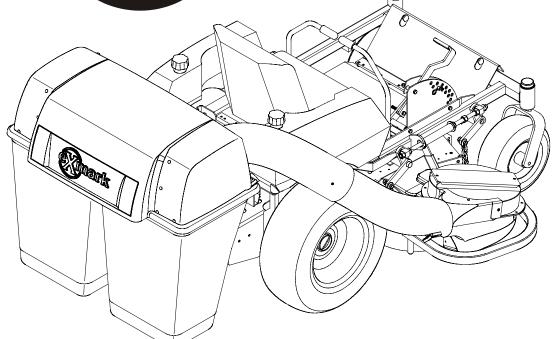
For Serial Nos. 370,000 & Higher







LAZER HP ULTRA VAC

CONGRATULATIONS on the purchase of your new Exmark equipment. 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 equipment as well as the part number, description and quantity of the part needed.

The Serial No. plate is located on the rear of the blower assembly. For ease of ordering and reference, we suggest that you record the information requested in the following identification table.

	No. and Serial No. Label Here ded in Literature Pack) or Fill in Below
Model No	
Serial No	

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 shields, guards and safety devices (especially the grass discharge system) in place and in proper working condition.
- Stop engine and wait for all moving parts to stop. Remove spark plug wire(s) or remove key before adjusting, servicing, or performing maintenance.
- If mower deck becomes clogged, stop engine and wait for all moving parts to stop. Remove spark plug wire(s) or remove key 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.

Exmark reserves the right to make changes or 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® PROGRAM

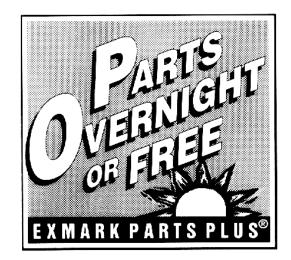
EFFECTIVE DATE: September 1, 1995

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

- 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[®] shipment of six (6) line items or less.
- 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® order, he contacts Exmark by 3:00 p.m., central time, with an Exmark Parts Plus® order of six (6) 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 <u>part</u> and <u>freight</u> if it is shipped under the Exmark Parts Plus® and if it arrives 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® 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® 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® 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® orders must be received by Exmark by 3:00 p.m., central time. Orders must be six (6) line items or less. Exclusions from the Exmark Parts Plus® 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.

OPERATOR'S MANUAL

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

BEFORE OPERATING YOUR ULTRA VAC, CAREFULLY READ AND UNDERSTAND THIS MANUAL AND THE OPERATOR'S MANUAL FOR YOUR MOWER IN THEIR 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.

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.

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1. SAFETY

1.1 SAFETY ALERT SYMBOL

This SAFETY ALERT SYMBOL 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!

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.

1.2 TRAINING

- 1.2.1 Regard the Exmark Ultra Vac as a piece of power equipment and teach this regard to all who operate this unit.
- 1.2.2 Before operating your Ultra Vac, carefully read and understand this manual and the operator's manual for your mower in their entirety. Familiarize yourself with the controls and the proper use of the equipment. If the operator(s) or mechanic(s) can not read English, it is the owner's responsibility to explain this material to them.
- 1.2.3 Do not allow operation of this machine by untrained personnel. Never allow children, teenagers, or people unfamiliar with these instructions to use the mower. Local regulations may restrict the age of the operator.
- 1.2.4 Avoid mowing while people, especially children, or pets, are nearby. Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.

1.3 PREPARATION

- 1.3.1 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 Exmark.
- 1.3.2 The use of personal protective equipment, such as (but not limited to) protection for the eyes, ears, feet, and head is recommended.

A CAUTION

POTENTIAL HAZARD

◆ This machine produces sound levels in excess of 85 dBA at the operator's ear when in operation.

WHAT CAN HAPPEN

◆ Exposure to sound levels of 85 dBA or above for extended periods of time can cause hearing loss.

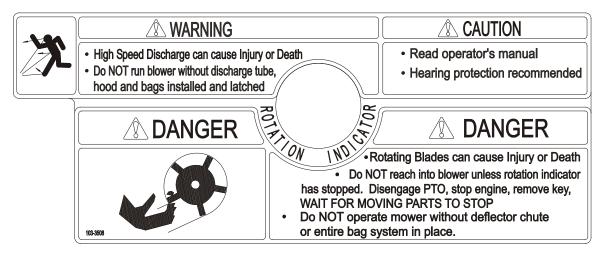
HOW TO AVOID THE HAZARD

Wear hearing protection when operating this machine.

- 1.3.3 While mowing, always wear substantial footwear and long trousers. Do not operate equipment when barefoot or when wearing open sandals.
- 1.3.4 Thoroughly inspect the area where the equipment is to be used and remove all stones, sticks, wires, bones, and other foreign objects which may damage the equipment or cause personal injury to the operator or bystanders.

1.4 SAFETY SIGNS

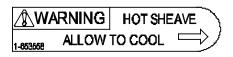
- 1.4.1 Keep all safety signs legible. Remove all grease, dirt and debris from safety signs and instructional labels.
- 1.4.2 Safety signs must be replaced if they are missing or illegible.
- 1.4.3 When new components are installed, be sure that current safety signs are affixed to the replaced components.
- 1.4.4 New safety signs may be obtained from your authorized Exmark equipment dealer or distributor or from Exmark Mfg. Co. Inc.
- 1.4.5 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.
- 1.4.6 Familiarize yourself with the following safety signs and instruction labels. They are critical to the safe operation of your Exmark Ultra Vac.



PART NO. 103-3508 LOCATION: Top of Blower



PART NO. 1-653554 LOCATION: Rear of Bags



PART NO. 1-653558 LOCATION: Top of Idler Arm



PART NO. 98-5954

LOCATION: Under Blower Cover

2. SPECIFICATIONS

2.1 MODEL NUMBER:

LHPUV4448

Use with drive kit: 44" deck – 103-1315

48" deck – 103-1313 (Lazer Z HP Serial Nos. below 203,376) 48" deck – 103-1314 (Lazer Z HP Serial Nos. 203,376 & higher)

Note: Lazer Z HP model LHP4818KC Serial Nos. below 176,621 will

also require adapter kit 130-0328

LHPUV52

Use with drive kit: 52" deck – 103-1317

2.2 DIMENSIONS

44" Deck	91.76"	(233.1 cm)
48" Deck	91.76"	(233.1 cm)
52" Deck	93.00"	(236.2 cm)

2.2.2 Overall unit width w/ Ultra Vac

44" Deck	58.47"	(148.5 cm)
48" Deck	61.73"	(159.8 cm)
52" Deck	66.47"	(168.8 cm)

2.3 BAGGING SYSTEM

2.3.1 Weight: Lazer Z HP -110 lbs. (50 kg)

2.3.2 Collections bins: Commercial grade, cloth mesh bags with reinforced bottoms.

Capacity: Lazer Z HPs - 8 bushels (2 bags and hood)

2.3.3 Dump Mechanism: Manual lift off

2.3.4 Blower tube: fixed, abrasion resistant molded polyethylene

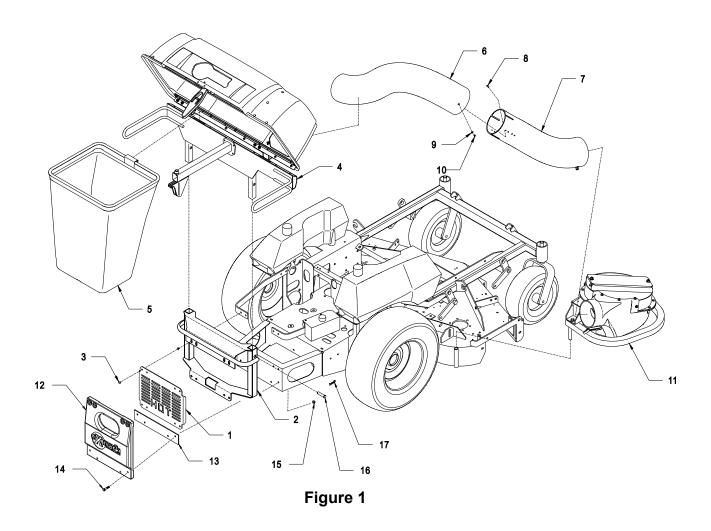
2.3.5 Impeller: 5-bladed, 0.25" thick abrasion resistant steel, with vertical axis.

2.3.6 Impeller bearings: 1" (2.54 cm) sealed "non-greaseable bearings"

3. ASSEMBLY INSTRUCTIONS - LAZER Z HP

3.1 ASSEMBLY DIAGRAM

Ref. No.	Qty	Description	
1	Ref	Engine Guard 44,48 only	
2	1	Bagger Mount Weldment	
3	8	5/16 – 18 X 1.00 Hex Head Screw	
4	1	Hood Assembly	
5	2	Bag Assembly	
6	1	Upper Tube	
7	1	Lower Tube Assembly	
8	3	#10 – 24 X .75 Hex Washer Head Screw	
9	3	#10 Flat Washer	
10	3	#10 – 24 Nyloc Nut	
11	1	Blower Assembly	
12	Ref	Rear Weight 52 only	
13	Ref	Spacer 52 only	
14	8	5/16 – 18 X 1.75 Hex Head Screw	
15	4	5/16-18 x 18 Whizlock Nut	
16	2	Clevis Pin	
17	2	Hair Pin	



3.2 INSTALL DRIVE KIT

Install drive kit (PN 103-1313, 103-1314, 103-1315, or 103-1317 depending on deck size) per the following instructions.

NOTE: The original belt shield stud must be removed for belt clearance.

ULTRA VAC DRIVE KIT

KEY	QTY	DESCRIPTION
18	1	Pin, Chute Pivot
19	1	Pin, Hair
20	1	Chute Weldment, 48" SD
		(48" decks SN 203376 & below only)
21	1	2.25 O.D Washer
		(48" decks SN 203376 & below only)
22	2	Knob, Belt Shield
23	1	Sheave, Blower Drive
24	1	Belt, Blower
25	1	Cover, Belt
13	1	Spacer, Counterweight (52" decks)
		See Figure 1
26	1	5/16 – 18 X .62 Hex Head Screw
27	1	Plug

AWARNING

POTENTIAL HAZARD

 An uncovered discharge opening will allow objects to be thrown in an operator's or bystander's direction. Also, contact with blade could occur.

WHAT CAN HAPPEN

◆ Thrown objects or blade contact can cause serious injury or death.

HOW TO AVOID THE HAZARD

 Never operate mower unless discharge chute or entire grass collection system is in place.

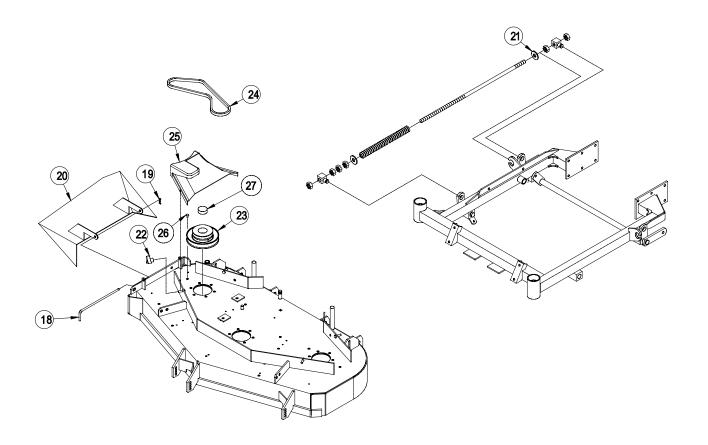


FIGURE 2

3.2.1 DISCHARGE CHUTE REPLACEMENT INSTRUCTIONS:

- Position mower on a flat surface.
- 2. Stop engine, remove key, and wait for all moving parts to stop.1.
- 3. Remove two (2) capscrews connecting the discharge chute to the deck. Remove the discharge chute.

For 48" decks with Serial Nos. 203376 and lower: Verify that the unit has discharge chute tabs that measure 4" high from the top of the deck plate before continuing with Step 4. See Fig 4.

For 44" decks, 52" decks, or 48" decks that have deck tabs that measure 2 3/8" high: Skip to Step 15.

- Measure the distance between the front and rear swivel blocks on the right side deck lift mechanism. Dimension A in Figure 3. Write this measurement down for use during re-assembly.
- 5. Support the mower deck on blocks so that the chains on the right side are slack when the deck lift handle is in the 4.5" height position (also transport position).
- 6. Set the deck lift handle to the 4.5" height position (also transport position) and remove all force from the right side deck lift spring by loosening the nuts at the front of the spring. See Fig. 3.
- 7. The supplied oversized 2.25" outside diameter (O.D.) flatwasher (Item 21) must replace the existing flatwasher on the right side deck lift spring at the slotted bracket to the rear of the spring (as shown in Fig. 3). This will keep the discharge chute from entering the slot at the deck's lowest positions when chute is in raised position for transport.

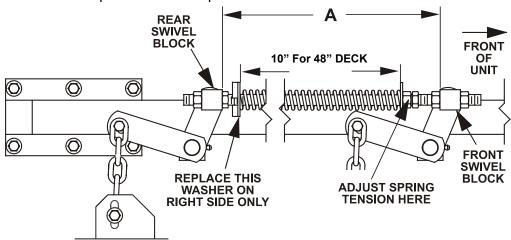


FIGURE 3
SWIVEL ADJUSTMENT
SPRING COMPRESSION ADJUSTMENT

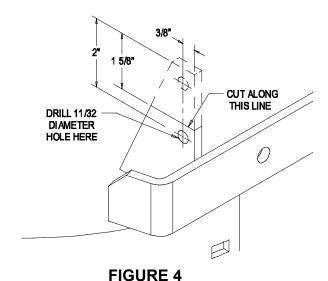
NOTE: Make sure step "6" has been performed to relieve spring tension before proceeding.

8. Remove E-ring and washer holding the front deck mount swivel and pull the swivel out of the deck lift shaft lever. Remove nuts, swivel block, spring nuts, washer, and spring from threaded rod. Remove existing flatwasher that is positioned between the spring and frame bracket and replace with supplied 2.25" O.D. flatwasher (Item 21). Re-assemble spring, washer, nuts and swivel to rod. Reinstall the swivel to the deck lift shaft lever. Install washer and E-ring after reattaching swivel to shaft lever.

- 9. Verify that the distance between front and rear swivel blocks is the same as dimension A recorded in step 4. Adjust the position of the front swivel block if dimension A is not met.
- 10. Remove the blocks from under the deck so that it hangs freely from all four chains.
- 11. Set the deck lift lever to the 4.5" cutting height position (also transport position). Adjust the spring tension until proper distance is obtained between the two washers (See Fig 3) by turning the nut at the front of the spring. Lock the nut in position with the jam nut.
- 12. If the deck is out of adjustment after completing the procedure listed above, refer to your Lazer HP owners manual for full deck adjustment procedures.

NOTE: When above adjustments have been made, the front of the deck will be slightly lower than the rear of the deck.

- 13. Locate and drill a new hole for the chute tabs 2" down from the top and 3/8" from the outside of the tabs. See Figure 4.
- 14. Cut off the chute tabs 1 5/8" down from the top. See Figure 4.



15. Install the new discharge chute (Item 20) using the chute pivot pin (Item 18) and hairpin (Item 19) provided as shown in Figure 5.

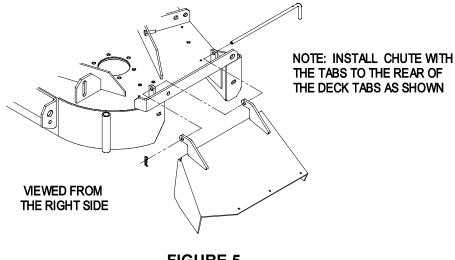
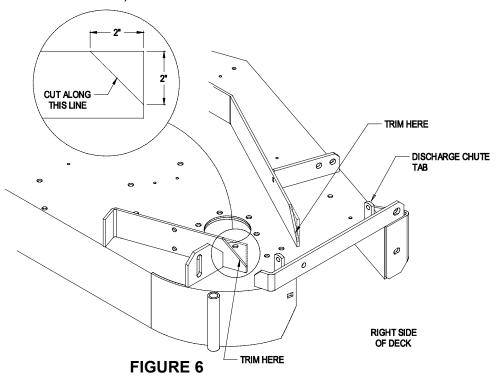


FIGURE 5

3.2.2 BLOWER DRIVE SHEAVE INSTALLATION INSTRUCTIONS:

- 1. Remove the right side belt shield and the 5/16 x 3 1/4 bolt that secures the shield to the deck.
- If you are mounting the Ultra Vac on a Lazer HP with serial number 220,000 or higher, skip to step 3. For Lazer HPs with serial numbers 220,000 and lower, locate and cut off the corners of the right deck reinforcement plates by measuring 2" down from the top and 2" from the outside as shown in Figure 6. (This step provides the required belt clearance.)

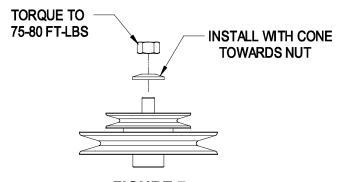


- 3. Remove the deck drive belt from around the right sheave.
- 4. Support the right mower blade so that it will not fall off when the right sheave nut is removed.
- 5. Remove the right sheave nut, spring disk washer, and drive sheave from the spindle shaft

NOTE: On units with wrench flats on the spindle just above the blade use a 1-inch wrench on the flat sides of the spindle shaft to prevent the spindle from turning. On units that do not have a wrench flat, block the blade rotation with a block of wood between the blade and baffles as indicated in the blade service section of the Lazer operator's manual. Do not use the blade bolt to prevent rotation.

- Apply a light coat of grease to the top portion of the spindle where the sheave mounts.
- 7. Install the double sheave (Item 23) onto the right spindle shaft. Install the spring disk washer and nut removed in Step 5. Torque the sheave nut to 75-80 ft. lbs. Make sure that the spring disk washer cone is installed towards nut. See Figure 7.

NOTE: On units with wrench flats on the spindle just above the blade use a 1-inch wrench on the flat sides of the spindle shaft to prevent the spindle from turning. On units that do not have a wrench flat, block the blade rotation with a block of wood between the blade and baffles as indicated in the blade service section of the Lazer Z operator's manual. Do not use the blade bolt to prevent rotation. Check blade bolt torque after completing this installation (115 – 120 ft. lbs.).



- FIGURE 7
- 8. Re-install the deck drive belt in the lower groove of the double sheave. Install plug (Item 27) into bore of double sheave.
- 9. Install 5/16-18 x .62 screw (Item 26) into hole that 5/16 18 x 3 ¼ bolt was removed from on the deck. Use the whizlock nut removed in step 1. Install bolt with head to inside of deck.
- 10. Install the new belt cover (Item 25) secure with the two belt shield knobs (Item 22) as shown in Figure 2.

NOTE: Do not re-install the $5/16 \times 3 \cdot 1/4$ bolt that was removed in step 1.

3.3 INSTALL HOOD ASSEMBLY AND BAGS

44 and 48 inch units (52 inch units skip to step 3)

Note: When installing Ultra Vac on Lazer Z HP model LHP4818KC with serial numbers below 176621, refer to additional necessary instructions included in adapter kit 103-0328.

- 1. Remove and discard the (8) bolts that retain the "HOT" engine guard shield (Item 1). Keep the nuts for use in Step 2.
- 2. Install the Bagger Mount Weldment (Item 2) and engine guard shield using the 5/16-18 x 1 Screws provided (Item 3) and whizlock nuts removed in step 1. Continue at step 7.

52 inch units

- 3. Remove and discard the (8) bolts that retain the rear weight (Item 12). Keep the whizlock nuts for use in step 5.
- 4. Install the Bagger Mount Weldment (Item 2) to the rear of the frame using (4) 5/16-18 x 1 screws (Item 3) and (4) 5/16 18 whizlock nuts (Item 15). Use only the bottom four holes on the Bagger Mount Weldment
- 5. Install the counterweight spacer (Item 13) at the rear of the mower between the counterweight and frame using the lower set of screws.
- 6. Install the Rear Weight (Item 12) and spacer (Item 13) from the drive kit using the (8) 5/16 18 X1.75 screws (Item 14) and whizlock nuts removed in step 3.

All units

- 7. Slide tube ends of Hood Assembly (Item 4) into the tubes of the mount weldment. Install (2) clevis pins (Item 16) through holes in tubes. Retain with (2) Hair Pins (Item 17).
- 8. Hang the (2) Bag Assemblies (Item 5) from the slots in the Bagger Upright. Close and latch hood.

3.4 ASSEMBLE TUBES

Note: When installing Ultra Vac on Lazer Z HP model LHP4818KC with serial number below 176621, refer to additional necessary instructions included in adapter kit 103-0328.

1. Assemble the Upper (Item 6) and Lower (Item 7) Tubes using the (3) #10-24 x .75 Hex Washer Head Screws (Item 8), (3) #10 washers (Item 9), and (3) #10-24 Nyloc Nuts (Item 10). Screw head should be installed to the inside of the tube to provide minimum obstruction to flow. Make sure the hole with the arrow on the Upper Tube aligns with the dimple in the Lower Tube to place the turnout on the Upper Tube in the correct position.

For units with a 44" deck: Slide Upper Tube over Lower Tube until edge of Upper Tube matches up with dimple in Lower Tube labeled 44.

For units with a 48" & 52" deck: Slide Upper Tube over Lower Tube until edge of Upper Tube matches up with dimple in Lower Tube labeled 48, 52.

3.5 INSTALL BLOWER ASSEMBLY

- 1. Remove the belt guide on the blower (Item 11). (See Figure 8)
- 2. Install the belt (from the Drive Kit) onto the Blower Assembly (Item 11) as shown.

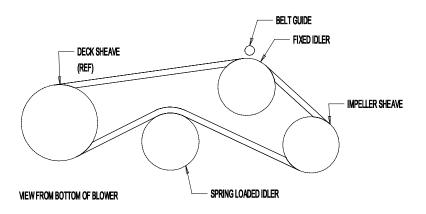


FIGURE 8
BELT ROUTING

- 3. Reinstall the belt guide removed in Step 1.
- 4. Remove Discharge chute by pulling the hairpin and chute pivot pin (from the Drive Kit installed in section 3.2).
- 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 latch to lock the blower in this position. Adjust tension on latch to draw blower up to deck, yet allow release by hand.
- 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 latch to retain the lower end to the blower.

A DANGER

POTENTIAL HAZARD

 There are rotating blades in the blower and under the mower deck.

WHAT CAN HAPPEN

 Blade contact can cause serious operator or bystander injury or even death.

HOW TO AVOID THE HAZARD

- ♦ Keep hands and feet out of blower openings and out from under the mower or mower deck.
- Shut off the deck drive, stop engine and wait for all moving parts to stop. Remove spark plug wire(s) or remove key before performing any work around blower or deck.

WARNING

POTENTIAL HAZARD

 An uncovered discharge opening will allow objects to be thrown in operator's or bystander's direction.
 Also, contact with blade could occur.

WHAT CAN HAPPEN

 Thrown objects or blade contact can cause serious injury or kill you or bystanders.

HOW TO AVOID THE HAZARD

- Never operate mower unless discharge chute or entire grass collection system is installed.
- 8. Follow the operation instructions in Section 4 to run the unit. Run the unit with the blades and blower engaged for 2 minutes. Disengage the blades, shut off the motor, and remove the key.
- 9. 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. If the belt is not riding near the center of the idler, remove the blower, and bend the idler arm slightly. Reinstall the blower and belt cover and perform steps 8 and 9 again to verify belt position.

4. OPERATION:

Although hazard control and accident prevention are partially dependent upon the design and configuration of the equipment, these factors are also dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance, and storage of the equipment. It is essential that all Operator Safety Mechanisms be connected and in operating condition prior to use for mowing. Refer to the Operator's Manual for the mower for additional hazard control and accident prevention information.

WARNING

POTENTIAL HAZARD

 An uncovered discharge opening will allow objects to be thrown in operator's or bystander's direction.
 Also, contact with blade could occur.

WHAT CAN HAPPEN

 Thrown objects or blade contact can cause serious injury or kill you or bystanders.

HOW TO AVOID THE HAZARD

 Never operate mower unless discharge chute or entire grass collection system is installed.

A DANGER

POTENTIAL HAZARD

◆ There are rotating blades in the blower and under the mower deck.

WHAT CAN HAPPEN

 Blade contact can cause serious operator or bystander injury or even death.

HOW TO AVOID THE HAZARD

- Keep hands and feet out of blower openings and out from under the mower or mower deck.
- ♦ Shut off the deck drive, stop the engine, and wait for all moving parts to stop before clearing obstructions.

4.1 PRE-START

- Read the operator's manual for your mower and familiarize yourself with all controls before
 operating the machine. Make sure that you understand the controls, their locations, their
 functions, and their safety requirements.
- 2. Ensure the blower, belt cover, bags, tube and hood are in good condition, properly attached, and latched.

4.2 MOWING

- 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.

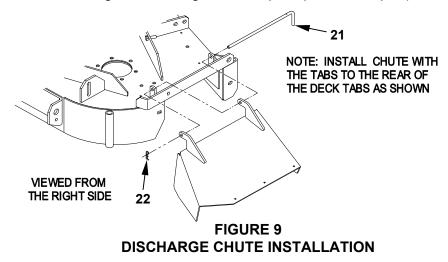
- 3. To remove the bags, shut off deck drive, stop the engine and wait for all moving parts to stop. Open the hood and remove the bags by lifting up on the rear of the bag, then unhooking the front clip. Empty bags by inverting them.
- 4. Reinstall bags, close and latch the hood before continuing mowing.

4.3 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 latch at the blower. Slide the tube off the blower outlet and remove the upper end from the hood.
- 3. Remove the Belt cover by loosening the knobs.

POTENTIAL HAZARD ◆ The deck sheave will become very hot WHAT CAN HAPPEN ◆ Touching a hot deck sheave can cause severe burns. HOW TO AVOID THE HAZARD ◆ 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 9).



- 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.

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.

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

4.4 TRANSPORTING

4.4.1 <u>Transporting a Unit</u>: 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.

A CAUTION

POTENTIAL HAZARD

◆ This unit does not have proper turn signals, lights, reflective markings, or a slow moving vehicle emblem. These items are required to drive on a public street or roadway.

WHAT CAN HAPPEN

- 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.

HOW TO AVOID THE HAZARD

♦ Do not drive a unit on a public street or roadway.

WARNING

POTENTIAL HAZARD

 Loading a unit on a trailer or truck increases the possibility of backward tip-over.

WHAT CAN HAPPEN

 Backward tip-over of the unit could cause serious injury or death.

HOW TO AVOID THE HAZARD

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

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.

5. MAINTENANCE:

5.1 PERIODIC MAINTENANCE

IMPORTANT: Before conducting any maintenance, shut off deck drive, stop engine and wait for all moving parts to stop. Remove spark plug wire(s) or remove key.

5.1.1 Blower Housing/Impeller: Service Interval: Daily.

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.

- 5.1.2 Idler Bushings: **Service Interval: 25 Hours.**Lubricate with 1-2 pumps of SAE No. 2 multi-purpose grease.
- 5.1.3 Bags: Service Interval: Daily.

Inspect the bags for wear, tears, or damage.

A WARNING

POTENTIAL HAZARD

Under normal use the bag will deteriorate and wear.
 Objects could exit a worn bag at high speeds.

WHAT CAN HAPPEN

◆ Thrown objects can cause serious injury or kill you or bystanders.

HOW TO AVOID THE HAZARD

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

5.1.4 Belts. **Service Interval: 50 Hours.**

a) Inspect the belt position on the idler arm.

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 and wait for all moving parts to stop. Remove key. 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 1-3 until the belt is positioned near the center of the idler.

b) Inspect the belt for damage or wear. Replace belt with one of the following.

44" deck - PN 1-653332

48" deck - PN 1-653333

52" deck - PN 1-653438

5.1.5 Clean muffler and rear frame area: **Service Interval: Daily**

A

WARNING

POTENTIAL HAZARD

◆ Operating engine parts, especially the muffler, become extremely hot.

WHAT CAN HAPPEN

- ♦ Severe burns can occur on contact.
- ♦ Debris, such as leaves, grass, brush, etc. can catch fire.

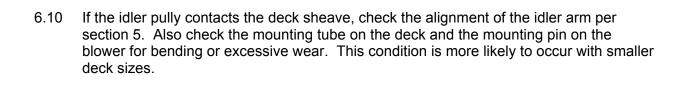
HOW TO AVOID THE HAZARD

- 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, brushcovered unimproved land.

6. Tips and Troubleshooting

Your Exmark Ultra Vac has been designed to be the most productive bagging system on the market. The following tips have been collected to help you get the most out of your Ultra Vac right from the start.

- 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.
- 6.2 When moving 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.
- 6.3 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.
- 6.4 If there is excessive blowout from the deck, check to make sure that the rear screen in the hood is clear of grass build up. It is recommended that the screen and mesh portions of the bags be cleaned regularly to maintain proper air flow. This is especially important in wet conditions.
- During dry conditions check engine air cleaners and clean cooling fins more frequently. The Ultra Vac has been designed to minimize the impact of dust and debris on the mower, but bagging can be a dirty environment.
- During dry conditions, switching to a lower lift blade may reduce blowout without hurting quality of cut.
- 6.7 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.
- 6.8 When storing the Ultra Vac, it is recommended that any build up in the blower be cleaned out. Dry grass build up may cause problems with the impeller when the unit is put back into operation.
- 6.9 If the blower drive belt snaps or breaks frequently, check the alignment of the idler arm per section 5. An arm that is bent out of position can cause the belt to jump off of the idler and be cut by the sheaves.



7. PARTS LISTS

7.1 DECALS





WARNING

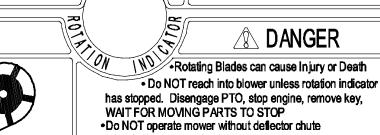
⚠ CAUTION

- · High Speed Discharge can cause Injury or Death
- Do NOT run blower without discharge tube, hood and bags installed and latched

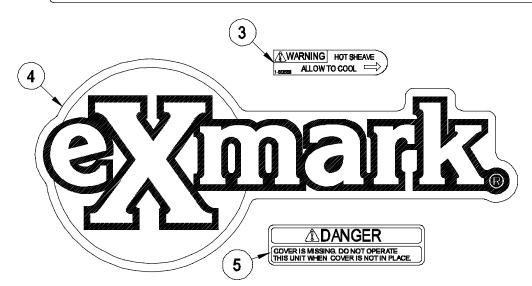
- Read operator's manual
- Hearing protection recommended



DANGER

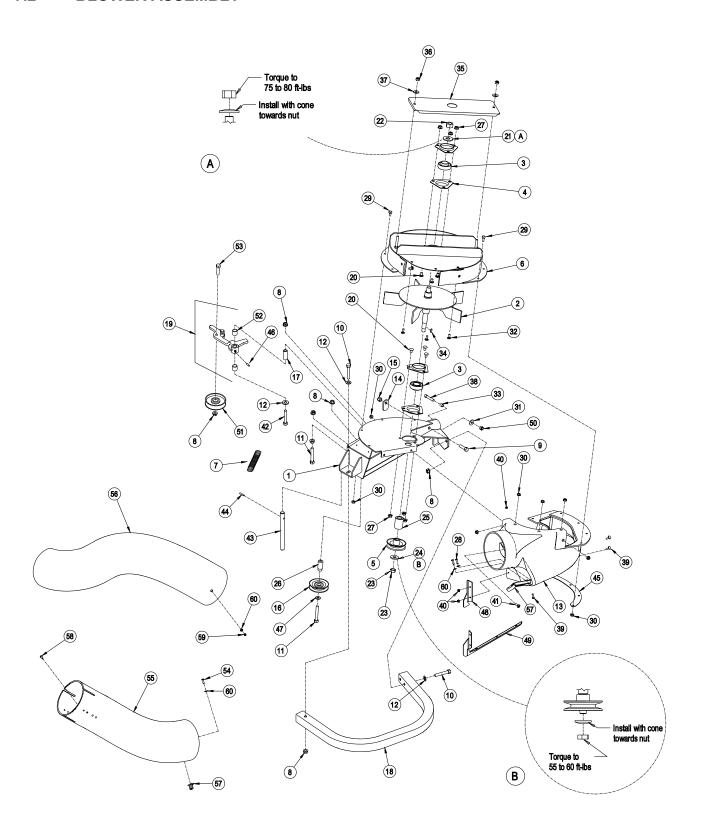


or entire bag system in place.



Ref.		Qty.
No.	Part No.	Description Req'd.
1	1-653557	Decal, Ultra Vac1
2	103-3508	Decal, Warning LHP1
3	1-653546	Decal, Exmark1
4	1-653558	Decal, Hot Sheave1
5	98-5954	Decal, Missing Cover1

7.2 BLOWER ASSEMBLY



7.2 BLOWER ASSEMBLY

			01				
Ref.	Dowl No	Description	Qty.	Ref.	David Nia	December	Qty.
No.	Part No.	Description	Req'd.	No.	Part No.	Description	Req'd.
1∇	103-2874-03	Blower mount wldmt 44'	', 48".1	35	103-3585	Cover, bearing (103-3586	-03)
∇	103-2875-03					with decal	
2	1-652351	Impeller wldmt		36	3296-29	5/16-18 nyloc nut	
3	1-653346	Bearing, SPH. OD	2	37	3256-3	5/16x7/8 OD flat washer	2
4	1-513013	Housing, flange		38	3274-18	5/16-18x1.25 Soc. Hd Scr	ew 1
5♦	103-1047	Sheave, blower	1	39	1-803075	#10-24x.75 CRTH Screw	
6	1-654459	Upper housing weldmer	nt			LHP 44 & 48 units	3
		(1-652345-03) with deca	als1			LHP 52 units	5
7	1-653331	Spring, idler	1	40	1-809112	#10-24 whizlock nut	3
8	3290-357	3/8-16 whizlock nut		41	1-803076	1/4-20x.75 CRTH Screw	2
9	323-7	3/8-16 x 1.25 screw	1	42	3274-107	3/8-16x1.75 Soc But Hd S	crew 1
10	323-11	3/8-16 x 2.25 screw	3	43	1-353050	Pin, Grass Catcher	1
11	323-12	3/8-16 x 2.50 screw	2	44	1-806323	Roll Pin	1
12	3256-4	Flat washer438x1.00x	.083.4	45	1-653596-03	Plate, Blower Backing	1
13	103-2899	Chute, blower	1	46	1-811006	Zerk, 1/8 – 28 straight	1
14	1-353054	Latch, grass catcher	1	47	3256-24	3/8 Flat washer	1
15	3296-39	3/8-16 nyloc nut	1	48	1-653443-03	Plate, Filler LHP 52 only	1
16	1-653322	Idler, inside		49		Plate, blocker LZ 52 only.	
17	103-0130	Bushing, idler pivot	1	50	3217-6	5/16-18 nut	
18	1-653352-01	Bumper		51	103-1103	Idler, Flat	1
19	103-2876	Idler Assy with bushings		52	1-653600	Bearing	
		zerk, and decal		53	323-8	3/8 – 16 x 1.50 screw	
20	3230-18	5/16-18 x .62 carriage b		54	3290-500	#10-24 x .62 CRPH Screw	
21	1-513208	Spring - disk		55	1-653407	Tube, lower LHP 44,48,52	
22	3219-6	5/8-18 nut			103-0812	Tube, lower LZ 52	
23	3220-5	1/2-20 Jam nut		56	1-653406	Tube, upper LHP 44",48"	
24	1-513435	Spring - disk		•	1-653540	Tube, upper LHP 52"	
25	1-653365	Spacer	1	•	103-0811	Tube, upper LZ 52"	
26	1-653366	Hub	1	57	1-653429	Latch Assy (Latch & Catch	
27	32128-20	5-16-18 whizlock nut		58	32105-13	#10-24x.75 HWH Screw	
28	3290-500	#10-24x.62 CRPH Screen	w2	59	3296-2	#10-24 Nyloc Nut	
29	321-3	1/4-20x.62 Hex SCREW	/8	60	3256-14	#10 Flat Washer	6
30	32128-33	1/4-20 whizlock nut	15		103-0401	Blower Assy, 44/48	
31	1-303334	5/16 Spring disk washer	·1			(includes items 1-53)	1
32	3229-11	1/4-20x.62 Carr. bolt RF	ISN5		103-0400	Blower Assy, LHP 52	
33	103-0126	Bushing, Locator	1			(includes items 1-53)	1
34	3257-32	5/8x3/16 #61 Woodruff I	key1			· 	

Exmark red touch up spray paint - P/N 1-850337

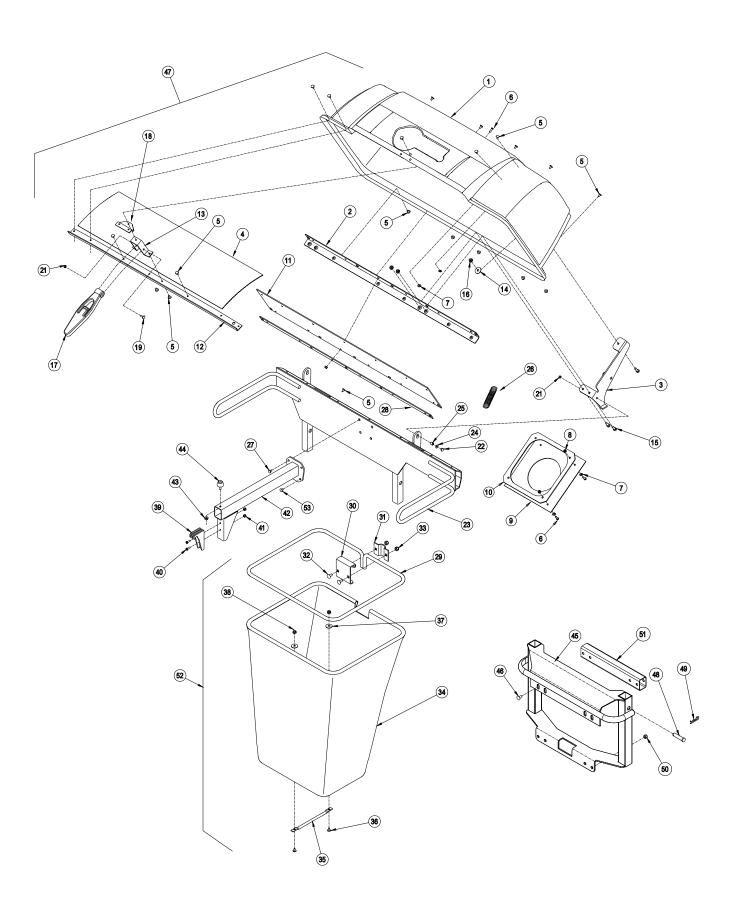
Kit 103-0583 is available to add or repair the welded-on accessory mounting tube on all 44"-52" decks.

[•] Use grease on bore of sheave.

 $[\]nabla$ Includes items 43 and 44

[•] Also used in Adapter Kit 103-0328 on 48" deck Lazer HP model LHP4818KC Serial Number 176621 & below.

7.3 HOOD AND BAG ASSEMBLY

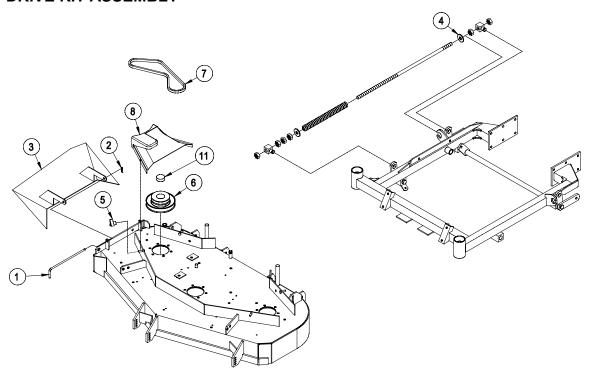


7.3 HOOD AND BAG ASSEMBLY

Ref.			Qty.		Ref.			Qty.
No.	Part No.	Description	Reg'd.		No.	Part No.	Description	Reg'd.
INO.	Fait No.	Description	Nequ.	-	INO.	Fait NO.	Description	Neq u.
1	1-653396	Hood	1		29	1-653529-03	Frame, bag	1
2	1-653397-03	Stiffener, bagger top	1		30	114973-03	Hanger, bag	1
3	1-652395-03	Hinge wldmt	2		31	114974-03	Clamp	1
4	114967	Screen			32	3230-1	5/16-18x.75 Carriage bo	lt2
5	114439	3/16x.5 Pop rivet	38		33	3296-29	5/16-18 nyloc nut	2
6	1-803075	#10-24x.75 CRTH Scre	w 10		34	1-654389	Cloth bag	1
7	3256-61	.216x.750x.050 Flat was	sher 14		35	1-653566	Bag handle	
8	3296-2	#10-24 nyloc nut	10		36	3229-1	1/4-20x.75 Carriage bolt	2
9	1-653561	Seal, chute			37	1-653036	Washer .344x1.75x.062	
10	1-653598-03	Clamp, seal	1		38	3296-42	1/4-20 nyloc nut	
11	1-653425	Seal			39	1-653404	Catch	
12	1-653400-03	Support, screen	1		40	3290-500	#10-24x.625 CRPH Scre	w2
13	1-653519	Mount, latch	1		41	1-809112	#10-24 whizlock nut	2
14	1-653036	Washer .344x1.75x.062	pltd.2		42	1-652414-03	Bag support wldmt	1
15	321-4	1/4-20x.75 Hex Head S	crew.6		43	32128-33	1/4-20 whizlock nut	1
16	32128-33	1/4-20 whizlock nut	6		44	1-523420	Bumper	1
17	1-653403	Latch	1		45		Bagger mount wldmt	
18	1-653535	Latch reinforcement	1		46	322-5	5/16-18x1 Screw 44", 48	
19	321-11	1/4-20x2.0 Hex Head S	crew. 1			322-9	5/16-18x1.75 Screw (52"o	
21	3296-42	1/4-20 nyloc nut	3		•	322-12	5/16-18x2.50 Screw	8
22	321-6	1/4-20x1.00 Hex Head \$	Screw 2		47♦	1-654597	Hood assembly - service	
23	1-652305-03	Bagger upright wldmt	1		48	1-808289	Clevis Pin	2
24	3256-2	Flat washer .312x.734x.	0652		49	1-806005	Hair Pin	
25	1-633545	Spacer			50	32128-20	5/16-18 whizlck nut (52")	
26	1-653544	Spring	2		51∙	103-0325-03	Tube, Spacer	2
27	322-3	5/16-18x.75 Hex Hd Sci	rew2		52*	1-654390	Bag Assembly	1
28	1-653528-03	Plate, backing	1		53	3274-55	Screw, HSBH 5/16-18x.7	751

- Includes items 1,2,4,7,12,13,18 riveted together and Decal
 Used in Adapter Kit 103-0328 for Lazer HP model LHP4818KC below Serial Number 176621 only Includes items 29 through 38.

7.4 DRIVE KIT ASSEMBLY



			Quantity Included in Each Kit		it	
Ref.	Part No.	Description	44"	48" (w/4" tab)	48" (w/2" tab)	52"
No.	i ait ivo.	Description	103-1315	103-1313	103-1314	103-
						1317
1	1-653363	Pin, Chute Pivot	1	1	1	1
2	1-806003	Pin, Hair	1	1	1	1
3	1-402106	Wld, Chute 48" SD		1		
4	1-805517	2.25 O.D. Washer		1		
5	1-323385	Knob, Belt Shield	2	2	2	2
6	1-653439	Sheave, Blower drive (52")				1
	1-653362	Sheave, Blower Drive (48")		1	1	
	1-653309	Sheave, Blower Drive (44")	1			
7	1-653438	Belt, Blower (52")				1
	1-653333	Belt, Blower (48")		1	1	
	1-653332	Belt, Blower (44")	1			
8	103-1316	Cover, Belt (44" and 48")	1	1	1	
	103-1318	Cover, Belt (52")				1
9	1-653532-03	Spacer, Counterweight				1
10	322-2	5/16-18x.62 Hex Head Screw	1	1	1	1
11	103-1279	Plug	1	1	1	1

7.5 ADAPTER KIT 103-0328 For Lazer HP model LHP4818KC before serial number 176621.

Part No.	Description	Qty
103-0325-03	Tube, Spacer	2
1-653540	Tube, Upper	1
322-12	5/16-18x2.50 Screw	8

8. WARRANTY

Limited Warranty Exmark Commercial Turf Equipment

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 manufactured by Exmark and found by us (in the exercise of our 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 frame and hydrostatic traction drive system, excluding hoses, will be warranted for two full years from date of original retail purchase against defects in materials or workmanship. 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 manufacturers 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. This warranty may not be assigned or transferred without the prior express written consent of Exmark and Exmark Warranty Company. The warranty period commences upon the date of the 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 extend to the expense of repair or replacement (as determined by us) of the defective part, including labor. The warranty shall not extend to the expense of delivering the mower to the dealer for warranty work nor the expense of returning it back to the owner after repair or replacement. Our responsibility in respect to claims is limited to making the required repairs or replacements, and no claim of breach of warranty shall be cause for 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: (i) any damage or deterioration due to normal use, wear and tear, or exposure; (ii) normal maintenance services, such as oil change, cleaning, lubrication; adjustment; (iii) replacement of service items, such as oil, lubricants, spark plugs, or other items subject to normal service replacement; (iv) damage or defects arising out of or relating to misuse, neglect, alteration, negligence or accident; (v) 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; (vi) repair or replacement arising as a result of any operation from turf equipment that has been altered or modified so as to, in the determination of Exmark or Exmark Warranty Company, 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; (vii) 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; (viii) repairs or replacements resulting from parts or accessories which have adversely affected the operation, performance or durability of the turf equipment; or (ix) 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

completed and returned to Exmark Warranty Company, within the prescribed time, the Exmark warranty registration.

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 any liability for any other cost, loss or damage, including but not limited to, any incidental or consequential loss or damage. In particular, we shall have no liability or responsibility for: (i) expenses relating to gasoline, oil or lubricants; (ii) 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; (iii) travel time, overtime, after hours time or other extraordinary repair charges or charge relating to repairs or replacements outside of normal business hours at the place of business of the authorized Exmark service dealer; (iv) rental of like or similar replacement equipment during the period of any warranty, repair or replacement work; (v) any telephone or telegram charges or travel charges; (vi) loss or damage to person or property other than that covered by the terms of this warranty; (vii) any claims for lost revenue, lost profit or additional cost as a result of a claim of breach of warranty; or (viii) attorney's fees.

There are no representations or warranties which have been authorized and provided 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 regarded as part of the basis of the bargain and shall not be deemed to create any express warranty that such goods shall conform to the affirmation or promise.

THERE ARE NO 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.

SERVICE RECORD

Date	Description of Work Done	Service Done By

SEE EXMARK'S COMPLETE LINE OF PRODUCTS FOR TURF CARE

LAZER Z®

LAZER Z® HP

LAZER Z® XP

TURF RANGER®

TURF TRACER®

TURF TRACER® HP

VIKING HYDRO

METRO[®]

METRO® HP

SELF STEERING SULKY

ULTRA VAC™

ULTRA VACTM QDS

GRASS CATCHER

MICRO-MULCH TM ACCESSORY

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