

JOHN DEERE
WORLDWIDE COMMERCIAL & CONSUMER
EQUIPMENT DIVISION

Lawn Tractors
LX255, LX277, LX277AWS, LX279, LX288

OMM142612 D7

OPERATOR'S MANUAL



JOHN DEERE

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

California Proposition 65 Warning

North American Version
Litho in U.S.A.



DCY



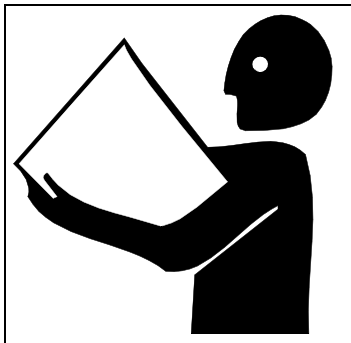
OMM142612

INTRODUCTION

Thank You for Purchasing a John Deere Product

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

Using Your Operator's Manual



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

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

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

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

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

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

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

Special Messages

Your manual contains special messages to bring attention

to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.



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

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

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

PRODUCT IDENTIFICATION

Record Identification Numbers

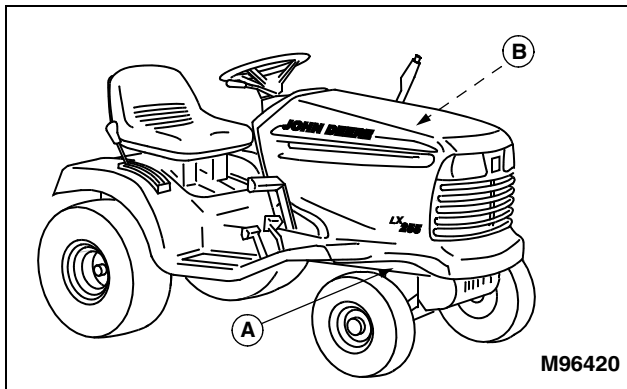
Lawn Tractors

LX255, LX277, LX277AWS, LX279 and LX288

PIN (010101-)

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

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



DATE OF PURCHASE:

DEALER NAME:

DEALER PHONE:

PRODUCT IDENTIFICATION NUMBER (A):

ENGINE SERIAL NUMBER (B):

TABLE OF CONTENTS

Safety	1
Operating	7
Replacement Parts	20
Service Intervals	21
Service Lubrication	22
Service Engine	23
Service Transmission	35
Service Electrical	37
Service Miscellaneous	41
Troubleshooting	43
Storage	46
Assembly	48
Specifications	50
Warranty	53
Index	56

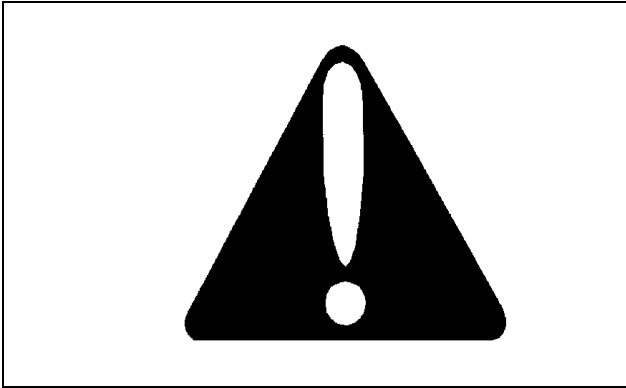
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Consumer Equipment Division
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OMM142612 D7 - English

SAFETY

Understanding The Machine Safety Labels



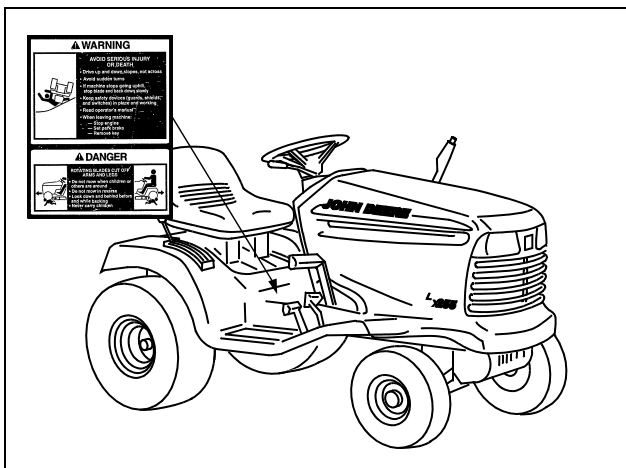
The machine safety labels shown in this section are placed in important areas on your machine to draw attention to potential safety hazards.

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

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

Machine Safety Labels

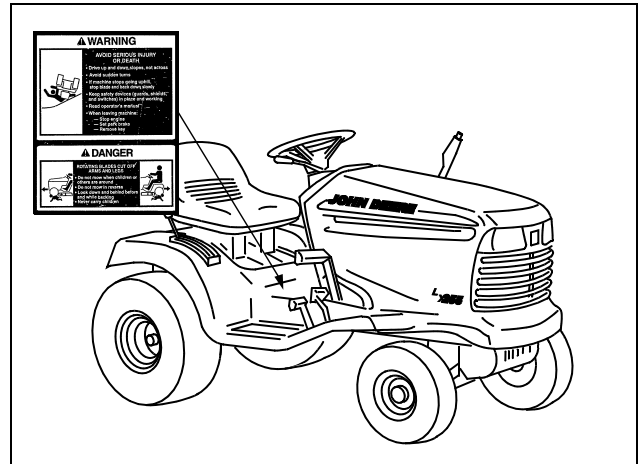
WARNING: AVOID SERIOUS INJURY OR DEATH



- Drive up and down slopes, not across
- Avoid sudden turns
- If machine stops going uphill, stop blade and back down slowly
- Keep safety devices (guards, shields, and switches) in place and working

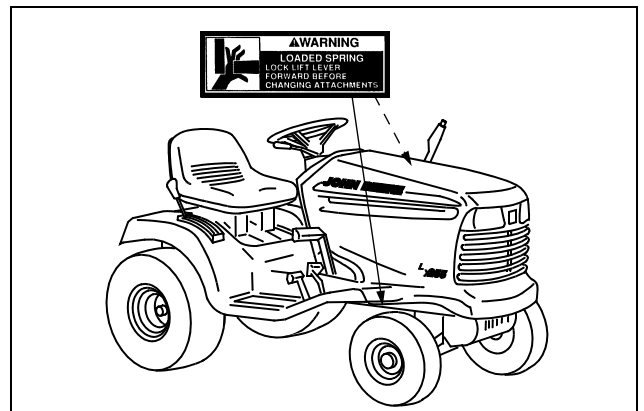
- Read operator's manual
- When leaving machine:
 - Stop engine
 - Set park brake
 - Remove key

DANGER: ROTATING BLADES CUT OFF ARMS AND LEGS



- Do not mow when children or others are around
- Do not mow in reverse
- Look down and behind before and while backing
- Never carry children even with blades off

WARNING: LOADED SPRING



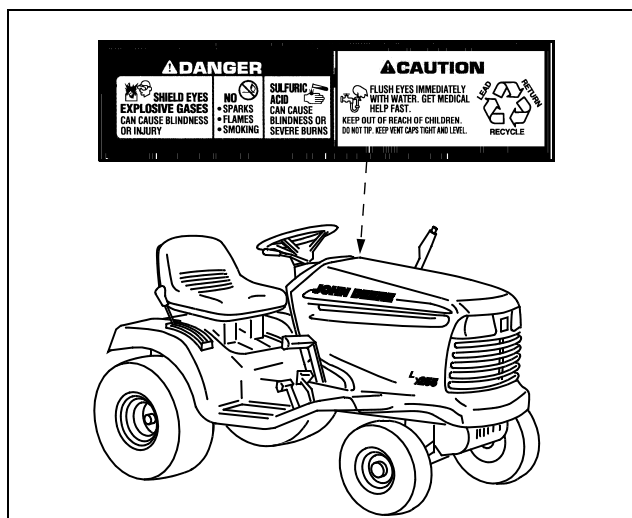
Picture Note: Two Decals, One on Each Side of Tractor Frame.

LOCK LIFT LEVER FORWARD BEFORE CHANGING ATTACHMENTS

DANGER:

SHIELD EYES-EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY

SAFETY



Picture Note: Located on Battery

NO SPARKS, FLAMES, SMOKING

SULFURIC ACID CAN CAUSE BLINDNESS OR SEVERE BURNS

CAUTION: FLUSH EYES IMMEDIATELY WITH WATER. GET MEDICAL HELP FAST.

KEEP OUT OF REACH OF CHILDREN.

DO NOT TIP.

KEEP VENT CAPS TIGHT AND LEVEL.

Emission Control System Certification Label

NOTE: Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by EPA and/or CARB authorized service centers. Contact your John Deere Commercial and Consumer Equipment Retailer concerning emission controls and component questions.

The presence of an emissions label signifies that the engine has been certified with the United States Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB).

The emissions warranty applies only to those engines marketed by John Deere that have been certified by the EPA and/or CARB; and used in the United States and Canada in off-road mobile equipment.

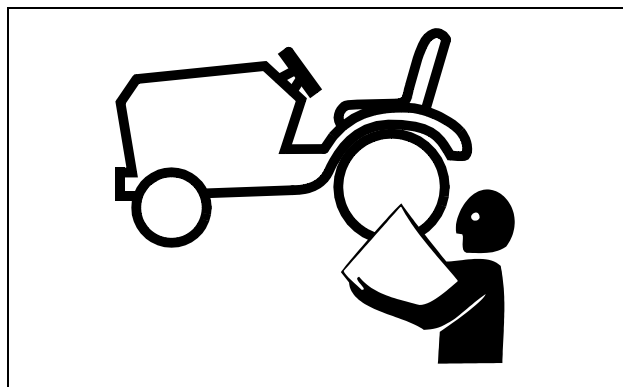
Emission Compliance Period

If your engine has the emission compliance category listed

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

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

Operating Safely



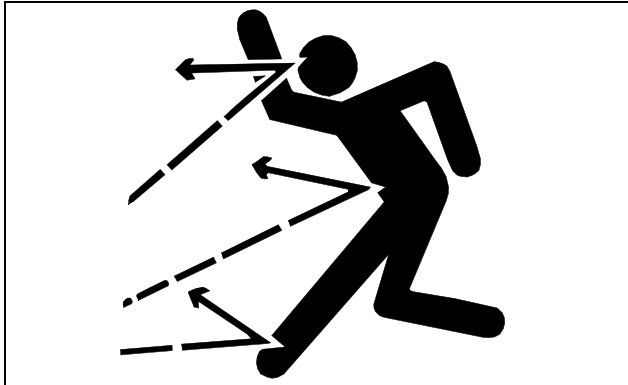
- Inspect machine before you operate. Be sure hardware is tight. Repair or replace damaged, badly worn, or missing parts. Be sure guards and shields are in good condition and fastened in place. Make any necessary adjustments before you operate.
- Check brake action before you operate. Adjust or service brakes as necessary.
- Stop machine if anyone enters the area.
- If you hit an object, stop the machine and inspect it. Make repairs before you operate. Keep machine and attachments properly maintained and in good working order.
- Do not leave machine unattended when it is running.
- Only operate during daylight or with good artificial light.
- Be careful of traffic when operating near or crossing roadways.
- Do not wear radio or music headphones while operating

SAFETY

the machine. Safe operation requires your full attention.

- Older adults are involved in a large percentage of riding mower accidents involving injury. These operators should evaluate their ability to operate a mower safely enough to protect the operator and others from serious injury.

Checking Mowing Area



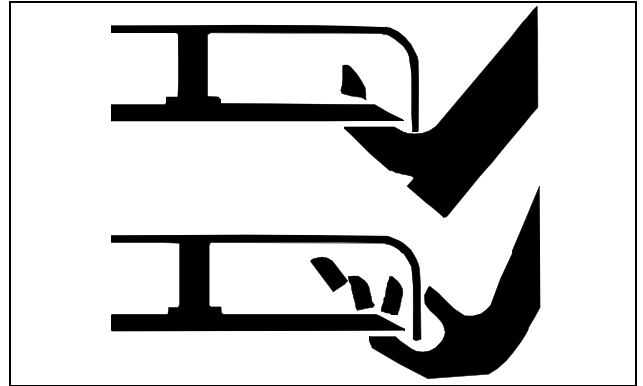
- Clear mowing area of objects that might be thrown. Keep people and pets out of mowing area.
- Study mowing area. Set up a safe mowing pattern. Do not mow where traction or stability is doubtful.
- Test drive area with mower lowered but not running. Slow down when you travel over rough ground.

Parking Safely

1. Stop machine on a level surface, not on a slope.
2. Disengage mower blades.
3. Lower attachments to the ground.
4. Lock the park brake.
5. Stop the engine.
6. Remove the key.
7. Wait for engine and all moving parts to stop before you leave the operator's seat.

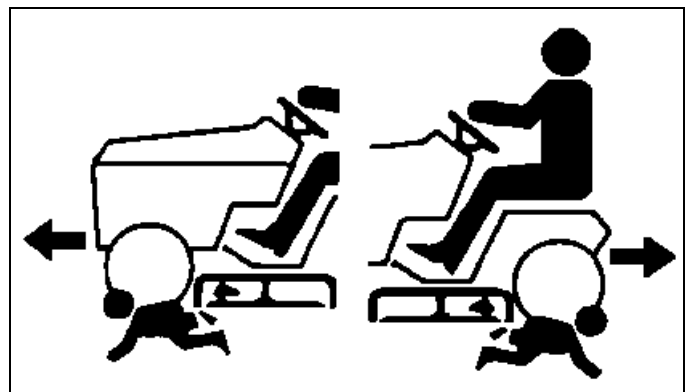
Rotating Blades are Dangerous

HELP PREVENT SERIOUS OR FATAL ACCIDENTS:



- Rotating blades can cut off arms and legs.
- Keep hands, feet and clothing away from mower deck when engine is running.
- Be alert at all times, drive forward carefully. People, especially children can move quickly into the mowing area before you know it.
- Before backing up, shut off PTO and look behind the machine carefully, especially for children.
- Do not mow in reverse.
- Shut off blades when you are not mowing.
- Do not operate machine if you are under the influence of drugs or alcohol.
- Park machine safely before inspecting or unplugging mower or bagger.

PROTECT CHILDREN:

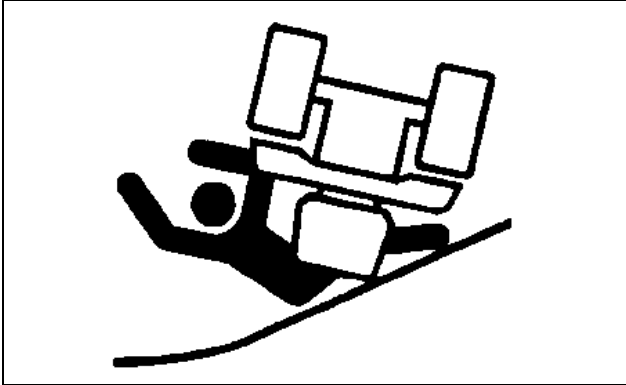


- Never assume that children will remain where you last saw them. Children are attracted to mowing activity, stay alert to the presence of children.
- Keep children indoors when you are mowing. Turn the machine off if a child enters the mowing area.
- Use extra care when you come to blind corners, shrubs, trees, or other objects that may block your vision.

SAFETY

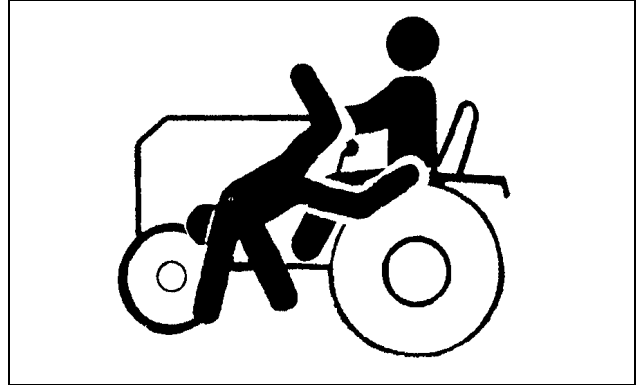
- Do not let children or an untrained person operate the machine.
- Do not carry or let children ride on any attachment or machine even with the blades off. Do not tow children in a cart or trailer.

Avoid Tipping



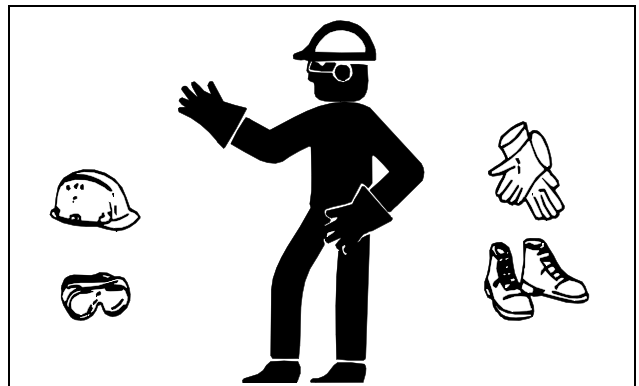
- Do not drive where machine could slip or tip.
- Stay alert for holes and other hidden hazards in the terrain.
- Keep away from drop-offs.
- Slow down before you make a sharp turn or operate on a slope.
- Limit loads to those you can safely control. Use only approved hitches when pulling loads or using heavy equipment. Use counterweights or wheel weights as required in this manual or your attachment manual.
- Use wheel weights for added stability when operating on slopes or using rear mounted attachments.
- Drive up and down a hill - not across. Be careful when you change direction on a slope.
- Do not stop when going up hill or down hill. If machine stops going up hill, disengage mower blades and back down slowly.
- Mowing when grass is wet can cause reduced traction and sliding.
- Do not try to stabilize the machine by putting your foot on the ground.

Keep Riders Off



- Only allow the operator on the machine. Keep riders off.
- Riders on the machine or attachment may be struck by foreign objects or thrown off the machine causing serious injury.
- Riders obstruct the operator's view resulting in the machine being operated in an unsafe manner.

Wear Appropriate Clothing

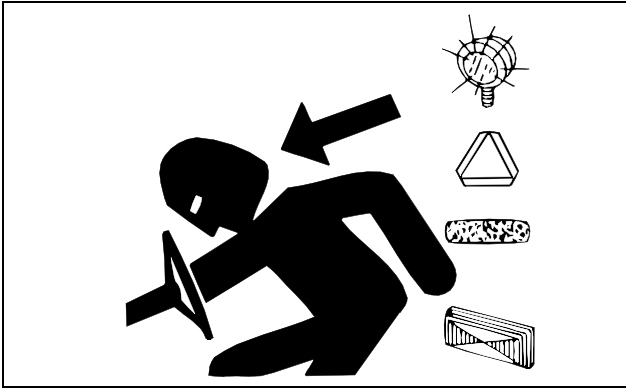


- Wear close fitting clothing and safety equipment appropriate for the job.
- Wear a suitable protective device such as earplugs. Loud noise can cause impairment or loss of hearing.
- Do not wear radio or music headphones. Safe service and operation requires your full attention.

Driving Safely on Public Roads

Avoid personal injury or death resulting from a collision with another vehicle on public roads:

SAFETY



- Use safety lights and devices. Slow moving machines when driven on public roads are hard to see, especially at night.
- Whenever driving on public roads, use flashing warning lights and turn signals according to local regulations. Extra flashing warning lights may need to be installed.

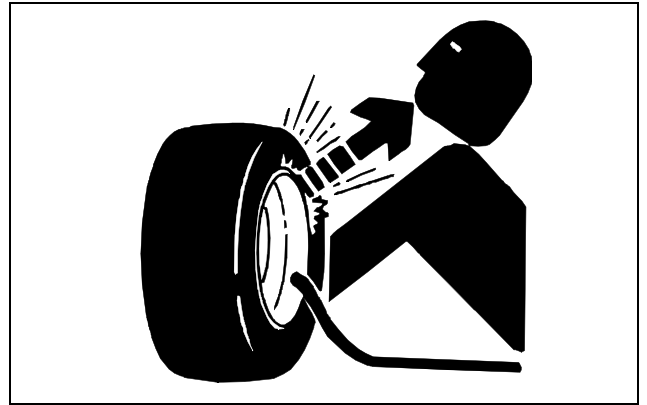
Practice Safe Maintenance



- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate, service, or adjust machine while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to prevent them from getting caught.
- Lower attachments to the ground before servicing machine. Disengage all power and stop the engine. Lock park brake and remove the key. Let machine cool.
- Securely support any machine 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 negative (-) cable before making adjustments on electrical systems or welding on machine.
- Do not modify machine. Unauthorized modifications may impair its function and safety.
- Do not wear radio or music headphones while servicing the machine. Safe service requires your full attention.

Tire Safety



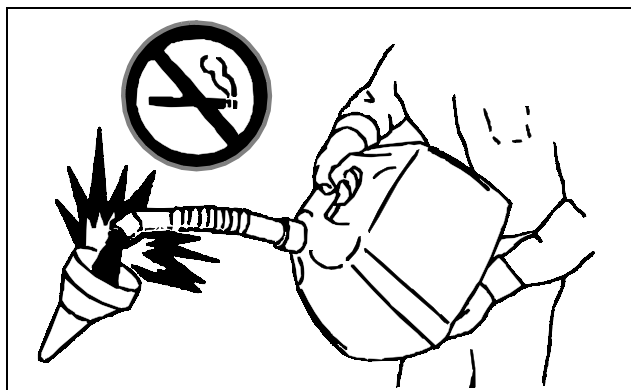
Explosive separation of a tire and rim parts can cause serious injury or death:

- Do not attempt to mount a tire without the proper equipment and experience to perform the job.
- Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly.
- Check tires for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

Handling Fuel Safely

Fuel and fuel vapors are highly flammable:

SAFETY

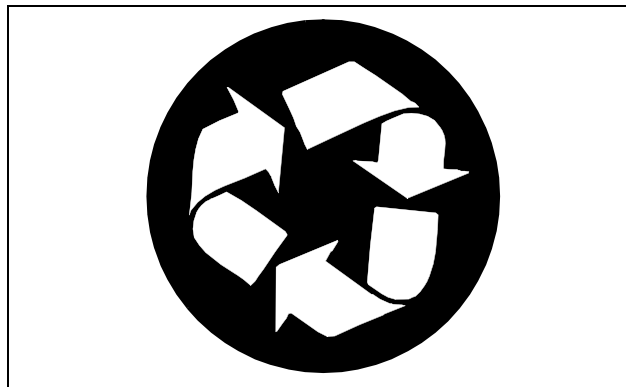


- DO NOT refuel machine while you smoke, when machine is near an open flame or sparks, or when engine is running. STOP engine.
- Fill fuel tank outdoors.
- Prevent fires: clean oil, grease and dirt from machine. Clean up spilled fuel immediately.
- Do not store machine with fuel in tank in a building 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.
- DO NOT use METHANOL gasoline. METHANOL is harmful to the environment and to your health.

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.

OPERATING

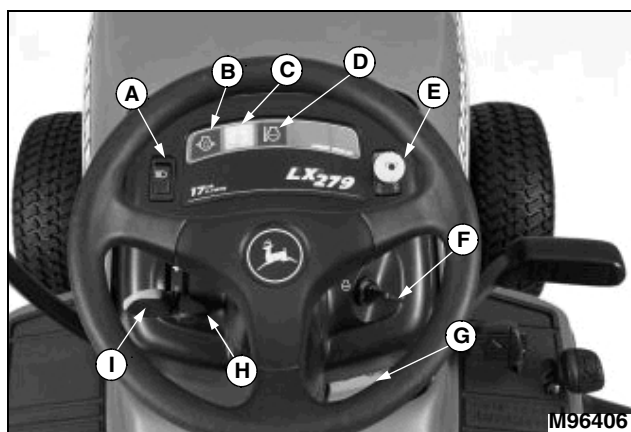
Daily Operating Checklist

- ☐ Test safety systems.
- ☐ Check tire pressure.
- ☐ Check fuel level.
- ☐ Check engine oil level.
- ☐ Remove grass and debris from machine.
- ☐ Clean air intake screen.
- ☐ Check area below machine for leaks.

Avoid Damage to Plastic and Painted Surfaces

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

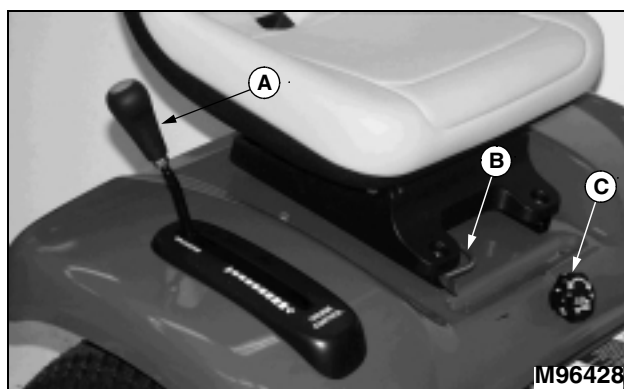
Operator Station Controls



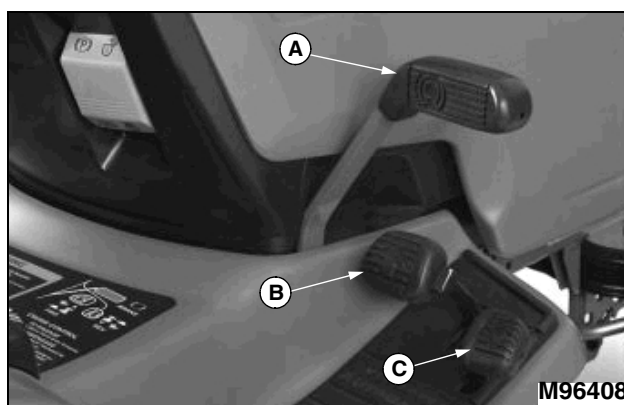
- A - Light Switch
- B - Engine Oil Pressure Light
- C - Battery Discharge Light
- D - Coolant Temperature Light (LX279 Model Only)
- E - PTO Switch/Reverse Implement Option (RIO) Switch
- F - Key Switch
- G - Park Brake Lever
- H - Choke Lever
- I - Throttle Lever



A - Attachment Lift Lever



- A - Cruise Control Lever
- B - Seat Adjustment Lever
- C - Mower Height Control Knob



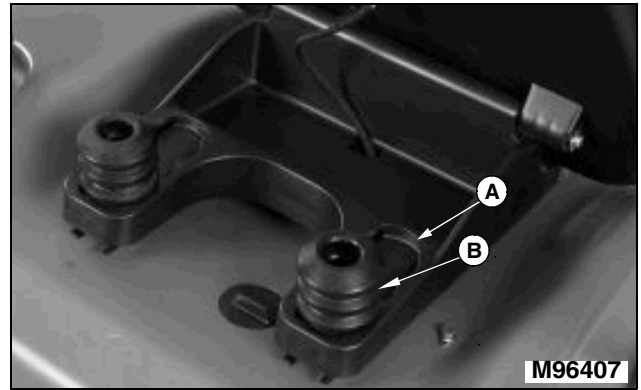
- A - Brake Pedal
- B - Forward Travel Pedal
- C - Reverse Travel Pedal

OPERATING

Miscellaneous Controls



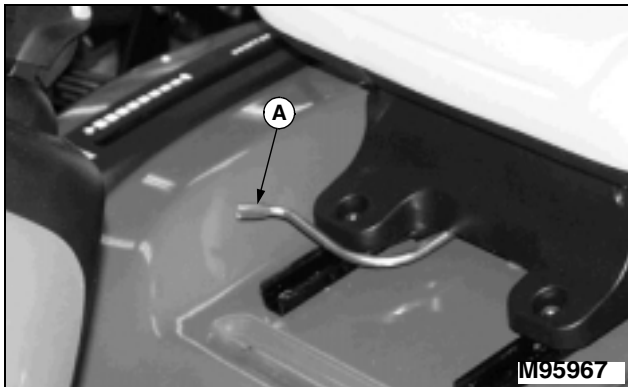
A - Free-Wheeling Lever



- Install both springs into front position (A) for softest ride.
- Install both springs into rear position (B) for firm ride.
- Install springs in all four positions (A and B) for the firmest ride. (Order additional springs from your John Deere dealer.)

Adjusting Seat

To adjust seat position:

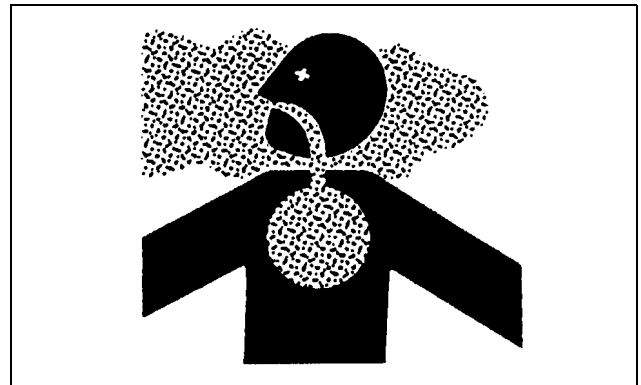


1. Push lever (A) to the left.
2. Slide seat forward or rearward to desired position.
3. Release lever.

To adjust seat for ride comfort:

Lift seat, unscrew and move springs to desired position as follows:

Testing Safety Systems



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

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

DO NOT run an engine in an enclosed area without adequate ventilation.

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

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

If there is a malfunction during one of these procedures, Do

OPERATING

not operate machine. **See your John Deere dealer for service.**

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

Testing Park Brake Switch

1. Sit on seat.



2. Unlock the park brake (A).
3. Try to start engine.

Result: Engine must not start. If engine starts, there is a problem with your safety interlock circuit.

Testing Park Brake



1. Shut the engine off and lock the park brake (A).
2. Put transmission in N (neutral).
3. Try to push machine manually. Use free-wheeling lever on units with an automatic transmission.

Result: Park brake must prevent machine from moving. If machine moves, parking brake needs to be adjusted.

Testing PTO Switch



1. Sit on seat.
2. Lock the park brake (A).
3. Pull PTO switch (B) up to ENGAGE.
4. Try to start engine.

Result: Engine must not start. If engine starts, there is a problem with your safety interlock circuit.

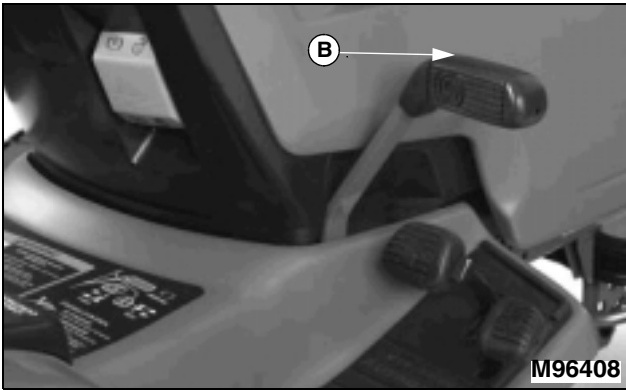
Testing Seat Switch

1. First test:
 - a. Start engine.



- b. Move throttle lever (A) up to maximum (🐾) engine speed.

OPERATING



c. Unlock park brake and release brake pedal (B).



d. Engage PTO (C).

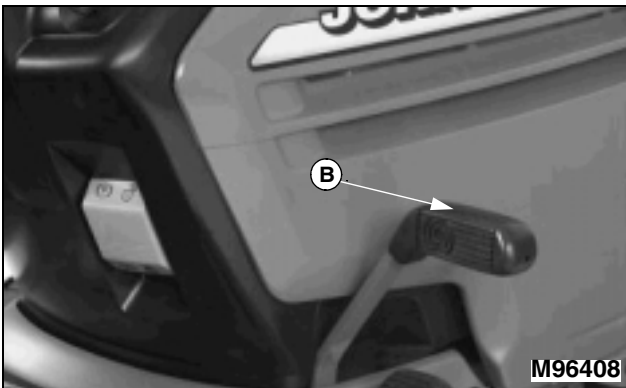
e. Raise up off seat. Do not get off tractor.

Result: Engine should begin to stop and mower blades should stop. If engine does not begin to stop and mower blades do not stop, there is a problem with your safety interlock circuit.

2. Second test:

a. Disengage PTO (C).

b. Start engine.



c. Unlock park brake and release brake pedal (B).

d. Raise up off seat. Do not get off tractor.

e. After a 1/2 second delay, engine should begin to die.

Result: Engine should begin to stop. If engine does not begin to stop, there is a problem with your safety interlock circuit.



3. Third test:

a. Disengage PTO (C).

b. Start engine.

c. Lock park brake.

d. Raise up off seat. Do not get off tractor.

e. Engine should continue to run.

Result: Engine should continue to run. If engine stops, there is a problem with your safety interlock circuit.

Testing Reverse Implement Option (RIO)



CAUTION: Avoid injury! Rotating blades are dangerous. Children or bystanders may be injured by runover and rotating blades.

Before backing up, carefully check the area around the machine.

1. Start engine.

2. Engage attachment.

3. Look behind the vehicle to be sure there are no bystanders.

4. Begin reverse travel by depressing reverse foot pedal.

Result: Attachment and engine should stop operation. If attachment or engine continues to operate as tractor begins travel in reverse, do not continue to operate mower.

OPERATING

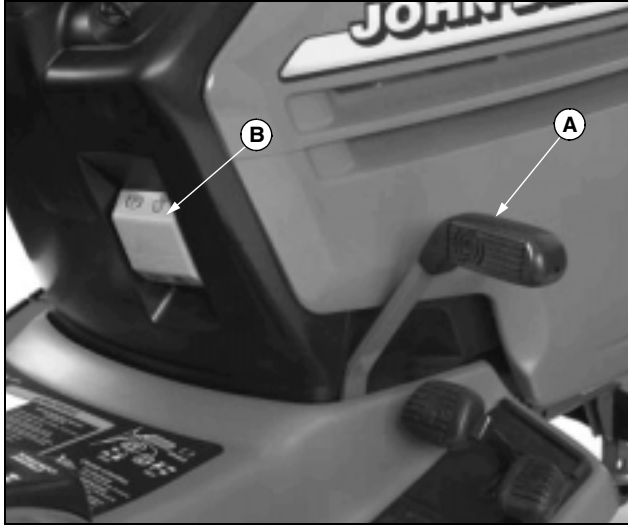
Using Park Brake



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

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

Locking park brake:



1. Push and hold brake pedal (A) down.
2. Pull park brake lever (B) up to lock park brake.
3. Release brake pedal. Pedal should stay down and park brake lever should stay locked.

Unlocking park brake:

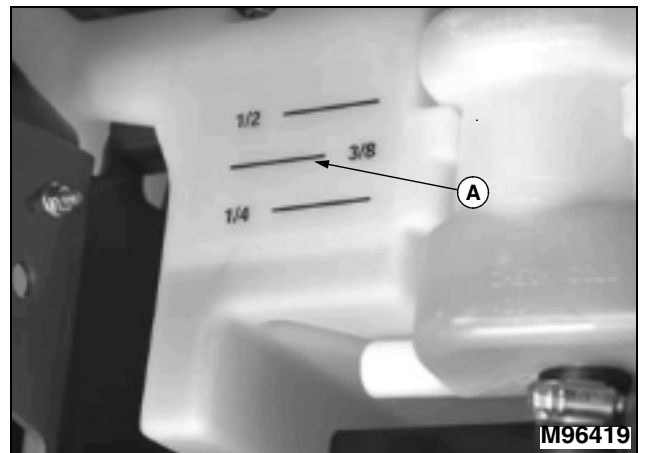
1. Push and hold brake pedal down.
2. Push park brake lever down to unlock park brake.
3. Release brake pedal.

Using Headlights



Push top of light switch (A) down to turn headlights ON.
Push bottom of light switch to turn headlights OFF.

Using Fuel Gauge



Measure fuel level using indicator lines (A) molded into fuel tank at rear of tractor.

OPERATING

Checking Indicator Lights



Picture Note: LX279

- Oil Pressure Indicator Light “

Replace bulb(s) if indicator does not light.



1. Lock the park brake (A).
2. Push PTO switch (B) down to stop mower or attachment.
3. Check starting conditions:
 - If engine is cold:
Move throttle lever (C) to mid-throttle position.
 - If engine is warm:
Move throttle lever to slow (

Starting Engine



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

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

DO NOT run an engine in an enclosed area without adequate ventilation.

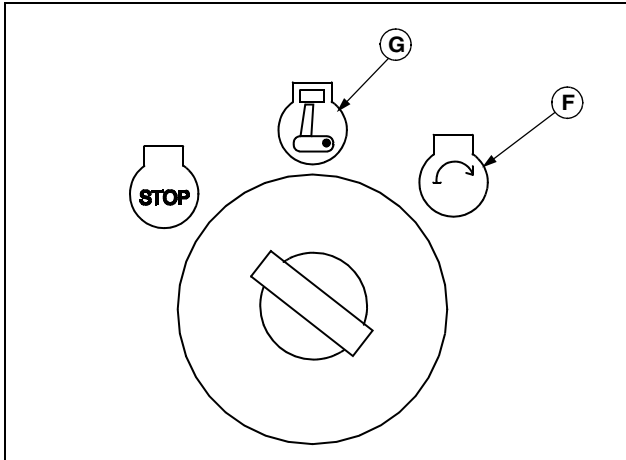
- Connect a pipe extension to the engine exhaust pipe to direct the exhaust fumes out of the area.
- Allow fresh outside air into the work area to clear the exhaust fumes out.

OPERATING

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

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

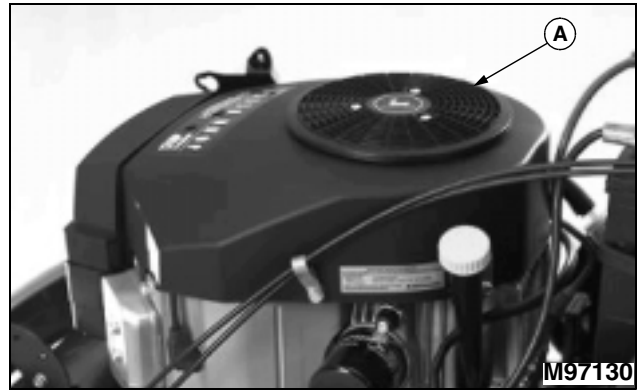
NOTE: The following procedure will improve starting and will reduce the chance of flooding and muffler backfire.



6. Turn key to start position (F) for no more than five seconds.
7. Release key to the run position (G) when engine starts:
 - If engine does not start, wait 10 seconds.
 - Turn key to start position again for no longer than 5 seconds.
 - Repeat procedure if necessary.
8. Move throttle lever to mid-throttle position.
9. Let engine run for a couple of minutes to warm-up before operating machine.

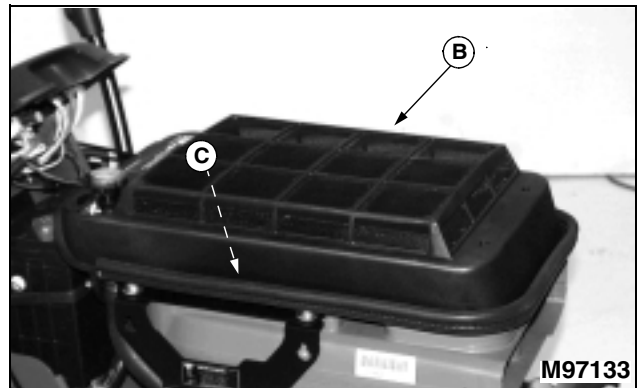
Idling Engine

IMPORTANT: Avoid damage! Unnecessary engine idling may cause engine damage. Excessive idling can cause engine overheating, carbon build-up, and poor performance.



Picture Note: LX277

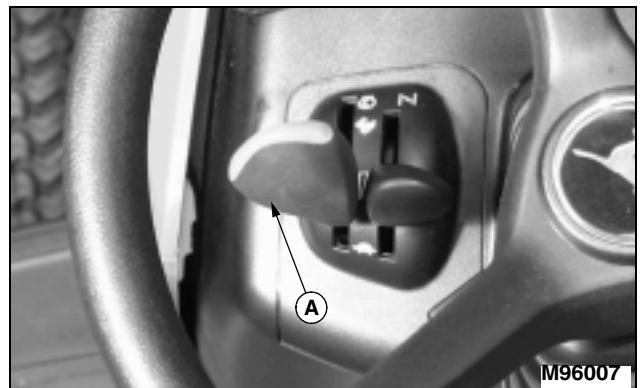
- An air cooled engine needs a large volume of air to keep cool. Keep air intake screen (A) on top of engine clean.



Picture Note: LX279

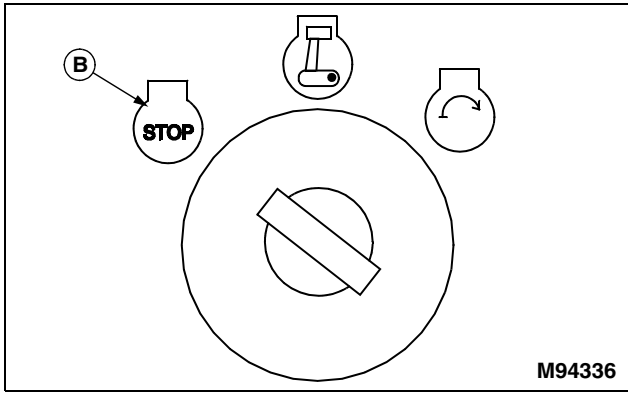
- Keep air intake screen (B) and radiator screen (C) clean on liquid cooled engines.

Stopping Engine



1. Move throttle lever (A) to slow (0) position. Let engine run at low throttle a few seconds.

OPERATING



2. Turn key to STOP position (B).
3. Remove key.
4. Lock the park brake.

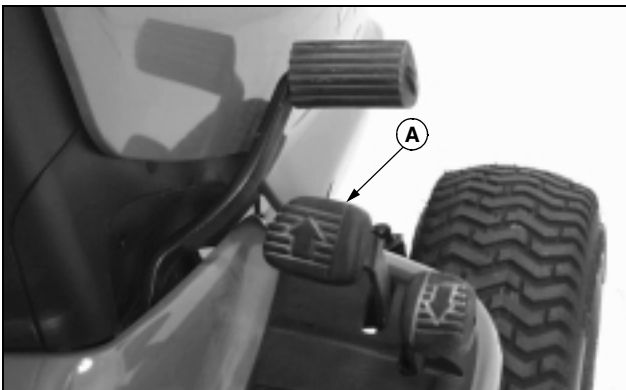
Using Travel Pedals on Automatic Transmission



CAUTION: Avoid injury! Children or bystanders may be injured by runover and rotating blades. Before traveling forward or rearward:

- Carefully check the area around the machine.
- Disengage the mower before backing up.

To travel forward:

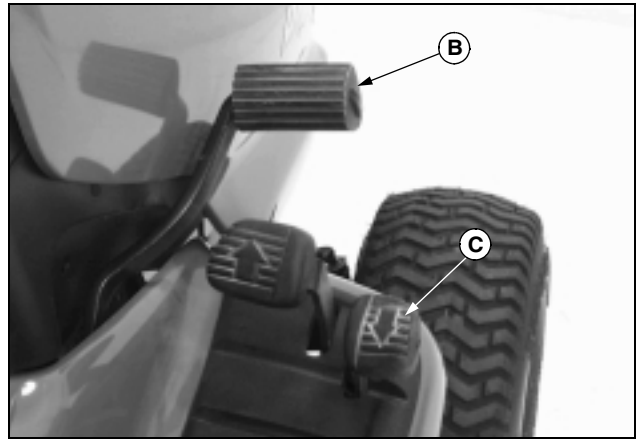


1. Push down the forward travel pedal (A).

To travel in reverse:

NOTE: The engine and mower will stop as the reverse pedal is pushed if the mower engagement lever is not in the off position.

1. Put mower engagement lever in the off position.
2. Look behind the machine to be sure there are no bystanders nearby.



3. Push down the reverse travel pedal (C).

To stop travel:

Push down brake pedal (B). Travel pedals will return to the neutral position.

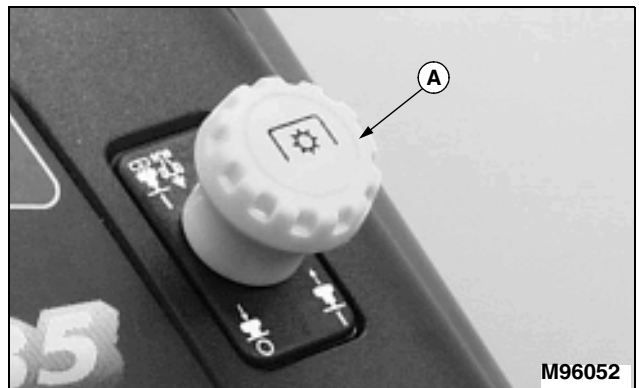
Using Reverse Implement Option



CAUTION: Avoid injury! Rotating blades are dangerous. Children or bystanders may be injured by runover and rotating blades.

Before backing up, carefully check the area around the machine.

NOTE: Operating the mower while backing up is strongly discouraged. The Reverse Implement Option should be used **ONLY** when operating another attachment or when the operator deems it necessary to reposition the machine with the mower engaged.



1. Stop forward travel.
2. Look behind the vehicle to be sure there are no bystanders.
3. Lift and hold the PTO knob (A) up past the PTO

OPERATING

engagement position while depressing reverse foot pedal slightly.

NOTE: If the engine and attachment stop while repositioning the machine, return PTO knob to the off position. Start engine and engage attachment. Begin again with Step 2.

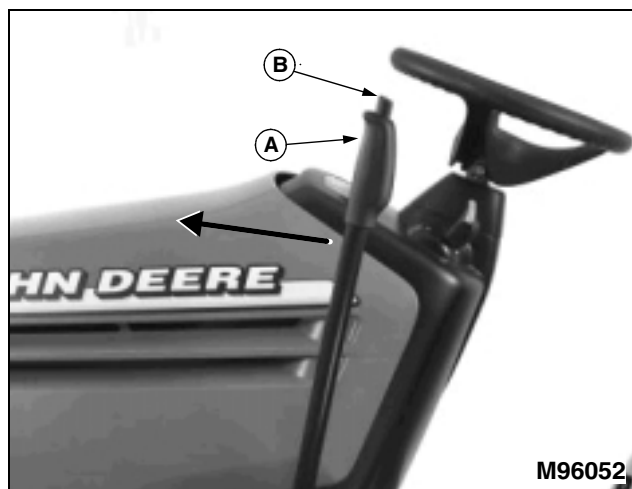
4. As the machine begins to move rearward, release the PTO knob and reposition the machine.
5. Resume forward travel. The attachment should continue operating.
6. Repeat procedure to position the machine again.

Using Mower Lift Lever

NOTE: Make sure the tension on the lift assist spring is properly adjusted to support the weight of the mower deck installed. Refer to your Mower Deck Operator's Manual.

MOWING (FORWARD) POSITION

Use when mowing in extremely rough terrain. Mower is locked in lowest position.



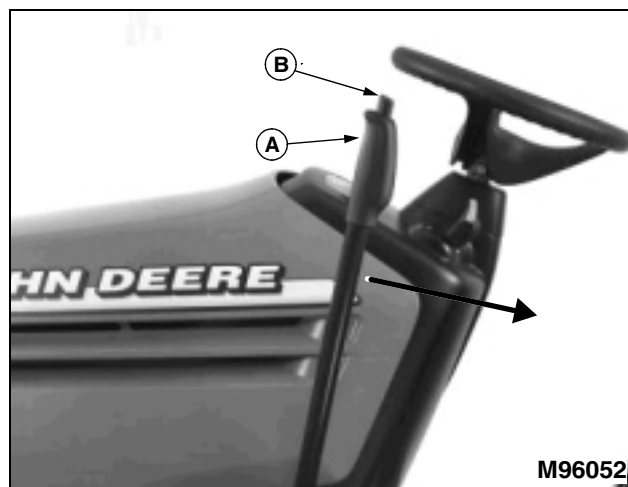
1. Pull lift lever (A) back slightly.
2. Push in button (B).
3. Push lever completely forward until it latches down.

FLOAT (MIDDLE) POSITION

Mower floats along ground contour while maintaining desired cutting height.

TRANSPORT (BACK) POSITION

Holds mower above ground level while traveling to and from worksite.



1. Push forward on lift lever (A) slightly.
2. Push in button (B).
3. Pull lever back until it latches and mower stays up.

Using Cruise Control



CAUTION: Avoid injury! Turn cruise control OFF when traveling downhill. Tractor speed will increase and may cause loss of control of tractor.

Operate tractor in an open, unobstructed area to learn use of cruise control.

IMPORTANT: Avoid damage! The cruise control hand lever can restrict travel of reverse pedal linkage and reverse speed of tractor will be too slow. Return hand lever to the OFF position when cruise control is not in use.

Use cruise control when you want to maintain travel speed without having to hold the forward travel pedal down. Cruise control operates only for forward travel.

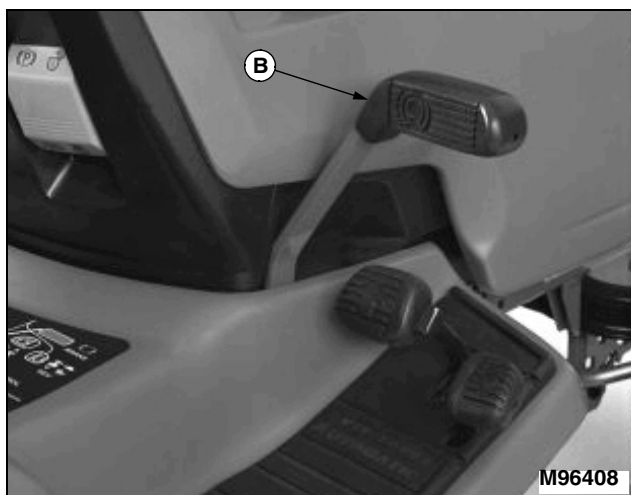
OPERATING

Engage cruise control:



1. Put the cruise control lever (A) in the off position.
2. Move cruise control lever forward.
 - Move cruise control lever toward the (🐢) position to begin forward travel.
 - Increase tractor speed by moving the cruise control lever toward the (🐇) position.
 - Select desired speed and release lever.

Disengage cruise control:



1. Depress brake pedal (B) or put cruise control lever in the off position.

Using PTO (Power Take-Off)

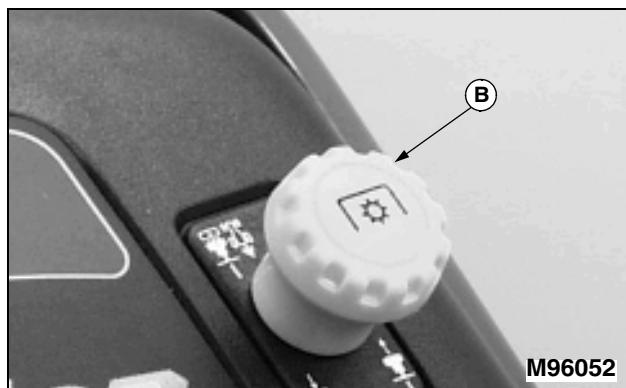
To Engage PTO:



1. Start engine.
2. Reduce travel speed or stop travel.

NOTE: Always operate engine at fast (🐇) speed when PTO is engaged.

3. Move throttle lever (A) to fast (🐇) speed position.



4. Engage PTO switch (B):
 - Pull PTO switch UP to position (I).
 - Lift PTO switch fully to position (I 🐇) to engage before the tractor is in reverse.

To Disengage PTO:

- Push PTO switch (B) DOWN to position (O).

OPERATING

Pushing Machine



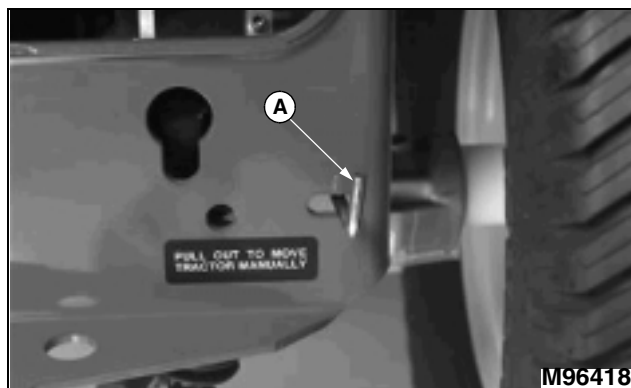
CAUTION: Avoid injury! With the free-wheeling valve open, the machine will have unrestricted motion.

- The machine may free-wheel out of control if the free-wheeling valve is opened with the machine on an incline.
- Park the machine on a level surface before opening the free-wheeling valve.

IMPORTANT: Avoid damage! Transmission damage may occur if the machine is moved or towed incorrectly:

- Move unit by hand only.
- DO NOT use another vehicle to move unit.
- DO NOT tow unit.

1. Unlock the park brake.



2. Pull out on free-wheeling lever (A) until it clicks.
3. Push machine to desired location.

NOTE: Lever will automatically return to the operating position when you push down the brake pedal.

Transporting Machine on Trailer

Be sure trailer has all the necessary lights and signs required by law.

IMPORTANT: Avoid damage! Transmission damage may occur if the machine is moved or towed incorrectly:

- Move unit by hand only.
- DO NOT use another vehicle to move unit.
- DO NOT tow unit.

1. Drive forward onto heavy-duty trailer.
2. Lower mower to trailer deck.
3. Lock park brake.
4. Fasten lawn tractor to trailer with heavy-duty straps, chains, or cables. Both front and rear straps must be directed down and outward from tractor.
5. Strap down hood.

Using Wheel Weights



CAUTION: Avoid injury! The machine may become unstable when operating on slopes and/or with some attachments.

Use wheel weights to improve stability when operating on slopes or using attachments.

NOTE: Remove wheel weights when not required.

Using front weights:

Install front wheel weights for better stability and steering control when you use equipment such as the rear-mounted grass bagger.

Using rear weights:

Order the "Rear Weight Bracket Kit" to install rear suitcase weights. Use of these weights is recommended when you use equipment such as a snowthrower.

Installing Tire Chains

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

NOTE: Chains are available from your John Deere dealer.

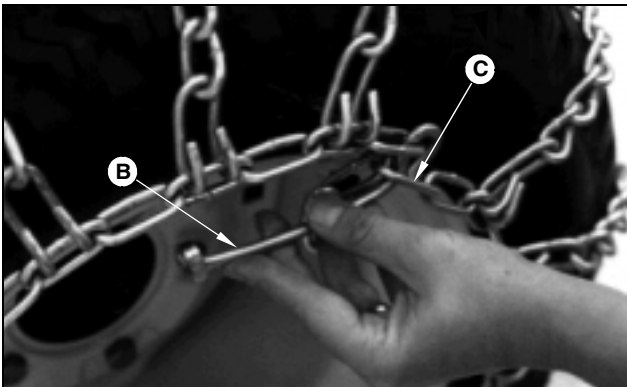
1. Park machine safely. (See Parking Safely in the Safety Section.)

OPERATING

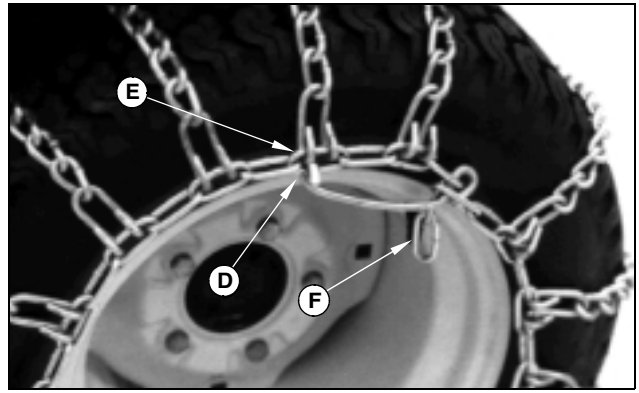
2. Lay chains out flat with the cross chain hook ends facing downward.
3. Remove any twists and tangles from cross chain and rim chain.
4. Drive machine onto chains.



5. Drape chain over tire with the lever fastener on outside of tire and cross link hooks (A) facing upward and away from tire.
6. Adjust chain for straightness and an even amount of cross chain links on each side of tire.
7. Place the first cross chain (opposite the end with fastener and inside hook) under tire.
8. Pull the inside rim chain tight and hook the inside hook.



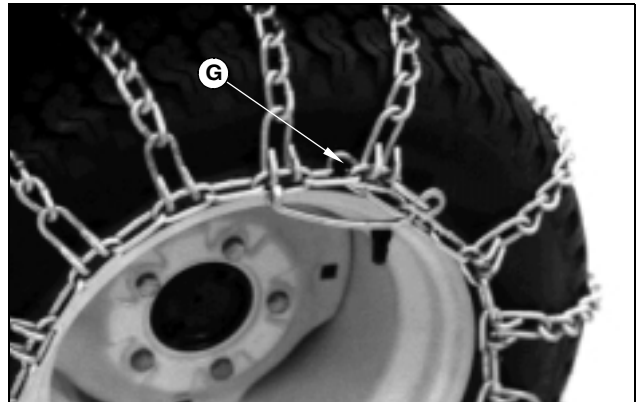
9. Pull the outside rim chain tight and hook the outside lever fastener (B) by running the end through a free link (C).



10. Close the fastener by rotating it back 180 degrees and engaging the hook (D) on the end of the fastener into a rim chain link (E).

Make sure the chain is centered on the tire with approximately the same number of free rim links (F) on the inside and outside.

NOTE: The chain should be as tight as possible. If chain is loose, unhook the fastener and pull chain tight again.



11. Tie excess rim chain links (G) back to the rim chain.
12. Drive forward on chains 9-12 m (30-40 ft.) and recheck for tightness. Adjust as necessary.

Mowing Tips

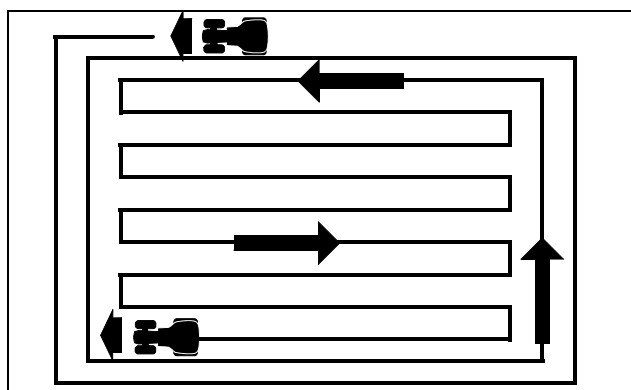
The following recommendations will produce the best lawn cut quality and appearance:

- Keep mower blades sharp. Dull blades will tear grass; tips of grass will then turn brown.
- Cutting grass too short may kill grass and let weeds grow easily. The suggested finished cut height range is 44 to 70 mm (1.75 to 2.75 in.).
- Adjust cutting height to remove only 1/3 of the grass at a time.
- **When using the Freedom42 Mulching Mower:**

OPERATING

Shorter cut heights will provide better cut quality, but may leave noticeable clippings. Higher cut heights will reduce clippings, but cut quality may decline.

- Do not mow wet grass. Wet cutting conditions will not adversely affect the cutting performance of the Freedom42 Mulching Mower.
- Mow grass often. Short grass clippings will decay quickly.
- Mow with engine at full throttle.
- Adjust travel speed to match mowing conditions:
 - Travel at SLOW speed when you mow thick, tall grass, make sharp turns or trim around objects.
 - Travel at MODERATE speed when you mow thin grass.
- Use a different mowing pattern each time you mow. Overlap mowing paths 50 to 100 mm (2 to 4 in.).
- Drive over ridges and through shallow ditches straight-on, not at an angle.



- When using the Freedom42 deck: Mow around the outside twice, then mow inside in straight passes. Best cut is achieved when mowing in a straight line.



- When mulching near pavement, overlap the pavement by 50 mm (2 in.) to allow clippings to dispense over grass.
- A thick layer of mulched leave can prevent sunlight from getting to grass and smother it. Taller grass heights allow

mulched leaves to dispense easier in lawn. Mulch leaves several times if needed.

- Use a thatcher in late spring or summer to pull up dead grass and aerate ground.

REPLACEMENT PARTS

Service Literature

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

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

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 and engine serial number. These are the numbers that you recorded in the Product Identification section of this manual.

ITEM	PART NUMBER
Spark Plug: • LX255 and LX288 • LX277 and LX277AWS • LX279	M78543 TY6081 M138938
Traction Drive Belt: • LX255, LX277, LX279 and LX288 • LX277AWS	M127521 M127524
Seat Springs	M127973
Lightbulbs: • Headlamps • Instrument Panel	AD2062R AD62407

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

Part Numbers

ITEM	PART NUMBER
Air Cleaner Element (Foam): • LX255 • LX277 and LX277AWS • LX279 • LX288	M92360 M137555 M76076 LG272490
Air Cleaner Element (Paper): • LX255 • LX277 and LX277AWS • LX279 • LX288	AM123553 M137556 M76077 LG394018
Battery	AM125463
Fuel Filter	AM116304
Fuse (15 amp)	99M7065
Oil Filter: • LX255 and LX288 • LX277, LX277AWS and LX279	AM125424 AM107423

SERVICE INTERVALS

Servicing Your Machine

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

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

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

Before Each Use

- Check fuel level.
- Check engine oil level.
- Clean air intake screen.
- Check safety systems.

After First 5 Hours

- Lubricate front wheel spindles.

Break In (After First 25 Hours of Operation)

- Change engine oil and filter.
- Check/tighten loose hardware.
- Check transmission oil level.
- Check coolant level, on liquid cooled engines.

Break In (After First 50 Hours of Operation)

- Change engine oil and filter.

Annually or at Hours of Operation (whichever comes first)

- Check/tighten loose hardware.
- Check/clean battery.
- Clean/service air cleaner elements.
- Change engine oil and filter.

- Inspect and regap spark plugs.

Every Two Years (Or At Hours Of Operation, Whichever Comes First)

- Replace fuel filter.
- Change coolant, if liquid cooled engine.

50 Hours

- Check/adjust tire pressure.
- Check transmission oil level.
- Lubricate front wheel spindles.
- Clean/service air cleaner elements, (service more frequently under dusty conditions).

100 Hours

- Check/clean battery.
- Change engine oil and filter.
- Inspect and regap spark plugs.

200 Hours

- Replace fuel filter.
- Check radiator and hoses.

500 Hours

NOTE: See your John Deere dealer for these services.

- Check carburetor adjustment.
- Check engine speeds.
- Check and adjust valve clearance.
- Check fuel lines.

SERVICE LUBRICATION

Grease

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

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

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

The following greases are preferred:

- John Deere Multi-Purpose SD Polyurea Grease
- John Deere Multi-Purpose HD Lithium Complex Grease
- John Deere Moly High Temperature EP Grease

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

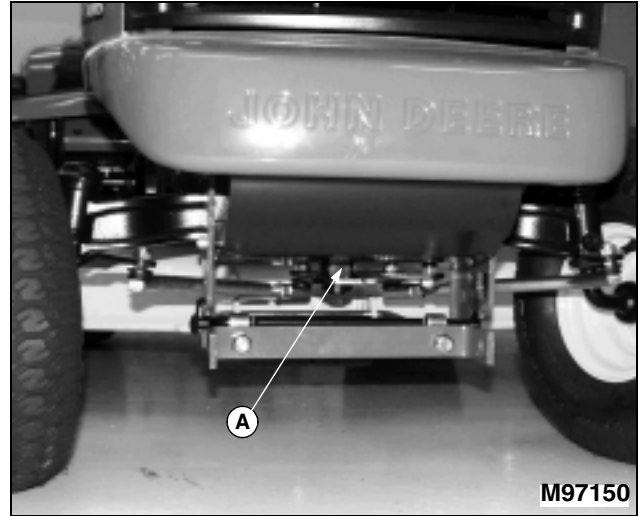
Wet or high speed conditions may require use of a special-use grease. Contact your Servicing dealer for information.

Lubricating Front Wheel Spindles



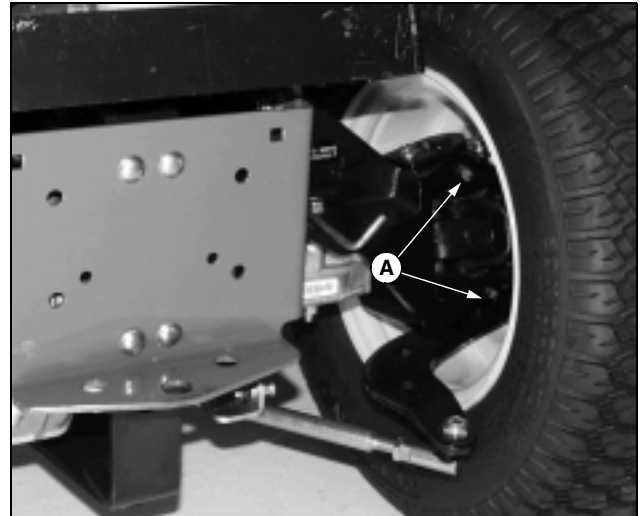
1. Lubricate fittings (A) on spindles, one on each side of tractor, with one or two shots of general all-purpose grease.
2. Turn wheels to distribute grease on spindles.

Lubricating Front Axle Center Pivot on All-Wheel Steer Tractors



Lubricate front axle center pivot (A) with one or two shots of general all-purpose grease.

Lubricating Rear Steering Pivots on All-Wheel Steer Tractors



Lubricate four rear steering pivots (A), two on each side of tractor, with one or two shots of general all-purpose grease.

SERVICE ENGINE

Avoid Fumes



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

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

DO NOT run an engine in an enclosed area without adequate ventilation.

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

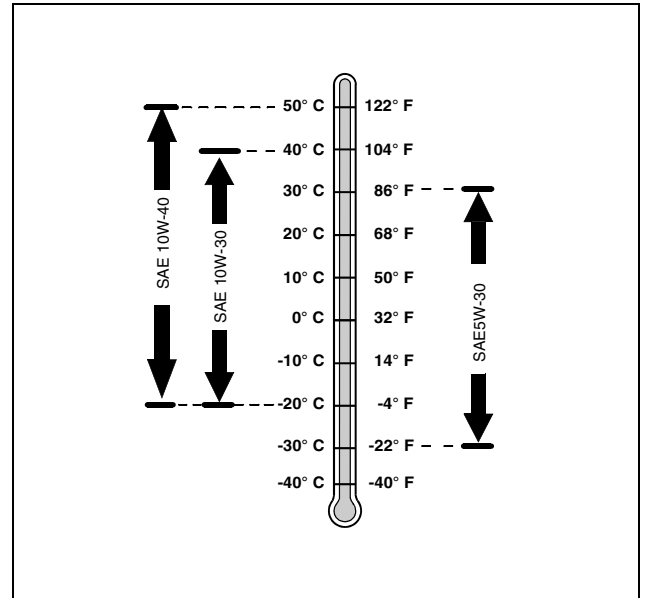
Engine Warranty Maintenance Statement

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

Engine Oil (Gas)

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

The following John Deere oils are preferred:



- TURF-GARD®
- PLUS-4®

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

- API Service Classification SG or higher

Checking Engine Oil Level

IMPORTANT: Avoid damage! Failure to check the oil level regularly could lead to serious engine problems if oil level is low:

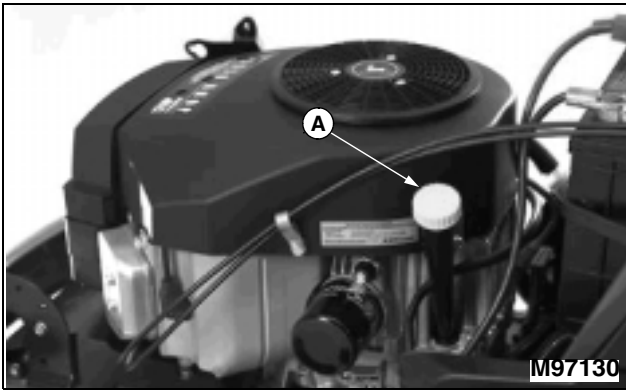
- Check oil level before operating.
- Check oil level when the engine is cold and not running.
- Keep level between the FULL and the ADD marks.
- Shut off engine before adding oil.

NOTE: Check oil twice a day if you run engine over 4 hours in a day.

Make sure engine is cold when checking engine oil level.

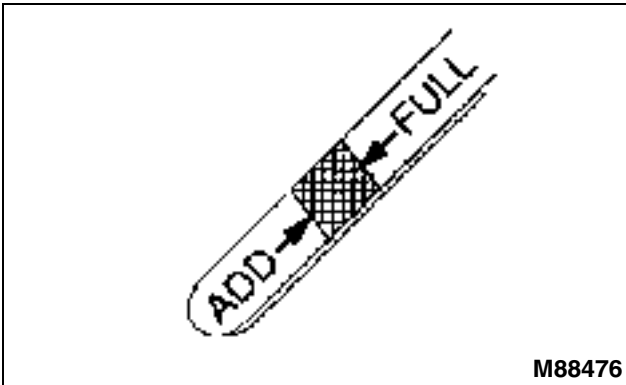
1. Park machine safely. (See Parking Safely in the Safety Section.)
2. Lift hood.
3. Clean area around dipstick to prevent debris from falling into crankcase.

SERVICE ENGINE



Picture Note: LX277

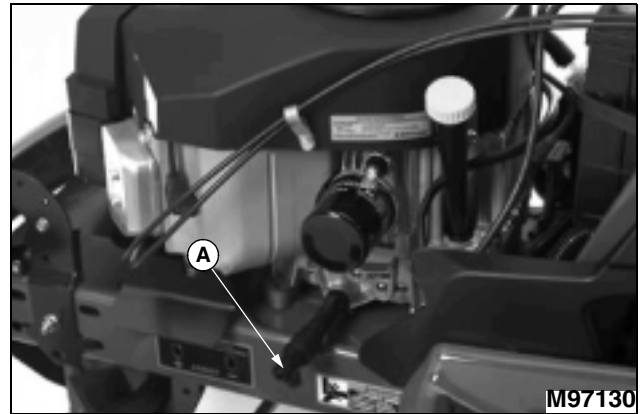
4. Remove dipstick (A). Wipe with clean cloth.
5. Install dipstick:
 - Kohler or Kawasaki Engines: Install dipstick in tube, but DO NOT tighten it. Let dipstick threads rest on top of tube, rotate cap counterclockwise until it “clicks” or drops into the dipstick tube.
 - Briggs and Stratton Engines: Install and tighten dipstick.
6. Remove dipstick.



7. Check oil level on dipstick. Oil must be between ADD and FULL marks.
8. If oil level is low, add oil to bring oil level no higher than FULL mark on dipstick.
9. Install and tighten dipstick. Lower hood.

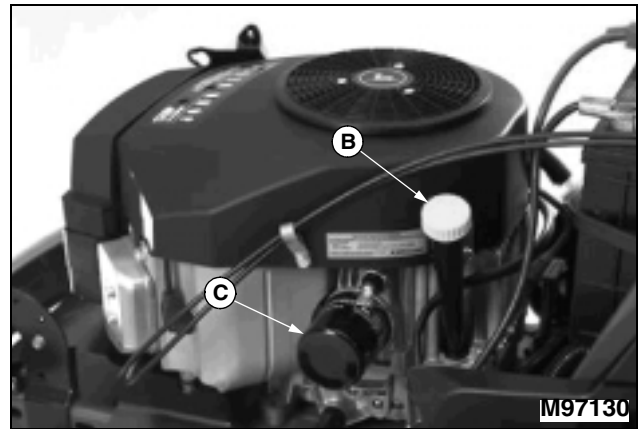
Changing Engine Oil and Filter

1. Run engine to warm oil.
2. Park machine safely on level surface. (See Parking Safely in the Safety Section.)
3. Lift hood.
4. Put drain pan under drain valve.



Picture Note: LX277

5. Open drain cap (A) and drain oil into oil drain pan. Allow oil to drain completely.



Picture Note: LX277

6. Remove dipstick (B).
7. Wipe dirt from around oil filter (C).
8. Place a drain pan or funnel under filter tray.
9. Remove old filter and wipe off filter tray.
10. Put a light coat of fresh, clean oil on the filter gasket.
11. Install replacement oil filter by turning oil filter to the right (clockwise) until the rubber gasket contacts filter base. Tighten filter an additional one-half turn.
12. Close drain valve.
13. Add oil.
14. Install dipstick.
15. Start and run engine at idle to check for leaks. Stop engine. Fix any leaks before operating.
16. Check oil level, add oil if necessary.

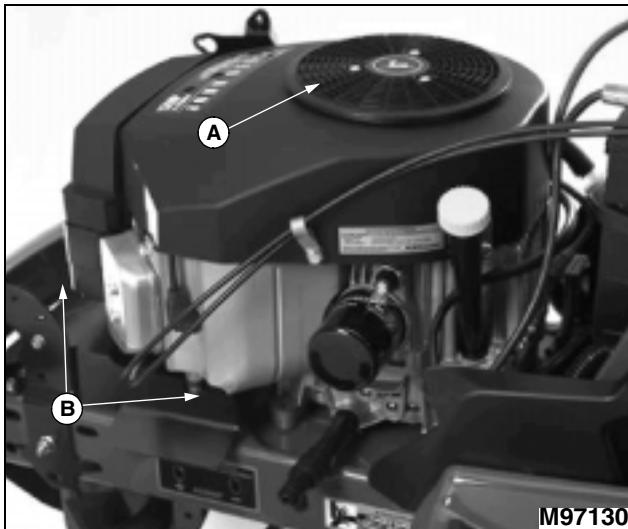
SERVICE ENGINE

Cleaning Air Intake Screen and Engine Fins

IMPORTANT: Avoid damage! The engine is air-cooled and requires a large amount of air intake when running. Reduced air intake can cause overheating:

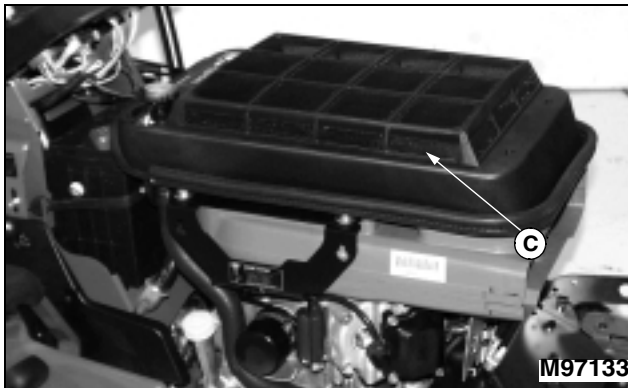
- Keep air intake screen and cooling fins clean.
- Keep covers and screens in place.

1. Park machine safely. (See Parking Safely in the Safety Section.)
2. Lift hood.
3. Clean engine screens and external surfaces with rag, brush, vacuum or compressed air.
 - Air cooled engines:



Picture Note: LX277

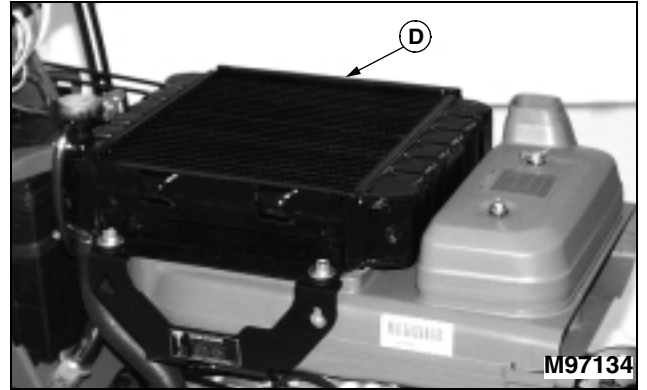
- Air intake screen (A), cooling fins and external surfaces (B).



Picture Note: LX279

- Liquid cooled engines:

Air intake screen (C). When operating in extremely dirty conditions, remove air intake screen and clean radiator screen (D).



4. Lower hood.

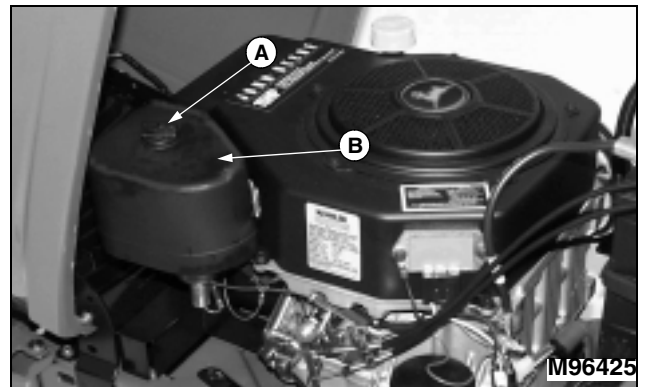
Checking and Cleaning Air Cleaner Elements (Kohler 13hp or 15hp Engines)

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



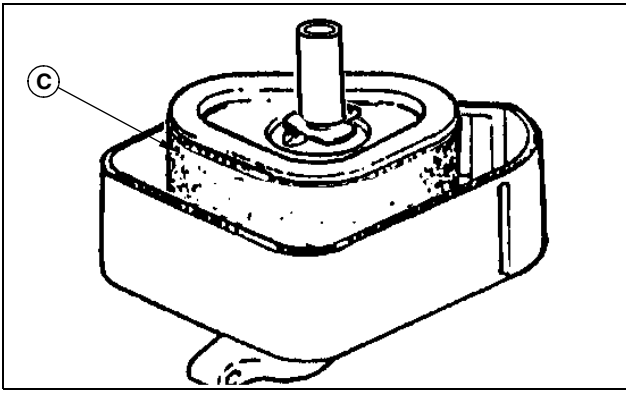
CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine and components will be hot if the engine has been running. Allow the engine to cool before servicing.

2. Let engine cool.
3. Lift hood.
4. Clean dirt and debris from the air cleaner cover.



5. Loosen knob (A) to remove air cleaner cover (B).

SERVICE ENGINE

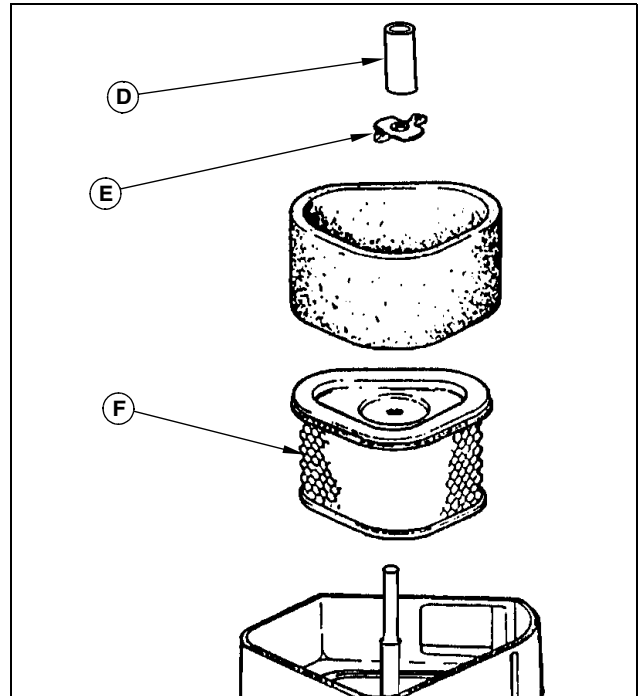


6. Inspect the foam precleaner without removing it. If the foam precleaner (C) is dirty:

- Remove it from the filter carefully, leaving the paper element in the air cleaner housing.
- Wash precleaner in a solution of warm water and liquid detergent.
- Rinse precleaner thoroughly. Squeeze out excess water in a dry cloth until precleaner is completely dry.
- Put approximately 30 ml. (1 oz.) of clean engine oil onto the precleaner. Squeeze precleaner to distribute the oil evenly. Squeeze out excess oil with a clean cloth.

IMPORTANT: Avoid damage! Dirt and debris can enter the engine through a damaged filter element:

- DO NOT wash paper element.
- DO NOT attempt to clean paper element by tapping against another object.
- DO NOT use pressurized air to clean element.
- Replace element **ONLY** if it is very dirty, damaged or the seal is cracked.



7. Inspect the paper element without removing it. If the paper element (F) is damaged dirty:

- Remove rubber tube sleeve (D) and wing nut (E).
- Carefully remove the element from the air cleaner housing. Replace with a new element.

8. Clean air cleaner base very carefully, preventing any dirt from falling into carburetor.

9. Install foam precleaner onto paper element and install into air cleaner base.

10. Install and tighten wing nut.

11. Install rubber tube sleeve on post. Then push it down tight against wing nut.

12. Install air cleaner cover and tighten knob. DO NOT overtighten.

SERVICE ENGINE

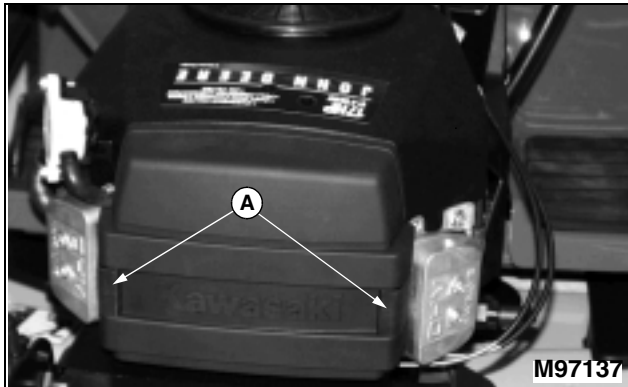
Checking and Cleaning Air Cleaner Elements (Kawasaki Air Cooled, 17hp Engine)

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



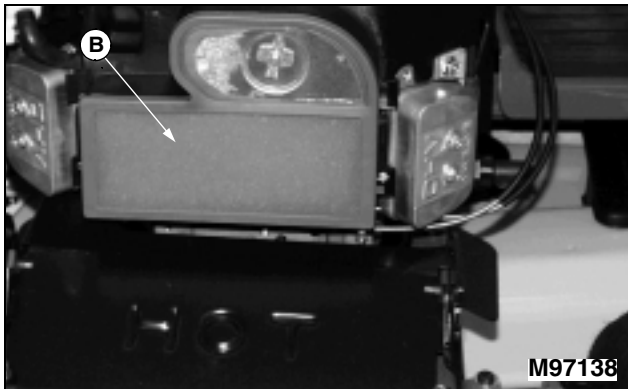
CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine and components will be hot if the engine has been running. Allow the engine to cool before servicing.

2. Let engine cool.



3. Remove hood.

4. Unhook latches (A) on both sides of cover and remove cover.

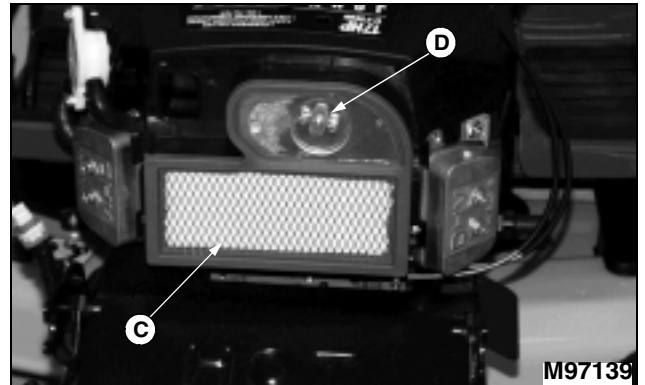


5. Inspect the foam precleaner without removing. If the foam precleaner (B) is dirty:

- Remove it from the filter carefully, leaving the element in the air cleaner housing.
- Wash precleaner in a solution of warm water and liquid detergent.
- Rinse precleaner thoroughly. Squeeze out excess water in a dry cloth until precleaner is completely dry.
- Put approximately 30 ml. (1 oz.) of clean engine oil onto the precleaner. Squeeze precleaner to distribute oil evenly. Squeeze out excess oil with a clean cloth.

IMPORTANT: Avoid damage! Dirt and debris can enter the engine through a damaged filter element:

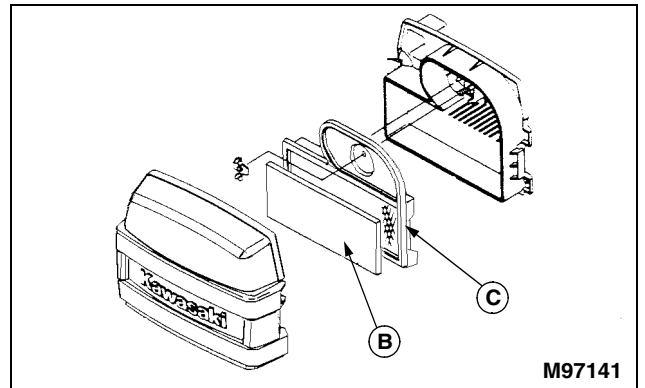
- **DO NOT** wash paper element.
- **DO NOT** attempt to clean paper element by tapping against another object.
- **DO NOT** use pressurized air to clean element.
- Replace element **ONLY** if it is very dirty, damaged or the seal is cracked.



6. Inspect the filter element without removing it. If the filter element (C) is damaged or dirty:

- Remove wing nut (D).
- Carefully remove the element from the air cleaner housing.

7. Clean air cleaner base very carefully, preventing any dirt from falling into carburetor.



8. Install foam precleaner (B) and new filter element (C) onto post in air cleaner housing and tighten wing nut.

9. Replace cover and attach latches to body.

10. Install hood.

SERVICE ENGINE

Checking and Cleaning Air Cleaner Elements (Kawasaki Liquid Cooled, 17hp Engine)

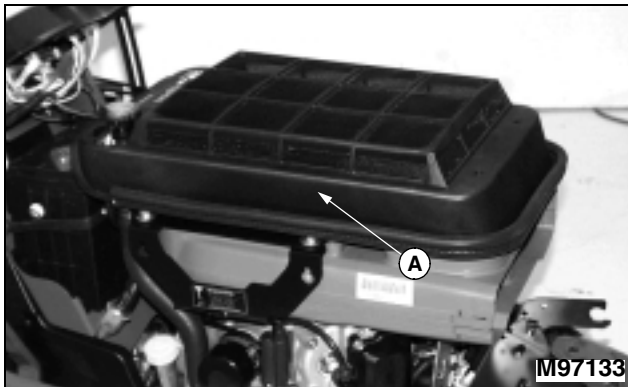
1. Park machine safely. (See Parking Safely in the Safety Section.)



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

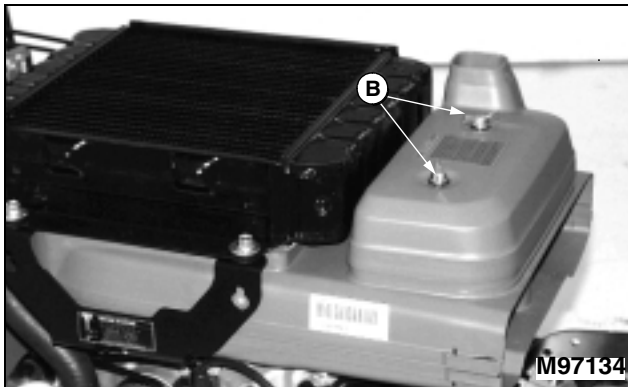
2. Let engine cool.

3. Lift hood.

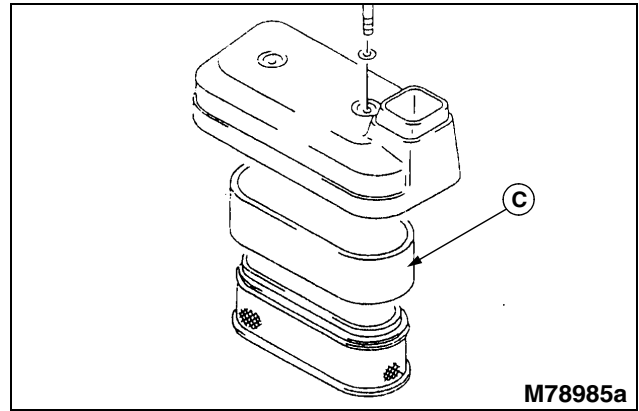


Picture Note: Hood removed for photo clarity only.

4. Remove air intake screen (A).



5. Remove two thumb screws and washers (B) and remove cover.

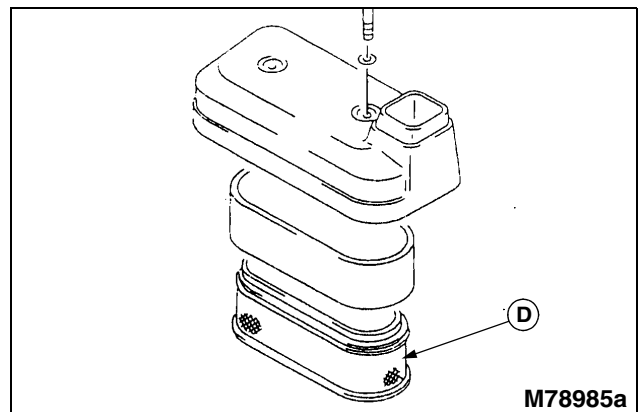


6. Inspect foam precleaner without removing it. If the foam precleaner (C) is dirty:

- Remove it from the filter carefully, leaving the paper element in the air cleaner housing.
- Wash precleaner in a solution of warm water and liquid detergent.
- Rinse precleaner thoroughly. Squeeze out excess water in a dry cloth until precleaner is completely dry.
- Put approximately 30 ml. (1 oz.) of clean engine oil onto the precleaner. Squeeze precleaner to distribute oil evenly. Squeeze out excess oil with a clean cloth.

IMPORTANT: Avoid damage! Dirt and debris can enter the engine through a damaged filter element:

- **DO NOT** wash paper element.
- **DO NOT** attempt to clean paper element by tapping against another object.
- **DO NOT** use pressurized air to clean element.
- Replace element **ONLY** if it is very dirty, damaged or the seal is cracked.



7. Inspect the paper element without removing it. If the paper element (D) is damaged or dirty, carefully remove the element from the air cleaner housing.

SERVICE ENGINE

8. Carefully clean air cleaner housing. Prevent any dirt from falling into carburetor.
9. Install foam precleaner and new paper element onto post in air cleaner housing.
10. Install air cleaner cover. Install washers and tighten two thumb screws.
11. Lower hood.

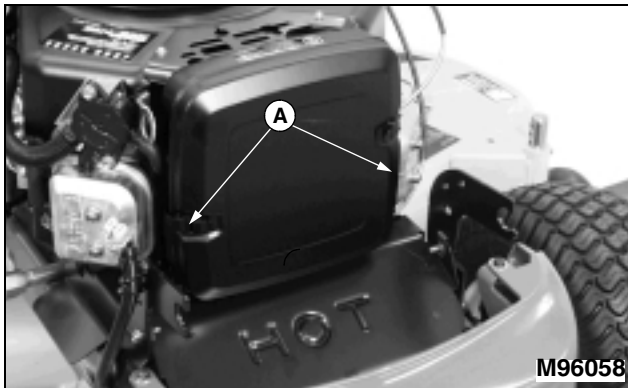
Checking and Cleaning Air Cleaner Elements (Briggs and Stratton 16hp or 18hp Engines))

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



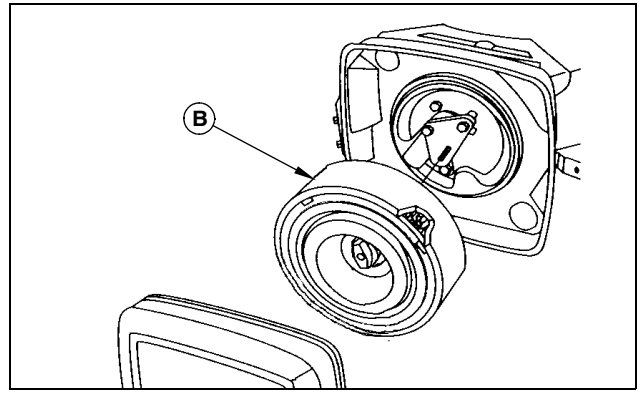
CAUTION: Avoid injury! Touching hot surfaces can burn skin. The engine and components will be hot if the engine has been running. Allow the engine to cool before servicing.

2. Let engine cool.
3. Lift hood.



Picture Note: Hood removed for photo clarity only.

4. Unhook latches (A) on both sides of cover and remove cover.

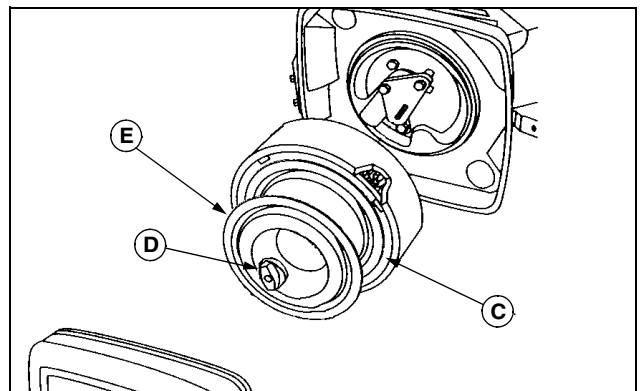


5. Inspect the foam precleaner without removing it. If the foam precleaner (B) is dirty:

- Remove it from the filter carefully, leaving the paper element in the air cleaner housing.
- Wash precleaner in a solution of warm water and liquid detergent.
- Rinse precleaner thoroughly. Squeeze out excess water in a dry cloth until precleaner is completely dry.
- Put approximately 30 ml. (1 oz.) of clean engine oil onto the precleaner. Squeeze precleaner to distribute the oil evenly. Squeeze out excess oil with a clean cloth.

IMPORTANT: Avoid damage! Dirt and debris can enter the engine through a damaged filter element:

- **DO NOT** wash paper element.
- **DO NOT** attempt to clean paper element by tapping against another object.
- **DO NOT** use pressurized air to clean element.
- Replace element **ONLY** if it is very dirty, damaged or the seal is cracked.



6. Inspect the paper filter element without removing it. If the paper filter element (C) is damaged or dirty:

- Remove knob (D) and plate (E).
- Carefully remove the element from the air cleaner

SERVICE ENGINE

housing.

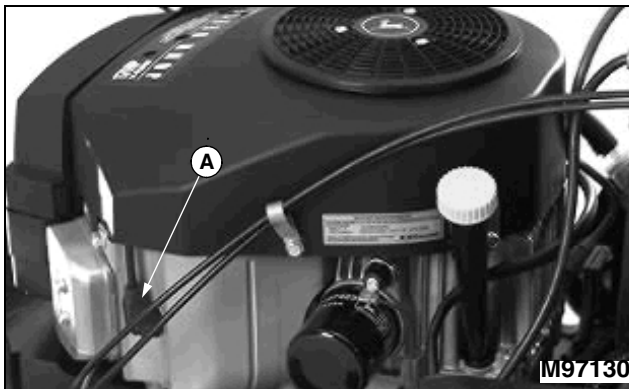
7. Clean air cleaner base very carefully, preventing any dirt from falling into carburetor.
8. Install new paper filter element, plate and knob.
9. Install foam precleaner on paper filter element.
10. Replace cover and attach clips to body.

Checking Spark Plug



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

1. Park machine safely and lift hood. (See Parking Safely in the Safety Section.)

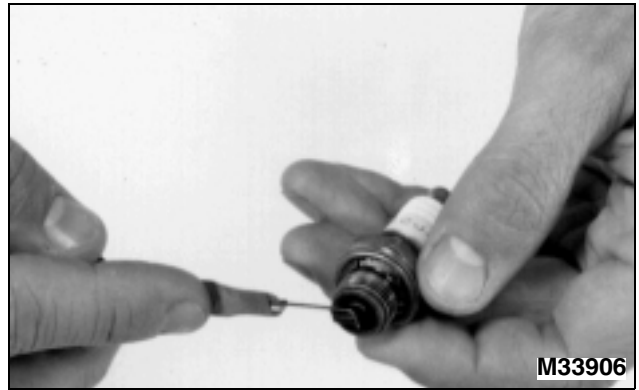


Picture Note: LX277

2. Disconnect spark plug wire(s) (A).
3. Remove spark plug(s).
4. Clean spark plug carefully with a wire brush.
5. Inspect spark plug for:
 - Cracked porcelain.
 - Pitted or damaged electrodes.
 - Other wear or damage.

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

6. Replace spark plug as necessary.



7. Check plug gap with a wire feeler gauge.
 - To change gap, move the outer electrode.

Engine	Gap Must Be:
Kohler (15hp)	1 mm (0.040 in.)
Kawasaki Air Cooled (17hp)	1 mm (0.040 in.)
Kawasaki Liquid Cooled (17hp)	0.7 mm (0.028 in.)
Briggs and Stratton (18hp)	0.76 mm (0.030 in.)

8. Install and tighten spark plug.

Engine	Tighten To:
Kohler (15hp)	40 N•m (30 lb-ft)
Kawasaki Air Cooled (17hp)	15 N•m (11 lb-ft)
Kawasaki Liquid Cooled (17hp)	20 N•m (15 lb-ft)
Briggs and Stratton (18hp)	20 N•m (15 lb-ft)

9. Connect the spark plug wire and lower hood.

Service Cooling System Safely



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

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

SERVICE ENGINE

Engine Coolant

The following John Deere coolant is preferred for both **Diesel** and Gasoline engines with aluminum blocks and cooling systems. Read and follow all instructions listed on the product label:

- Pre-Diluted Diesel Engine Anti-Freeze/Summer Coolant (TY16036).

If the above preferred pre-diluted coolant is not available, use the following:

- Diesel Engine Anti-Freeze/Summer Coolant Concentrate (TY16034).

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

- **DO NOT** operate engine with plain water.
- **Use** antifreeze approved for use in aluminum engines.
- **DO NOT** exceed a 50% antifreeze mixture for the coolant.
- **DO NOT** pour coolant or water into the radiator when the engine is hot.

The recommended antifreeze provides:

- Adequate heat transfer.
- Corrosion-resistant environment within the cooling system.
- Compatibility with cooling system hose and seal material.
- Protection during cold and hot weather operations.
- Chemically pure water for better service life.
- Compliance with ASTM D4656 (JDM H24C2) specifications.

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.

If the two preferred coolants are not available, use a ethylene glycol base coolant meeting the ASTM D3306 (JDM H24C1) specification. These coolants usually have labels stating "For Automobile and Light Duty Service." These products are also often labeled for use in aluminum engines. Check container label before using.

Engine Coolant Drain Interval

When using John Deere Pre-Diluted (TY16036) or 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.

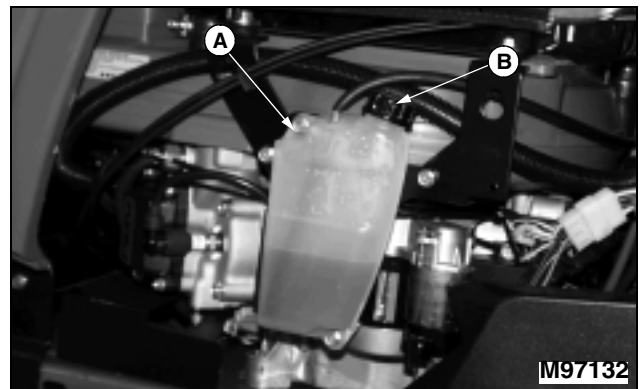
If above John Deere Automobile and Light Duty Engine Service coolants are not being used; drain, flush, and refill the cooling system according to instructions found on product container or in equipment Operator's Manual or Technical Manual.

Checking Coolant Level (LX279)

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

- **DO NOT** operate engine with plain water.
- **Use** antifreeze approved for use in aluminum engines.
- **DO NOT** exceed a 50% antifreeze mixture for the coolant.
- **DO NOT** pour coolant or water into the radiator when the engine is hot.

1. Park machine safely. (See Parking Safely in the Safety Section.)
2. Lift hood.



3. Check coolant level in recovery tank (A).
 - Coolant should be up to "H" (HIGH) mark when engine is HOT.
 - Coolant should be up to to "L" (LOW) mark when engine is COLD.
4. Remove cap (B) to add coolant.
5. If coolant is low, add ethylene glycol (without stop-leak additive), antifreeze and water in ratio of 50:50.
6. Install and tighten recovery tank cap.
7. Clean debris from air intake screens and radiator.

SERVICE ENGINE

8. Check condition of hoses.
9. Lower hood.

Draining Cooling System (LX279)

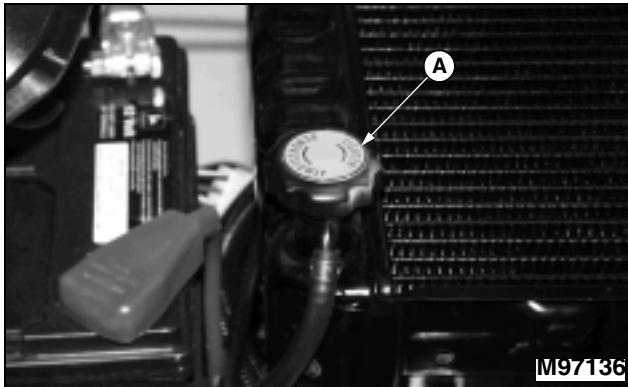
1. Park machine safely. (See Parking Safely in the Safety Section.)



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

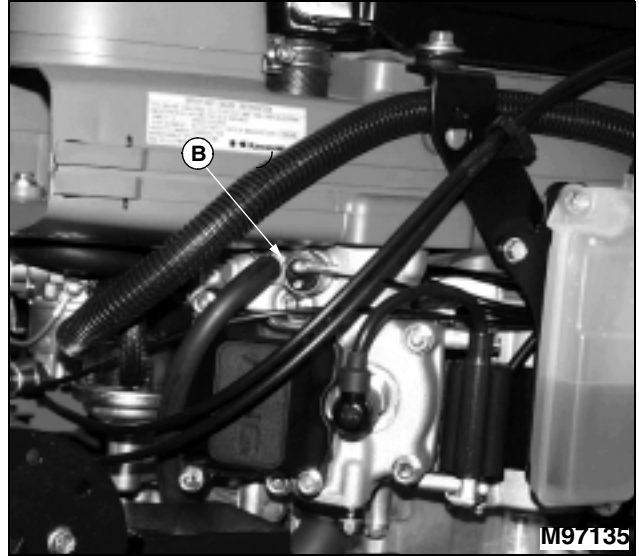
- Shut off the engine and allow to cool.
- **DO NOT** remove the cap unless the radiator and the engine are cool enough to touch with bare hands.
- **Slowly loosen the cap to the first stop to release all pressure. Then remove the cap.**

2. Let engine cool.
3. Lift hood.



4. Loosen radiator cap (A) slowly to the first stop to release all pressure.
5. Close cap tightly.

NOTE: Locate the hose on the LEFT side of the engine.



6. Remove top hose clamp (B). This is the small hose that runs from the water pump to the cylinder head.
7. Hold a bucket below the hose. Pull hose off of fitting and drain coolant into bucket.

NOTE: There should be very little coolant escape from the cylinder head fitting if the pressure has been released from the radiator and the cap installed tightly.

8. Install hose and clamp to cylinder head fitting after coolant has drained.

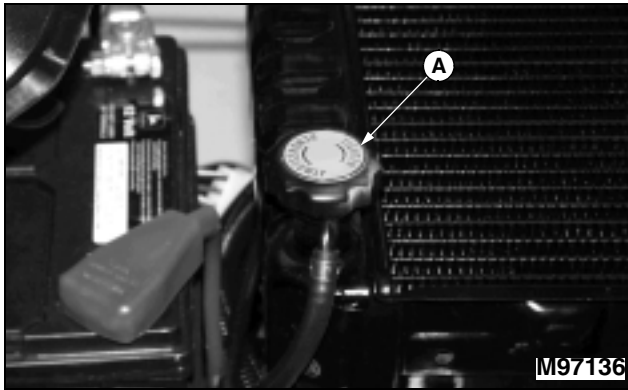
Flushing Cooling System (LX279)

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

- **DO NOT** operate engine with plain water.
- **Use antifreeze approved for use in aluminum engines.**
- **DO NOT** exceed a 50% antifreeze mixture for the coolant.
- **DO NOT** pour coolant or water into the radiator when the engine is hot.

1. Fill cooling system with clean water and John Deere Cooling System Cleaner, or John Deere Cooling System Quick Flush or an equivalent. Follow directions on can.

SERVICE ENGINE



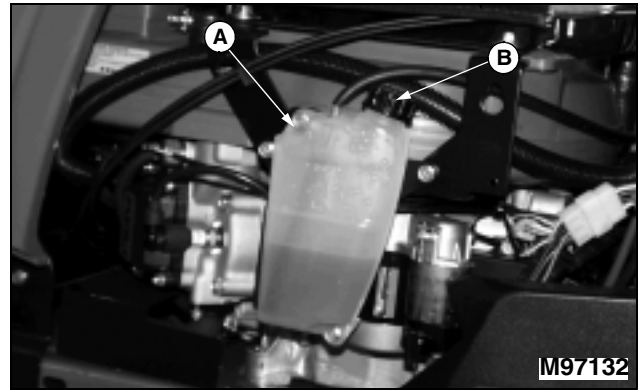
2. Install and tighten radiator cap (A).
3. Start and run engine until it reaches operating temperature.
4. Drain cooling system immediately into a pan or proper container before rust and dirt settle.

Filling Cooling System (LX279)

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

- DO NOT operate engine with plain water.
- Use antifreeze approved for use in aluminum engines.
- DO NOT exceed a 50% antifreeze mixture for the coolant.
- DO NOT pour coolant or water into the radiator when the engine is hot.

1. Fill cooling system:
 - A chart on the antifreeze container tells how much antifreeze to use for the freeze protection needed in your area. (If you operate your engine in extremely cold temperatures, see your John Deere dealer for information on arctic operation.) DO NOT use straight antifreeze or mixture of more than 50 percent antifreeze.
2. Install and tighten radiator cap.
3. Run engine until it reaches operating temperature.
4. STOP engine.
5. Let engine cool.



6. Check coolant level in recovery tank (A).
 - Coolant should be up to "H" (HIGH) mark when engine is HOT.
 - Coolant should be up to "L" (LOW) mark when engine is COLD.
7. Remove cap (B) to add coolant if necessary.
8. Check condition of coolant system hoses. Install new hoses periodically.
9. Tighten hose clamps regularly.
10. Lower hood.

Adjusting Carburetor

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

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

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

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

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

SERVICE ENGINE

Replacing Fuel Filter

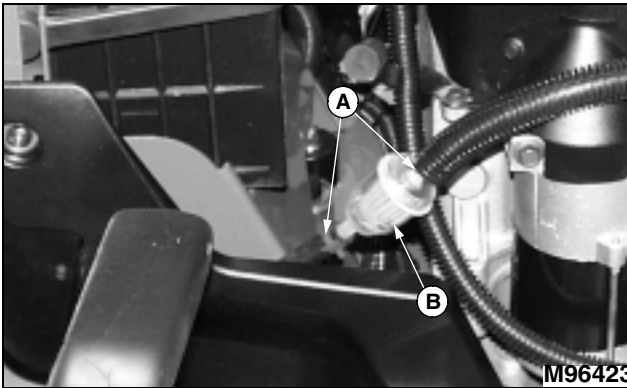


CAUTION: Avoid injury! Fuel vapors are explosive and flammable:

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

NOTE: Change filter when fuel is low.

1. Park machine safely and lift hood. (See Parking Safely in the Safety Section.)
2. Let engine cool.
3. Put a drain pan under fuel filter.



Picture Note: Located on right side of engine.

4. Slide hose clamps (A) away from fuel filter (B) using a pliers.
5. Disconnect hoses from filter.

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

6. Connect hoses to new filter making sure the filter arrow is pointed in the direction of the fuel flow.
7. Install clamps and check for leaks and lower hood.

SERVICE TRANSMISSION

Hydrostatic Transmission Oil

IMPORTANT: Avoid damage! Dirt and debris in hydraulic oil may cause damage to the hydraulic system.

- DO NOT drain or change hydrostatic transmission fluid.
- See your John Deere dealer for service.

SAE 10W30 engine oil with API classifications of SE or higher is recommended in the transmission.

Checking Transmission Oil Level

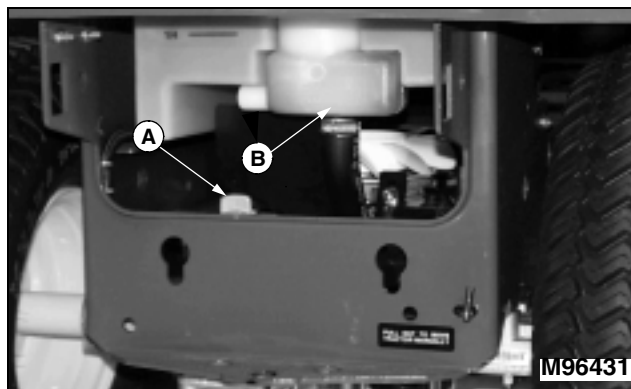
1. Park machine safely. (See Parking Safely in the Safety Section.)

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

- When oil is cold.
- Engine not running.

2. Let engine cool.

NOTE: Do not remove sealed orange cap (A). See your John Deere dealer.



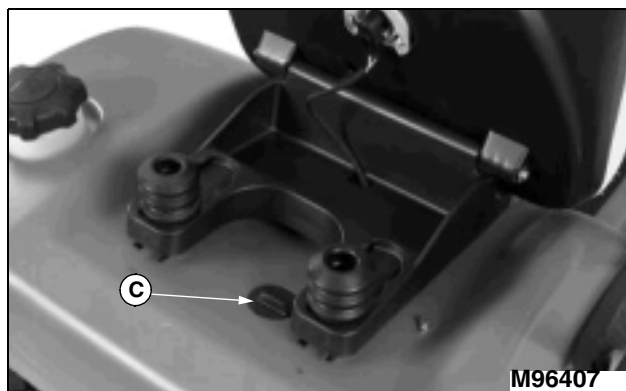
3. Check oil level on reservoir (B). Oil tank is embossed with a FULL line and a ADD line.

IMPORTANT: Avoid damage! Dirt and debris in hydraulic oil may cause damage to the hydraulic system.

- DO NOT open oil reservoir cap unless absolutely necessary.
- Clean area around oil reservoir cap before removing.

4. If oil is low, add SAE 10W30 engine oil to bring oil level to the FULL line.

- Lift seat.



- Clean around reservoir filler cap (C).
- Remove oil fill cap.
- Remove foam filter in oil reservoir neck.
- Add oil to bring oil level between ADD and FULL line.
- Replace foam filter.
- Install and tighten oil fill cap.
- Lower seat.

5. Start engine.

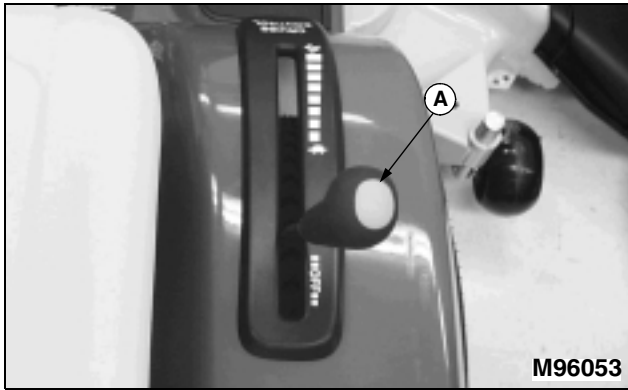
6. Operate tractor forward and in reverse several times.

7. Park tractor on level surface. Stop engine and check oil level again.

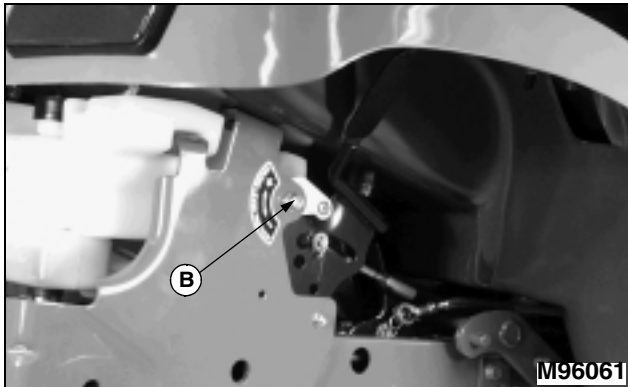
Adjusting Cruise Control Lever Tension

NOTE: The friction mechanism that holds the cruise control lever in position was pre-set at the factory. This mechanism may require adjustment due to wear or operator preference.

SERVICE TRANSMISSION



1. While operating tractor, move cruise control lever (A). Decide if lever tension should be increased or decreased.



Picture Note: Right wheel removed for photo clarity only.

2. Locate M8 adjusting nut (B) (13 mm wrench) in right wheel well. Adjustment can be easily made without removing right wheel.

NOTE: A backing wrench on the opposite (inside) end of bolt is not required.

3. Turn nut (B) to adjust cruise control lever tension:
 - Increase tension, turn nut clockwise.
 - Decrease tension, turn nut counterclockwise.

Adjust tension, so that lever can be easily stroked in both forward and rearward direction. Lever should hold transmission linkage in any position desired.

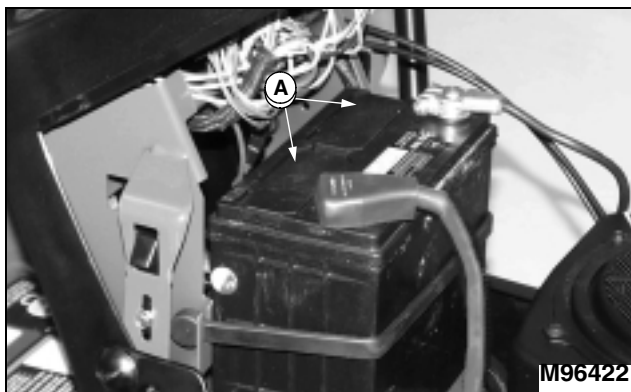
SERVICE ELECTRICAL

Checking Battery Electrolyte Level



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

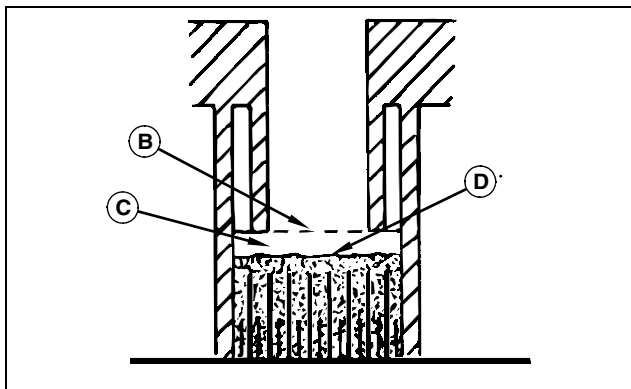
- Wear eye protection and gloves.
- Keep skin protected.
- If electrolyte is swallowed, get medical attention immediately.
- If electrolyte is splashed into eyes, flush immediately with water for 15-30 minutes and get medical attention.
- If electrolyte is splashed onto skin, flush immediately with water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



1. Remove battery manifold caps (A).

IMPORTANT: Avoid damage! Acid may leak from the battery while it is charging. Make sure the battery is filled correctly.

DO NOT fill the cells to the bottom of the filler neck.



2. Check electrolyte level. Electrolyte level (C) should be 6 mm (1/4 in.) above plates (D) and below filler neck (B).

3. Add distilled water if necessary.
4. Install manifold caps.
5. Tighten battery cable hardware.

Removing and Installing the Battery

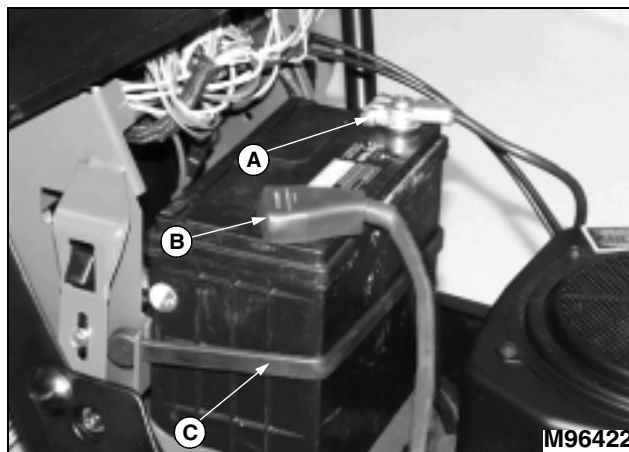


CAUTION: Avoid injury! The battery produces a flammable and explosive gas. The battery may explode:

- DO NOT smoke near battery.
- Wear eye protection and gloves.
- DO NOT allow direct metal contact across battery posts.
- Remove negative cable first when disconnecting.
- Install negative cable last when connecting.

Removing:

1. Park machine safely and lift hood. (See Parking Safely in the Safety Section.)



2. Disconnect negative (-) battery cable (A).
3. Push red cover (B) away from positive (+) battery cable and remove cable from battery.
4. Remove black rubber strap (C).
5. Remove battery.

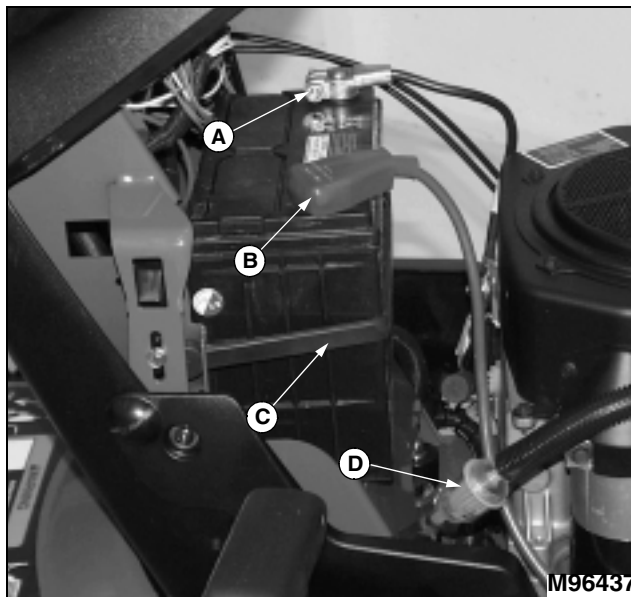
SERVICE ELECTRICAL

Installing:

IMPORTANT: Avoid damage! from cable touching fuel line on LX Models with Air Cooled Engines:

- Route the positive (+) cable behind the fuel line.
- Turn the battery clamp INWARD.

1. Place battery on battery tray.



2. On Air Cooled Engines: Route positive (+) cable (B) behind fuel line (D).
3. Turn positive (+) battery clamp inward and connect cable to battery.
4. Connect negative (-) battery cable (A).
5. Apply general purpose grease or silicone spray to terminal to help prevent corrosion.
6. Slide red cover over positive battery cable.
7. Install black rubber strap (C).

Clean Battery and Terminals



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

- DO NOT smoke near battery.
- Wear eye protection and gloves.
- DO NOT allow direct metal contact across battery posts.
- Remove negative cable first when disconnecting.
- Install negative cable last when connecting.

1. Disconnect and remove battery.
2. Wash battery with solution of four tablespoons of baking soda to one gallon of water. Be careful not to get the soda solution into the cells.
3. Rinse the battery with plain water and dry.
4. Clean terminals and battery cable ends with wire brush until bright.
5. Apply petroleum jelly or silicone spray to terminal to prevent corrosion.
6. Install battery.

Using Booster Battery

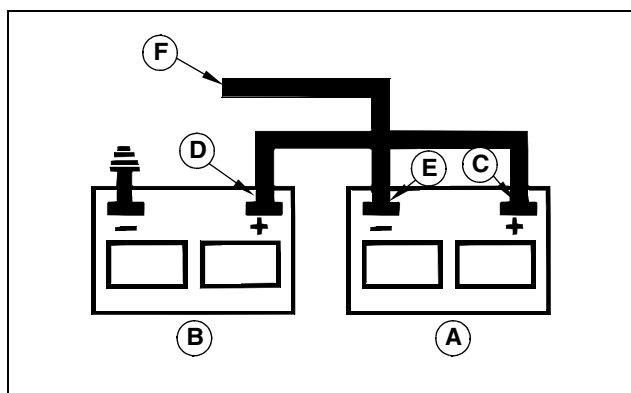


SERVICE ELECTRICAL



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

- **DO NOT** attempt to jump start a frozen battery. Warm to 16 degrees C (60 degrees F).
- **DO NOT** smoke near battery.
- **Wear eye protection and gloves.**
- **Keep sparks and flames away.**
- **DO NOT** connect the negative (-) booster cable to the negative (-) terminal of the discharged battery. Connect at a good ground location away from the discharged battery.



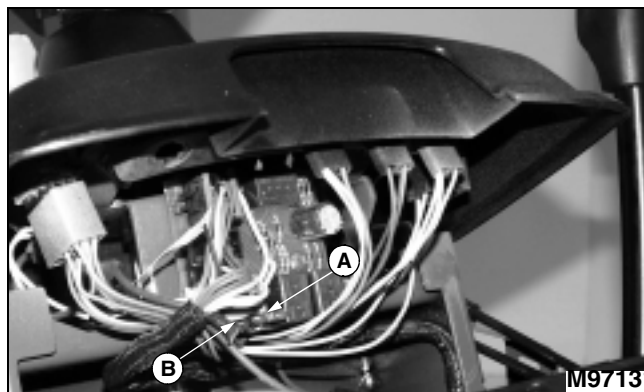
A - Booster Battery

B - Disabled Vehicle Battery

1. Connect positive (+) booster cable to booster battery (A) positive (+) post (C).
2. Connect the other end of positive (+) booster cable to the disabled vehicle battery (B) positive (+) post (D).
3. Connect negative (-) booster cable to booster battery negative (-) post (E).
4. Connect the other end (F) of negative (-) booster cable to a metal part of the disabled machine frame away from battery.
5. Start the engine of the disabled machine and run machine for several minutes.
6. Carefully disconnect the booster cables in the exact reverse order: negative cable first and then the positive cable.

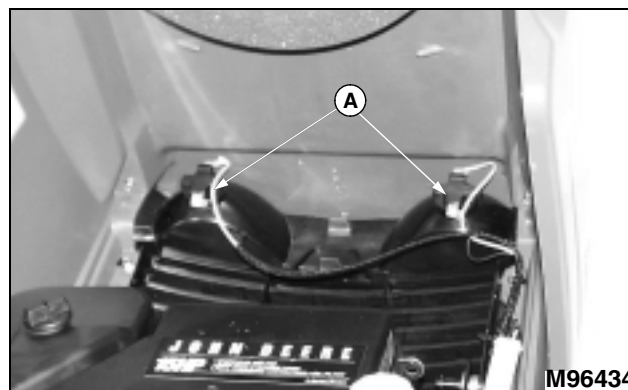
Replacing Fuse

1. Park machine safely and lift hood. (See Parking Safely in the Safety Section.)



2. Pull defective headlight fuse (A) or starter fuse (B) out of socket.
3. Check metal clip in fuse window and discard fuse if clip is broken.
4. Push new 15 Amp fuse into socket.
5. Lower hood.

Replacing Headlight Bulb

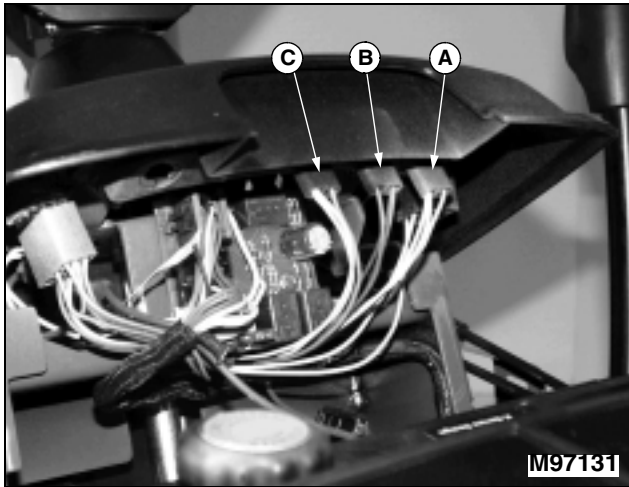


1. Push in and turn bulb socket (A) 1/4 turn counterclockwise to remove.
2. Replace defective bulb with a new bulb.
3. Insert bulb socket into housing, push in and turn 1/4 turn clockwise to install.

Replacing Indicator Light Bulbs

NOTE: If more than one bulb is defective, replace only one bulb at a time. Make sure light socket is installed in correct holder.

SERVICE ELECTRICAL



Picture Note: LX279

1. Turn indicator bulb socket 1/8 turn counterclockwise to remove it.
 - Oil Pressure Indicator Light (A).
 - Battery Discharge Light (B).
 - Coolant Temperature Light (C), LX279 only.
2. Pull bulb from socket.
3. Push new bulb into socket and install socket into holder.

SERVICE MISCELLANEOUS

Filling Fuel Tank

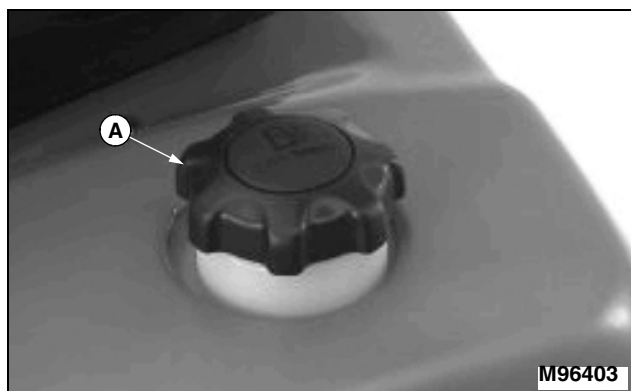
Use regular grade 87 octane unleaded fuel.

Add John Deere fuel stabilizer to fuel before using it in your machine to prevent engine damage due to stale fuel. Follow directions on stabilizer container.

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

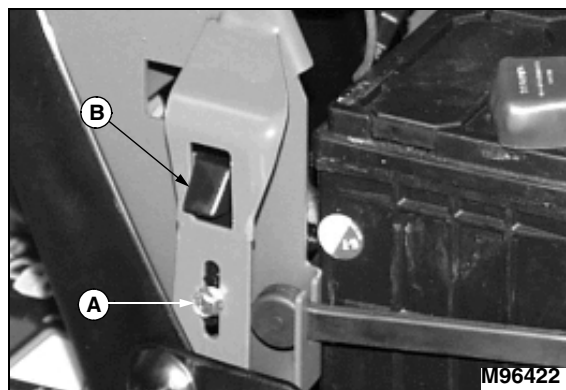
- Clean dirt and debris from the fuel tank opening.
- Use clean, fresh, stabilized fuel.
- Fill the fuel tank at the end of each day's operation to keep condensation out of the fuel tank.
- Use a non-metallic funnel with a plastic mesh strainer when filling the fuel tank or container.

1. STOP engine, let it cool several minutes before you add fuel.
2. Remove grass clippings and other trash from tank area.



3. Remove fuel tank cap (A).
4. Fill tank with fuel only to bottom of filler neck.
5. Install fuel tank cap.

Adjusting Hood Latch



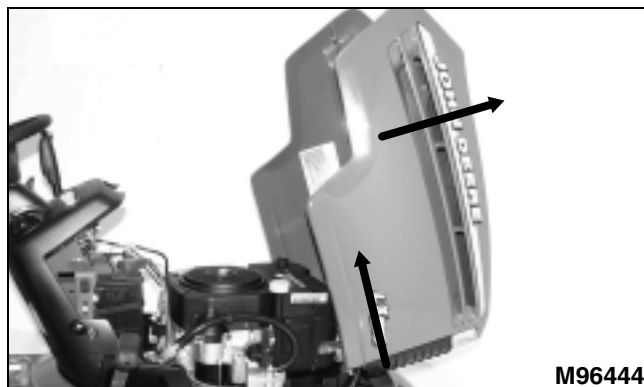
1. Open hood and loosen cap screw (A).
2. Move latch (B) up or down.
3. Tighten cap screw.
4. Adjust hood latch on other side of tractor.

Removing and Installing Hood

Removing:



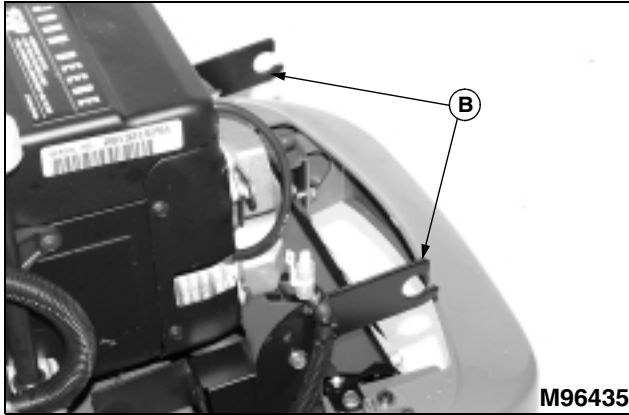
1. Open hood.
2. Disconnect wiring harness (A).



3. Lift and pull hood away from tractor.

SERVICE MISCELLANEOUS

Installing:



1. Align hood pivot studs with pivot brackets (B) and install hood.
2. Connect wiring harness.
3. Close hood.

Cleaning and Repairing Plastic Surfaces

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

IMPORTANT: Avoid damage! Improper care of machine plastic surfaces can damage that surface:

- **DO NOT** wipe plastic surfaces when they are dry. Dry wiping will result in minor surface scratches.
- Use a soft, clean cloth (bath towel, diaper, automotive mitt).
- **DO NOT** use abrasive materials, such as polishing compounds, on plastic surfaces.
- **DO NOT** spray insect repellent near machine.

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

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

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

Cleaning and Repairing Metal Surfaces

Cleaning:

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

Repairing Minor Scratches (surface scratch):

1. Clean area to be repaired thoroughly.

IMPORTANT: Avoid damage! DO NOT use rubbing compound on painted surfaces.

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

Repairing Deep Scratches (bare metal or primer showing):

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

TROUBLESHOOTING

Using Troubleshooting Chart

If you are experiencing a problem that is not listed in this chart, see your 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
Poor Engine Performance	Fuel: • Dirt in fuel system or fuel is old, obtain fresh fuel from another supplier before suspecting machine problems. Suppliers blend fuels differently and changing suppliers will generally solve any performance problems • Fuel blended with alcohol or ether may contribute to performance problems by causing gum and varnish deposits, especially if fuel is stored for several weeks or more. Obtain fresh fuel.
Engine Will Not Start	Brake pedal not depressed. PTO knob is in ENGAGED position. Spark plug wire is loose or disconnected. Improper fuel. Plugged fuel filter. Electrical problem - See Electrical Troubleshooting Section
Engine Is Hard To Start	Carburetor is not adjusted properly or dirty. Plugged fuel filter. Choke adjusted incorrectly. Faulty spark plug. Stale or improper fuel. Loose or corroded electrical connections. Engine oil viscosity.
Engine Runs Unevenly	Cooling fins plugged. Loose electrical connections. Choke or throttle cable sticking. Fuel line or fuel filter plugged. Stale or dirty fuel. Improper fuel. Air cleaner element plugged.
Engine Misses Under Load	Faulty spark plug. Stale or dirty fuel. Plugged fuel filter.

TROUBLESHOOTING

IF	CHECK
Engine Vapor Locks	Fuel tank vent plugged. Dirt in fuel filter. Cooling fins plugged. Loose hose connection at fuel filter or fuel pump.
Engine Overheats	Engine air intake screen plugged. Cooling fins plugged. Engine oil low or too high. Engine operated too long at a slow idle speed. LX279: Low coolant level or faulty radiator cap.
Engine Will Not Idle	Spark plug not gapped correctly. Faulty spark plug. Operator raising off the seat.
Engine Knocks	Stale or low octane fuel. Engine overloaded. Low engine speed. Oil level low.
Engine Stops Or Misses When Operating On Hillsides	Fuel tank less than half full of fuel. Operator raising off of the seat.
Engine Backfires	Faulty spark plug. Operator raising off of the seat.
Engine Loses Power	Engine overheating. Too much oil in engine. Dirty air cleaner. Faulty spark plug. Travel speed is too fast for conditions. Improper fuel.
Engine Stops When REVERSE foot pedal is depressed and Attachment Is Engaged	Normal condition. (See Using Reverse Implement Option in the OPERATING section.)
Excessive Fuel Consumption	Choke is not fully open.
Black Exhaust Smoke	Air filter is dirty or oil soaked.

TROUBLESHOOTING

Electrical

IF	CHECK
Starter Does Not Work Or Will Not Turn Engine	Brake pedal is not depressed. PTO knob is in ENGAGED position. Battery terminals are corroded. Battery not charged. Fusible Link in starting circuit is blown - See your John Deere Dealer
Battery Will Not Charge	Dead cell in the battery. Battery cables and terminals are dirty. Low engine speed or excessive idling.
Lights Do Not Work	Light plug disconnected. Loose or burned out bulb.

Tractor

IF	CHECK
Tractor Vibrates Too Much or Rattles Excessively	Attachment drive belts worn or damaged. Traction drive belt damaged or worn. Dirt on drive sheaves.
Tractor Will Not Move With Engine Running	Parking brake locked. Transmission hydraulic oil level low.
Tractor Moves With Engine Running And Hydrostatic Control In Neutral	Linkage out of adjustment.
Cruise Control Lever Creeps	Adjust cruise control lever tension.
Cruise Control Lever Requires High Effort To Move	Adjust cruise control lever tension.

Attachment

IF	CHECK
Attachment Is Difficult To Lift	Adjust lift lever assist spring. (See your attachment Operator's Manual).
Mower (or other attachment) Stops When REVERSE Foot Pedal Is Depressed And Attachment Is Engaged	Normal condition. (See Using Reverse Implement Option in the OPERATING section.)

STORAGE

Storing Safety



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

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

Preparing Machine for Storage

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

Preparing Fuel and Engine For Storage

Fuel:

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

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

If you are not using “Stabilized Fuel”:

1. Park tractor safely in a well-ventilated area.

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

2. Turn on engine and allow to run until it runs out of fuel.

3. Turn key to OFF position.

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

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

4. Mix fresh fuel and fuel stabilizer in separate container. Follow stabilizer instructions for mixing.

5. Fill fuel tank with stabilized fuel.

6. Run engine for a few minutes to allow fuel mixture to circulate through carburetor.

Engine:

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

1. Change engine oil and filter while engine is warm.
2. Service air filter if necessary.
3. Clean debris from engine air intake screen.
4. Remove spark plugs. Put 30 mL (1 oz.) of clean engine oil in cylinders.
5. Install spark plugs, but **DO NOT** connect spark plug wires.
6. Start the engine and run for approximately five seconds to allow oil to be distributed.
7. Clean the engine and engine compartment.
8. Remove battery.
9. Clean the battery and battery posts. Check the electrolyte level.
10. Close fuel shut-off valve, if your machine is equipped.
11. Store the battery in a cool, dry place where it will not freeze.

NOTE: The stored battery should be recharged every 90 days.

12. Charge the battery.

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

Removing Machine From Storage

1. Check tire pressure.
2. Check engine oil level.
3. Check battery electrolyte level. Charge battery if necessary.

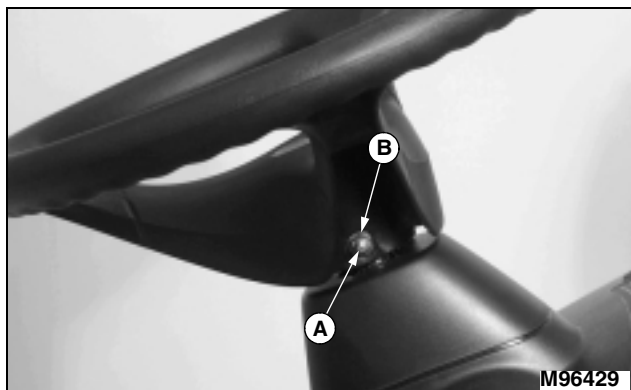
STORAGE

4. Install battery.
5. Check spark plug gap. Install and tighten plugs to specified torque.
6. Lubricate all grease points.
7. Open fuel shut-off valve, if your machine is equipped.
8. Run the engine 5 minutes without the mower or any attachments running to allow oil to be distributed throughout engine.
9. Be sure all shields and guards or deflectors are in place.

ASSEMBLY

Install Steering Wheel

1. Put front wheels in the straight forward position.
2. Put John Deere NEVER-SEEZ™ Lubricant or an equivalent on the steering shaft.
3. Install steering wheel with John Deere logo in the upright position.



4. Install shoulder bolt (A). Drive bolt in until head of bolt contacts steering wheel.
5. Install washer and nut (B).
6. Tighten lock nut until it is snug. Do not pull washer or head of bolt into steering wheel.

Connect and Check Battery



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

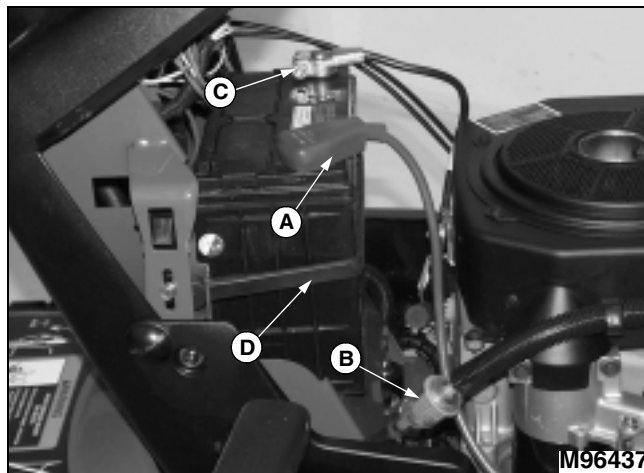
- DO NOT smoke near battery.
- Wear eye protection and gloves.
- DO NOT allow direct metal contact across battery posts.
- Remove negative cable first when disconnecting.
- Install negative cable last when connecting.

1. Check battery voltage.
 - Battery should be charged if voltage is below 12.3 volts. Battery is fully charged at 12.6 volts.

IMPORTANT: Avoid damage! from cable touching fuel line on LX Models with Air Cooled Engines:

- Route the positive (+) cable behind the fuel line.
- Turn the battery clamp INWARD.

2. Remove and discard the RED positive (+) protective cap from the positive (+) battery terminal.

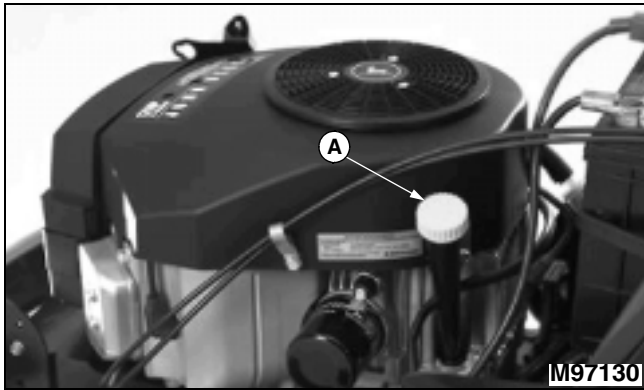


3. On Air Cooled Engines: Route positive (+) cable (A) behind fuel line (B).
4. Turn positive (+) battery clamp inward and connect cable to battery.
5. Connect negative (-) battery cable (C).
6. Apply general purpose grease or silicone spray to terminal to help prevent corrosion.
7. Slide red cover over positive battery cable.
8. Install black rubber strap (D).

Check Engine Oil Level

IMPORTANT: Avoid damage! Remind customer about initial break-in, change engine oil and filter after first 25 hours and 50 hours of operation.

ASSEMBLY



Picture Note: LX277

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

1. Remove dipstick (A) and wipe off with a clean cloth.
2. Install dipstick in tube:
 - On Kohler or Kawasaki Engines: Install dipstick in tube but, **DO NOT** tighten dipstick. Let dipstick threads rest on top of tube, rotate cap counterclockwise until it “clicks” or drops into the dipstick tube.
 - On Briggs and Stratton Engines: Install and tighten dipstick.
3. Remove dipstick.
4. Check oil level on dipstick. Oil must be between ADD and FULL marks.
5. If oil level is low, add oil to bring oil level no higher than FULL mark on dipstick.
6. Install and tighten dipstick.

Check Tire Pressure



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

- **DO NOT** attempt to mount a tire without the proper equipment and experience to perform the job.
- **DO NOT** inflate the tires above the recommended pressure.
- **DO NOT** weld or heat a wheel and tire assembly. Heat can cause an increase in air pressure resulting in an explosion. Welding can structurally weaken or deform the wheel.
- **DO NOT** stand in front or over the tire assembly when inflating. Use a clip-on chuck and extension hose long enough to allow you to stand to one side.

SPECIFICATIONS

Specifications

Engine: Model LX255

Model	Kohler
Engine Model Number	CV15S-41571
Horsepower	11.2 kW (15 hp)
Cylinders	One
Cycle	Four
Speed, Fast Idle	3425 rpm
Speed, Slow Idle	1775 rpm
Cooling Type	Air
Oil Filter	Replaceable Full Flow Filter
Air Cleaner	Paper Element with Foam Precleaner
Spark Plug Gap	1 mm (0.040 in)
Spark Plug Torque	40 N•m (30 lb-ft)

Engine: Model LX277, LX277AWS, and LX279

Model	Kawasaki
Engine Model Number:	
Model LX277 and LX277AWS	FH500V
Model LX279	FD501V
Horsepower	12.7 kW (17 hp)
Cylinders	Two
Cycle	Four
Speed, Fast Idle: Model LX277	3400 rpm
Speed, Fast Idle: Model LX279	3625 rpm
Speed, Slow Idle: Model LX277	1625 rpm
Speed, Slow Idle: Model LX279	1700 rpm
Cooling Type LX277 and LX277AWS	Air
Cooling Type LX279	Liquid
Oil Filter	Replaceable Full Flow Filter
Air Cleaner	Paper Element with Foam Precleaner
Spark Plug Gap: Model LX277 and LX277AWS	1 mm (0.040 in)
Spark Plug Gap: Model LX279	0.7 mm (0.028 in)
Spark Plug Torque: Model LX277 and LX277AWS	15 N•m (11 lb-ft)
Spark Plug Torque: Model LX279	20 N•m (15 lb-ft)

Engine: Model LX288

Model	Briggs and Stratton Vanguard
Engine Model Number	DBS18- 350777
Horsepower	13.4 kW (18 hp)

SPECIFICATIONS

Cylinders	Two
Cycle	Four
Speed, Fast Idle	3450 rpm
Speed, Slow Idle	1600 rpm
Cooling Type	Air
Oil Filter	Replaceable Full Flow Filter
Air Cleaner	Paper Element with Foam Precleaner
Spark Plug Gap	0.76 mm (0.030 in)
Spark Plug Torque	20 N•m (15 lb-ft)
Fuel System	
Fuel	See Filling Fuel Tank in the Service-Miscellaneous section.
Fuel Filter	Replaceable, in-line
Drive Train	
Transaxle	Tuff Torq
Number of Speeds	Hydrostatic, Variable Speed
Travel Speeds	
Forward	0-8.8 km/h (0-5.5 mph)
Reverse	0-4.8 km/h (0-3 mph)
Electrical System	
Charging System	Flywheel alternator
Ignition	Electronic
Starter	Solenoid-shift
Battery	
Voltage	12 volt
CCA	500 amp
Reserve Capacity	90 minutes
BCI Group Size	51
Tires / Wheels	
Front	15 x 6.00-6
Rear	20 x 10.00-8
Inflation Front (Maximum)	70 - 97 kPa (10 -14 psi)
Inflation Rear (Maximum)	56 - 70 kPa (8 - 10 psi)
Steering and Brakes	
Brakes	Internal Wet Disc
Steering	Open Sector and Pinion
Dimensions	
Overall Height	1107 mm (43.6 in)

SPECIFICATIONS

Overall Width	935 mm (36.8 in)
Overall Length	1762 mm (69.4 in)
Net Weight (Without Deck or Fuel):	
LX255	219 kg (483 lbs)
LX277	221 kg (487 lbs)
LX277AWS	254 kg (560 lbs)
LX279	222 kg (490 lbs)
LX288	221 kg (487 lbs)

Capacities

Fuel Tank:

LX255, LX277, LX279 and LX288	11.5 L (3.0 gal)
LX277AWS	10.4 L (2.75 gal)

Engine Oil (With Filter):

LX255, LX277, LX277AWS and LX279	1.8 L (1.9 qt)
LX288	1.7 L (1.75 qt)
Coolant System (LX279 Only)	2.6 L (2.8 qt)

Recommended Lubricants

Engine Oil	John Deere PLUS-4®
Transmission Oil	SAE 10W30
Engine Coolant (Model LX179 Only)	Ethylene Glycol Base

Grease:

.....	John Deere MOLY HIGH TEMPERATURE EP GREASE
.....	John Deere HIGH TEMPERATURE EP GREASE
.....	John Deere GREASE GARD™

(Specifications and design subject to change without notice.)

WARRANTY

Product Warranty

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

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

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

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

Your Warranty Rights and Obligations

The United States Environmental Protection Agency (EPA), the California Air Resources Board (CARB) and John Deere are pleased to explain the emission control system warranty on your 1995 or later small off-road equipment engine. In California, 1995 and later small off-road equipment engines must be designed, built and equipped to meet the State's stringent anti-smog standards. In other states, 1997 and later model year equipment engines must be designed, built and equipped to meet the U.S. EPA regulations for small non-road, spark ignition engines. John Deere must warrant the emission control system on your small off-road equipment engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road equipment engine.

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

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

John Deere Emission Control System Warranty Coverage

In California, 1995 and later small off-road equipment engines are warranted relative to emission control parts for two years. In other states, 1997 and later model year equipment engines are warranted relative to emission control parts 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 small off-road 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 small off-road 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 small off-road equipment engine owner, you should however be aware that John Deere may deny you warranty coverage if your small off-road equipment engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road 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 contact your John Deere Commercial and Consumer Equipment Retailer, or the John Deere Customer

Communications Center at 1-800-537-8233.

Length Of Warranty Coverage

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

- Designed, built and equipped so as to conform with all applicable regulations adopted by the California Air Resources Board (CARB) 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
- Intake manifold.

Ignition System:

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

Catalyst System:

- Exhaust manifold.

Miscellaneous Items Used in Above Systems

- Vacuum and temperature 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 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 that is not scheduled for replacement as required maintenance must be warranted as to defects for the warranty period. Any such part repaired or replaced under the warranty must be warranted for

WARRANTY

the remaining warranty period.

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

c) Any warranted part which is scheduled for replacement as required maintenance must 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 must 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 customers 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 small off-road 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 SMALL OFF-ROAD EQUIPMENT 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, California and John Deere Emission Control System Warranty.

Tire Warranty

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

Limited Battery Warranty

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

TO SECURE WARRANTY SERVICE

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

FREE REPLACEMENT

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

PRO RATA ADJUSTMENT

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment period, will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

THIS WARRANTY DOES NOT COVER

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

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

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

LIMITATION OF IMPLIED WARRANTIES AND PURCHASER'S REMEDIES

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

NO DEALER WARRANTY

WARRANTY

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

PRO RATA MONTHS OF ADJUSTMENT

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

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

INDEX

A

Air Cleaner Elements (Kawasaki Liquid Cooled, 17hp Engine), Checking and Cleaning	28
Air Cleaner Elements (LX255), Checking and Cleaning	25
Air Cleaner Elements (LX277 and LX277AWS), Checking and Cleaning	27
Air Cleaner Elements (LX288), Checking and Cleaning	29
Air Intake Screen and Engine Fins, Cleaning	25
Automatic Transmission, Using Travel Pedals on	14
Axle Center Pivots, Lubricating Front	22

B

Battery Electolyte Level, Checking	37
Battery and Terminals, Cleaning	38
Battery, Connect and Check	48
Battery, Removing and Installing	37
Battery, Using Booster	38
Brake, Using the Park	11
Bulbs, Headling and Indicator Light	39
Bulbs, Replacing	39

C

Capacities, Fuel, Transmission, Engine Oil	52
Carburetor, Adjusting	33
Chains, Installing Tire	17
Chart, Service Interval	21
Controls, Miscellaneous	8
Controls, Operator Station	7
Coolant Drain Interval, Engine	31
Coolant Level (LX279), Checking	31
Coolant, Engine (LX279)	31
Cooling System (LX279), Draining	32
Cooling System (LX279), Filling	33
Cooling System (LX279), Flushing	32
Cruise Control Lever Tension, Adjusting	35
Cruise Control, Using	15

D

Daily Operating Checklist	7
Drive Train Specifications	51

E

Electrical System Specifications	51
Emission Control System Certification Label	2
Emission Compliance Period	2
Engine Coolant (LX279)	31
Engine Coolant Drain Interva	31
Engine Fins, Cleaning Air Intake Screen and	25
Engine Oil	23
Engine Oil Level, Checking	23
Engine Oil and Filter, Changing	24
Engine Warranty Maintenance Statement	23
Engine and Fuel Storage, Preparing	46
Engine, Idling	13

Engine, Starting	12
Engine, Stopping	13
Engine, Troubleshooting	43

F

Filter, Changing Engine Oil and	24
Filter, Replacing Fuel	34
Foot Pedals on Automatic Transmission, Using	14
Free-Wheeling Lever, Using	17
Fuel Filter, Replacing	34
Fuel Gauge, Using	11
Fuel Storage	46
Fuel System Specifications	51
Fuel Tank, Filling	41
Fuel, Safety	5
Fuse, Replacing	39

G

Grease	22
--------------	----

H

Headlights, Using	11
Hood Latch, Adjusting	41
Hood, Installing and Removing	41

I

Implement Option, Using Reverse	14
Indicator Lights, Checking	12
Interval Chart for Service	21

L

Labels, Safety	1
Lift Lever, Using Mower	15
Lights, Checking Indicator	12
Literature, Service	20
Lubricating Front Axle Center Pivots	22
Lubricating Front Wheel Spindlest	22
Lubricating Rear Steering Pivots (LX277AWS)	22

M

Metal Surfaces, Repairing and Cleaning	42
Mower Lift Lever, Using	15
Mowing Tips	18

O

Oil Level, Check Engine Oil in Assembly	48
Oil Level, Checking Engine	23
Oil Level, Checking Transmission	35
Oil Transmission	35
Oil and Filter, Engine, Changing	24
Oil, Engine	23
Operating Checklist, Daily	7
Operator Station	7

P

PTO (Power Take-Off), Using	16
Park Brake, Testing	9

INDEX

Part Numbers, Replacement	20
Parts Catalog	20
Parts, Replacement	20
Pivots, Lubricating Front Axle Center	22
Plastic And Painted Surfaces, Avoid Damage To	7
Plastic Surface Cleaning and Repairing Surfaces	42
Pushing Machine	17

R

Reverse Implement Option, Using	14
---------------------------------------	----

S

Safety Labels	1
Safety Systems, Testing	8
Safety, Fuel	5
Safety, Tire	5
Safety-Alert Symbol	1
Screen and Engine Fins, Cleaning Air Intake	25
Seat, Adjusting	8
Service Interval Chart	21
Service Intervals	21
Service Literature	20
Spark Plug, Checking	30
Specifications; Engine Specifications	50
Steering Pivots (LX277AWS), Lubricating Rear	22
Steering Wheel, Install	48
Steering and Brakes Specifications; Brakes Specifications	
51	
Storage, Preparing Fuel and Engine for	46
Storage, Preparing Machine for	46
Storage, Removing Machine from	46
Storing Safety	46

T

Technical Manual	20
Testing Safety Systems	8
Tire Chains, Installing	17
Tire Pressure, Checking	49
Tires/Wheels Specifications	51
Transmission Oil	35
Transmission Oil Level, Checking	35
Transporting Machine on Trailer	17
Travel Speed Specifications	51
Troubleshooting Chart	43

W

Warranty Maintenance Statement, Engine	23
Warranty, Product	53
Weights, Using Wheel	17
Wheel Spindles, Lubricating Front	22
Wheel Weights	17

NOTES

JOHN DEERE QUALITY STATEMENT

John Deere Quality



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

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

Step 1

Refer to your operator's manual

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

Step 2

Contact your dealer

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

Step 3

Call the John Deere Customer Communications Center

- A. Your John Deere dealer is the most efficient source in addressing any concern, but if you are not able to resolve your problem after checking your operator's manual and contacting your dealer, call the Customer Communications Center.
- B. For prompt, effective service, please have the following ready before you call:
 - The name of the dealer with whom you've been working.
 - Your equipment model number.
 - Number of hours on machine (if applicable).
 - Your 13-digit serial number which you recorded on the inside front cover of this manual.
 - If the problem is with an attachment, your attachment identification number.
- C. Then call 1-800-537-8233 and our advisor will work with your dealer to investigate your concern.

SERVICE RECORD

Record Service Dates

Oil Change	Oil Filter Change	Lubricate Machine	Air Cleaner Element Check/Clean	Fuel Filter Change