

G012330

ULTRA VAC[®]

LAZER Z[®] HP MODELS

**For Serial Nos.
850,000 & Higher**
Part No. 4500-599 Rev. A

Operator's Manual

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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!! (Some restrictions apply. See your participating Exmark Dealer for details.)

Introduction

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

This manual contains operating, maintenance, adjustment, and safety instructions for your Exmark Ultra Vac.

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 Ultra Vac, 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. Exmark parts manuals are available online at <http://www.exmark.com/manuals.htm>.

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 promptly 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.

Whenever you need service, genuine Exmark parts, or additional information, contact an Authorized Service Dealer or Exmark Customer Service and have the model and serial numbers of your product ready.

Figure 1 identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

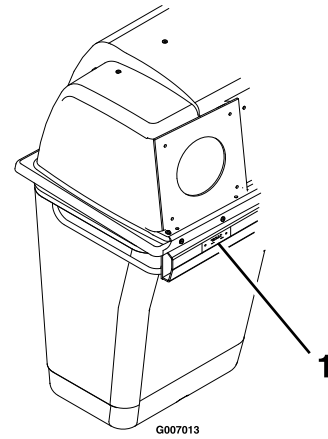


Figure 1

1. Model and serial number location

Model No. _____

Serial No. _____

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Safety

Safety Alert Symbol

This Safety Alert Symbol (Figure 2) is used both in this manual and on the machine to identify important safety messages which must be followed to avoid accidents

This symbol means: **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



Figure 2

1. Safety alert symbol

The safety alert symbol appears above information which alerts you to unsafe actions or situations and will be followed by the word **DANGER**, **WARNING**, or **CAUTION**.

DANGER: White lettering / Red background. Indicates an imminently hazardous situation which, if not avoided, **Will** result in death or serious injury.

WARNING: Black lettering / Orange background. Indicates a potentially hazardous situation which, if not avoided, **Could** result in death or serious injury.

CAUTION: Black lettering / Yellow background. Indicates a potentially hazardous situation which, if not avoided, **May** result in minor or moderate injury.

This manual uses two other words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

Safe Operating Practices

Training

- Read the tractor and Ultra Vac Operator's Manuals 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.
- Only adults and mature teenagers should operate a mower, and even mature teenagers should have adult supervision. Be sure a teenager:
 1. has read and understands the Operator's Manual and recognizes the risks involved;
 2. is sufficiently mature to use caution; and
 3. is of sufficient size and weight to operate the controls comfortably and to manage the mower without taking risks.
- 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 on machines approved by Exmark.
- Wear appropriate clothing including safety glasses, substantial footwear, long trousers, and hearing protection. Do Not operate when barefoot or when wearing open sandals.

⚠ CAUTION

This machine produces sound levels in excess of 85 dBA at the operator's ear and can cause hearing loss through extended periods of exposure.

Wear hearing protection when operating this machine.

- Inspect the area where the equipment is to be used and remove all rocks, toys, sticks, wires, bones, and other foreign objects which can be thrown by the machine and may cause personal injury to the operator or bystanders.

Operation

- Operate only in daylight or good artificial light, keeping away from holes and hidden hazards.
- Never mow with the discharge deflector raised, removed or altered unless there is a grass

Safety

collection system or mulch kit in place and working properly.

⚠ DANGER

There are rotating blades in the blower and under the mower deck. Blade contact can cause serious operator or bystander injury or even death.

- **Do Not reach into blower unless rotation indicator has stopped. Disengage PTO, stop engine, remove key, wait for all moving parts to stop. engage parking brake.**
 - **Never operate mower unless discharge deflector, entire grass collection system, or mulch kit is installed.**
- Stop engine, wait for all moving parts to stop, remove key and engage parking brake:
 - Before checking, cleaning or working on the mower.
 - After striking a foreign object or abnormal vibration occurs (inspect the mower for damage and make repairs before restarting and operating the mower).
 - Before clearing blockages.
 - Whenever you leave the mower.

⚠ WARNING

Hands, feet, hair, clothing, or accessories can become entangled in rotating parts. Contact with the rotating parts can cause traumatic amputation or severe lacerations.

- **Do Not operate the machine without guards, shields, and safety devices in place and working properly.**
 - **Keep hands, feet, hair, jewelry, or clothing away from rotating parts.**
- Stop the blades, slow down, and use caution when crossing surfaces other than grass and when transporting the mower to and from the area to be mowed.
 - Be aware of the mower discharge path and direct discharge away from others.

Slope Operation

Use **Extreme** caution when mowing and/or turning on slopes as loss of traction and/or tip-over could occur. The operator is responsible for safe operation on slopes.

⚠ DANGER

Operating on wet grass or steep slopes can cause sliding and loss of control. Wheels dropping over edges, ditches, steep banks, or water can cause rollovers, which may result in serious injury, death or drowning.

- **Do Not mow slopes when grass is wet.**
 - **Do Not mow near drop-offs or near water.**
 - **Do Not mow slopes greater than 15 degrees.**
 - **Reduce speed and use extreme caution on slopes.**
 - **Avoid sudden turns or rapid speed changes.**
 - **Keep the roll bar in the raised and locked position and use seat belt.**
- See inside the back cover to determine the approximate slope angle of the area to be mowed.
 - Use a walk behind mower and/or a hand trimmer near drop-offs, ditches, steep banks or water. (Figure 3).

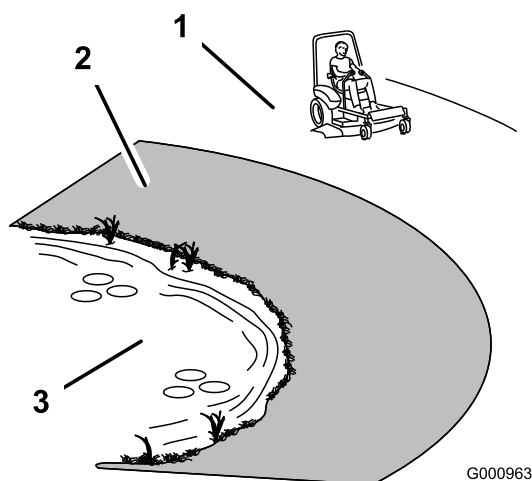


Figure 3

1. Safe Zone-Use the mower here on slopes less than 15 degrees
2. Danger Zone-Use a walk behind mower and/or hand trimmer on slopes greater than 15 degrees, near drop-offs and water.
3. Water

- Remove or mark obstacles such as rocks, tree limbs, etc. from the mowing area. Tall grass can hide obstacles.
- Watch for ditches, holes, rocks, dips and rises that change the operating angle, as rough terrain could overturn the machine.
- Avoid sudden starts when mowing uphill because the mower may tip backwards.
- Be aware that operating on wet grass, across steep slopes or downhill may cause the mower to lose traction. Loss of traction to the drive wheels may result in sliding and a loss of braking and steering.
- Always avoid sudden starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly off the slope.
- Follow the manufacturer's recommendations for wheel weights or counter weights to improve stability. Always install and remove the Ultra Vac, including counter weights, as instructed. Failure to do so will cause a reduction in stability or traction. Do Not operate the mower with only a portion of the Ultra Vac installed.
- Use extreme care with grass catchers or attachments. These can change the stability of the machine and cause loss of control. The stability and traction of the machine will change as the Ultra Vac hopper fills with grass clippings. Use

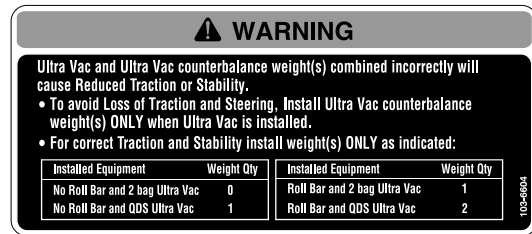
progressively greater care on slopes as the hopper fills.

Maintenance and Storage

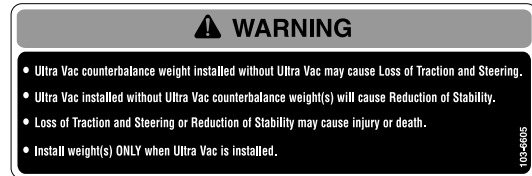
- Disengage drives, set parking brake, stop engine and remove key or disconnect spark plug wire. Wait for all movement to stop before adjusting, cleaning or repairing.
- Use care when checking blades. Wrap the blade(s) or wear gloves, and use caution when servicing them. Only replace damaged blades. Never straighten or weld them.
- Keep all guards, shields and all safety devices in place and in safe working condition.
- Check all bolts frequently to maintain proper tightness.
- Frequently check for worn or deteriorating components that could create a hazard.
- All replacement parts must be the same as or equivalent to the parts supplied as original equipment.

Safety and Instructional Decals

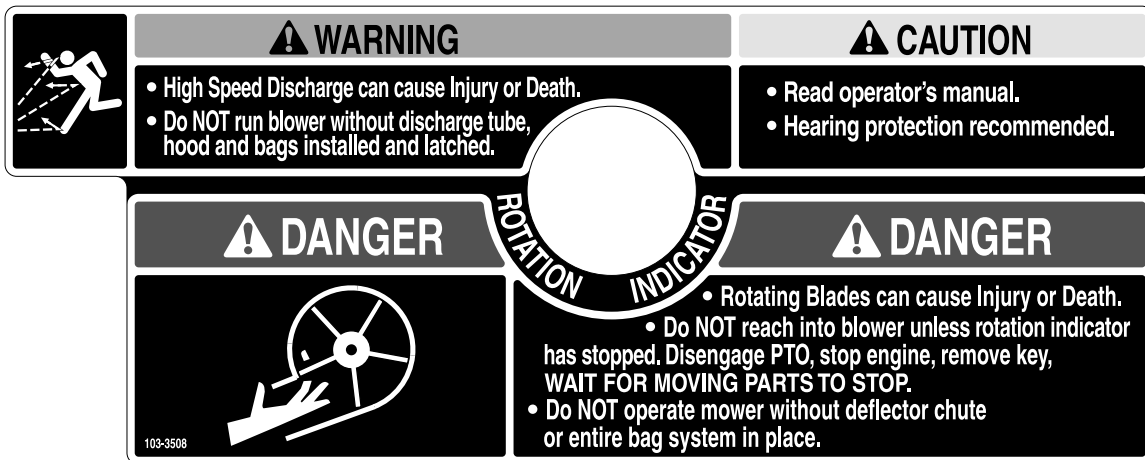
- Keep all safety signs legible. Remove all grease, dirt and debris from safety signs and instructional labels.
- Replace all worn, damaged, or missing safety signs.
- When replacement components are installed, be sure that current safety signs are affixed to the replaced components.
- If an attachment or accessory has been installed, make sure current safety signs are visible.
- New safety signs may be obtained from your authorized Exmark equipment dealer or distributor or from Exmark Mfg. Co. Inc.
- Safety signs may be affixed by peeling off the backing to expose the adhesive surface. Apply only to a clean, dry surface. Smooth to remove any air bubbles.
- Familiarize yourself with the following safety signs and instruction labels. They are critical to the safe operation of your Exmark commercial mower.



103-6604
 For Units with a 2 Post ROPS Only



103-6605
 For Units with a 2 Post ROPS Only



103-3508

Specifications

Model Numbers

Serial Nos: 850,000 and Higher
LHPUV4448; LHPUV4650; LHPUV5256

Systems

Bagging System

- Collection Bins:
 - Commercial grade, cloth mesh bags with reinforced bottoms.
 - Capacity: 8 bushels (2 bags and hood)
- Dump Mechanism: Manual lift off
- Blower Tube: Fixed, abrasion resistant molded polyethylene.
- Impeller: 5-bladed, 1/4 inch (6.4 mm) thick abrasion resistant steel, with vertical axis.
- Impeller bearings: 1 inch (2.5 cm) sealed non-greaseable bearings.

Curb Weight:

156 lb (71 kg), including the front weight.

Torque Requirements

Bolt Location	Torque
Impeller Spindle Bottom Nut	55-60 ft-lb (75-81 N-m)
Impeller Spindle Top Nut	75-80 ft-lb (102-108 N-m)

Dimensions

Overall Width:

	w/Ultra Vac
44 inch Deck	58.47 inches (148.5 cm)
46 inch Deck	60.67 inches (154.1 cm)
48 inch Deck	61.73 inches (159.8 cm)
50 inch Deck	64.66 inches (164.2 cm)
52 inch Deck	66.47 inches (168.8 cm)
56 inch Deck	70.85 inches (180.0 cm)

Overall Length:

	w/Ultra Vac
44 inch Deck	91.76 inches (233.1 cm)
46 inch Deck	94.69 inches (240.5 cm)
48 inch Deck	91.76 inches (233.1 cm)
50 inch Deck	95.12 inches (241.6 cm)
52 inch Deck	93.00 inches (236.2 cm)
56 inch Deck	97.86 inches (248.6 cm)

Product Overview

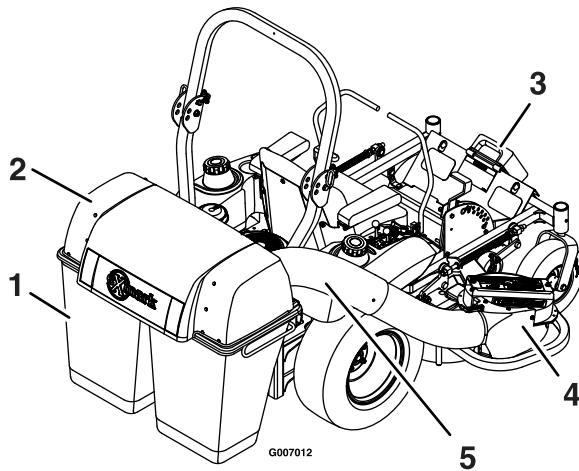


Figure 4

- | | |
|-----------|-----------|
| 1. Bag | 4. Blower |
| 2. Hood | 5. Tube |
| 3. Weight | |

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

Pre-Start

Make sure you understand the controls, their locations, their functions, and their safety requirements.

Ensure the blower, belt cover, bags, tube and hood are in good condition, properly attached, and latched.

For units above Serial Nos. 600,000 with Triton decks: Make sure that the adjustable dog leg baffle is closed to match the intake into the Ultra Vac Blower.

⚠ WARNING

If the blower intake opening is not correct it will allow objects to be thrown in operator's or bystander's direction. Also, contact with blade could occur. Thrown objects or blade contact can cause serious injury or kill you or bystanders.

Adjust dog leg baffle to match intake opening.

Refer to the Maintenance section and perform all the necessary inspection and maintenance steps.

Operating Instructions

Mowing

1. The Ultra Vac blower operates when deck drive is engaged. Be sure that all persons are clear of the mower deck before engaging the cutting blades. Set the throttle to "midway" position. Pull outward on the PTO switch to the "ROTATE" position. Accelerate to full throttle to begin mowing.
2. To disengage the deck drive and blower, set the throttle to "midway" position. Push in on the PTO switch to the "STOP" position to stop the cutting blades and blower. The cutting blades will require a slightly longer amount of time to come to a complete stop when the blower is installed on the deck.

3. To remove the bags, shut off deck drive, stop the engine and wait for all moving parts to stop. Open the hood and remove the bags by lifting up on the rear of the bag, then unhooking the front clip. Empty bags by inverting them.
4. Reinstall bags, close and latch the hood before continuing mowing.

Tips for mowing conditions:

- When mowing in areas with sandy soil, use low lift blades on the cutting deck and higher cutting heights to minimize wear on the blower components.
- When mowing in wet conditions, such as just after a rain or in heavy dew, use low lift blades on the cutting deck to minimize plugging of the blower.
- Maintaining a ground speed that does not pull down the engine RPM will allow for the highest productivity and best quality of cut. Bogging the engine RPM down by going too fast will cause plugging and quality of cut issues.
- When the bags get full, the sound of the blower will change and there will be slight blowout from the front right corner of the deck. Emptying the bags at this point will minimize the potential for the tube to plug.
- **For units below SN 600,000:** Anti-blowout kits are available for leaf collection. They help to prevent “chasing” the leaves. To reduce “plowing” leaves, raise the deck slightly.
- **On Triton:** Raise front adjustable baffle to reduce plowing. Lowering front adjustable baffle may prevent “chasing”. Match discharge opening to Ultra Vac intake for best performance.

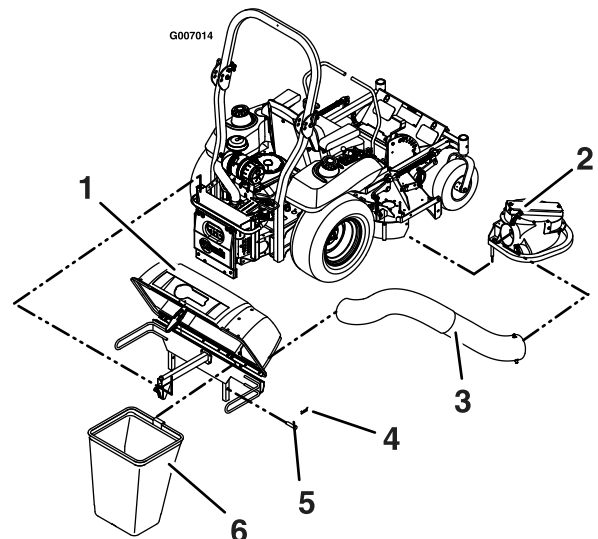


Figure 5

- | | |
|-----------|---------------|
| 1. Hood | 4. Hairpin |
| 2. Blower | 5. Clevis Pin |
| 3. Tube | 6. Bag |

3. Remove the belt cover by loosening the knobs (see Figure 6).

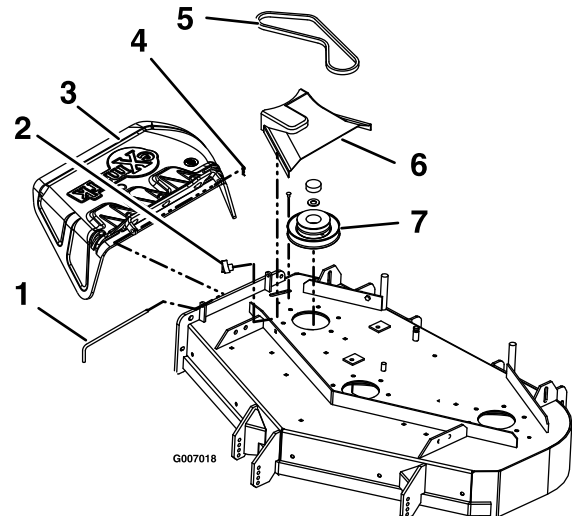


Figure 6

Bagger Removal for Side Discharge

1. Shut off the deck drive, stop engine and wait for all moving parts to stop. Remove key.
2. Remove the discharge tube by releasing the latches at the blower. Slide the tube off the blower outlet and remove the upper end from the hood.

- | | |
|--------------------|----------------|
| 1. Chute Pivot Pin | 5. Belt |
| 2. Knob | 6. Belt Cover |
| 3. Discharge Chute | 7. Deck Sheave |
| 4. Hairpin | |

Operation

⚠ CAUTION

The deck sheave will become very hot. Touching a hot deck sheave can cause severe burns.

Allow the deck sheave to cool completely before removing the belt.

4. Pull the idler release handle and remove the belt from the upper groove of the deck sheave.
5. Unlatch the front end of the blower. Pivot the blower back and lift it off the deck.
6. Install the discharge chute using the chute pivot pin and hairpin (see Figure 7).

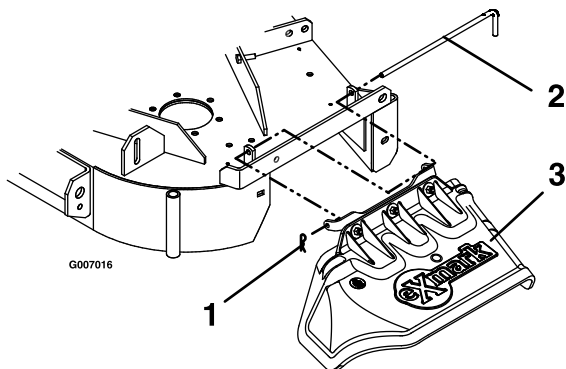


Figure 7

Viewed from the right side

1. Hairpin
2. Chute Pivot Pin
3. Discharge Chute

Note: Install chute with the tabs to the rear of the deck tabs as shown.

⚠ WARNING

An uncovered discharge opening will allow objects to be thrown in operator's or bystander's direction. Also, contact with blade could occur. Thrown objects or blade contact can cause serious injury or kill you or bystanders.

Never operate mower unless discharge deflector, or entire grass collection system, or mulch kit is installed.

7. Re-install the plastic belt cover and tighten the knobs.

8. Remove the hair pins and clevis pins holding the hood assembly to the mount weldment.
9. Lift the bag and hood assembly off the mount.
10. **For units with a 2 post ROPS installed:** Remove the hairpins and lift the front weight off of the mount plates (see Figure 8).

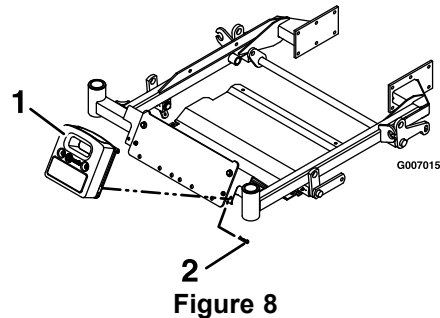


Figure 8

1. Weight
2. Hairpin

Note: The portions of the Ultra Vac bagger that are not bolted to the mower are designed to be installed or removed in their entirety. Do Not operate the mower with only a portion of the Ultra Vac installed.

11. The machine can now be used for side discharge mowing.

Bagger Installation for Bagging

1. Stop engine, remove key, and wait for all moving parts to stop.
2. Remove hairpin and chute pivot pin. Remove discharge chute. Pivot pin and hair pin may be stored in the pivot holes of the discharge chute during bagging operation.
3. Slide tube ends of hood assembly into the tubes of the mount weldment. Install two clevis pins through holes in tubes. Retain with two hair pins.
4. Hang the two bag assemblies from the slots in the bagger upright. Close and latch hood.
5. Remove the belt cover on the right side of the deck. Install the blower by inserting the mounting pin into the tube welded to the rear corner of the deck. Pivot the blower until the front pin engages the slot in the deck. Adjust the position of the front pin if necessary to engage the slot. Use the latches to lock the blower in this position.
6. Pull the idler release handle and install the belt in the upper groove of the deck sheave.

7. Install the belt cover using the two knobs. Install the discharge tube assembly by slipping the upper end into the hood, then sliding the lower end over the blower discharge opening. Use the latches to retain the lower end to the blower.
8. **For Units 600,000 and Higher with Triton Decks:** Adjust position of dog leg baffle to match the intake of the Ultra Vac blower baffle adjusted too wide may allow objects to be thrown from under deck. Baffle adjusted too narrow may cause plugging issues.

For units with a 2 post ROPS installed: Install the weight.

Note: The portions of the Ultra Vac bagger that are not bolted to the mower are designed to be installed or removed in their entirety. Do Not operate the mower with only a portion of the Ultra Vac installed.

Transporting

Transporting a Unit

Use a heavy-duty trailer or truck to transport the machine. Lock brake and block wheels. Securely fasten the machine to the trailer or truck with straps, chains, cable, or ropes. Be sure that the trailer or truck has all necessary lighting and marking as required by law. Secure a trailer with a safety chain.

⚠ CAUTION

This unit does not have proper turn signals, lights, reflective markings, or a slow moving vehicle emblem. Driving on a street or roadway without such equipment is dangerous and can lead to accidents causing personal injury. Driving on a street or roadway without such equipment may also be a violation of State laws and the operator may be subject to traffic tickets and/or fines.

Do Not drive a unit on a public street or roadway.

⚠ WARNING

Loading a unit on a trailer or truck increases the possibility of backward tip-over. Backward tip-over could cause serious injury or death.

- **Use extreme caution when operating a unit on a ramp.**
- **Use only a single, full width ramp; Do Not use individual ramps for each side of the unit.**
- **If individual ramps must be used, use enough ramps to create an unbroken ramp surface wider than the unit.**
- **Do Not exceed a 15° angle between ramp and ground or between ramp and trailer or truck.**
- **Avoid sudden acceleration while driving unit up a ramp to avoid tipping backward.**
- **Avoid sudden deceleration while backing unit down a ramp to avoid tipping backward.**

Loading a Unit

Empty grass bags before attempting to load unit on trailer or truck. Use extreme caution when loading units on trailers or trucks. One full width ramp that is wide enough to extend beyond the rear tires is recommended instead of individual ramps for each side of the unit. The lower rear section of the tractor frame extends back between the rear wheels and serves as a stop for tipping backward. Having a full width ramp provides a surface for the frame members to contact if the unit starts to tip backward. If it is not possible to use one full width ramp, use enough individual ramps to simulate a full width continuous ramp.

Ramp should be long enough so that the angles between the ramp and the ground and the ramp and the trailer or truck do not exceed 15°. A steeper angle may cause mower deck components to get caught as the unit moves from ramp to trailer or truck. Steeper angles may also cause the unit to tip backward. If loading on or near a slope, position the trailer or truck so it is on the down side of the slope and the ramp extends up the slope. This will minimize the

Operation

ramp angle. The trailer or truck should be as level as possible.

Important: Do Not attempt to turn the unit while on the ramp, you may lose control and drive off the side.

Avoid sudden acceleration when driving up a ramp and sudden deceleration when backing down a ramp. Both maneuvers can cause the unit to tip backward.

Maintenance

Note: Determine the left and right sides of the machine from the normal operating position.

⚠ WARNING

While maintenance or adjustments are being made, someone could start the engine. Accidental starting of the engine could seriously injure you or other bystanders.

Remove the key from the ignition switch, engage parking brake, and pull the wire(s) off the spark plug(s) before you do any maintenance. Also push the wire(s) aside so it does not accidentally contact the spark plug(s).

⚠ WARNING

The engine can become very hot. Touching a hot engine can cause severe burns.

Allow the engine to cool completely before service or making repairs around the engine area.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Before each use or daily	<ul style="list-style-type: none"> • Check the blower housing/impeller. • Check condition of bags. • Clean muffler and rear frame area. • Clean rear screen in the hood.
Every 25 hours	<ul style="list-style-type: none"> • Grease idler bushings.
Every 50 hours	<ul style="list-style-type: none"> • Inspect the belt position on the idler arm. • Check condition of belt.
Yearly or before storage	<ul style="list-style-type: none"> • Clean blower.

Periodic Maintenance

Check Blower Housing/Impeller

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Inspect for wear or damage daily. Replace or repair worn parts as needed

Note: When mowing in areas with sandy soil, use low lift blades on the cutting deck and higher cutting heights to minimize wear on the blower components.

Check Condition of Bags

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Inspect the bags for wear, tears, or damage.

⚠ WARNING

Under normal use the bag will deteriorate and wear. Objects could exit a worn bag at high speeds. Thrown objects can cause serious injury or kill you or bystanders.

Check bag frequently for tears and holes. Replace worn bag.

Lubricate Grease Fittings

Note: See chart for service intervals.

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Lubricate fittings with NGLI grade #2 multi-purpose gun grease.

Refer to the following chart for fitting locations and lubrication schedule.

Lubrication Chart			
Fitting Locations	Initial Pumps	Number of Places	Service Interval
1. Idler Bushings	1-2	1	25 Hours

Inspect Belt Position on Idler Arm

Service Interval: Every 50 hours

The idler arm may become bent during use or transport. A bent idler arm could cause the belt to jump off of the idler and be damaged.

1. Make sure the belt cover is installed and run the blower for one to two minutes.
2. **Shut off the deck drive, stop engine, wait for all moving parts to stop, and remove key.** Engage parking brake. Remove the belt cover and check to make sure that the belt is riding near the center of the flat idler on the idler arm.
3. If the belt is not riding near the center of the idler, remove the blower, and bend the idler arm slightly.
4. Reinstall the blower and belt cover and repeat steps 1 through 3 until the belt is positioned near the center of the idler.

Check Condition of Belt

Service Interval: Every 50 hours

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Inspect the belt for damage or wear. Replace belt with one of the following:

Deck	Part No.
44 inch	1-653332
46 inch	1-653438
48 inch	1-653333
50 inch	103-0866
52 inch	1-653438
56 inch	109-1242

3. To replace belt, remove the belt guide on the blower.
4. Install the belt (from the Drive Kit) onto the Blower Assembly as shown in Figure 9.

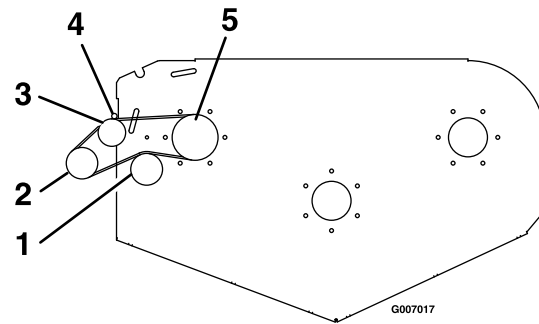


Figure 9

View from Top of Blower

- | | |
|------------------------|----------------|
| 1. Spring Loaded Idler | 4. Belt Guide |
| 2. Impeller Sheave | 5. Deck Sheave |
| 3. Fixed Idler | |
5. Reinstall the belt guide removed previously.

Cleaning

Clean Muffler and Rear Frame Area

Service Interval: Before each use or daily

Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.

⚠ WARNING

Operating engine parts, especially the muffler, become extremely hot. Severe burns can occur on contact and debris, such as leaves, grass, brush, etc. can catch fire.

- Allow engine parts, especially the muffler, to cool before touching.
- Remove accumulated debris from muffler and engine area.
- Install and maintain in working order a spark arrester before using equipment on forest-covered, grass-covered, brush-covered unimproved land.

Clean Rear Screen In Hood

Service Interval: Before each use or daily

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Open hood and remove clippings that are stuck to the screen.

Clean Blower

Service Interval: Yearly or before storage

Grass build up may cause problems with the impeller when the unit is put back into operation.

1. Stop engine, wait for all moving parts to stop, and remove key. Engage parking brake.
2. Remove grass buildup from around the impeller before placing it in storage.

Troubleshooting

Troubleshooting

Important: It is essential that all operator safety mechanisms be connected and in proper operating condition prior to mower use.

When a problem occurs, do not overlook the simple causes. For example: starting problems could be caused by an empty fuel tank.

The following table lists some of the common causes of trouble. Do Not attempt to service or replace major items or any items that call for special timing or adjustment procedures (such as valves, governor, etc.). Have this work done by your **Engine Service Dealer**.

Note: When disconnecting electrical connectors Do Not pull on the wires to separate the connectors.

Problem	Possible Cause	Corrective Action
Abnormal vibration.	<ol style="list-style-type: none"> 1. Cutting blade(s) is/are bent or unbalanced. 2. Blade mounting bolt is loose. 3. Loose blower pulley or pulley assembly. 4. Blower impeller blades are bent. 	<ol style="list-style-type: none"> 1. Install new cutting blade(s). 2. Tighten the blade mounting bolt. 3. Tighten the appropriate pulley. 4. Contact an Authorized Service Dealer.
Blower drive belt snaps or breaks frequently.	<ol style="list-style-type: none"> 1. Idler arm is out of alignment. 	<ol style="list-style-type: none"> 1. Correct the alignment of the idler arm.
Excessive grass blowout from the deck.	<ol style="list-style-type: none"> 1. Bags are full. 2. Plugged screen in bagger hood. 3. Ground speed is too fast. 4. Blower belt is worn, loose, or broken. 5. Plugged tube or blower. 6. Conditions are dry. 	<ol style="list-style-type: none"> 1. Dump more frequently. 2. Remove debris, leaves or grass clippings from the screen. 3. Drive slower at full throttle. 4. Install new blower belt. 5. Locate and remove plugged debris. 6. Use lower lift blade.
Blower and tubes plug too frequently.	<ol style="list-style-type: none"> 1. Bags are too full. 2. Ground speed is too fast. 3. Grass is too wet. 4. Grass is too long. 5. Plugged screen in bagger hood. 6. Blower drive belt is worn, loose, or broken. 7. Blower is plugged. 	<ol style="list-style-type: none"> 1. Dump more frequently 2. Drive slower at full throttle. 3. Cut grass when it is dry. 4. Cut grass more frequently or at higher cut height. 5. Remove debris, leaves, or grass clippings from the screen. 6. Install new belt. 7. Use low lift blades in wet conditions.
Blower impeller does not spin freely.	<ol style="list-style-type: none"> 1. Plugged blower. 2. Impeller not aligned. 	<ol style="list-style-type: none"> 1. Remove debris, leaves, or grass clippings from the blower impeller. 2. Contact an Authorized Service Dealer.
Plowing leaves.	<ol style="list-style-type: none"> 1. Deck is too low. 	<ol style="list-style-type: none"> 1. LHP below S/N 600,000: Raise the deck slightly. Triton: Raise the front adjustable baffle.
Chasing leaves.	<ol style="list-style-type: none"> 1. Blowout from deck. 	<ol style="list-style-type: none"> 1. LHP below S/N 600,000: Install an anti-blowout kit—contact an Authorized Service Dealer. Triton: Lower the front adjustable baffle. Match discharge opening to Ultra Vac intake.
Blower components show signs of wear and/or air cleaners and cooling fins are dirty.	<ol style="list-style-type: none"> 1. Sand or dry conditions. 	<ol style="list-style-type: none"> 1. Use low lift blades on the cutting deck and higher cutting heights. Clean air cleaners and cooling fins frequently.

Exmark Commercial Attachments and Accessories

1 Year Limited Warranty

Conditions and Products Covered

Exmark Mfg. Co. Inc. and its affiliate, Exmark Warranty Company, pursuant to an agreement between them, jointly warrant on the terms and conditions herein, that we will repair, replace or adjust any part on these products and found by us (in the exercise of our reasonable discretion) to be defective in factory materials or workmanship for a period of one year.

This warranty applies to Exmark commercial attachments and accessories sold in the U.S. or Canada. This warranty may only be assigned or transferred to a second (or third) owner by an authorized Exmark dealer. The warranty period commences upon the date of the original retail purchase.

Warranty Exceptions

- Bags, Belts and Tires

Warranty Period

90 days

This warranty only includes the cost of parts and labor.

Items and Conditions Not Covered

This warranty does not cover the following:

- Pickup and delivery charges to and from any authorized Exmark Service Dealer.
- Any damage or deterioration due to normal use, wear and tear, or exposure.
- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, tune-up parts, and adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to normal wear, accidents, or lack of proper maintenance.
- Any repairs necessary due to use of parts, accessories or supplies, including gasoline, oil or lubricants, incompatible with the attachment or accessory or other than as recommended in the operator's manual or other operational instructions provided by Exmark.

All warranty work must be performed by an authorized Exmark Service Dealer using Exmark approved replacement parts.

Instructions for Obtaining Warranty Service

The product must be registered with original proof of purchase by an Exmark Service Dealer before obtaining any warranty service.

Contact any Exmark Service Dealer to arrange service at their dealership. To locate a dealer convenient to you, access our website at www.exmark.com. U.S. or Canada customers may also call 402-223-6375.

If for any reason you are dissatisfied with the Service Dealer's analysis or with the assistance provided, contact us at:

Exmark Customer Service Department
The Exmark Warranty Company
2101 Ashland Avenue
Beatrice, NE 68310
402-223-6375 or
service@exmark.com

Owner's Responsibilities

If your product requires warranty service it must be returned to an authorized Exmark service dealer within the warranty period. This warranty extends only to commercial attachments and accessories operated under normal conditions. You must read the operator's manual. You must also properly service and maintain your Exmark product as described in the operator's manual or other operational instructions provided by Exmark. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

General Conditions

The sole liability of Exmark and Exmark Warranty Company with respect to this warranty shall be repair or replacement of defective components as set forth herein. **Neither Exmark nor Exmark Warranty Company shall be liable for any incidental or consequential loss or damage.**

Such damages include but are not limited to:

- Expenses related to gasoline, oil or lubricants.
- Travel time, overtime, after hours time or other extraordinary repair charges or charges relating to repairs or replacements outside of normal business hours at the place of business of the authorized Exmark Service Dealer.
- Rental of like or similar replacement equipment during the period of any warranty, repair or replacement work.
- Any telephone or telegram charges or travel charges.
- Loss or damage to person or property other than that covered by the terms of this warranty.
- Any claims for lost revenue, lost profit or additional cost as a result of a claim of breach of warranty.
- Attorney's fees.

No Claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Exmark attachment or accessory.

All implied warranties of merchantability (that the product is fit for ordinary use) and fitness for use (that the product is fit for a particular purpose) are limited to the duration of the express warranty.

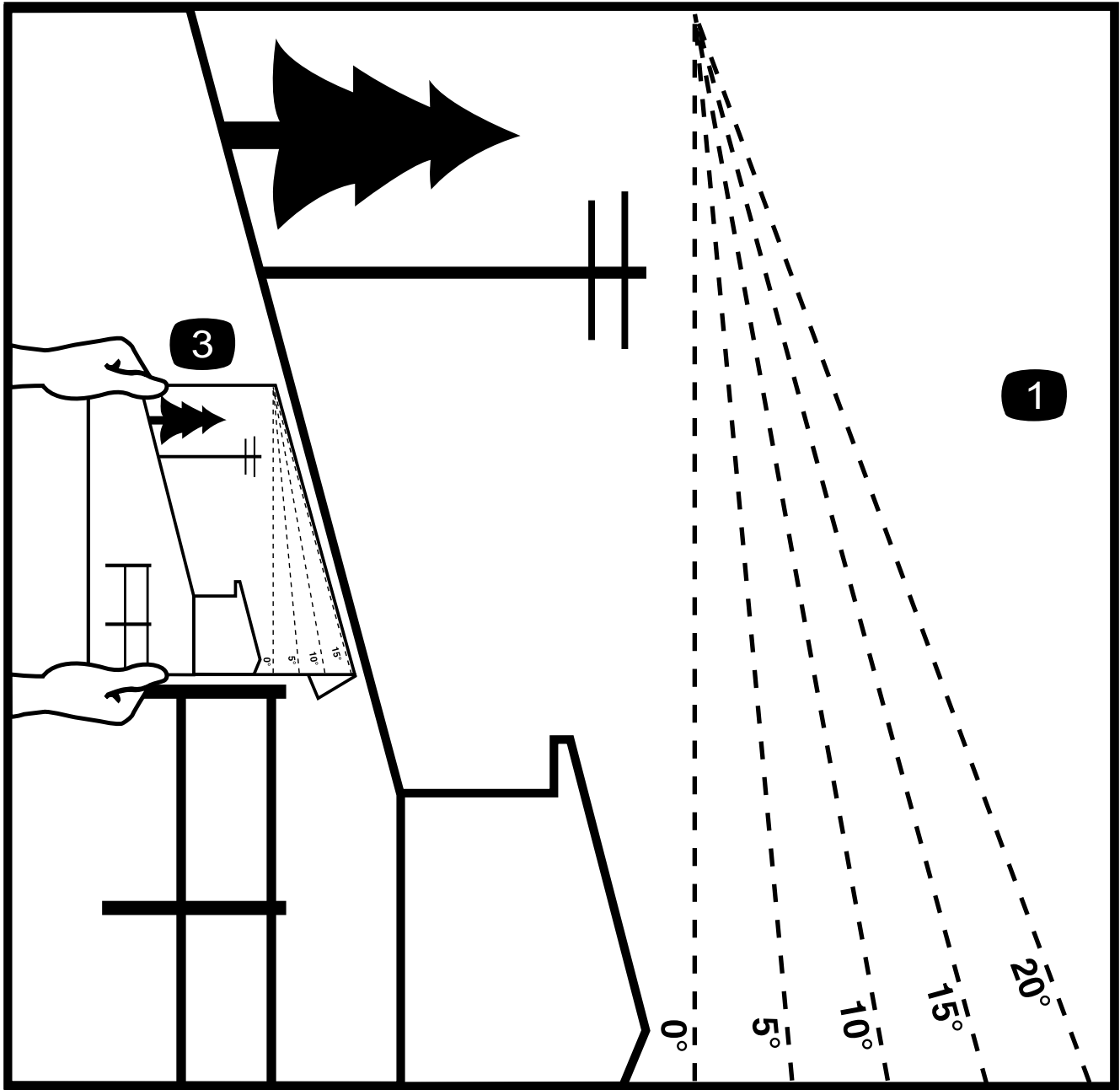
Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

G4500-433_B

Notes:

Notes:



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Figure 10

This page may be copied for personal use.

1. The maximum slope you can safely operate the machine on is **15 degrees**. Use the slope indicator to determine the degree of slope of hills before operating. **Do Not operate this machine on a slope greater than 15 degrees.** Fold along the appropriate line to match the recommended slope.
2. Align this edge with a vertical surface, a tree, building, fence pole, etc.
3. Example of how to compare slope with folded edge.

SEE EXMARK'S COMPLETE LINE OF ACCESSORIES AND OPTIONS

MID-MOUNT RIDING ACCESSORIES AND OPTIONS

CUSTOM RIDE SEAT SUSPENSION SYSTEM	OPERATOR CONTROLLED DISCHARGE
FULL SUSPENSION SEAT	ROLL OVER PROTECTION SYSTEM (ROPS)
DECK LIFT ASSIST KIT	SUN SHADE
HITCH KIT	TRASH CONTAINER
LIGHT KIT	TURF STRIPER
12V POWER PORT	ULTRA VAC COLLECTION SYSTEM
MICRO-MULCH SYSTEM	ULTRA VAC QUICK DISPOSAL SYSTEM

OUT-FRONT RIDING ACCESSORIES AND OPTIONS

CUSTOM RIDE SEAT SUSPENSION SYSTEM	SNOW BLADE
DUAL-TAIL WHEEL	SNOWBLOWER
FLOOR PAN EXTENDER	SUN SHADE
HITCH KIT	TRASH CONTAINER
LIGHT KIT	ULTRA VAC COLLECTION SYSTEM
MICRO-MULCH SYSTEM	ULTRA VAC QUICK DISPOSAL SYSTEM
ROLL OVER PROTECTION SYSTEM (ROPS)	WEATHER CAB

WALK-BEHIND ACCESSORIES AND OPTIONS

GRASS CATCHER	TURF STRIPER
MICRO-MULCH SYSTEM	STANDON

Place Model No. and Serial No.
Label Here (Included in the Literature
Pack) or Fill in Below

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Serial No. _____

Date Purchased _____

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