



# **SABO 108-17 HS**

**Lawn Tractor**

**OPERATOR'S MANUAL**

**OMGX20997 B2**



**Export Version  
Litho in U.S.A.**

# INTRODUCTION

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## Thank You for Purchasing a SABO Product

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

## Using Your Operator's Manual

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

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

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

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.

## Machine Use

This machine is designed solely for use in customary lawn mowing operations, for park and amenity area maintenance and for winter work. Use in any other way is considered as contrary to the intended use.

The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

This machine should be operated, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and

occupational medicine and the road traffic regulations must be observed at all times.

Setting fuel delivery beyond published factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

Any arbitrary modifications carried out on this machine will relieve the manufacturer of all liability for any resulting damage or injury.

## 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

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## Record Identification Numbers

### Sabo Lawn Tractor

#### Sabo 108-17 HS

PIN (010001 - )

If you need to contact a Sabo dealer for information on servicing, always provide the product model and identification numbers.

You will need to locate the model and serial number for the machine and for the engine of your machine and record the information in the spaces provided below.

DATE OF PURCHASE:

\_\_\_\_\_

DEALER NAME:

\_\_\_\_\_

DEALER PHONE:

\_\_\_\_\_



MX13769

PRODUCT IDENTIFICATION NUMBER (A):

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ENGINE SERIAL NUMBER (B):

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MOWER DECK SERIAL NUMBER (C):

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OMGX20997 B2 - English

# SAFETY

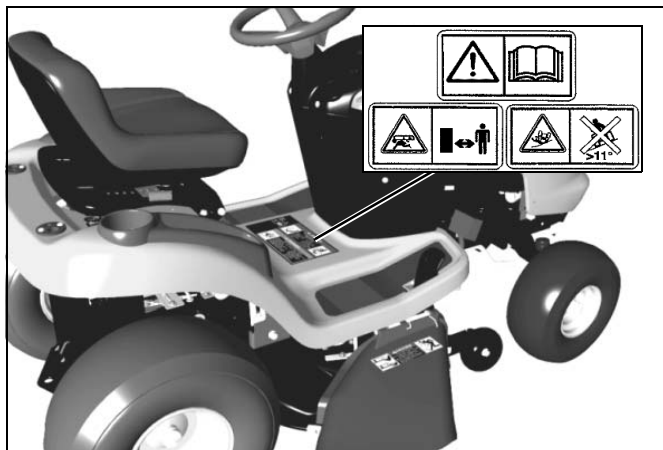
## Pictorial Safety Signs



Safety-Alert Symbol

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

## Avoid Injury



GX21000; MX7692

## Read Operators Manual

- This operator's manual contains important information necessary for safe machine operation. Carefully read operator's manual before operating machine. Observe all safety rules to avoid accidents.

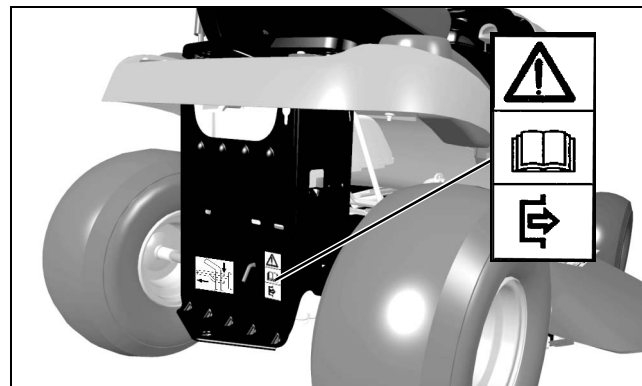
## Keep Children and Bystanders Away From Mower

- Make sure that children stay clear of mower at all times when the engine is running. Stay a safe distance from the machine.

## Avoid Injury From Tipping

- Do not drive where tractor could slip or tip. Do not drive on slope with more than a 11° (19%) incline.

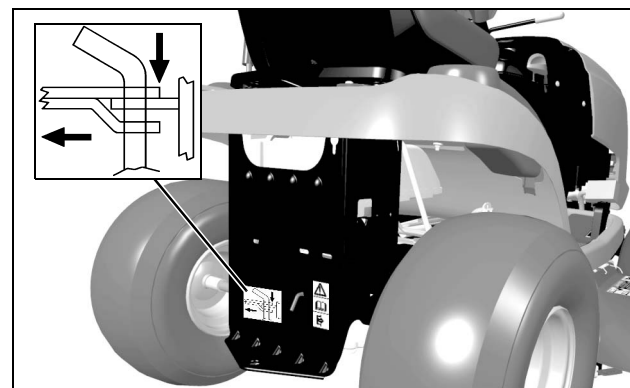
## Avoid Injury: Use Transmission Free-Wheeling Lever Safely



GX21086; MX7691x

- Carefully read operator's manual for safe operation of transmission free-wheeling lever.

## Drawbar Load

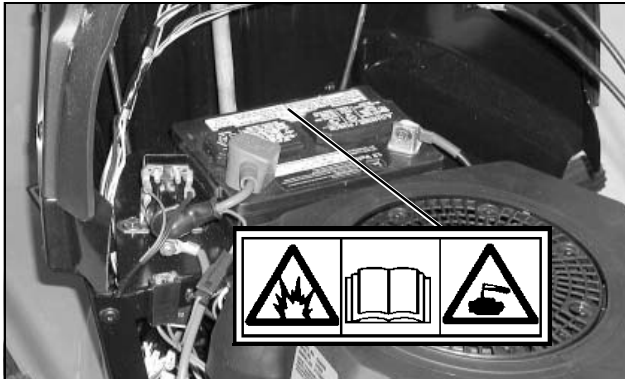


GX21091; MX7691x

- Do not exceed the following drawbar loads:
  - Horizontal 250 N (56 lb)
  - Vertical 65 N (15 lb)

# SAFETY

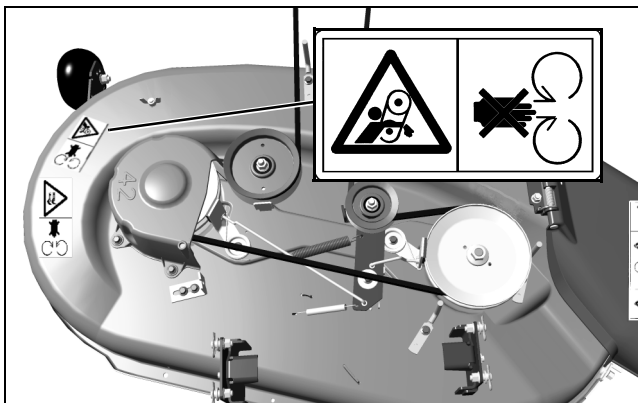
## Avoid Injury From Battery Gases and Acids



M133159x; MX7686

- Batteries contain explosive gases and sulfuric acid. Use extreme caution when handling battery. Read operator's manual before operating machine.

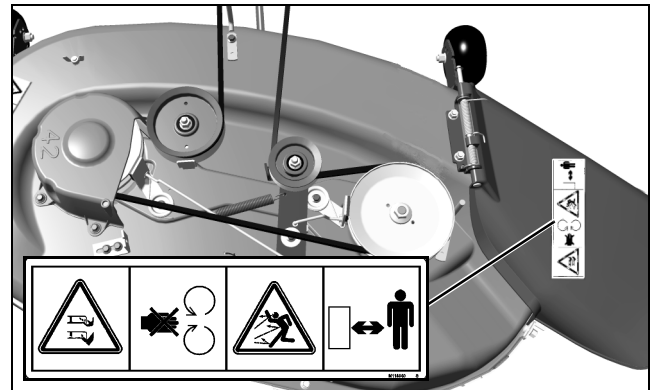
## Avoid Injury From Getting Caught In Belt



MX10511x; M121912

- Do not operate mower without shields in place.
- Stay clear of belts.

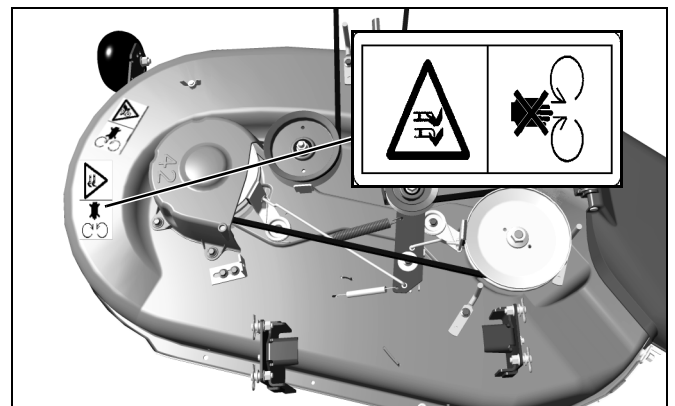
## Avoid Injury From Rotating Blades and Thrown Objects



MX10511x; M118040

- Do not put hands or feet under or into mower when engine is running.
- Do not operate mower without discharge chute or entire grass catcher in place.
- Stay clear while engine is running.

## Avoid Injury From Rotating Blades and Belts

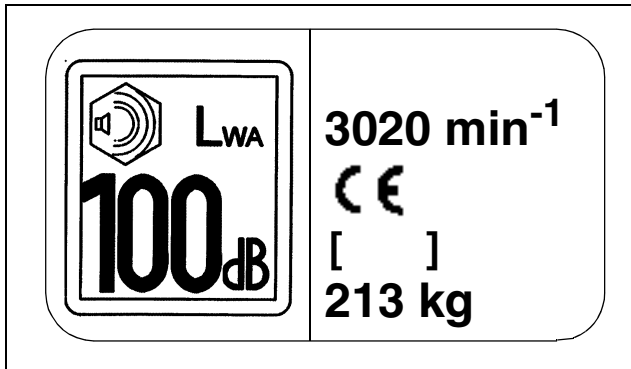


MX10511x; M118041

- Do not put hands or feet under or into mower when engine is running.
- Stay clear of belts.

# SAFETY

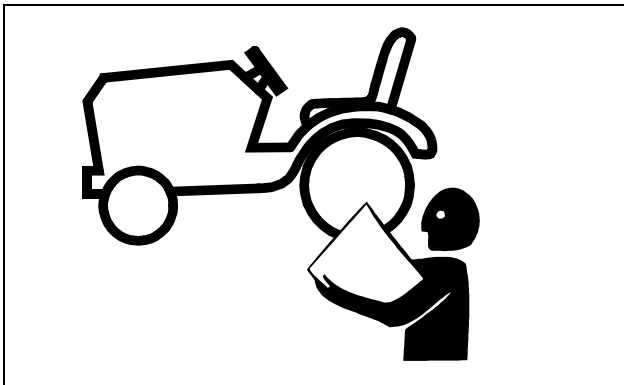
## CE Certification, Specification and Sound Label



GX21069

- These labels on your machine indicate that this model has been certified and is in compliance with European Directive 98/37EC (89/392EEC) and 2000/14/EC Standards.

## Operating Safely

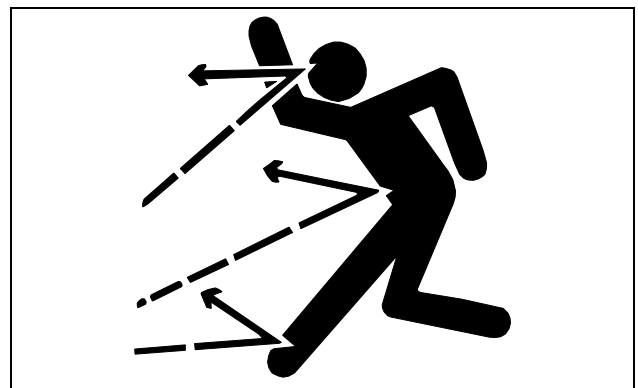


- Read, understand and follow all instructions in the manual and on the machine before starting.
- Only allow responsible adults, who are familiar with the instructions to operate the machine.
- Be thoroughly familiar with the controls and the proper use of the machine before starting.
- Inspect machine 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.
- Be sure all drives are in neutral and parking brake is locked before starting engine. Only start engine from the operator's position.
- Do not operate mower without discharge chute or entire grass catcher in place. Never operate with the discharge

deflector raised, removed, or altered, unless using a grass catcher.

- 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.
- Be aware of the mower discharge direction and make sure that no one is in the path of the discharge direction.
- 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 roadways.
- Do not operate machine if you are under the influence of drugs or alcohol.
- 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.
- Do not wear radio or music headphones. Safe service and operation requires your full attention.

## Checking Mowing Area



- Clear mowing area of objects that might be thrown. Keep people and pets out of mowing area.
- Low-hanging branches and similar obstacles can injure the operator or interfere with mowing operation. Before mowing, identify potential obstacles such as low-hanging branches, and trim or remove those obstacles.
- 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.

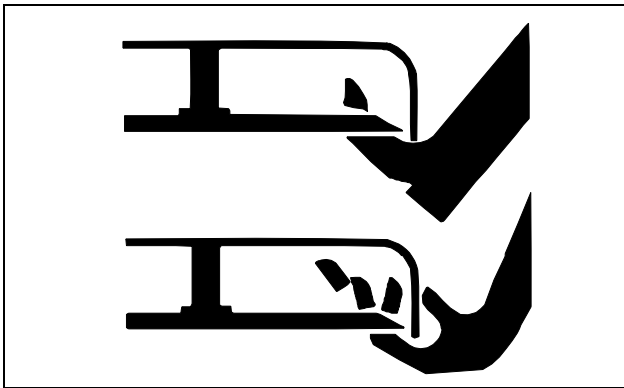
# SAFETY

## 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.
8. Close fuel shut-off valve, if your machine is equipped.
9. Disconnect the negative battery cable or remove the spark plug wire (for gasoline engines) before servicing the machine.

## Rotating Blades are Dangerous

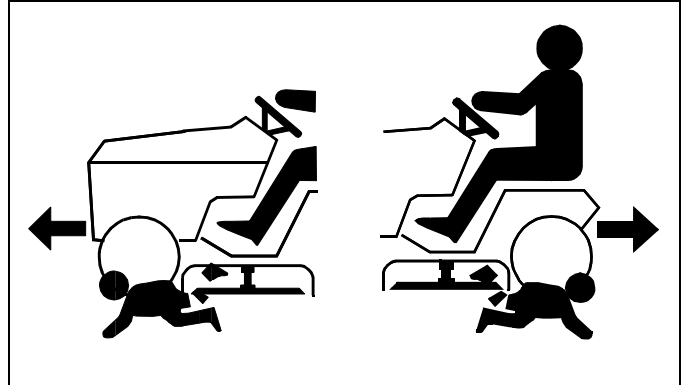
### HELP PREVENT SERIOUS OR FATAL ACCIDENTS:



- Rotating blades can cut off arms and legs, and throw objects. Failure to observe safety instructions could result in serious injury or death.
- 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, stop mower blades or attachments and look down and behind the machine carefully, especially for children.
- Do not mow in reverse.
- Shut off blades when you are not mowing.
- Park machine safely before leaving the operator's station for any reason including emptying the catchers or unplugging the chute.

- The mower blades should stop in approximately five seconds when the mower is disengaged. If you believe that your blades may not be stopping in that period of time, take your machine to your authorized dealer where they can safely check and service your machine.

### PROTECT CHILDREN:

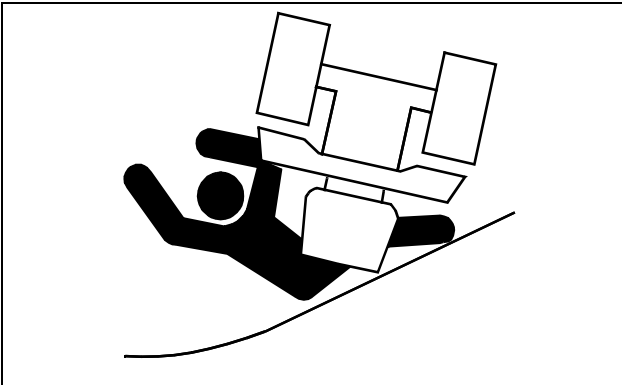


- Tragic accidents can occur if the operator is not alert to the presence of children. Keep children out of the mowing area and under the watchful care of another responsible adult.
- Never assume that children will remain where you last saw them. Children are attracted to mowing activity, stay alert 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.
- 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.



# SAFETY

## Avoid Tipping



- Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction.
- Slow down before you make a sharp turn or operate on a slope. Choose a low gear or speed so that you will not have to stop or shift while on the slope.
- Do not turn on slopes unless necessary. Turn slowly and turn downhill. Do not shift to neutral and coast downhill.
- Stay alert for holes and other hidden hazards in the terrain. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Keep away from drop-offs, ditches and embankments.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine. Do not use grass catcher on steep slopes.
- Use recommended weights for added stability when operating on slopes or using front or rear mounted attachments. Remove weights when not required.
- Drive up and down a hill - not across.
- 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



MIF

- 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.

## Towing Loads Safely

- 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.
- Do not tow children in a cart or trailer.
- Travel slowly and allow extra distance to stop.
- Follow the manufacturer's recommendation for weight limits for towed equipment and towing on slopes.
- Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
- On slopes, the weight of towed equipment may cause loss of traction and loss of control.

# SAFETY

## Wear Appropriate Clothing



- Always wear safety goggles or safety glasses with side shields when operating the machine.
- 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.

## Practice Safe Maintenance

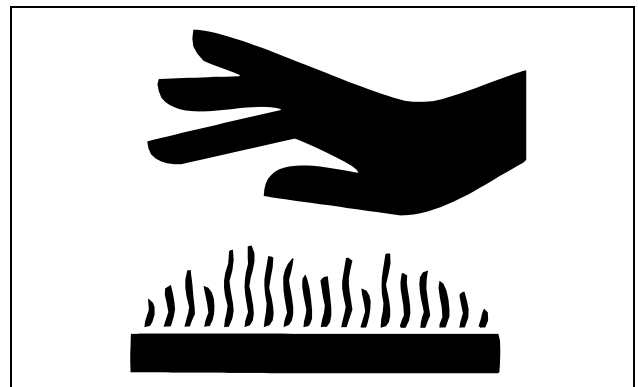


- Understand service procedure before doing work. Keep area clean and dry.
- Never lubricate, service, or adjust machine while it is moving. Keep safety devices in place and in working condition. Keep hardware tight.
- Keep hands, feet, clothing, jewelry, and long hair away from any moving parts, to 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.
- Disconnect battery or remove spark plug wire before making any repairs.
- Before servicing the machine, carefully release pressure

from any components with stored energy, such as hydraulic components.

- Keep all nuts and bolts tightened, especially blade attachment bolts.
- Securely support any machine elements that must be raised for service work. Use jack stands to support components when needed.
- Never run engine unless park brake is locked.
- Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Replace all worn or damaged safety and instruction decals.
- Grass catcher components are subject to wear, damage, and deterioration which could expose moving parts or allow objects to be thrown. Check components frequently and replace with manufacturer's recommended parts when necessary.
- To prevent fires, remove any buildup of grease, oil, or debris from the machine, especially the engine compartment.
- Charge batteries in an open, well-ventilated area, away from sparks. Unplug battery charger before connecting or disconnecting from the battery. Use insulated tools.
- Do not modify machine or safety devices. Unauthorized modifications may impair its function and safety.
- Check brake operation frequently. Adjust and service as needed.

## Prevent Fires



- Remove grass and debris from engine compartment and muffler area, before and after operating machine, especially after mowing or mulching in dry conditions.
- To reduce fire hazard, keep engine and engine compartment free of grass, leaves, or excessive grease.
- Allow engine to cool before storing in any enclosure.
- Never remove fuel cap, or add fuel with engine running

# SAFETY

or hot. Allow engine to cool for several minutes.

- Never store equipment with fuel in the tank inside a building where fumes may reach an open flame or spark.

## Tire Safety

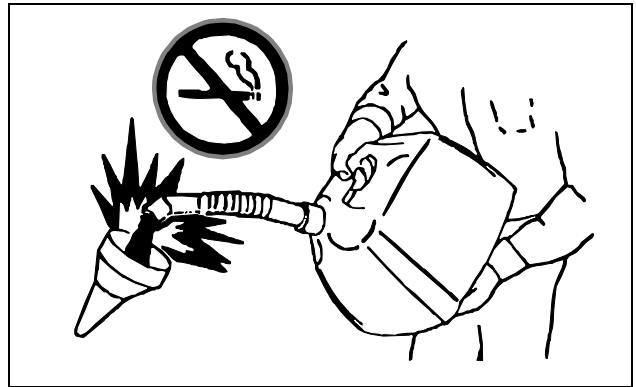


Explosive separation of a tire and rim parts can cause serious injury or death:

- 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:**



- Do not refuel machine while you smoke, when machine is near an open flame or sparks, or when engine is running. Stop engine and allow to cool before filling.
- Never remove the fuel cap or add fuel with the engine running.
- Never fill fuel tank or drain fuel from a machine in an enclosed area. Fill fuel tank outdoors.
- Prevent fires. 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 approved non-metal, portable fuel containers. 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

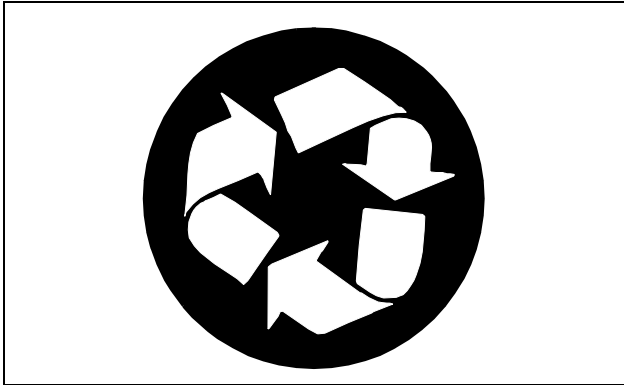
# SAFETY

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a truck bed or trailer.

- For gasoline engines, do not use gas with methanol. Methanol is harmful to your health and to the environment.

## Handling Waste Product and Chemicals



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

- Do not use beverage containers for waste fluids - someone may drink from them.
- See your local Recycling Center or authorized dealer to learn how to recycle or get rid of waste products.

# OPERATING

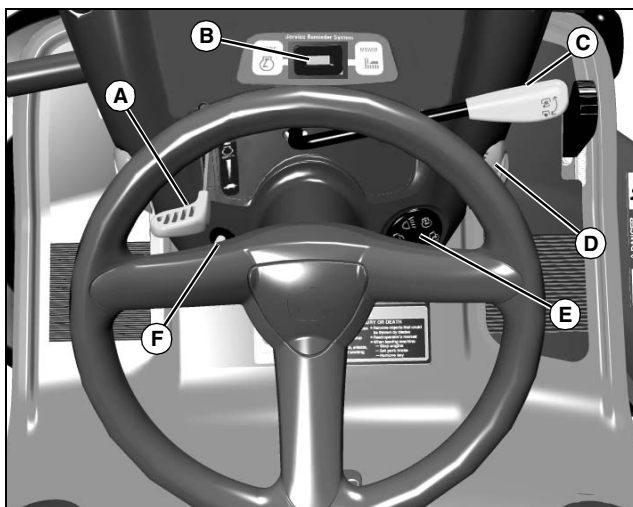
## Daily Operating Checklist

- Test safety systems.
- Check tire pressure.
- Check fuel level.
- Check engine oil level.
- Remove grass and debris from engine compartment and muffler area, before and after operating machine.
- Clean air intake screen.
- Check area below machine for leaks.

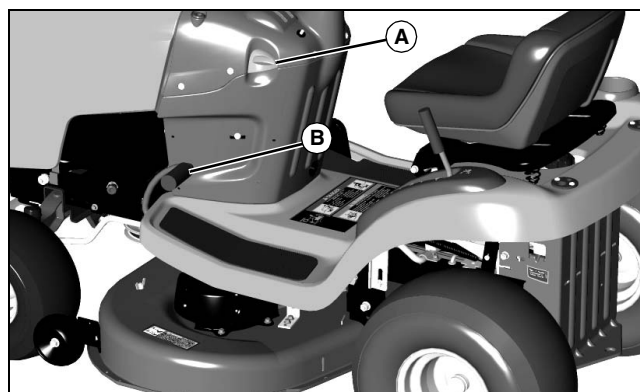
## Avoid Damage to Plastic and Painted Surfaces

- 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.
- Prolonged exposure to sunlight will damage the hood surface.

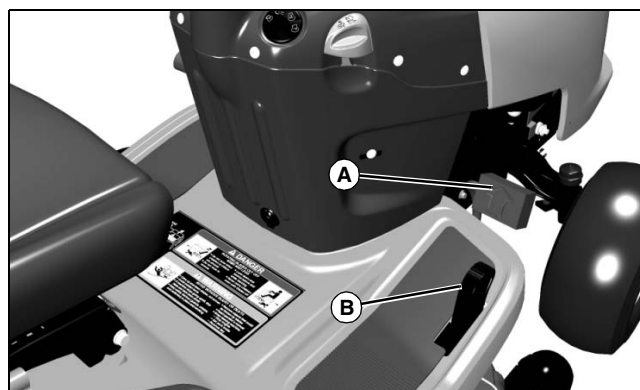
## Operator Station Controls



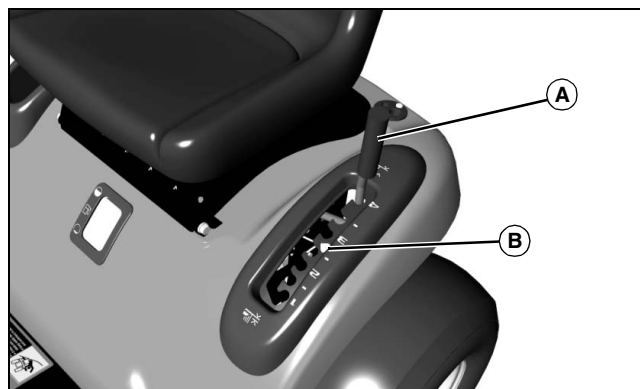
- A - Throttle/Choke Lever**
- B - Service Reminder/Hour Meter**
- C - Mechanical PTO Lever**
- D - Cruise Control Lever**
- E - Key Switch**
- F - Reverse Implement Option Switch**



- A - Park Brake Lock Lever**
- B - Brake/Clutch Pedal**

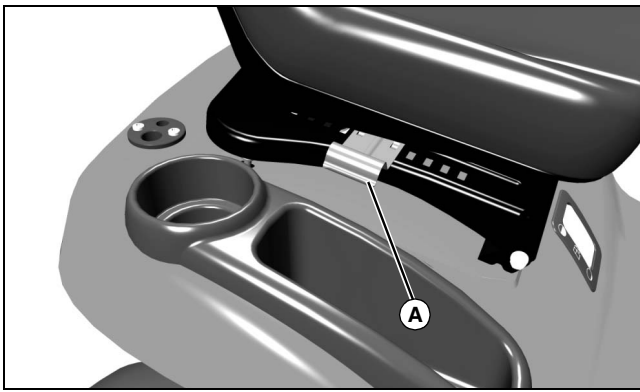


- A - Forward Travel Pedal**
- B - Reverse Travel Pedal**



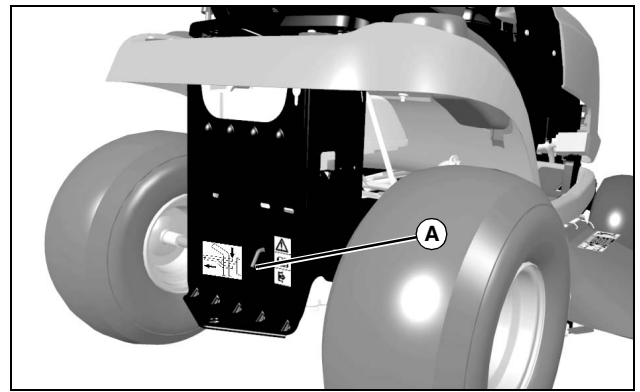
- A - Attachment Lift Lever**
- B - Mower Deck Height Reminder Tab**

# OPERATING



MX7698

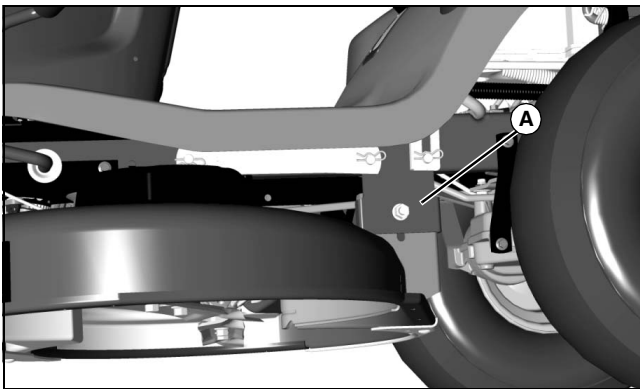
**A - Seat Adjustment Lever**



MX7691x

**A - Free-Wheeling Lever (Foot Control Models)**

## Miscellaneous Controls



MX10513

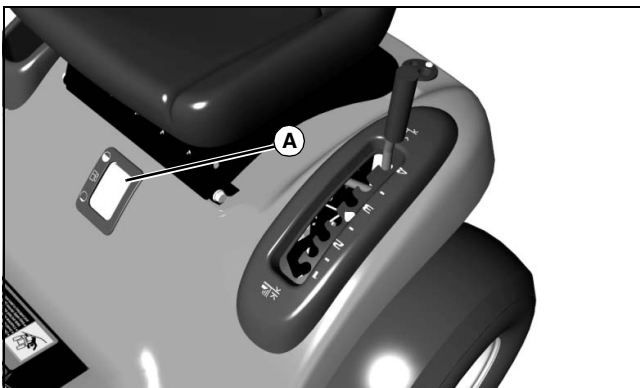
**A - Mower Deck Leveling Bracket**

## Miscellaneous Accessories



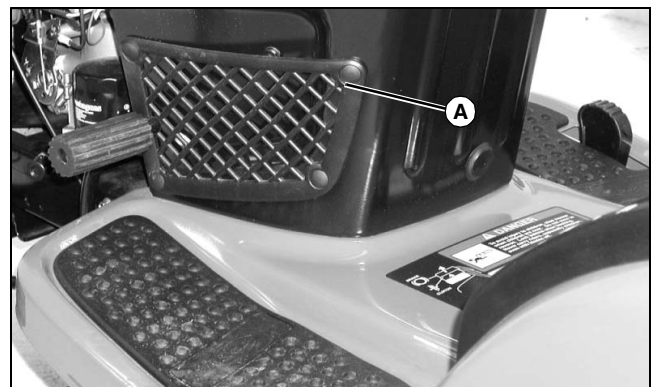
MX7694

**A - Front and Rear Cargo Mount System™**



MX7695

**A - Fuel Level Window**

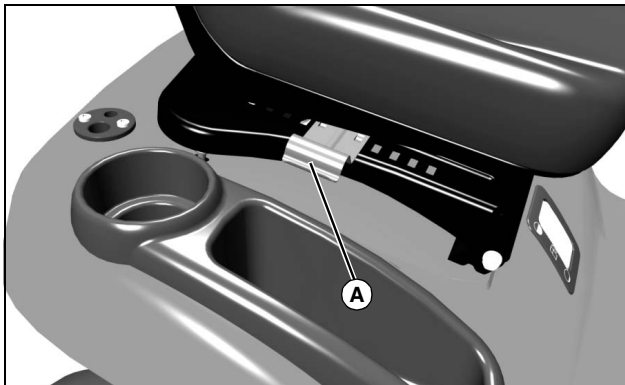


MX10524

**A - Glove Storage Pocket**

# OPERATING

## Adjusting Seat

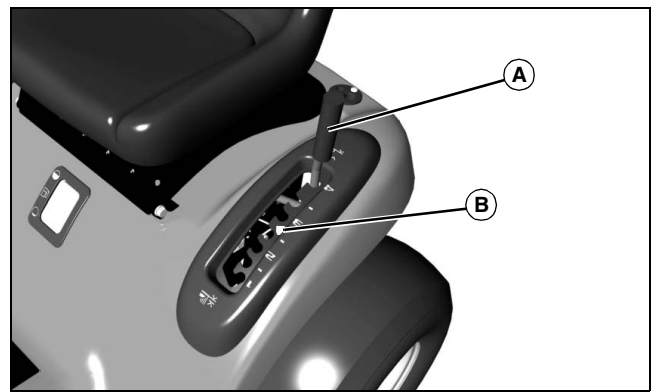


1. Sit in seat.
2. Lift up on bracket (A).
3. Lean forward and slide seat forward or rearward to desired position. Do not lean back on seat to push rearward.
4. Release bracket to lock in position.

## Adjusting Cutting Height

Cutting height can be adjusted from approximately 25–100 mm (1–4 in.). When mower deck is in transport position, cutting height is approximately 100 mm (4 in.).

Mower Setting	Approximate Cutting Height
1	25 mm (1 in.)
–	38 mm (1 1/2 in.)
2	50 mm (2 in.)
–	65 mm (2 1/2 in.)
3	75 mm (3 in.)
–	90 mm (3 1/2 in.)
4 (Transport)	100 mm (4 in.)



1. Put attachment lift lever (A) into the slot adjacent to desired cutting height.
  - Slide the height reminder tab (B) to the desired cutting height for the next time you mow.
2. Adjust mower deck wheels.

## Adjusting Mower Deck Wheels



**CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:**

- Disconnect spark plug wire(s) to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

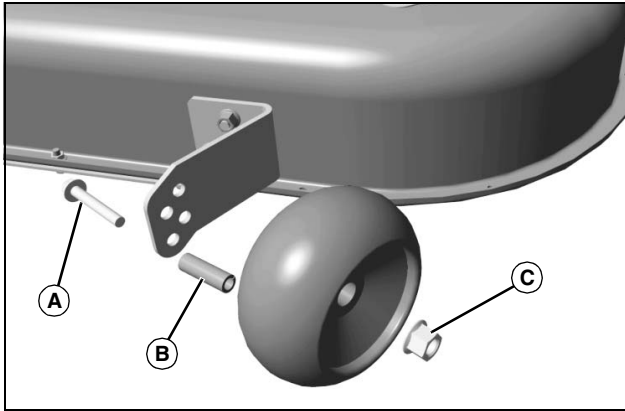
**IMPORTANT: Avoid damage! The mower deck can be damaged if mower wheels are adjusted wrong:**

- Wheels must not ride on ground supporting mower weight.
- Check wheel adjustment each time cutting height is changed.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Inflate tires to the correct pressure.
3. Lower mower deck to the desired mowing position.

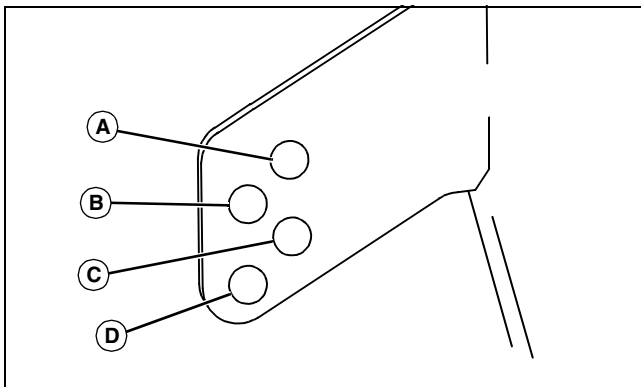
# OPERATING

**NOTE: Bottom of wheels should be approximately 3-13 mm (1/8-1/2 in.) from the ground.**



MX10509

4. Check mower wheel position. Remove bolt (A), bushing (B), and nut (C) and move mower wheels to proper hole.



M92897 mif

- A - 38 mm (1.5-in.)
- B - 51 mm (2-in.)
- C - 64 mm (2.5-in.)
- D - 76 mm (3-in.) and above

5. Install bolts, bushings and nuts to lock wheels in position. Tighten nuts to 34 N•m (25 lb-ft).

## Checking Mower Level

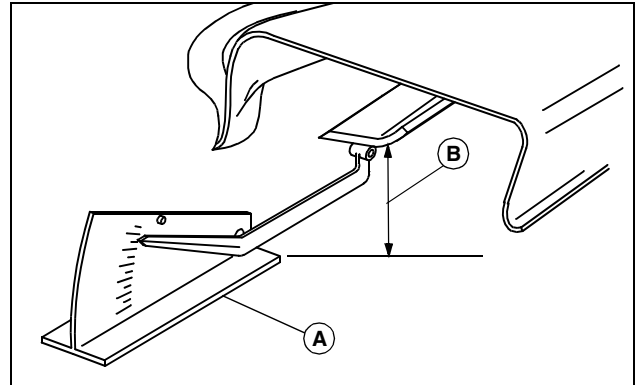


**CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:**

- Disconnect spark plug wire(s) to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

**NOTE: Mower wheels should not contact the ground when leveling the deck.**

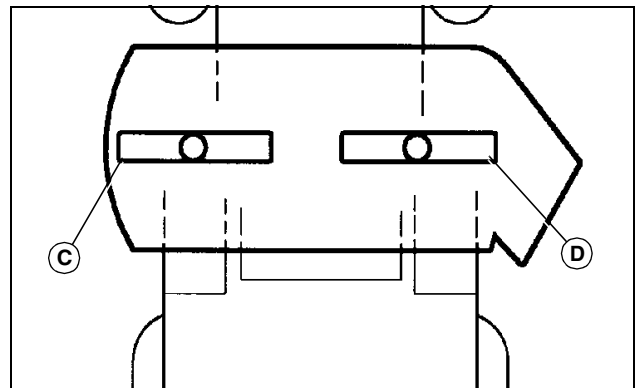
1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Inflate tires to the correct pressure.
3. Move mower lift handle to preferred cutting height.
4. Measure mower level (side-to-side).



MX4871

**Picture Note: A convenient leveling gauge (A) (AM130907) is available from your dealer.**

a. Position mower blades as follows and measure from each outside blade tip (B) to the level surface.



MX4896

b. Turn left blade (C) as shown. Hold drive belt and turn right blade (D) as shown. Take measurement for both blades.

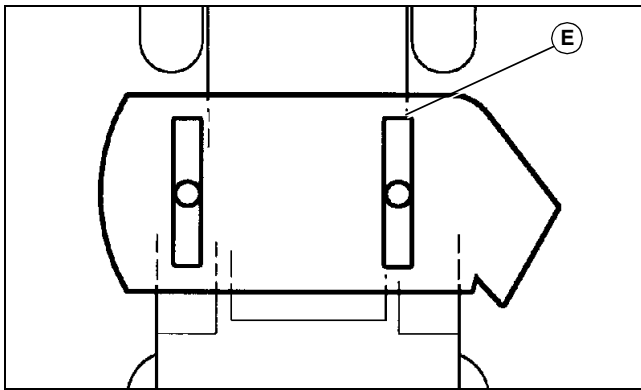
The difference between blade measurements must not be more than 3 mm (1/8 in.).

c. Adjust mower level, if necessary.

5. Measure mower level (front-to-rear).



# OPERATING



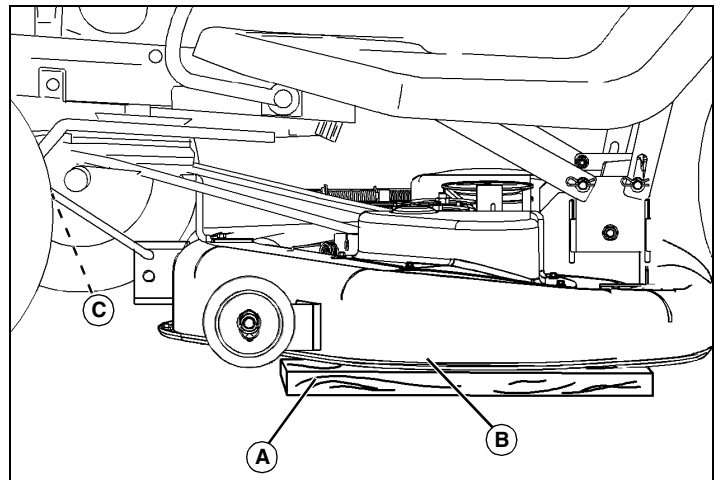
MX4896a

a. Turn right blade (E) so blade tip points straight forward.

b. Measure from blade tip to the surface. Take measurement for both blades.

The front blade tip must be 3–6 mm (1/8 -1/4 in.) lower than rear blade tip.

c. Adjust mower level, if necessary.



MX7674x; MX7674b

## Adjusting Mower Level



**CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:**

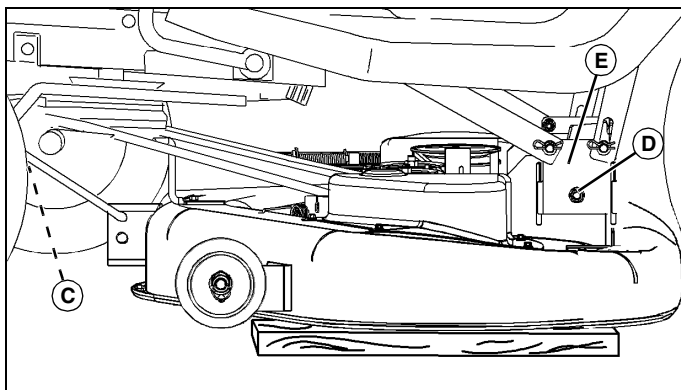
- Disconnect spark plug wire(s) to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

**NOTE: Mower wheels should not contact the ground when leveling the deck.**

1. Make sure machine is on a flat level surface.
2. Raise mower deck to highest position.

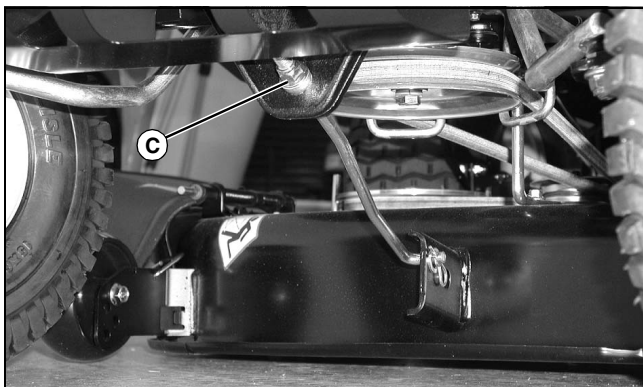
3. Place a straight 2x4 piece of wood (A) or a 38 mm (1.5 in.) thick block under the edge (B) of each side of mower deck.
  - Shims can be added, on both sides, between block of wood and mower deck edge to obtain a specific deck height, if desired.
4. Put mower lift handle in the lowest position, bringing deck down onto blocks.
5. Check that blocks are positioned under each edge. Make sure blocks do not interfere with gage wheels.
6. Check that there is no tension on the front draft arm. If necessary, loosen adjusting nut (C) on front draft arm so front of deck rests on wood blocks.

# OPERATING



MX7674x

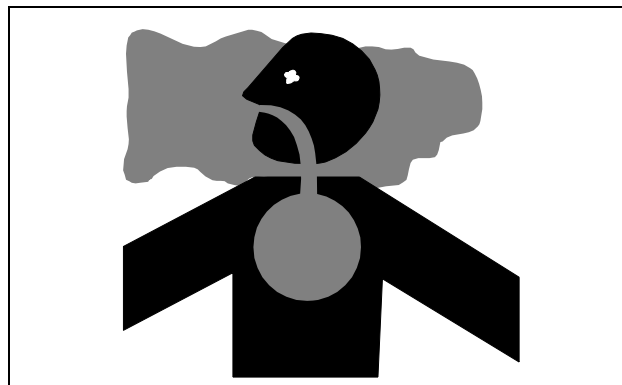
7. Loosen leveling nut (D), one on each side, and make sure bolts and leveling brackets slide freely in slots.
8. Raise lift handle to highest position and then lower back down to 25 mm (1 in.) cutting height to position the deck and brackets.
9. Apply slight pressure on leveling brackets (E), one on each side, by pulling down to remove slack in linkage. Tighten nuts (D), one on each side, to 55 N•m (40 ft-lbs).
10. Turn adjusting nut (C) on front draft arm clockwise until deck begins to raise off wood blocks.
11. Set preferred cutting height.
12. Check front-to-rear mower level again and adjust if necessary.



MX10529

- Turn front adjusting nut (C) clockwise to raise front of mower deck or counterclockwise to lower front of mower deck.

## 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.

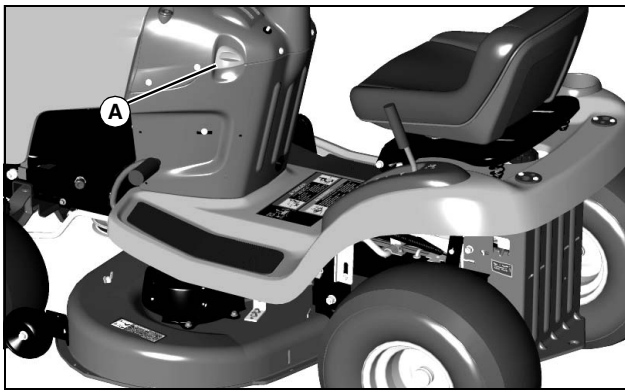
If there is a malfunction during one of these procedures, Do not operate machine. **See your Sabo dealer for service.**

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

## Testing Park Brake Switch

1. Park machine safely. (See Parking Safely in the SAFETY Section.)
2. Sit on seat.

# OPERATING



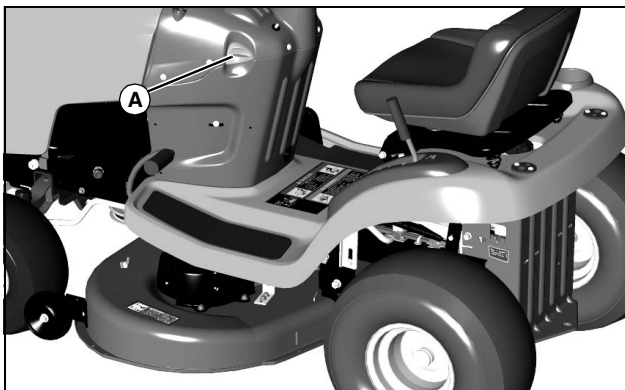
MX7694

3. Unlock the park brake (A).
4. 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. Park machine safely. (See Parking Safely in the SAFETY Section.)



MX7694

2. Lock the park brake (A).
3. Put transmission in neutral. Engage free-wheeling lever on units with an automatic transmission.
4. Try to push machine manually.

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

## Testing PTO Switch



**CAUTION: Avoid injury! The mower blades should stop in approximately five seconds when the mower is disengaged.**

**If you believe that your blades may not be stopping in that period of time, take your machine to your authorized dealer where they can safely check and service your machine.**

1. Park machine safely. (See Parking Safely in the SAFETY Section.)
2. Sit on seat.



MX7697

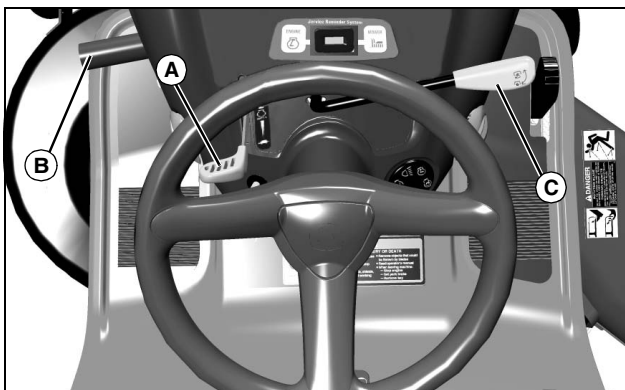
3. Lock the park brake (A).
4. Engage PTO lever (B).
5. Try to start engine.

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

## Testing Seat Switch

1. Park machine safely. (See Parking Safely in the SAFETY Section.)
2. First test:
  - a. Start engine.

# OPERATING



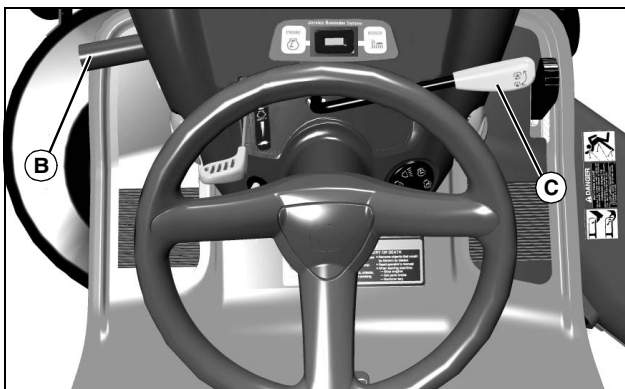
MX7697

**Picture Note: Machine with mechanical PTO shown.**

- b. Move throttle lever (A) up to maximum engine speed.
- 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 and mower blades should begin to stop. If engine and mower blades do not begin to stop, there is a problem with your safety interlock circuit.

### 3. Second test:



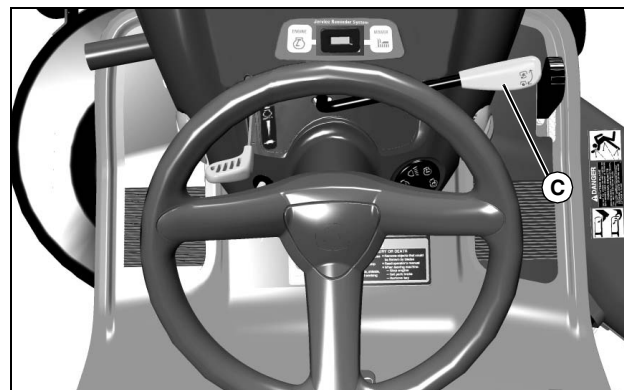
MX7697

**Picture Note: Machine with mechanical PTO shown.**

- 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.

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

### 4. Third test:



MX7697

**Picture Note: Machine with mechanical PTO shown.**

- a. Disengage PTO (C).
- b. Start engine.
- c. Lock park brake.
- d. Raise up off seat. Do not get off tractor.

**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. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Start engine.
3. Engage mower engagement lever (PTO) to start attachment.
4. Look behind the vehicle to be sure there are no bystanders.
5. Begin reverse travel by depressing reverse foot pedal.

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

# OPERATING

## Using the 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:



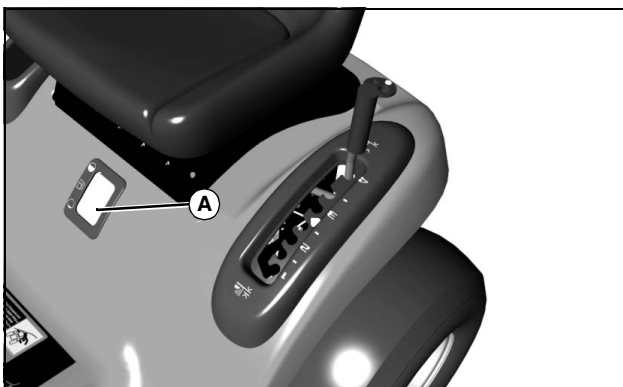
MX7694

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 the Fuel Gauge

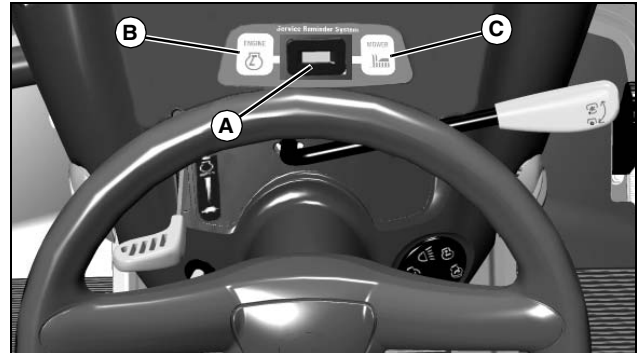


MX7695

Check fuel level at fuel window (A).

## Using the Service Reminder

**NOTE:** Service hours will continue to run and service intervals will be wrong if key is not returned to STOP position.



MX7697

- The service reminder (A) shows the number of hours the engine has run and will indicate that service is necessary for the engine (B) or the mower (C). When service is required, the service reminder will flash for two hours. Follow the service timetable in the SERVICE INTERVALS section.
- Turn the key to STOP position when not using the machine. The hours will continue to increase if the key is left in the on or run position.

## Starting the Engine

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

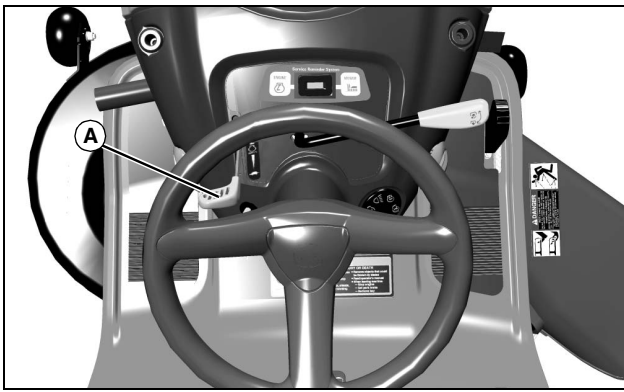
Move the vehicle to an outside area before running the engine.

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.

1. Sit in seat.
2. Disengage mower blades.
3. Lock the park brake.
4. Put transmission in neutral.
5. Check starting conditions:

# OPERATING

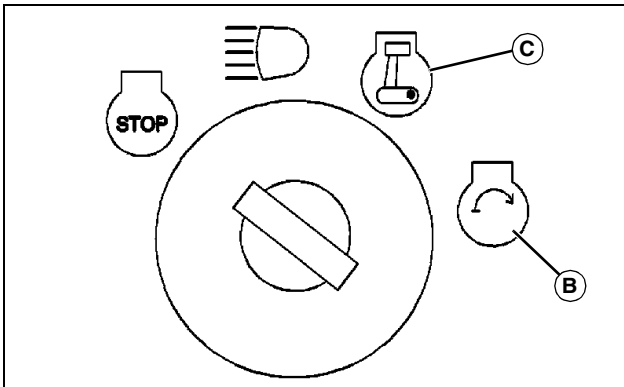


MX7697

- If engine is cold: Move throttle/choke lever (A) up to the choke position.
- If engine is warm: Move throttle lever to the half-speed position.

**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.**



M94336a

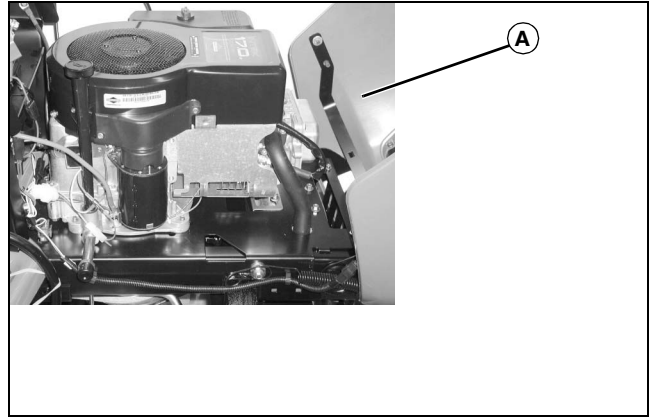
6. Turn key to start position (B) for no more than five seconds.
7. Release key to run position (C) when engine starts.
  - If engine does not start, wait 10 seconds.
  - Turn key to start position again for no longer than 5 seconds.
  - Repeat procedure if necessary.

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

8. Let engine run at half-speed position for a couple of minutes to warm-up before operating machine.

## Idling Engine

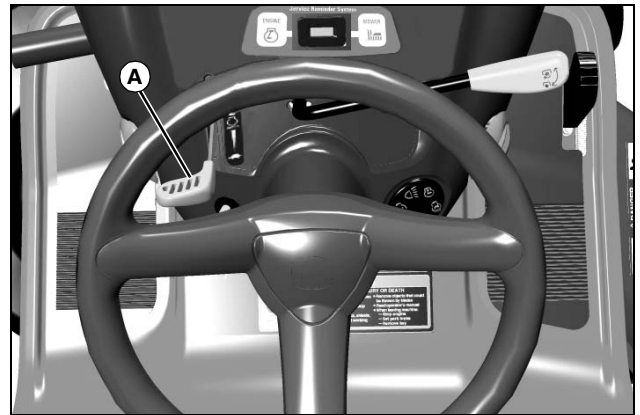
**IMPORTANT: Avoid damage! Unnecessary engine idling may cause engine damage. Excessive idling can cause engine overheating, carbon build-up, and poor performance.**



MX13772

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

## Stopping the Engine

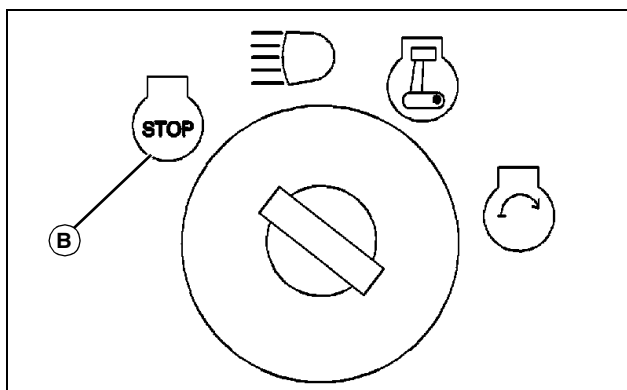


MX7697

**Picture Note: Model with mechanical PTO used for photo purposes.**

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

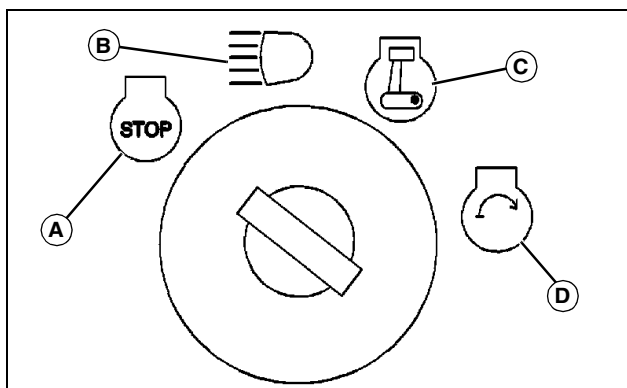
# OPERATING



M94336a

2. Turn key to STOP position (B). Engine will stop and headlights will turn off.
3. Remove key.
4. Lock the park brake.

## Using Headlights



M94336a

- A - STOP Position
- B - Headlights On Position
- C - Run Position
- D - Start Position

## Engine Off

**NOTE:** Headlights will drain the battery rapidly if key switch is left in headlights on position (B) with the engine off.

- To turn headlights on, turn key switch to headlights on position (B).
- To turn headlights off, turn key switch to STOP position (A).

## Engine On

- To turn headlights on, start engine, then turn key switch from run position (C) to headlights on position (B).

- To turn headlights off, turn key switch from headlights on position (B) to run position (C).

## Using Travel Controls 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.

## Travel Forward



MX7696

- Push down the forward travel pedal (A).

## Travel in Reverse

**NOTE:** Any operating attachment and the engine will stop as the reverse foot pedal is depressed with attachment engaged.



MX7697

1. Pull PTO lever (B) back to the off position.
2. Look behind the machine to be sure there are no

# OPERATING

bystanders nearby.



3. Touch the reverse travel pedal (C) with front of foot and slide foot over pedal from front to rear.

## Emergency Stopping

- Push down brake pedal.

## Using The Reverse Implement Option (RIO)

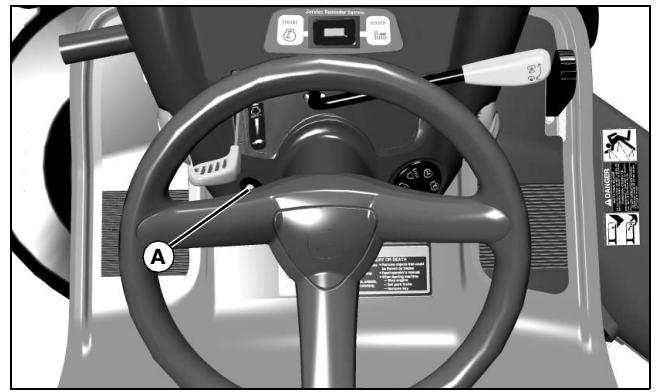


**CAUTION: Avoid injury! Rotating blades are dangerous. Children or bystanders may be injured by runover and rotating blades.**

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

***NOTE: Backing up while the mower is engaged 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 machine to be sure there are no bystanders.



3. Push and hold in the reverse implement switch (A) while depressing reverse foot pedal.

***NOTE: If the engine and mower stop while repositioning the machine, return the PTO lever/switch to the off position. Start engine and engage mower. Begin again with Step 2.***

4. Release the reverse implement switch and reposition the machine as the machine begins to move rearward.
5. Resume forward travel. The mower should continue operating.
6. Repeat procedure to position the machine again.

## Using Cruise Control



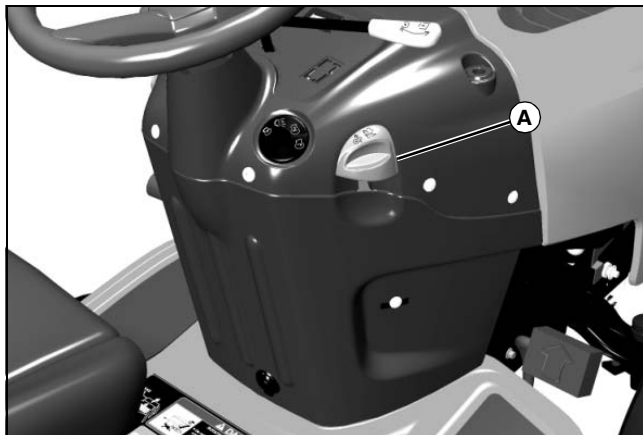
**CAUTION: Avoid injury! Do not use cruise control when going down hills. Machine speed will increase. Operate machine in a large, open area to learn how the cruise control works.**

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



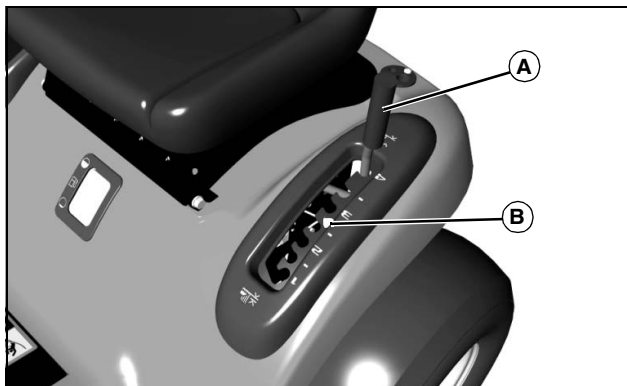
MX7696

1. Push forward pedal down until you reach desired travel speed.
2. Pull lever (A) up and release forward pedal to lock the cruise control.

## Disengage Cruise Control

- Depress brake pedal, tap on forward pedal or push cruise control lever down to the off position.

## Using Mower Lift Lever



MX7695

## Transporting or Getting On and Off Machine

- Pull lift lever (A) all the way back to transport position or 100 mm (4 in.) cutting height.

## Mowing

- Push attachment lift lever (A) forward into the slot adjacent to the desired cutting height.
- Slide the mower deck height reminder tab (B) to the desired cutting height for the next time you mow.

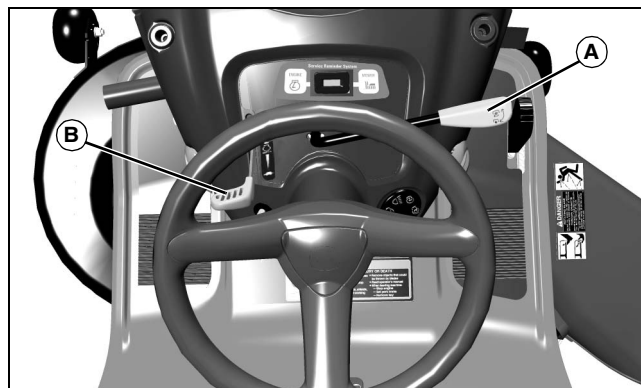
## Using Mower



**CAUTION: Avoid injury! Stay clear of rotating drivelines:**

- Entanglement in rotating driveline can cause serious injury or death.
- Wear close fitting clothing.
- Stop the engine and be sure PTO driveline is stopped before getting near it.
- Make sure that all shields are installed and used properly.

1. Start engine and run at half speed for a couple of minutes to warm up.
2. Lower mower to desired cutting height position.



MX7697

3. Push PTO lever (A) forward to engage mower.
4. Push throttle lever (B) up to the full throttle position.

**NOTE: The mower and engine will stop as the reverse foot pedal is depressed with mower engaged.**

5. Disengage mower blades before moving in reverse.

## Pushing Machine



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

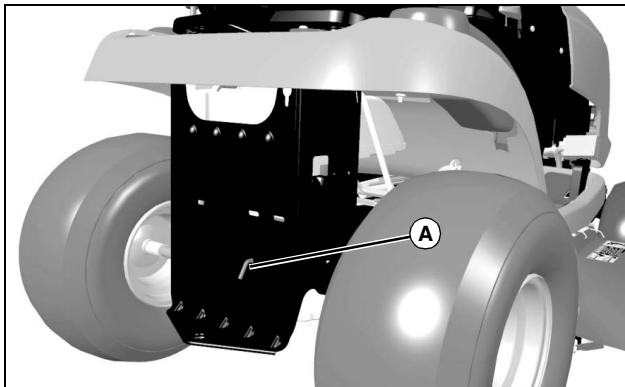
- The machine may free-wheel out of control if the free-wheeling valve is opened with the machine on an incline.
- Park the machine on a level surface before opening the free-wheeling valve.

# OPERATING

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

- Move unit by hand only.
- Do not use another vehicle to move unit.
- Do not tow unit.

1. Unlock the park brake.
2. Put transmission in N (neutral).



MX7691

3. On Automatic Models: Pull out on free-wheeling lever (A).
4. Push machine to desired location.

**IMPORTANT: Avoid damage! The transmission might be damaged if the free-wheeling lever is not pushed back in completely before attempting to start the engine. Do not start or operate the machine with the free-wheeling lever pulled out.**

5. On Automatic Models: Push free-wheeling lever back in.

## Unplugging Mower or Optional Bagger

**CAUTION: Avoid injury! Rotating blades are dangerous:**

- Park the machine safely and lock the park brake before getting off the seat.
- Turn the mower off.
- Stop the engine.

Before getting off the seat:

1. Stop machine.
2. Disengage mower blades.
3. Move throttle lever to slow position.

4. Lower mower to the ground.
5. Lock the park brake.
6. Stop the engine.
7. Remove the key.
8. Wait for all moving parts to stop.

## Transporting Machine on Trailer

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



**CAUTION: Avoid injury! Use extra care when loading or unloading the machine onto a trailer or truck.**

- Park trailer on a level surface.
- Use of a trailer with sides is recommended.
- Keep wheels away from drop-offs and edges.
- Back slowly and in a straight line.

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

- Move unit by hand only.
- Do not use another vehicle to move unit.
- Do not tow unit.

1. Park trailer on level surface.
2. Drive machine onto heavy-duty trailer.
3. Lower mower to trailer deck.
4. Lock park brake.
5. Turn off machine and remove key.
6. 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.
7. Strap down hood.

# OPERATING

## Using Mulch Cover



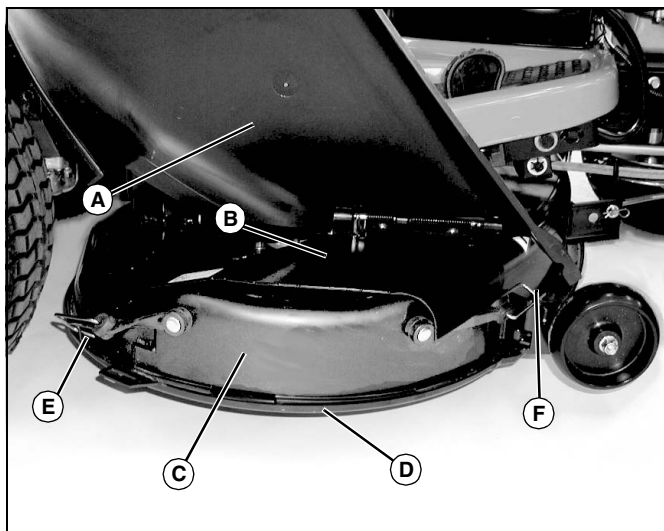
**CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:**

- Disconnect spark plug wire(s) to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

### Side Discharge

1. Disconnect hooks from slot and wheel bracket and remove mulch cover when side discharge is preferred.
2. Make sure the correct blades are installed for maximum side discharge operation.

### Mulching



MX8868

1. Raise discharge chute (A) and metal deflector (B).
2. Install mulch cover (C) onto mower deck. Mulch cover lip (D) must be seated in mower deck groove.
3. Hook mulch cover to slot (E) on left side and wheel bracket hole (F).
4. Lower discharge chute and metal deflector.
5. Make sure the correct blades are installed for maximum mulching operation.

## Using CargO Mount System™



MX7694

### A - Front and Rear CargO Mount System™

The front and rear CargO Mount System™ brackets (A) can be used for easy attachment of selected optional equipment.

Use Sabo approved optional equipment only. See your Sabo dealer for approved optional equipment.

## Using Storage Accessory



MX10524

- Use the storage pocket (A) for small items such as gloves.

## Using Weights



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

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

**Remove weights when not required.**

# OPERATING

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**NOTE: See your Authorized Service Center for recommended weights.**

- Install rear weights when using the snow blade.
- Remove weights when not required.

## Using Tire Chains

Tire chains are recommended for use with front attachments.

See your Authorized Service Center for tire chains.

## 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.
- Adjust cutting height to remove only 1/3 of the grass at a time.
- 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, trim around objects, or when mulching.
  - 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.
- A thick layer of mulched leaves can prevent sunlight from getting to grass and smother it. Taller grass heights allow mulched leaves to disperse 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

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## Parts

We recommend Sabo quality parts and lubricants, available at your Sabo 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 Sabo 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.

## Part Numbers

ITEM	PART NUMBER
Air Cleaner Element (Foam)	LG274874
Air Cleaner Element (Paper)	LG695547
Fuel Filter	LG394358
Oil Filter	AM125424
Battery	AM123101
Spark Plug	M78543 (Champion RC12YC)
Headlight Bulb	AD2062R
Belts, Mower Drive: <ul style="list-style-type: none"><li>• 107 cm (42 in.) Deck</li></ul>	GX20072
Blades, 107 cm (42 in.) Deck: <ul style="list-style-type: none"><li>• Standard</li><li>• Bagging</li></ul>	GX20249 GX20433

(Part numbers are subject to change without notice.)

# SERVICE INTERVALS

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## 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 machine 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.

## Intervals

### Before Each Use

- Check fuel level.
- Check engine oil level.
- Clean air intake screen.
- Check safety systems.
- Check tire pressure.
- Check/tighten loose hardware.

### After First 5 Hours

- Change engine oil.
- On 107 cm (42 in.) deck: Check and adjust mower deck belt tension.
- On 107 cm (42 in.) deck: Check and adjust mower deck spindle brakes.
- Lubricate front axle pivot.
- Lubricate front wheel spindles and wheel bearings.

### Every 25 Hours

- Change engine oil. (Service more frequently under dusty conditions).
- Replace oil filter.
- Check/clean battery.
- Clean/replace air cleaner element and precleaner. (Service more frequently under dusty conditions).
- Clean engine cooling fins.
- Replace fuel filter.
- Replace spark plug.
- Sharpen/replace blades.

- Clean mower deck.
- Level mower deck.
- On 107 cm (42 in.) deck: Check and adjust mower deck belt tension.
- On 107 cm (42 in.) deck: Check and adjust mower deck spindle brakes.
- Lubricate front axle pivot.
- Lubricate front wheel spindles and wheel bearings.

### Every 50 Hours

- Lubricate pivot points and seat with general all-purpose spray lubricant. (See Lubricating Pivot Points and Lubricating Seat in the SERVICE LUBRICATION section.)

### Every 100 Hours

- Replace mower drive belt.
- Sharpen/replace blades.

### Before Storage

- Change engine oil.
- Replace oil filter.
- Check/clean battery.
- Charge battery.
- Clean/replace air cleaner precleaner.
- Check/replace air cleaner element.
- Clean air intake screen.
- Clean engine cooling fins.
- Replace fuel filter.
- Replace spark plug.
- Add fuel stabilizer.
- Sharpen/replace blades.
- Clean mower deck.
- Level mower deck.
- On 107 cm (42 in.) deck: Check and adjust mower deck belt tension.
- On 107 cm (42 in.) deck: Check and adjust mower deck spindle brakes.
- Check safety systems.
- Check/tighten loose hardware.
- Check tire pressure.
- Lubricate front axle pivot.
- Lubricate front wheel spindles and wheel bearings.
- Lubricate pivot points and seat with general all-purpose spray lubricant. (See Lubricating Pivot Points and

# SERVICE INTERVALS

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Lubricating Seat in the SERVICE LUBRICATION section.)

## **After Storage**

- Charge battery.
- Check safety systems.
- Check/tighten loose hardware.
- Check tire pressure.

# SERVICE LUBRICATION

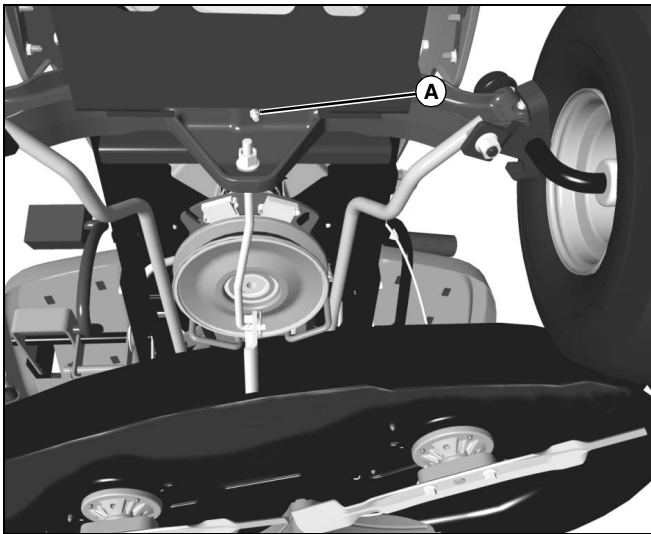
## Grease

Use grease based on the expected air temperature range during the service interval.

Greases that may be used are:

- SAE Multipurpose EP Grease with 3 to 5 percent molybdenum disulfide.
- SAE Multipurpose EP Grease.
- Greases meeting Military Specification MIL-G-10924C may be used as arctic grease.

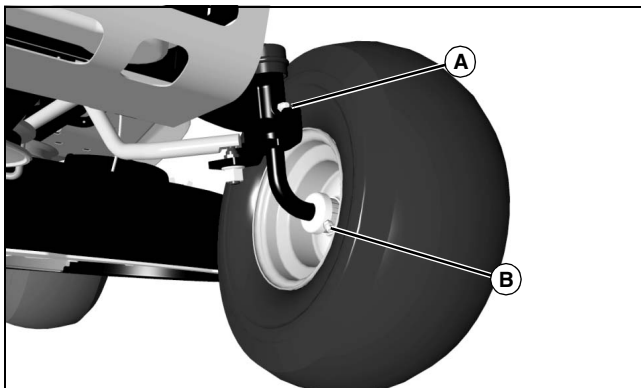
## Lubricating Front Axle Pivot



MX10500

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

## Lubricating Front Axle Wheel Spindles and Bearings

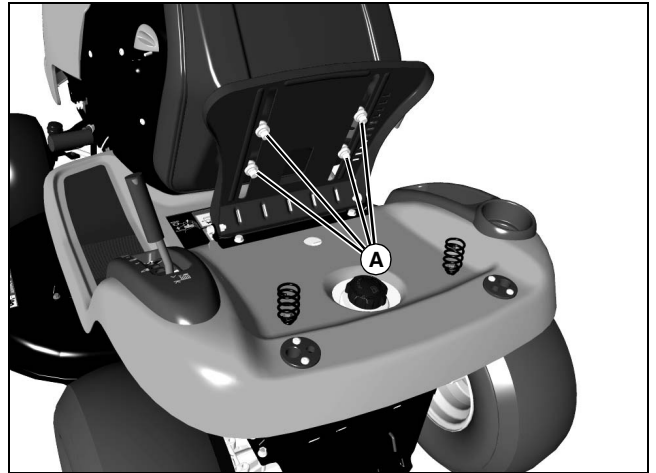


MX7700

- Lubricate front wheel spindles (A) and bearings (B), one

on each side, with one or two shots of general all-purpose grease.

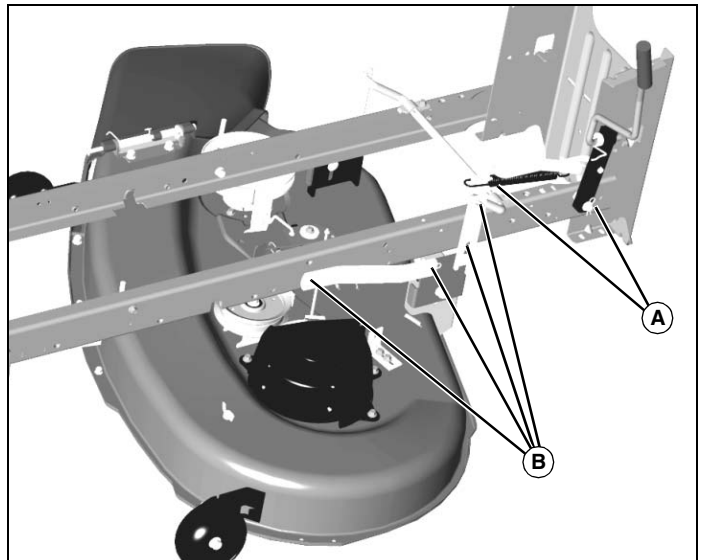
## Lubricating Seat



MX7699

- Lubricate plastic washers and bushings (A) under the seat with a general all-purpose spray lubricant.

## Lubricating Pivot Points



MX10515

**Picture Note:** 107 cm (42 in.) deck used for illustration.

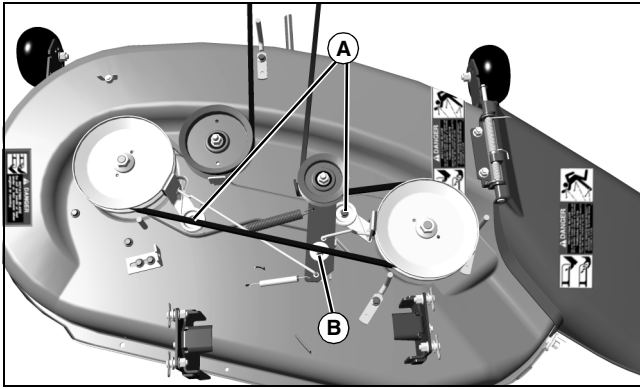
**A - Lift Pivots**

**B - Mower Deck Pivot Points (on both sides)**



# SERVICE LUBRICATION

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MX10512

**Picture Note: 107 cm (42 in.) deck used for illustration.**

**A - Blade Brake Pivots (107 cm (42 in.) deck only)**  
**B - Deck Idler Pivot**

- Lubricate these pivot points with a general all-purpose spray lubricant.

# SERVICE ENGINE

## Avoid Fumes



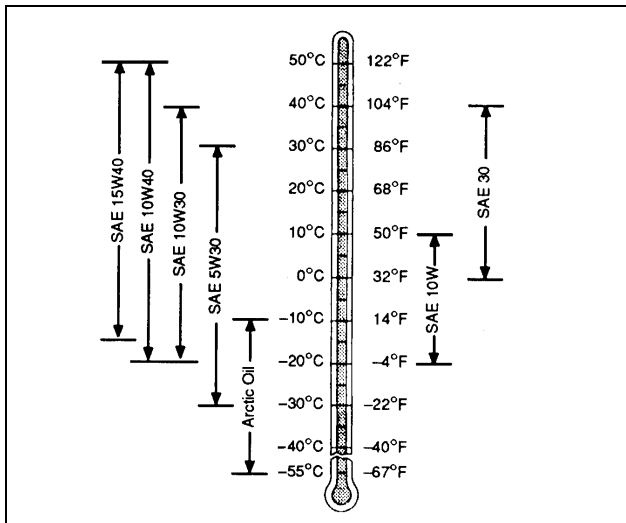
**CAUTION: Avoid injury!** Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

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 Oil



TS1412

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

Oils may be used if they meet one of the following specifications:

- API Service Classification SG
- API Service Classification SF
- CCMC Specification G4

Oils meeting Military Specification MIL-L-46167B may be used as arctic oils.

## 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.



MX13772

4. Remove dipstick (A). Wipe with clean cloth.
5. 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. Do not overfill.
9. Install and tighten dipstick. Lower hood.

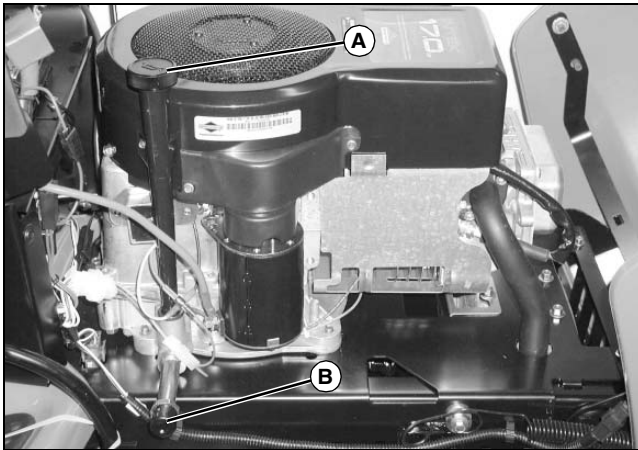
# SERVICE ENGINE

## Changing Engine Oil and Filter

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

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

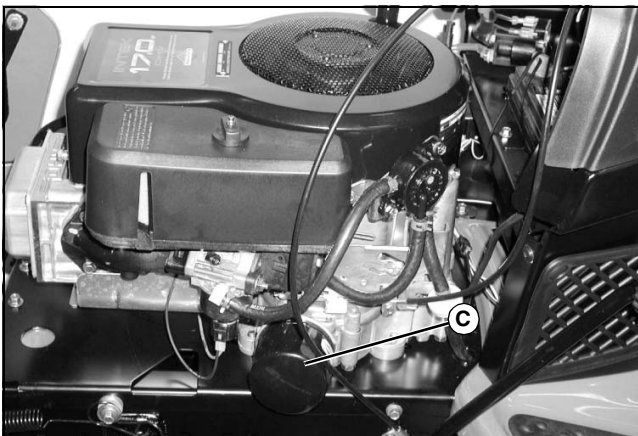
1. Run engine to warm oil.
2. Park machine safely. (See Parking Safely in the SAFETY section.)
3. Lift hood.
4. Put drain pan under drain valve.



MX13772

**Picture Note: Right side of engine.**

5. Rotate and remove drain cap (B) and drain oil into oil drain pan. Allow oil to drain completely.
6. Remove dipstick (A).



MX13773

**Picture Note: Left side of engine.**

7. Replace oil filter (C), if equipped.
  - a. Wipe dirt from around oil filter (C).

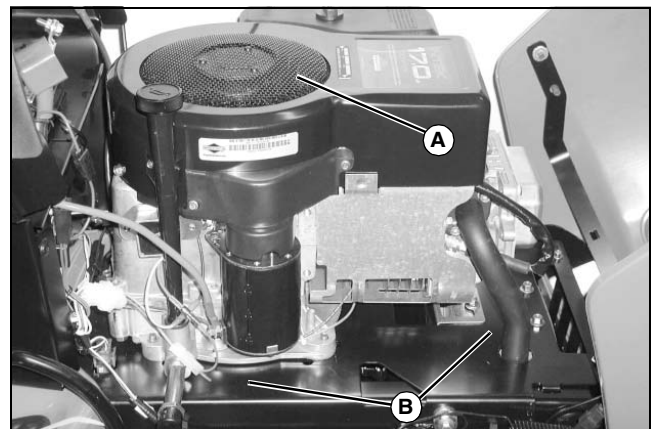
- b. Place a drain pan or funnel under filter tray.
  - c. Remove old filter and wipe off filter tray.
  - d. Put a light coat of fresh, clean oil on the filter gasket.
  - e. Install replacement oil filter by turning oil filter to the right (clockwise) until the rubber gasket contacts filter base. Tighten filter an additional one-half turn.
8. Install drain cap.
  9. Add oil no higher than FULL mark on dipstick. Use approximately the amount of oil listed below. Do not overfill.
  10. Install dipstick.
  11. Start and run engine at idle to check for leaks. Stop engine. Fix any leaks before operating.
  12. Check oil level, add oil if necessary.

## 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.



MX13772

3. Clean air intake screen (A), cooling fins and external surfaces (B), with rag, brush, vacuum or compressed air.
4. Lower hood.

## Checking and Cleaning Air Cleaner Elements

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

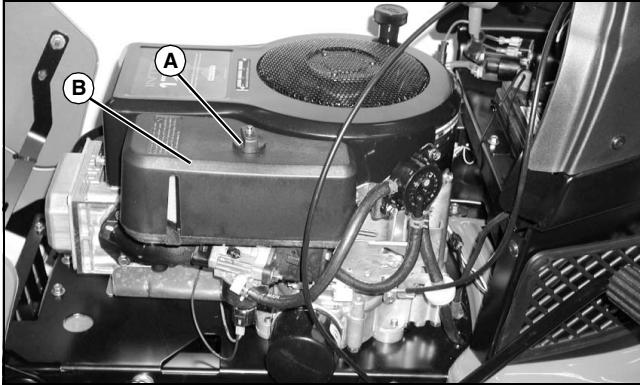
# SERVICE ENGINE

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.

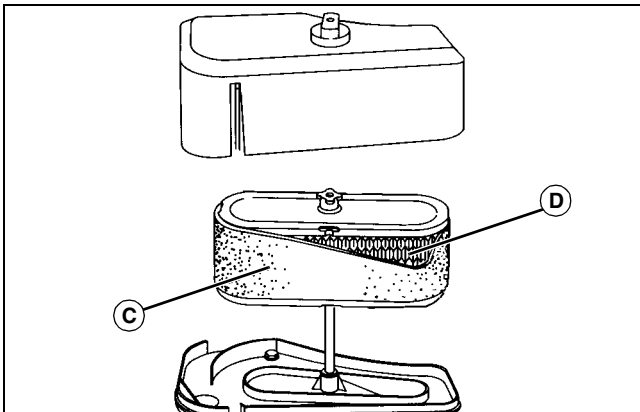


MX13773

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

**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.



MX13767

6. Inspect the foam pre-cleaner (C) without removing it. If the foam pre-cleaner is dirty:
  - Remove it from the filter carefully, leaving the paper

element in the air cleaner housing.

- Wash pre-cleaner in a solution of warm water and liquid detergent.
- Rinse pre-cleaner thoroughly. Squeeze out excess water in a dry cloth until pre-cleaner is completely dry.
- Put approximately 30 ml. (1 oz) of clean engine oil onto the pre-cleaner. Squeeze pre-cleaner to distribute the oil evenly. Squeeze out excess oil with a clean cloth.

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

- Carefully remove the paper filter element from the air cleaner housing.
- Clean air cleaner base very carefully, preventing any dirt from falling into carburetor.
- Install new paper filter element into air cleaner. Make sure element is seated properly.

8. Install pre-cleaner on paper element.
9. Install air cleaner cover and tighten knob.
10. Lower hood.

## Checking Spark Plug

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.

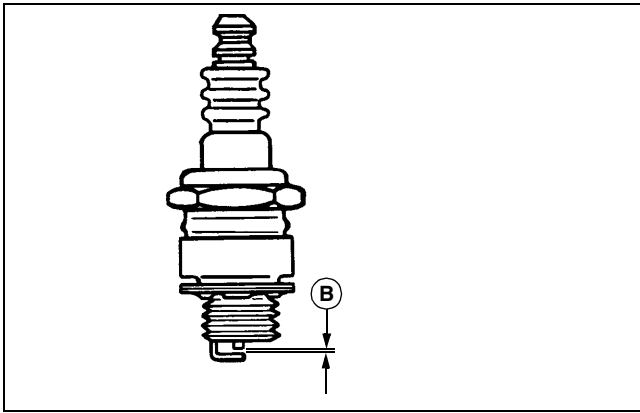


MX13772

4. Disconnect spark plug wire (A).
5. Remove spark plug.

# SERVICE ENGINE

6. Clean spark plug carefully with a wire brush.
7. Inspect spark plug for:
  - Cracked porcelain.
  - Pitted or damaged electrodes.
  - Other wear or damage.
8. Replace spark plug as necessary.



M85200

9. Check plug gap (B) with a wire feeler gauge. To change gap, move the outer electrode.
  - Gap must be 1 mm (0.040 in.).
10. Install and tighten spark plug to 20 N•m (15 lb-ft).
11. Connect spark plug wire and 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 authorized dealer.**

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

Possible engine surging will occur at high throttle with transmission in "N" neutral 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 authorized dealer.

## 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.

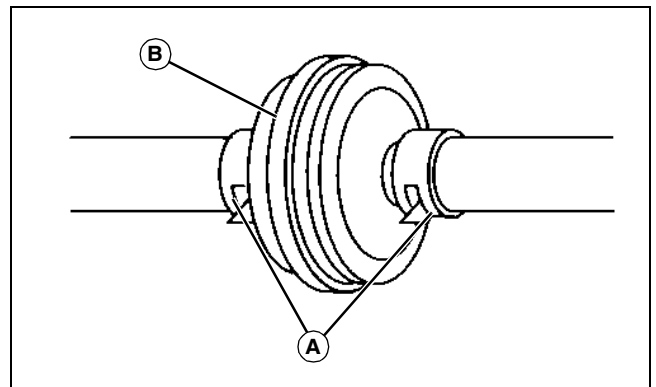
**NOTE:** Change filter when fuel is low.

1. Park machine safely. (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. Put a drain pan under fuel filter.



MX13768

5. Slide hose clamps (A) away from fuel filter (B) using a pliers.
6. Disconnect hoses from filter.
7. Connect hoses to new filter making sure the filter arrow is pointed in the direction of the fuel flow.
8. Install clamps and check for leaks.
9. Lower hood.

# SERVICE TRANSMISSION

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## Checking Transmission

The transmission is a sealed component. No maintenance is required on this transmission. If you suspect any transmission problems, please contact your authorized dealer.

# SERVICE MOWER

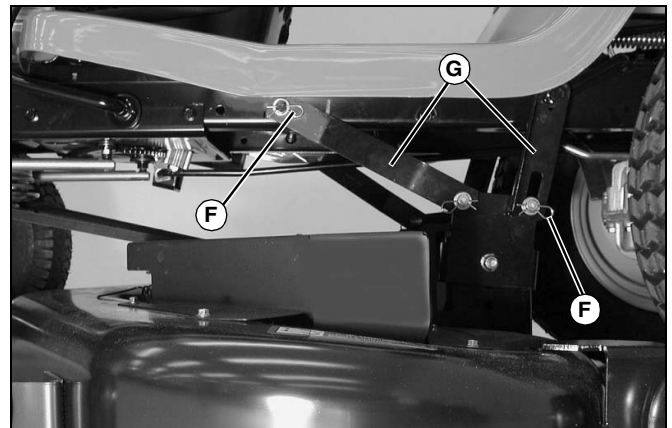
## Removing Mower

1. Park machine safely. (See Parking Safely in SAFETY section.)
2. Put wood blocks under each side of mower deck.
3. Put lift lever in lowest position, bringing deck down onto blocks.



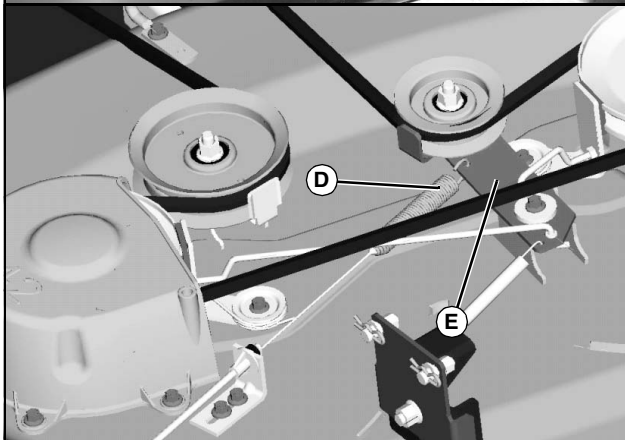
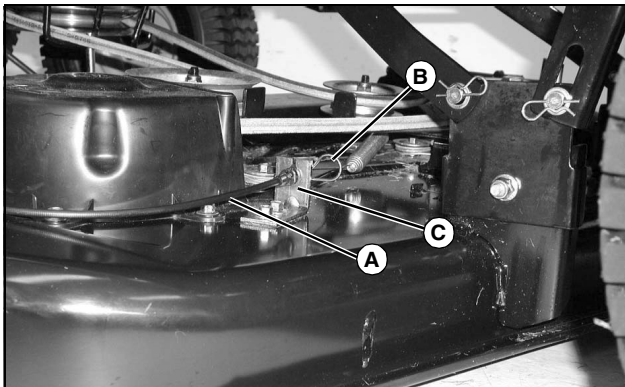
**CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:**

- Disconnect spark plug wire(s) to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

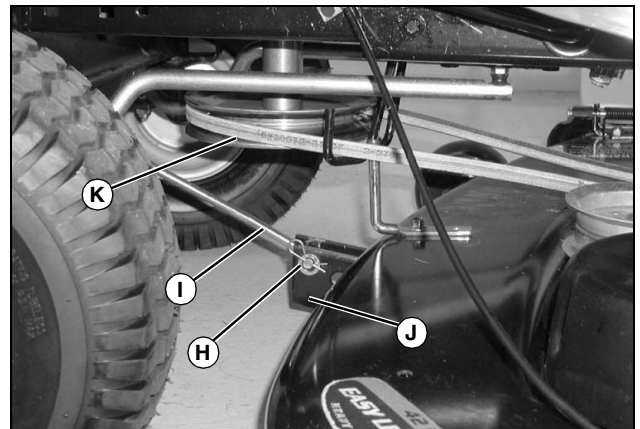


MX10516

5. Remove spring locking pins and washers (F) and disconnect rear draft arms (G), two on each side.



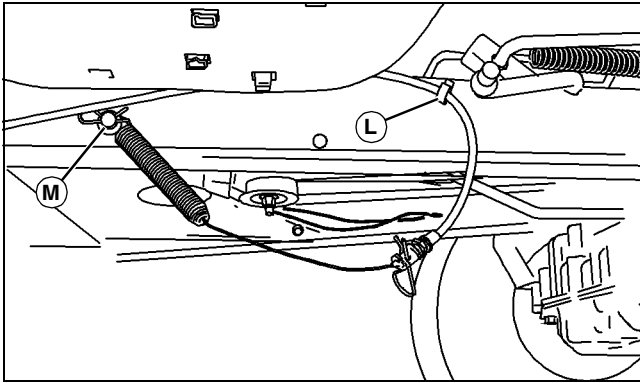
MX10517; MX7681



MX10521

4. Disconnect PTO drive cable (A).
  - a. Remove spring locking pin (B), pull and hold PTO drive cable out, lift up and remove from bracket (C).
  - b. Remove cable spring (D) from idler sheave bracket (E).
6. Remove spring locking pin and washer (H) and front draft rod (I) from mower deck bracket (J).
7. Remove mower drive belt from drive sheave (K).
8. Remove wood blocks from both sides and slide mower out from under the machine.
9. When operating the machine without the mower deck:
  - Remove rear draft arms and front draft rod from tractor and attach them to the mower deck.

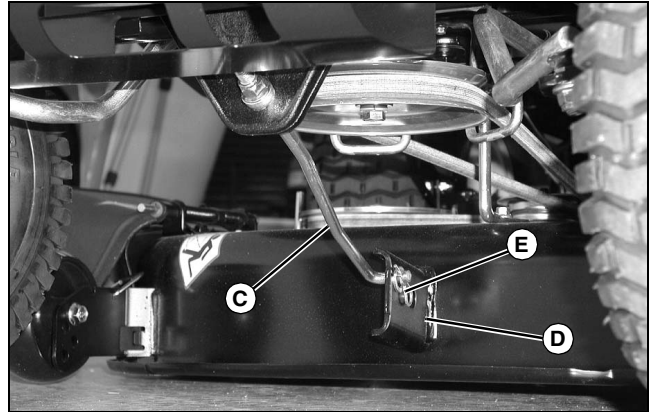
# SERVICE MOWER



MX10514

- Push PTO drive cable into clip (L) and hook end of cable spring with hardware (M) into peg on left side of machine frame.

**IMPORTANT: Avoid damage! To prevent clutch damage, make sure front draft rod is installed correctly. Secure rod with washer and spring locking pin on the left side of mower deck bracket.**



MX10529

## Installing Mower

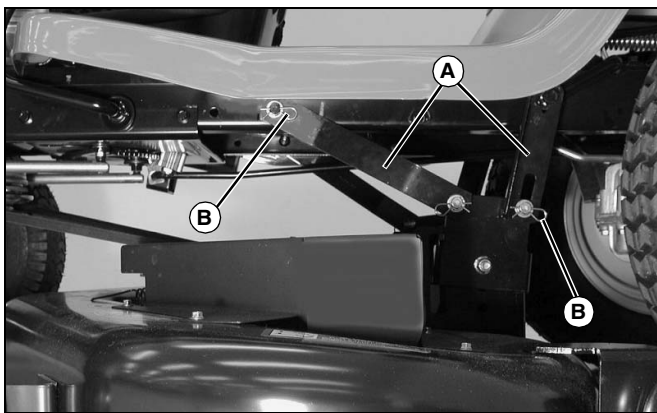
1. Park machine safely. (See Parking Safely in SAFETY section.)



**CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:**

- Disconnect spark plug wire(s) to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

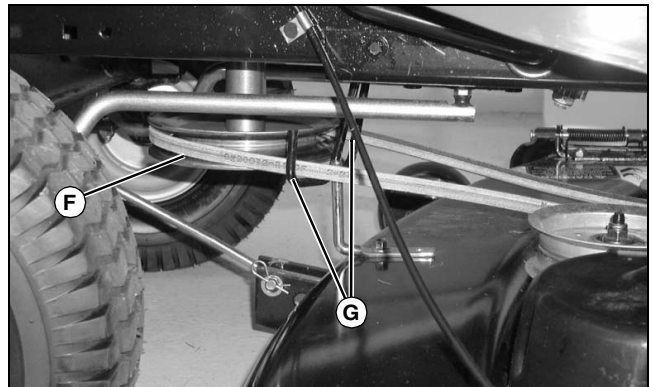
2. Put lift lever in the transport position.
3. Slide mower under machine.
4. Put wood blocks under each side of mower deck.
5. Put lift lever in lowest position.



MX10516

6. Fasten rear draft arms (A), two on each side, with washers and spring locking pins (B).

7. Install front draft rod (C) into mower deck bracket (D) and secure with washer and spring locking pin (E) on the left side of bracket as shown.

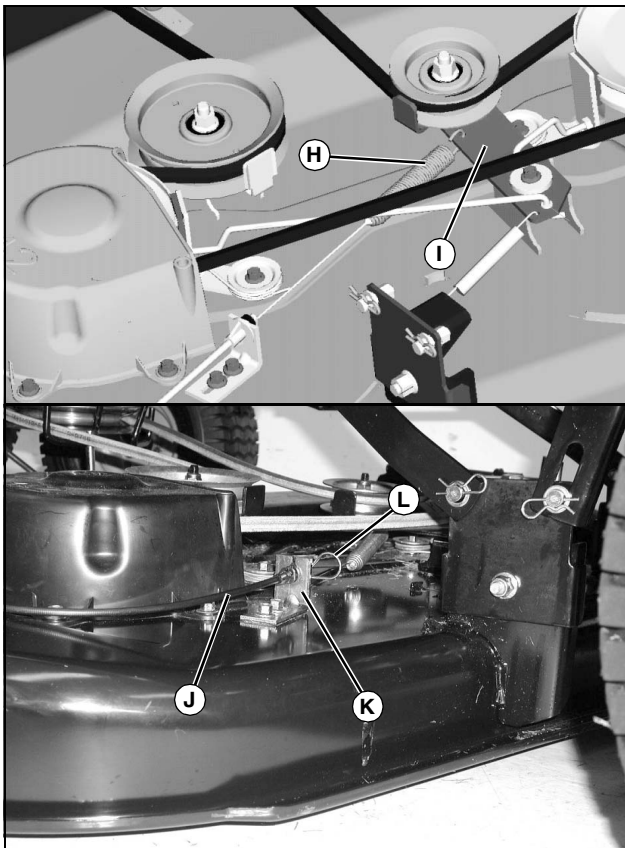


MX10521

8. Put mower drive belt on engine drive sheave (F). Make sure belt is routed through both belt guides (G)
9. Remove wood blocks from both sides of mower deck.
10. Attach PTO drive cable.



# SERVICE MOWER



MX7681; MX10517

- a. Route cable under mower belt and brake rod and attach cable spring (H) to idler sheave bracket (I).
- b. Pull out on cable (J), align black end of cable with slot in bracket (K) and release cable into slot. Secure with spring locking pin (L).

11. Level mower.

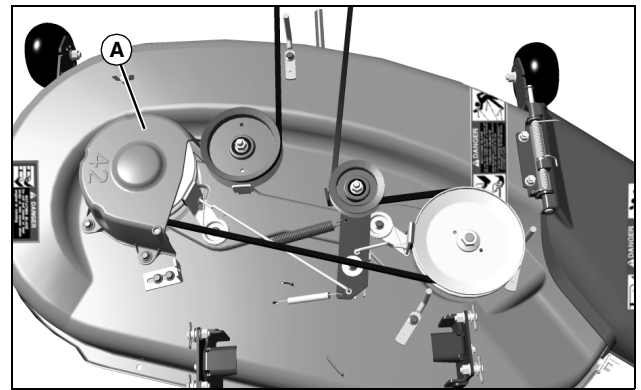
## Replacing Mower Drive Belt (107 cm (42 in.) Deck)



**CAUTION: Avoid injury! Rotating blades are dangerous. Before adjusting or servicing mower:**

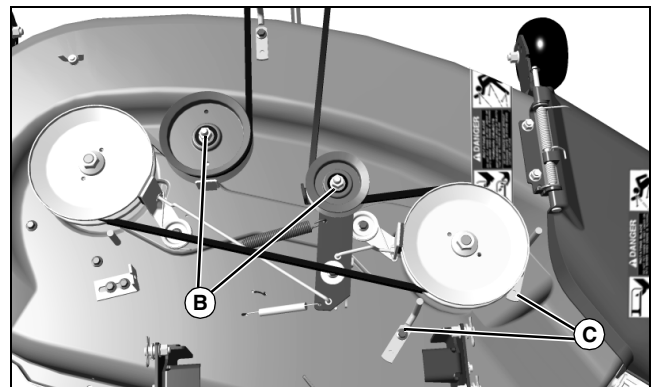
- Disconnect spark plug wire(s) to prevent engine from starting accidentally.
- Always wear gloves when handling mower blades or working near blades.

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Remove mower deck.
3. Remove drive belt.



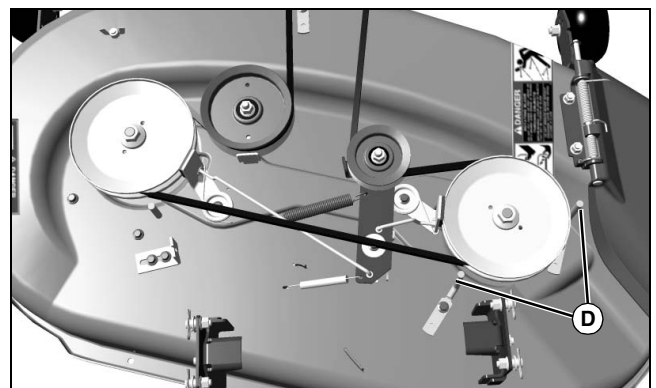
MX10511

- a. Remove three capscrews and belt shield (A).



- b. Loosen sheaves (B) and belt guides (C).
- c. Remove mower belt.

4. Inspect belt for wear or damage; replace as necessary.
5. Clean top surface of mower deck and sheaves.



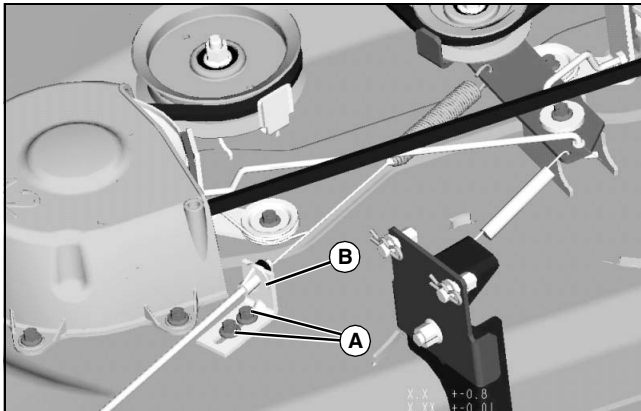
MX10512

6. Install belt on mower deck as shown. Make sure belt is in the groove of each sheave and inside belt guides (D).
7. Tighten sheaves to 47 N•m (35 lb-ft).
8. Install belt shield(s).
9. Install mower deck.
10. Adjust mower belt tension and spindle brakes, if

# SERVICE MOWER

necessary.

## Adjusting Mower Belt Tension (107 cm (42 in.) Deck)



1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Loosen nuts (A) and move cable bracket (B) away from the center of deck to tighten belt tension. Tighten nuts.

## Adjusting Spindle Brakes (107 cm (42 in.) Deck)



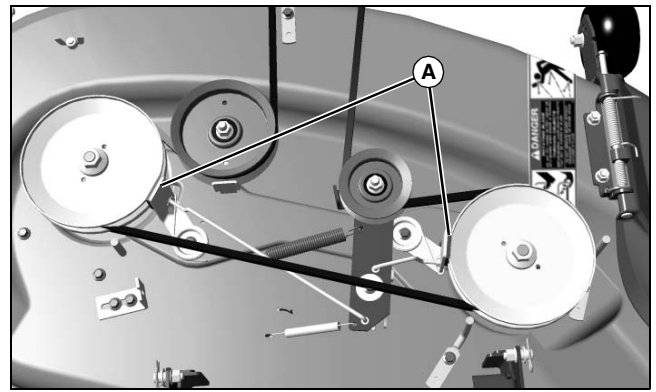
**CAUTION: Avoid injury! Rotating blades are dangerous. Mower blades must stop within 5 seconds after mower is turned off. Check spindle brake measurement every 25 hours or once a year (whichever comes first).**

**IMPORTANT: Avoid damage! Avoid belt damage.**

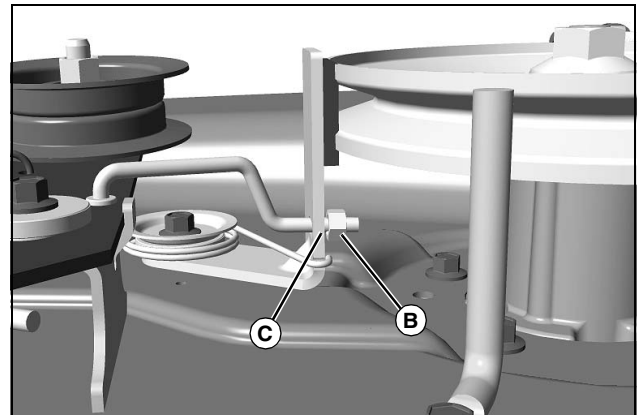
**Spindle brake engagement should be checked and corrected every time the mower belt tension is adjusted.**

**Mower belt tension should be adjusted, if required, before brakes are adjusted.**

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Remove mower deck.



3. Remove left belt shield and adjust two blade brakes (A).



4. Measure distance from spindle brake bracket (B) to nut (C) on end of brake rod.
  - Bracket to nut distance should be: 2 – 3 mm (0.08 – 0.12 in).
5. If adjustment is required, turn nut (C) on end of brake rod in correct direction to set brake at proper distance from pulley.
6. Adjust both brakes.
7. Install left belt shield.
8. Install mower deck.

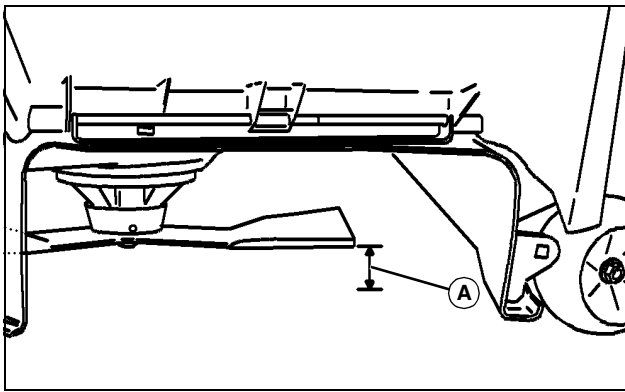
## Checking for Bent Mower Blades



**CAUTION: Avoid injury! Mower blades are sharp. Always wear gloves when handling mower blades or working near blades.**

1. Park machine safely. (See Parking Safely in the SAFETY section.)
2. Raise mower to transport position to access blades.

# SERVICE MOWER



**Picture Note: Mower deck with side discharge used for illustration.**

3. Measure distance (A) between blade tip and flat ground surface.
4. Rotate blade 180° and measure distance between other blade tip and flat ground surface.
5. Install new blade if the difference between the two measurements is more than 3 mm (1/8 in.).
6. Repeat for all blades.

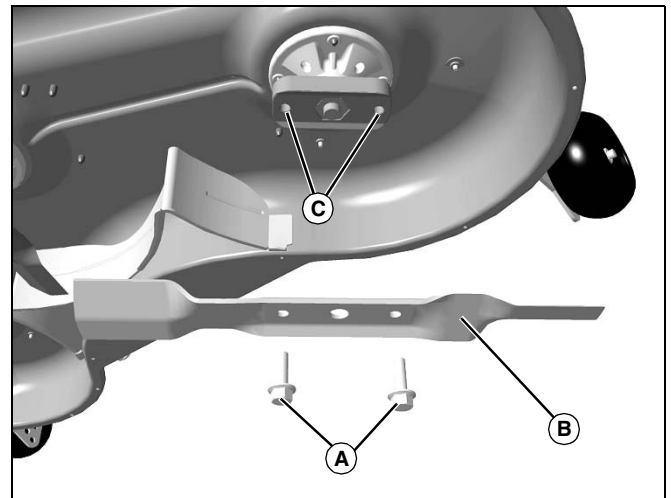
## Servicing Mower Blades



**CAUTION: Avoid injury! Mower blades are sharp. Always wear gloves when handling mower blades or working near blades.**

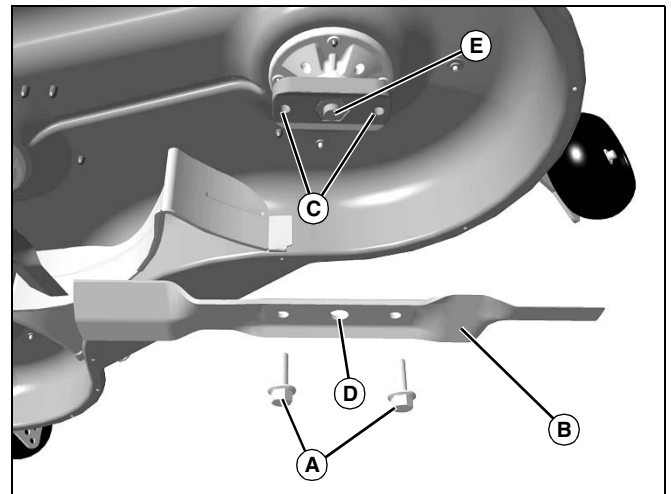
### Removing Mower Blades

1. Raise mower deck to gain access to mower blades. If necessary, remove mower deck.
2. Block mower blade with a piece of wood to prevent it from spinning.



3. Loosen and remove two cap screws (A) and blade (B). Do not remove two nuts/bushings (C) inside holes of the blade adapter.
4. Inspect blades; sharpen, balance or replace blades as necessary.

### Installing Mower Blades



1. Make sure that two nuts/bushings (C) are in place.
2. Position mower blade (B) with the cutting edge towards the ground.
3. Align the center hole (D) in the blade with the spindle shaft (E) and put the blade onto the mower spindle.
4. Install and hand tighten cap screws (A) until mower blade is in full contact (fully seated) with spindle.
5. Block mower blade with a piece of wood to prevent spinning and tighten cap screws to 62 N•m (46 lb-ft).

# SERVICE MOWER

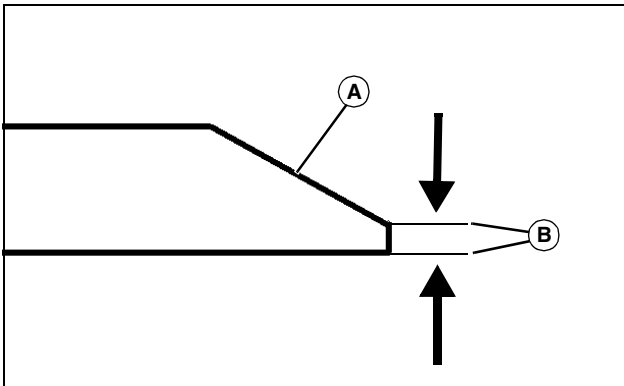
## Sharpening Blades



**CAUTION: Avoid injury! Mower blades are dangerous!**

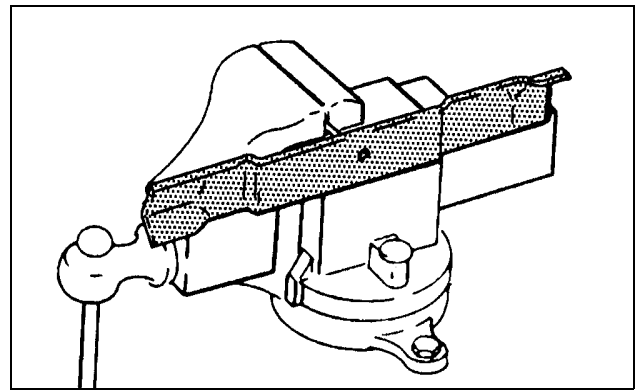
- Always wear gloves while working on blades.
- Always wear safety eye protection when grinding.

- Sharpen blades with grinder, hand file, or electric blade sharpener.



MX8333

- Keep original bevel (A) when grinding.
- Blade should have 0.40 mm (1/64 in.) cutting edge (B) or less.
- Balance blades before installing.



M61524

2. Put blade on nail in a vise. Turn blade to horizontal position.
3. Check balance. If blade is not balanced, heavy end of blade will drop.
4. Grind bevel of heavy end. Do not change blade bevel.

## Balancing Blades



**CAUTION: Avoid injury! Mower blades are sharp. Always wear gloves when handling mower blades or working near blades.**

1. Clean blade.

# SERVICE ELECTRICAL

## Service the Battery Safely



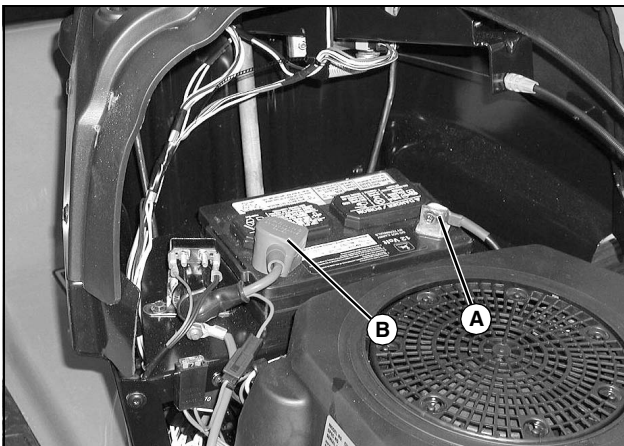
**CAUTION: Avoid injury! The battery produces a flammable and explosive gas. The battery may explode:**

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

## Removing and Installing the Battery

### Removing

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



MX7686

2. Disconnect negative (-) battery cable (A).
3. Push red cover (B) away from positive (+) battery terminal and remove cable from battery.

4. Remove battery.

### Installing

1. Place battery into battery tray.
2. Connect positive (+) cable to battery first, then negative (-) cable.
3. Apply general purpose grease or silicone spray to terminal to help prevent corrosion.
4. Slide red cover over positive battery terminal.

## Cleaning Battery and Terminals

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

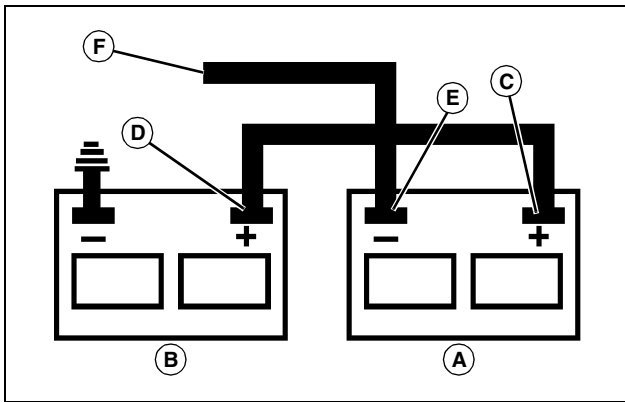
## Using Booster Battery



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

- Do not 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.

# SERVICE ELECTRICAL



M71044

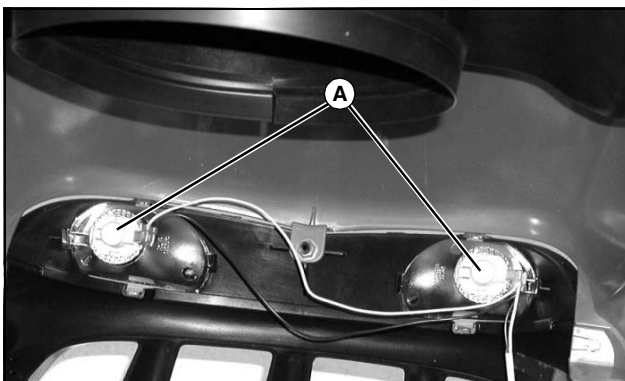
**A - Booster Battery**

**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 Headlight Bulb

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



MX10504

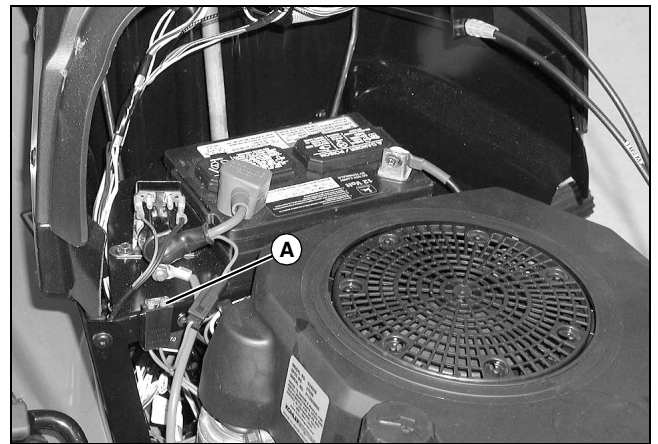
3. Turn bulb socket (A) 1/4 turn counterclockwise to

remove.

4. Replace defective bulb with a new bulb.
5. Insert bulb socket into housing, push in and turn 1/4 turn clockwise to install.
6. Lower hood.

## Replacing Fuse

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



MX7686

3. Pull defective fuse (A) out of socket.
4. Check metal clip in fuse window and discard fuse if clip is broken.
5. Push new 20 amp fuse into socket.
6. Lower hood.

# SERVICE MISCELLANEOUS

## Filling Fuel Tank

Use regular grade 87 octane unleaded fuel.

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



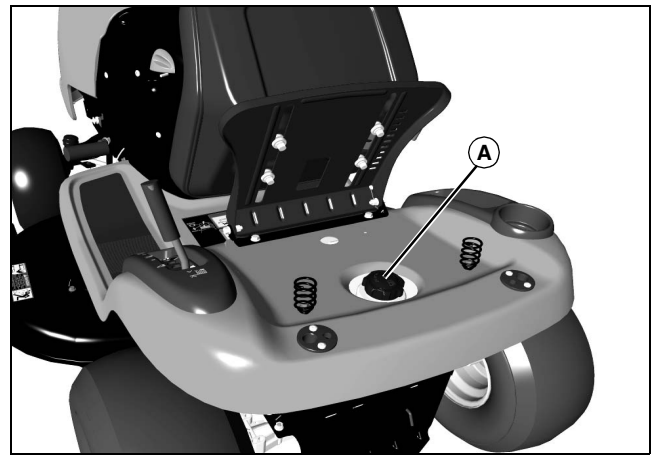
**CAUTION: Avoid injury! Fuel vapors are explosive and flammable:**

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

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

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

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



MX7699

4. Remove fuel tank cap (A).
5. Fill tank with fuel only to bottom of filler neck. Do not overfill.
6. Install fuel tank cap and tighten cap one full turn to close.
7. Lower seat.

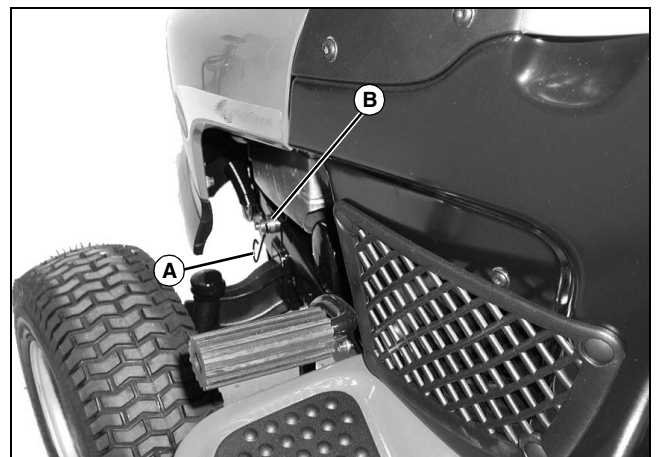
## Removing and Installing Hood

### Removing



**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 removing hood.**

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

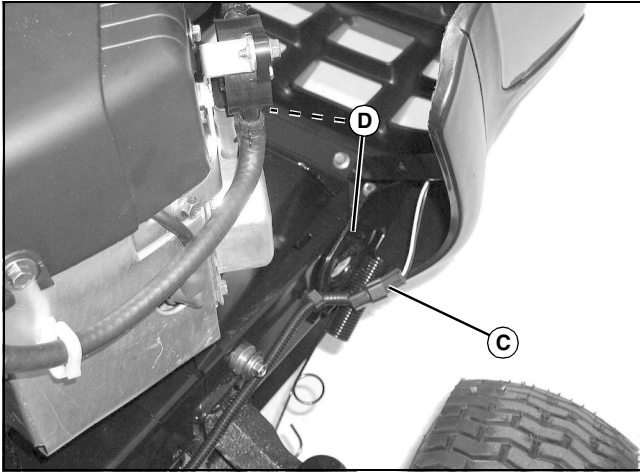


MX10518

3. Keep hood in the closed position and pull spring hook

# SERVICE MISCELLANEOUS

(A) towards rear of tractor and remove from bolt (B), one on each side.



MX10519

4. Open hood.
5. Disconnect wiring harness (C).
6. Lower hood slightly and lift hood from brackets (D).

## Installing

1. Align hood brackets with tractor brackets and install hood.
2. Connect wiring harness.
3. Close hood.
4. Pull spring hooks over bolts and release to secure hood.

## Cleaning and Repairing Plastic Surfaces

Your Sabo 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 Sabo 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 Sabo distributor for service.

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

## Engine

IF	CHECK
Poor Engine Performance	Dirt in fuel system or fuel is old. Replace fuel with fresh stabilized fuel. Obtain 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 is engaged. Spark plug wire is loose or disconnected. Improper fuel. Plugged fuel filter. Defective safety switch. Electrical problem - See Electrical Troubleshooting Section
Engine Is Hard To Start	Carburetor is not adjusted properly or dirty. Plugged fuel filter. 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.
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 Hill-sides	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.
Excessive Fuel Consumption	Choke is not fully open.
Black Exhaust Smoke	Air filter is dirty or oil soaked.
Engine Stops When REVERSE Foot Pedal Is Depressed And Attachment Is Engaged (Hydrostatic)	Normal condition. (See Using Reverse Implement Option in the OPERATING section.)

# TROUBLESHOOTING

## Electrical

IF	CHECK
Starter Does Not Work Or Will Not Turn Engine	Brake pedal is not depressed. PTO is engaged. Battery terminals are corroded. Battery not charged. Blown fuse. Fusible Link in starting circuit is blown - See your authorized 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. Check for bent or out-of-balance blades.
Tractor Will Not Move With Engine Running	Parking brake locked. Free-wheeling lever is engaged.

## Mower

IF	CHECK
Discharge Chute Plugged	Travel speed too fast. Grass too long. Grass too wet. Engine rpm not at wide open throttle. Restricted air flow. Belt installed incorrectly.
Patches Of Grass Uncut	Travel speed too fast. Engine rpm not at wide open throttle. Mower deck needs cleaning.

# TROUBLESHOOTING

IF	CHECK
Belt Slipping	Debris in sheaves. Worn belt.
Too Much Vibration	Debris on mower deck or in sheaves. Damaged sheaves or sheaves out of alignment. Damaged drive belt. Blades out of balance.
Blades Scalping Grass	Cutting too low. Mower wheels not adjusted correctly. Turning speed too fast. Ridges in terrain. Rough or uneven terrain. Low tire pressure.
Mower Loads Down Tractor	Engine rpm too low. Travel speed too fast. Debris wrapped around mower spindles.
Uneven Cut	Mower deck not leveled properly. Travel speed too fast. Blades dull. Mower wheels not adjusted correctly. Tire pressure unequal.
Grass Tips Are Jagged And Turn Grayish Brown After Mowing	Dull mower blades. Mower deck not leveled properly.
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. Remove grass and debris from machine.
4. Clean under the deck and remove grass and debris from inside chute and bagger.
5. Wash the machine and apply wax to metal and plastic surfaces.
6. Run machine for five minutes to dry belts and pulleys.
7. Apply light coat of engine oil to pivot and wear points to prevent rust.
8. Lubricate grease points.
9. Check tire pressure.

## Preparing Fuel and Engine For Storage

### Fuel:

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

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

If you are not using "Stabilized Fuel":

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

**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. Crank the engine five or six times to allow oil to be distributed.
  7. Clean the engine and engine compartment.
  8. Remove battery.
  9. Clean the battery and battery posts.
  10. Store the battery in a cool, dry place where it will not freeze.
- NOTE: The stored battery should be recharged every 90 days.**
11. Charge the battery.

**IMPORTANT: Avoid damage! Prolonged exposure to sunlight will damage the hood surface. Store machine inside or use a cover if stored outside.**

12. 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. Charge battery.
4. Install battery.

# STORAGE

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5. Check spark plug gap. Install and tighten plugs to specified torque.
6. Lubricate all grease points.
7. Run the engine 5 minutes without the mower or any attachments running to allow oil to be distributed throughout engine.
8. Be sure all shields and guards or deflectors are in place.

# ASSEMBLY

## Charge and Connect 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. Remove and discard the red positive (+) protective cap from the positive (+) battery terminal.
2. Charge the battery.
  - Battery is fully charged at 12.6 volts.



MX7686

3. Connect positive (+) battery cable (A) to battery.
4. Connect negative (-) battery cable (B).
5. Apply general purpose grease or silicone spray to terminal to help prevent corrosion.
6. Slide red cover over positive battery cable.

## 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.

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

Tire Size	Pressure
Front: 15 x 6.00 - 6	0,97 bar (97 kPa) (14 psi)
Rear: 20 x 8.0 - 8	0,69 bar (69 kPa) (10 psi)

## Adjust Mower Level

Adjust mower level. (See Adjusting Mower Level in the OPERATING section.)

## Check Machine Safety System

Perform safety system check to make sure the electronic safety interlock circuit is functioning properly. Perform all tests. (See Testing Safety System in the Operating section.)

# SPECIFICATIONS

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## Automatic Model 108-17 HS

Engine Manufacturer .....	Briggs and Stratton
Horsepower .....	12.7 kW (17 hp)
Displacement .....	460 cc (28.1 cu.in.)
Spark Plug-Gap .....	1 mm (0.040 in.)
Cylinders .....	One
Oil Filter .....	Yes
Air Filter .....	Paper with Foam
Transmission .....	Hydrostatic
Transaxle Manufacturer .....	Tuff Torq™ K46
Travel Speed - Forward .....	0 - 9.2 km/h (0 - 5.7 mph)
Travel Speed - Reverse .....	.0 - 5.5 km/h (0 - 3.4 mph)

## Electrical System

Charging System .....	Regulated Circuit
Charging System Capacity) .....	9 Amp
Battery Voltage .....	12 Volts
Battery Type .....	BCI Group U1

## Capacities

### Model 108-17 HS

Crankcase without oil filter .....	1.8 L (1.75 qt)
Crankcase with oil filter .....	1.9 L (2 qt)
Fuel .....	8.3 L (2.2 gal)

## Dimensions

Height .....	98 cm (38.6 in.)
Length (Overall) .....	152.4 cm (60 in.)
Width (Overall) .....	91 cm (36 in.)
Weight .....	210 kg (462 lb)

## Tires

Size (Front) .....	15 x 6.00 - 6
Size (Rear) .....	20 x 8.0 - 8
Tire Pressure (Front) .....	0,97 bar (97 kPa) (14 psi)
Tire Pressure (Rear) .....	0,69 bar (69 kPa) (10 psi)



# SPECIFICATIONS

---

## Mower Deck - 107 cm (42 in.)

Blades-Rotary .....	2
Blade Bolt Torque .....	62 N•m (46 lb-ft)
Cutting Height-Approx. ....	25–102 mm (1–4 in.)
Cutting Width .....	1067 mm (42 in.)

## Recommended Lubricants

Engine Oil .....	API Service Classification SG or SF
Grease .....	SAE Multi-Purpose EP Grease
Lubricant .....	General All-Purpose Spray

(Specifications and design subject to change without notice.)

## Speed of Rotation of the Cutting Device

Sabo 108-17 HS with 107 cm (42 in.) Mower Deck .....	2970 r/min
--	------------

## Sound Measurements

### Averaged Sound Level at Work Station According to EN836-A2

Sabo 108-17 HS without Mower Deck .....	.84 dB(A) at 3020 r/min engine speed
Sabo 108-17 HS with 107 cm (42 in.) Mower Deck .....	.88 dB(A) at 3020 r/min engine speed

## Vibration Measurements

### Hand/Arm Measured Per EN836-A2

Sabo 108-17 HS with 107 cm (42 in.) Mower Deck .....	1.7 m/s <sup>2</sup> at 3020 r/min engine speed
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### Whole Body Measured Per EN836-A2

Sabo 108-17 HS with 107 cm (42 in.) Mower Deck .....	1.1 m/s <sup>2</sup>
--	----------------------

**NOTE:** The value listed above represents the weighted root means square acceleration to which the whole body is subjected on a representative machine during actual mowing and transport conditions. The acceleration value depends upon the roughness of the ground, the speed at which the tractor is operating and the operator weight and driving habits. Measurements were obtained through actual field data according to STD Procedure in EN836-A2.

# DECLARATION OF CONFORMITY

## Sabo 108-17 HS Lawn Tractor

**Manufacturer**  
Deere & Company  
John Deere Road  
Moline, IL 61265-8098 USA

**Owner of Technical Documentation**  
Reinhard Frank  
Deere & Company  
John Deere Werke Mannheim  
Windeckstr. 90  
Mannheim, Germany D-68163

**Notified Body**  
AV Technology Limited  
AVTECH House  
Birdhall Lane  
Cheadle Heath  
Stockport Cheshire  
SK3 0XU United Kingdom

I, the undersigned:  
declare that these machines

**Sabo 108-17 HS Lawn Tractor with 107 cm (42 in.) Mower Deck . . . . Cutting Width . . . . . 107 cm (42 in.)**  
**Serial Number . . . . . See Product Identification Page**

comply with the applicable requirements of:

**Machine Directive . . . . . 98/37/EEC (89/392/EEC)**  
**EMC Directive . . . . . 89/336/EEC**  
**Noise Directive . . . . . 2000/14/EC (Annex VI, Procedure 2)**

**Measured Sound Power Level**


**Sabo 108-17 HS Lawn Tractor with 107 cm (42 in.) Mower Deck . . . . . 99.8 dB(A)**

**Guaranteed Sound Power Level**

**Sabo 108-17 HS Lawn Tractor with 107 cm (42 in.) Mower Deck . . . . . 100 dB(A)**

Done at:

**John Deere Horicon Works . . . . . 13 March 2002**



**PAUL A. MEYER**  
**VICE PRESIDENT, ENGINEERING & SUPPLY MANAGEMENT**

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# NOTES

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Notes

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Notes

# SERVICE STATEMENT

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## Sabo Parts



We help minimize downtime by putting genuine Sabo parts in your hands in a hurry.

That's why we maintain a large and varied inventory - to stay a jump ahead of your needs.

## Well-Trained Technicians



School is never out for Sabo service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result? - Experience you can count on!

## The Right Tools



Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly... to save you time and money.

## Prompt Service



Our goal is to provide prompt, efficient care.

We can make repairs at our shop: see us, depend on us.

*SABO SERVICE SUPERIORITY*: We'll be around when you need us.

# SERVICE RECORD

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## Record Service Dates

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



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