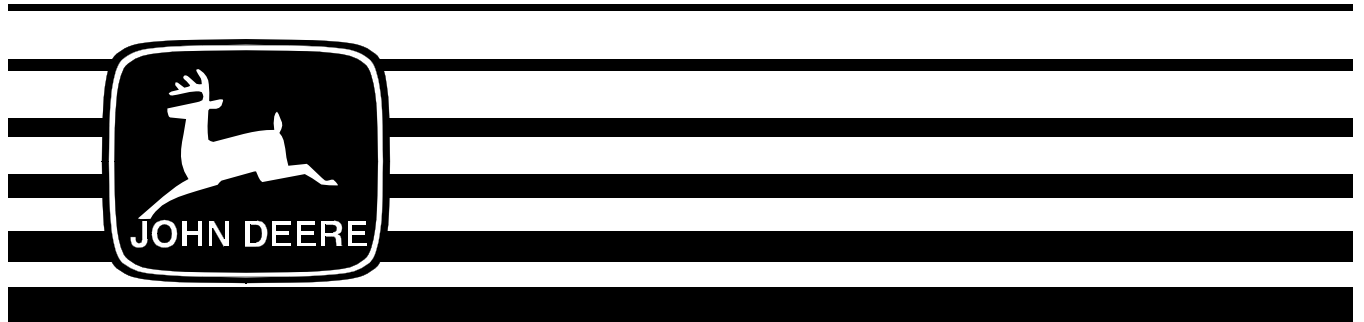


# Utility Vehicle M-GATOR™

Serial No. (001001- )



# OPERATOR'S MANUAL

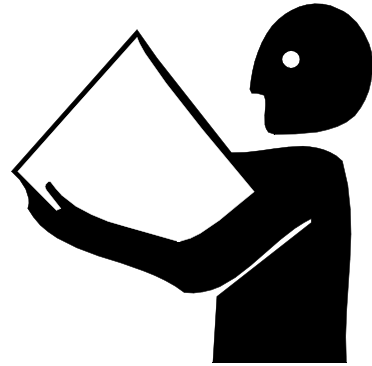
John Deere  
Worldwide Commercial And  
Consumer Equipment Division  
OMM139953 I9

North American Version  
Litho in U.S.A.  
English

# INTRODUCTION

**THANK YOU** for purchasing a John Deere product.

Read this manual and your attachment manuals thoroughly. Failure to do so could result in personal injury or equipment damage.



**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

This manual should be considered a permanent part of your machine and should remain with the machine when you sell it.

Measurements in this manual are metric units and their U.S. customary equivalents. 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 arrow (----->), it indicates the part it is pointing to is hidden.

Record identification numbers below. Be sure to record all the numbers to help in tracing the machine if it is stolen. You also need to give these numbers to your dealer when you order parts.

**DATE OF PURCHASE:**

\_\_\_\_\_

**DEALER NAME:**

\_\_\_\_\_

**DEALER PHONE:**

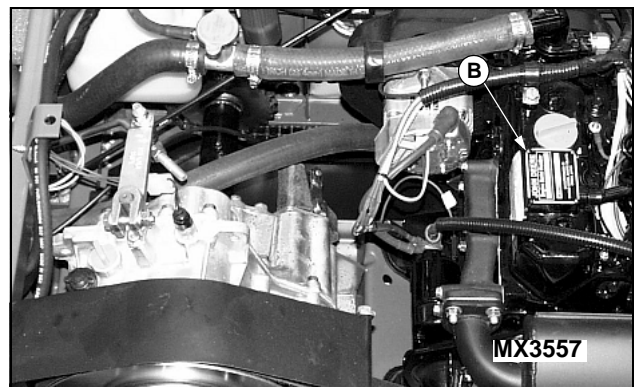
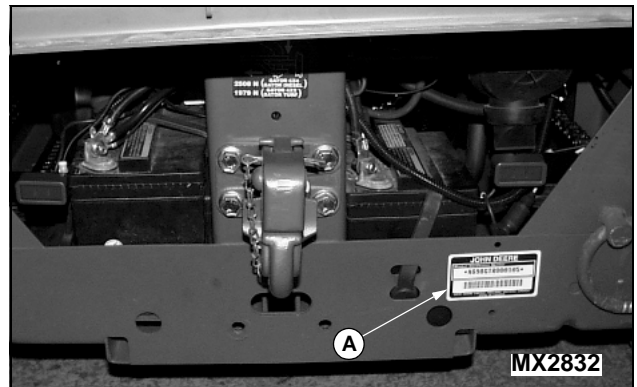
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**PRODUCT IDENTIFICATION NUMBER (A):**

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**ENGINE SERIAL NUMBER (B):**

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# TABLE OF CONTENTS

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Safety Signs . . . . .	1
Controls . . . . .	3
Operating . . . . .	5
Replacement Parts . . . . .	34
Service Machine Safely . . . . .	35
Service Interval Chart . . . . .	39
Service Engine . . . . .	42
Service Transmission . . . . .	57
Service Electrical . . . . .	65
Service Miscellaneous . . . . .	72
Troubleshooting . . . . .	81
Storing Machine . . . . .	84
Assembly . . . . .	86
Specifications . . . . .	106
Warranty . . . . .	109
Index . . . . .	114
John Deere Service Literature . . . . .	121

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

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Horicon, WI  
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OMM139953 I9

# NOTES

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# SAFETY SIGNS

## Safety-Alert Symbol

Read and recognize safety information. Be alert to the potential for personal injury when you see this safety-alert symbol.

On your vehicle safety labels, the words DANGER, WARNING, and CAUTION are used with this safety-alert symbol. DANGER identifies the most serious hazards. In this manual, the word CAUTION and this symbol call attention to safety messages.



## Machine Safety Labels

### WARNING

#### RIDERS CAN FALL OFF AND BE KILLED

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

### CAUTION

To avoid injury, stop engine and set parking brake before leaving vehicle.

### WARNING

#### ROLLOVER OR FALLING OFF MAY CAUSE DEATH

- Read operator's manual.
- Drive very slowly when turning.
- Always use brakes going down a slope. Vehicle can take-off (freewheel) downhill.
- No loads heavier than 500 lbs (227 kg) in 4x2, 800 lbs (363 kg) in 6x4 and 1000 lbs (454 kg) in 6x4 DIESEL. Spread load evenly. Tie loads down.
- Reduce speed and load on rough or hilly ground.



# SAFETY SIGNS

## DANGER

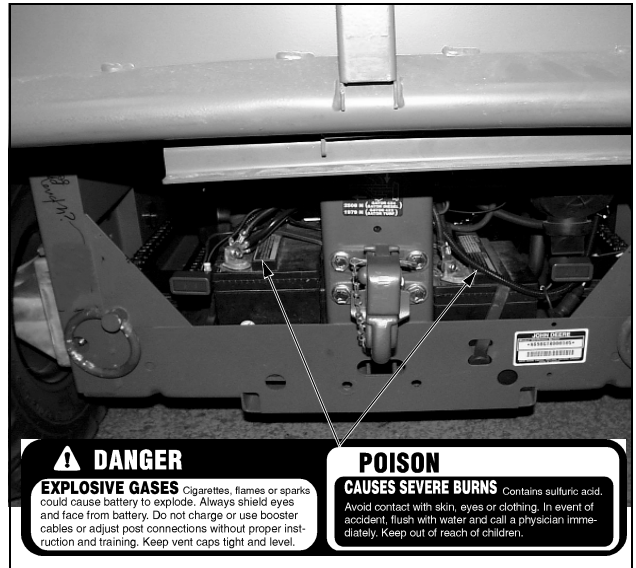
### EXPLOSIVE GASES

Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use booster cables or adjust post connections without proper instruction and training. Keep vent caps tight and level.

## POISON

### CAUSES SEVERE BURNS

Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident, flush with water and call a physician immediately. Keep out of reach of children.



## CAUTION

### HELP PREVENT INJURY WHEN DUMPING LOADS

- Operate dump with machine stationary and parking brake locked:

Never dump while moving

- Operate dump on level ground only
- Operate dump from operator's seat only
- Do not place hands behind seat when lowering box
- Refer to Operator's Manual for correct load distribution

## CAUTION

### HELP PREVENT INJURY WHEN OPENING COOLANT CAP

## WARNING

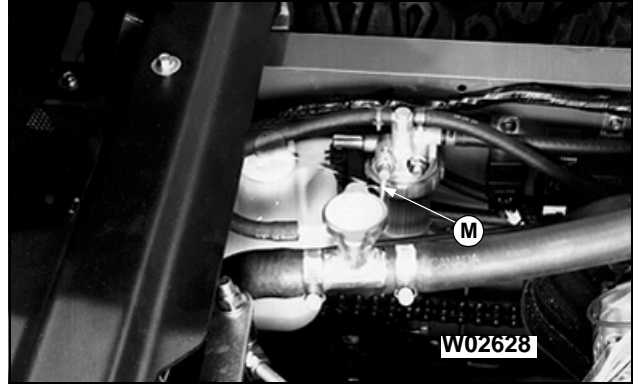
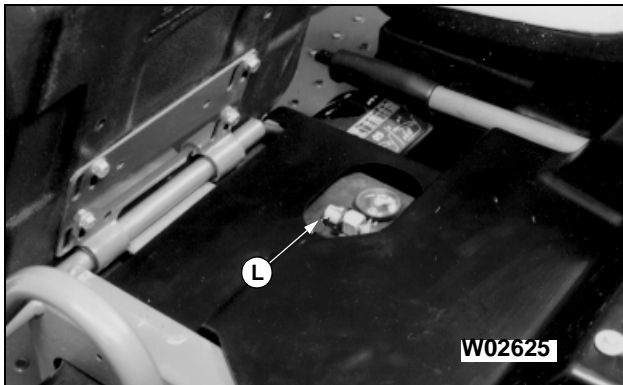
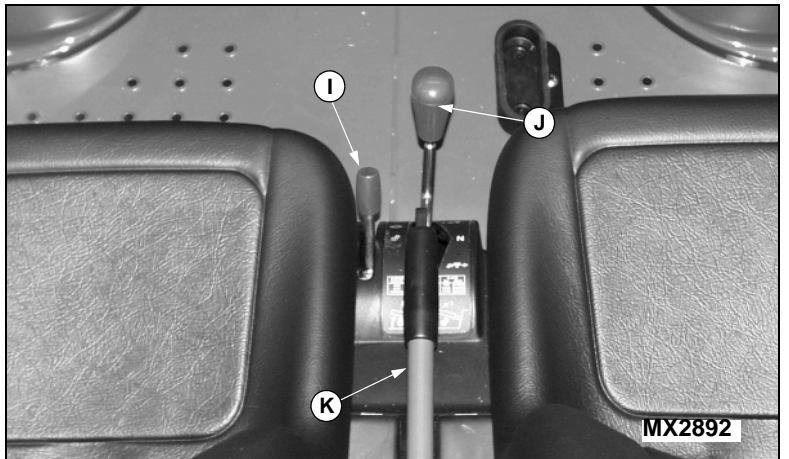
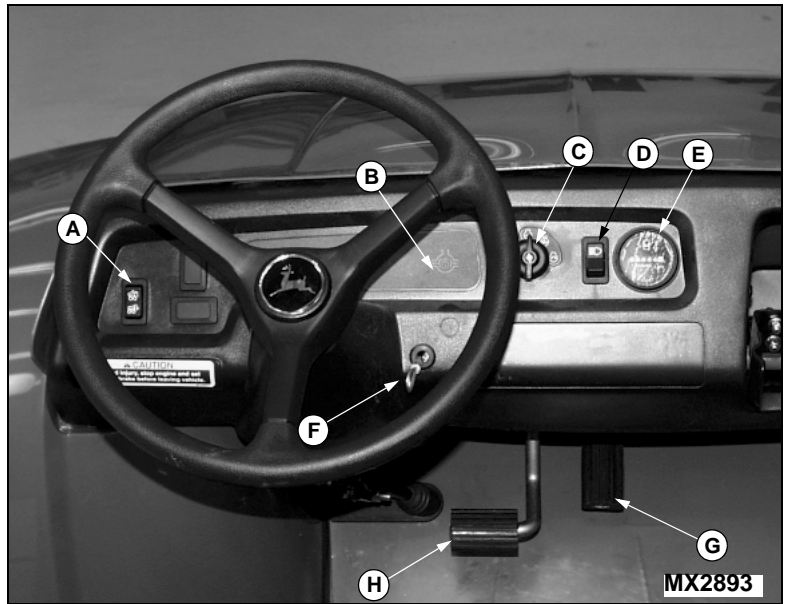
Test or replace when changing coolant. 13 lbs. DO NOT OPEN HOT.



# CONTROLS

## Operator Controls

- A - Cargo Box Dump Switch
- B - Indicator Panel
- C - Ignition Switch
- D - Headlight Switch
- E - Hourmeter
- F - Steering Wheel Lock Cable
- G - Accelerator
- H - Brake Pedal
- I - Differential Lock Lever
- J - Transaxle Shift Lever
- K - Parking Brake Lever
- L - Fuel Shutoff Valve
- M - Fuel Shut Off Valve-Fuel Filter

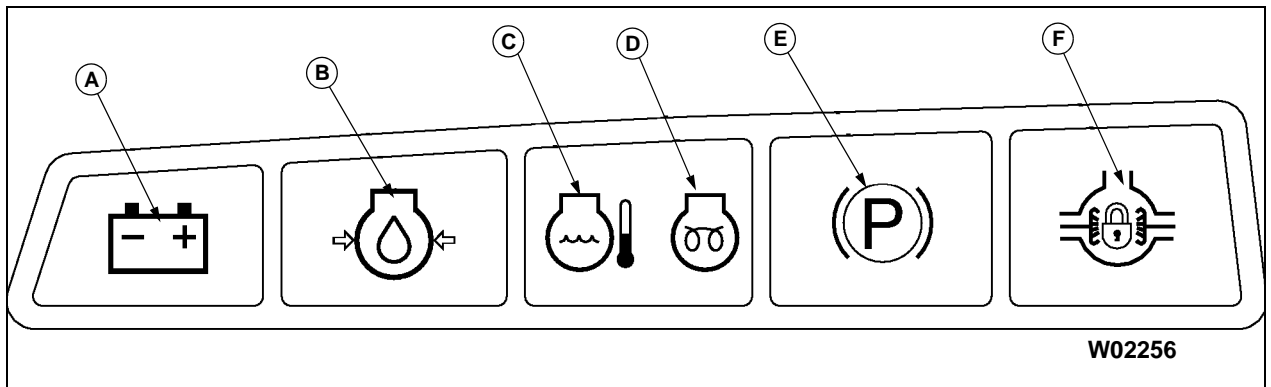


# CONTROLS

## Indicator Panel

- A - Battery
- B - Oil Pressure
- C - Coolant Temperature
- D - Engine Preheat
- E - Parking Brake
- F - Differential Lock

**NOTE:** Only one indicator bulb illuminates both Coolant Temperature (C) and Engine Preheat (D) Indicators at the same time.



# OPERATING MACHINE

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## Operate Safely

- View the videotape provided with the vehicle for safe operating practices.
- DO NOT misuse the M-GATOR™, it is a utility vehicle NOT a recreation vehicle.
- 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 utility vehicle cargo box is 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.
- Keep people and pets out of the work area. Stop the vehicle if anyone enters the area. If an object is hit, stop and inspect the vehicle for damage. Make repairs before operating.
- Keep headlight lenses clean.
- DO NOT leave vehicle unattended when it is running.
- Only operate during daylight or with good artificial light.
- Be careful of traffic when operating near or crossing roadways.
- This vehicle is NOT intended for use on highways or public roadways. It is to be used for off-road use only.
- Avoid sudden starts, stops, or turns.
- Always use a level turnaround area.
- DO NOT wear headphones while operating.

# OPERATING MACHINE

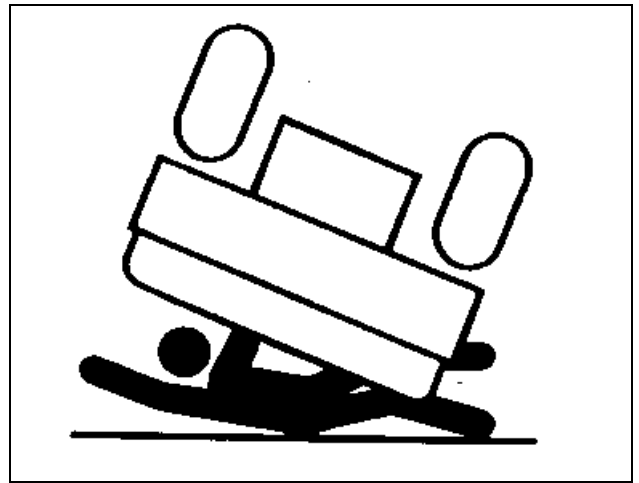
## Before Driving



**CAUTION:** Help prevent severe bodily injury or death to yourself and others due to roll-over caused by loss of control and/or stability. This vehicle is **NOT** intended for use on highways or public roadways. It is to be used for off-road use only.

Be sure the videotape on safe operation of vehicle is viewed by anyone operating the vehicle for the first time.

Keep children and others away when you operate the vehicle. Never carry children in the cargo area. **DO NOT** let children ride on the utility vehicle or any attachment. Seating is provided for the operator and one passenger. No riders are allowed in the cargo box or anywhere else on the vehicle.



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. Know location of controls and how and what they operate.

3. Inspect utility vehicle for signs of wear or damage.

4. All safety equipment must be in good condition and fastened in place:

- Load guard
- Lights
- Shields
- Safety start devices

5. Before moving, check around utility vehicle, be sure no one is near it.

6. Securely anchor all loads.



# OPERATING MACHINE

## Protect Children and Prevent Accidents

### PROTECT CHILDREN:

- 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 coming to blind corners, shrubs, trees, or other objects that may block vision.
- **DO NOT** let children or an untrained person operate the vehicle.
- Before backing or turning, look behind and around the utility vehicle for children.

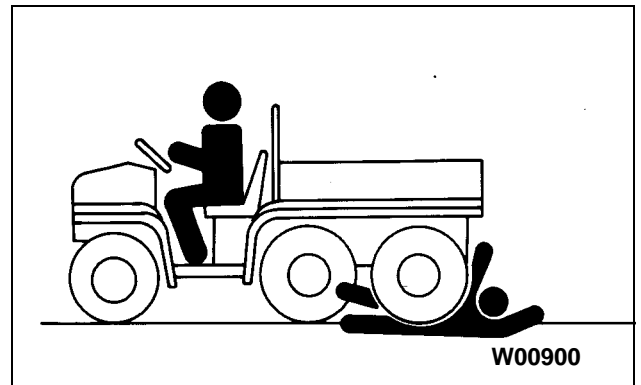
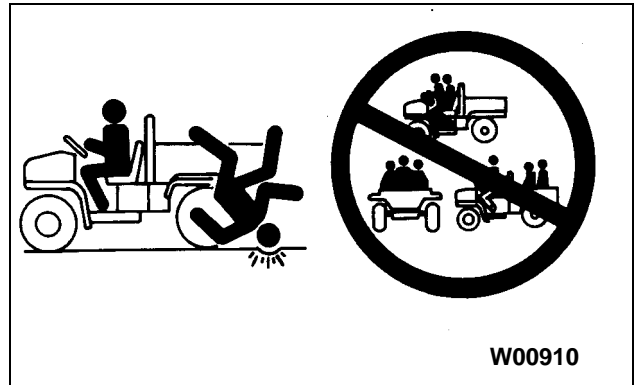
### HELP PREVENT SERIOUS OR FATAL ACCIDENTS:

- Be alert at all times, drive forward and in reverse carefully. People, especially children, can move quickly into an area of operation.
- Back carefully. Look behind the vehicle, especially for children, before backing up.
- **DO NOT** operate vehicle if under the influence of alcohol or other drugs.
- Misuse and recreational riding can lead to accidents, severe bodily injury or death.

## Operator Training Required

Study operation section of this manual before operating the vehicle.

- Operate vehicle in an open, unobstructed area under the direction of an experienced operator.
- Learn the use of all controls.
- Operator experience is required to learn the moving, stopping, turning and other operating characteristics of the vehicle.
- Young drivers may not have the strength or experience to control the utility vehicle. This increases the chances of rolling the vehicle over resulting in severe bodily injury or death.
- The utility vehicle should **NOT** be operated by anyone under the age of 16 years.



# OPERATING MACHINE

## Park Safely

1. Stop the vehicle on a level surface, not on a slope.
2. Engage park brake.
3. STOP engine.
4. Turn off ignition switch to stop position.
5. Before you leave the operator's seat, wait for engine and all moving parts to STOP.

## Use Hand Holds

Hand holds (A) are provided for passenger balance when driving over rough terrain. Use dash bar and side rails on seats for stability.

## No Driving On Public Roads



**CAUTION:** This vehicle is **NOT** intended for use on highways or public roadways. It is to be used for off-road utility use only.

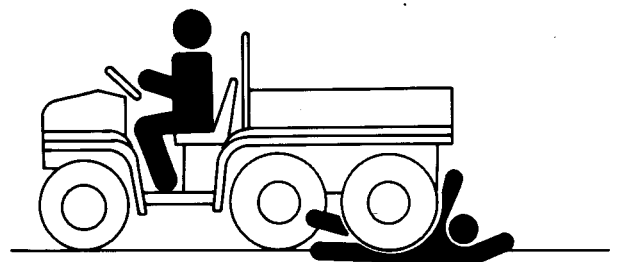
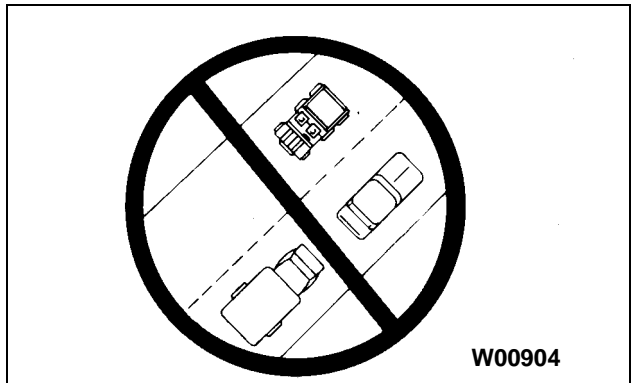
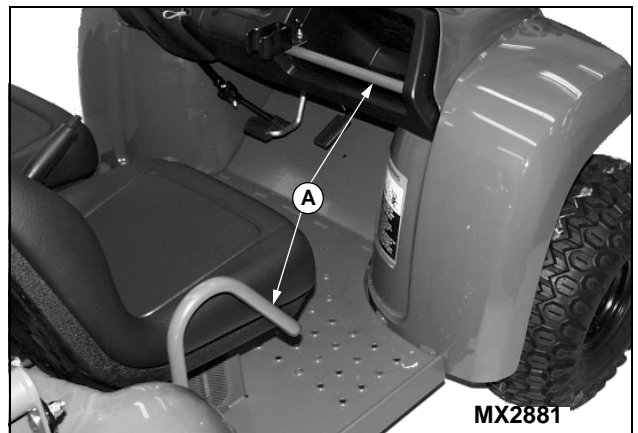
**Do not operate utility vehicle on a public roadway or highway where Utility Vehicle may be a hazard to faster moving traffic.**

Before you drive utility vehicle, be sure:

- Headlight, taillight, brake light lenses are clean and operate.

## Keep Riders Off Vehicle

- Seating is provided for operator and one passenger. No riders are allowed in cargo box or anywhere else on vehicle.
- 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.



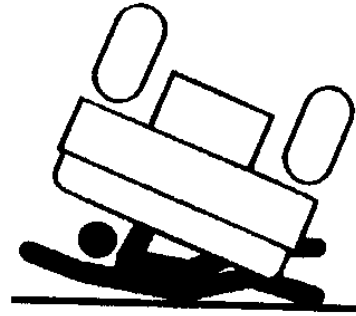


# OPERATING MACHINE

## Avoid Tipping

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

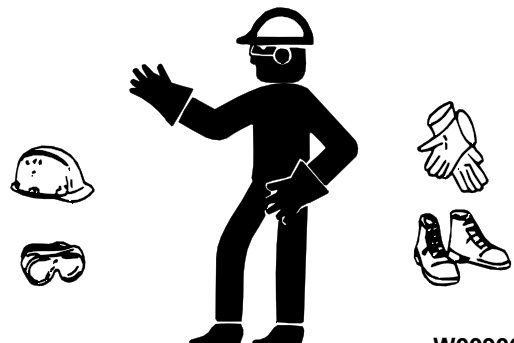
- DO NOT misuse the Utility Vehicle. The Utility Vehicle is not designed for recreational riding.
- Never allow riders in the cargo box or other areas where seats are not provided.
- Drive very slowly when turning. Sharp turns could cause the utility vehicle to tip over.
- Reduce speed and exercise extreme 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 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.
- Use of a helmet and/or protective gear is recommended for certain operating conditions.



W15212

## Wear Appropriate Clothing

- Wear close fitting clothing and safety equipment appropriate for the job.
- Loud noise can cause impairment or loss of hearing, wear a suitable protective device such as earplugs.



W00906

# OPERATING MACHINE

## Driving On Rough Or Hilly Terrain

**CAUTION:** Help prevent severe bodily injury or death due to loss of control. Reduce load when operating over rough or hilly terrain. Reduce speed when turning or when operating around obstacles or rough terrain. Check the terrain and know the operational capability of the vehicle. Choose places to operate carefully.

- Horseplay or recreational riding can lead to accidents, severe bodily injury or death.
- Always use the brakes when going down slopes. The utility vehicle can speedup (freewheel) going down a slope. When carrying a load, be sure the load is evenly distributed and secured. Braking could shift the load and affect vehicle stability. Due to belt drive, engine and/or clutch, braking effect can be minimal.
- Use existing trails. Avoid terrain such as dangerous slopes and impassable swamps. Watch carefully for sharp 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.
- Adjust speed according to trail, terrain, and visibility conditions.
- Use of a helmet and or protective gear is recommended for certain operating conditions.

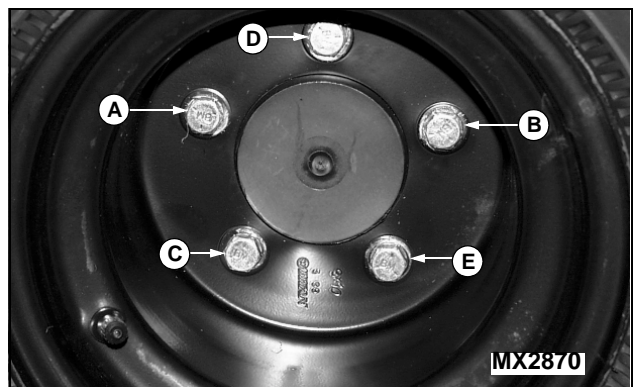
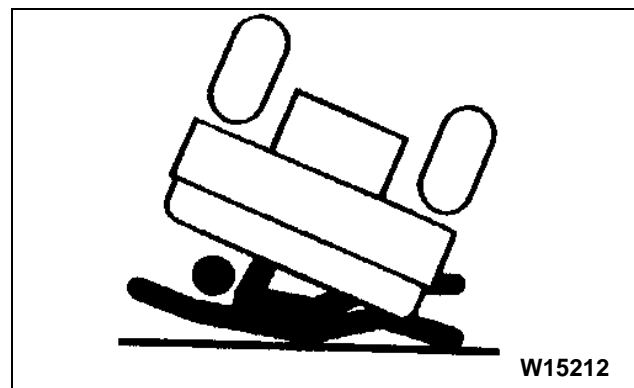
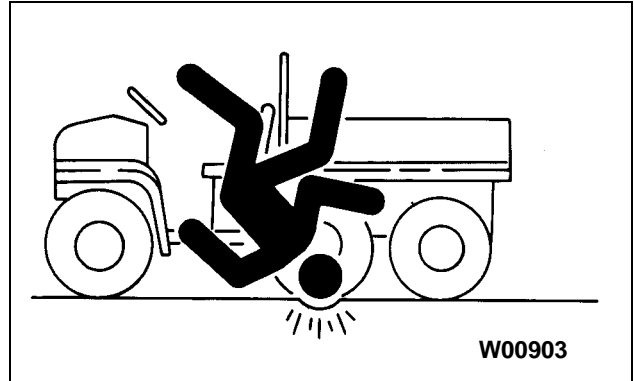
## Check Wheel Bolts

**IMPORTANT:** Overtightening of front wheel hub mounting bolts may result in bearing damage.

- A serious accident could occur causing serious injury if wheel bolts are not tight.
- Check wheel bolt tightness after first 10 hours of vehicle operation and every 200 hours thereafter.

**Picture Note:** Tighten in order of letters on photo.

- Tighten front wheel bolts to 90 N•m (65 lb-ft.).
- Tighten bolts on the drive wheels to 90 N•m (65 lb-ft.)



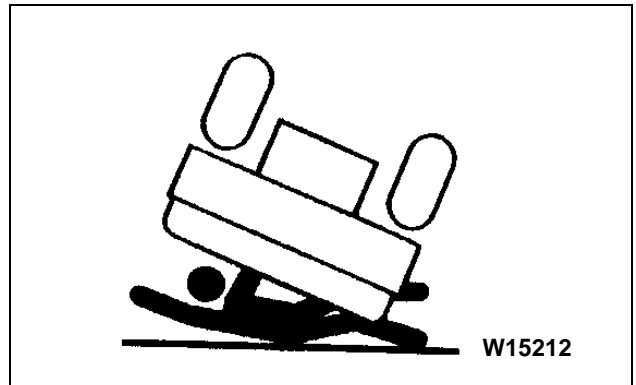
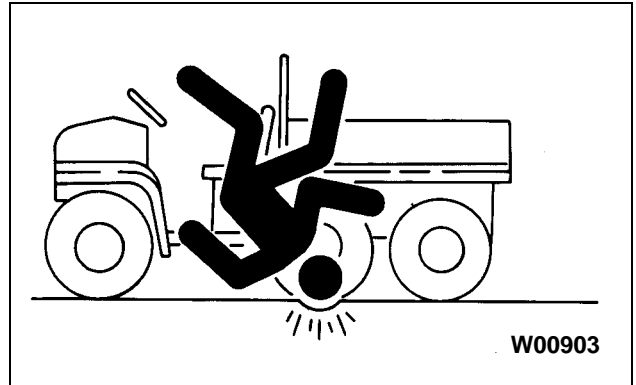
# OPERATING MACHINE

## Climbing Or Descending A Hill



**CAUTION:** Help prevent severe bodily injury or death due to loss of control. Reduce load when operating over rough terrain. Due to belt drive there is minimal engine braking effect, utility vehicle will freewheel going down slopes. Reduce speed when turning or when operating around obstacles or on rough ground.

- Always use the brakes when going down slopes. The utility vehicle can speedup (freewheel) going down a slope. When carrying a load, be sure they are loaded evenly and secured. Braking could shift the load and affect vehicle stability. Due to belt drive, engine and/or clutch braking effect is minimal.
- 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, apply 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.
- Use of a helmet and/or protective gear is recommended for certain operating conditions.



# OPERATING MACHINE

## Driving Across Slopes

**CAUTION:** Help prevent severe bodily injury or death due to tipping or loss of control. Reduce speed and exercise extreme caution on slopes and in sharp turns. Be especially cautious when changing direction on slopes.

- Sit on center of seat and keep both feet within foot platform perimeter.
- Stay alert for holes, rocks and other hidden hazards in the terrain.
- When riding on soft terrain, turn front wheels slightly uphill to keep utility vehicle on a straight line across the hill.
- If utility vehicle begins to tip, turn front wheel downhill to gain control before proceeding.
- Use of a helmet or protective gear is recommended for certain operating conditions.

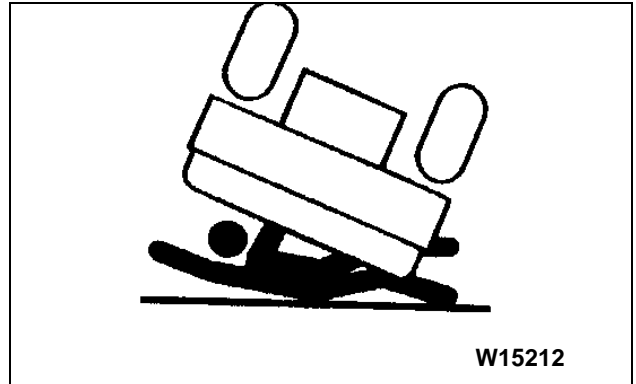
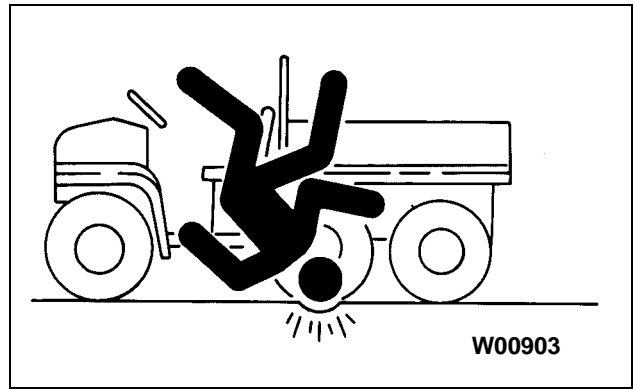
## Riding Through Water

**CAUTION:** Help prevent severe bodily injury or death due to loss of vehicle control.

- Avoid water whenever possible. If drive belt becomes wet, slippage will occur and vehicle will lose power
- Sit on center of seat and keep both feet within foot platform perimeter.
- Reduce speed while driving through water.

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.

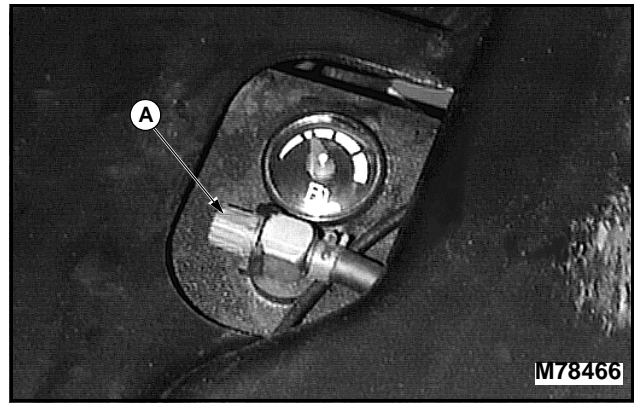


# OPERATING MACHINE

## Using Fuel Shut-Off Valve

1. Lift and tip operator seat forward.
2. Turn knob (A) to shut OFF or turn ON fuel flow. Arrow on knob should face upward for fuel flow to be ON.

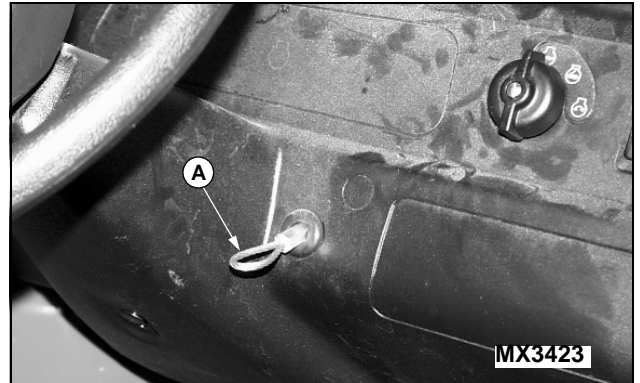
**NOTE:** *The fuel shut-off valve should be closed if the vehicle is to be transported or placed in extended storage.*



## Using Steering Wheel Lock Cable

**NOTE:** *This steering wheel lock cable helps prevent vehicle theft.*

1. Pull cable (A) out of its storage hole.



2. Loop cable around steering wheel.
3. Padlock cable to steering wheel.



# OPERATING MACHINE

## Operating Brake and Accelerator Pedals

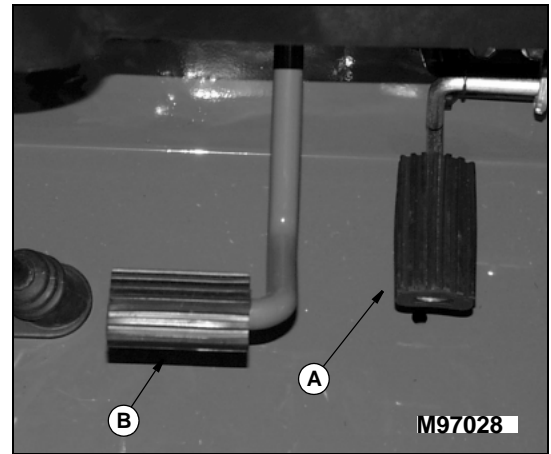
**CAUTION:** Help prevent bodily injury due to loss of control, load shifting and/or tipping. Reduce speed before braking, when turning, when hauling loads at higher speeds, when operating around obstacles, and when operating on any hazardous off-road conditions.

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

Avoid hard braking applications.

Push down accelerator slowly and smoothly.

Before braking remove foot from the accelerator pedal.



## Using Park Brake

**NOTE:** Applying foot brake pedal while engaging and disengaging park brake decreases effort required to pull or push park brake lever.

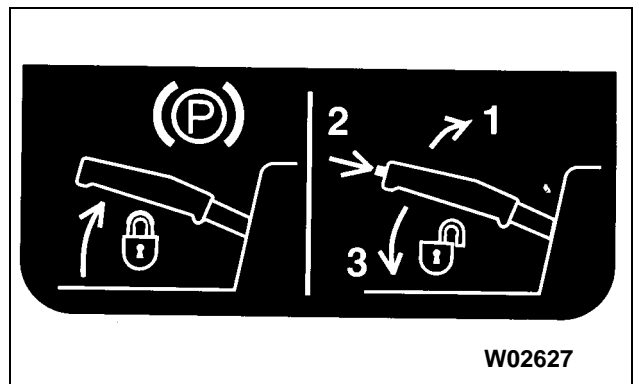
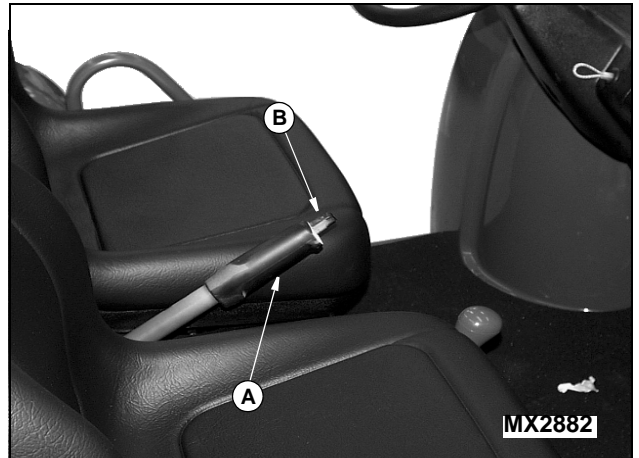
**To ENGAGE park brake:**

- Pull up lever (A) and latch into position.

**To DISENGAGE park brake:**

- Pull up on lever (A).
- Depress button (B).
- Push lever (A) down.

**Picture Note:** Decal located on console below park brake lever.





# OPERATING MACHINE

## Operating Differential Lock

The differential lock is used for better traction when rear wheels start to slip. Engaging the differential lock will cause all rear wheels to turn together at equal speed.

**CAUTION:** Help prevent bodily injury due to loss of steering control. Do not operate utility vehicle at speeds in excess of 16 km/h (10 mph) or attempt to turn when differential lock is engaged.

**IMPORTANT:** Avoid transaxle damage. Do not attempt to engage or disengage differential lock at high speeds. Lock pins will not engage, and damage will occur to transaxle and/or linkage.

For differential lock to engage, the left and right side wheels must be turning at slightly different speeds.

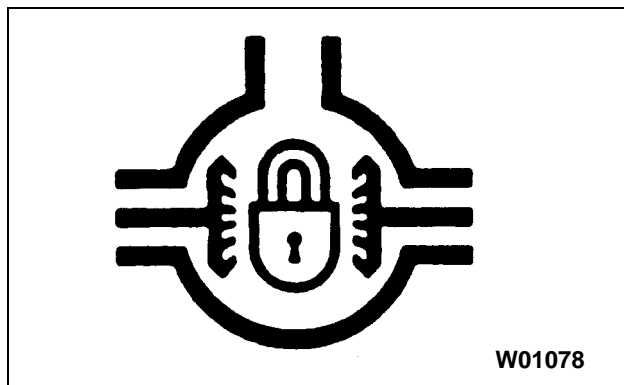
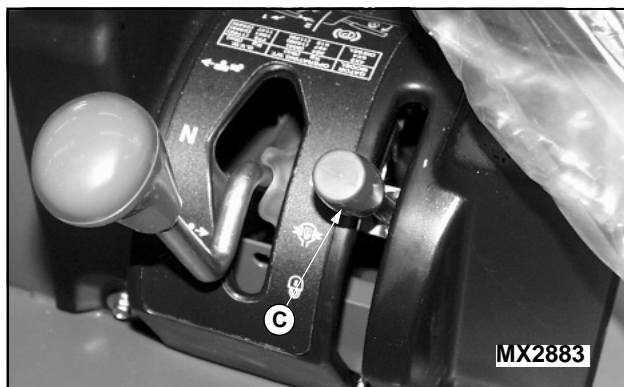
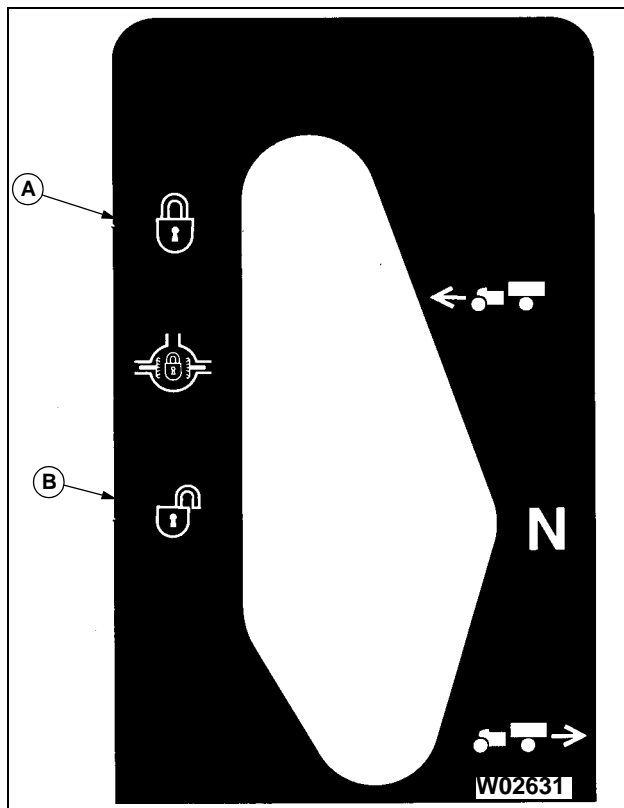
Lever positions are, DISENGAGED (B) and ENGAGED (A).

To engage differential lock:

**IMPORTANT:** For differential lock to engage, the opposing wheel(s) must be turning slightly faster than opposite wheel(s).

- Stop or slow utility vehicle engine speed to 1/3 throttle or less.
- Push down on lever (C), differential lock will remain engaged as long as lever is down. Function indicator panel light on dash will come "ON".
- To disengage differential lock raise lever (C). Function indicator panel light on dash will go "OFF".

**NOTE:** Panel light only tells you when lever is in "ON" or "OFF" position. To actually disengage the differential lock, equalize torque on both axles. Drive vehicle straight ahead at constant speed or stop and reverse machine. This information is described in the video tape supplied with machine.



# OPERATING MACHINE

## Using Transaxle Shift Lever

**IMPORTANT: DO NOT** shift gears when utility vehicle is moving or with engine running above low idle speed. Damage to transaxle will occur. Avoid grinding of gears. Always engage shift lever with a firm positive action.

Avoid grinding gears:

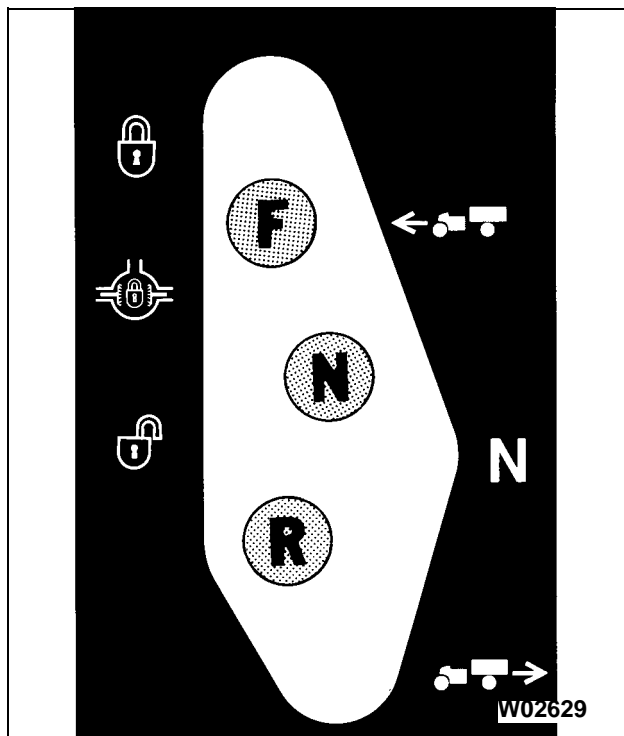
- Wait until the engine comes to low idle speed before shifting.
- Always come to a complete stop before shifting.
- DO NOT race engine in neutral and then shift vehicle into gear.

Shift lever (A) is located on a console to the right and below the operator seat. There are three positions:

**FORWARD:** Push shift lever forward.

**NEUTRAL:** Move lever to middle position.

**REVERSE:** Pull shift lever to right, then pull rearward.



## Adjusting Seats

1. Lift and tip vehicle seat forward.

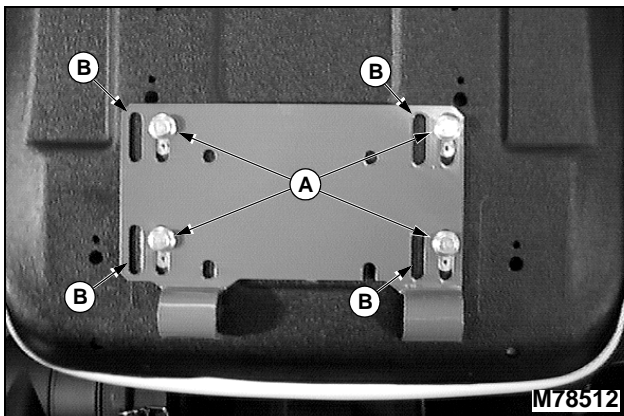
**NOTE:** The back of the seat will hit the front of the fender. Use care when adjusting.

2. Loosen hardware (A).
3. Slide seat forward or backward to desired position.

**NOTE:** Left rear bolt position on passenger seat is intentionally left open, no bolt.

4. Tighten hardware.

**NOTE:** Lateral seat movement can be accomplished by removing seat hardware and moving seat to the other slotted seat position (B).

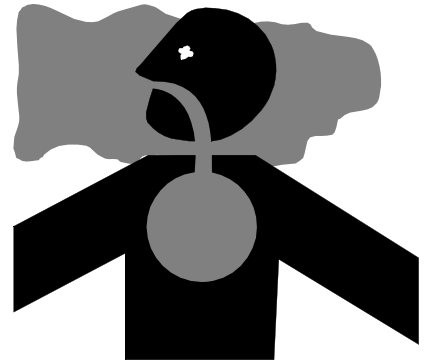




# OPERATING MACHINE

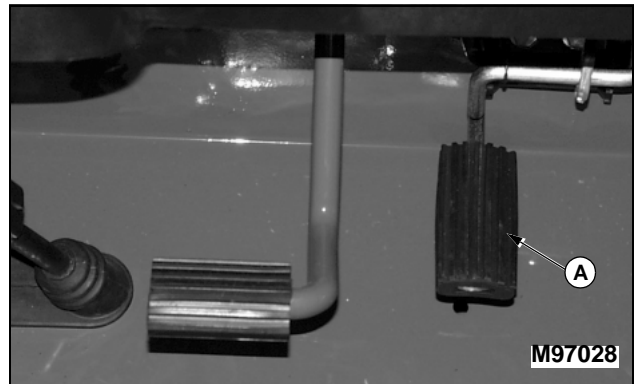
## Starting the Engine

**CAUTION:** Exhaust fumes can cause sickness or death. Help prevent personal injury or death, if it is necessary to run the engine in an enclosed area, remove fumes with exhaust pipe extension or powered ventilation system designed for this purpose. If an extension is not used, open doors to provide ventilation.

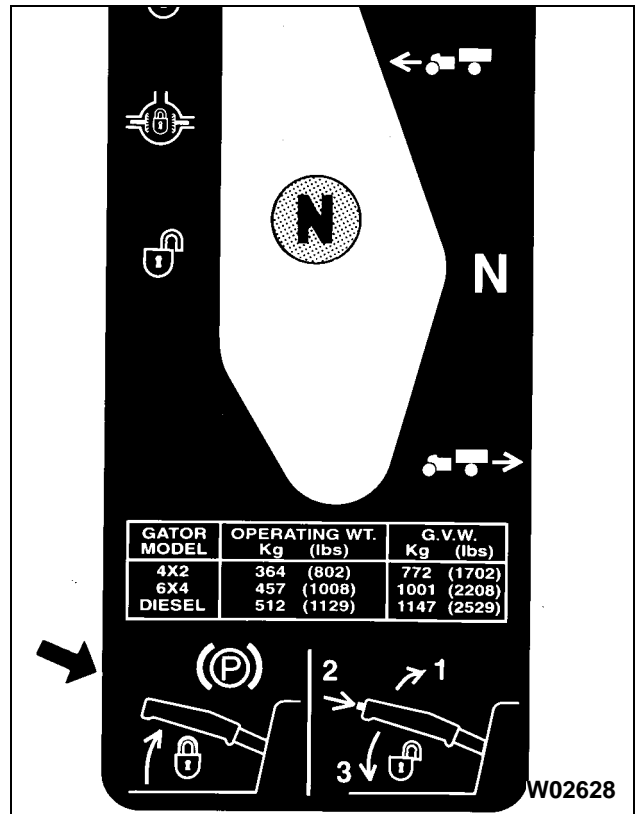


1. Sit on vehicle operator's seat. DO NOT start engine at this time.
2. Push down on accelerator pedal (A) to check for free movement of pedal assembly. Release pedal.
3. Engage park brake if vehicle is parked on an incline.

**NOTE:** Your utility vehicle has a neutral start safety switch. Engine will not start unless transaxle shift lever is in N (Neutral) position.



4. Move gear shift lever to N (Neutral) position.



# OPERATING MACHINE

5. Engage parking brake by pulling UP on handle (B).

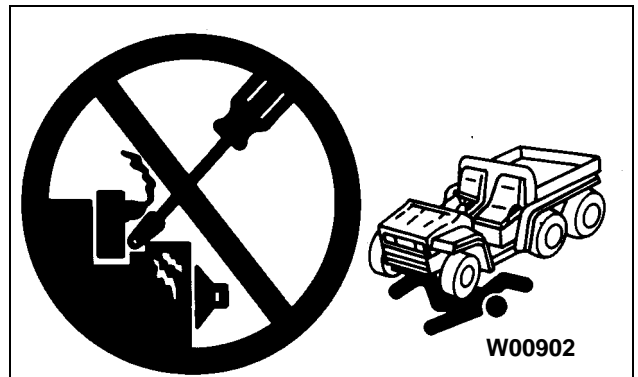
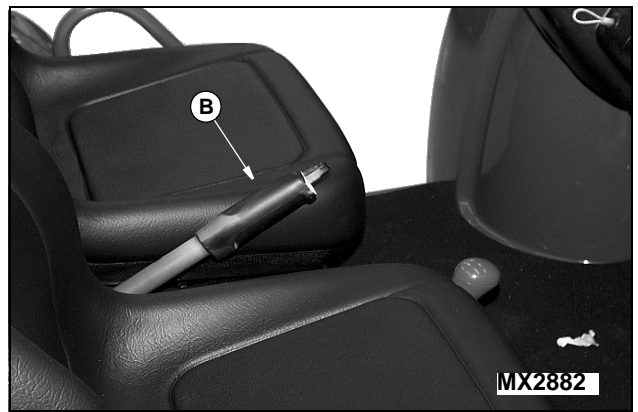


**CAUTION:** Help prevent possible injury or death. Remain alert to other people and the surroundings when choosing an area for vehicle operation.

When accelerator pedal is depressed, vehicle will begin to move. Direction of travel will be determined by the position of the transaxle shift lever.

**DO NOT** start engine by shorting across starter terminals. Vehicle will start in gear if normal circuitry is by-passed.

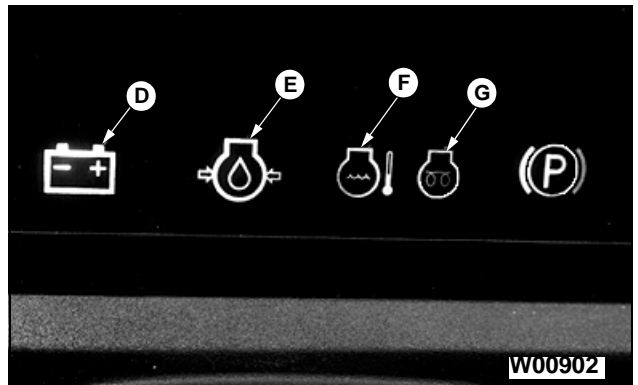
**Never start engine while standing on ground. Start engine only from operator's seat.**



6. Turn ignition switch to the RUN position (C).

The following indicator lights will be ON:

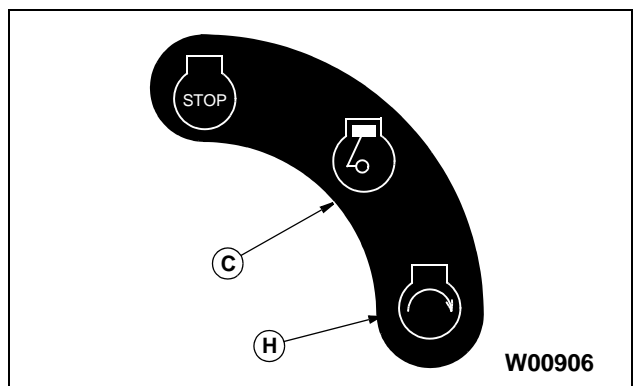
- Battery discharge indicator (D).
- Oil pressure indicator (E).
- Coolant temperature indicator (F).
- Engine preheat indicator (G); will come ON for up to 8 seconds. Length of time ON varies with air temperature.



**IMPORTANT:** DO NOT operate vehicle starter more than 5 seconds at a time or damage may occur. If engine will not start, wait 10 seconds before trying again. If engine starting problems persist, refer to the Troubleshooting section.

7. As soon as coolant temperature and preheat indicators go out, turn the ignition switch to START position (H).

- If engine starts, release switch to the RUN position.
- If engine does not start within 5 seconds, turn the ignition switch to OFF and wait 10 seconds before trying to start again.
- In very cold conditions, attempt starting only three times and then wait 5 minutes before trying to start again. This will allow time for starter to cool and prevent damage to starter.



# OPERATING MACHINE

## Warming and Idling the Engine

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

### Warming Engine

Run engine at half speed for 2 or 3 minutes.

### Idling Engine

1. Avoid unnecessary slow idling. Instead, stop engine.

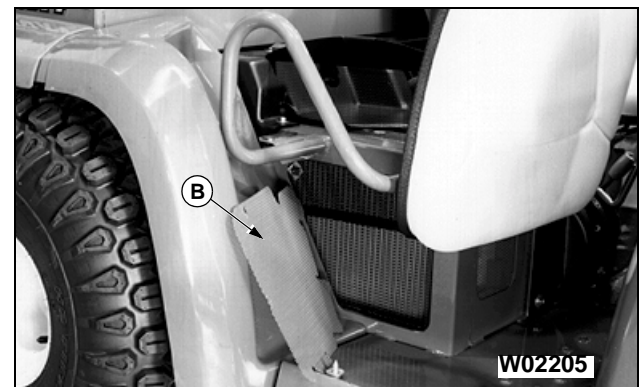
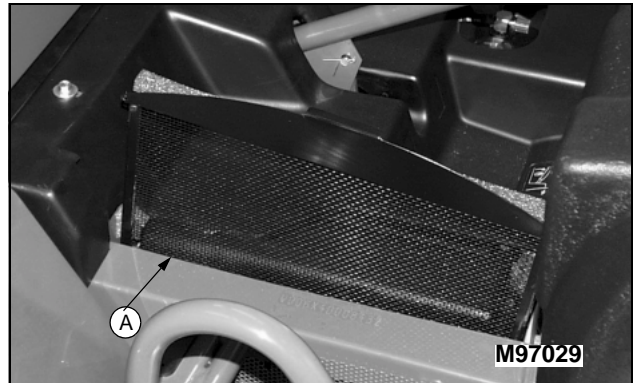
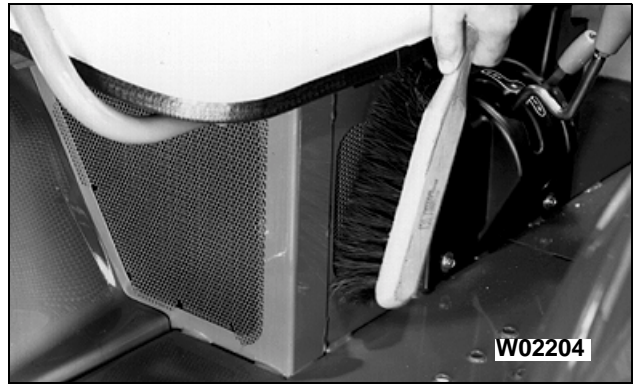


**CAUTION:** To help prevent injury due to entanglement in fan, stop engine before cleaning screens. Fan can run even if engine is off.

2. Keep engine compartment clean. Be sure radiator screens remain installed and clean. The engine in the utility vehicle needs large volumes of air to keep cool.

3. Pull up radiator screen (A) for easy cleaning.

4. Remove outside screens (B) to access front of radiator for complete cleaning.

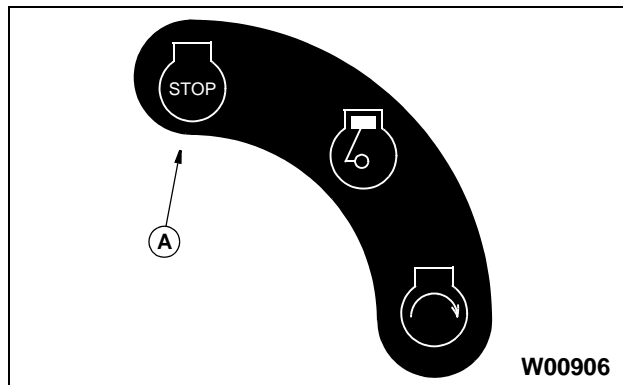


# OPERATING MACHINE

## Stopping Engine

**IMPORTANT:** If engine has been running hard and is hot, **DO NOT** stop engine immediately. Remove load from engine. Run engine at 1/3 to 1/2 throttle for several minutes to cool engine.

1. Release accelerator pedal and allow engine to slow idle.
2. Move gear shift lever to N (Neutral) position.
3. Engage parking brake.
4. Turn the ignition switch to the STOP position (A).



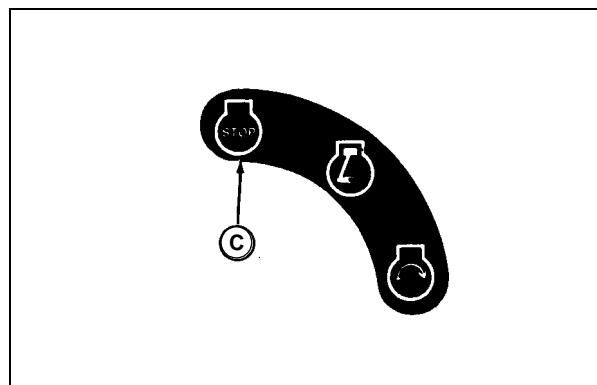
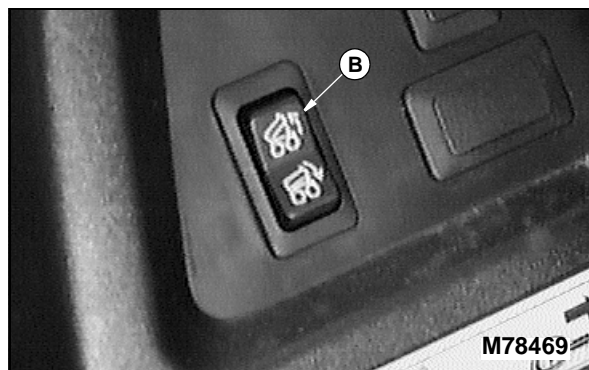
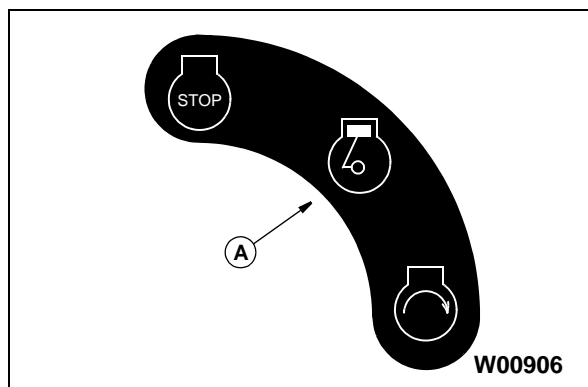
## Raising and Lowering Cargo Box Using Power Lift

1. Turn the ignition switch to RUN position (A).

2. Raise cargo box by pushing in on top of rocker switch (B).

**NOTE:** The noise that is heard when the power lift reaches the end of its stroke, or when lift capacity is exceeded, is the actuator's clutch slipping. Keep clutch slip to a minimum. Do not overload vehicle capacity.

3. Lower cargo box by pushing in on bottom of rocker switch (B).
4. Turn the ignition switch to STOP position (C).



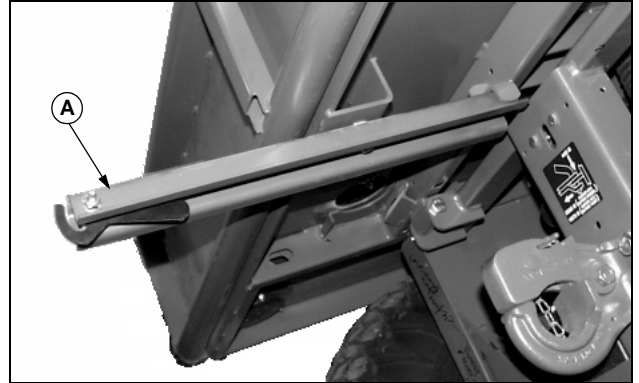
# OPERATING MACHINE

## Operating the Tailgate

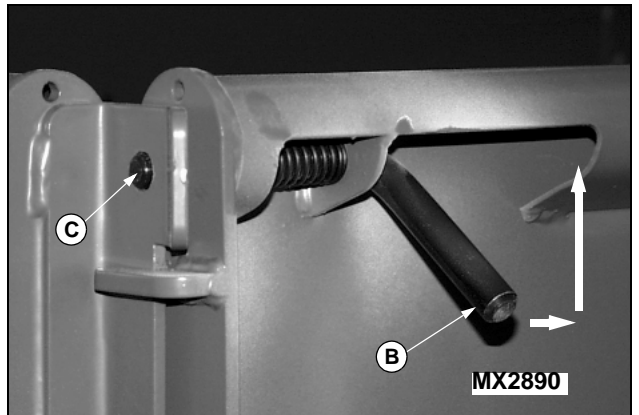
### Lower Tailgate Using Tailgate Support

**NOTE:** Use the tailgate support to carry a longer load with tailgate down.

1. Pull tailgate support arm (A) out from under cargo box.



2. Pull latch rod handles (B) up and towards center of tailgate at the same time to release tailgate latches from holes (C) in side panel.

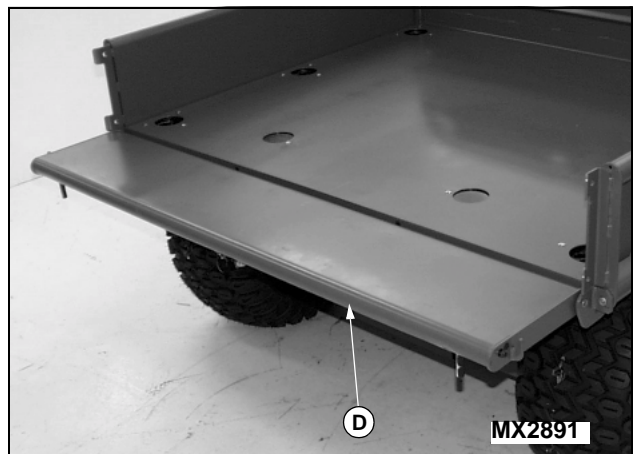


3. Lower tailgate (D) until resting on tailgate support arm. Latch hook/arm into tailgate.

4. Pull up tailgate to close and snap latch rods back into side panel holes at the same time.

5. Push tailgate support arm back under cargo box.

6. Push rod handles down to avoid snagging on clothing.

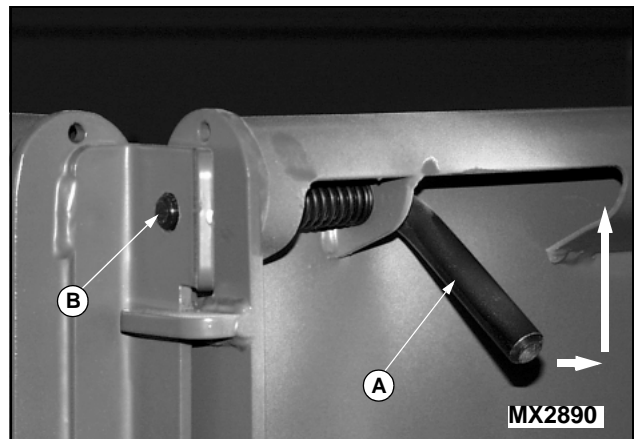




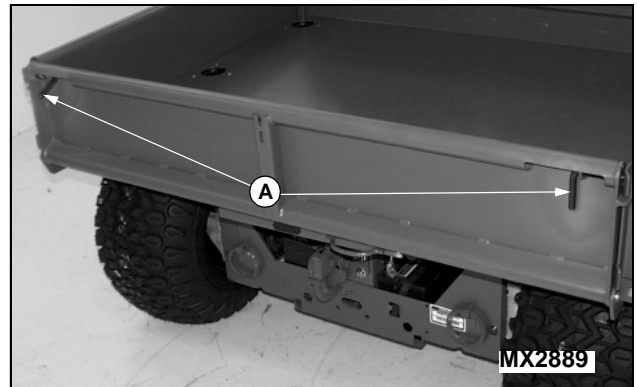
# OPERATING MACHINE

## Lower Tailgate Without Tailgate Support

1. Pull latch rod handle (A) up and in to release tailgate latch and remove end of rod (B) from hole in side panel.



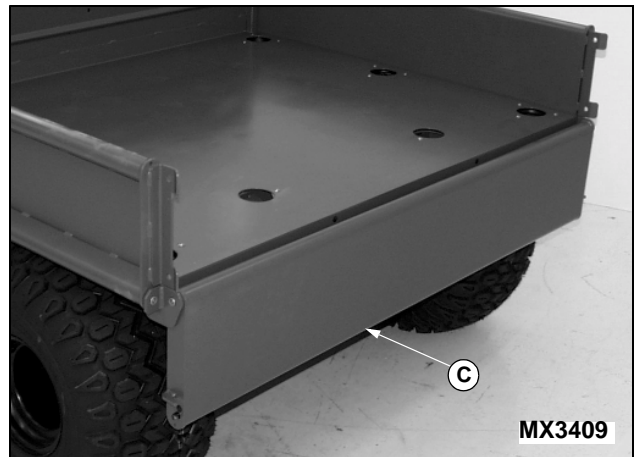
2. Pull latch rod handles (A) up and in towards center of tailgate at the same time to release tailgate latches from holes (B) in cargo box.



3. Lower tailgate (C).

4. Pull up tailgate to close and snap latch rod handles back into holes at the same time.

5. Push rod handles down to avoid snagging on clothing.



## OPERATING MACHINE

### Latching the Tailgate to the Tailgate Support Arm

**NOTE:** The support arm has a latch handle (A) that will hold the lowered tailgate firmly to the support arm (B).

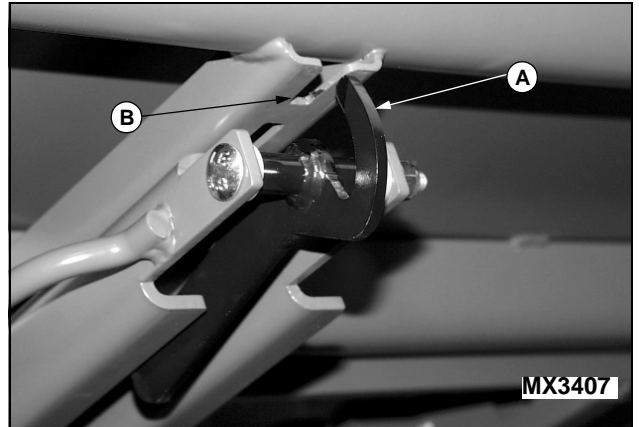
1. Pull the tailgate support arm out from under the cargo box.

2. Lower tailgate to support arm.

3. Pull up on the latch handle (A) until it connects into slot of support arm.

4. Release tailgate, push in on handle (A) and return support arm to the stored position under the cargo box.

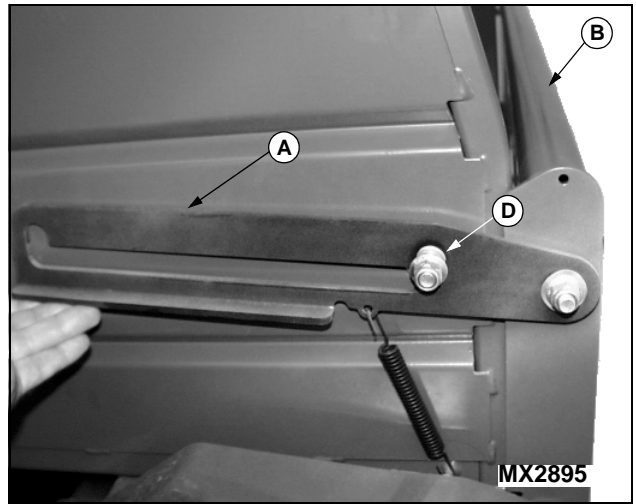
5. Close cargo box and be sure the latch rods snap securely into the holes in the side panels.



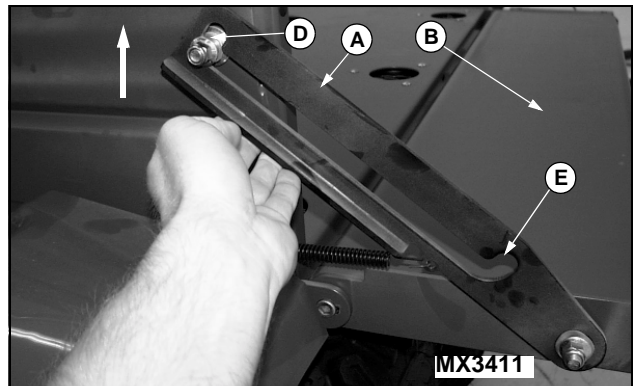
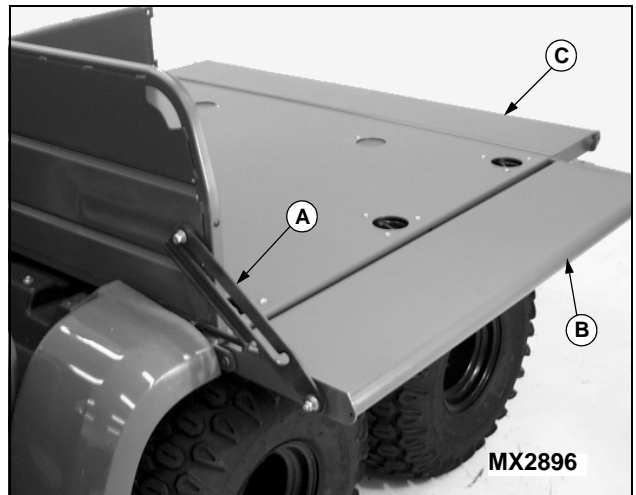
# OPERATING MACHINE

## Lowering Cargo Box Side Panels

1. Lower the tailgate onto the tailgate support arm.
2. Lift latch (A) at the front of cargo box to disengage latch pin (D) and pull on the side panel (B) to lower.



3. Raise side panel, lift latch (A) and raise panel (B) until the lower detent (E) in the latch engages latch pin (D).
4. Pull up tailgate (C) to close and snap latch rods back into holes at the same time.
5. Push rod handles down to avoid snagging on clothing.





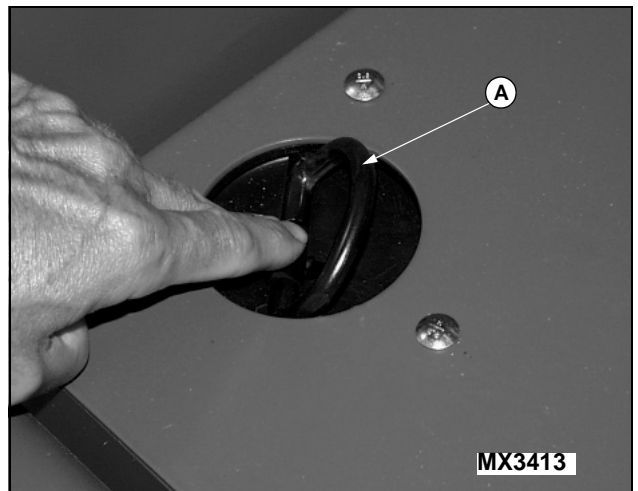
# OPERATING MACHINE

## Using Cargo Box Tie-down Rings

1. Place your finger on the flat of the tie-down ring and push to access the ring loop (A).

**IMPORTANT: To avoid damage to side panels and tailgate, place bulk of load over the main cargo box area (B). Do not overload tailgate or side panels.**

2. Arrange load so that the weight is centered over the main cargo area (B).
3. Secure loads to the tie-down rings in a safe and secure manner.



# OPERATING MACHINE

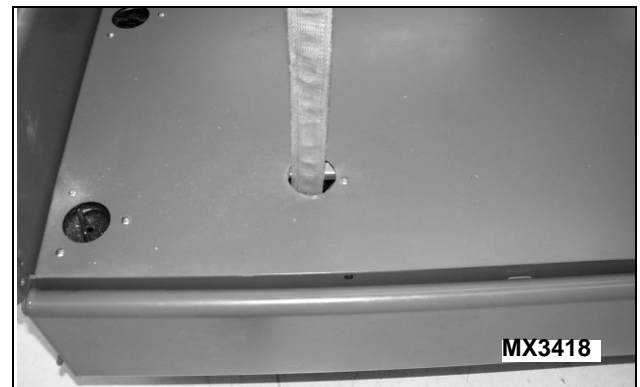
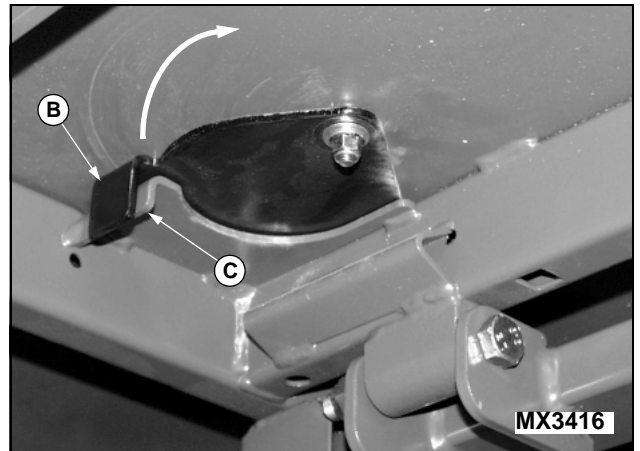
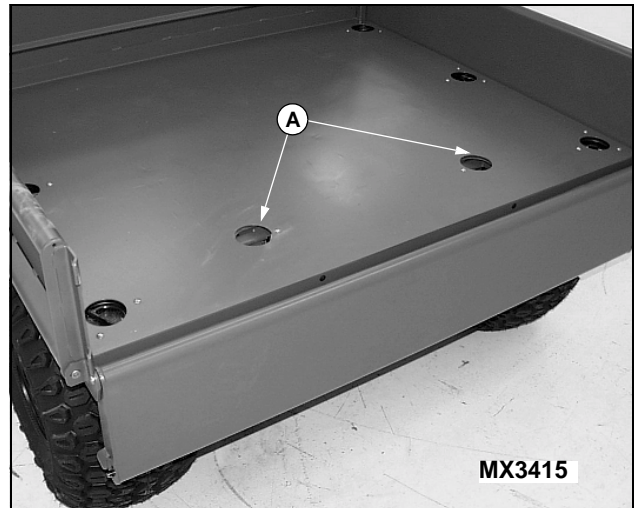
## Using Sling Load Portal® Rings

**NOTE:** The Sling Load Portals (A) located to the rear of the cargo box allow access to the rear lift rings.

**NOTE:** There is a gap between the tab (B) and the frame stop (C). If necessary pry open the Sling Load Portal in the case of a tight condition.

1. Reach under edge of cargo box to the tab (B) of the Sling Load Portal and swing open.

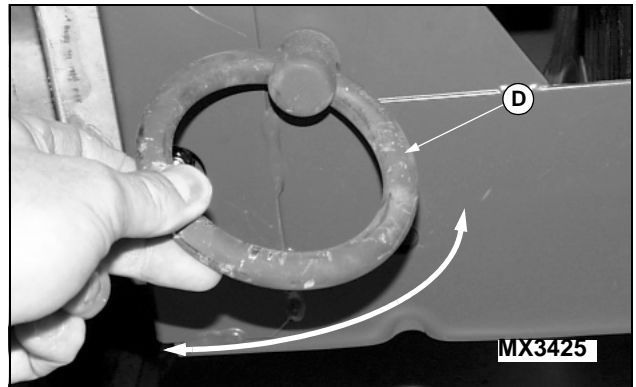
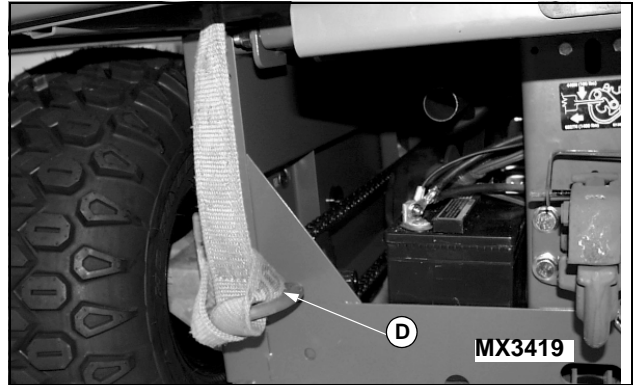
2. Place an approved lifting device through the Sling Load Portal in the cargo box.



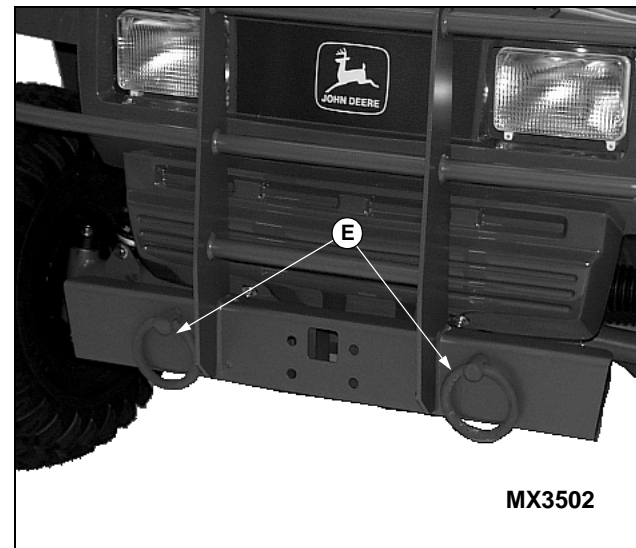
# OPERATING MACHINE

**NOTE:** Rings on the four corners of the vehicle are for lifting or tiedown. Rings (D) must be free to rotate.

3. If not free to rotate, loosen nut until the rings are free.
4. Secure the lifting device to the lifting ring (D).



5. There are two lifting rings (E) on the front of the vehicle also.



# OPERATING MACHINE

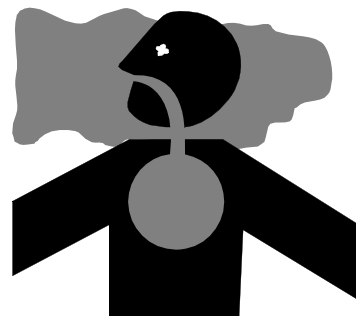
## Daily Operating Checklist

- Test Safety Systems
- Check Tire Pressure
- Check Fuel Level
- Check Engine Oil Level
- Clean Radiator Screens
- Check Coolant Level
- Check Air Restriction Indicator
- Remove Debris From Vehicle Platform

## Checking the Safety Start System



**CAUTION:** Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes for the area with an exhaust pipe extension. If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

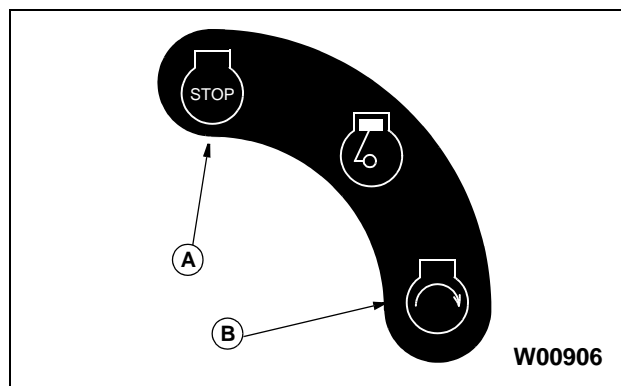


Use the following checkout procedure to check for normal operation of utility vehicle.

If there is a malfunction during one of these procedures, DO NOT operate vehicle. (See your John Deere dealer for service.)

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

1. Sit on the operator seat.
2. Place ignition switch in the STOP position (A).
3. Engage park brake.
4. Move transaxle shift lever into the F (Forward) position.
5. Move ignition switch to the START position (B). Engine should NOT crank. Turn ignition switch OFF.
6. Move transaxle shift lever out of F (Forward) into the R (Reverse) position.
7. Move ignition switch to the START position. Engine should NOT crank. Turn ignition switch OFF.



# OPERATING MACHINE

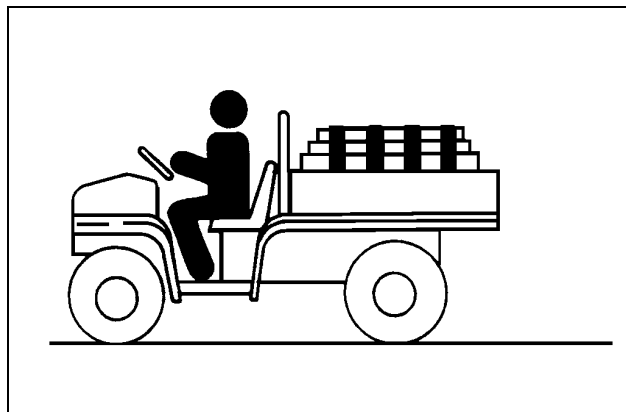
## Carrying and Distributing a Load

**CAUTION:** Help prevent bodily injury from loose or shifting loads. Keep all shields in place. Be sure load guard is properly installed. Help prevent bodily injury from loss of control due to overloading or uneven loading.

Reduce load and ground speed when operating over rough or hilly terrain.

DO NOT overload utility vehicle. Limit loads to those that can be safely controlled.

- On level terrain, maximum cargo box payload capacity for the M-GATOR is 450 kg (1000 lb.).
- When loading objects into utility vehicle, be sure load is securely anchored and evenly distributed in cargo box. Shifting loads will affect stability.
- Avoid concentrated loads at rear or side of cargo box to prevent vehicle from tipping over.
- DO NOT carry loads above height of load guard.



## Avoid Overloading

**CAUTION:** To help prevent bodily injury from loads shifting forward, DO NOT load above height of load guard.

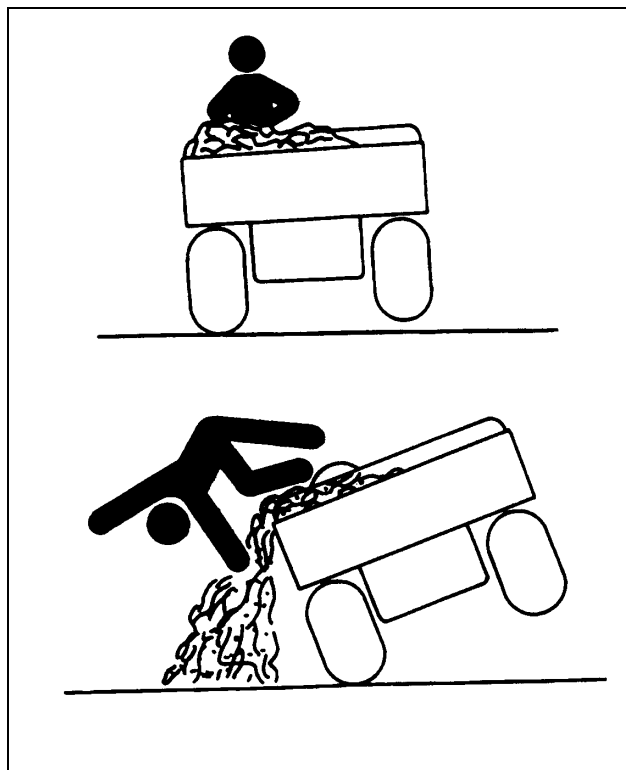
Payload is more than just pounds carried, load density is more important for judging load. An example of load densities and volumes is listed using sand as a material.

**NOTE:** *Because of the 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 weigh scale.*

“DRY” sand weighing 450 kg (1000 lb) would be approximately 3/4 of cargo box volume.

For other materials such as those that are bagged, weight is normally printed on bag.

Load carrying capacity of vehicle for example is 450 kg (1000 lb). Ten bags of material weighing 45.0 kg (100 lb) would be a full load.



# OPERATING MACHINE

## Dumping a Load

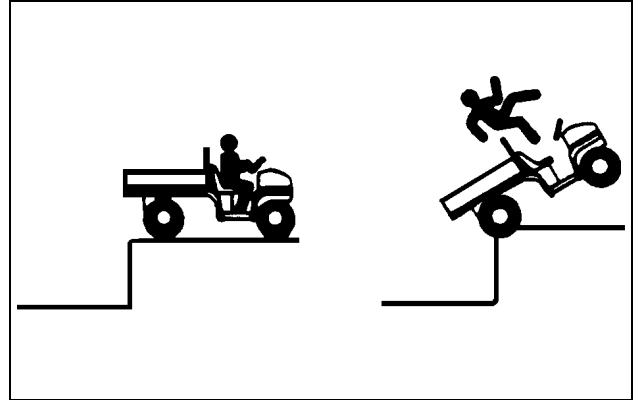


**CAUTION:** Help prevent personal injury or death when dumping loads, **DO NOT** allow rear wheels to hang over the edge of a loading dock or ravine. This would place weight of load in the cargo box over center and vehicle could tip over backwards.

1. Reverse vehicle to area where load is desired.
2. Engage parking brake and release tailgate latches.

**NOTE:** *If you notice a clicking noise or ratcheting while trying to lift load, shut-off power lift immediately. Load is too heavy for power lift, remove some of load by hand.*

3. Raise cargo box.
4. After load is dumped, lower cargo box, and latch tailgate closed. **DO NOT** drive machine with cargo box in raised position.



# OPERATING MACHINE

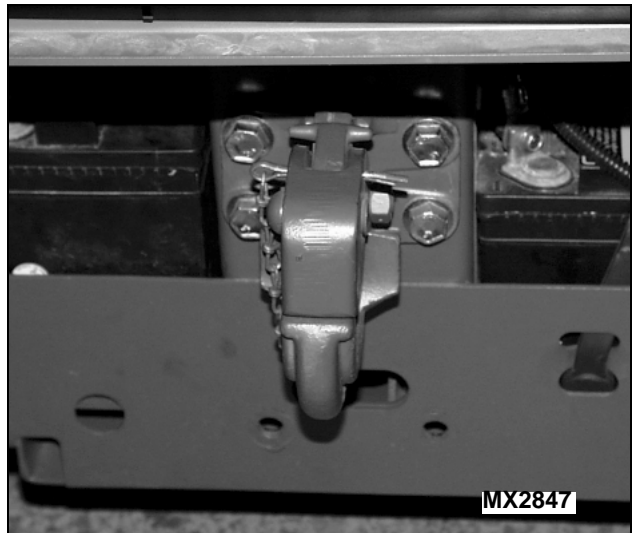
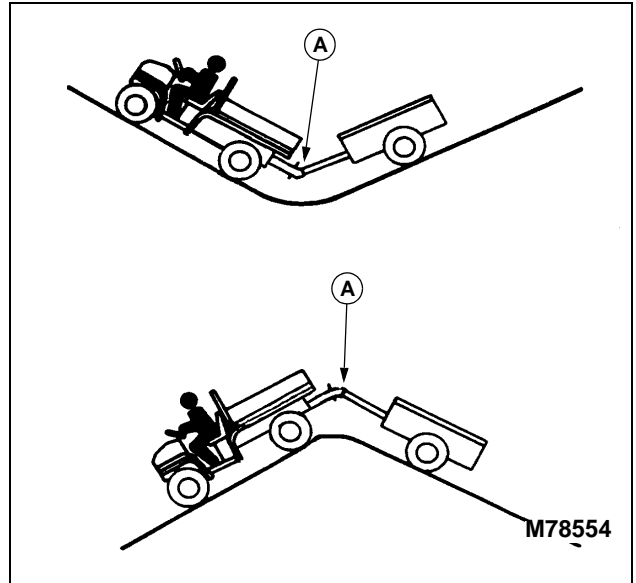
## Towing Loads

**CAUTION:** To help prevent personal injury due to loss of control or tipping, always tow a load slowly enough to maintain control. To provide adequate braking ability and traction do not tow a load unless utility vehicle cargo box is loaded.

1. To provide adequate braking ability and traction, do not tow a load unless utility vehicle cargo box is loaded.
2. DO NOT tow a load that exceeds the following:
  - Do not tow a load that exceeds 635 kg (1400 lb).
  - Do not exceed tongue weight of 45 kg (100 lb).
3. Never exceed 16 km/h (10 m.p.h.) when towing a load. Tow load at a speed slow enough to maintain control.

**IMPORTANT:** Extreme angles such as high railroad crossings can place high bending loads on hitch connection (A). If traversing terrain where these conditions exist, use of a ball or pintle type hitch is recommended.

4. Always use hitch point provided on, and hitches approved for the utility vehicle. They are the approved hitch point and hitches. DO NOT modify in any way.





# OPERATING MACHINE

## Transporting Utility Vehicle

**CAUTION:** To help prevent the possibility of fire from fuel leakage, turn fuel shut-off valve off before transporting vehicle.

**NOTE:** Vehicle is equipped with two shut-off valves.

Turn fuel shut-off valve (A) to "OFF" position (arrow down) during transport.

Fuel flow can also be shut off at the fuel filter located under the cargo box. Turn lever (B) to "C" position to stop or close fuel flow. Turn lever to "O" position to allow or open fuel flow.

**IMPORTANT:** Never tow the utility vehicle. Transaxle damage will occur if utility vehicle is towed. Haul the utility vehicle on a trailer or on a truck.

Do not tow utility vehicle behind any other vehicle.

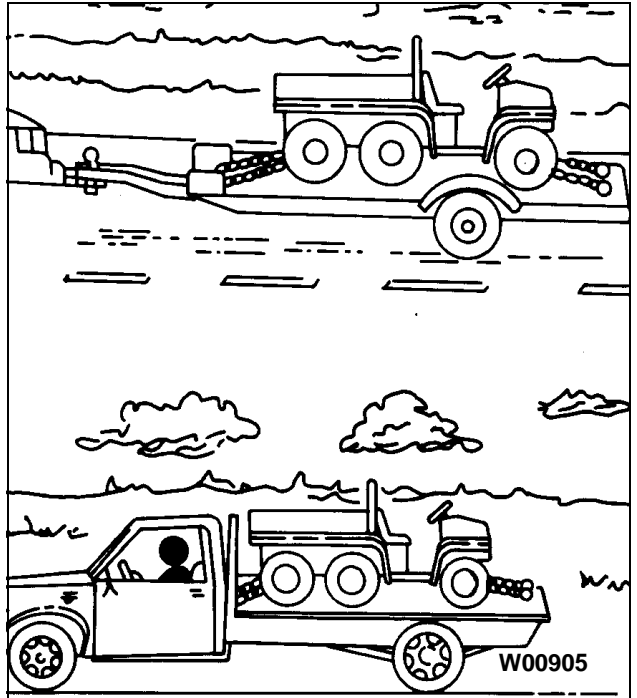
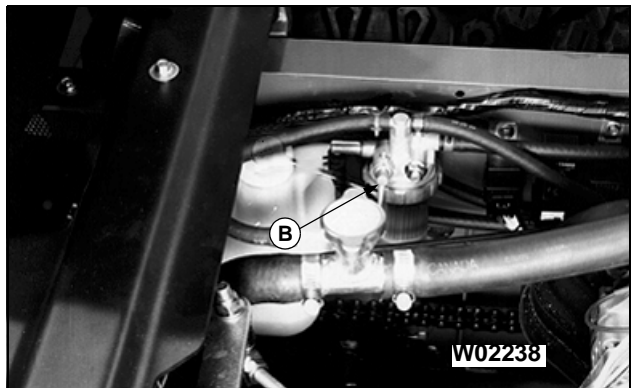
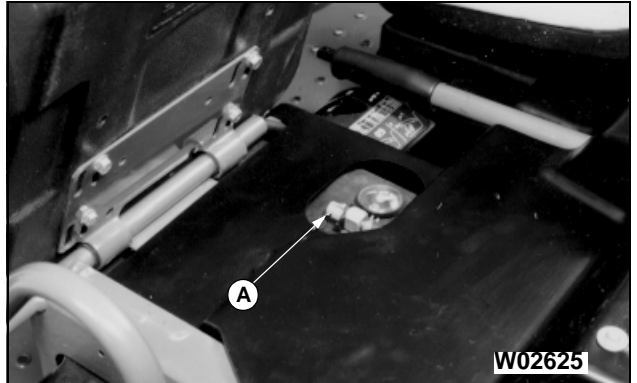
**NOTE:** Space limitations may vary from one truck manufacturer to another. Short bed trucks do not have the necessary length requirement to accommodate the utility vehicle. Vehicle width to outside of tires is 1545 mm (61 in.).

Use a heavy-duty trailer, full size pickup, or truck to haul your utility vehicle.

Engage parking brake.

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

Be sure trailer or truck has all the necessary lights and signs required by local, state, provincial, or federal laws.

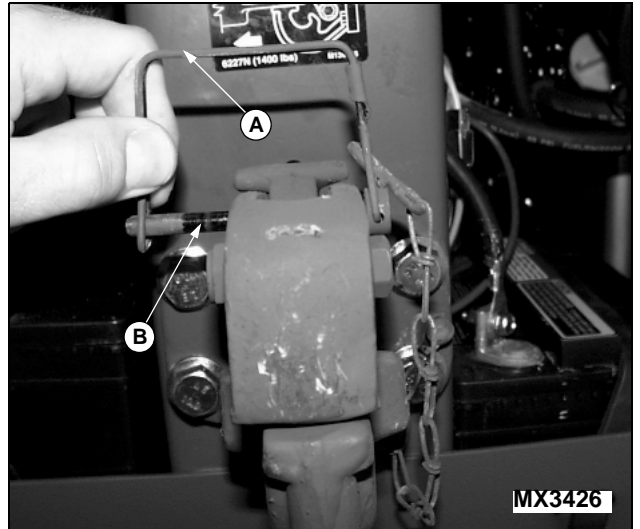




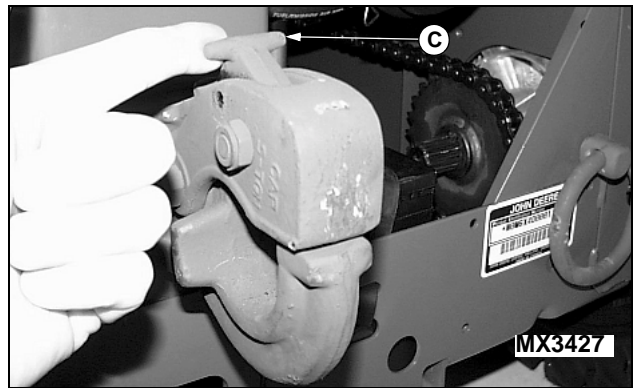
# OPERATING MACHINE

## Using Pintle Hitch

1. Remove wire lock (A) from lock pin (B) and remove lock pin.

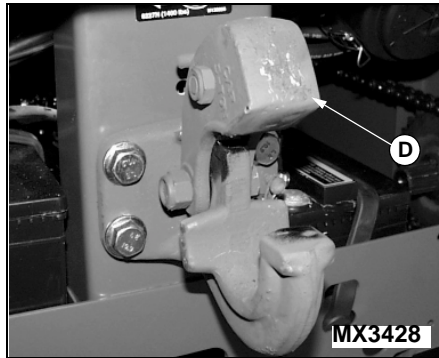


2. Pull the hitch lock (C) forward.



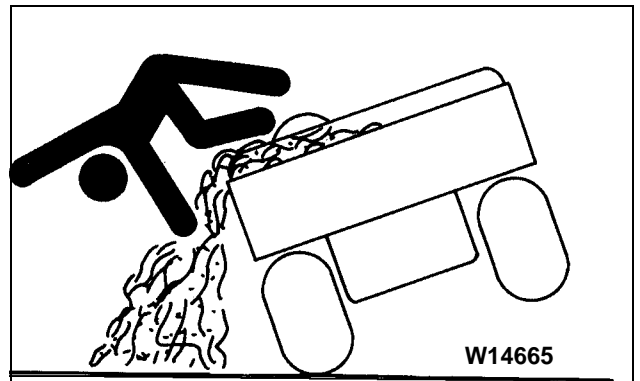
3. Open pintle hitch jaw (D).

4. To lock hitch, install lock pin and wire lock.



## Transport Loads Safely

- Be sure load is evenly distributed.
- Do not load above load guard.
- Securely anchor all loads in cargo box.
- On level ground, do not transport loads that exceed:
  - 450 kg (1000 lbs).
- Reduce cargo box payload when operating on rough or hilly terrain.



# REPLACEMENT PARTS

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## John Deere 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 your machine serial number. This is the number you have recorded in the **INTRODUCTION** section in the front of this manual.

ITEM	PART NUMBER
<b>Engine Oil Filter:</b>	AM107423
<b>Air Filter:</b>	
Primary Element	AM108243
Secondary Element	M94734
<b>Fuel Filter Element</b>	AM116304
<b>Drive Belt:</b>	M125383
<b>Fuses:</b>	
10 Amp	57M7121
15 Amp	99M7065
<b>Battery (12 Volt)</b>	TY6191
<b>Light Bulbs:</b>	
Headlamps	AM118013
Instrument Panel Lamps	AR62407

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

If you would like a copy of the Parts Catalog for this machine, please use the **Order Form** in the JOHN DEERE SERVICE LITERATURE SECTION.

# SERVICE MACHINE SAFELY

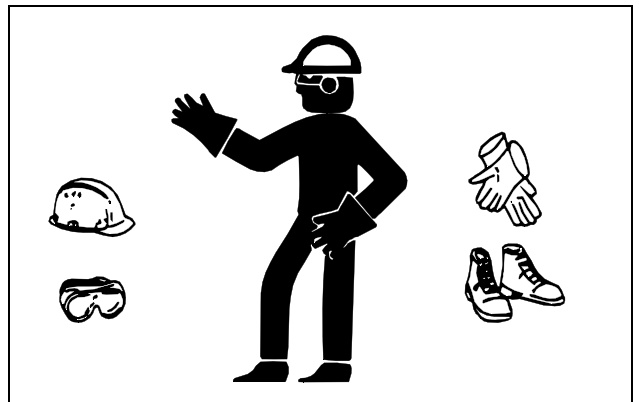
## Practice Safe Maintenance

- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate, service, or adjust vehicle while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- To prevent them from getting caught, keep hands, feet, clothing, jewelry, and long hair away from any moving parts.
- Before servicing vehicle, disengage all power and stop the engine. Engage park brake and remove the key. Let vehicle cool.
- Securely support any vehicle elements that must be raised for service work.
- 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. Remove any buildup of grease, oil, or debris.
- Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on vehicle.
- Unauthorized modifications to the vehicle may impair its function and safety.



## Wear Appropriate Clothing

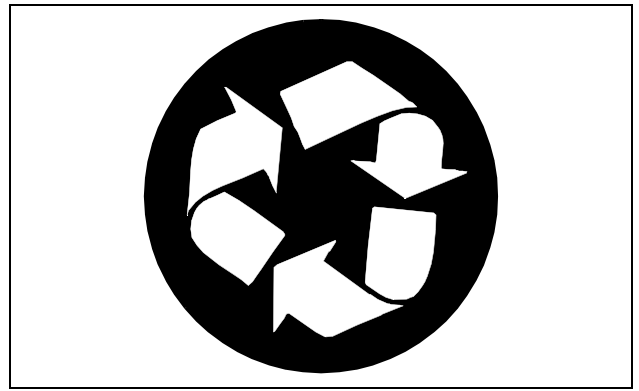
- Wear close fitting clothing and safety equipment appropriate for the job.
- Loud noise can cause impairment or loss of hearing, wear a suitable protective device such as earplugs.
- Do not wear radio or music headphones while servicing the vehicle. Safe service requires your full attention.



# SERVICE MACHINE SAFELY

## 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 John Deere 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.



## Servicing Utility Vehicle Safely

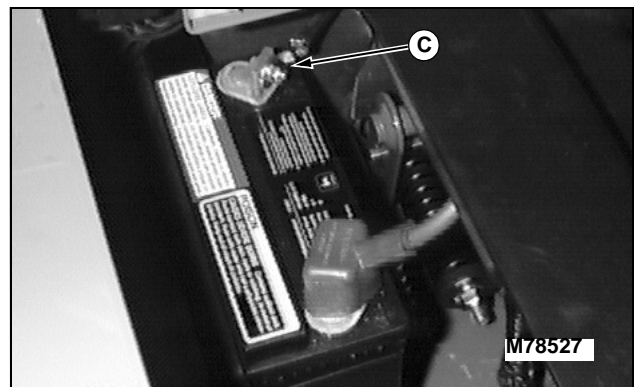


**CAUTION:** Before attempting service in engine or transaxle area, exercise all applicable precautions to help prevent bodily injury. DO NOT smoke or allow an open flame around fuel system or battery. Replace worn, damaged, or broken parts immediately.

1. Stop engine.
2. Engage park brake.
3. Raise cargo box.

**NOTE:** There are two 12 volt batteries connected in parallel.

4. Locate batteries at the rear of unit. Disconnect battery ground cable (C) that is connected to engine at the battery.



# SERVICE MACHINE SAFELY

## Service Cooling System Safely



**CAUTION:** Explosive release of fluids from pressurized cooling system can cause serious burns:

**Shut off engine. Only remove filler cap when radiator is cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.**

- **Electric cooling fan can run even if ignition switch is in stop position. Always keep hands away from fan while servicing.**

## Prevent Vehicle Runaway

Avoid possible injury or death from vehicle runaway:

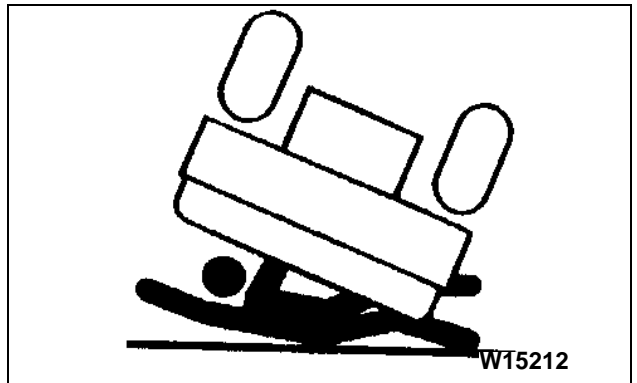
- Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is by-passed.
- **NEVER** start engine while standing on ground. Start engine only from operator's seat with park brake engaged.



## Do Not Modify Machine

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

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

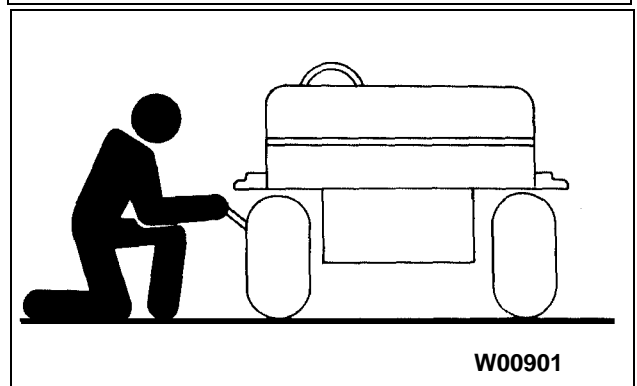


## Inspect Utility Vehicle

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.

Keep all shields in place.



# SERVICE MACHINE SAFELY

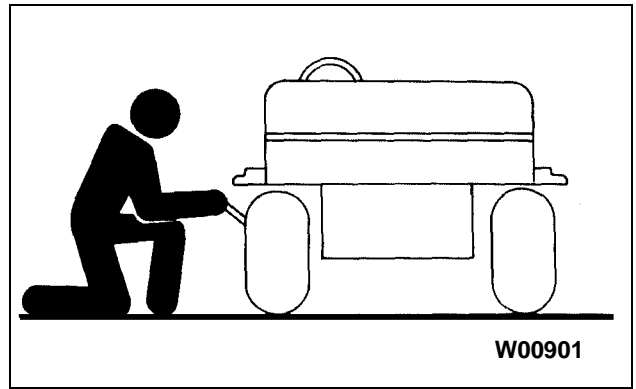
## Inflate Tires Properly

Keep heavy-duty tires inflated to 34-41 kPa (5-6 psi) and Extended Mobility Technology (EMT) tires inflated to 27-34 kPa (4-5 psi).

Heavy-Duty All Purpose tire inflation pressure can be as low as 27 kPa (4 psi) and EMT tires as low as 14 kPa (2 psi) to provide a better ride.

Improper tire inflation can affect stability and control of vehicle.

DO NOT mix sizes and/or tread types. Use of John Deere approved original or optional equipment is recommended.



## Handle Fuel Safely-Avoid Fires

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near an open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

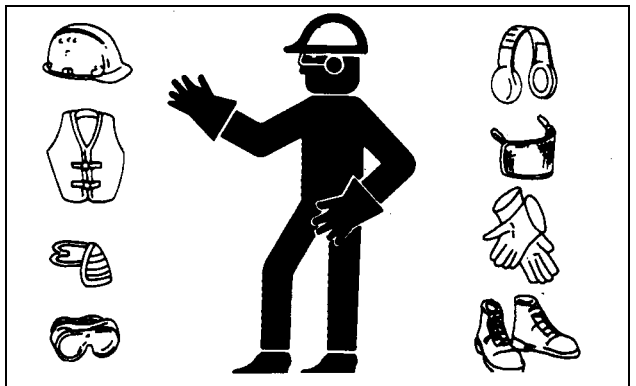


## Wear Protective Clothing

Wear close fitting clothing and safety equipment appropriate to the job.

Prolong exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.





# SERVICE INTERVAL CHART

## Service Intervals

Periodic Service	Hourly Interval						
	5	10	20	25	50	100	200
Check/tighten hardware					●		
Tighten wheel bolts and torque							●
Check tire pressure				●			
Check drive belt					●		
Check electrolyte level/Clean battery					A		
Lubricate front king pins					●		
Check wear pads on driven clutch					●		
Clean/lubricate drive clutch							●
Check transaxle oil level						●	
Check drive chain tension					●		
Change fuel filter							A
Change engine oil and oil filter							●
Check engine oil level							
Check air restriction indicator	●						
Clean rubber dust unloading valve							
Clean radiator screen and air intake					●		
Clean out debris from engine compartment				●			
Lubricate drive chain					●		
Lubricate axle couplers					●		
Check coolant level				●	●		
Change coolant				●	●		
Check fuel filter sediment bowl				●	●		
See your John Deere dealer for the following services:							
Adjust engine valve clearance							●
Change transaxle oil	500 Hours						

- KEY: ● = REQUIRED SERVICE HOUR INTERVAL (Continue repeating service intervals)  
 | = PERFORM AT INITIAL BREAK-IN (Thereafter at hour interval shown)  
 A = ANNUALLY, OR AT HOURLY INTERVAL (Whichever occurs FIRST)





# SERVICE ENGINE

## Engine Warranty Maintenance Statement

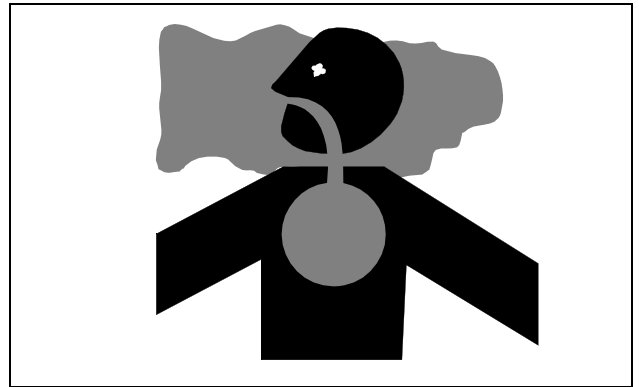
Maintenance, repair, or replacement of the emission control devices and systems on this engine, which are being done at the customer's expense, may be performed by any nonroad engine repair establishment or individual. Warranty repairs must be performed by an authorized John Deere dealer.

## Avoid Fumes



**CAUTION: Engine exhaust fumes can cause sickness or death:**

- If it is necessary to run an engine in an enclosed area, use an exhaust pipe extension to remove the fumes.
- Always try to work in a well ventilated area.



## 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:

PLUS-50<sup>®</sup> (SAE 15W-40)

TORQ-GARD SUPREME<sup>®</sup>  
(SAE 5W-30)

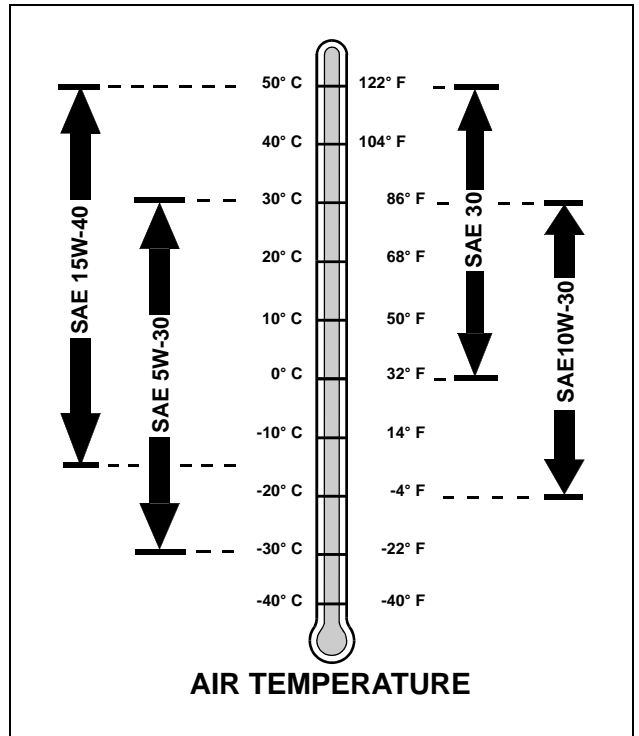
The following John Deere oils are also recommended, based on their specified temperature range:

TURF-GARD<sup>®</sup> (SAE 10W-30)

TORQ-GARD SUPREME<sup>®</sup>  
(SAE 30)

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

- SAE 10W-40—API Service Classification SG or higher
- SAE 5W-30—API Service Classification SG or higher
- SAE 10W-30—API Service Classification SG or higher
- SAE 30—API Service Classification SC or higher



# SERVICE ENGINE

## Prepare To Service Vehicle Safely

1. Stop engine and apply parking brake.
2. Raise cargo box.
3. Perform all the following services.

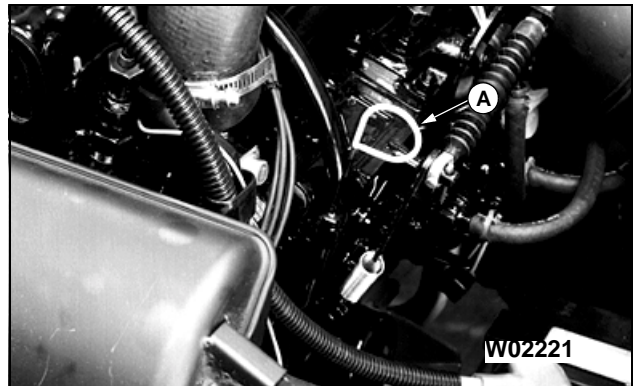


## Checking Engine Oil Level

**IMPORTANT: Engine must NOT be running. Check engine oil when it is cold.**

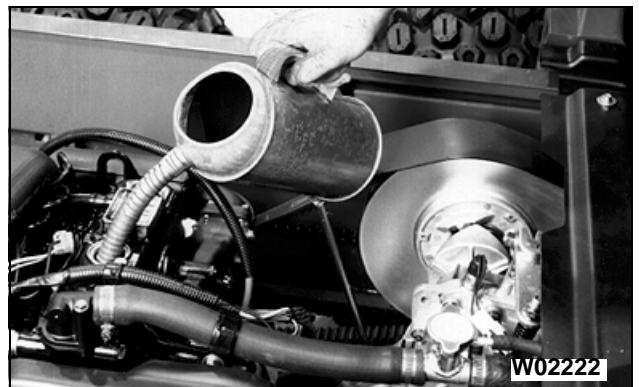
**NOTE: Check utility vehicle engine oil level before each use.**

1. Park utility vehicle on a level surface.
2. Stop engine and engage park brake.
3. Raise cargo box.
4. Remove dipstick (A). Wipe dipstick clean.
5. Insert dipstick fully into tube.
6. Remove dipstick. Check oil level on dipstick.
7. Oil level must be between crosshatch area on dipstick.



**IMPORTANT: If oil level is not in crosshatch area, DO NOT run the engine.**

8. If oil level is low, add oil to bring oil level no higher than the top of crosshatch on dipstick. Remove cap in engine valve cover to add oil. (See Engine Oil in this section for correct application.)
9. If oil level is above crosshatch area, drain to proper level. Determine cause of this condition and correct.
10. Install dipstick. Lower cargo box.



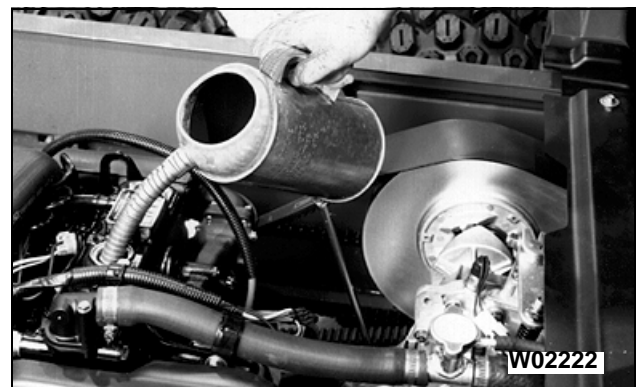
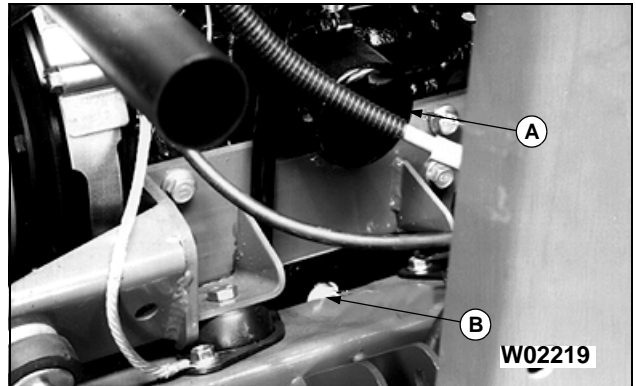
# SERVICE ENGINE

## Changing Engine Oil and Filter

**NOTE:** Severe or unusual conditions may require a more frequent service interval, as often as 25 hours.

**Change engine oil and filter after first 20 hours of break-in operation. Thereafter, change engine oil and filter every 200 hours.**

1. Run engine to warm the oil.
2. Park utility vehicle on a level surface.
3. Stop engine and engage park brake.
4. Raise cargo box.
5. Place drain pan under vehicle below engine drain plug.
6. Remove drain plug (B) on rear of engine to drain oil.
7. Remove and discard oil filter (A).
8. Clean oil filter base with a clean, dry rag. Apply a film of clean engine oil on gasket of new filter.
9. Install filter. Turn filter clockwise until gasket makes contact with mounting surface. Tighten 1/2 to 3/4 turn after gasket contact.
10. Install drain plug.
11. Remove filler cap in top of engine. Add oil. (See Engine Oil in this section.) Approximate oil capacity is 2.0 L (2.1 qt).
12. Start engine and check for leaks.
13. Stop engine. Remove dipstick and check oil level. Oil level must be between crosshatch marks. Add oil as necessary.
14. Install dipstick.
15. Lower cargo box.



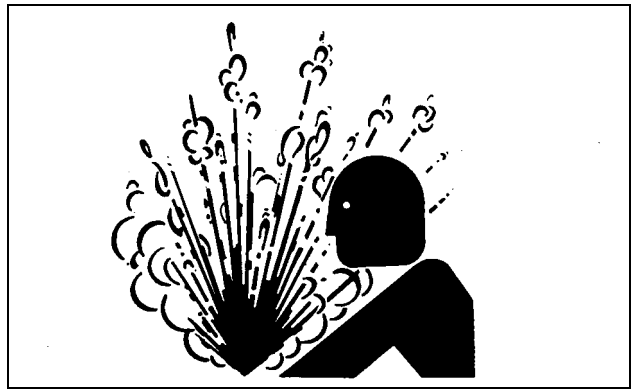


# SERVICE ENGINE

## Service Cooling System Safely

**⚠ CAUTION:** Explosive release of fluids from pressurized cooling system can cause serious burns:

- Shut off engine.
- Only remove filler cap when cap is cool enough to touch with bare hands.
- Slowly loosen cap to first stop to relieve pressure before removing completely

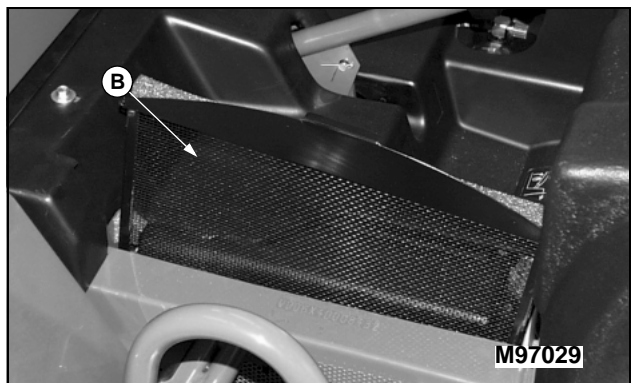
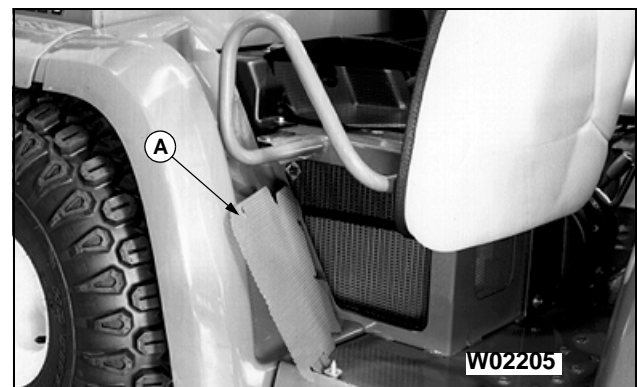
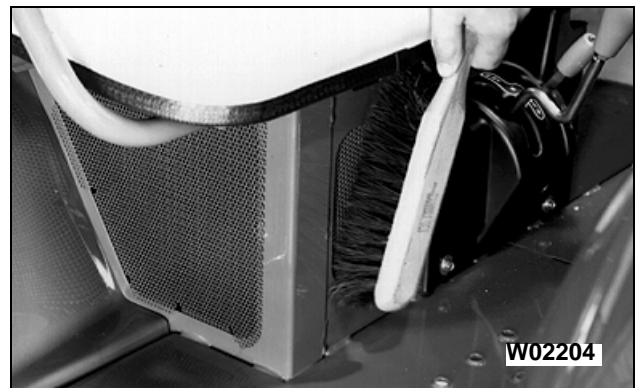


## Cleaning Radiator Screens

**⚠ CAUTION:** Stop engine and apply park brake. Help prevent bodily injury from flying debris. Clear area of bystanders and wear personal protection equipment as well as eye protection. If use compressed air for cleaning, reduce pressure to 210 kPa (30 psi).

The screens are located at the front and side of panel under passenger seat.

1. Clean the front screen with a rag, brush, or compressed air.
2. Remove side screen (A) which is held in place with one cap screw and washer.
3. Clean and install side screens.
4. Remove screen in front of radiator by lifting up.
5. Pull up screen (B) and clean.



# SERVICE ENGINE

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## Engine Coolant

The following John Deere coolant is preferred:

- PRE-DILUTED DIESEL ENGINE ANTI-FREEZE/SUMMER COOLANT™ (TY16036).

If preferred pre-diluted coolant is not available, the following John Deere concentrate is recommended:

- DIESEL ENGINE ANTI-FREEZE/SUMMER COOLANT CONCENTRATE™ (TY16034).

These coolants exceed industry specifications: ASTM D5345, D4656, D4985, D3306, and GM6038. They are designed with 5-year or 5000 hour long life formulation (subject to testing annually for conditioner level) for use in all heavy duty diesel engines. These coolants have a coolant conditioner added to help protect against liner pitting and cavitation.

If neither of the above coolants is available, use an ethylene glycol base coolant that meets the following specification

- ASTM D3306 (JDM H24C1).

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

**IMPORTANT: To prevent engine damage, DO NOT use pure antifreeze or more than 50% antifreeze in the cooling system. DO NOT mix or add any other type additives to the cooling system.**

Mix approximately 50 percent antifreeze with 50 percent distilled or deionized water. This mixture will provide freeze protection to -37 degrees C (-34 degrees F).

Certain geographical areas may require lower temperature protection. See the label on your antifreeze container or consult your John Deere dealer to obtain the latest information and recommendations.

The preferred antifreeze provides:

- Adequate heat transfer.
- Corrosion-resistant environment within the cooling system.
- Protection against liner pitting and cavitation.
- Compatibility with cooling system hose and seal material.
- Protection during cold and hot weather operations.

# SERVICE ENGINE

## Engine Coolant Drain Interval

When using John Deere Pre-Diluted (TY16036) Automobile and Light Duty Engine Service coolants, drain and flush the cooling system and refill with fresh coolant mixture every 36 months or 3,000 hours of operation, whichever comes first.

When using John Deere Concentrate (TY16034) Automobile and Light Duty Engine Service coolants, drain and flush the cooling system and refill with fresh coolant mixture every 24 months or 2,000 hours of operation, whichever comes first.

If above John Deere Automobile and Light Duty Engine Service coolants are not being used; drain, flush, and refill the cooling system according to instructions found on product container or in equipment Operator's Manual or Technical Manual.

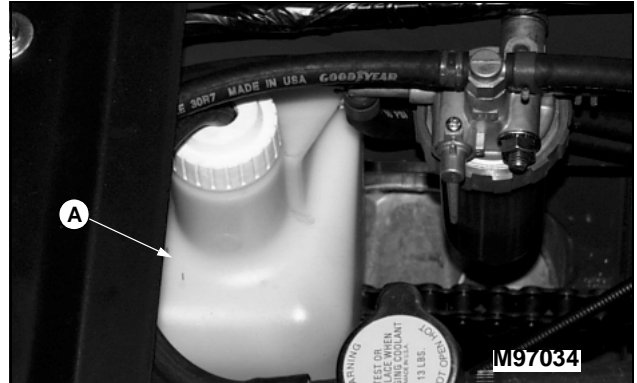
## Checking Coolant Level

**IMPORTANT: To prevent engine damage:**

- **DO NOT** operate engine without coolant.
- **DO NOT** pour coolant into the radiator when the engine is hot.
- **To prevent engine overheating, never exceed more than 50 percent antifreeze in cooling system.**

**Cooling capacity is 4.3 L (4.5 qt.)**

To check coolant level simply look at plastic overflow tank (A). It should contain approximately 25-50 mm (1-2 in.) of coolant when engine is cold.



# SERVICE ENGINE

## Draining, Flushing, and Filling Cooling System

**NOTE:** Check condition of coolant system hoses and install new hoses when necessary.

1. Stop engine and let it cool.
2. Raise cargo box.

**CAUTION:** Help prevent bodily injury from hot fluid, do not loosen remote fill cap unless engine is cool.

3. Turn remote fill cap (A) slowly to the stop. This will release cooling system pressure.

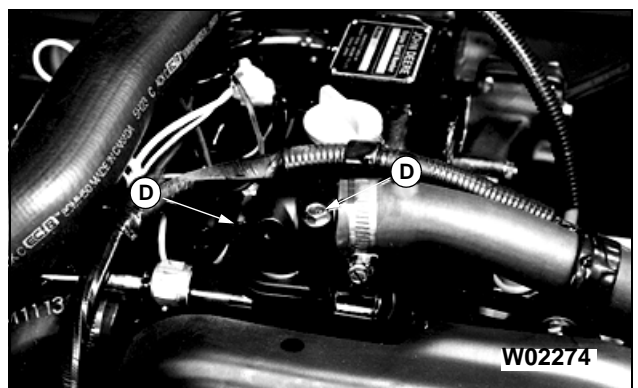
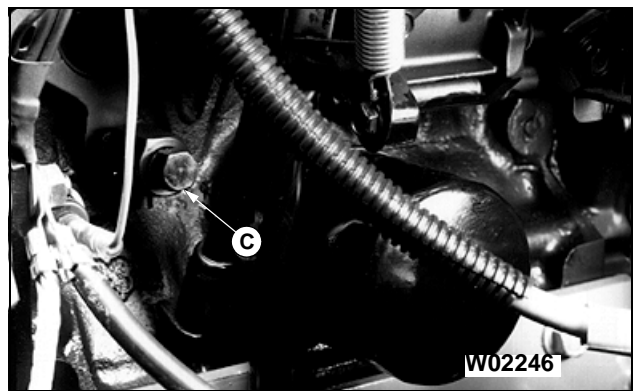
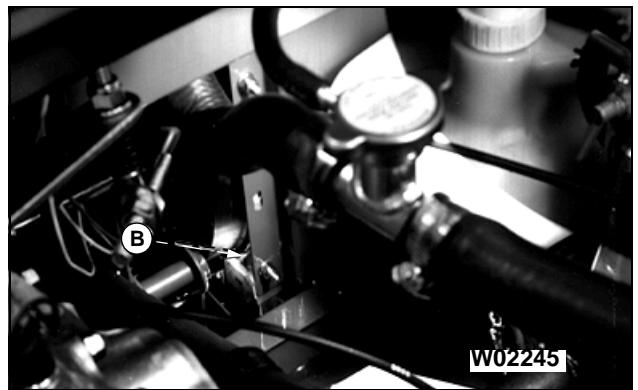
**NOTE:** If radiator drain plug is seized or if it is difficult to access, remove two self-tapping screws that hold radiator in place. Raise a little to remove bottom radiator hose to drain coolant.

4. Remove remote fill cap (A).
5. Remove seat and seat base cover.
6. Remove radiator drain plug (B) and drain coolant into a container.
7. Loosen block drain (C), located to the left of dipstick, one or two turns. Drain coolant from engine block. (Drain may be BLACK in color).
8. After coolant has drained, install radiator plug (or connect bottom hose) and close block drain.

**IMPORTANT:** To prevent engine damage, DO NOT pour water into a hot engine. DO NOT operate engine without coolant.

9. Fill the cooling system with clean water and PT500 John Deere Cooling System Cleaner or PT592 John Deere System Quick Flush or an equivalent. Follow directions provided with product.

- Remove capscrews (D) to remove engine thermostat housing, thermostat and O-ring. Replace thermostat O-ring if damaged.
- Fill engine with flushing solution.
- Install O-ring, thermostat and thermostat housing. Install and tighten capscrews to 26 N•m (230 lb-in.).





# SERVICE ENGINE

- Remove plug (E) at top of radiator.
- Fill cooling system with flushing solution until solution comes from radiator plug hole. Install and tighten plug.
- Continue to fill cooling system until flushing solution level is at bottom of filler neck. Install and tighten remote fill.

10. Start and run engine until operating temperature is reached.



**CAUTION: Engine and coolant will be HOT. Use a thick rag or glove to protect your hand.**

11. Turn remote fill cap slowly to the stop.

12. Release cooling system pressure before removing cap.

13. Remove radiator drain plug (or disconnect bottom hose) and open engine block drain quickly to drain the cooling system before rust and dirt settle.

14. Install radiator drain plug (or connect hose) and close engine block drain.

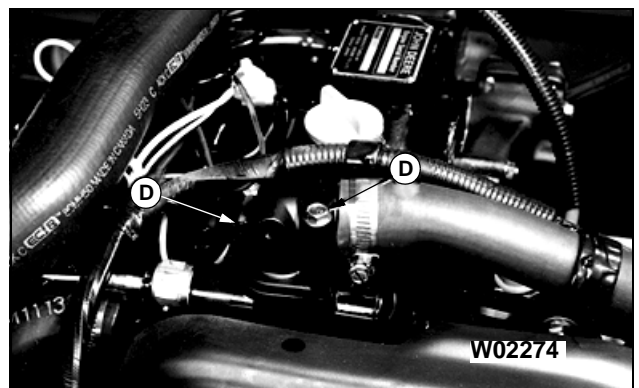
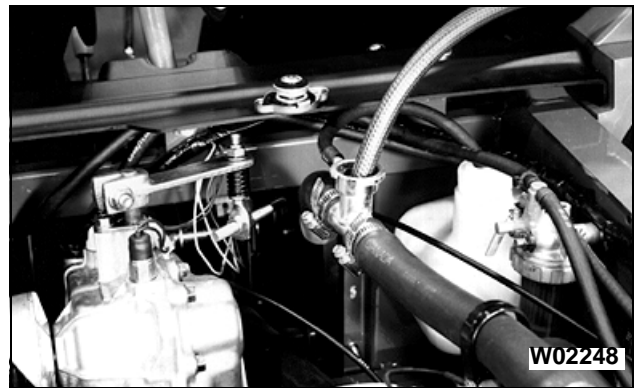
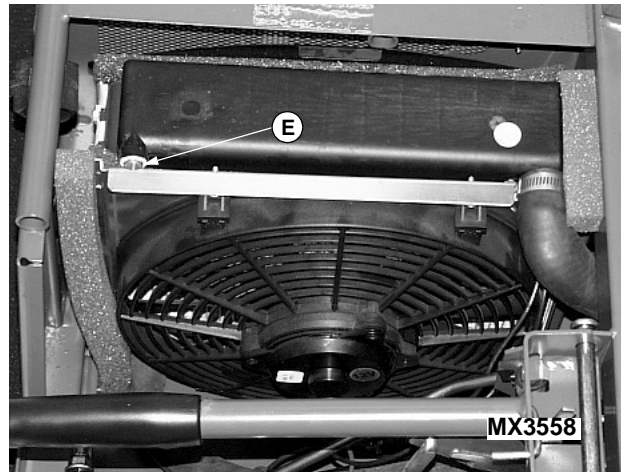
15. If necessary, remove and clean overflow tank. Install tank after cleaning.

**IMPORTANT: To prevent engine damage, DO NOT use straight antifreeze or more than 50% antifreeze in the cooling system. DO NOT mix or add any other type additives to the cooling system.**

**Cooling system capacity is 4.3 L (4.5 qt.) including reservoir.**

16. Use specific coolant to fill cooling system.

- Use a solution of ethylene glycol antifreeze without a stop-leak additive and clean soft water. Chart on container will give you information on mixture rate of antifreeze-to-water solution for freeze protection in your area. (See your John Deere dealer for information on arctic operation.)
- Remove capscrews (D) to remove engine thermostat housing, thermostat and O-ring. Replace thermostat, O-ring if damaged.
- Fill engine with coolant solution.



## SERVICE ENGINE

- Install O-ring, thermostat and thermostat housing. Install and tighten capscrews to 26 N•m (230 lb-in.).
- Remove plug (E) at top of radiator.

17. Fill cooling system with coolant solution until solution comes from radiator plug hole. Install and tighten plug.

18. Continue to fill cooling system until coolant level is at bottom of filler neck. Install and tighten remote fill.

**IMPORTANT: If coolant temperature indicator comes ON while engine is operating, stop engine and add more coolant and water to radiator.**

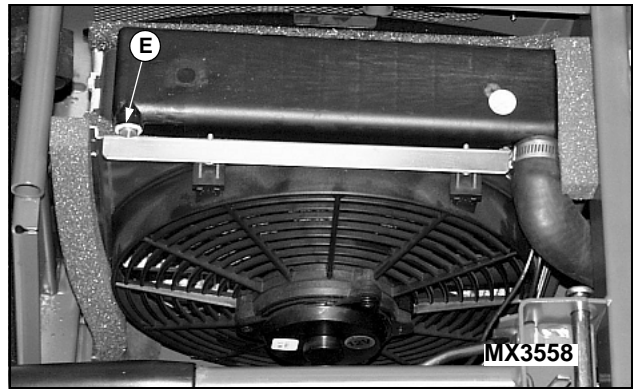
19. Operate engine until cooling fan starts turning. Stop engine and allow to cool.

20. Check that coolant level is to the bottom of filler neck.

21. Fill coolant recovery tank until approximately 25-50 mm (1-2 in.) of coolant is present.

22. Replace and tighten radiator cap.

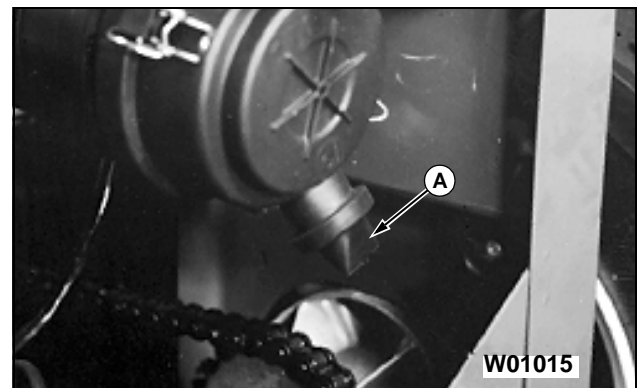
23. Check all hose clamps and tighten if necessary.



## Cleaning Rubber Dust Unloading Valve

**IMPORTANT: Never operate engine without air cleaner element and rubber dust unloading valve installed.**

1. Raise cargo box.
2. Squeeze lips of dust unloading valve (A) together to allow large particles of dirt to fall out. Remove from air cleaner housing and wash if greasy. Replace if damaged.
3. Lower cargo box.





# SERVICE ENGINE

## Checking Air Restriction Indicator

**CAUTION:** Prevent bodily injury due to entanglement in belt or drives, stop engine before checking air restriction indicator.

1. The air restriction indicator is installed on the air cleaner. When indicator is red or at 6.2 kPa (25 in. of H<sub>2</sub>O) vacuum, change primary element.

**NOTE:** If utility vehicle is operated in dusty environment or conditions, indicator should be checked more often.

2. Push button at the end of the indicator to reset restriction indicator, then stop engine.



## Replacing Air Cleaner Elements

**CAUTION:** Help prevent bodily injury due to burns and entanglement in belts or drives. Stop engine before servicing air cleaner. Allow engine, exhaust pipe and muffler to cool before attempting removal of element.

**IMPORTANT:** If utility vehicle is operated in dusty environment or conditions, air restriction indicator should be checked more often.

**DO NOT** check air cleaner element unless restriction indicator is red. This will keep contamination to the intake system at a minimum.

**NOTE:** An air restriction indicator is installed on air cleaner. When indicator is red or at 6.2 kPa (25 in. of H<sub>2</sub>O) vacuum, change primary element.

1. Stop engine and engage park brake.
2. Access from rear of vehicle.
3. Unlatch two spring clips (A) holding air cleaner canister cover (B) to housing. Remove cover.

**IMPORTANT:** If utility vehicle is operated in dusty environment or conditions, element should be checked more often.



# SERVICE ENGINE

4. Remove the primary element (C) and replace with a new one.
5. Install canister cover and engage latches.
6. Start engine and operate at a slow idle.

**IMPORTANT: DO NOT remove secondary air cleaner until air restriction indicator is red. This will keep contamination to the intake system at a minimum.**

7. Check air restriction indicator. If indicator rises above 2.5 kPa (10 in. of H<sub>2</sub>O), stop engine and change secondary element.

8. Remove cover and primary element.

9. Pull secondary element from filter housing. Install new secondary element.

10. Install primary filter and cover.

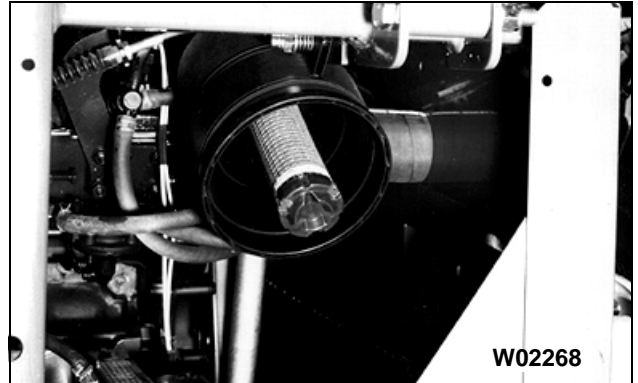
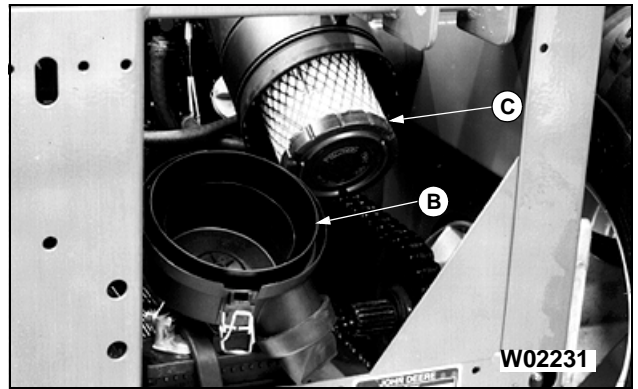
11. Push reset button of air restriction indicator.

12. Access from the rear of vehicle.

## Check Air Intake

Check to be sure air intake tube through frame is free from obstructions.

Location is under passenger seat and indicated by arrow.



# SERVICE ENGINE

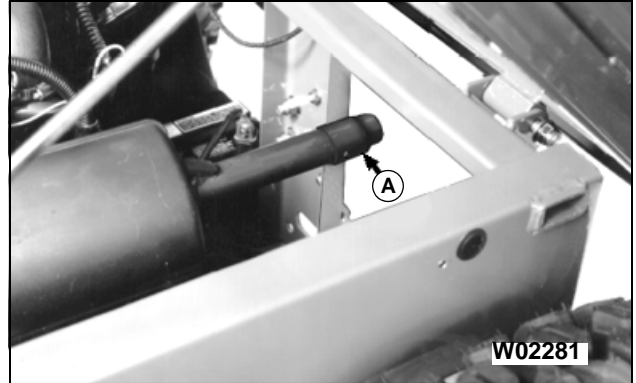
## Checking Optional Spark Arrestor

**CAUTION:** To help prevent injury from burns, stop engine and allow engine and muffler exhaust pipe to cool before checking spark arrestor.

Check to be sure screen deflector (A) is not plugged or deteriorated.

Spark arrestor can be removed and cleaned using compressed air.

Replace if necessary.



## Do Not Use Galvanized Containers

**IMPORTANT:** Diesel fuel stored in galvanized containers reacts with the zinc coating on the container to form zinc flakes. If fuel contains water, a zinc gel will also form. The gel and flakes will quickly plug fuel filters and damage fuel injectors and fuel pumps.

DO NOT USE a galvanized container to store diesel fuel.

Store fuel in plastic containers, aluminum containers, or specially coated containers made for diesel fuels.

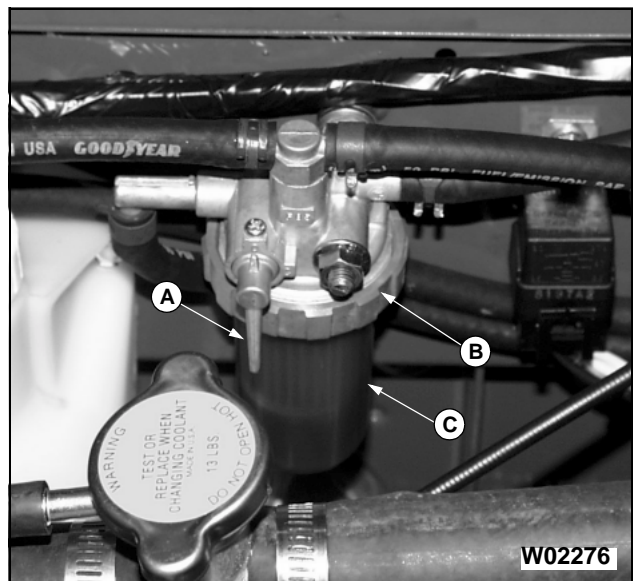
DO NOT USE brass-coated containers: brass is an alloy of copper and zinc.

## Checking and Cleaning Fuel Filter Sediment Bowl

**NOTE:** Check for water or sediment in bowl. Red ring will float when water is present.

If necessary, remove bowl for cleaning.

1. Turn fuel filter lever (A) up so arrow points to "C" (Closed) position.
2. Turn collar (B) to remove bowl (C).
3. Clean bowl. Install bowl and collar. (Refer to Replacing Fuel Filter in this section.)
4. Turn fuel filter lever down so arrow points to "O" (Open) position.
5. Bleed fuel system.

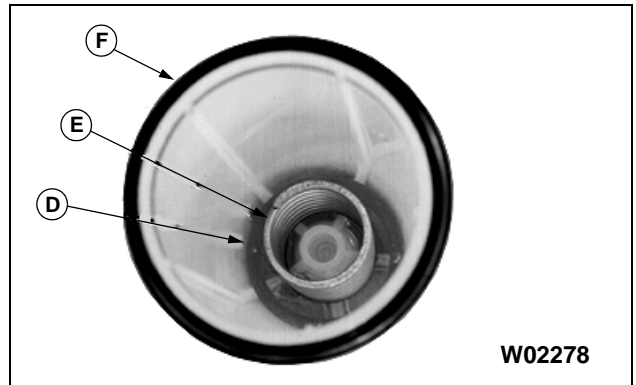
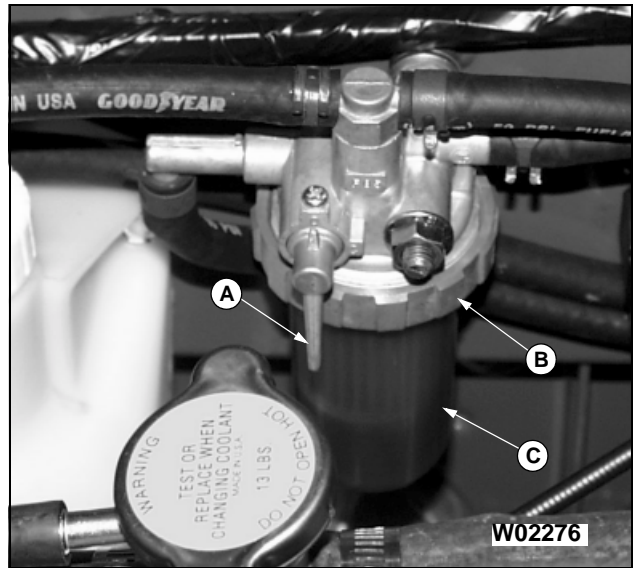


# SERVICE ENGINE

## Replacing Fuel Filter

**CAUTION:** Avoid bodily injury by keeping cigarettes, sparks, and flames away from the fuel system.

1. Park vehicle on a level surface and engage park brake.
2. Raise cargo box.
3. Turn fuel filter lever (A) up so arrow points to "C" (Closed) position.
4. Turn collar (B) to remove bowl (C).
5. Pull filter from filter base.
6. Clean bowl. Make sure float ring (D), and spring (E) and O-ring (F) are in filter bowl.
7. Install new fuel filter. Install bowl and tighten collar securely.
8. Turn fuel filter lever down so arrow points to O (Open) position.
9. Bleed fuel system.



# SERVICE ENGINE

## Bleeding Fuel System

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

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

Bleed air from fuel system:

- After you service fuel system.
  - If you run out of fuel.
1. Make sure there is fuel in fuel tank.
  2. Open both fuel shut-off valves:
    - Arrow indicator up on fuel tank shut-off valve.
    - Lever down point to O (open) position on fuel filter shut-off valve.
  3. Move fuel pump primer lever (A) up and down.  
Continue operating lever until:
    - Sight bowl of fuel filter is full of fuel.
    - You can hear fuel returning to tank through return hose.

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



# SERVICE ENGINE

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## Servicing Fuel Injection Pump

**NOTE:** *The fuel injection pump is calibrated by the engine manufacturer and should not require any adjustments.*

**IMPORTANT: DO NOT** clean a warm fuel injection pump with steam or water. Clear debris from under injection pump regularly.

Changing injection pump in any way not approved by manufacturer will end warranty. See your copy of John Deere warranty on this machine.

DO NOT service injection pump. See your John Deere dealer for service.

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

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

## Servicing Fuel Injection Nozzles

**IMPORTANT: DO NOT** service or remove fuel injection nozzles. Service life of injection nozzles may be shortened by overheating, improper operation, poor fuel quality, or excessive idling.

If injection nozzles are not working correctly or are dirty, engine will run poorly. See your John Deere dealer for service.



# SERVICE TRANSMISSION

## Transaxle Oil

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

The following John Deere transmission and hydraulic oil is preferred:

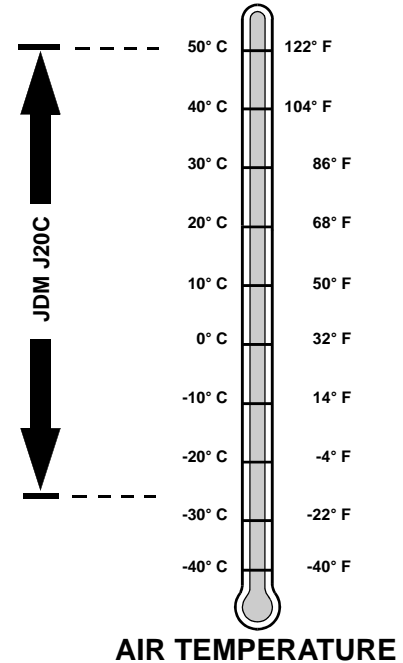
- HY-GARD® (JDM J20C)

Other oils may be used if recommended John Deere oil is not available, provided they meet one of the following specifications:

- John Deere Standard JDM J20C

**IMPORTANT: DO NOT use engine oil, "Type F" (Red) Automatic Transmission Fluid, or BIO-HY-GARD®. DO NOT mix any other oils in this transmission.**

**NOTE: For temperatures below  $-13^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ), John Deere J20D HY-GARD® Low Viscosity oil may be used. If J20D is used at temperatures above  $-13^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ), some brake squeal may be heard due to lower viscosity of the oil at higher air temperature.**

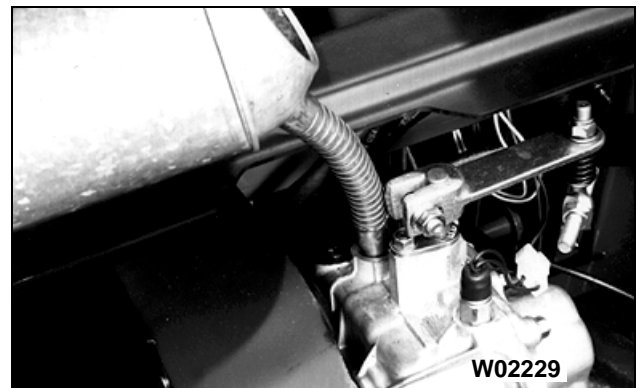
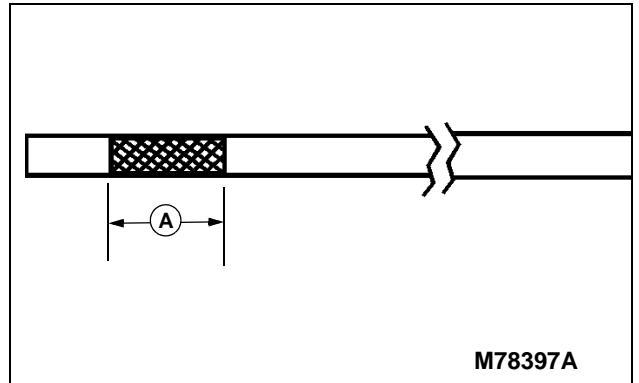


# SERVICE TRANSMISSION

## Checking Transaxle Oil

**IMPORTANT: Check oil level when transaxle is cold.**

1. Park utility vehicle on a level surface and stop engine.
2. Engage park brake.
3. Raise vehicle cargo box.
4. Remove dipstick and wipe dipstick clean.
5. Oil should be between hash marks (A) on dipstick.
6. Check oil level by screwing dipstick fully into transaxle case, then unscrewing and checking oil level.
7. If oil level is low, add oil as needed through the fill hole. (See Transmission Oil in this section for correct application.)
8. Install and tighten dipstick.
9. Lower vehicle cargo box.



# SERVICE TRANSMISSION

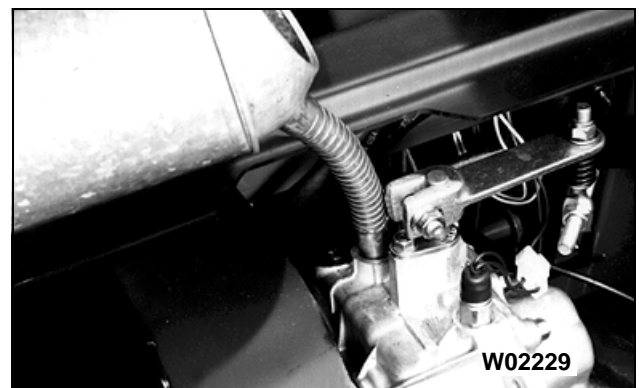
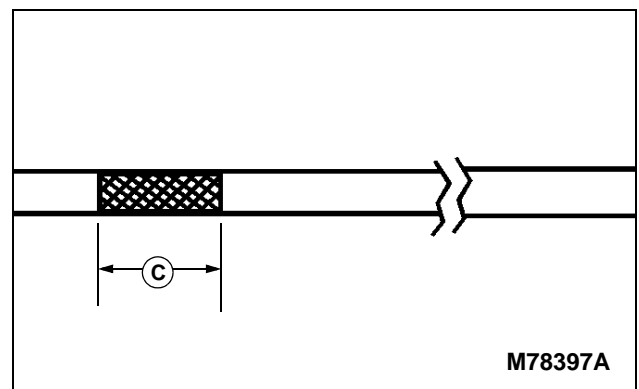
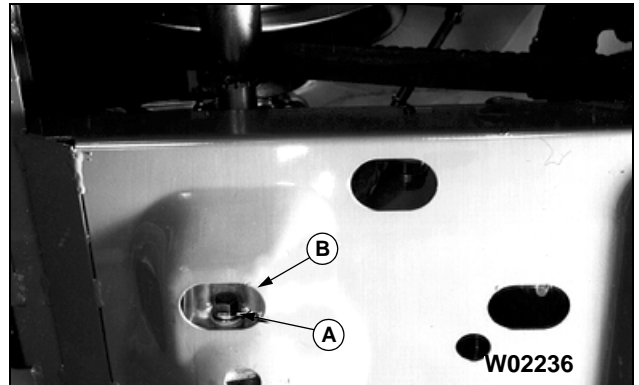
## Changing Transaxle Oil

**NOTE:** Normal interval for transaxle oil change is 500 hours, but it may be shortened if brakes start to chatter or are noisy when applied.

1. Park utility vehicle on a level surface and stop engine.
2. Engage park brake.
3. Raise cargo box.
4. Remove drain plug (A). Access drain plug from underside of machine through slot (B).
5. After all oil is drained, install and tighten drain plug.

**IMPORTANT:** Before changing the transaxle oil, clean area around the fill plug before removing.

6. Remove dipstick and wipe clean. Oil should be between hash marks (C) on dipstick.
7. Add approximately 4.5 L (4.75 qt.) of oil. (See Transaxle Oil section for oil recommendations.)
8. Check oil level by screwing dipstick fully into transaxle case, then removing to check level.
9. Wait for two minutes then check oil level. Add oil if necessary.
10. Install dipstick and tighten.
11. Lower cargo box.

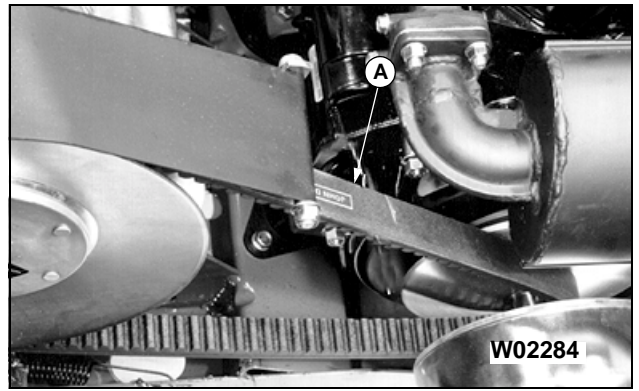


# SERVICE TRANSMISSION

## Checking Belt Condition

**CAUTION:** Help prevent bodily injury due to entanglement in belt or pulley. Stop engine and engage park brake before checking belt.

1. Stop engine and apply parking brake.
2. Check belt for wear and damage.
3. Width of belt (A) on top surface should be minimum of 27 mm (1.06 in.).
4. If belt width is less than 27 mm (1.06 in.) replace drive belt.



## Replacing Drive Belt

**CAUTION:** Help prevent bodily injury due to entanglement in belt or pulley. Stop engine and engage parking brake before checking belt.

1. Stop engine and engage park brake.
2. Raise cargo box.
3. Remove lock nut and cap screw (B) to remove belt shield.
4. Lift belt over outer pulley of driven clutch.
5. Remove belt from drive pulley.
6. To install new belt, reverse above procedure.
7. Install belt shield, cap screw and locknut.



# SERVICE TRANSMISSION

## Checking Drive Chain Tension



**CAUTION:** Always use jack stands to support utility vehicle while work is being performed with wheels off of ground.

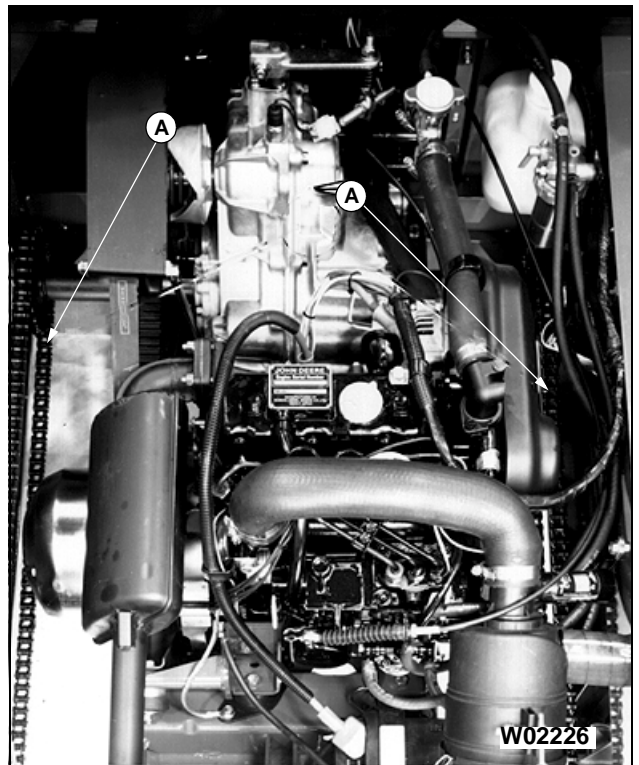
1. Park utility vehicle on level surface. Stop engine, do not engage parking brake.
2. Differential Lock OFF, transaxle in neutral.
3. Raise all four rear wheels off of ground. Place jack stands under utility vehicle.
4. Raise cargo box.
5. Rotate rear wheels toward each other so that chain slack is at top chain.
6. With straight edge across top of sprockets, measure distance (sag) to top of chain.
7. Slack should be 12 to 38 mm (0.5 to 1.5 in.).
8. See Drive Chain Tension Adjustment) for adjustment procedure.



## Lubricating Drive Chain

**NOTE:** If operating conditions are dusty, use of a dry lubricant is suggested.

1. Spray John Deere TY6240 Chain Lubricant or an equivalent on external surface of chain (A).
2. Lower cargo box.





# SERVICE TRANSMISSION

## Adjusting Drive Chain Tension

**NOTE:** Check tire circumference; largest circumference tires should be mounted on rear most axle.

1. Park utility vehicle on level surface. Stop engine, do not engage parking brake.
2. Differential Lock OFF, transaxle in neutral.
3. Raise all four rear wheels off the surface. Place safety stands under the utility vehicle.
4. Raise box and be sure support rod is latched.



**CAUTION:** Help prevent bodily injury due to entanglement in drive chain, shut off engine before adjusting chain.

5. Rotate rear wheels toward each other so that chain slack is at top.
6. With straight edge across top of sprockets measure distance to top of chain.
7. Slack should be 12 - 38 mm (0.5 - 1.5 in.).

**IMPORTANT:** To avoid stripping threads from adjustment bolt (C), housing bolts (A) must be loosened before turning adjustment bolt.

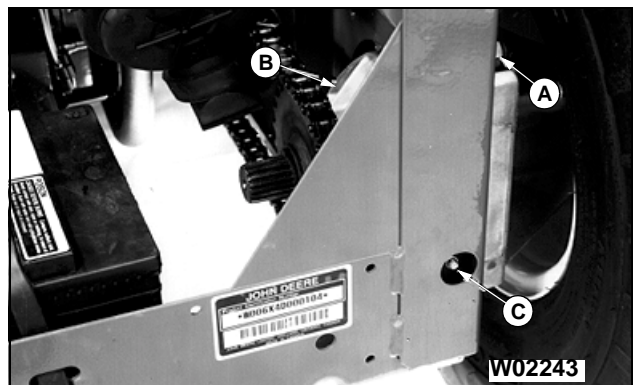
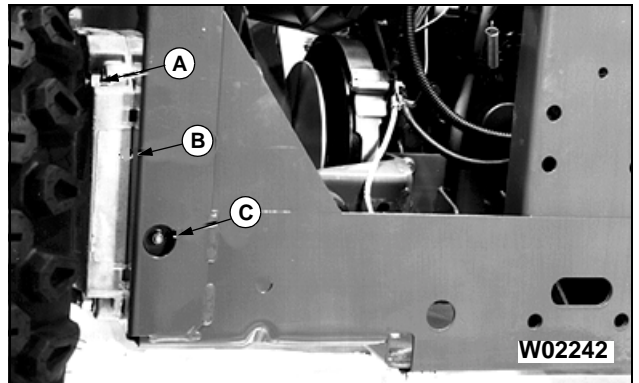
8. Loosen four bolts (A) just enough so that the axle housing (B) can slide easily back and forth.
9. Turn adjustment bolt (C) clockwise to remove chain slack.

**IMPORTANT:** If chain is too tight, chain can be damaged. All slack should be removed from chain without chain being tight. Check chain slack again after you tighten axle housing bolts.

10. Tighten axle housing bolts to 90 N•m (67 lb-ft.). Then back off bolt (C) one half turn to relieve force on bolt.
11. Check slack again.

**NOTE:** Chain slack must be the same on both sides of vehicle.

12. Check and adjust chain slack on the opposite side.



# SERVICE TRANSMISSION

13. Lower utility vehicle to the ground.

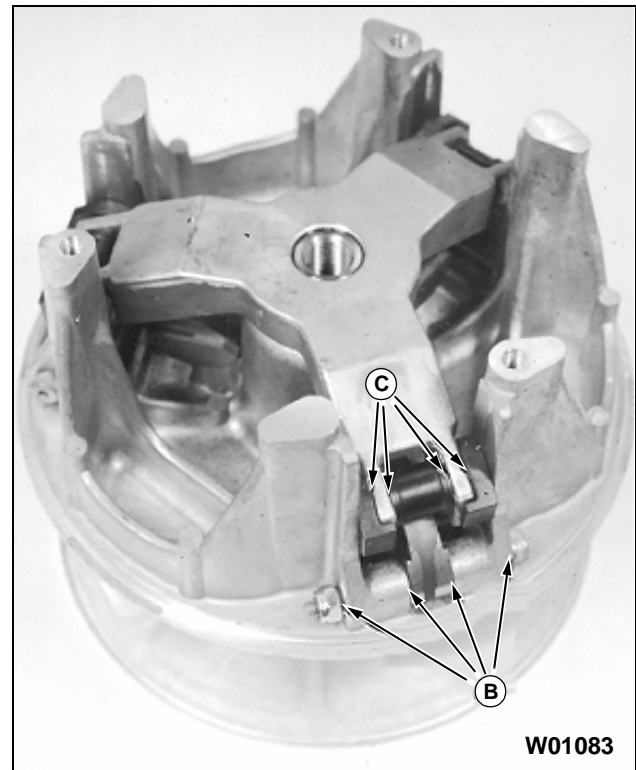
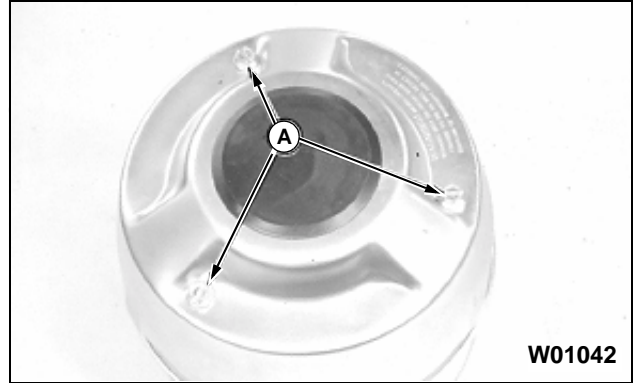
## Cleaning & Lubricating Drive Clutch

**Picture Note:** Clutch is shown removed from utility vehicle for clarity only. Removal is not necessary for cleaning.

1. Remove screws (A) and remove cover from clutch.
2. Blow out clutch and cover using compressed air.

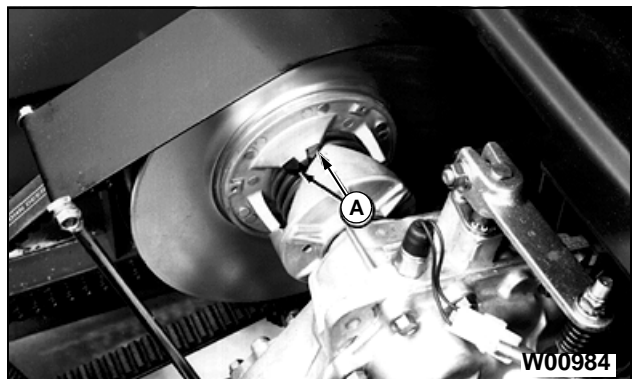
**NOTE:** Lubricate in area shown and only lubricate sparingly.

3. Lubricate cam weight pivots (B) and roller pivots (C) using John Deere SUPERLUBE<sup>®</sup> with TEFLON<sup>®</sup> spray lubricant or an equivalent.<sup>1</sup>



## Checking Driven Clutch Wear Pad

1. Check for missing or worn wear pads (A).
2. There should not be any excessive wear, or metal-to-metal contact.
3. If replacement is necessary, see your John Deere dealer, or consult the technical manual.



<sup>1</sup> SUPERLUBE is a registered trademark of Synco Chemical Corporation  
TEFLON is a registered trademark of DuPont Chemical Corporation



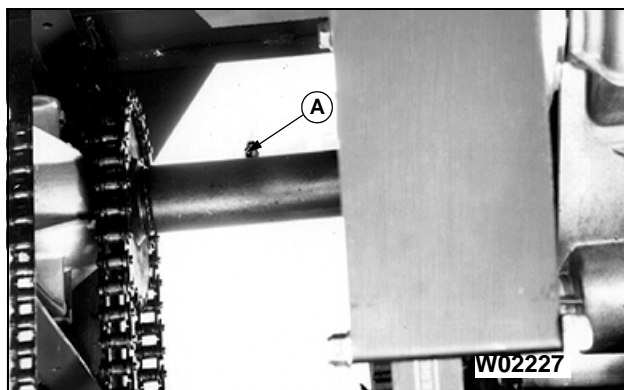
## SERVICE TRANSMISSION

### Lubricating Axle Couplers

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

**NOTE:** *In extreme operating conditions, lubrication should be done every 25 hours. Under normal conditions, it should be done every 50 hours.*

Lubricate one fitting on each side of transaxle every 50 hours (See Grease Specifications section).



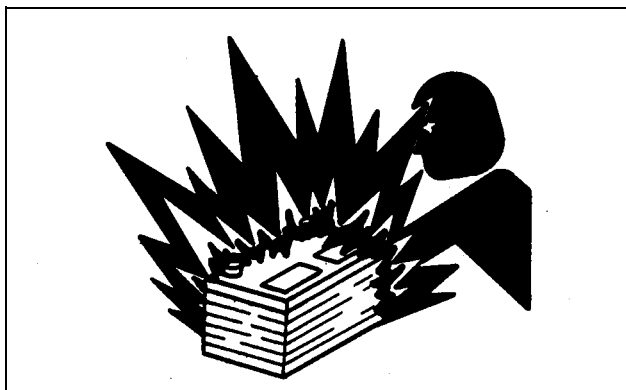
## SERVICE ELECTRICAL

### Cleaning or Replacing Battery



**CAUTION:** Battery gas can explode:

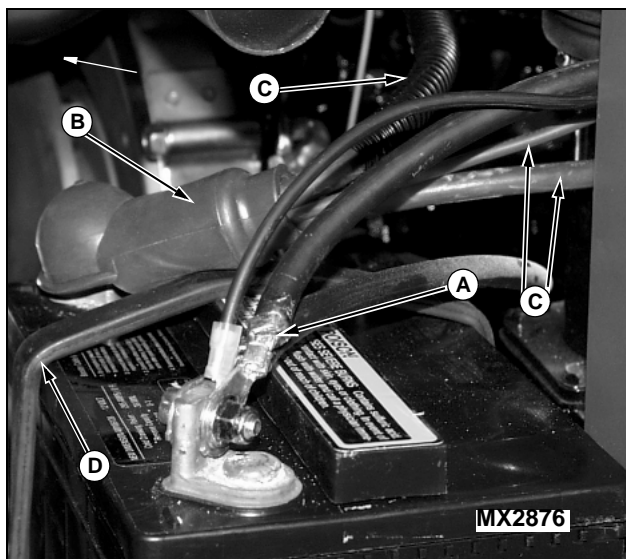
- Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.
- Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.
- Always remove grounded (-) battery clamp first and replace it last.



1. Stop engine and engage park brake.
2. Raise cargo box.
3. Disconnect black negative (-) cables (A) from battery.
4. Slide red positive terminal cover (B) back and disconnect red positive (+) cables (C).
5. Disconnect black rubber hold-down strap (D).
6. Clean battery with a brush or damp cloth. Keep dirt out of battery cells.

**NOTE:** *If a thorough cleaning of the battery and surrounding area is needed, or battery replacement is necessary, remove battery from the utility vehicle.*

7. Remove corrosion from battery terminals and cable ends with a wire brush.
8. Clean battery, battery terminals, cable ends, battery box, and other parts with a solution of one part baking soda and four parts water. DO NOT allow solution to enter battery cells.
9. Rinse all parts with clean water and allow to dry.
10. Install battery.



## SERVICE ELECTRICAL

**IMPORTANT: Be sure battery drain tubes are clear and free of obstruction. Drain tubes must be routed through bottom of utility vehicle frame to prohibit damage caused by corrosive battery acid.**

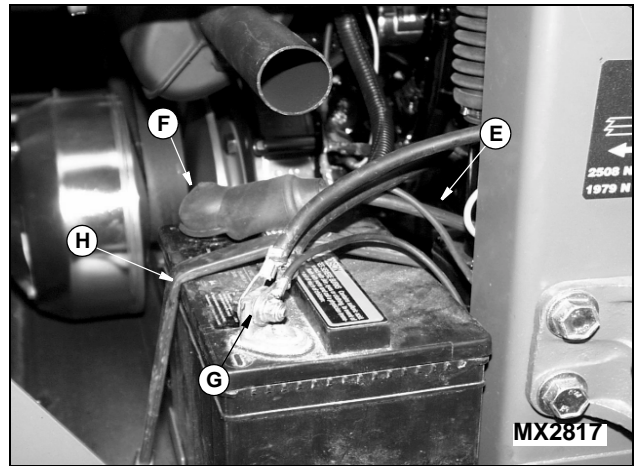
11. Connect red positive (+) cables (E) to battery terminal first. Slide red terminal cover (F) down to cover terminal.

12. Connect black negative (-) cables (G). Make sure connections are tight.

13. Apply petroleum jelly on battery terminals to help prevent corrosion.

14. Install black rubber hold-down strap (H).

15. Lower utility vehicle cargo box.



### Checking Battery Electrolyte Level

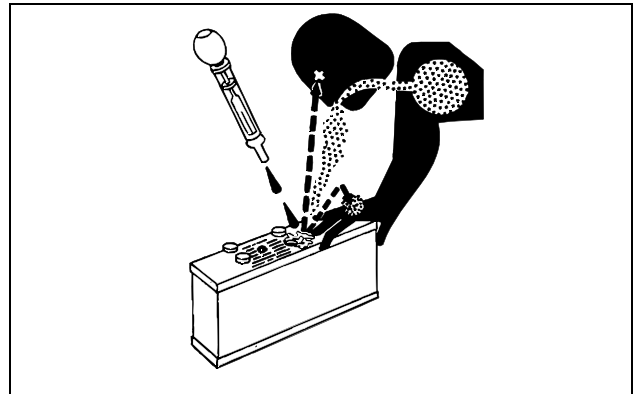


**CAUTION: Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.**

- Wear eye protection and avoid spilling or dripping electrolyte.

- Flush eyes with water for 15-30 minutes if acid is splashed into eyes.

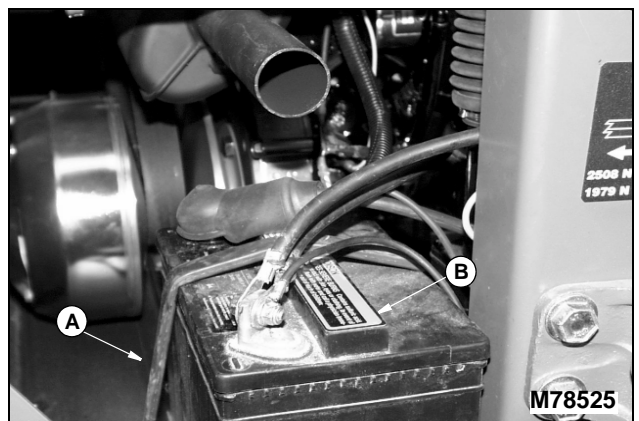
- If acid is swallowed, get medical attention immediately.



1. Park utility vehicle on level surface, stop engine, lock park brake.

2. Disconnect black rubber hold-down strap (A).

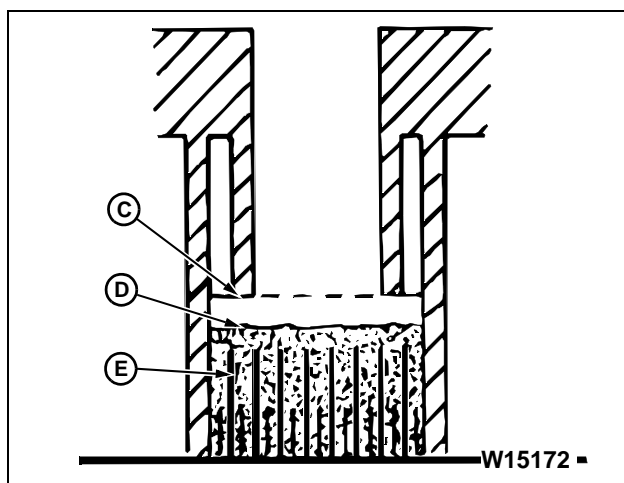
3. Remove battery manifold cap (B), be sure breather tube does not come off cap.



## SERVICE ELECTRICAL

**IMPORTANT: DO NOT fill cells to the bottom of the filler neck (C). Electrolyte can overflow when battery is charged and cause damage.**

4. Electrolyte (D) should be 6 mm (1/4 in.) above plates (E).
5. Add distilled water if necessary.
6. Install manifold cap. Check vent tube is attached to cap and routed down out of vehicle frame.
7. Install battery hold-down strap.

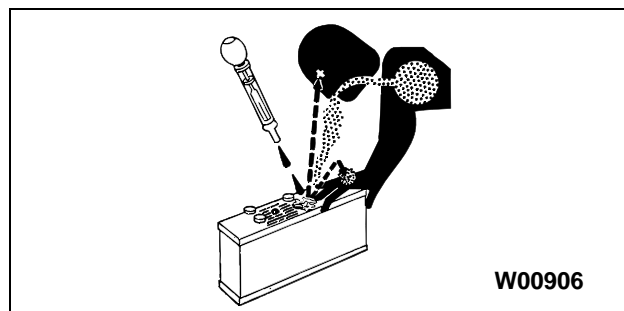


### Charging the Battery

Follow instructions on the battery charger or in the charger operator's manual, or use the instructions below as a guide.

**CAUTION: BE VERY CAREFUL: Battery fluid (electrolyte), is a solution of water and sulfuric acid. It is very harmful to eyes, skin, or clothing.**

- Wear goggles or an eye shield when you work with a battery.
  - If the acid contacts your eyes, skin, or clothing, flush the area immediately with water. Get medical help, if necessary.
- A battery gives off gas which can explode. An exploding battery will spray sulfuric acid in all directions.
- Keep cigarettes, sparks, and flames away from the battery.
  - Charge the battery in an area with good ventilation.



Before you charge a battery:

**IMPORTANT: There are two 12 volt batteries connected in parallel. This IS NOT a 24 volt system.**

- Wait until the battery has warmed to room temperature. Do not charge a frozen battery.



## SERVICE ELECTRICAL

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- Check the electrolyte level of each cell. (See Checking Battery Electrolyte Level in this section.)
- Install the battery cap(s) on the battery.

Turn OFF and unplug the charger before you connect cables to the battery or disconnect cables from the battery.

If the battery becomes warm to touch during charging:

- Reduce the charging rate OR
- Stop charging the battery until it cools.

Keep batteries fully charged.



**CAUTION: DO NOT charge a frozen battery. Battery gases can explode. Keep cigarettes, sparks, and flames away from battery.**

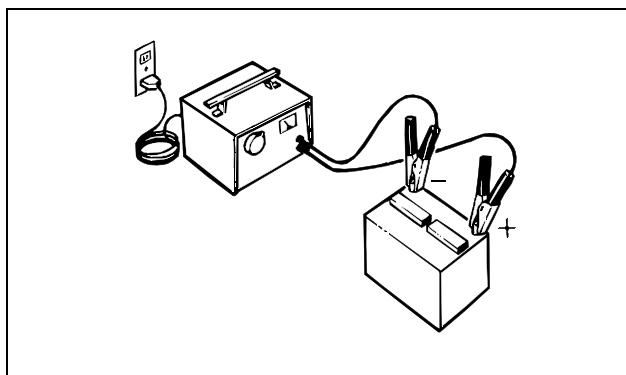
1. Check electrolyte level.
2. Leave cell caps on battery while you charge it.



**CAUTION: To avoid injury, before you connect or disconnect charger cables to battery, unplug charger cord.**

**NOTE: Only one battery needs to be connected to charger as one charges so will the second battery.**

3. Connect positive (+) charger cable to positive (+) battery terminal.
4. Connect negative (-) charger cable to negative (-) battery terminal.
5. Plug in charger cord.
6. Charge battery.
7. Unplug charger cord. Remove charger cables.



## Charging Rates

**IMPORTANT: This vehicle has two 12 volt batteries connected in parallel. It is not a 24 volt system.**

See your battery charger or charger operator's manual for information on charging. Or read the information below to FULLY CHARGE your battery.

For a charger with a CURRENT ADJUSTMENT CONTROL:

- Adjust the control to 10 amps.
- Charge the battery for 6 to 8 hours.

For a charger with a switch for MAINTENANCE FREE, DEEP CYCLE, or NORMAL (CONVENTIONAL) setting:

- Use the MAINTENANCE FREE or DEEP CYCLE setting.

For a charger with SLOW CHARGE, FAST CHARGE, or BOOST CHARGE setting:

- DO NOT use the BOOST CHARGE setting.
- Use the SLOW CHARGE setting:
  - For a charger rated at less than 10 amps.
  - For 3 to 16 hours.
- Use the FAST CHARGE setting:
  - For a charger rated at 10 amps.
  - For 5 to 8 hours.

***NOTE: Your charger may have an AUTOMATIC STOP to prevent charging the battery:***

- When the battery is fully charged OR
- When the battery is not in condition to take a charge.



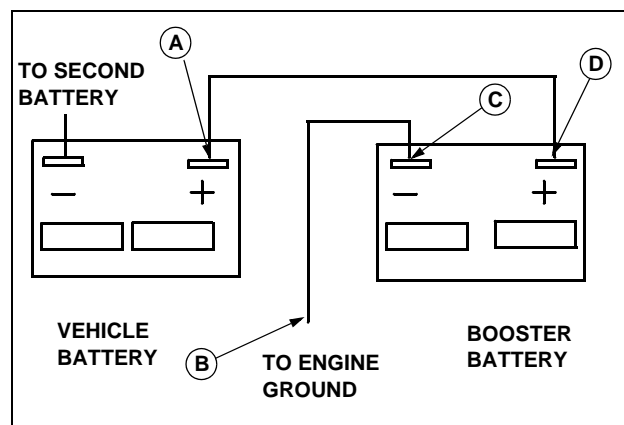
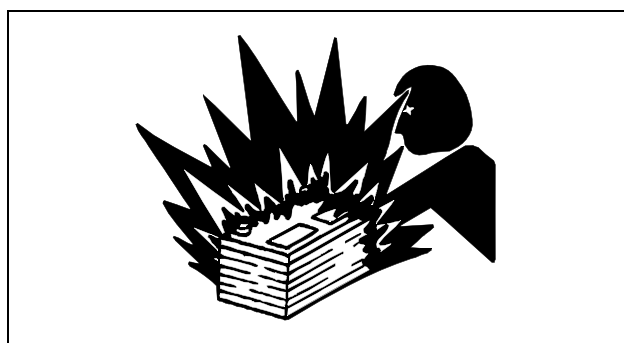
# SERVICE ELECTRICAL

## Using Booster Battery

- CAUTION:** Battery gas is explosive:
- DO NOT smoke while you charge battery.
  - Keep all flames and sparks away.
  - DO NOT charge frozen battery.
  - DO NOT connect booster battery negative (-) cable to starting vehicle negative (-) terminal.

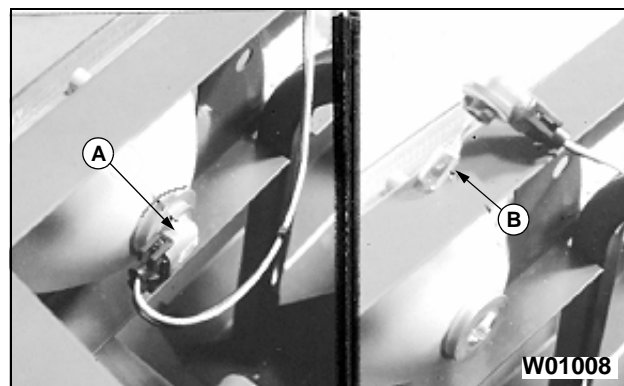
**IMPORTANT:** There are two 12 volt batteries connected in parallel.

1. Connect positive (+) booster cable to booster battery positive (+) post (D).
2. Connect the other end of positive (+) booster cable to one of the vehicle battery positive (+) post (A).
3. Connect negative (-) booster cable to booster battery negative (-) post (C).
4. Connect the other end of negative (-) booster cable (B) to engine ground away from battery.



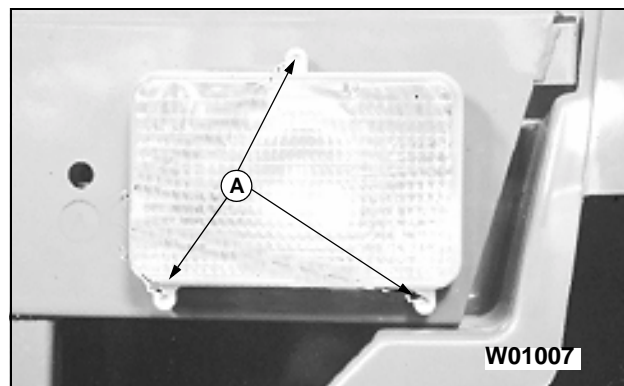
## Replacing Headlamp Bulb

1. Remove hood.
2. Rotate bulb socket (A) 1/3 of a turn and remove socket from housing.
3. Install new bulb (B) into socket, and install socket into housing.



## Replacing Headlight Housing

1. Remove hood.
2. Disconnect bulb socket from housing.
3. Remove screws (A).
4. Install new assembly and install screws.
5. Install hood.



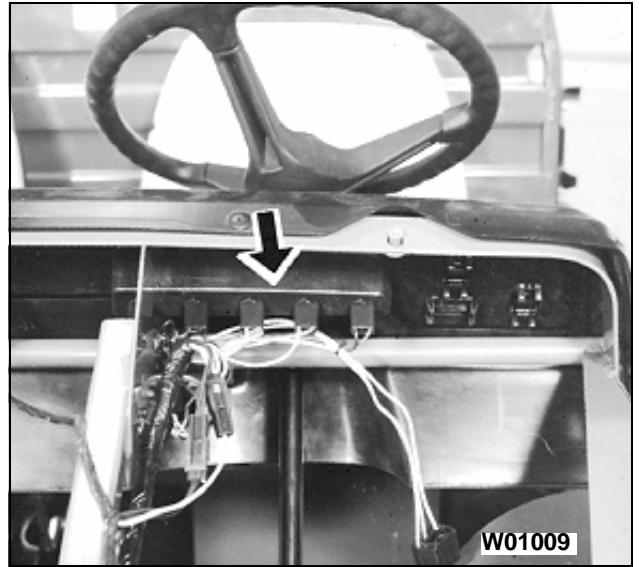
# SERVICE ELECTRICAL

## Replacing Instrument Panel Bulbs

1. Remove hood.

**Picture Note:** Hood removed for clarity. Bulbs can be replaced by reaching under dash panel.

2. Remove socket with defective bulb by turning 1/4 turn and pull bulb straight out.



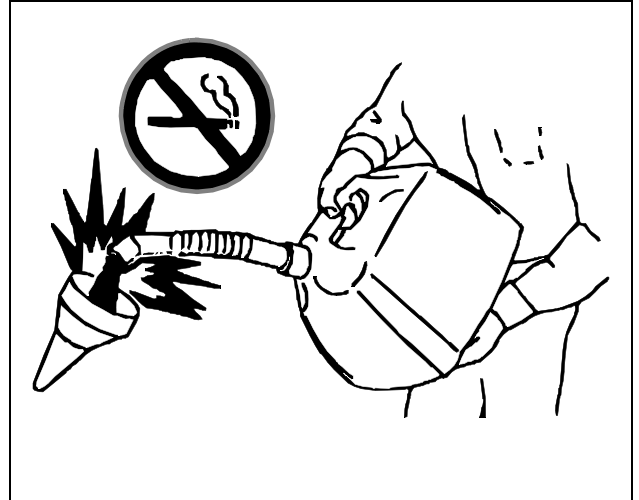
## SERVICE MISCELLANEOUS

### Fuel



**CAUTION:** Handle fuel with care, it is highly flammable and can cause serious injury or death:

- **DO NOT** refuel machine while you smoke, when machine is near an open flame or sparks, or when engine is running. **STOP** engine.
- Fill fuel tank outdoors.
- Prevent fires: clean oil, grease and dirt from machine. Clean up spilled fuel immediately.
- Do not store machine with fuel in tank in a building where fumes may reach an open flame or spark.
- Prevent fire and explosion caused by static electric discharge. 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.
- Static electric discharge can ignite gasoline vapors in an ungrounded fuel container. Remove the fuel container from the bed of a vehicle or the trunk of a car and place on the ground away from the vehicle before filling. Keep nozzle in contact with container opening while filling.
- When practical, remove equipment from trailers or truck beds and refuel them on the ground. If this is not possible, use a portable, plastic fuel container to refuel equipment on a truck bed or trailer.
- Store oil and fuel in an area protected from dust, moisture and other contamination.
- **DO NOT** use **METHANOL** gasolines. **METHANOL** is harmful to the environment and to your health.



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## SERVICE MISCELLANEOUS

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### Diesel Fuel

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

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

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

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

- **Cetane number of 40 minimum.** Cetane number greater than 50 is preferred, especially for temperatures below -20° C (-4°F) or elevations above 1500 m (5,000 ft.)
- **Cold filter plugging point (CFPP)** below the expected low temperature OR **Cloud Point** at least 5°C (9°F) below the expected low temperature.
- **Fuel lubricity** should pass a minimum of 3100 gram load level as measured by the BOCLE scruffing test.

#### **Sulfur content:**

- Sulfur content should not exceed 0.5% Sulfur content less than 0.05% is preferred.
- If diesel fuel with sulfur content greater than 0.5% sulfur content is used, reduce the service interval for engine oil and filter by 50%.
- DO NOT use diesel fuel with sulfur content greater than 1.0%.

Bio-diesel fuels meeting DIN 51606 or equivalent specification may be used.

DO NOT mix used engine oil or any other type of lubricant with diesel fuel.

## SERVICE MISCELLANEOUS

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### Storing And Handling Fuel

**IMPORTANT: Diesel fuel stored in galvanized containers reacts with the zinc coating on the container forming zinc flakes. If fuel contains water, a zinc gel will also form. The gel and flakes will quickly plug fuel filters and damage fuel injectors and fuel pumps.**

DO NOT USE a galvanized container to store diesel fuel.

Store fuel in plastic containers, aluminum containers, or specially coated containers made for diesel fuels.

DO NOT USE brass coated containers: brass is an alloy of copper and zinc.

Buy clean, high quality fuel.

Fuel is available in summer or winter grades and should be bought as near to the intended time of use as possible.

**IMPORTANT: To avoid engine damage due to contamination, keep dirt, scale, water, or other foreign material out of fuel.**

Keep fuel in a clean container in a protected area away from buildings.

Keep storage tank on its side with plug up.

Drain water and sediment from storage tank regularly. Water and sediment must be removed before fuel gets into engine. Do not use de-icers to remove water from fuel. Do not depend on fuel filters to remove water.

If possible, install a water separator at the storage tank outlet. (See your John Deere dealer to order.)

**NOTE: Diesel fuels stored for a long time may form gum and plug filters and injectors.**

Avoid storing fuel for a long time. If there is a very slow turnover of fuel in the tank or supply tank, it may be necessary to add a fuel conditioner to prevent water condensation. Contact your John Deere dealer for proper service or maintenance recommendations.

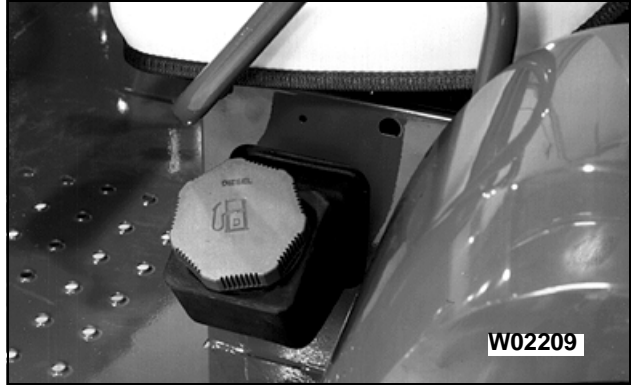
## SERVICE MISCELLANEOUS

### Filling Fuel Tank

**CAUTION:** Handle fuel carefully. **DO NOT** smoke while you fill fuel tank or service fuel system. Fill fuel tank or service fuel system. Fill fuel tank only to the bottom of filler neck.

Fuel tank capacity is 20 L (5.3 gal.).

Fill fuel tank at end of each day's operation or when fuel gauge shows 1/4 or less fuel in tank. Fill only to bottom of filler neck.



### Service Tires Safely

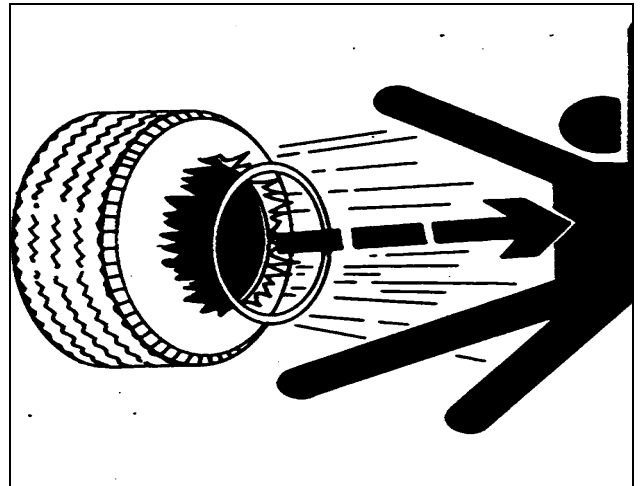
Explosive separation of a tire and rim parts can cause serious injury or death.

**DO NOT** attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tire 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 an extension hose long enough to allow you to stand to one side and **NOT** in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or mission lug bolts and nuts.





## SERVICE MISCELLANEOUS

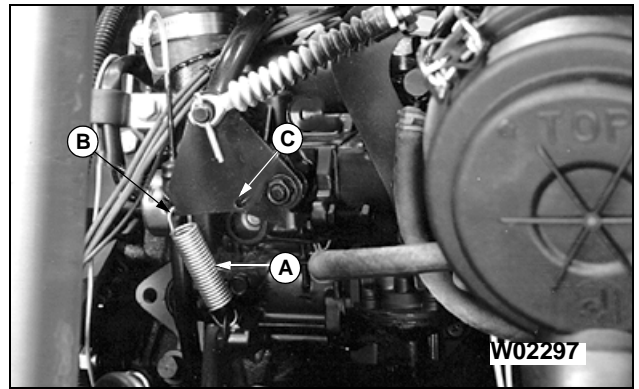
### Adjusting Accelerator Pedal Pressure

The pressure required to push accelerator pedal can be adjusted for operator's preference.

- Connect spring (A) to left hole (B) for greater pedal pressure.

**Picture Note: Open Position Shown**

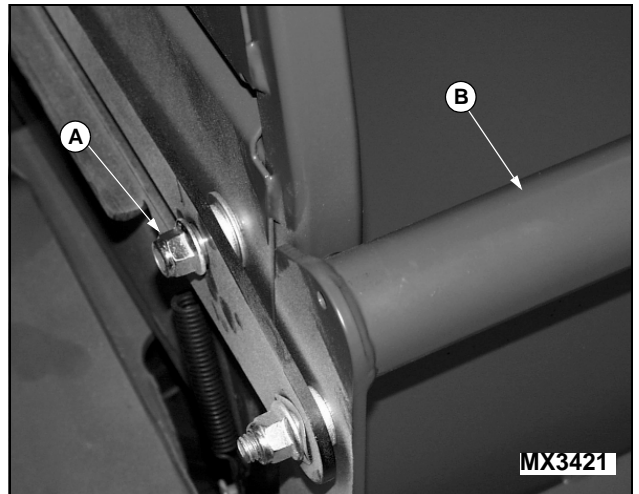
- Connect spring (A) to right hole (C) for less pressure.



### Adjusting Side Panel Fit When Closed

The purpose of this adjustment is to minimize the gap between the side panels and the front of the cargo box.

1. Loosen nut (A).
2. Push side panel (B) toward cargo box load guard.
3. Tighten nut (A).



# SERVICE MISCELLANEOUS

## Checking Tire Pressure



**CAUTION:** 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.

**Service Interval:** Check tires daily for damage or noticeably low pressure. Check tire inflation pressure at (A) every 50 hours of operation.

1. Check tires for damage.
2. Keep heavy-duty tires inflated to 34-41 kPa (5-6 psi) and Extended Mobility Technology (EMT) tires inflated to 27-34 kPa (4-5 psi).

**IMPORTANT:** Locate the **MAXIMUM PSI** information embossed into the tire side wall.

3. Heavy-Duty All Purpose tire inflation pressure can be as low as 27 kPa (4 psi) and EMT tires as low as 14 kPa (2 psi) to provide a better ride.
4. Check tire pressure with an accurate gauge.



## SERVICE MISCELLANEOUS

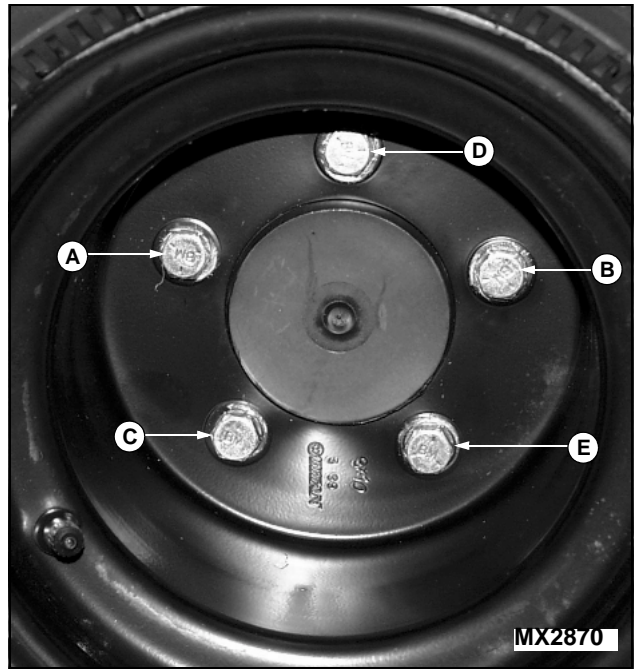
### Installing Wheels

Install wheel bolts on drive wheels (valve stem to outside) making sure beveled sides face inward, and tighten in proper sequence (A), (B), (C), (D) and (E) as illustrated, alternately and even until “snug”.

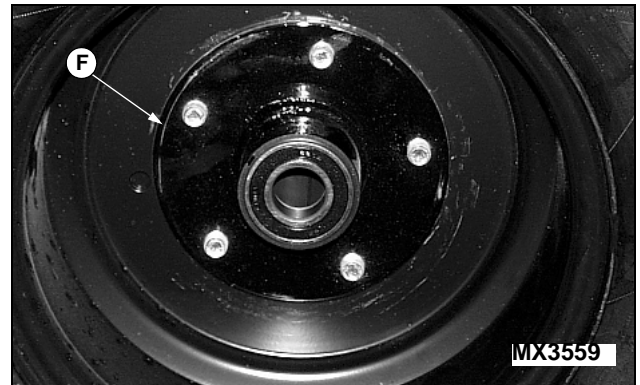
Tighten bolts to 90 N•m (65 lb-ft) on drive wheels.

**IMPORTANT: Overtightening of front wheel hub bolt may result in bearing damage.**

Tighten front wheel bolts to 90 N•m (65 lb-ft).



Install hub (F) on the front wheel of the EMT tire and tighten each mounting bolt to 90 N•m (65 lb-ft).



Install wheel and tire to axle hub on utility vehicle using one M16 x 40 flanged cap screw. Tighten to 90 N•m (65 lb-ft).



## SERVICE MISCELLANEOUS

### Cleaning Engine Compartment And Operator Station

Clean for debris or refuse from engine compartment, especially around brake linkage which attaches to output shaft on each side of transaxle.

Clean debris from brake pedal and accelerator pedal area of operator's station.



### Grease

Use the following grease based on the air temperature range. Operating outside of the recommended grease air temperature range may cause premature failures.

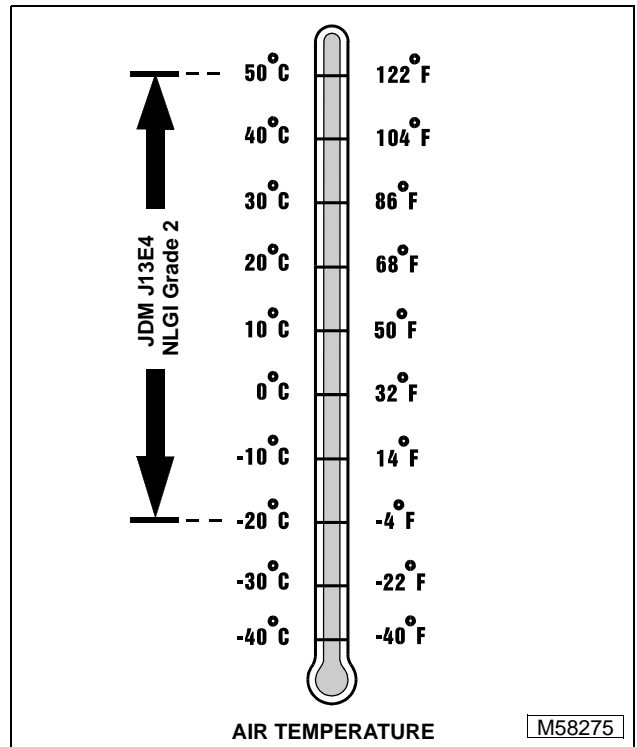
ONLY use a quality grease in this application. DO NOT mix any other greases in this application. DO NOT use any BIO-GREASE in this application.

The following John Deere grease is PREFERRED:

NON-CLAY HIGH-TEMPERATURE EP GREASE®—JDM J13E4, NLGI Grade 2.

Other greases may be used if above preferred John Deere grease is not available, provided they meet the following specification:

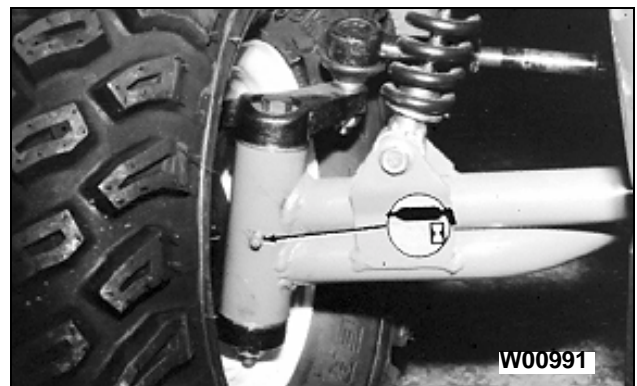
John Deere Standard JDM J13E4, NLGI Grade 2.



### Lubricating Front King Pins

**NOTE:** In extreme conditions lubrication should be done every 25 hours. Under normal conditions, it should be done every 50 hours.

Lubricate one grease fitting on each king pin bushing with one or two shots John Deere Moly High Temperature EP Grease or an equivalent.





## SERVICE MISCELLANEOUS

### Cleaning And Polishing Plastic Hood and Fenders

**IMPORTANT:** To keep scratches on plastic parts to a minimum, do not rub or brush off any parts with bare hands, use a soft cloth or a light flow of compressed air. For dirt, wash with a steady stream of water only (no detergent), then blow off excess water with air.

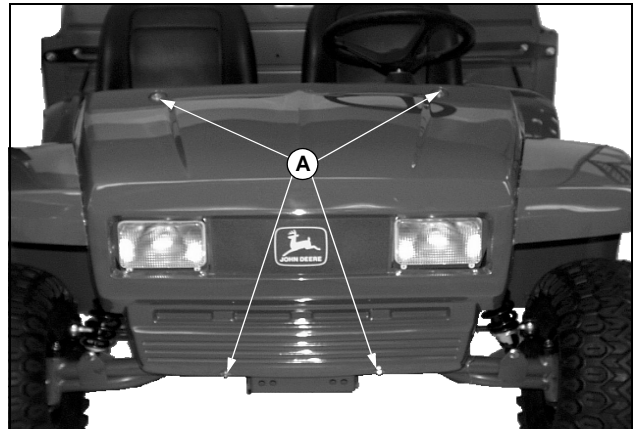
1. Remove excess dust or dirt using water only.
2. When surface is dry, spray on PLEDGE®<sup>1</sup> and leave for 30 to 60 seconds.
3. Using a dry soft clean cloth (such as Cheesecloth) wipe off to bring up luster.

### Replacing Hood

1. Remove self-tapping screws (A) and lift hood up and off vehicle.

**IMPORTANT:** Prevent the possibility of premature failure of headlight bulbs due to hood contacting headlight housing. When installing hood be sure there is clearance all around headlight housing.

2. To replace, tighten top screws first then push hood upward leaving space all around headlight housings.
3. Tighten bottom screws.



<sup>1</sup> PLEDGE® is a registered Trademark of S.C. Johnson Co.

# TROUBLESHOOTING

## Using Troubleshooting Chart

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

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

## Engine

IF	CHECK
Engine will not start	Battery has low voltage.
	Loose or corroded battery connections.
	Fusible link is melted
	Fuel shut-off valve turned off.
	No fuel or improper fuel.
	Plugged fuel filter.
	Water entering fuel system
	Defective starter solenoid.
Engine is hard to start	Open-circuit of wires.
	Engine is cold.
	Plugged fuel filter.
	Loose or corroded electrical connections.
Engine misses under load	Stale or improper fuel.
	Stale or dirty fuel.
Engine vapor locks	Plugged fuel filter.
	Fuel tank vent plugged.
Engine runs unevenly	Dirt in fuel filter.
	Loose electrical connections.
	Fuel line or fuel filter plugged.
	Stale or dirty fuel.
	Improper fuel.
	Air cleaner element plugged.



## TROUBLESHOOTING

IF	CHECK
Engine overheats	Air cleaner element missing or plugged.
	Engine oil low.
	Engine operated too long at slow engine speed.
Engine loses power	Engine overheating.
	Too much oil in engine.
	Travel speed is too fast for conditions.
	Improper fuel.
	Air cleaner element plugged.
Engine knocks	Low engine speed.
	Excessively early timing of fuel injection pump.
	Engine overloaded.

### Electrical

IF	CHECK
Starter	Low battery output.
	Engine oil viscosity too heavy.
	Loose or corroded connections.
Battery will not charge	Dead cell in battery.
	Low engine speed or excessive idling.
	Battery cables and terminals dirty.
	Regulator connection loose.
	Defective regulator.
Lights do not work	Fusible links melted
	Loose or blown bulb.
	Switch connection loose.

# TROUBLESHOOTING

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## Brakes

IF	CHECK
Brakes squeal or make noise	Change transaxle oil.
	Check for debris or moisture in oil.

## Cargo Box Lift System

IF	CHECK
Cargo box won't lift or lower	Check electrical connections.
	Check batteries for adequate charge.
	Loose switch connection.

# STORING MACHINE

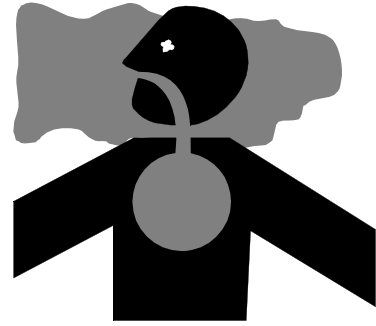
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## Storing Safety



**CAUTION:** Engine exhaust fumes can cause sickness or death.

- If it is necessary to run engine in an enclosed area, use an exhaust pipe extension to remove the fumes. Always work in a well ventilated area.
- **DO NOT** store vehicle with fuel in the tank inside a building where fumes may reach an open flame or spark.
- **Allow engine to cool before storing in any enclosure.**
- **Remove the battery and store it in a cool dry place where it will not freeze, and where children cannot reach it.**



## Storing Vehicle

**IMPORTANT:** Follow storage procedure anytime vehicle will not be used for several months to minimize corrosion and deterioration.

1. Service air cleaner.
2. Change engine oil and filter if needed.
3. Clean engine and engine area.
4. Drain fuel and add back 4 L. (1 gal) of fuel. Then add 0.4 L (12 oz.) of stabilizer/corrosion inhibitor.
5. Add 0.25 L (9 oz.) of corrosion inhibitor to transmission-hydraulic system.
6. Start engine until it reaches operating temperature.
7. Shutoff engine.
8. Close fuel shutoff at fuel tank.
9. Add 0.5 L (16 oz.) more inhibitor to the fuel tank.
10. Add 0.5 L (16 oz.) inhibitor to the engine crankcase at the air filter/breather.
11. Loosen alternator fan belt after it has cooled.
12. Remove and clean batteries. Store in a cool dry place. **DO NOT** allow batteries to freeze. Keep them charged.

# STORING MACHINE

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13. Lubricate grease points.

14. Put blocks or stands under vehicle to take weight off tires. Let 1/3 of the air out of tires.

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

## Removing Vehicle From Storage

1. Check tire pressure and fill tires with air.
2. Take vehicle off of blocks or support stands.
3. Fill fuel tank.
4. Open fuel shutoff valve at fuel tank.
5. Check engine oil level.
6. Check battery electrolyte level. Charge battery if necessary. Install battery.
7. Lubricate all grease points.
8. Check transaxle oil level.
9. Check belts for wear and damage. Adjust belt tension if required.



**CAUTION: Engine exhaust fumes can cause sickness or death. Help prevent personal injury or death, if it is necessary to run engine in an enclosed area, remove fumes with an exhaust pipe extension. If an extension pipe is not used, open doors to provide ventilation or use power ventilators designed for this purpose.**

10. Run the engine 5 minutes with no engine load.

11. Be sure all shields and guards are in place.

# ASSEMBLY

## DO NOT Modify Machine

**CAUTION:** Help prevent severe bodily injury or death from loss of stability or control of vehicle, **DO NOT** modify in any way.

Do Not make any unauthorized modifications to the vehicle in any way.

Modifications can result in making the vehicle unstable, increasing the possibility of roll-over causing severe injury or death.

## Prepare For Assembly

1. Remove top and sides of shipping crate.

**CAUTION:** To help prevent bodily injury from falling vehicle, raise utility vehicle using and overhead hoist and place on safety stands to assemble.

2. Locate and identify all parts and hardware.

- Belt/chain shields
- Steering wheel
- Power lift kit
- Bumper brush guard
- Front lift/tie-down rings
- Fire extinguisher

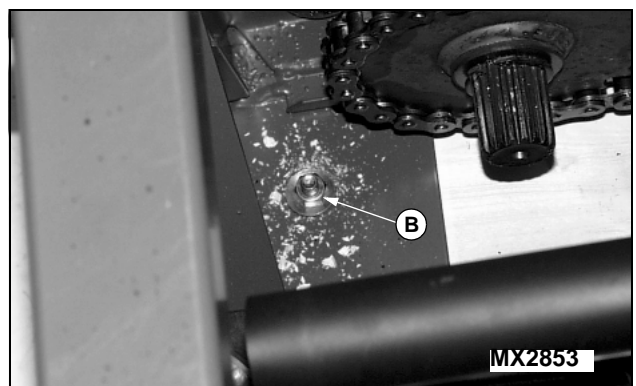
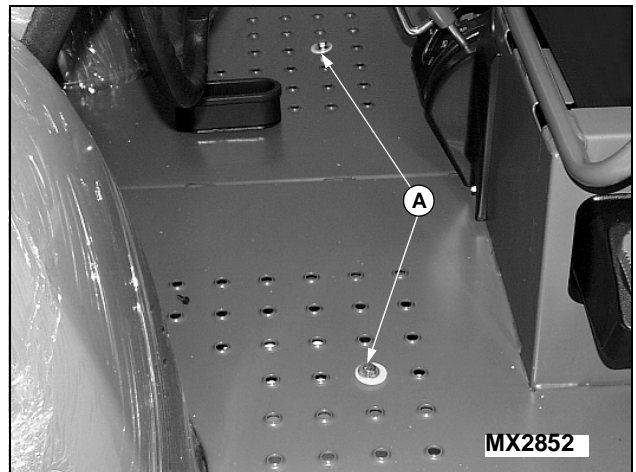
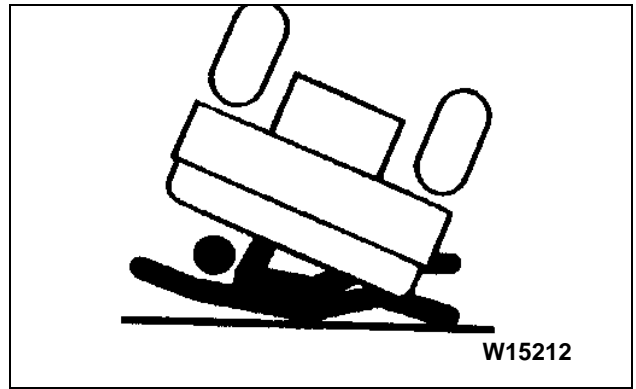
**NOTE:** The steel cargo box and front bumper brush guard are in a separate crate and has two cargo boxes to a crate.

3. Remove front shipping screws and washers (A), on each side of the front platform.

4. Remove two rear-shipping screws and washers (B), on each side of rear frame.

5. Raise vehicle using a safe lifting device. Remove pallet from under vehicle.

6. Position safety stands under vehicle.



# ASSEMBLY

## Check Tire Pressure and Condition

**IMPORTANT: Tires are shipped over inflated.  
Reduce inflation pressure in ALL  
tires.**

1. Keep heavy-duty tires inflated to 34-41 kPa (5-6 psi) and Extended Mobility Tires (EMT) tires inflated to 27-34 kPa (4-5 psi).
2. Heavy-Duty All Purpose tire inflation pressure can be as low as 27 kPa (4 psi) and EMT tires as low as 14 kPa (2 psi) to provide a better ride.
3. Measure circumference of all tires. Tires with the largest circumference must be placed in the most rearward position to provide the most positive ground contact for drive wheels.
4. Mount wheels with valve stem to outside.

## Install Front Wheels and Tires (Heavy Duty)

**IMPORTANT: Overtightening front wheel hub bolts  
can result in bearing damage.**

1. Install wheels using M16 x 40-flanged cap screw (A).
2. Tighten cap screws to 90 N•m (65 lb-ft.).



3. Install plastic hubcap (G).



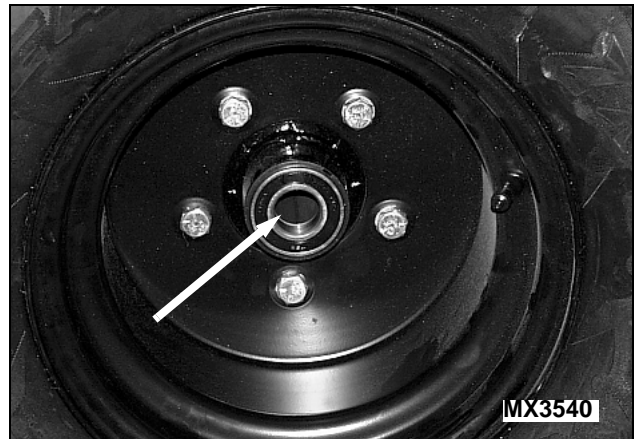


## ASSEMBLY

### Install Front Extended Mobility Technology Tires (EMT)

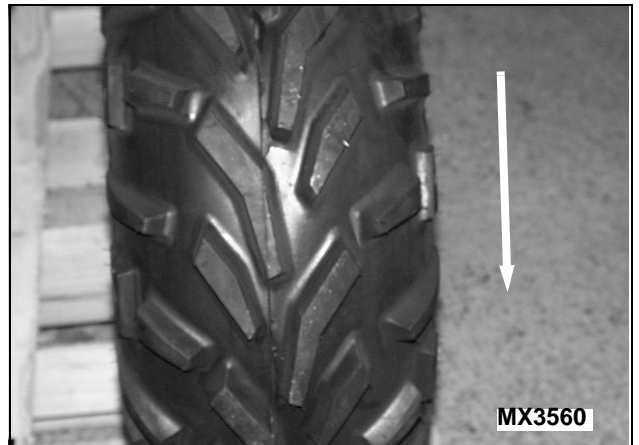
**IMPORTANT:** Overtightening front wheel hub bolts can result in bearing damage.

1. Install wheel and tire to axle hub on utility vehicle using one M16 x 40-flanged cap screw. Tighten to 90 N•m (65 lb-ft).



**NOTE:** Tire treads should be angled as shown, when viewed from the front of the vehicle. The direction of arrow is forward motion.

2. Install plastic hubcap.



# ASSEMBLY

## Install Belt/Chain Shields

**NOTE:** Before installing, identify the left and right shields (A) and (B) respectively.

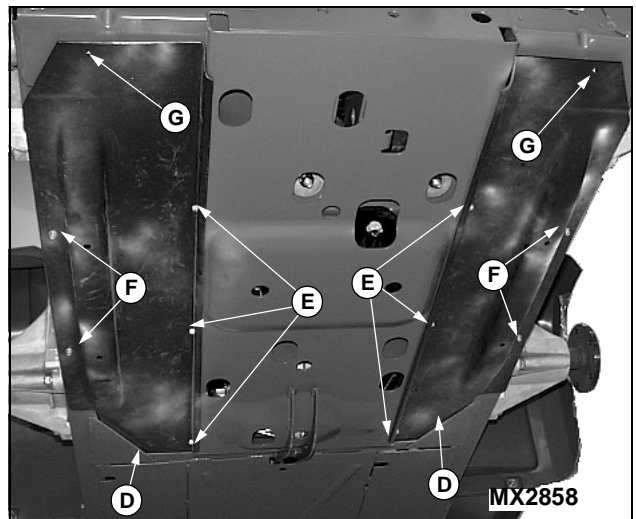
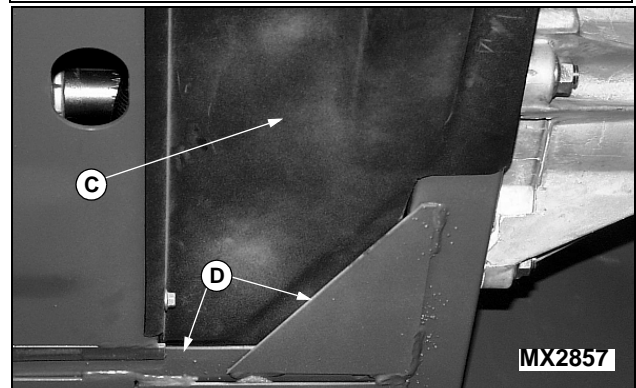
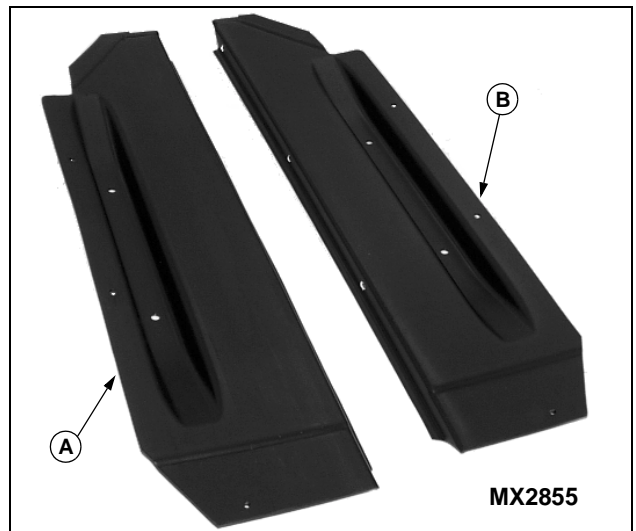
*It is easier to place shields on frame without rear tires and wheels installed.*

1. Locate from below and place front lip of each shield (C) inside of opening (D) towards the front of frame.

2. Use three M6 x16 self-tapping screws to attach each shield to the engine channel (E), use existing holes.

3. Use two M6 x16 self-tapping screws to attach each shield to the side frame (F), use existing holes.

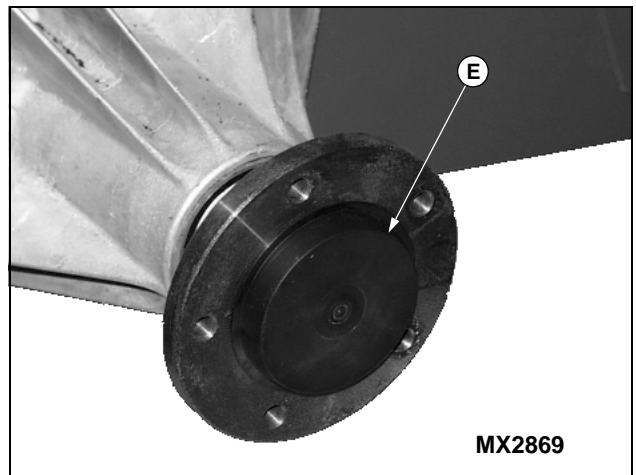
4. Use one M6x20 flange head bolt and washer from the underside to attach the rear part of shield (G) to the vehicle. Use one M6 nut and washer on the inside of frame.



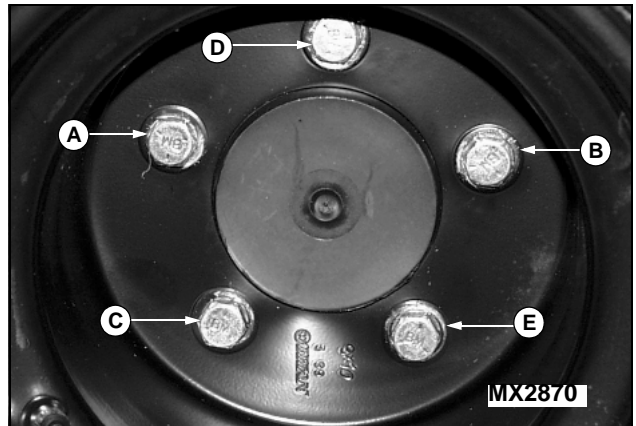
# ASSEMBLY

## Install Rear Wheels and Tires

1. Install plastic cap (E) on the rear of each wheel axle shaft hub. Attach one wheel and tire to each rear axle using five wheel bolts. Tighten until snug.



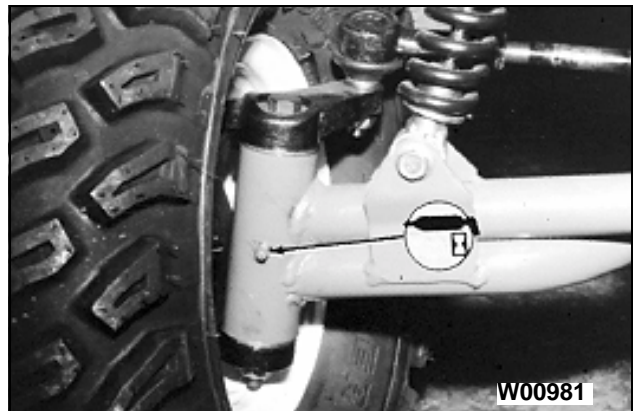
2. Tighten bolts to 90 N•m (65 lb-ft) in sequence (A), (B), (C), (D) and (E).



## Lubricate Front Kingpins

**NOTE:** In extreme conditions, lubrication should be done every 25 hours. Under normal conditions, it should be done every 50 hours.

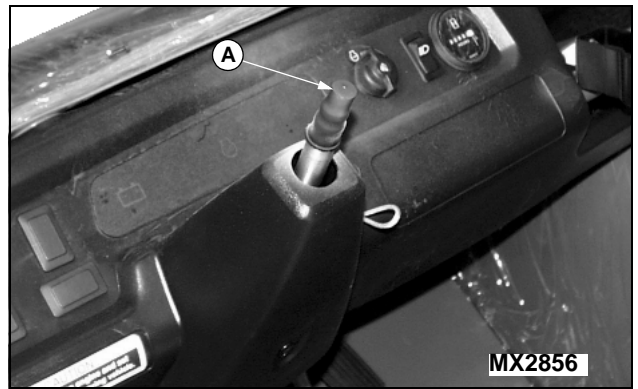
- Lubricate one grease fitting on each kingpin axle arm.



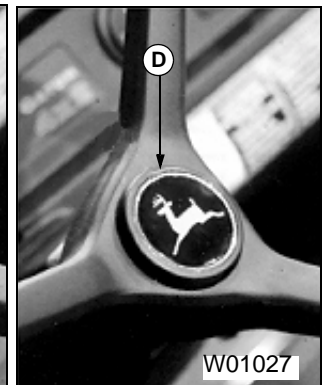
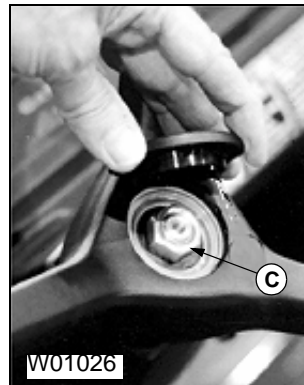
# ASSEMBLY

## Install Steering Wheel

1. Remove rubber protector (A) from steering shaft.
2. Coat steering shaft with multi-purpose grease.
3. With front wheels straight and facing forward, install steering wheel (B).



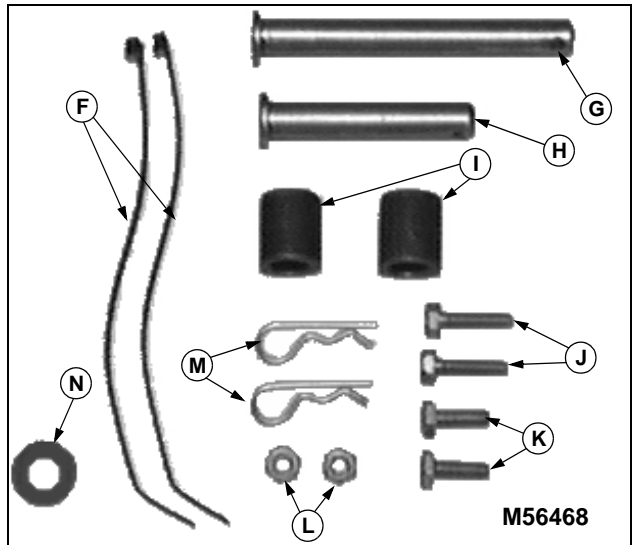
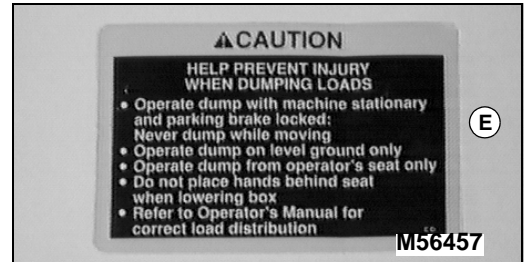
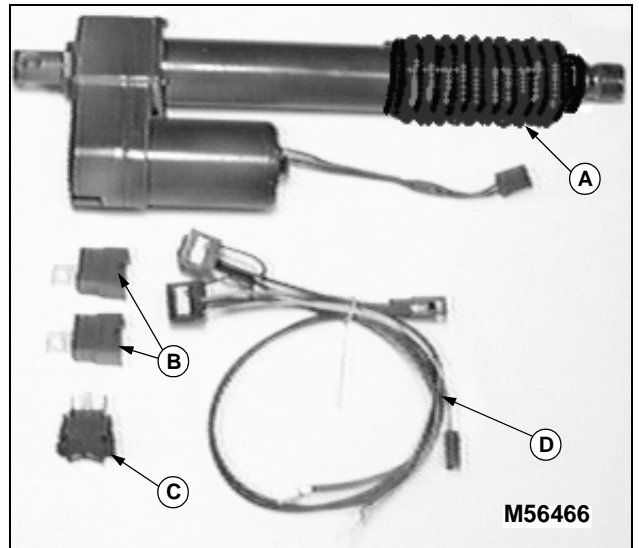
4. Install nut (C) and tighten until snug.
5. Install logo cap (D).



# ASSEMBLY

## Power Lift Kit

Qty	Description
1	Electric Lift Cylinder (A)
2	Relays (B)
1	Lift Switch (C)
1	Relay Wiring Harness (D)
1	Decal (E)
2	Tie Straps (F)
1	Pin (G)
1	Pin (H)
2	Bushings (I)
2	Self-tapping screws (J)
2	Cap screws (K)
2	Nuts (L)
2	Spring pins (M)
1	Flat washer (N)





# ASSEMBLY

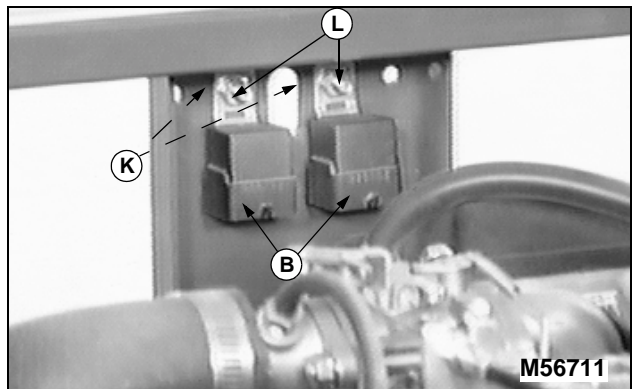
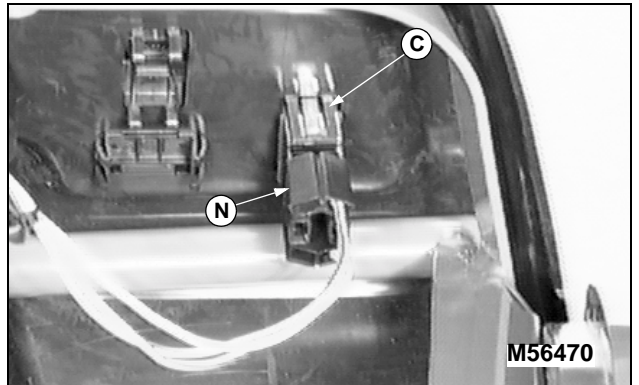
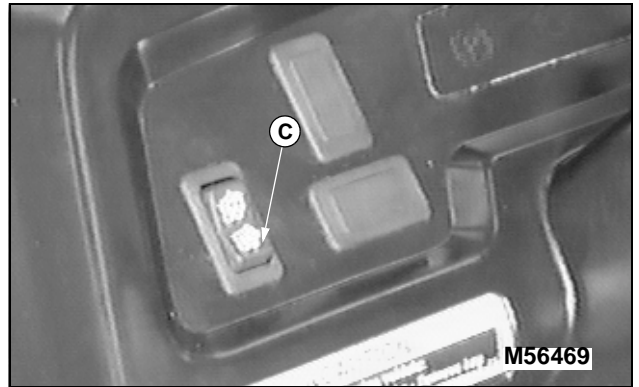
## Install Power Lift Kit

1. Remove hood.
2. Push out dash plug and install the lift switch (C).

**NOTE:** Hold switch in place when connecting connector to avoid switch from popping out of dash.

3. Plug connector (N), from main wiring harness, to switch (C).

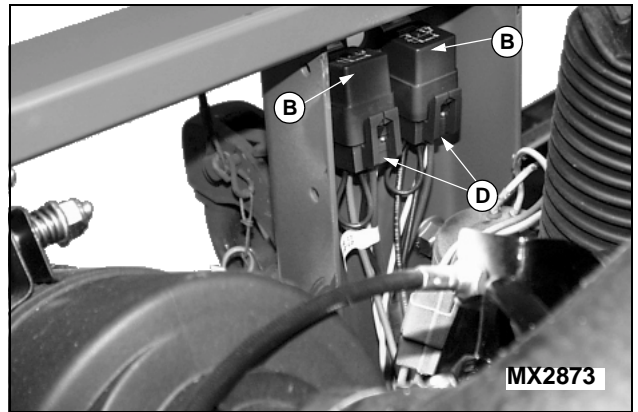
4. Install relays (B) to inside of rear frame with two cap screws (K) and nuts (L). Nuts go to inside of frame.





# ASSEMBLY

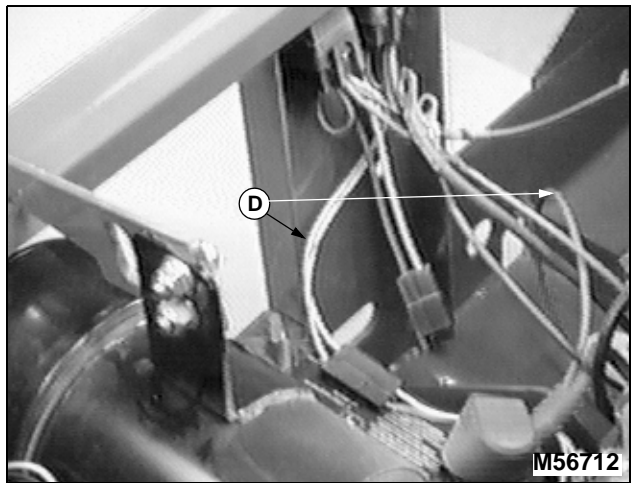
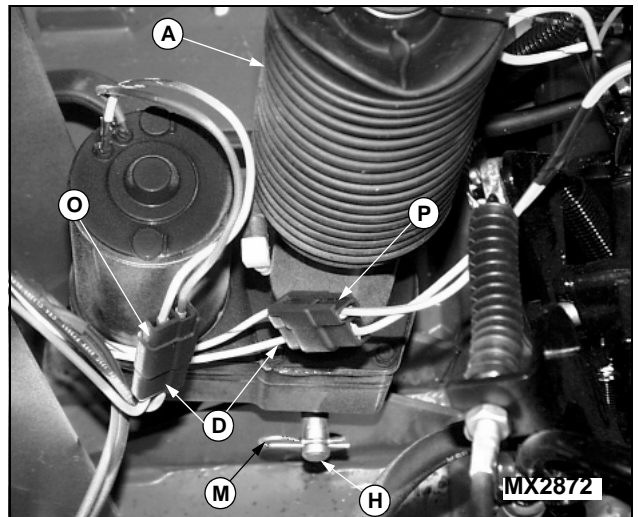
5. Connect relay wiring harness connectors (D) to relays (B), either connector to either relay.



6. Connect connector (P) (yellow wires) on relay harness (D) to connector on main harness (yellow wires) near thermostat.

7. Install lift cylinder (A) (motor facing to rear) with short pin (H), and spring pin (M).

8. Connect wire connector (O), from lift motor, to the relay wiring harness connector (D) (orange and black wires).



# ASSEMBLY

## Add Electrolyte To Batteries

**CAUTION:** Battery acid is a poison and could cause burns. Avoid contact with skin, eyes, and clothes. **DO NOT** drink battery fluid. When you work around battery, protect eyes and face from battery fluid. Battery gases can explode. Keep cigarettes, sparks, and flames away from battery.

**IMPORTANT:** Battery should be removed from utility vehicle before filling it with electrolyte to prevent damage to utility vehicle from spilled electrolyte.

1. Use only battery-grade sulfuric acid electrolyte with 1.265 specific gravity.

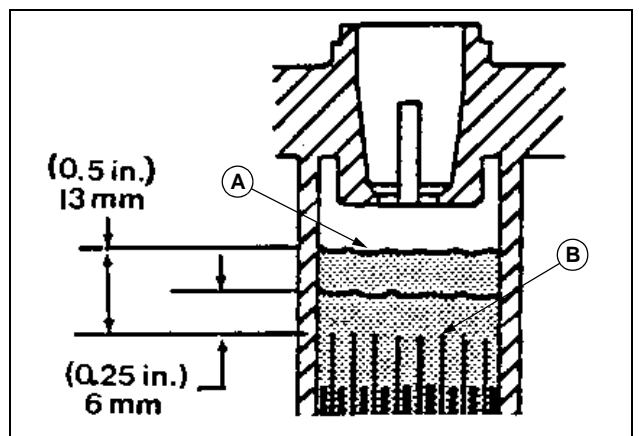
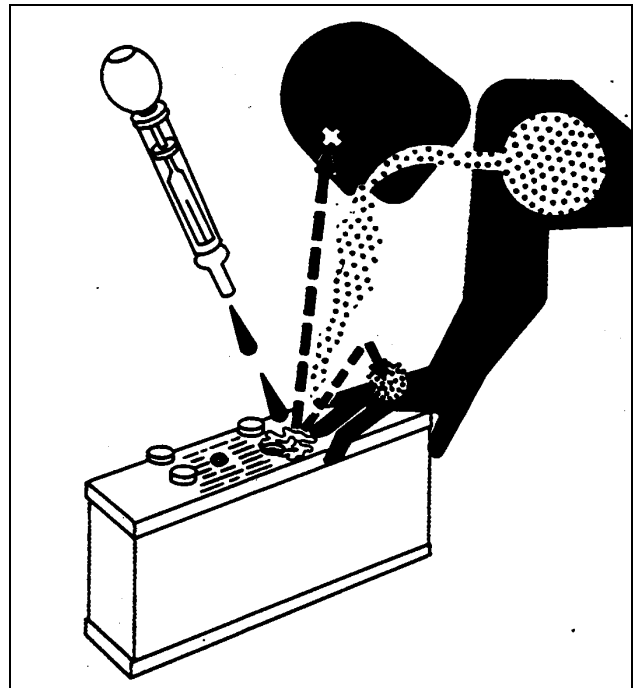
**NOTE:** *Some utility vehicle batteries may have shipping caps, remove and discard these caps.*

2. Remove battery cell caps. (See Checking and Cleaning Battery in Electrical Service section.)
3. Slowly add electrolyte (A) until plates (B) are just covered.

**CAUTION:** Help prevent personal injury from acid burns. After battery is activated, the gases in the battery are explosive. Keep sparks and flames away from battery, especially when charging battery.

**IMPORTANT:** Two 12 volt batteries are in parallel and is not a 24 volt system.

4. Charge each battery at 15 amps for 10 minutes or 7 amps for 30 minutes. **DO NOT** exceed recommended charging rate. If electrolyte starts to boil over, decrease charging rate.
5. After charging, add electrolyte until level is 6 - 13 mm (0.25 - 0.5 in.) above plates.
6. Install vent cap.



# ASSEMBLY

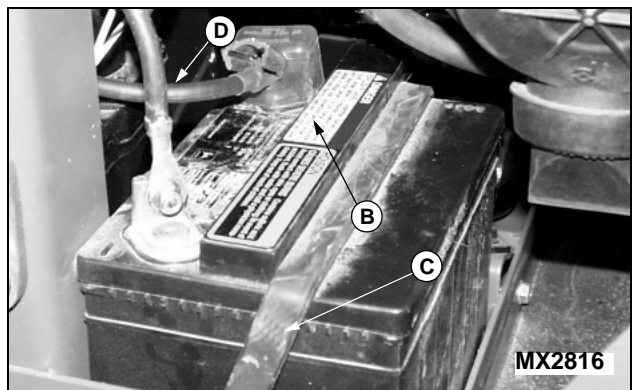
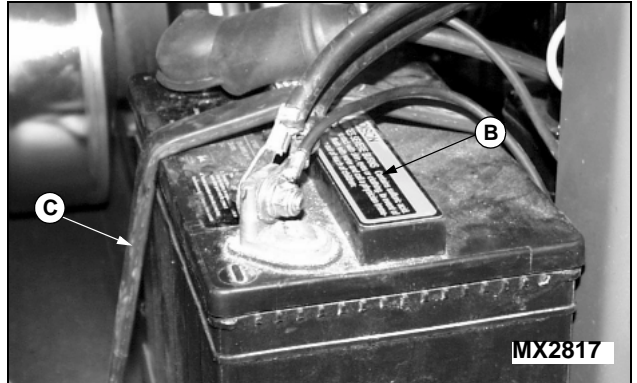
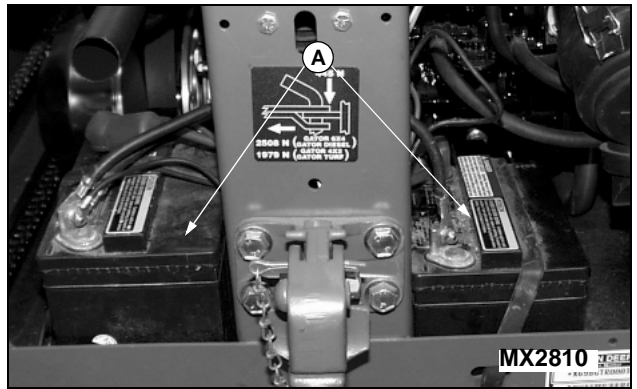
## Install Batteries

1. Install batteries in both locations (A), with the positive terminal to front left.

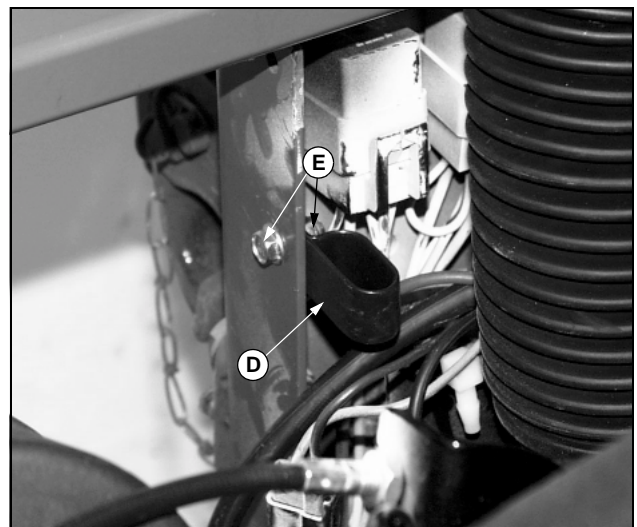
**Picture Note: Photo MX2817 is left side battery. Photo MX2816 is the right side battery**

2. Install manifolds (B) with the vent tube to the front. Attach tube, route tube to the hole in frame.

3. Secure each battery with hold-down strap (C).



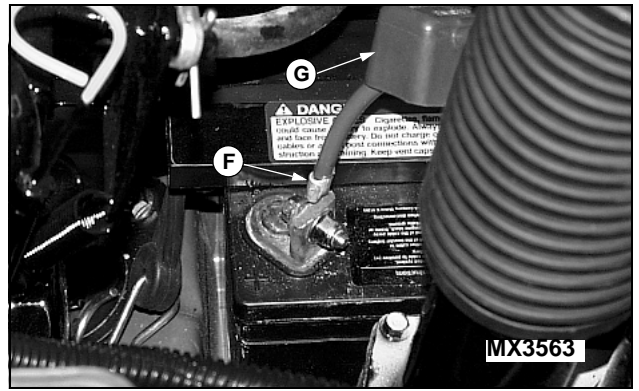
4. Install clamp (D) to inside rear frame using M6x20 bolt and M6 flange lock nut (E).



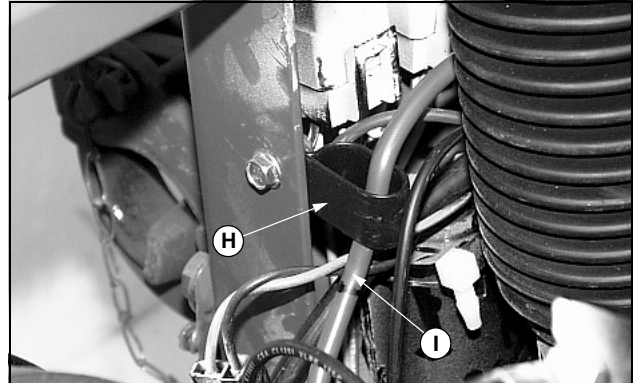


# ASSEMBLY

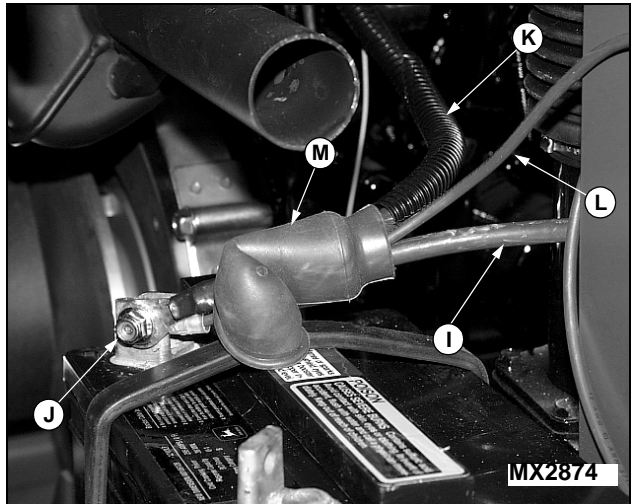
5. Use the red battery cable from the bag of parts. Attach the end of the cable with the square, and red boot (G) to the positive post of the right battery using a M6x20 bolt and M6 flange locknut. Cover the battery post connection with the square boot.



6. Slide the round boot off the other end of the cable. Route the cable (I) up through the clamp (H) on the inside rear frame, over the top of the electric lift motor, and down to near the positive post of the left battery. Install the round boot on the cable.



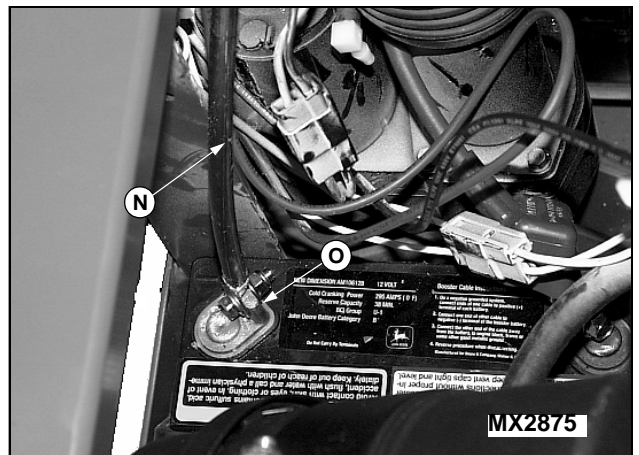
7. Insert the long red cable (K) coming from the starter and the red wire (L) from the electric lift motor into the round red boot (M).



8. Attach all three cables to the front left positive terminal (J) of the left battery using a M6x20 bolt and M6 locknut and washer.

9. Cover the connection with the round red boot (M). Check to be sure that the cables are routed away from the muffler and electric lift cylinder motor.

10. Obtain the black battery cable from the bag of parts. Attach one end of the cable (N) to the negative, rear post (O) of the right battery using a M6x20 bolt and M6 locknut and washer. Route the cable over to the rear of the electric lift motor, towards the rear, negative post of the left battery.



## ASSEMBLY

11. Attach the black (negative) cable (N) coming from the right battery, the black (negative) cable (P) coming from the engine block, and the black wire (Q) coming from the electric lift motor, to the rear, negative terminal (R) of the left battery using a M6x20 bolt and M6 locknut and washer. Check to be sure that the cables are routed away from the muffler and moving parts.

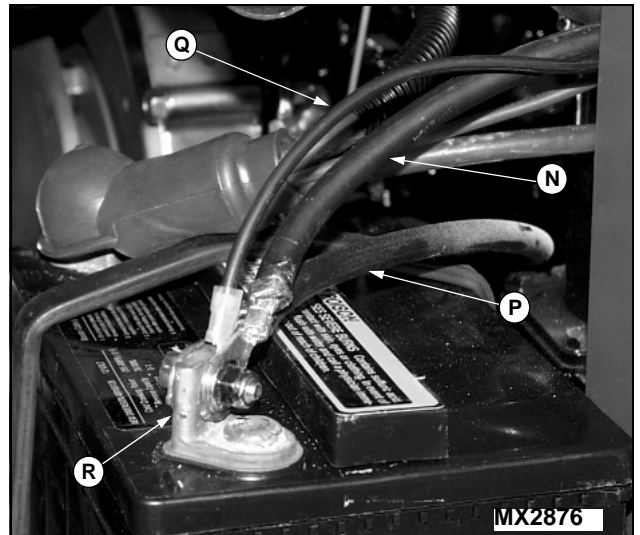
12. Tie the excess lengths of wire from the electric lift motor with tie straps, such that they are kept away from the muffler, the battery, and any moving parts.

13. Grease all terminals.

14. Tighten connections.

15. Slide protective covers down over positive battery post and terminal.

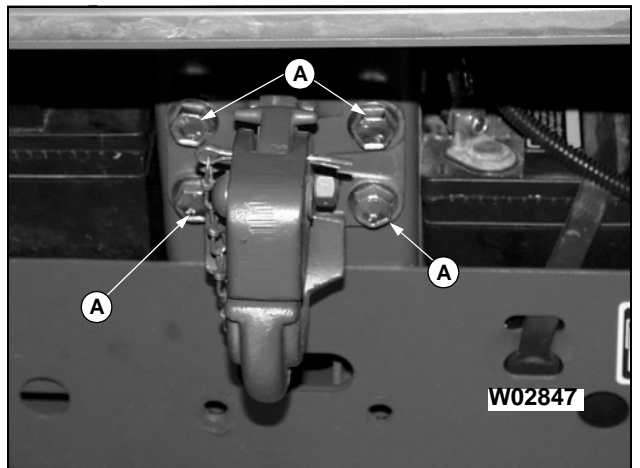
16. Check lights.



### Install Hitch

1. Install four M12x35 flange bolts (A) through the hitch plate and vehicle frame, with bolt heads facing out.

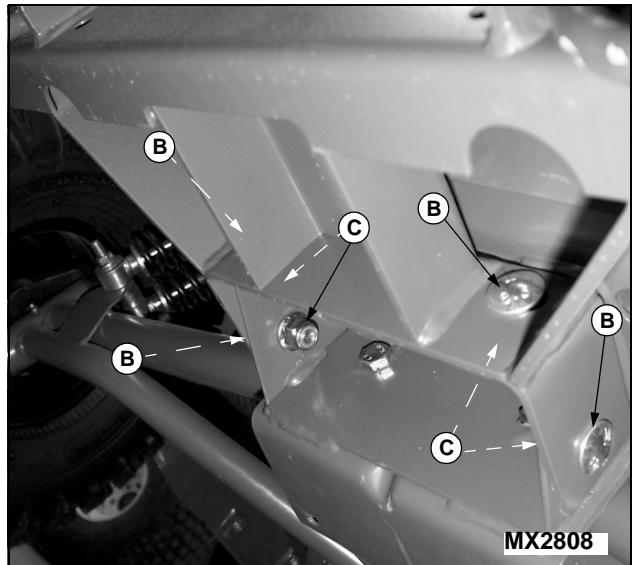
2. Tighten to standard torque values the four nuts on the inside of frame.



# ASSEMBLY

## Install Bumper Brush Guard

1. Fasten front bumper brush guard (A) to utility vehicle with four M12x25 carriage bolts (B) and four-flange lock nuts (C), nuts to the inside.



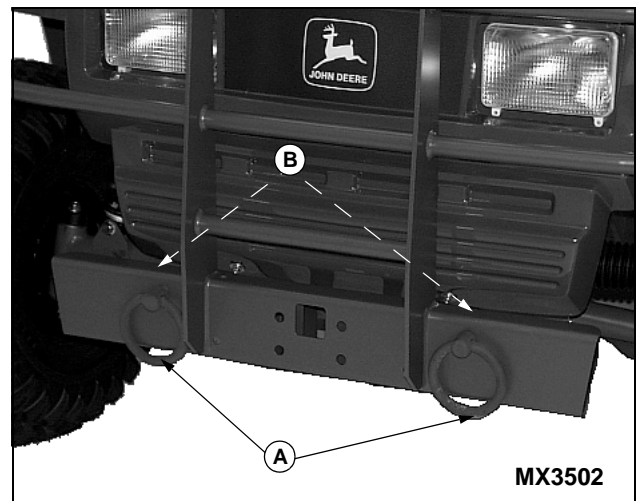
## Install Front Lift and Tie-Down Rings

1. Install lift and tie-down ring (A) in the existing holes in the front bumper.

2. Hold ring with wooden or plastic bar to prevent rotation of the ring during tightening of the nut.

**NOTE: The ring must be free to rotate. If it does not, loosen the nut until it does.**

3. Tighten the 3/4 inch nut (B) until it just contacts the shoulder on the bolt.

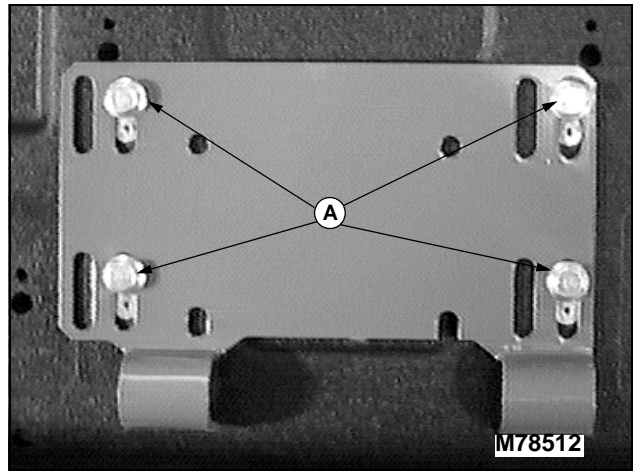




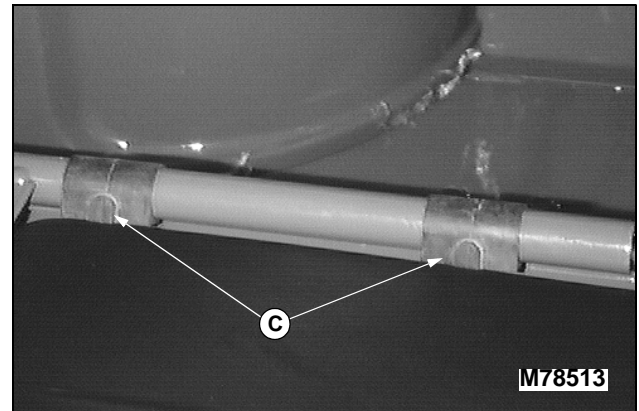
# ASSEMBLY

## Install Driver Seat

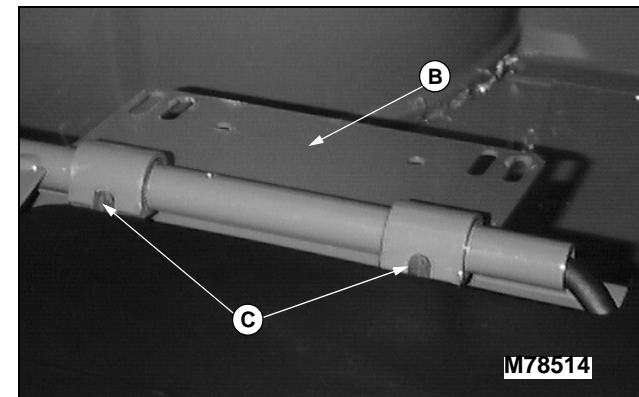
1. Remove hardware (A) from bottom of seat base bracket (B).



2. Position rubber seat bushings (C) onto seat frame rail with tabs facing to the rear.

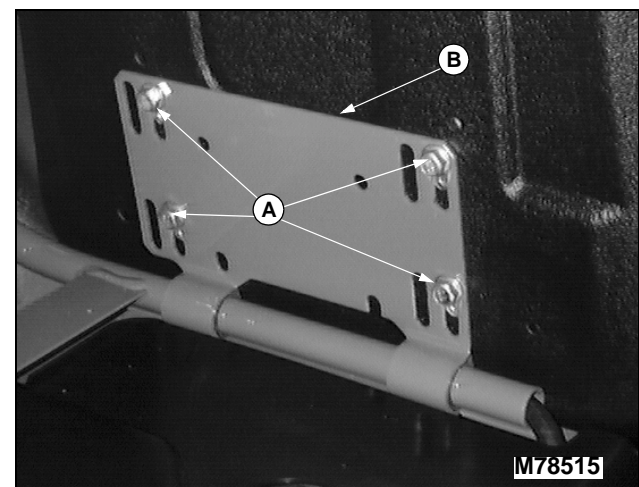


3. Position seat base bracket (B) onto rubber seat bushings (C).



**NOTE:** The passenger seat does not use a bolt in the left rear hole.

4. Rotate seat base bracket (B) into an upward position and attach seat with hardware (A).



# ASSEMBLY

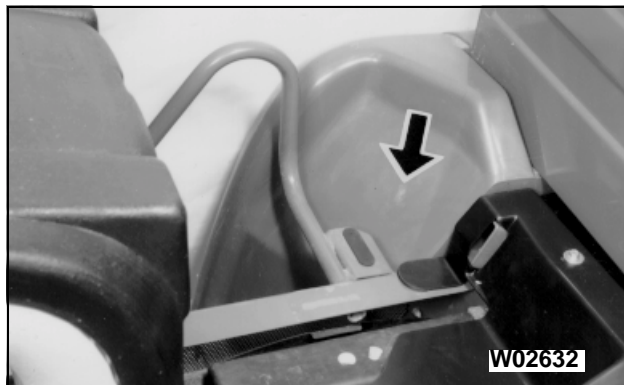
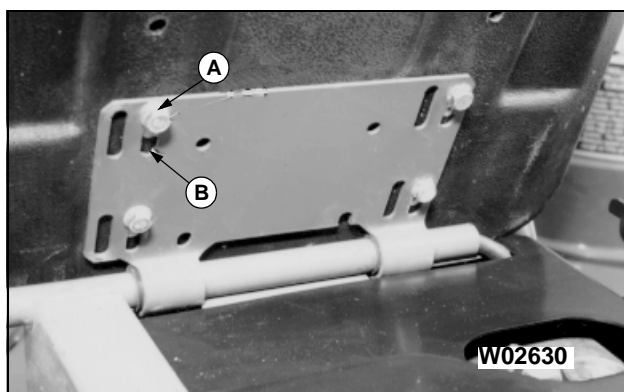
## Adjust Seat

**NOTE:** Slots (B) allow the moving of seats forward and rearward to provide operator comfort. The passenger seat if moved to the most rearward position will contact fender (indicated by the arrow) or contact windshield (if equipped) if seat is rotated forward.

1. Loosen four cap screws (A).

**NOTE:** Seat can't be placed back all the way, because the back of the seat will come in contact with the front of the rear fender.

2. Move seat forward or rearward in slots (B) to position desired.
3. Tighten cap screws.



# ASSEMBLY

## Install Cargo Box

1. Safely remove cargo box from crate.

**NOTE: A hoist may be necessary to lift and align cargo box on to frame.**

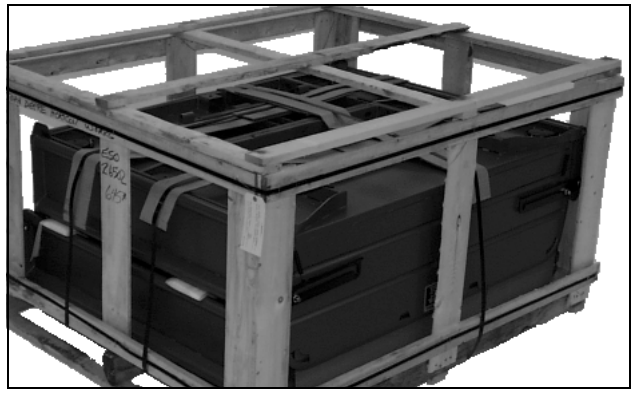
2. Place cargo box onto frame; align hinge tabs on rear of frame and bushings on cargo box.

3. Attach box at rear on each side using M12 x 90 cap screws and flanged lock nuts (A). Install cap screw with threads to the outside of vehicle.

**NOTE: It may be necessary to tighten cap screws to squeeze tabs to minimize noise from vibration. Use spray lube to eliminate squeaks until pivot points wear in.**

4. Tighten cap screws pulling in tabs until they contact ends of bushings.

5. Spray bushings and tab area with a spray lubricant.



**CAUTION: Safely prop cargo box while attaching electric lift cylinder, so that the box will not come down and cause injury.**

6. Attach electric lift cylinder to cargo box. Lift cargo box by hand and safely prop box open for lift cylinder access.

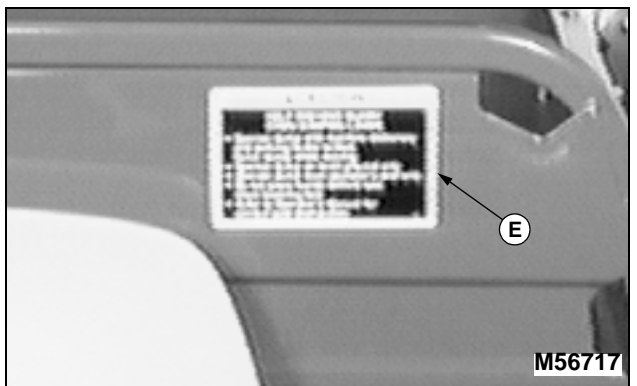
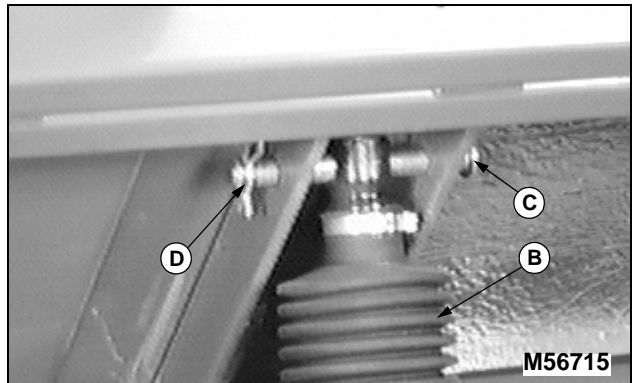
**IMPORTANT: DO NOT over extend cylinder. Rod and boot will turn, causing boot to twist. Damage to boot will occur.**

7. Turn ignition switch to RUN position ONLY. Press RAISE position on switch to extend cylinder.

8. Fasten lift cylinder (B) to cargo box with long pin (C) and spring pin (D) from the Lift Cylinder Kit.

9. Apply decal (E) on front left side of load guard as shown:

- Remove backing, use squeegee to carefully smooth decal on load guard to avoid air bubbles and wrinkles. If air bubbles occur, pick with a pin and smooth out.
- Decal MUST be fully displayed and NOT obstructed by operator's seat.



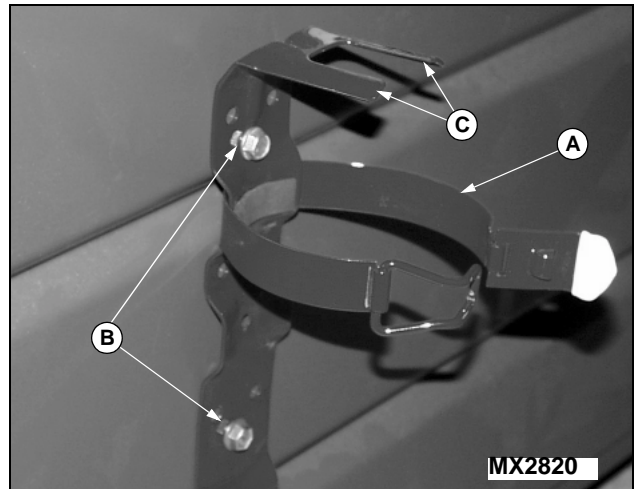
## ASSEMBLY

### Install Fire Extinguisher and Bracket

1. Place the bracket (A) against cargo box front between seats and align with already existing holes.

**NOTE: Bolt heads to the outside.**

2. Tighten locknuts onto the two M6x16 bolts (B).



3. Place the fire extinguisher into the bracket, so that the bracket tongues (C) fit into the grooves of the extinguisher head.

4. Close clamp around extinguisher body.





# ASSEMBLY

## Remove Protective Plastic From Hood And Fender Covers

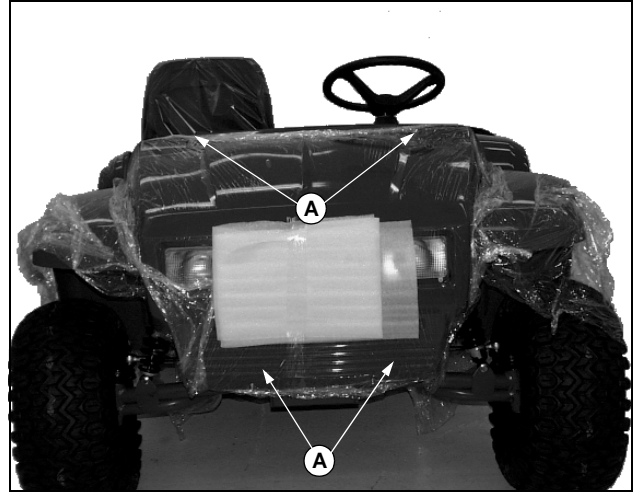
1. Remove screws (A) and lift hood up and off vehicle.

**IMPORTANT:** To keep scratches on plastic parts to a minimum, take care when removing protective plastic. Do not rub or brush off any parts with bare hands, use a soft (i.e. cheesecloth) or a light flow of compressed air.

2. Remove plastic from hood.
3. Using a sharp utility knife, carefully slit protective plastic where fenders join metal frame.
4. Pull plastic up and away from fender, then remove remaining plastic in joint by pulling from below.
5. Remove protective plastic from rear fenders and box extensions.

**IMPORTANT:** Help prevent the possibility of premature failure of headlight bulbs due to hood contacting headlight housing. When installing hood be sure there is clearance all around headlight housing.  
**Be sure hood does not contact headlight housing.**

6. Replace hood, tighten top screws first then push hood upward leaving space all around headlight housings.
7. Tighten bottom screws.



# ASSEMBLY

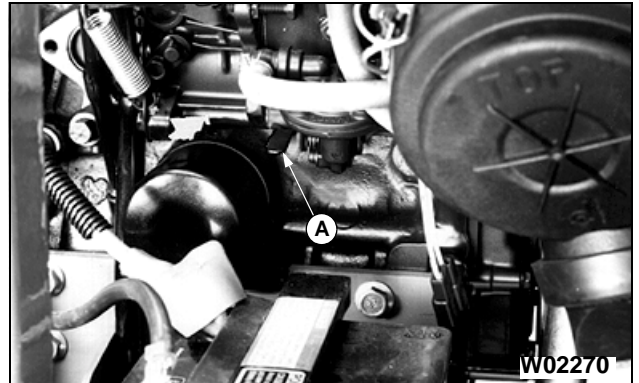
## Cleaning And Polishing Plastic Hood And Fenders

**IMPORTANT:** To keep scratches to a minimum, do not rub or brush off any parts with bare hands, use a soft cloth (i.e. cheesecloth) or a light flow of compressed air. For dirt, wash with a steady stream of water only (no detergent), then blow off excess water with air.

1. Remove excess dust or dirt.
2. When surface is dry, spray on PLEDGE®<sup>1</sup> and leave on 30 to 60 seconds.
3. Using a dry soft cloth (i.e. cheesecloth) wipe off to bring out lustre.

## Prepare Fuel System

1. Add diesel fuel to fuel tank.
2. Open both fuel shut-off valves:
  - Arrow indicator up on the fuel tank shut-off valve.
  - Lever down, pointing to “O” (open) position on fuel filter shut-off valve.
3. Move fuel pump primer lever (A) up and down. Continue operating lever until:
  - Sight bowl of fuel filter is full of fuel.
  - You can hear fuel returning to tank through return hose.



1. PLEDGE® is a Registered Trademark of S.C. Johnson, Co.



# SPECIFICATIONS

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## Engine

Make .....	Yanmar
Type .....	Diesel
Horsepower .....	13.8 kW (18 hp)
Displacement .....	2 L (121.7 cu.in.)
Cylinders .....	3
Bore .....	66 mm (2.60 in.)
Strokes/Cycle .....	4
Compression Ratio .....	23:1
Lubrication .....	Pressurized
Oil Filter .....	Full Flow (replaceable)
Air Cleaner .....	Replaceable, Dual, Paper Elements
Cooling .....	Liquid
<b>Engine Speeds</b>	
Slow Idle (No load) .....	1000 ± 50 rpm
Fast Idle (No load) .....	3550 ± 50 rpm

## Electrical System

Type .....	12 Volt
Battery Size .....	295 amps Cold Cranking Amps @ -18°C
Alternator .....	40 Amp, regulated
Regulator .....	Solid State

## Fuel System

Fuel Filter .....	Replaceable Element
Fuel .....	Diesel
Transfer Pump .....	Mechanical
Fuel Delivery .....	In-line, indirect injection
Fuel Tank Capacity .....	20.0 L (5.3 gal.)

# SPECIFICATIONS

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## Drive Train

Type .....	Belt-Driven Torque Converter With Gear-Driven Transaxle
Speeds .....	Forward-Neutral-Reverse
Travel Speeds (Forward) .....	29 km/h (18.0 mph)
Travel Speeds (Reverse) .....	28.5 km/h (17.7 mph)
Brakes .....	Mechanically Operated Internal Wet Disk
Steering .....	Rack and Pinion

## Fluid Capacities

Fuel Tank .....	20.0 L (5.3 gal.)
Cooling System (Including reservoir) .....	4.3 L (4.5 qt.)
Crankcase w/ Filter .....	2.0 L (2.1 qt.)
Transaxle .....	4.5 L (4.8 qt.)

## Dimensions

Width (overall with heavy duty tires) .....	1545 mm (60.8 in.)
Length (with bumper) .....	2810 mm (110.6 in.)
Height (overall with heavy duty tires) .....	1107 mm (43.6 in.)
Weight (includes fuel/fluids) .....	645 kg (1422 lb.)
Ground Clearance (under transaxle) .....	170 mm (6.7 in.)
Cargo Box Capacity .....	454 kg (1000 lb.)
Towing Capacity .....	635 kg (1422 lb.)

## Tires

### Heavy Duty All Purpose

Front .....	22.5 x 10.00
Rear .....	25 x 13.00-9

### Extended Mobility Technology (EMT)

Front .....	AT22 x 11.00-10
Rear .....	AT25 x 11.00-10

### Inflation Pressure

Front/Rear (heavy duty) .....	34 - 41 kPa (5 -6 psi) (0.34 - 0.41bar)
Front/Rear (EMT) .....	28 - 34 kPa (4 - 5 psi) (0.28 - 0.34 bar)

# SPECIFICATIONS

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## Recommended Lubricants

Engine Oil ..... John Deere PLUS-50–SAE15W-40TORQ-GARD SUPREME®–SAE5W-30  
Grease ..... John Deere NON-CLAY HIGH Temperature EP®–JDM J13E4, NLGI Grade 2  
Transmission Oil..... Low Viscosity HY-GARD® (JDM J20D)  
Front Axle Oil ..... Low Viscosity HY-GARD® (JDM J20D)

(Specifications and design subject to change without notice.)

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# WARRANTY

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## 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. The following warranties are in addition to the product warranty you received from your dealer at the time of sale.

## 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 Engine Warranty

### FEDERAL AND CALIFORNIA EMISSION CONTROL DEFECTS WARRANTY STATEMENT

### YOUR WARRANTY RIGHTS AND OBLIGATIONS

The United States Environmental Protection Agency (EPA), the California Air Resources Board (CARB) and Deere & Company (John Deere) are pleased to explain the emission control system warranty on your 1995 and later utility or lawn and garden equipment engine. In California new utility and lawn and garden equipment engines must be designed, built and equipped to meet the State's stringent anti-smog standards. In other states, new 1997 and later model year equipment engines must be designed, built and equipped, at the time of sale, to meet the U.S. EPA regulations for small non-road engines. The engine must be free from defects in materials and workmanship which cause it to fail to conform with U.S. EPA standards for the first two years of engine use from the date of sale to the ultimate purchaser. John Deere must warrant the emission control system on your utility or lawn and garden equipment engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your utility or lawn

and garden equipment engine.

Your emission control system may include parts such as the carburetor or fuel-injection system, the ignition system, and catalytic converter. Also included may be hoses, belts, connectors and other emission related assemblies.

Where a warrantable condition exists, John Deere will repair your utility or lawn and garden equipment engine at no cost to you including diagnosis, parts and labor.

## MANUFACTURER'S WARRANTY COVERAGE

In California, the 1995 and later utility and lawn and garden equipment engines are warranted for two years. In other states, 1997 and later model year equipment engines are warranted for two years. If any emission related part on your engine is defective, the part will be repaired or replaced by John Deere.

## OWNER'S WARRANTY RESPONSIBILITIES

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

You are responsible for presenting your utility or lawn and garden equipment engine 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

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# WARRANTY

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contact your John Deere Commercial and Consumer Equipment Retailer, or the John Deere Customer Communications Center, 1-800-537-8233.

## JOHN DEERE EMISSION CONTROL SYSTEM WARRANTY COVERAGE

### LENGTH OF WARRANTY COVERAGE

John Deere warrants to the initial owner and each subsequent purchaser that the lawn and garden equipment engine is:

- Designed, built and equipped so as to conform with all applicable regulations adopted by the California Air Resources Board (CARB) pursuant to its authority in Chapters 1 and 2, Part 5, Division 26 of the Health and Safety Code for 1995 and later equipment engines, 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 emission warranted part for a period of two years after the engine 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 emission related part on your engine 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 emission control system parts) to the extent these parts were present on the engine purchased.

#### Fuel Metering System:

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

#### Air Induction System:

- Air Cleaner
- Controlled hot air intake system.

- Intake manifold.

#### Ignition System:

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

#### Exhaust Gas Recirculation (EGR) System:

- EGR valve body and carburetor spacer if applicable.
- EGR rate feedback and control system.

#### Air Injection System:

- Air pump or pulse valve.
- Valves affecting distribution of flow.
- Distribution manifold.

#### Catalyst or Thermal Reactor System:

- Catalytic converter.
- Thermal reactor.
- Exhaust manifold.

#### Particulate Controls:

- Traps, filters, precipitators, and any other device used to capture particulate emissions.

#### Miscellaneous Items Used in Above Systems

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

Since emission 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 located within the United States of America. 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

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# WARRANTY

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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**

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

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

c) Any warranted part which is scheduled for replacement as required maintenance shall be 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 shall be warranted for the remainder of the period prior to the first scheduled replacement point for that part.

d) Normal maintenance, replacement or repair of emission 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 Emission 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 Emission 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 utility or lawn and garden equipment engine or transportation of the engine 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 UTILITY OR LAWN AND GARDEN ENGINE FOR ANY OTHER PURPOSE.

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

c) No dealer is authorized to modify this Federal,



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# WARRANTY

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California and John Deere Emission Control System Warranty.

## LEGAL RIGHTS

This Warranty gives you specific legal rights. You may also have other rights in the State of California for 1995 and later equipment engines and in other states for 1997 and later equipment engines.

**THIS FEDERAL AND CALIFORNIA EMISSION CONTROL SYSTEM WARRANTY IS IN ADDITION TO THE JOHN DEERE LIMITED ENGINE WARRANTY.**

## Limited Battery Warranty

***NOTE: Applicable in North American 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.

## NO DEALER WARRANTY

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

# WARRANTY

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## 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

# INDEX

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A	
Accelerator Pedal, Operating .....	14
Accidents, Prevent .....	7
Add Electrolyte To Battery .....	95
Adjust Seat .....	101
Adjusting Accelerator Pedal Pressure .....	76
Adjusting Drive Chain Slack .....	62
Air Cleaner Element, Checking .....	51
Air Cleaner Element, Replacing .....	51
Air Restriction Indicator .....	51
B	
Battery Electrolyte Level, Checking .....	66
Battery, Charging Rates .....	69
Battery, Charging the .....	67
Battery, Cleaning .....	65
Battery, Replacing .....	65
Battery, Using Booster .....	70
Before Driving .....	6
Belt/Chain Shields .....	89
Bleed Fuel System .....	55
Booster Battery, Using .....	70
Brake Pedal, Operating .....	14
C	
Carrying a Load .....	29
Chart, Service Interval .....	39, 40
Chart, Using Troubleshooting .....	81
Check Air Intake .....	52
Checking Belt Condition .....	60
Checking Spark Arrestor (Optional) .....	53
Checking Transaxle Oil .....	58
Checklist, Daily Operating .....	28
Children, Protect .....	7
Cleaning Engine Compartment And Operator Station .....	79
Cleaning Engine Cooling Screens .....	45
Climbing Or Descending A Hill .....	11
Clothing, Wear Appropriate .....	9, 35
Coolant Level .....	47
D	
Diesel Fuel .....	73
Differential Lock Operation .....	15
Distributing a Load .....	29
DO NOT Modify Machine .....	86
Do Not Modify Machine .....	37
Do Not Use Galvanized Containers .....	53
Draining, Flushing, and Filling Cooling System .....	48
Drive Belt Replacement .....	60
Drive Chain Lubrication .....	61

# INDEX

---

---

Drive Chain Tension Check .....	61
Drive Clutch Cleaning & Lubrication .....	63
Drive Train Specifications .....	107
Driven Clutch Wear Pad Check .....	63
Driving Across Slopes .....	12
Driving On Rough Or Hilly Terrain .....	10
Dumping a Load .....	30
<b>E</b>	
Electrical System Specifications .....	106
Electrical, Troubleshooting .....	82
Electrolyte Level, Checking Battery .....	66
Engine Coolant .....	46
Engine Coolant Drain Interval .....	47
Engine Oil .....	42, 43
Engine Oil and Filter, Changing .....	44
Engine Oil Level, Checking .....	43
Engine Specifications .....	106
Engine Warranty Maintenance Statement .....	42
Engine, Starting the .....	17
Engine, Stopping .....	20
Engine, Troubleshooting .....	81
<b>F</b>	
Filling Fuel Tank .....	75
Filter, Changing Engine Oil .....	44
Fire Extinguisher and Bracket .....	103
Fluid Capacities Specifications .....	107
Front Lift and Tie-down Rings .....	99
Fuel .....	72
Fuel Filter .....	54
Fuel Filter Sediment Bowl .....	53
Fuel Injection Nozzles .....	56
Fuel Injection Pump, Servicing .....	56
Fuel Shut-Off Valve, Using .....	13
Fuel System Specifications .....	106
Fumes, Avoid Exhaust .....	42
<b>G</b>	
Grease .....	79
<b>H</b>	
Hand Holds, Use .....	8
Handle Fuel Safely-Avoid Fires .....	38
Handling Waste Product and Chemicals .....	36
Hill, Climbing Or Descending .....	11
Hitch .....	98
<b>I</b>	
Indicator Panel .....	4
Inflate Tires Properly .....	38

---

# INDEX

---

---

Inspect Utility Vehicle .....	37
Install Battery .....	96
Install Bumper Brush Guard .....	99
Install Cargo Box .....	102
Install Drivers Seat .....	100
Install Front Wheels and Tires (Heavy Duty) .....	87
Install Front ZExtended Mobility Technology Tires (EMT) .....	88
Install Hitch .....	98
Install Power Lift Kit .....	93
Install Steering Wheel .....	91
Install Wheels and Tires .....	90
Installing Wheel Hardware .....	78
L	
Load, Carrying and Distributing A .....	29
Load, Dumping a .....	30
Loads, Towing .....	31
Lubricants, Specifications .....	108
Lubricate Front King Pins .....	79, 90
Lubricate Transaxle Couplers .....	64
M	
Machine Safety Labels .....	1
O	
Oil Level, Checking Engine .....	43
Oil, Changing Engine .....	44
Oil, Changing Transaxle .....	59
Oil, Engine .....	42
Oil, Transaxle .....	57
Operate Safely .....	5
Operator Controls .....	3
Operator Training Required .....	7
Overloading, Avoid .....	29
P	
Park Brake, Using .....	14
Park Safely .....	8
Parts, Replacement .....	34
Pedals, Operating Brake and Accelerator .....	14
Power Lift Kit .....	92
Practice Safe Maintenance .....	35
Prepare For Assembly .....	86
Prepare Fuel System .....	105
Prepare To Service Vehicle Safely .....	43
R	
Remove Protective Plastic From Hood And Fender Covers .....	104
Replacing Headlamp Bulb .....	70
Replacing Headlight Housing .....	70
Replacing Hood .....	80

---

# INDEX

---

Riders Off Vehicle, Keep .....	8
Riding Through Water .....	12
Rough Or Hilly Terrain, Driving .....	10
Rubber Dust Unloading Valve, Cleaning .....	50
<b>S</b>	
Safely, Operate .....	5
Safely, Park .....	8
Safety Start System, Checking the .....	28
Safety, Storage .....	84
Seats, Adjusting .....	16
Sediment Bowl, Fuel Filter .....	53
Service Cooling System Safely .....	45
Service Interval Chart .....	39, 40
Service Literature Order Form .....	121
Servicing Utility Vehicle Safely .....	36
Shift Lever, Using Transaxle .....	16
Side Panel Fit When Closed .....	76
Slopes, Driving Across .....	12
Specifications Engine .....	106
Specifications, Drive Train .....	107
Specifications, Electrical System .....	106
Specifications, Fluid Capacities .....	107
Specifications, Fuel System .....	106
Specifications, Lubricants .....	108
Specifications, Weight .....	107
Start System, Checking the Safety .....	28
Storage, Removing Vehicle From .....	85
Storing And Handling Fuel .....	74
Storing Safety .....	84
<b>T</b>	
Tailgate, Operating the .....	21
Tipping, Avoid .....	9
Tire Pressure, Checking .....	77
Tires, Service Safely .....	75
Towing Loads .....	31
Training Required, Operator .....	7
Transaxle Oil .....	57
Transaxle Oil, Changing .....	59
Transaxle Oil, Specification .....	57
Transaxle Shift Lever, Using .....	16
Transport Loads Safely .....	33
Transport Safely .....	13
Transporting Utility Vehicle .....	32
Troubleshooting Chart, Using .....	81
<b>U</b>	
Using Fuel Shut-Off Valve .....	13
Utility Vehicle Safely, Servicing .....	36

---



# INDEX

---

---

## V

Valve, Cleaning Rubber Dust Unloading .....	50
Vehicle Runaway, Prevent .....	37
Vehicle, Keep Riders Off .....	8

## W

Warming and Idling the Engine .....	19, 20
Warranty Maintenance Statement, Engine .....	42
Warranty, Product .....	109
Water, Riding Through .....	12
Weight Specifications .....	107
Wheel Bolts, Check .....	10

# NOTES

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# NOTES

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# JOHN DEERE SERVICE LITERATURE

## Order Form

John Deere Distribution Center - Department S/P P.O. Box 186, Moline, IL 61266-0186

To order these publications, call 1-800-522-7448. If you want manuals or catalogs for equipment not shown on this list, provide the model number, serial number, and name of the product when you call. Make checks payable to John Deere.

**Name** \_\_\_\_\_

**Address** \_\_\_\_\_

**City** \_\_\_\_\_

**State** \_\_\_\_\_

**Zip** \_\_\_\_\_ **Phone:** (    ) \_\_\_\_\_

Title	Number	Price	Qty	Total
Parts Catalog	PC2787	(Call 1-800-522-7448 for current prices.)		
Operator's Manual	OMM139953			
Technical Manual	TM1804			
<b>Fundamentals of Service (FOS) Manuals:</b>				
Engines	FCP80103B	(Call 1-800-522-7448 for current prices.)		
Power Trains	FCP81102B			
Electrical Systems	FCP83102B			
Hydraulics	FCP82102B			
<b>Sub-total</b>				
<b>State Sales Tax (Illinois &amp; Iowa only)</b>				
<b>Shipping &amp; Handling</b>				
<b>Total</b>				
<b>Method of Payment</b>				
<input type="checkbox"/> Check/Money Order Enclosed <input type="checkbox"/> John Deere Credit Card <input type="checkbox"/> MasterCard <input type="checkbox"/> Visa <input type="checkbox"/> American Express <input type="checkbox"/> Discover <input type="checkbox"/> Farm Plan				
<b>Credit Card Acct. No. (13 or 16 digits)</b> _____ - _____ - _____ - _____		<b>Expiration Date:</b> _____		<b>Signature:</b> _____

# NOTES

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# QUALITY DOESN'T END WHEN YOU INVEST IN A DEERE

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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.