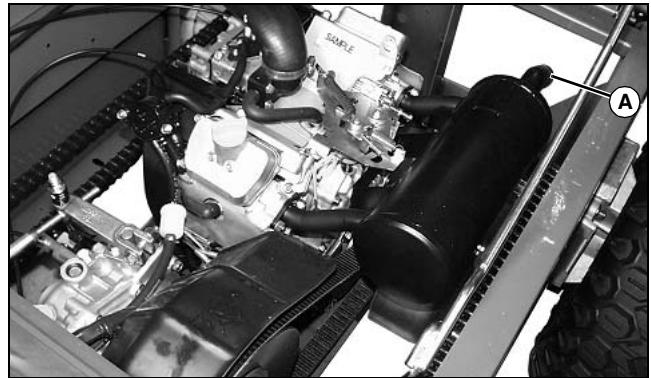
CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before servicing or working near the engine and components.

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



MX32941

Picture Note: TS



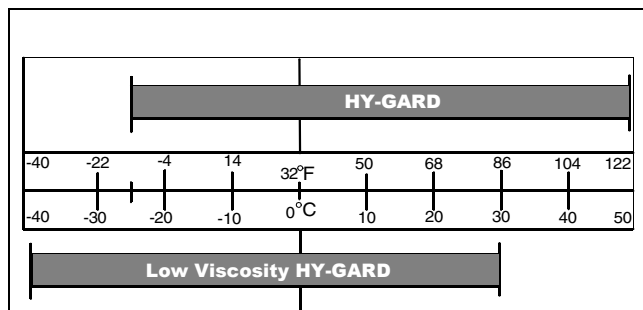
MX33442

Picture Note: TH 6x4

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

SERVICE TRANSMISSION

Transaxle Oil



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

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

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

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

Checking Transaxle Oil Level

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

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

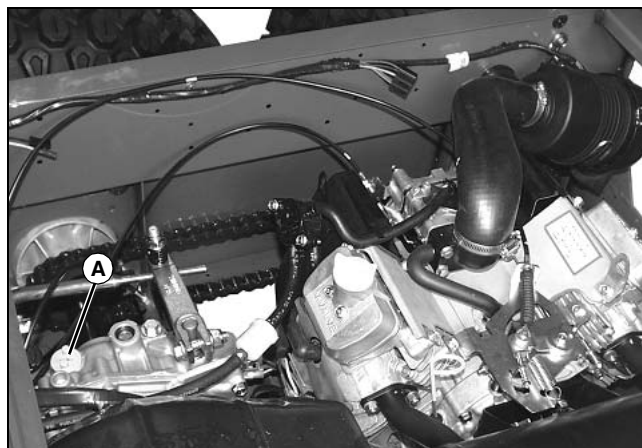
1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.

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



MX32942

Picture Note: TS



MX33297

Picture Note: TH 6x4

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

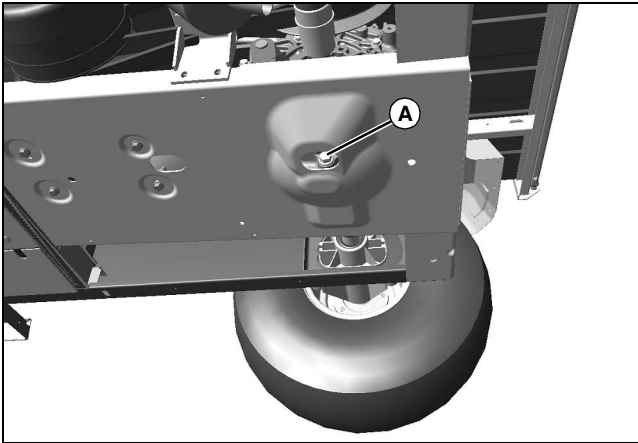
Changing Transaxle Oil

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

SERVICE TRANSMISSION

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

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



MX32964

Picture Note: TS shown.

3. Position drain pan under transaxle drain plug (A).
4. Remove plug and drain oil.
5. Check washer on drain plug. Replace if missing or in poor condition.
6. Install and tighten drain plug to 30 - 35 N•m (22 - 26 lb-ft).
7. Remove dipstick located on top of transaxle housing. Wipe dipstick clean.
8. Add oil: Start by adding approximately 4.7 L (5.0 qt).
9. Check oil level by setting dipstick on threads in transaxle case, then removing and checking oil level.
10. Wait for two minutes then check oil level. Add oil if necessary.
11. Install dipstick and tighten.
12. Lower the cargo box.

Checking Drive Belt

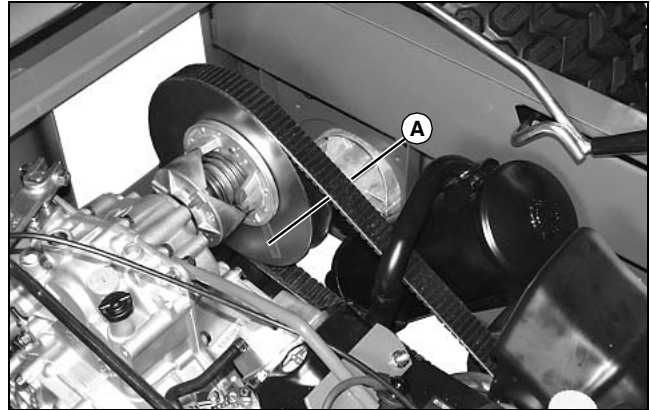


CAUTION: Avoid injury! Rotating parts can catch fingers, loose clothing, or long hair. Wait for engine and all moving parts to stop before leaving operator's station to adjust or service machine.

1. Park the vehicle safely. (See Parking Safely in the

SAFETY section.)

2. Raise and secure cargo box.
3. Rotate and inspect belt for wear or damage.



MX32942

Picture Note: TS shown.

4. Measure the top surface of the belt width at (A). Dimension should be a minimum of 27 mm (1.1 in.).
5. Replace belt if worn beyond limit.
6. Lower the cargo box.

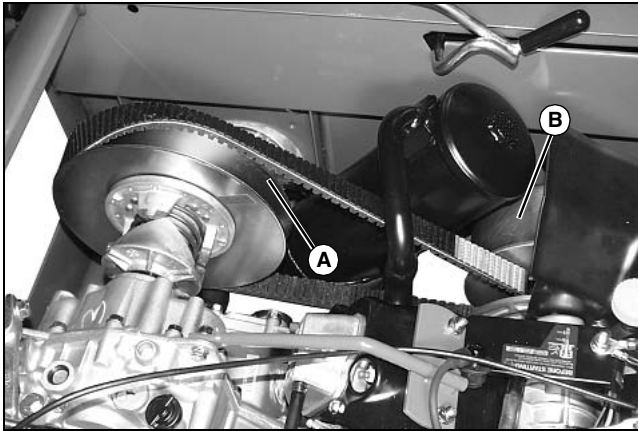
Replacing Drive Belt



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

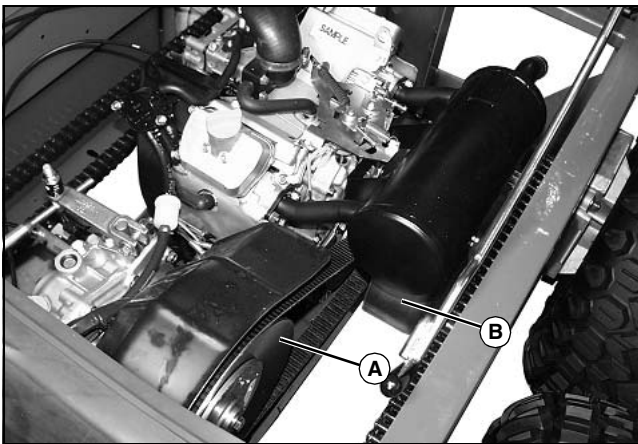
1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Raise and secure cargo box.

SERVICE TRANSMISSION



MX333440

Picture Note: TS



MX333442

Picture Note: TH 6x4

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

Checking Drive Chain Tension (TH 6x4)

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

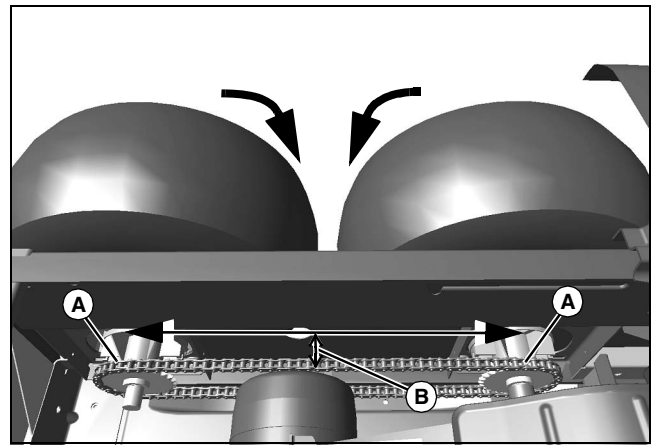
1. Stop vehicle on level surface. Stop engine, but do not lock park brake.
2. Put transmission in neutral and traction assist in off position.



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

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

3. Use a safe lifting device to raise all four rear wheels off ground. Place jack stands or wooden blocks under vehicle.
4. Raise and secure cargo box.



MX33640

5. Rotate rear wheels toward each other so that chain sag is at top of chain.
6. Place straight edge across top of sprockets (A) and measure distance (sag) (B) from bottom of straight edge to top of chain. Slack should be 13 to 25 mm (0.5 to 1.0 in.).
7. Adjust chain tension if necessary.

Adjusting Drive Chain Tension (TH 6x4)



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

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

SERVICE TRANSMISSION



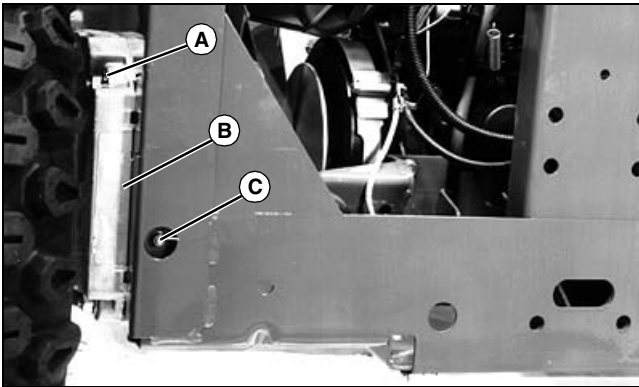
CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports.

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

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

4. Raise and secure cargo box.

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



W02242

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

IMPORTANT: Avoid damage! Do not adjust chain too tightly or it could be damaged.

6. Turn adjustment bolts (C) at both sides to remove chain sag. Make sure chain tension is the same at both sides of vehicle.

7. Tighten axle housing nuts (A) to 90 N•m (70 lb-ft), then back off adjustment bolts (C) one half turn to relieve force on bolt.

8. Check for proper and equal chain tension at both sides of vehicle.

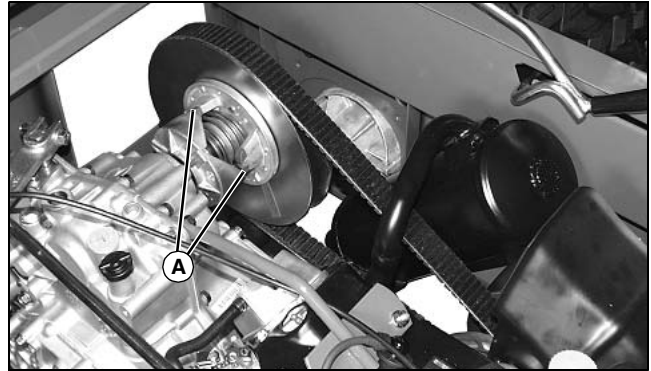
9. Rotate drive wheels approximately 120°. Check again at both sides of vehicle for equal chain tension, making sure no tight spots exist. Repeat two more times.

10. Remove jack stands and lower vehicle to ground.

Checking Secondary Driven Clutch Buttons

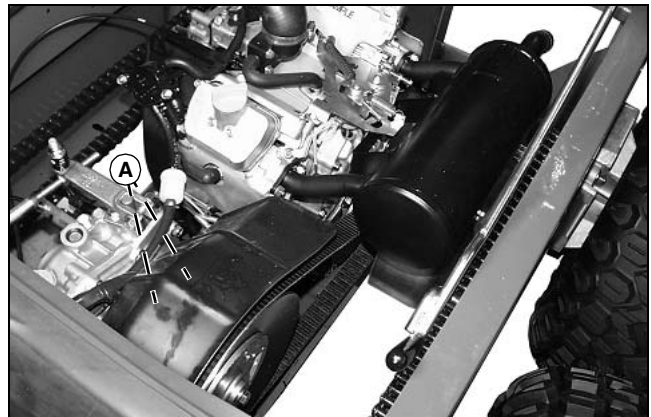
1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)

2. Raise and secure cargo box.



MX31031

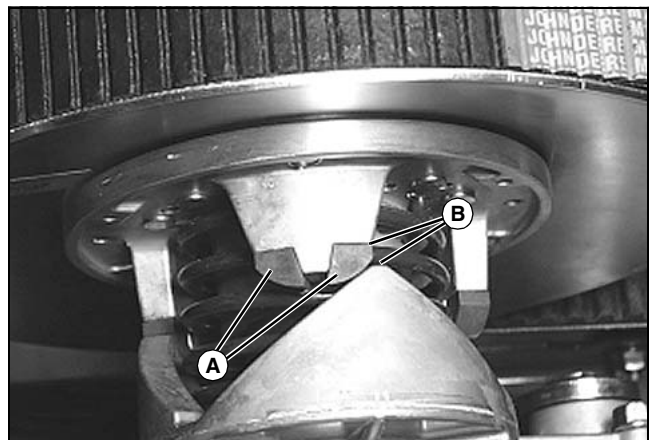
Picture Note: TS



MX33442

Picture Note: TH 6x4

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



MX33643

- There should not be any excessive wear on clutch buttons (A); replace before there is metal-to-metal (B) contact.

SERVICE TRANSMISSION

- If replacement is necessary, see your authorized dealer.

4. Lower the cargo box.

SERVICE ELECTRICAL

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

Service the Battery Safely



CAUTION: Avoid injury! 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.

Checking the Battery (Sealed Batteries)

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

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

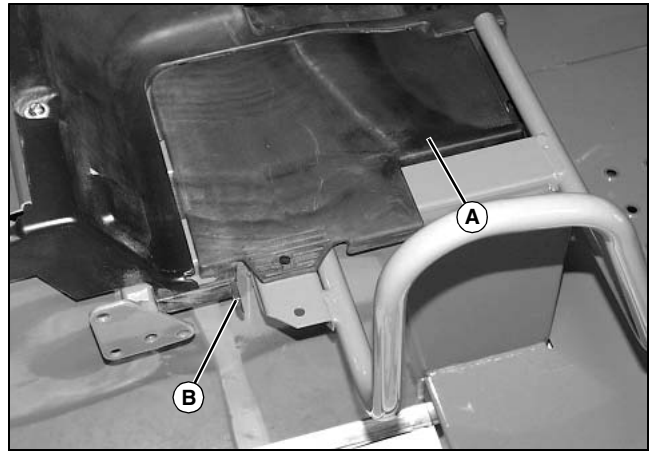
IMPORTANT: Avoid damage! This battery comes fully charged. If the machine is not used by the service expiration date indicated on the battery, charge the battery.

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

Removing and Installing Battery

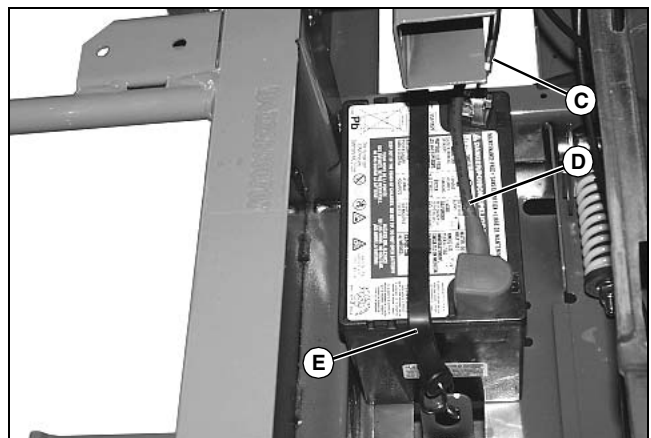
Removing

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



MX33315

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



MX33294

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

Installing

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

SERVICE ELECTRICAL

terminal. Tighten the connections.

5. Apply petroleum jelly to battery terminals to help prevent corrosion.
6. Slide protective cover down the battery positive cable and seat it over the positive (+) terminal.
7. Install service access panel, and lower passenger seat.

Cleaning Battery and Terminals

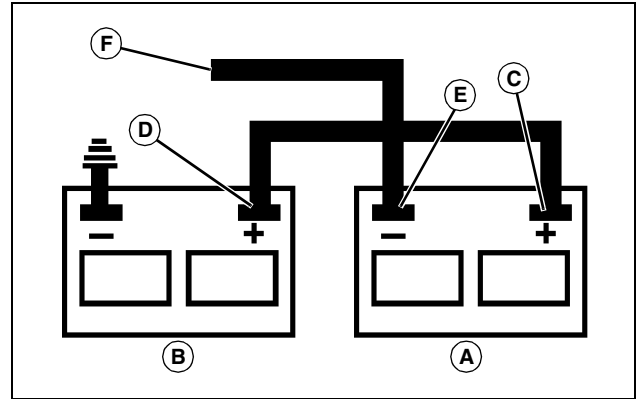
1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Disconnect and remove battery.
3. Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
4. Rinse the battery with plain water and dry.
5. Clean terminals and battery cable ends with wire brush until bright.
6. Apply general purpose grease or silicone spray to terminal to prevent corrosion.
7. Install battery.

Using Booster Battery



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

- Do not smoke or have open flame near battery.
- Wear eye protection and gloves.
- Do not jump start or charge a frozen battery. Warm battery to 16°C (60°F).
- Do not connect the negative (-) booster cable to the negative (-) terminal of the discharged battery. Connect at a good ground location away from the discharged battery.



A - Booster Battery

B - Disabled Vehicle Battery

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 charge from booster battery can damage machine components. Do not install negative booster cable to machine frame. Install only to the engine block.

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

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

Replacing Headlight Bulb

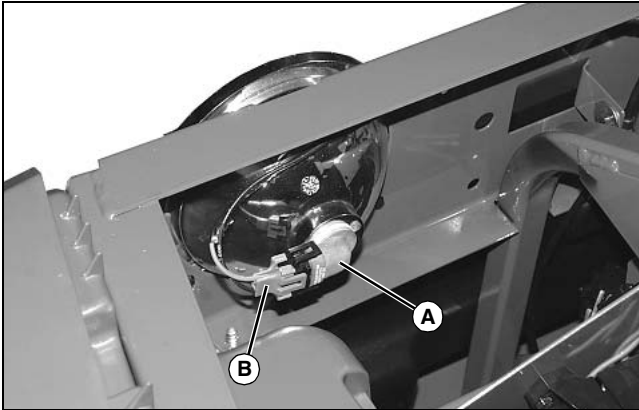
1. Park the vehicle safely. (See Parking Safely in the SAFETY section.)
2. Remove hood, and locate headlight housing in the front frame.

SERVICE ELECTRICAL



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

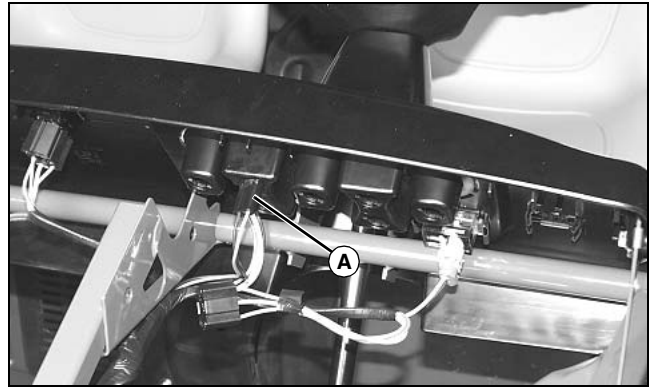


MX33438

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

Replacing Instrument Panel Bulbs

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

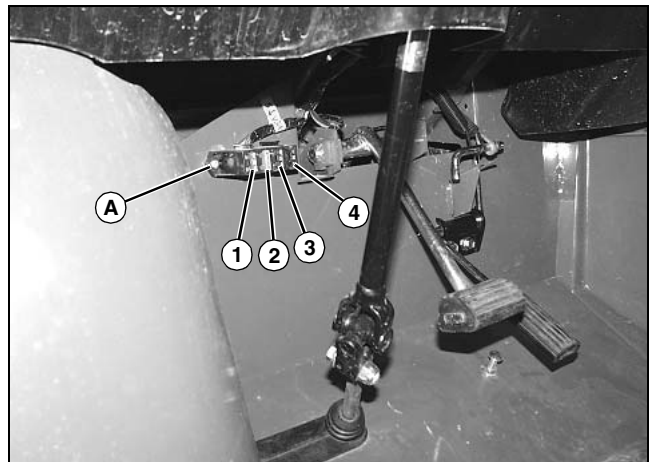


MX33439

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

Checking and Replacing Fuses

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



MX33299

2. Fuse identification:

Position	Circuit	Fuse Size
1	• Charging Circuit (TS) • Starting Motor Solenoid and Charging Circuit (TH 6x4)	25 amp

SERVICE ELECTRICAL

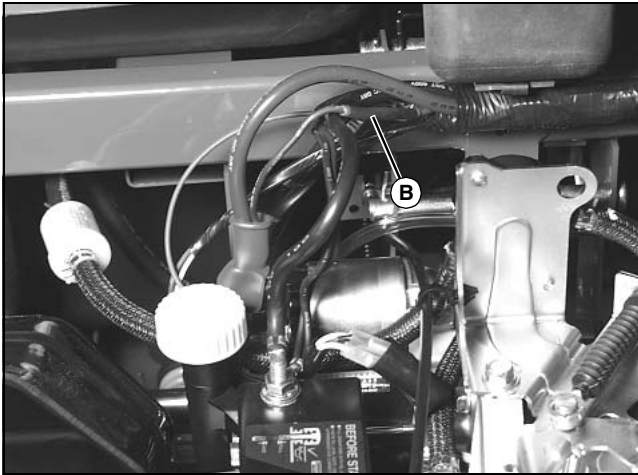
Position	Circuit	Fuse Size
2	Front and Rear Attachment Circuit	40 amp
3	Ignition Switch ON Circuit	15 amp
4	Accessory Power Plug	10 amp

3. Pull fuse from fuse block (A) (next to foot pedal linkage).

4. Check visually for broken filament in fuse.

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

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



6. Test for possible blown fusible link (B). (See your authorized dealer for service.)

A high output alternator is recommended (unless it has low intermittent use) with the following option:

- Front Lift

A high output alternator is recommended (unless they have low intermittent use) with two or more of the following options:

- Light Kit
- Cab Wiper
- Cargo Box Lift
- Backup Alarm
- Horn
- 72" Broom
- 12V Adapter (This option is not to exceed 120 watts of power (10 amps)).
- Gauge Package
- Radio

High Capacity Alternator Recommendations

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

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

A high output alternator is highly recommended (unless it has extremely low intermittent use) with one of the following options:

- Cab Lighting
- Winch

SERVICE MISCELLANEOUS

Using Proper Fuel

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, or add fuel stabilizer.

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

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

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

Condensation may collect in the fuel tank because of a variety of operating or environmental conditions and, over time, may affect your machine's operation. Fill fuel tank at the end of daily use and store fuel in plastic containers to reduce condensation.

For best year-round performance and fuel-handling, add stabilizer to fuel immediately after fuel purchase. Such practice helps prevent engine performance problems and allows fuel storage in the machine all year without draining.

Filling Fuel Tank



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

- Shut engine off before filling fuel tank.
- Do not smoke while handling fuel.
- Keep fuel away from flames or sparks.
- Fill fuel tank outdoors or in well ventilated area.
- Clean up spilled fuel immediately.
- Use clean approved non-metal container to prevent static electric discharge.
- Use clean approved plastic funnel without screen or filter to prevent static electric discharge.

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.
- Fill the fuel tank at the end of each day's operation to keep condensation out of the fuel tank.
- Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.

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

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Allow engine to cool.
3. Remove any trash from area around fuel tank cap.
4. Remove fuel tank cap slowly to allow any pressure built up in tank to escape.
5. Fill fuel tank only to bottom of filler neck.
6. Install fuel tank cap.

Removing and Installing Front Wheel Assembly

Removing

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



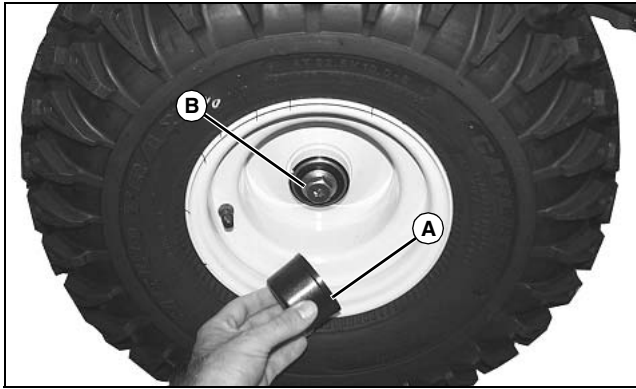
CAUTION: Avoid injury! The machine can fall or slip from an unsafe lifting device or supports.

- 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.

SERVICE MISCELLANEOUS



3. Remove the cap (A) from the end of the axle hub.
4. Remove cap screw (B).
5. Tap on backside of wheel rim with a soft-faced mallet to remove 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.

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

Installing

1. Apply multipurpose grease to spindle shaft before installing wheel.
2. Install wheel assembly with valve stem to the outside.

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

3. Tighten cap screw to 88 N•m (65 lb-ft).
4. Install cap.

Removing and Installing Rear Wheel Assembly

Removing

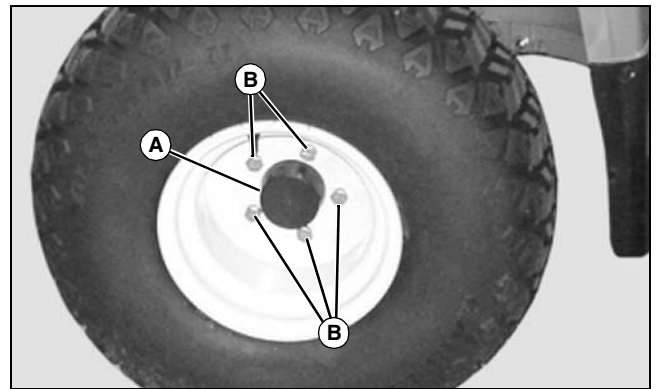
1. Park machine safely. (See Parking Safely in the Safety section.)

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

- 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.



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

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

CAUTION: 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. Apply multipurpose grease to spindle shaft before installing wheel assembly.
2. Install wheel assembly with valve stem to the outside.
3. Tighten wheel bolts evenly in alternating sequence until snug.

SERVICE MISCELLANEOUS

4. Lower machine completely to the ground.
5. Tighten wheel bolts to 88 N•m (65 lb-ft).

Removing and Installing Hood



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

Removing Hood

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



MX33300

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

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

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

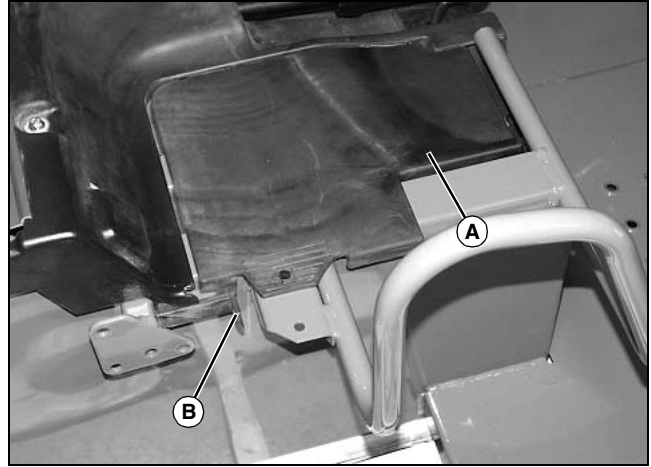
Installing Hood

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

Opening and Closing Service Access Panel

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

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



MX33315

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

Cleaning and Repairing Plastic Surfaces

Your authorized dealer has the professional materials needed to properly remove surface scratches from any plastic surfaces, do not attempt to paint over marks or scratches in plastic parts.

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.
- Do not spray insect repellent near machine.

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

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

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

SERVICE MISCELLANEOUS

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.
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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.

TROUBLESHOOTING

Using Troubleshooting Chart

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

When you have checked all the possible causes listed and you are still experiencing the problem, see your authorized dealer.

Engine

IF	CHECK
Engine will not start	Check to make sure vehicle is in neutral position and/or function of neutral switch. Battery has low voltage. Loose or corroded battery connections. Blown fuse(s). Spark plug wire(s) is loose or disconnected. Faulty spark plug(s) or coil. No fuel or improper fuel. Plugged fuel filter. Defective starter solenoid. Open-circuit in wiring.
Engine is hard to start	Engine is cold. Plugged fuel filter. Engine oil viscosity too heavy. Spark plug(s) is fouled. Faulty spark plug(s) or wire(s). Loose or corroded electrical connections. Stale or improper fuel. Choke not being used or adjusted incorrectly.
Engine misses under load	Stale or dirty fuel. Plugged fuel filter. Faulty coil or wire. Faulty spark plug(s).
Engine vapor locks	Poor quality fuel or methanol. Very hot weather conditions and very high loading condition. Fuel tank vent plugged. Dirt in fuel filter.

TROUBLESHOOTING

IF	CHECK
Engine runs unevenly	Loose electrical connections. Choke or throttle cable sticking. Fuel line or fuel filter plugged. Stale or dirty fuel. Improper fuel. Air cleaner element plugged. Spark plug(s) is fouled.
Engine overheats	Air cleaner element missing or plugged. Carburetor air intake tube plugged. Engine oil low. Engine operated too long at slow engine speed.
Engine loses power	Engine overheating. Too much oil in engine. Faulty spark plug(s). Fuel supply being restricted. Fuel filter plugged Fuel line pinched or kinked. Improper fuel. Air cleaner element plugged.
Engine knocks	Low engine speed. Stale or low octane fuel. Engine overloaded.

Electrical

IF	CHECK
Starter does not work	Check to make sure vehicle is in neutral position and/or function of neutral switch. Loose or corroded connections. Blown fuse. Low battery output. Sulfated or worn out battery. Faulty starter.
Starter cranks slowly	Low battery output. Sulfated or worn out battery. Engine oil too heavy. Loose or corroded connections.

TROUBLESHOOTING

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

Brakes

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

STORAGE

Storing Safety



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

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

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 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.

Preparing Fuel and Engine For Storage

Fuel:

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

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

If you are not using "Stabilized Fuel:"

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

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

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

position.

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

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

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

Engine:

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

1. Change engine oil and filter while engine is warm.
 2. Service air filter if necessary.
 3. Clean debris from engine air intake screen.
 4. On gas engines:
 - Remove spark plugs. Put 30 mL (1 oz) of clean engine oil in cylinders.
 - Install spark plugs, but do not connect spark plug wires.
 - Crank the engine five or six times to allow oil to be distributed.
 5. Clean the engine and engine compartment.
 6. Remove battery.
 7. Clean the battery and battery posts. Check the electrolyte level, if your battery is not maintenance free.
 8. Close fuel shut-off valve, if your machine is equipped.
 9. Store the battery in a cool, dry place where it will not freeze.
- NOTE:** The stored battery should be recharged every 90 days.
10. Charge the battery.

IMPORTANT: 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.

STORAGE

Removing Machine From Storage

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

SPECIFICATIONS

Engine Specifications

TS	
Make.....	Kawasaki FE290
Type.....	Gasoline
Cylinders.....	1
Strokes/Cycle.....	4
Bore.....	78 mm (3.071 in.)
Stroke.....	60 mm (2.362 in.)
Displacement.....	286 cm ³ (17.5 cu in.)
Armature Air Gap.....	0.3 mm (0.012 in.)
Intake and Exhaust Valve Clearance (cold).....	0.127 ± 0.025 mm (0.005 ± 0.001 in.)
Oil Filter.....	Spin On Filter (Optional)
Air Cleaner.....	Replaceable, Paper Element
Cooling.....	Air

TH 6x4

Make.....	Kawasaki FH601
Type.....	Gasoline
Cylinders.....	2
Strokes/Cycle.....	4
Bore.....	75 mm (2.953 in.)
Stroke.....	76 mm (2.992 in.)
Displacement.....	675 cm ³ (41.2 cu in.)
Armature Air Gap.....	0.2 - 0.4 mm (0.008 - 0.016 in.)
Intake and Exhaust Valve Clearance (cold).....	0.075 - 0.125 mm (0.003 - 0.005 in.)
Oil Filter.....	Spin On Filter
Air Cleaner.....	Replaceable, Paper Element
Cooling.....	Air

Drive Train

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

SPECIFICATIONS

Electrical System

Type	12 Volt
Battery Size	340 Cold Cranking Amps @ -18°C (0°F)
Alternator (TS)	13 Amp @ 3600 rpm (regulated)
Alternator (TH 6x4)	16.6 Amp @ 3700 rpm (regulated)
Headlights	(Two) 37.5 watt halogen
Spark Plug Gap	0.80 mm (0.031 in.)
Spark Plug Torque	25 N•m (18 lb-ft)

Fuel System

Fuel Filter	Replaceable Element
Fuel	Gasoline

Fluid Capacities

Fuel Tank	19.7 L (5.2 gal)
Crankcase (TS, without filter)	0.9 L (0.95 qt)
Crankcase (TS, with filter)	1.2 L (1.26 qt)
Crankcase (TH 6x4, with filter)	1.6 L (1.7 qt)
Transaxle (approximate - see Changing Transaxle Oil)	5.8 L (6.1 qt)

Steering and Brakes

Steering	Rack and Pinion
Brakes	Mechanically Operated Internal Wet Disk

SPECIFICATIONS

Tires

Knobby

Front 22.5x10-8

Rear 25x12-9

Heavy Duty All Purpose (HDAP)

Front 22.5x10-8

Rear 25x13-9

Turf

Front 22.5x10-8

Rear 25x12-9

Run-Flat - EMT (Extended Mobility Tire)

Front 22x11-10

Rear 25x11-10

Inflation Pressure

Front and Rear (Knobby, Turf, and Heavy Duty All Purpose (HDAP)) 41 kPa (6 psi)

Front and Rear (Run-Flat - EMT (Extended Mobility Tire)) 28-34 kPa (4-5 psi)

Dimensions

Width (overall)..... 1.52 m (60.0 in.)

Length (TS) (with bumper)..... 2.65 m (104.0 in.)

Length (TH 6x4) (with bumper) 2.76 m (109.0 in.)

Height (overall) 1.11 m (43.6 in.)

Weight (includes fuel/fluids) (TS) 415 kg (915 lb)

Weight (includes fuel/fluids) (TH 6x4)..... 493 kg (1087 lb)

Ground Clearance (under transaxle) (TS) 152.4 mm (6.0 in.)

Ground Clearance (under transaxle) (TH 6x4)..... 170 mm (6.4 in.)

Cargo Box Capacity (TS) 227 kg (500 lb)

Cargo Box Capacity (TH 6x4) 454 kg (1000 lb)

Towing Capacity (TS) 408 kg (900 lb)

Towing Capacity (TH 6x4) 635 kg (1400 lb)

Recommended Lubricants

Engine Oil John Deere PLUS-4® SAE 10W-40

.....TORQ-GUARD® SUPREME SAE 5W-30

Grease John Deere Multi-Purpose SD Polyurea Grease

..... John Deere Multi-Purpose HD Lithium Complex Grease

Transmission Oil..... John Deere HY-GARD® (JDM J20C)

SPECIFICATIONS

Chain Lubricant John Deere Chain and Cable Lubricant (Moly)

(Specifications and design subject to change without notice.)

WARRANTY

Product Warranty

Product warranty is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual.

Engine related warranties stated in this manual refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately as the "Limited Warranty for New John Deere Commercial & Consumer Equipment".

John Deere, Federal and California Emissions Control System Warranty Statement (Small Off-Road Gas Engines)

Your Warranty Rights and Obligations

California Air Resources Board (CARB), the United States Environmental Protection Agency (EPA), and John Deere are pleased to explain the emissions control system warranty on your small off-road engine and equipment. In California, 2006 and later small off-road engines and equipment must be designed, built and equipped to meet the State's stringent anti-smog standards. (In other states, 1997 and later model year equipment engines must be designed, built and equipped to meet the U.S. EPA regulations for small non-road, spark ignition engines.) John Deere must warrant the emissions control system on your small off-road engine and equipment for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine and equipment.

Your emissions control system may include parts such as the carburetor, fuel hose, fuel-injection system and ignition system. Also included may be connectors and other emissions related assemblies.

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

John Deere Emissions Control System Warranty Coverage

Small off-road engines and equipment are warranted relative to emissions control parts for two years. If any emissions related part on your engine or equipment is defective, the part will be repaired or replaced by John Deere.

Owner's Warranty Responsibilities

As the small off-road engine and equipment 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 small off-road engine and equipment, but John Deere cannot deny warranty solely for lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine and equipment owner, you should however be aware that John Deere may deny you warranty coverage if your small off-road engine and equipment or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine and equipment to an authorized John Deere Commercial and Consumer Equipment Retailer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact your John Deere Commercial and Consumer Equipment Retailer, or the John Deere Customer Contact Center at 1-800-537-8233.

Length Of Warranty Coverage

John Deere warrants to the initial owner and each subsequent purchaser that the small off-road engine and equipment is:

- Designed, built and equipped so as to conform with all applicable regulations adopted by the California Air Resources Board (CARB) for 2006 and later engines and equipment, and all applicable regulations of the United States Environmental Protection Agency (EPA) for 1997 and later equipment engines; and
- Free from defects in materials and workmanship which can cause the failure of an emissions warranted part for a period of two years after the engine and equipment is delivered to the initial retail purchaser. John Deere is liable for damages to other engine components caused by the failure of a warranted part during the warranty period. If any emissions related part on your engine or equipment is defective, the part will be repaired or replaced by John Deere.

Warranted Parts

Coverage under this warranty extends only to the parts listed below (the emissions control system parts) to the extent these parts were present on the engine and equipment purchased.

Fuel Metering System:

- Carburetor and internal parts (or fuel injection system).
- Air/fuel ratio feedback and control system.
- Cold start enrichment system.
- Fuel hose, line, fittings, clamps.
- Fuel pump.

Air Induction System:

- Air Cleaner
- Intake manifold.

Ignition System:

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

Exhaust System:

- Exhaust manifold.
- Catalyst.

Miscellaneous Items Used in Above Systems

- Vacuum and temperature switches.
- Electronic controls.
- Hoses, belts, connectors and assemblies.

Since emissions related parts may vary slightly from model to model, certain models may not contain all of these parts and certain models may contain functionally equivalent parts.

Warranty Service And Charges

Warranty service shall be provided during customary business hours at any authorized John Deere Commercial and Consumer Equipment Retailer. Repair or replacement of any warranted part will be performed at no charge to the owner, including diagnostic labor which leads to the determination that a warranted part is defective, if the diagnostic work is performed at an authorized John Deere Commercial and Consumer Equipment Retailer. Any parts replaced under this warranty shall become the property of John Deere.

Maintenance Warranty Coverage

WARRANTY

a) Any warranted part that is not scheduled for replacement as required maintenance is warranted as to defects for the warranty period. Any such part repaired or replaced under the warranty is warranted for the remaining warranty period.

b) Any warranted part that is scheduled only for regular inspection to the effect of "repair or replace as necessary" is warranted as to defects for the warranty period. Any such part repaired or replaced under the warranty is warranted for the remaining warranty period.

c) Any warranted part which is scheduled for replacement as required maintenance is warranted as to defects only for the period of time up to the first scheduled replacement for that part. Any such part repaired or replaced under the warranty is warranted for the remainder of the period prior to the first scheduled replacement point for that part.

d) Normal maintenance, replacement or repair of emissions control devices and systems, which are being done at the customer's expense, may be performed by any repair establishment or individual; however, warranty repairs must be performed by an authorized John Deere Commercial and Consumer Equipment Retailer.

e) Any replacement part that is equivalent in performance and durability may be used in the performance of any non-warranty maintenance or repairs, and shall not reduce the warranty obligations of John Deere.

Consequential Warranty Coverage

Warranty coverage shall extend to the failure of any engine components caused by the failure of any warranted part still under warranty.

Limitations

This Emissions Control System Warranty shall NOT cover any of the following:

a) Repair or replacement required as a result of (i) misuse or neglect, (ii) improper maintenance or unapproved modifications, (iii) repairs improperly performed or replacements improperly installed, (iv) use of replacement parts or accessories not conforming to John Deere specifications which adversely affect performance and/or durability, (v) alterations or modifications not recommended or approved in writing by John Deere.

b) Replacement parts, other services and adjustments necessary for normal maintenance.

c) Transportation to and from the John Deere Commercial and Consumer Equipment Retailer, or service calls made by the Retailer.

Limited Liability

a) The liability of John Deere under this Emissions Control System Warranty is limited solely to the remedying of defects in materials or workmanship. This warranty does not cover inconvenience or loss of use of the small off-road engine and equipment or transportation of the equipment to or from the John Deere Commercial And Consumer Equipment Retailer. JOHN DEERE SHALL NOT BE LIABLE FOR ANY OTHER EXPENSE, LOSS, OR DAMAGE, WHETHER DIRECT, INCIDENTAL, CONSEQUENTIAL (EXCEPT AS LISTED ABOVE UNDER "COVERAGE") OR EXEMPLARY ARISING IN CONNECTION WITH THE SALE OR USE OF OR INABILITY TO USE THE SMALL OFF-ROAD ENGINE AND EQUIPMENT FOR ANY OTHER PURPOSE.

b) NO EXPRESS EMISSIONS CONTROL SYSTEM WARRANTY IS GIVEN BY JOHN DEERE WITH RESPECT TO THE ENGINE AND EQUIPMENT EXCEPT AS SPECIFICALLY SET FORTH IN THIS DOCUMENT. ANY EMISSIONS CONTROL SYSTEM WARRANTY IMPLIED BY LAW, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS EXPRESSLY LIMITED TO THE EMISSIONS CONTROL SYSTEM WARRANTY TERMS SET FORTH IN THIS DOCUMENT.

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

Tire Warranty

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

Limited Battery Warranty

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

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within 90 days of purchase will be replaced free of charge. Installation costs will be covered by warranty if (1) the unserviceable battery was installed by a John Deere factory or dealer, (2) failure occurs within 90 days of purchase, and (3) the replacement battery is installed by a John Deere dealer.

PRO RATA ADJUSTMENT

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment 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 chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

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.

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.

WARRANTY

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.

PRO RATA MONTHS OF ADJUSTMENT

NOTE: *If your battery is not labeled with a warranty code, it is a warranty code "B".*

Warranty Code	Warranty Period
A	40 Months
B	36 Months
C	24 Months

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JOHN DEERE QUALITY STATEMENT

John Deere Quality



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

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

Step 1

Refer to your operator's manual

- A. It has many illustrations and detailed information on the safe and proper operation of your equipment.
- B. It gives troubleshooting procedures, and specification information.
- C. It gives ordering information for parts catalogs, service and technical manuals.
- D. If your questions are not answered in the operator's manual, then go to Step 2.

Step 2

Contact your dealer

- A. Your John Deere dealer has the responsibility, authority, and ability to answer questions, resolve problems, and fulfill your parts and service needs.
- B. First, discuss your questions or problems with your dealer's trained parts and service staff.
- C. If the parts and service people are unable to resolve your problem, see the dealership manager or owner.
- D. If your questions or problems are not resolved by the dealer, then go to Step 3.

Step 3

Call the John Deere Customer Communications Center

- 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, call the Customer Communications Center.
- 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 13-digit 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 and our advisor will work with your dealer to investigate your concern.

SERVICE RECORD

Record Service Dates

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