



M216KASPC

For Serial Nos.  
220,000 & Higher



OPERATOR'S MANUAL

# METRO<sup>TM</sup> 21

## BLADE BRAKE CLUTCH MODEL

**CONGRATULATIONS** on the purchase of your new Exmark mower. This product has been carefully designed and manufactured to give you a maximum amount of dependability and years of trouble-free operation.

If additional information is needed, or should you require trained mechanic service, contact your authorized Exmark equipment dealer or distributor.

If you need to order replacement parts from your dealer, always give the model number and serial number of your mower as well as the part number, description and quantity of the part needed.

The Serial No. plate is located on the top of the mower deck on the right hand rear corner.

For ease of ordering and reference, we suggest that you record the information requested in the following identification table.

Model No.	_____
Serial No.	_____
Engine Model No.	_____
Engine Serial No.	_____
Date Purchased	_____

Paste Label From  
Literature Packet Here

## IMPORTANT

When the mower is used or operated on any California forest-, brush- or grass-covered land, a working spark arrester must be attached to the muffler. If not, the operator is violating state law, Section 4442 Public Resource Code. To acquire a spark arrester for your unit, see you Engine Service Dealer.



## WARNING



### POTENTIAL HAZARD

- This product is a piece of power equipment.

### WHAT CAN HAPPEN

- Failure to follow safe operating practices can result in serious operator injury or even death.

### HOW TO AVOID THE HAZARD

- Keep all shield, guards, and safety devices (especially the grass discharge system) in place and in proper working condition.
- Stop engine and remove spark plug wire(s) or remove key and wait for all moving parts to stop before adjusting, servicing, or performing maintenance.
- If mower deck becomes clogged, stop engine and remove spark plug wire(s) or remove key and wait for all moving parts to stop before cleaning blockage.
- Keep hands, feet, and clothing away from power driven parts.
- Keep off mower unless seat platform is provided.
- Keep others off mower.



## WARNING



### POTENTIAL HAZARD

- Gasoline is harmful or fatal if swallowed. Long-term exposure to vapors has caused cancer in laboratory animals.

### WHAT CAN HAPPEN

- Failure to use caution may cause serious injury or illness.

### HOW TO AVOID THE HAZARD

- Avoid prolonged breathing of vapors.
- Keep face away from nozzle and gasoline tank/container opening.
- Keep gasoline away from eyes and skin.
- Never siphon gasoline by mouth.

Exmark reserves the right to make changes to add improvements to its products at any time without incurring any obligation to make such changes to products manufactured previously. Exmark, or its distributors and dealers, accept no responsibility for variations which may be evident in the actual specifications of its products and the statements and descriptions contained in this publication.

# EXMARK PARTS PLUS<sup>®</sup> PROGRAM

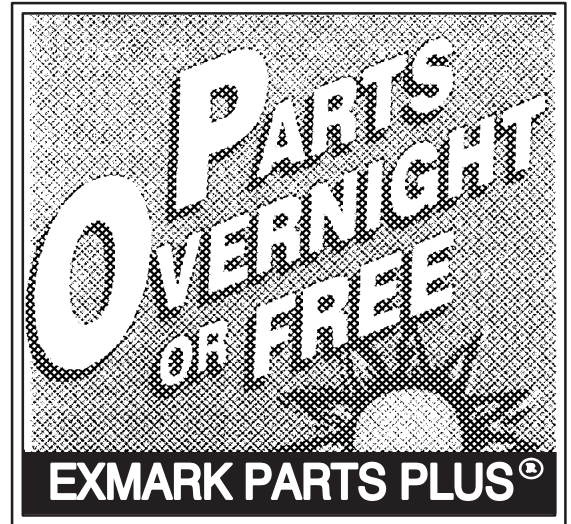
EFFECTIVE DATE: September 1, 1995

## Program

If your Exmark dealer does not have the Exmark part in stock, Exmark will get the parts to the dealer the next business day or the part will be FREE\* Guaranteed!!

## How the Program Works

1. If dealer does not have part in stock for a "down" unit at the time of request by customer, the dealer contacts his distributor by 1:00 p.m. local time, and requests Exmark Parts Plus<sup>®</sup> shipment of six line items or less.
2. Distributor ships part(s) to dealer or customer, as requested by dealer, same day, overnight UPS. Distributor bills dealer for part and freight charges where applicable.
3. If distributor does not have the part(s) in stock to satisfy Exmark Parts Plus<sup>®</sup> order, he contacts Exmark by 3:00 p.m., central time, with an Exmark Parts Plus<sup>®</sup> order of six line items or less.
4. If order is received by 3:00 p.m. central time, Exmark ships part(s) direct to dealer or customer, as requested by distributor, same day, overnight UPS, Exmark bills the distributor for parts and shipping charges, where applicable.
5. The customer pays for the part and freight if it is shipped under the Exmark Parts Plus<sup>®</sup> and if it arrive in accordance to the program.
6. Who pays for the part and freight if it fails to arrive overnight in accordance to the program?
  - A. Under any circumstance the customer does not pay.
  - B. If the part does not arrive overnight due to:
    1. The dealer not submitting the Exmark Parts Plus<sup>®</sup> order to his Exmark distributor by 1:00 p.m., the dealer pays for the part and freight.
    2. The Distributor being unable to ship the part the same day or not submitting the Exmark Parts Plus<sup>®</sup> order to Exmark by 3:00 p.m. central time, the Distributor pays for the part and freight.
    3. Exmark being unable to ship the part and the Exmark parts order is received by 3:00 p.m. central time, Exmark pays for the part and freight.
    4. If the part does not arrive overnight due to the shipper (UPS), the shipper pays for the freight and Exmark pays for the part.



**The following restrictions apply** — The Exmark Parts Plus<sup>®</sup> Program is available only through participating Exmark Dealers and applies only to orders submitted on this program Monday through Thursday. Parts Plus service is available only in the 48 contiguous United States. UPS has initiated a Saturday delivery program to many areas of the continental United States and can be requested for an overnight shipment on Friday to be delivered Saturday. The next day air charge, plus the Saturday delivery fee will be the responsibility of the purchaser. Exmark Mfg. will assume no responsibility for Saturday delivery shipments. To qualify, all Exmark Parts Plus<sup>®</sup> orders must be received by Exmark by 3:00 p.m. central time. Orders must be six line items or less. Exclusions from the Exmark Parts Plus<sup>®</sup> Program are: Any wholegood or accessory in its entirety, engines and engine replacement parts, 5-speed Peerless transmissions and 5-speed transaxles, hydraulic or hydrostatic wheel motors, cutter decks and engine decks or any item exceeding United Parcel Service size and weight restrictions.

Due to UPS restrictions, aerosol spray paint is considered a hazardous material and cannot be shipped via UPS next day or Second Day Air.

Exmark Manufacturing stocks a limited supply of parts for transaxles, pumps and wheel motors. These parts can be ordered for Next Day Air shipment but will not be guaranteed per the Parts Plus Program.

**CONGRATULATIONS** on the purchase of your Exmark Mower. This product has been carefully designed and manufactured to give you a maximum amount of dependability and years of trouble-free operation.

## **OPERATOR'S MANUAL**

This manual contains assembly, operating, maintenance, adjustment and safety instructions for your Exmark mower.

**BEFORE OPERATING YOUR MOWER, CAREFULLY READ THIS MANUAL IN ITS ENTIRETY.**

By following the operating, maintenance and safety instructions, you will prolong the life of your mower, maintain its maximum efficiency and promote safe operation.

If additional information is needed, or should you require trained mechanic service, contact your authorized Exmark equipment dealer or distributor.

All Exmark equipment dealers and distributors are kept informed of the latest methods of servicing and are equipped to provide prompt and efficient service in the field or at their service stations. They carry ample stock of service parts or can secure them for you from the factory.

All Exmark parts are thoroughly tested and inspected before leaving the factory; however, attention is required on your part if you are to obtain the fullest measure of satisfaction and performance.

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# Specifications

Model Number:	M216KASPC
Engine:	Kawasaki 5.5HP OHV 3000 RPM (No load)
Fuel System:	
Capacity:	1.37 qt. (1.3 L)
Fuel filter:	Replaceable inline
Transmission:	
3 speeds forward	
Speed range:	
First	1.8 mph (2.9 km/h)
Second	2.7 mph (4.3 km/h)
Third	3.8 mph (6.1 km/h)
Cutting Width:	21 in.
Cutting Height:	
Adjusts in 1/2 in. (1.3 cm) increments from	
3/4 in. (1.9 cm) to 3-1/4 in. (8.3 cm)	
Grass Catcher Capacity	2.5 Bu. (88 L)
Weight (with bag):	115 lbs. (52.2 kg)

# Safety

Read this manual carefully to learn how to operate and maintain your product correctly. Reading this manual will help you and others avoid personal injury and damage to the product. Although Exmark designs, produces and markets safe, state-of-the-art products, you are responsible for using the product properly and safely. You are also responsible for training persons who you allow to use the product about safe operation.

The Exmark warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death.

DANGER, WARNING and CAUTION are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

**DANGER** signals an extreme hazard that will cause serious injury or death if the recommended precautions are not followed.

**WARNING** signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

**CAUTION** signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed.

Two other words are also used to highlight information. “Important” calls attention to special mechanical information and “Note” emphasizes general information worthy of special attention.

The left and right side of the machine is determined by standing behind the handle in the normal operator’s position.

**This machine meets or exceeds CPSC blade safety requirements for rotary mowers and the B71.4 1999 specifications of the American National Standards Institute, in effect at time of production.**

**Note:** The addition of certain attachments that do not meet American National Standards Institute certification will cause noncertification of this machine.

**Improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety alert ▲ symbol, which means CAUTION, WARNING, or DANGER—“personal safety instruction.” Failure to comply with the instruction may result in personal injury or death.**

## Safe Operating Practices

The following instructions are from ANSI standard B71.4—1999.

### Training

- Read the Operator’s Manual and other training material. If the operator(s) or mechanic(s) can not read English it is the owner’s responsibility to explain this material to them.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner/user can prevent and is responsible for accidents or injuries occurring to himself or herself, other people or property.

### Preparation

- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer.

- Wear appropriate clothing including hard hat, safety glasses and ear protection. Long hair, loose clothing or jewelry may get tangled in moving parts.
- Inspect the area where the equipment is to be used and remove all objects such as rocks, toys and wire which can be thrown by the machine.
- Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.
  - Use only an approved container
  - Never remove gas cap or add fuel with engine running. Allow engine to cool before refueling. Do not smoke.
  - Never refuel or drain the machine indoors.
- Check that operator’s presence controls, safety switches and shields are attached and functioning properly. Do not operate unless they are functioning properly.

### Operation

- Never run an engine in an enclosed area.
- Only operate in good light, keeping away from holes and hidden hazards.
- Be sure all drives are in neutral and parking brake is engaged before starting engine. Only start engine from the operator’s position.
- Be sure of your footing while using pedestrian controlled equipment, especially when backing up. Walk, don’t run. Never operate on wet grass. Reduced footing could cause slipping.
- Slow down and use extra care on hillsides. Be sure to travel in the recommended direction on hillsides. Turf conditions can affect the machine’s stability. Use caution while operating near drop-offs.
- Slow down and use caution when making turns and when changing directions on slopes.
- Never raise deck with the blades running.
- Never operate with the PTO shield, or other guards not securely in place. Be sure all interlocks are attached, adjusted properly, and functioning property.
- Never operate with the discharge deflector raised, removed or altered, unless using a grass catcher.
- Do not change the engine governor setting or overspeed the engine.
- Stop on level ground, lower implements, disengage drives, engage parking brake (if provided), shut off engine before leaving the operator’s position for any reason including emptying the catchers or unclogging the chute.

- Stop equipment and inspect blades after striking objects or if an abnormal vibration occurs. Make necessary repairs before resuming operations.
- Keep hands and feet away from the cutting units.
- Look behind and down before backing up to be sure of a clear path.
- Never carry passengers and keep pets and bystanders away.
- Slow down and use caution when making turns and crossing roads and sidewalks. Stop blades if not mowing.
- Be aware of the mower discharge direction and do not point it at anyone.
- Do not operate the mower under the influence of alcohol or drugs.
- Use care when loading or unloading the machine into a trailer or truck.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

## Maintenance and Storage



- Disengage drives, lower implement, set parking brake, stop engine and remove key or disconnect spark plug wire. Wait for all movement to stop before adjusting, cleaning or repairing.
- Clean grass and debris from cutting units, drives, mufflers, and engine to help prevent fires. Clean up oil or fuel spillage.
- Let engine cool before storing and do not store near flame.
- Shut off fuel while storing or transporting. Do not store fuel near flames or drain indoors.
- Park machine on level ground. Never allow untrained personnel to service machine.
- Use jack stands to support components when required.
- Carefully release pressure from components with stored energy.
- Disconnect battery or remove spark plug wire before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.
- Use care when checking blades. Wrap the blade(s) or wear gloves, and use caution when servicing them. Only replace blades. Never straighten or weld them.
- Keep hands and feet away from moving parts. If possible, do not make adjustments with the engine running.

- Charge batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.
- Keep all parts in good working condition and all hardware tightened. Replace all worn or damaged decals.

## Exmark Mower Safety

The following list contains safety information specific to Exmark products or other safety information that you must know that is not included in the ANSI standards.

This product is capable of amputating hands and feet and throwing objects. Always follow all safety instructions to avoid serious injury or death.

	<b>WARNING</b>	
<b>POTENTIAL HAZARD</b>		
<ul style="list-style-type: none"> <li>• <b>Engine exhaust contains carbon monoxide, which is an odorless, deadly poison.</b></li> </ul>		
<b>WHAT CAN HAPPEN</b>		
<ul style="list-style-type: none"> <li>• <b>Carbon monoxide can kill you.</b></li> </ul>		
<b>HOW TO AVOID THE HAZARD</b>		
<ul style="list-style-type: none"> <li>• <b>Do not run the engine indoors or in an enclosed area.</b></li> </ul>		

This product is designed for cutting and recycling grass or, when equipped with a grass bagger, for catching cut grass. Any use for purposes other than these could prove dangerous to user and bystanders.

**Note:** This engine is not equipped with a spark arrester muffler. It is a violation of California Public Resource Code Section 4442 to use or operate this engine on any forest-covered, brush-covered or grass-covered land. Other states or federal areas may have similar laws.

## General Operation

- Allow only responsible adults who are familiar with the instructions to operate the machine.
- Be sure the area is clear of other people before mowing. Stop the machine if anyone enters the area.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
- Slow down before turning. Sharp turns on any terrain may cause loss of control.

- Turn off blades when not mowing.
- Keep hands, feet, hair and loose clothing away from attachment discharge area, underside of mower and any moving parts while engine is running.
- Stop the engine before removing the grass catcher or unclogging the chute.
- Mow only in daylight or good artificial light.
- Watch for traffic when operating near or crossing roadways.
- Do not touch equipment or attachment parts which may be hot from operation. Allow to cool before attempting to maintain, adjust or service.

## Slope Operation

Slopes and ramps are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes and ramps require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

### Do:

- Remove obstacles such as rocks, tree limbs, etc. from the mowing area. Watch for holes, ruts or bumps, as uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Use slow speed so that you will not have to stop while on the slope.
- Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction.

- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.
- Check carefully for overhead clearances (i.e. branches, doorways, electrical wires) before driving under any objects and do not contact them.

### Do Not:

- Do not operate machine on hillsides or slopes exceeding 15°.
- Avoid turning on slopes. If you must turn, turn slowly and gradually downhill, if possible.
- Do not mow on wet grass. Reduced traction could cause sliding.

## Service

- Never store the machine or fuel container inside where there is an open flame, such as near a water heater or furnace.
- Keep nuts and bolts tight, especially the blade attachment bolts. Keep equipment in good condition.
- Never tamper with safety devices. Check safety systems for proper operation before each use.
- Use only genuine replacement parts to ensure that original standards are maintained.
- Check brake operation frequently. Adjust and service as required.
- Battery acid is poisonous and can cause burns. Avoid contact with skin, eyes and clothing. Protect your face, eyes and clothing when working with a battery.
- Battery gases can explode. Keep cigarettes, sparks and flames away from battery.

## Safety and Instruction Decals



Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



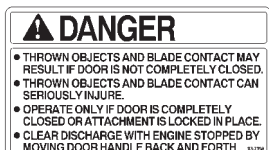


**ON CONTROL PANEL**  
(Part No. 63-9060)

## IMPORTANT

GREASE PIVOT ARMS EVERY 25 HOURS OF OPERATION.  
GREASE GEAR BOX INPUT SHAFT (TWO PUMPS) EVERY 100 HOURS OF OPERATION. SEE OPERATOR'S MANUAL. 52-2620

**ON BELT COVER**  
(Part No. 52-2620)



**ON DISCHARGE TUNNEL**  
(Part No. 82-9152)

**1 2 3 (N)** 74-1970

**ON BELT COVER**  
(Part No. 74-1970)



**ON MOWER HOUSING**  
(Part No. 43-8480)



**ON PLUG**  
(Part No. 76-2110)

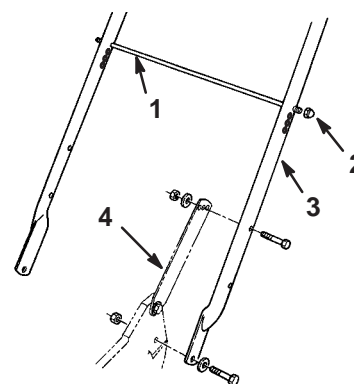


**ON CONTROL PANEL**  
(Part No. 100-3282)

# Assembly

## Install Handle

1. Mount handle to outside of mower housing, using bottom hole, with two 5/16–18 x 1–1/4-inch long capscraws, washers, and thin nylon insert locknuts (Fig. 1).
  2. Secure handle latches to handle with two 5/16–18 x 1–1/2-inch long capscraws, washers and nylon insert locknuts (Fig. 1).
- Note:** Handle height is adjustable for operator comfort. Stand behind mower handle to gauge height. To adjust handle height, reposition capscraws and locknuts securing handle latches to handle into other mounting holes in latches.
3. Slide bag support rod through **top** mounting holes in handle and secure each end with a cap locknut (Fig. 1).
  4. Use a cable tie to secure the control cables to left handle below the bag support rod.



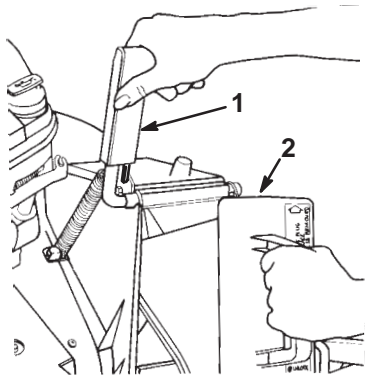
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**Figure 1**

- |                    |                 |
|--------------------|-----------------|
| 1. Bag support rod | 3. Handle       |
| 2. Cap locknut     | 4. Handle latch |

## Install Discharge Tunnel Plug

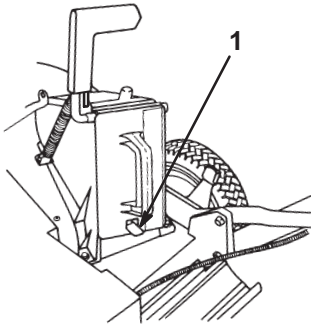
1. Open the discharge door by pulling forward on the handle and moving it rearwards (Fig. 2). Hold the discharge door handle to prevent the spring-loaded door from closing while inserting the plug.



m-1914

**Figure 2**

1. Discharge door handle
  2. Plug tilted clockwise
- 
2. Since the plug is slightly wider than the discharge tunnel opening, rotate the plug clockwise slightly while inserting it (Fig. 2). Make sure the arrow on the plug decal is pointing upwards.
  3. Push the plug all the way in until the spring clip on the bottom of the plug clicks into place, locking the plug securely into the discharge tunnel (Fig. 3). Release discharge door handle to lock top of plug.



m-1915

**Figure 3**

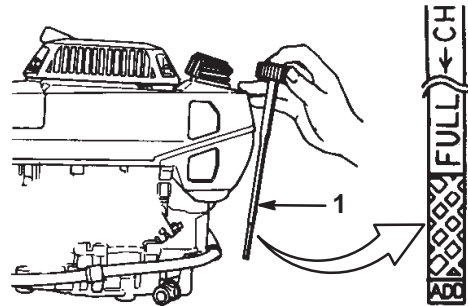
1. Spring clip
- 

# Before Starting

## Oil

Initially, the crankcase must be filled with 0.6 quarts (0.55 liters) of SAE 30 oil; 10W-30 oil may be substituted if SAE 30 is not available. Use any high quality detergent oil having the American Petroleum Institute (API) “service classification”—SF, SG, SH or SJ.

Before each use, ensure that the oil level is between the FULL and ADD marks on the dipstick (Fig. 4). Add oil if the level is low.



**Figure 4**

1. Dipstick
- 

1. Position the mower on a level surface and clean around the dipstick (Fig. 4).
2. Remove the dipstick by rotating the cap counterclockwise 1/4 turn.
3. Wipe the dipstick clean.
4. Insert the dipstick into the filler neck but **do not screw it in**.
5. Remove the dipstick and check the level of the oil on the side of the dipstick with the FULL and ADD marks (Fig. 4).
6. If the level is low, add enough oil to raise the level to the FULL mark on the dipstick.

**IMPORTANT:** Do not fill above the **FULL** mark because the engine could be damaged when started. Pour the oil slowly.

## Gasoline

!**DANGER**!

**POTENTIAL HAZARD**

- In certain conditions gasoline is extremely flammable and highly explosive.

**WHAT CAN HAPPEN**

- A fire or explosion from gasoline can burn you and others and cause property damage.

**HOW TO AVOID THE HAZARD**

- Use a funnel and fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any gasoline that spills.
- Do not fill the fuel tank completely full. Add gasoline to the fuel tank until the level is 1/4 to 1/2 inch (6 to 13 mm) below the bottom of the filler neck. This empty space in the tank allows gasoline to expand.
- Never smoke when handling gasoline, and stay away from an open flame or where gasoline fumes may be ignited by a spark.
- Store gasoline in an approved container and keep it out of the reach of children.
- Never buy more than a 30-day supply of gasoline.

!**DANGER**!

**POTENTIAL HAZARD**

- When fueling, under certain circumstances, a static charge can develop, igniting the gasoline.

**WHAT CAN HAPPEN**

- A fire or explosion from gasoline can burn you and others and cause property damage.

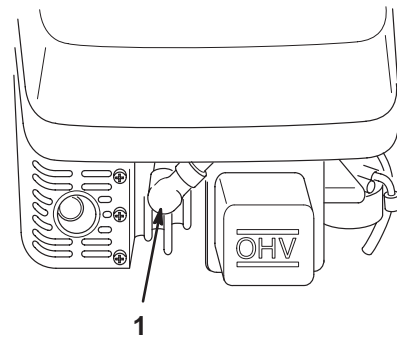
**HOW TO AVOID THE HAZARD**

- Always place gasoline containers on the ground away from your vehicle before filling.
- Do not fill gasoline containers inside a vehicle or on a truck or trailer bed because interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.
- When practical, remove gas-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground.
- If this is not possible, then refuel such equipment on a truck or trailer from a portable container, rather than from a gasoline dispenser nozzle.
- If a gasoline dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.

Do not use gasoline that has been stored from one season to the next. Use fresh, clean, **unleaded** regular grade gasoline. Unleaded gasoline burns cleaner, extends engine life, and promotes good starting. Leaded gasoline can be used if unleaded is not available.

Exmark also recommends that a stabilizer/conditioner be used regularly during operation and storage. A stabilizer/conditioner cleans the engine during operation and prevents gum-like varnish deposits from forming during periods of storage.

1. Pull the wire off of the spark plug (Fig. 5).

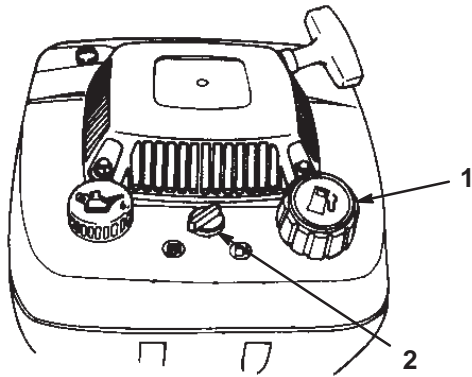


**Figure 5**

1. Spark plug wire

m-4353

- Clean around the fuel tank cap and remove the cap from the tank (Fig. 6).



**Figure 6**

- Fuel tank cap
- Fuel valve

- Using unleaded gasoline, fill the fuel tank to within 1/4 to 1/2 inch (6 to 13 mm) from top of tank, not into filler neck.

**IMPORTANT: Do not fill the tank more than 1/4 in. from the top of the tank because the gasoline must have room to expand.**

- Install the fuel tank cap and wipe up any spilled fuel.


**IMPORTANT: Do not mix oil with the gasoline. Never use methanol, gasoline containing methanol, gasohol containing more than 10% ethanol, or white gas because the fuel system could be damaged.**

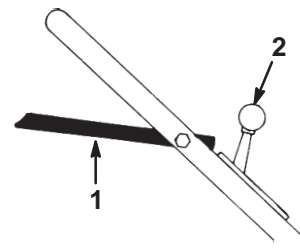
**Do not use fuel additives other than those manufactured for fuel stabilization during storage, such as a stabilizer/conditioner. Exmark does not recommend stabilizers with an alcohol base such as ethanol, methanol, or isopropyl. Do not use additives to enhance the power or performance of the engine.**

- Connect the spark plug wire (Fig. 5).

## Operation


### Starting the Engine

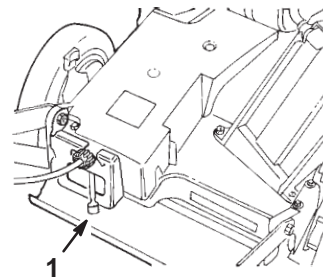
- Open the fuel valve (Fig. 6).
- Move throttle to  (Choke) (Fig. 7).



**Figure 7**

- Blade control bail
- Throttle

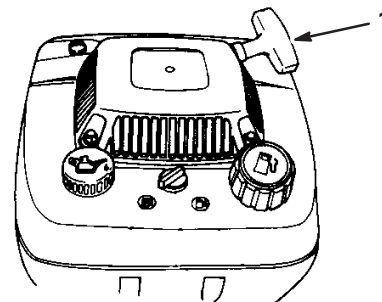
- Move ground speed control to  (NEUTRAL) (Fig. 8).



**Figure 8**

- Ground speed control

- The starter handle is located on top of the engine (Fig. 9). Pull the starter handle lightly until resistance is felt, then pull it sharply. When engine starts, regulate throttle as desired. Allow the engine to warm up. During warm up, the equipment can be operated.



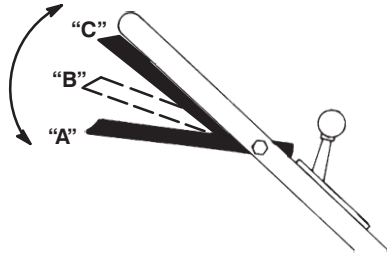
**Figure 9**

- Starter handle

**Note:** If the engine fails to start after three pulls, repeat steps 2 through 4.

- BLADE AND TRACTION OPERATION** (Fig. 10)—When blade control bail is in position “A”, slide blade control bail to right and raise to position “B” to engage blade. Squeeze blade control bail

against handle to position “C” to drive. To disengage traction drive but keep blade engaged, gradually release blade control bail to position “B”. To self-propel with blade disengaged, simply squeeze blade control bail against handle to position “C”, without sliding blade control bail to right.



**Figure 10**

m-3769

The mower has three ground speeds: number “1” is slow, “2” is medium, and “3” is a fast walking pace.

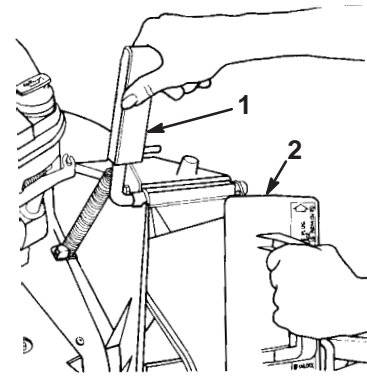
Ground speed can be varied by increasing or decreasing distance between control bar and handle. Lower control bar to slow mower when making a turn or if mower is moving too fast for you. If you lower control bar too far, the mower will stop self-propelling. Squeeze control bar closer to handle to increase ground speed. When control bar is tight against handle, mower will self-propel at maximum ground speed. Move ground speed control to **N** (neutral) when using the mower for trimming and whenever leaving mower.

## Stopping the Engine

Release the control bar and move throttle control to **STOP** (OFF). Pull wire off spark plug if mower will be unattended or not used.

## Using the Discharge Tunnel Plug

1. Make sure engine is off. Open the discharge door by pulling forward on the handle and moving it rearwards (Fig. 11). Hold the discharge door handle to prevent the spring-loaded door from closing while inserting the plug.

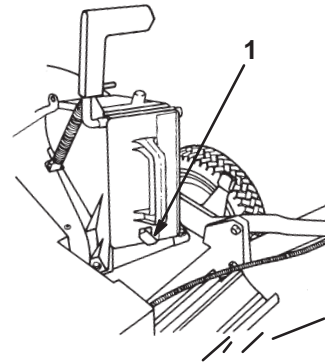


**Figure 11**

m-262

1. Discharge door handle
2. Plug tilted clockwise

2. Since the plug is slightly wider than the discharge tunnel opening, you must rotate the plug clockwise slightly while inserting it (Fig. 11). Make sure the arrow on the plug decal is pointing upwards.
3. Push the plug all the way in until the spring clip on the bottom of the plug clicks into place, locking the plug securely into the discharge tunnel (Fig. 12). Release the discharge door handle to lock the top of the plug.



**Figure 12**

m-275

1. Spring clip

4. To remove the plug, move the discharge door handle rearwards while at the same time lift up the spring clip on the bottom of the plug. When the plug is unlocked, pull it out of the discharge tunnel.

**Note:** When grass is thick and lush, clippings may collect on and around the discharge tunnel plug. This may make plug removal difficult. Clean plug thoroughly after each use.

# Using the Grass Bag

Occasionally you may wish to use the grass bag for bagging extra long grass, lush grass or leaves.

1. Stop engine and wait for all moving parts to stop.
2. Ensure discharge door handle is fully forward and pin is engaged in catch (Fig. 13).

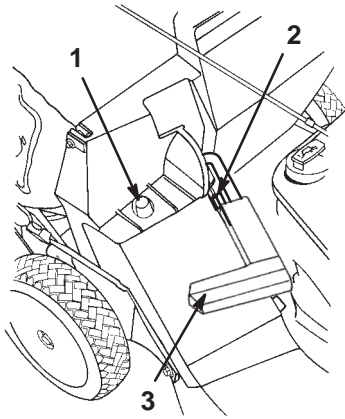


Figure 13

m-1912

1. Bag frame on retaining post
2. Pin engaged in catch
3. Handle fully forward and discharge door closed

3. **INSTALLING BAG**—Slide hole in bag frame onto retaining post on discharge tunnel (Fig. 13). Set rear of bag frame onto lower handle.

**! DANGER !**

**POTENTIAL HAZARD**

- Grass clippings and other objects can be thrown from an open discharge tunnel.

**WHAT CAN HAPPEN**

- Objects thrown with enough force could cause serious personal injury or death to operator or bystander.

**HOW TO AVOID THE HAZARD**

- Never open door on discharge tunnel when engine is running unless the grass bag, optional side discharge attachment or discharge tunnel plug is securely installed.

4. Pull discharge door handle forward until pin clears catch and move handle rearward until pin locks in bag notch (Fig. 14). Discharge door in mower housing is now open.

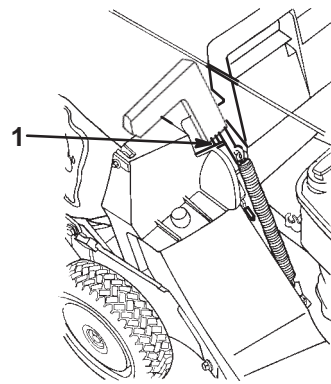


Figure 14

m-1913

1. Pin locked in bag notch

**! DANGER !**

**POTENTIAL HAZARD**

- A worn grass bag could allow small stones and other similar debris to be thrown in operator's or bystander's direction.

**WHAT CAN HAPPEN**

- Thrown objects can cause serious personal injury or death to operator or bystanders.

**HOW TO AVOID THE HAZARD**

- Check the grass bag frequently. If it is damaged, install a new genuine Exmark replacement bag.

**! DANGER !**

**POTENTIAL HAZARD**

- Thrown objects may result if discharge door does not close completely.

**WHAT CAN HAPPEN**

- Thrown objects can cause serious personal injury or death.

**HOW TO AVOID THE HAZARD**

- If discharge door cannot be closed because grass clippings clog discharge area, stop engine and gently move discharge door handle back and forth until door can be closed completely. If door still cannot be closed, remove obstruction with a stick, not your hand.

5. **EMPTYING BAG**—Stop engine and wait for all moving parts to stop. Raise discharge door handle and move it forward to engage the locking pin with the

catch (Fig. 13). Grasp handles at front and rear of bag and lift bag off mower. Gradually tip bag forward to empty clippings.

- To install bag, repeat steps 3 and 4.

## Adjusting the Cutting Height

Each wheel is adjusted individually with a wheel height adjustment lever. Cutting heights are 1, 1-1/2, 2, 2-1/2, 3 and 3-1/2 inches (25, 38, 51, 64, 74 and 86 mm).

! **DANGER** !

**POTENTIAL HAZARD**

- Adjusting the height-of-cut levers could bring your hands into contact with the moving blade.

**WHAT CAN HAPPEN**

- Contact with a rotating blade can cause serious injury.

**HOW TO AVOID THE HAZARD**

- Stop the engine and wait for all movement to stop before adjusting the cutting height.
- Do not put your fingers under the mower housing when adjusting the height-of-cut.

- To change the cutting height, pull the adjusting lever toward the wheel and move it to the desired position (Fig. 15).

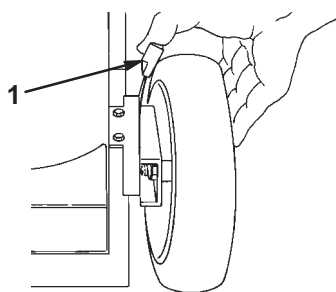


Figure 15

m-225

- Wheel height adjustment lever

- Release the height adjust lever and seat it securely in the notch.

**Note:** Set all four wheels at the same height.

## Operating Tips

### General Tips

- Review the safety instructions and read this manual carefully before operating the mower.

- Clear the area of sticks, stones, wire, branches, and other debris which could be picked up or hit by the blade and become thrown objects.
- Keep everyone, especially children and pets, away from the area of operation.
- Avoid striking trees, walls, curbs, or other solid objects. Never deliberately mow over any object.
- If an object is struck, or the mower starts to vibrate, immediately stop the engine, disconnect the spark plug wire, and examine the mower for damage.
- Maintain a **sharp blade** throughout the cutting season. Periodically file down nicks on blade.
- Replace the blade when necessary with an original Exmark replacement blade.
- Only mow dry grass or leaves. Wet grass and leaves tend to clump on the yard and may cause the mower to plug or the engine to stall. They may also be slippery to walk on and could cause you to slip and fall.

! **WARNING**

**POTENTIAL HAZARD**

- Wet grass or leaves can cause you to slip and contact the blade.

**WHAT CAN HAPPEN**

- Blade contact can seriously injure you.

**HOW TO AVOID THE HAZARD**

- Mow only in dry conditions.

- Clean clippings or leaves from the underside of the mower deck after each mowing.
- Keep the engine in good running condition.
- Clean the air filter frequently. Mulching stirs up more clippings and dust which clogs the air filter and reduces engine performance.

## Cutting Grass

- In the heat of Summer, cut the grass at the 2, 2.5, or 3 inch height-of-cut settings. Only about a third of the grass blade should be cut off. Cut below the two-inch setting only if the grass is sparse or it is Autumn when the grass grows slowly.
- When cutting grass over six inches tall, mow using the highest height-of-cut setting and a slower walking speed; then mow again at a lower setting for best lawn appearance. If the grass is too long, the mower may plug and cause the engine to stall.
- Alternate the mowing direction. This helps disperse clippings over the lawn for even fertilization.

If the finished lawn appearance is unsatisfactory, try one or more of the following:

- Sharpen the blade.
- Walk at a slower pace while mowing.
- Raise the height-of-cut setting on your mower.
- Cut grass more frequently.
- Overlap cutting swaths instead of cutting a full swath with each pass.
- Set the height-of-cut on the front wheels one notch lower than the rear wheels. (example: set the front wheels at the two-inch setting and the rear wheels at the 2.5 inch setting)

## **Cutting Leaves**

- When cutting is complete, ensure that 50% of the grass blades show through the cut leaf cover. This may require one or more passes over the leaves.
- Position all wheels at the same height-of-cut setting.
- Walk at a slower mowing speed if the leaves are not being cut up finely enough to be hidden in the grass.
- If you cut up a lot of oak leaves, add lime to your grass in the spring. Lime reduces the acidity of the leaves.



# Maintenance

## Recommended Maintenance Schedule

Service Item	Service Operation	After every use	5 Hours	25 Hours	50 Hours	100 Hours
Housing	Clean built-up grass clippings and dirt.	X				
Fasteners	Check blade and engine mounting fasteners. Keep all fasteners tight to keep the mower in safe working condition.		X			
Foam Pre-cleaner	Clean every 25 operating hours.			X		
Blade	Sharpen or replace; maintain more frequently if edge is dulled quickly in rough or sandy conditions.				X	
Blade Brake	Check stopping time every 50 operating hours or at the start of each mowing season. Blade must stop within three seconds of releasing bail; if not, see your Authorized Service Dealer for repair.				X	
Lubrication	Grease rear height adjustor brackets (self-propelled models).				X	
Fuel System	Check for leakage and/or deterioration of fuel hose. Replace if necessary.				X	
Fuel Filter	Clean every 50 operating hours.				X	
Belt Cover	Remove and clean grass, clippings and debris from under cover.				X	
Engine Oil	Change engine oil after first <b>eight</b> hours of operation. Thereafter, change engine oil every <b>50</b> operating hours.				X	
Paper Air Filter	Clean every <b>100</b> operating hours. Replace every season or <b>300</b> operating hours. Replace it more frequently under dusty operating conditions.					X
Spark Plug	Inspect and clean. Replace if necessary.					X
Cooling System	Clean grass, clippings, debris or dirt that may clog engine air cooling fins and starter. Clean more frequently if operated under dirty or high chaff conditions.					X



## CAUTION



### POTENTIAL HAZARD

- If you leave the wire on the spark plug, someone could start the engine.

### WHAT CAN HAPPEN

- Accidental starting of engine could seriously injure you or other bystanders.

### HOW TO AVOID THE HAZARD

- Pull the wire off of the spark plug before you do any maintenance. Also push wire aside so it does not accidentally contact spark plug.

## Air Filter

Clean the foam pre-cleaner every 25 hours of operation. Clean the paper air filter every 100 hours of operation. Replace the paper air filter once every season or every 300 hours of operation; replace it more frequently under dusty conditions.

**IMPORTANT: Do not operate the engine without the air filter assembly; extreme engine damage will occur.**

1. Stop the engine and wait for all moving parts to stop.
2. Pull the wire off of the spark plug (Fig. 5).
3. Remove the bolt securing the air cleaner cover (Fig. 16).

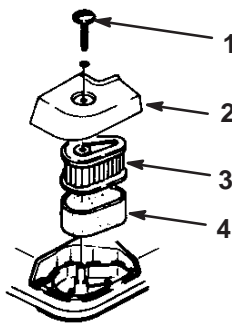


Figure 16

- |          |                     |
|----------|---------------------|
| 1. Bolt  | 3. Paper air filter |
| 2. Cover | 4. Foam pre-cleaner |

4. Remove the cover and clean it thoroughly (Fig. 16).
5. Remove the foam pre-cleaner and wash it with a mild detergent and water, then blot it dry (Fig. 16).
6. Saturate the pre-cleaner with oil, then squeeze it (do not twist) to remove excess oil.
7. Remove the paper air filter and discard it (Fig. 16).

**IMPORTANT: Do not try to clean a paper filter.**

8. Install the foam pre-cleaner on the new paper air filter.
9. Install the air cleaner assembly.

10. Install the cover and secure it with the bolt.

## Draining Gasoline and Cleaning Fuel Filter

Clean the fuel filter element every 50 hours of operation.

1. Stop the engine and wait for it to cool.

**IMPORTANT: Drain gasoline from a cold engine only.**

2. Close the fuel valve by turning the lever to the closed position (Fig. 6).
3. Pull the wire off of the spark plug (Fig. 5).
4. Remove the fuel tube by loosening the tube clamp at the carburetor (Fig. 17).

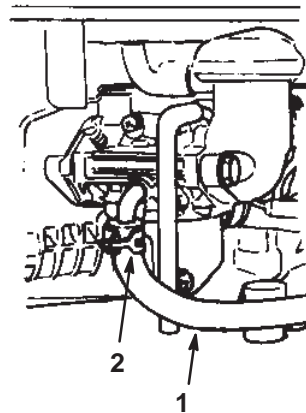
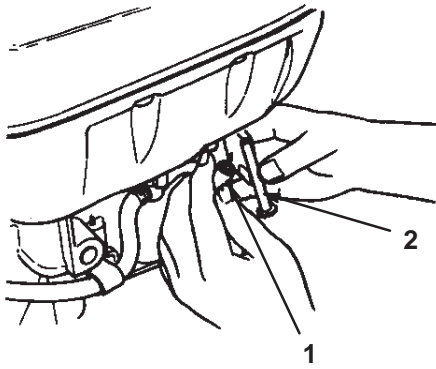


Figure 17

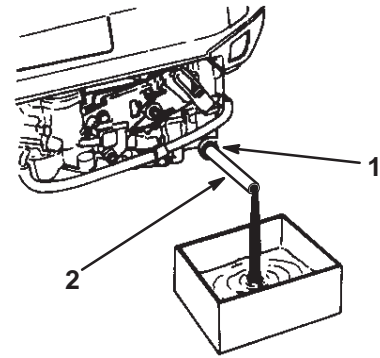
- |              |               |
|--------------|---------------|
| 1. Fuel tube | 2. Tube clamp |
|--------------|---------------|

5. Open the fuel valve by turning the lever to the open position (Fig. 6).
6. Drain gasoline completely from the tank and fuel line into an approved gasoline container.
7. Remove the fuel tube on the fuel tank by loosening the tube clamp (Fig. 18).



**Figure 18**

1. Fuel tube                      2. Fuel filter



**Figure 19**

1. Side oil drain plug              2. Oil drain tube

m-4354

8. Remove the fuel filter from the fuel tank (Fig. 18).
9. Clean the fuel filter with high flash-point solvent.
10. Firmly install the filter, tubes and clamps.

## Engine Oil

Change the engine oil after the first **eight** hours of operation and after **50** hours of operation or yearly thereafter.

1. Run the engine to warm the oil.

	WARNING	
<b>POTENTIAL HAZARD</b>		
<ul style="list-style-type: none"> <li>• Oil may be hot after engine has been run.</li> </ul>		
<b>WHAT CAN HAPPEN</b>		
<ul style="list-style-type: none"> <li>• Contact with hot oil can cause severe personal injury.</li> </ul>		
<b>HOW TO AVOID THE HAZARD</b>		
<ul style="list-style-type: none"> <li>• Avoid contact with oil while draining oil.</li> </ul>		

2. Stop the engine and wait for all moving parts to stop.
3. Pull the wire off of the spark plug (Fig. 5).
4. Place a suitable drain pan under the side oil drain plug.
5. Raise the left side of the mower at least 12 inches and open the side oil drain plug (Fig. 19).

6. Insert the oil drain tube over the drain plug and lower mower (Fig. 19).
7. Raise right side of mower until all oil has flowed into the drain pan.
8. Remove the oil drain tube and tighten the side oil drain plug.

**IMPORTANT: Do not over-tighten the side oil drain plug. It may cause damage to the crankcase cover. Specified torque is 190 in-lb (23 N-m).**

9. Recycle the oil as per local codes.
10. Fill the crankcase to the FULL line on the dipstick with fresh oil. Refer to the *Oil* section on page 6 for specifications.
11. Wipe up any spilled oil.

## Spark Plug

Use an *NGK BPR5ES* spark plug or equivalent. Remove the plug after every 100 operating hours and check its condition.

1. Stop the engine and wait for all moving parts to stop.
2. Pull the wire off the spark plug (Fig. 5).
3. Clean around the spark plug and remove it from the cylinder head.

**IMPORTANT: Replace a cracked, fouled, or dirty spark plug. Do not clean the electrodes because engine damage could result from grit entering the cylinder.**

4. Set the gap on the new plug to 0.030 in. (0.76 mm) (Fig. 20).

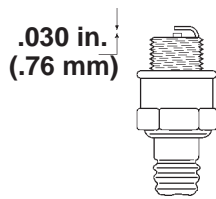


Figure 20

986

5. Install the spark plug and gasket seal. Tighten the plug to 17 ft-lb (23 N·m).
6. Connect the spark plug wire (Fig. 5).

## Adjusting the Self-propel Cable

If mower does not self-propel or self-propels when control bar is **more** than 1-1/2 inches from the handle, adjust wheel drive control knob on rear of gear box.

1. Close door in mower housing and remove grass bag.
2. ADJUSTMENT (Fig. 21)—Rotate control knob clockwise 1/2 turn if mower does not self-propel. If mower creeps forward, rotate knob 1/2 turn counterclockwise to loosen belt.

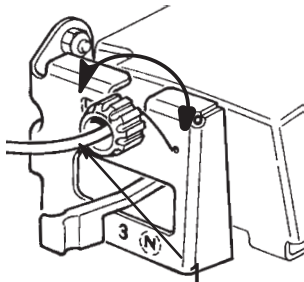


Figure 21

228

1. Control knob

3. CHECK ADJUSTMENT—Slowly pull mower backward while control bar is gradually moved toward handle. Adjustment is correct when rear wheels stop turning and control bar is about one inch from handle (Fig. 22).

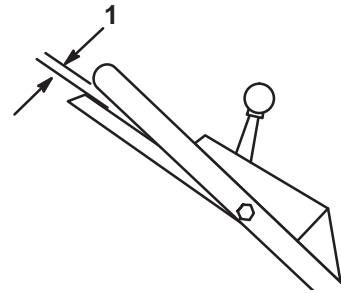


Figure 22

1. One inch

## Adjusting Blade Brake Cable

Whenever a new blade brake cable assembly is installed or the blade brake belt is replaced, the blade brake cable should be adjusted.

1. Stop engine and wait for all moving parts to stop.
2. Pull wire off spark plug (Fig. 5).
3. Loosen cable clamp screw until brake cable conduit slides (Fig. 23). Pull cable to remove slack, but do not put tension on spring. Tighten screw to lock adjustment in place.

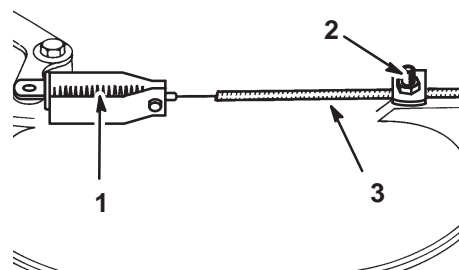


Figure 23

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1. Spring
2. Cable clamp screw
3. Cable conduit

**WARNING**

**POTENTIAL HAZARD**

- Do not over-tighten blade brake cable. Over-tightening could cause blade brake to be pulled off brake drum. If brake does not contact drum, blade will not stop rotating when control bar is released.

**WHAT CAN HAPPEN**

- A rotating blade could cause serious personal injury.

**HOW TO AVOID THE HAZARD**

- Check the blade brake mechanism each time brake cable is adjusted to ensure brake is stopping blade in three seconds or less.
- If blade does not stop rotating in three seconds or less, bring unit to your local Authorized Service Dealer for inspection and repair.

- Drain the gasoline from the fuel tank. Refer to the *Draining Gasoline and Cleaning Fuel Filter* section on page 14.
- Tip the mower on its left side (Fig. 24). Avoid rotating the blade because starting problems may result.

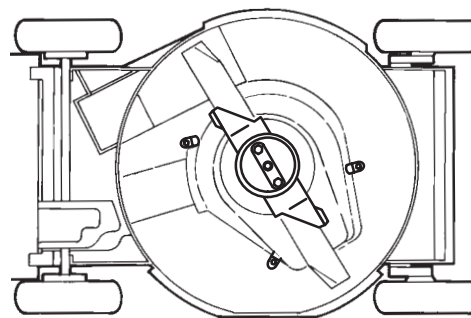


Figure 24

796

## Maintaining the Blade

A straight, sharp blade provides maximum cutting performance. Regularly inspect and sharpen the blade.

**WARNING**

**POTENTIAL HAZARD**

- The blade is sharp.

**WHAT CAN HAPPEN**

- Contact with a sharp blade can cause serious personal injury.

**HOW TO AVOID THE HAZARD**

- Wear gloves or wrap the sharp edges of the blade with a rag.

- Stop the engine and wait for all moving parts to stop.
- Pull the wire off of the spark plug (Fig. 5).

**WARNING**

**POTENTIAL HAZARD**

- Gasoline is extremely flammable, highly explosive and under certain conditions can cause personal injury or property damage.

**WHAT CAN HAPPEN**

- Tipping the mower may cause fuel leakage from the carburetor or fuel tank.

**HOW TO AVOID THE HAZARD**

- Avoid fuel spills by running the engine dry or removing gas with a hand pump; never siphon.

## Inspecting the Blade

- Examine the blade for sharpness and wear, especially where flat and curved parts meet (Fig. 25A).

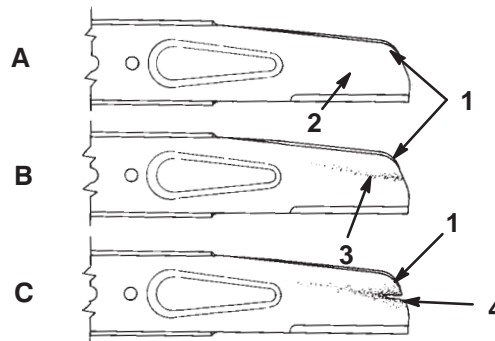


Figure 25

270

- |                       |                |
|-----------------------|----------------|
| 1. Sail               | 3. Wear        |
| 2. Flat part of blade | 4. Slot formed |

- Complete one of the following:
  - If a slot or wear is noticed, (Figs. 25B and C), replace the blade. Refer to the *Removing and Installing the Blade* sections.
  - If the blade is nicked or dull, sharpen it. Refer to the *Removing, Sharpening, Balancing, and Installing the Blade* sections.
  - If there are no signs of wear or dullness, return the mower to the upright position and replace the spark plug wire (Fig. 5).



## DANGER



### POTENTIAL HAZARD

- A worn or damaged blade could break and a piece of the blade could be thrown into operator's or bystander's area.

### WHAT CAN HAPPEN

- A thrown piece of the blade could cause serious personal injury or death to the operator or bystanders.

### HOW TO AVOID THE HAZARD

- Inspect the blade periodically for wear or damage.
- Replace a worn or damaged blade.

## Removing the Blade

1. Grasp the end of the blade using a rag or thickly padded glove.
2. Remove the blade nuts, anti-scalp cup, blade accelerator, and blade (Fig. 26).

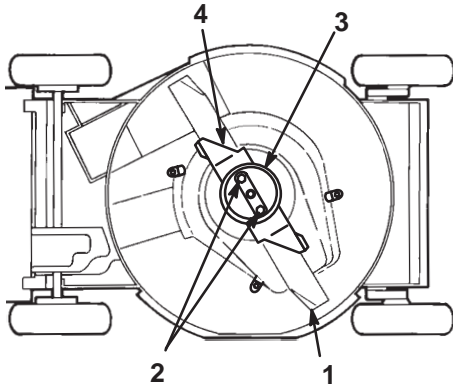


Figure 26

- |               |                   |
|---------------|-------------------|
| 1. Blade      | 3. Anti-scalp cup |
| 2. Blade nuts | 4. Accelerator    |

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## Sharpening the Blade

Using a file, sharpen top side of the blade and maintain the original cutting angle (Fig. 27).

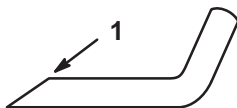


Figure 27

1. Sharpen at this angle only

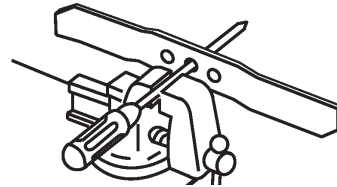
153

**Note:** The blade will remain balanced if same amount of material is removed from both cutting edges.

## Balancing the Blade

1. Check the balance of the blade by placing the center hole of the blade over a nail or screwdriver shank clamped horizontally in a vise (Fig. 28).

**Note:** You can also check the balance using a commercially manufactured, blade balancer.



1007

Figure 28

2. If either end of the blade rotates downward, file that end (not the cutting edge or the end near the cutting edge). The blade is properly balanced when neither end drops.

## Installing the Blade

1. Install the blade, blade accelerator, anti-scalp cup and blade nuts (Fig. 26).
2. Tighten the blade nuts to 15 to 27 ft-lb (20 to 37 N·m).



## WARNING



### POTENTIAL HAZARD

- Operating the mower without the accelerator in place could cause the blade to flex, bend, or break.

### WHAT CAN HAPPEN

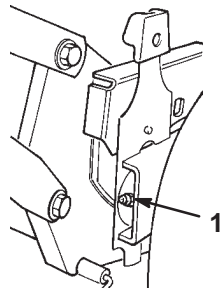
- A broken blade could cause serious injury or death to the operator or bystanders.

### HOW TO AVOID THE HAZARD

- Do not operate the mower without the accelerator.

## Lubricating the Self-propel Drive

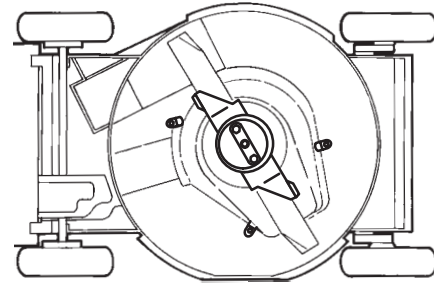
1. Wipe the grease fittings on the rear height-of-cut adjusters (Fig. 29) with a clean rag.



**Figure 29**

1. Grease fitting

232



**Figure 31**

796

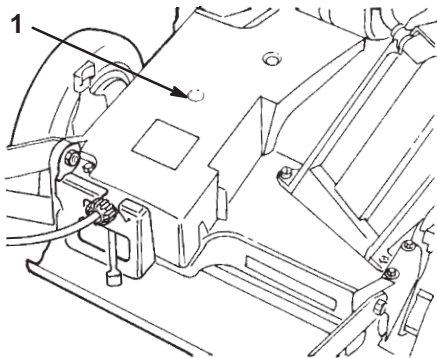
2. Install a grease gun onto each fitting in turn and gently apply one or two pumps of #2 multi-purpose lithium grease to each.

**IMPORTANT: Excess grease may damage seals and prevent proper wheel clutch operation.**

## Lubricating the Gear Case

After every 100 operating hours, grease the gear case with #2 multi-purpose lithium base grease.

1. Install grease gun onto fitting through belt cover opening (Fig. 30). Gently apply one or two pumps of grease.



**Figure 30**

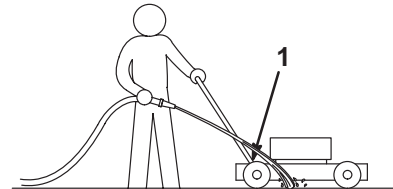
224

1. Grease fitting

## Washing Method

1. Position the mower on a flat, concrete or asphalt surface near a garden hose.
2. Start the engine.
3. Hold the running garden hose at handle level and direct the water to flow on the ground just in front of the right rear tire (Fig. 32).

The blade will draw in water and wash out clippings. Let the water run until you no longer see clippings being washed out from under housing.



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**Figure 32**

1. Rear right wheel

4. Stop the engine.
5. Turn off the garden hose.
6. Start the mower and let it run for a few minutes to dry out the moisture on the mower and its components.
7. While the engine is running, engage and disengage the traction drive several times to dry it out.

## Cleaning the Underside of the Mower Housing

To ensure best performance, keep the underside of the mower housing clean (Fig. 31).

## Scraping Method

If washing does not remove all debris from under the mower, tip it and scrape it clean.

1. Pull the wire off of the spark plug (Fig. 5).

2. Drain the gasoline from the fuel tank. Refer to the *Draining Gasoline and Cleaning Fuel Filter* section on page 14.

**WARNING**

**POTENTIAL HAZARD**

- Gasoline is extremely flammable, highly explosive and under certain conditions can cause personal injury or property damage.

**WHAT CAN HAPPEN**

- Tipping the mower may cause fuel leakage from the carburetor or fuel tank.

**HOW TO AVOID THE HAZARD**

- Avoid fuel spills by running the engine dry or removing gas with a hand pump; never siphon.

3. Tip the mower on its left side (Fig. 31).
4. Remove dirt and grass clippings with a hardwood scraper. Avoid burrs and sharp edges.

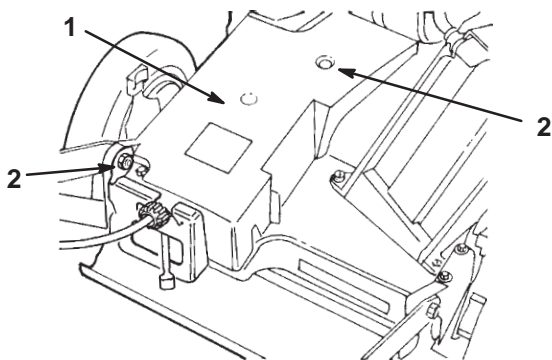
**IMPORTANT: Move the blade as little as possible to avoid future starting problems.**

5. Turn the mower upright.
6. Fill the gas tank.
7. Connect the spark plug wire (Fig. 5).

## Cleaning Under the Belt Cover

Keep area under belt cover free of debris.

1. With the engine turned off, remove the two bolts securing the belt cover (Fig. 33) to the mower housing.



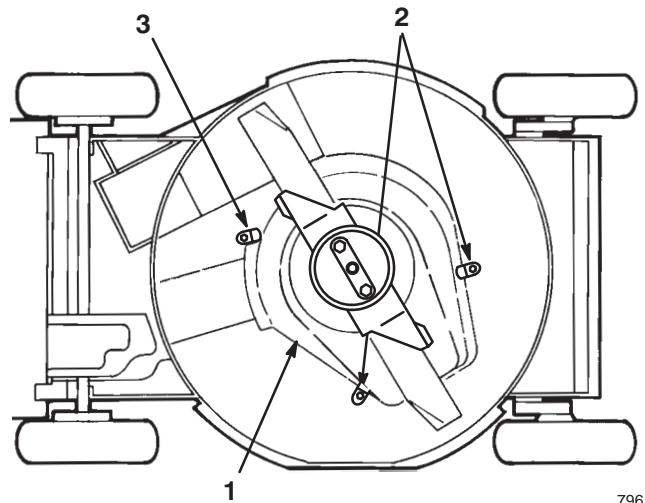
**Figure 33**

1. Belt cover
  2. Bolt (2)
- 
2. Lift off the cover and brush out all debris from the belt area.
  3. Install the belt cover.

## Cleaning Blade Brake Clutch Shield

The BBC (Blade Brake Clutch) shield should be cleaned periodically during the mowing season and at the end of each mowing season to ensure best performance and to prevent parts degradation. It is convenient to clean the BBC shield at the same time the blade is being sharpened because the blade needs to be removed in order to remove the BBC shield.

1. Stop engine and wait for all moving parts to stop.
2. Pull wire off spark plug (Fig. 5).
3. Drain gasoline from fuel tank; refer to *Draining Gasoline* on page 14.
4. Tip mower on its left side.
5. Remove two blade nuts, anti-scalp cup, accelerator, and blade (Fig. 26).
6. Loosen tabs securing BBC shield to deck by loosening nuts or bolts on tabs (Fig. 34). Rotate tabs 180° to move them out of the way.



**Figure 34**

1. BBC shield
  2. Tabs and nuts
  3. Tab and bolt
- 
7. Remove BBC shield and brush or blow all debris from under shield and around BBC system.
  8. Install BBC shield. Rotate tabs 180° back into position. Tighten nuts or bolts on tabs to secure BBC shield to deck.
  9. Install blade, accelerator, anti-scalp cup, and two blade nuts.
  10. Turn mower upright.
  11. Install spark plug wire on spark plug.



# Servicing Wheels

## Removal

1. Stop engine and wait for all moving parts to stop.
2. Pull wire off spark plug.
3. Remove capscrew, wheel spacer, and locknut mounting wheel to pivot arm (Fig. 35).

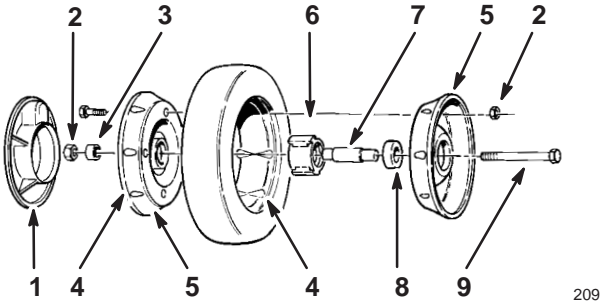


Figure 35

- |                                     |                         |
|-------------------------------------|-------------------------|
| 1. Plastic cover (rear wheels only) | 5. Wheel half           |
| 2. Locknuts                         | 6. Bearing/hub assembly |
| 3. Wheel spacer                     | 7. Bearing spacer       |
| 4. Lug                              | 8. Bearing (2)          |
|                                     | 9. Capscrew             |

4. Separate wheel halves from tire by removing four capscrews and locknuts (Fig. 35).

**Note:** If bearings are to be removed from bearing/hub assembly, remove by pressing on bearing spacer (Fig. 35).

## Assembly

1. Position tire onto one wheel half by aligning lugs on each (Fig. 35).
2. Place bearing/hub assembly into center hole of wheel half. Make sure legs of hub are positioned over flange of hole (Fig. 35).
3. Place other wheel half onto bearing/hub assembly, aligning wheel and tire lugs and mounting holes (Fig. 35).
4. Using two 1/4-20 x 1.50-in. long fully threaded screws or bolts and non-locking nuts, loosely secure wheel halves together. Mount screws or bolts in opposing holes (Fig. 35).
5. Check alignment of all parts and tighten screws, alternating from side to side for a uniform fit, until wheel halves are drawn together.
6. Install two capscrews and locknuts, previously removed, in remaining holes in wheel halves and tighten. Remove two long screws or bolts and replace with two capscrews and locknuts.
7. Install wheel to pivot arm with capscrews, spacer, and locknut. Make sure spacer is positioned between wheel hub and pivot arm (Fig. 35).

# Troubleshooting

Your mower was designed and built for trouble-free operation. Check the following components and items carefully. If a problem continues, see your Authorized Service Dealer.



PROBLEM	CORRECTIVE ACTION
Engine will not start	<ol style="list-style-type: none"> <li>1. Fill fuel tank with fresh gasoline</li> <li>2. Move throttle lever to the CHOKE position</li> <li>3. Spark plug               <ul style="list-style-type: none"> <li>• Connect spark plug wire</li> <li>• Clean spark plug, check spark plug gap, replace if damaged</li> </ul> </li> </ol>
Engine starts hard or loses power	<ol style="list-style-type: none"> <li>1. Drain and refill fuel tank with fresh gasoline</li> <li>2. Clean air cleaner pre-filter</li> <li>3. Replace paper air filter</li> <li>4. Clean underside of mower deck</li> <li>5. Clean spark plug, check spark plug gap, replace if damaged</li> <li>6. Check engine oil</li> </ol>
Engine runs rough	<ol style="list-style-type: none"> <li>1. Connect spark plug wire</li> <li>2. Inspect spark plug, check spark plug gap, replace if damaged</li> <li>3. Move throttle lever from SLOW to FAST position</li> <li>4. Clean air cleaner pre-filter</li> <li>5. Replace paper air filter</li> </ol>
Mower or engine vibrates excessively	<ol style="list-style-type: none"> <li>1. Balance blade. If blade is bent, replace it.</li> <li>2. Tighten blade nuts</li> <li>3. Clean underside of mower deck</li> <li>4. Tighten engine mounting bolts</li> </ol>
Uneven cutting pattern	<ol style="list-style-type: none"> <li>1. Place all four wheels at same height</li> <li>2. Sharpen and balance blade</li> <li>3. Change mowing pattern</li> <li>4. Clean underside of mower deck</li> </ol>
Discharge chute plugs	<ol style="list-style-type: none"> <li>1. Move throttle lever from SLOW to FAST position</li> <li>2. Raise cutting height</li> <li>3. Slow down</li> <li>4. Allow grass to dry before mowing</li> <li>5. Clean underside of mower deck</li> </ol>
Mower will not self-propel	<ol style="list-style-type: none"> <li>1. Adjust self-propel drive cable</li> <li>2. Clean debris from under belt cover</li> </ol>

# Storage

To prepare the lawn mower for off-season storage, perform the recommended maintenance procedures. Refer to the *Maintenance* section on page 13.

Store the mower in a cool, clean, dry place. Cover the mower to keep it clean and protected.

## Fuel

 <b>WARNING</b> 	
<b>POTENTIAL HAZARD</b>	
<ul style="list-style-type: none"><li>• Gasoline can vaporize if stored over long periods of time.</li></ul>	
<b>WHAT CAN HAPPEN</b>	
<ul style="list-style-type: none"><li>• Vaporized fuel can explode if it comes into contact with open flame.</li></ul>	
<b>HOW TO AVOID THE HAZARD</b>	
<ul style="list-style-type: none"><li>• Do not store gasoline (fuel) over long periods of time.</li><li>• Do not store mower with fuel in the tank in an enclosure with an open flame. (Example: a furnace or water heater pilot light.)</li><li>• Allow the engine to cool before storing in any enclosure.</li></ul>	

We recommend using a fuel conditioner to stabilize fuel for storage. If possible, the last fuel fill of the year should be treated with a fuel conditioner.

Run the fuel tank empty when mowing the last time prior to storage. The smaller the amount of fuel in the tank, the shorter the time required to run the fuel system dry. Run the mower until engine stops from lack of fuel.

## Preparing the Engine

1. While the engine is still warm, drain oil from crankcase. Refer to the *Engine Oil* section on page 15.
2. Remove the spark plug (Fig. 5).
3. Using an oil can, squirt about one tablespoon of oil through spark plug hole.
4. Slowly rotate the engine several times, using the starter rope, to distribute the oil.
5. Install spark plug but **do not** connect the spark plug wire.

## Cleaning the Mower

1. Clean the mower housing. Refer to the *Cleaning the Underside of the Mower Housing* section on page 19.
2. Clean any dirt and chaff from the cylinder, cylinder head fins, and blower housing. Also remove grass clippings, dirt, and grime from external parts of the engine, shrouding, and top of the mower housing.
3. Clean BBC shield; refer to *Cleaning Blade Brake Clutch Shield* on page 20.

## General

1. Check the condition of the blade. Refer to the *Maintaining the Blade* section on page 17.
2. Tighten all nuts, bolts, and screws.
3. Lubricate the wheels. Refer to the *Lubricating the Self-Propel Drive* section on page 18.
4. Touch up all rusted or chipped paint surfaces. Paint is available from an Authorized Service Dealer.

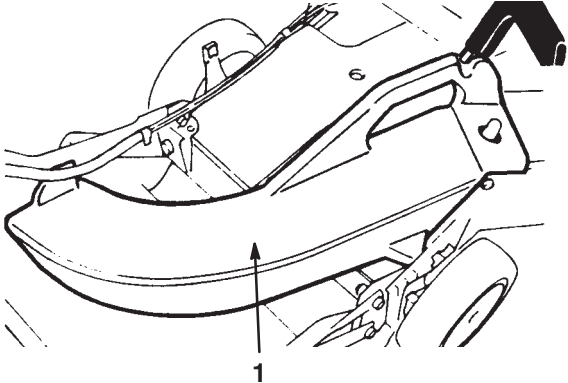
## Removing From Storage

1. Check and tighten all fasteners.
2. Remove the spark plug (Fig. 5) and spin the engine rapidly using the starter to blow excess oil from the cylinder.
3. Clean the spark plug or replace it if it is cracked, broken, or the electrodes are worn.
4. Install the spark plug and torque it to 17 ft.-lbs. (23 N·m).
5. Perform the recommended maintenance procedures. Refer to the *Maintenance* section on page 13.
6. Fill the fuel tank (Fig. 6) with fresh, clean gasoline.
7. Check the engine oil level.
8. Connect the spark plug wire (Fig. 5).

# Accessories

Accessories may have been shipped with your mower or are available from your Authorized Service Dealer.

**Side Discharge Kit**—Installs in seconds. Rear mounted in place of the grass bag. Disperses clippings while trimming on both sides (Fig. 36).



**Figure 36**

- 1. Side discharge chute

## Limited Warranty

### Exmark® Commercial Turf Equipment

Exmark Mfg. Co. Inc. and its affiliate, Exmark Warranty Company, pursuant to an agreement between them, jointly warrant pursuant to the terms and conditions herein, that we will repair, replace or adjust any parts manufactured by Exmark and found by Exmark (in the exercise of its reasonable discretion) to be defective in factory material or workmanship.

This warranty is limited to one year from the date of original retail purchase (90 days for rental use) for any Exmark mower that is used for commercial or any other income producing purpose. The blade spindle assemblies will be warranted for three years, one year parts and labor with an additional two years parts only, from date of original retail purchase against defects in materials or workmanship. The hydrostatic traction drive system will be warranted for two full years from date of original retail purchase against defects in materials or workmanship—excluding hoses. We will extend the Peerless 5-speed transmission manufacturer's warranty from 90 days to one year. Belts and tires are warranted for 90 days against defects in materials or workmanship.

The engine warranty is covered by its respective engine manufacturer. Please refer to the engine manufacturer's warranty statement that is included in the literature packet. We are not authorized to handle warranty adjustments on engines. Engine warranties should be referred to the nearest authorized service outlet of the engine manufacturer.

This warranty extends only to the original retail purchaser of the equipment. The warranty may not be assigned or transferred without the prior express written consent of Exmark and Exmark Warranty Company. The warranty commences upon the date of original retail purchase.

The Exmark turf equipment, including any defective part, must be returned to an authorized Exmark service dealer within the warranty period. The warranty shall cover the cost to repair or replace (as determined by us) the defective part, including labor. The expense of delivering the mower to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be paid for by the owner. Our responsibility in respect to claims is limited to making the required repairs or replacements. No claim of breach of warranty shall arise from cancellation or rescission of the contract of sale of any Exmark mower. Proof of purchase may be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an authorized Exmark service dealer.

This warranty extends only to turf equipment operated under normal conditions and properly serviced and maintained. The warranty expressly does not cover (1) any defects, damage or deterioration due to normal use, wear and tear, or exposure; (2) normal maintenance services, such as oil change, cleaning, lubrication, or adjustment; (3) replacement of service items, such as oil, lubricants, spark plugs, belts, rubber hoses, or other items subject to normal service replacement; (4) damage or defects arising out of or relating to misuse, neglect, alteration, negligence, or accident; (5) repair or replacement arising from operation of or use of the turf equipment which is not in accordance with operating instructions as specified in the operator's manual or other operational instructions provided by Exmark or Exmark Warranty Company; (6) repair or replacement arising as a result of any operation from turf equipment that has been altered or modified so as to, in determination of Exmark, adversely affect the operation, performance or durability of the equipment or that has altered, modified or affected the turf equipment so as to change the intended use of the product; (7) repair or replacement necessitated by use of parts, accessories or

supplies, including gasoline, oil, or lubricants, incompatible with the turf equipment or other than as recommended in the operator's manual or other operational instructions provided by Exmark; (8) repairs or replacements resulting from parts or accessories which have adversely affected the operation, performance, or durability of the turf equipment; or (9) damage or defects due to or arising out of repair of turf equipment by person or persons other than an authorized Exmark service dealer or the installation of parts other than genuine Exmark or Exmark recommended parts.

As a condition to this warranty, customer shall have read the operator's manual and shall have returned to Exmark Warranty Company, within the prescribed time, the enclosed warranty registration card.

The sole liability of Exmark and Exmark Warranty Company, with respect to this warranty, shall be repair and replacement as set forth herein. Neither Exmark nor Exmark Warranty Company shall have liability for any other cost, loss, or damage, including, but not limited to, any incidental or consequential loss or damage. In particular, Exmark shall have no liability or responsibility for (1) expenses relating to gasoline, oil, or lubricants; (2) loss, cost, or expense relating to transportation or delivery of turf equipment from the location of owner or location where used by owner to or from any authorized Exmark service dealer; (3) travel time, overtime, after hours time, or other extraordinary repair charges of charge relating to repairs or replacements outside of normal business hours at the place of business of the authorized Exmark service dealer; (4) rental of like or similar replacement equipment during the period of any warranty, repair, or replacement work; (5) any telephone or telegram charges or travel charges; (6) loss or damage to person or property other than that covered by the terms of this warranty; (7) any claims for lost revenue, lost profit, or additional cost as a result of a claim of breach of warranty; or (8) attorney's fees.

There are no representations or warranties to the buyer of the turf equipment other than as set forth in this warranty. Any and all statements or representations made by any seller of this equipment, including those set forth in any sales literature or made orally by any sales representative, are superseded by the terms of this warranty. Any affirmation of fact or promise made by Exmark, Exmark Warranty Company, or any of their representatives, to the buyer, which relates to the goods that are the subject of this warranty, shall not be deemed to create any express warranty that such goods shall conform to the affirmation or promise.

**THERE ARE NO OTHER UNDERSTANDINGS, AGREEMENTS, REPRESENTATIONS, OR WARRANTIES, EXPRESS OR IMPLIED (INCLUDING BUT NOT LIMITED TO ANY REGARDING THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), NOT SPECIFIED HEREIN, RESPECTING THE EQUIPMENT WHICH IS THE SUBJECT OF THIS WARRANTY.**

This warranty applies to all Exmark turf equipment sold in the United States and Canada and intended to be used for commercial purposes.





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**MICRO-MULCH™ ACCESSORY**

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

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