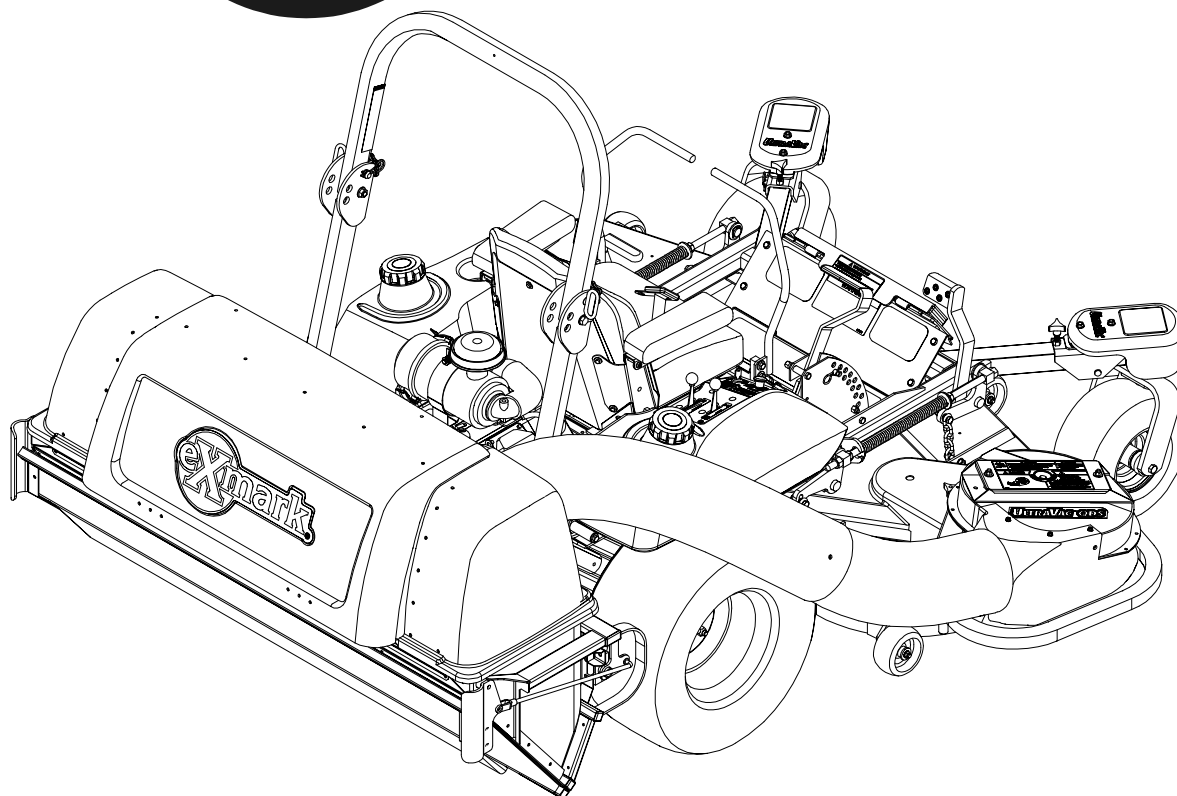


For Ultra Vac Serial Nos.  
510,000 & Higher  
(to fit Units 352,000 & Higher)



OPERATOR'S MANUAL

# ULTRA VAC QDS<sup>TM</sup>

## LAZER Z<sup>®</sup>, LAZER Z XP<sup>®</sup> AND LAZER Z XS<sup>®</sup> MODELS

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

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

Date Purchased \_\_\_\_\_

 **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 key before adjusting, servicing, or performing maintenance.
- ◆ If mower deck or blower 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

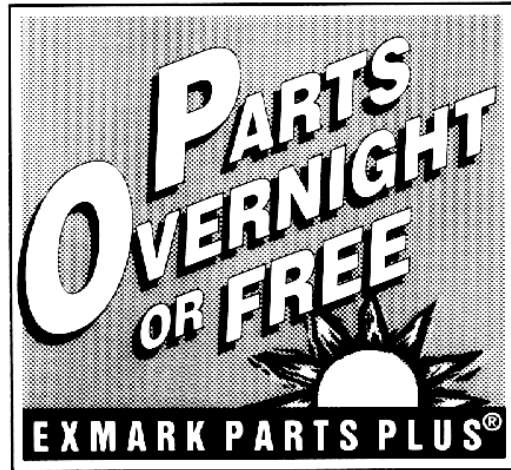
**EFFECTIVE DATE: September 1, 1995**

### 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**

1. If dealer does not have part in stock for a "down" unit at the time of request by customer, the dealer contacts his distributor by 1:00 p.m., local time, and requests Exmark Parts Plus® shipment of six (6) line items or less.
2. Distributor ships part(s) to dealer or customer, as requested by dealer, same day, overnight UPS Distributor bills dealer for part and freight charges where applicable.
3. If distributor does not have the part(s) in stock to satisfy Exmark Parts Plus® 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 part and freight 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 QDS.

**BEFORE OPERATING YOUR ULTRA VAC QDS, 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 QDS, 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.

## **TABLE OF CONTENTS**

<u>Description</u>	<u>Page</u>
1. Safety	
1.1 Safety Alert Symbol .....	1
1.2 Training .....	1
1.3 Preparation .....	1
1.4 Operation.....	2-3
1.5 Safety Signs .....	4
2. Specifications	
2.1 Model Number and Required Accessories.....	5
2.2 Dimensions.....	5
2.3 Bagging System .....	5
3. Assembly Instructions	
3.1 Assembly Diagram.....	6
3.2 Install Hopper Assembly .....	7-11
3.3 Install Blower Assembly .....	11-12
3.4 Assemble Tubes.....	12-13
3.5 Install the Front Weight.....	13-15
3.6 Install the Caster Weights.....	15
3.7 Adjustments.....	15-16
4. Operation	
4.1 Pre-Start .....	16
4.2 Mowing .....	16-17
4.3 Bagger Removal for Side Discharge.....	17-18
4.4 Transporting .....	18-19
5. Maintenance	
5.1 Periodic Maintenance .....	20-21
5.2 Adjustments.....	21-22
6. Warranty .....	23

## 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 QDS as a piece of power equipment and teach this regard to all who operate this unit.
- 1.2.2 Before operating your Ultra Vac QDS, 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.


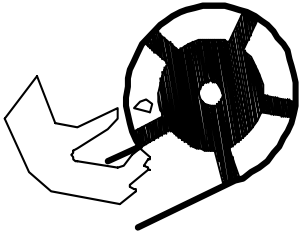

 <b>CAUTION</b>	
POTENTIAL HAZARD	◆ This machine produces sound levels in excess of 85 dBA at the operator's ear when in operation.
WHAT CAN HAPPEN	◆ Exposure to sound levels of 85 dBA or above for extended periods of time can cause hearing loss.
HOW TO AVOID THE HAZARD	◆ Wear hearing protection when 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 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.**

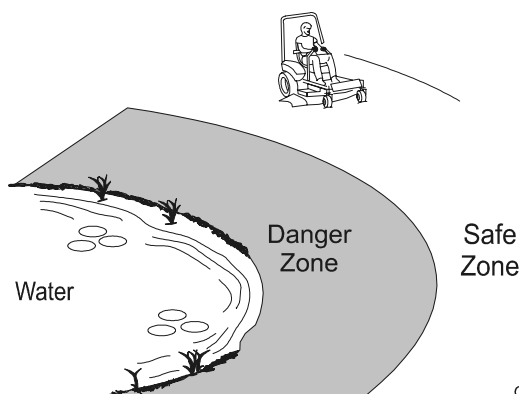
 <b>WARNING</b>	
<b>POTENTIAL HAZARD</b>	
<ul style="list-style-type: none"> <li>◆ An uncovered discharge opening will allow objects to be thrown in operator's or bystander's direction. Also, contact with blade could occur.</li> </ul>	
<b>WHAT CAN HAPPEN</b>	
<ul style="list-style-type: none"> <li>◆ Thrown objects or blade contact can cause serious injury or kill you or bystanders.</li> </ul>	
<b>HOW TO AVOID THE HAZARD</b>	
<ul style="list-style-type: none"> <li>◆ Never operate mower unless discharge chute or entire grass collection system is installed.</li> </ul>	

 <b>DANGER</b>		
	<b>POTENTIAL HAZARD</b>	
	<b>WHAT CAN HAPPEN</b>	
	<b>HOW TO AVOID THE HAZARD</b>	
	<ul style="list-style-type: none"> <li>◆ There are rotating blades in the blower and under the mower deck.</li> <li>◆ Blade contact can cause serious operator or bystander injury or even death.</li> <li>◆ Do NOT reach into Blower unless Rotation Indicator has Stopped. Disengage PTO, stop engine, remove key, WAIT FOR MOVING PARTS TO STOP</li> <li>◆ Do NOT operate mower without deflector chute or entire bag system in place.</li> </ul>	

- 1.4.1 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.

 <b>DANGER</b>	
<b>POTENTIAL HAZARD</b>	
<ul style="list-style-type: none"> <li>◆ Mowing on wet grass or steep slopes can cause sliding and loss of control.</li> </ul>	
<b>WHAT CAN HAPPEN</b>	
<ul style="list-style-type: none"> <li>◆ Wheels dropping over edges, ditches, steep banks, or water can cause rollovers, which may result in serious injury, death or drowning.</li> </ul>	
<b>HOW TO AVOID THE HAZARD</b>	
<ul style="list-style-type: none"> <li>◆ Do not mow slopes when grass is wet.</li> <li>◆ Do not mow near drop-offs or near water.</li> <li>◆ Do not mow slopes greater than 15 degrees.</li> <li>◆ Reduce speed and use extreme caution on slopes.</li> <li>◆ Avoid sudden turns or rapid speed changes.</li> </ul>	

- Use a walk behind mower and/or a hand trimmer near drop-offs, ditches, steep banks or water. This area can be dangerous, see Figure 1.






**Figure 1**  
**SAFE ZONE FOR MOWING**

- Progressively greater care is needed as the slope increases.
- Always avoid sudden starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly off the slope.
- Avoid sudden starts when mowing uphill. Mower may tip backwards.
- Be aware that loss of traction may occur going downhill. Weight transfer to the front wheels may cause drive wheels to slip and cause loss of braking and steering.
- Watch for ditches, holes, rocks, dips, and rises that change the operating angle, as rough terrain could overturn the machine.
- Remove or mark obstacles such as rocks, tree limbs, etc. from the mowing area. Tall grass can hide obstacles.
- The operating characteristics of the machine will change with the Ultra Vac QDS installed. The stability and traction of the machine will change as the Ultra Vac QDS hopper fills with grass clippings. Use progressively greater care on slopes as the hopper fills.
- Always install and remove the Ultra Vac QDS, including counterweights, 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 QDS installed.

#### **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 Replacement 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 QDS.



	<p><b>⚠ WARNING</b></p> <ul style="list-style-type: none"> <li>• High Speed Discharge can cause Injury or Death.</li> <li>• Do NOT run blower without discharge tube, hood and bags installed and latched.</li> </ul>	<p><b>⚠ CAUTION</b></p> <ul style="list-style-type: none"> <li>• Read operator's manual.</li> <li>• Hearing protection recommended.</li> </ul>
<p><b>⚠ DANGER</b></p>  <p>103-3507</p>		<p><b>⚠ DANGER</b></p> <ul style="list-style-type: none"> <li>• Rotating Blades can cause Injury or Death.</li> <li>• Do NOT reach into blower unless rotation indicator has stopped. Disengage PTO, stop engine, remove key, WAIT FOR MOVING PARTS TO STOP.</li> <li>• Do NOT operate mower without deflector chute or entire bag system in place.</li> </ul>

PART NO. 103-3507  
LOCATION: Top of Blower

**⚠ WARNING**

- Ultra Vac counterbalance weight(s) installed without Ultra Vac may cause Loss of Traction and Steering Control.
- Ultra Vac installed without Ultra Vac counterbalance weight(s) will cause Reduced Stability.
- Loss of Traction and Steering or Reduced Stability may Cause Injury or Death.
- Install weight(s) ONLY when Ultra Vac is installed.

103-6607

PART NO. 103-6607  
LOCATION: Top of Caster Weights & Top of Blower

**⚠ WARNING**



- UNDER NORMAL USE, THIS BAG WILL DETERIORATE AND WEAR. OBJECTS MAY EXIT A WORN BAG AT HIGH SPEEDS CAUSING INJURY OR DEATH.
- CHECK BAG FREQUENTLY FOR TEARS AND HOLES.
- REPLACE BAG WITH AN ORIGINAL EQUIPMENT BAG THAT BEARS THIS WARNING.

1-653554

PART NO. 1-653554  
LOCATION: Rear of Bag

**⚠ WARNING HOT SHEAVE**  
**ALLOW TO COOL →**

1-653558

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

**⚠ WARNING**

**For units with 2 post Roll Bar installed:**

Ultra Vac counterbalance weight installed without Ultra Vac may cause Loss of Traction and Steering.

Ultra Vac installed without Ultra Vac counterbalance weight(s) will cause Reduction of Stability.

Loss of Traction and Steering or Reduction of Stability may cause injury or death.

Install weight(s) ONLY when Ultra Vac is installed.

103-6606

PART NO. 103-6606  
LOCATION: Top of Front Weight

**⚠ DANGER**

**COVER IS MISSING. DO NOT OPERATE THIS UNIT WHEN COVER IS NOT IN PLACE.**

98-5954

PART NO. 98-5954  
LOCATION: Under Bearing Cover

## 2. SPECIFICATIONS

### 2.1 MODEL NUMBERS AND REQUIRED ACCESSORIES:

#### UVD60C

The following accessories are required for installation:

Unit	Serial Number	Required to Mount Ultra Vac QDS
60" Lazer Z	510,000 and Higher	None Required
60" Lazer Z	SN 352,000 – 509,999	103-7419- Kit, 05 UV to previous Lazer Z units
60" Lazer Z XP	All Serial Numbers	None Required
60" Lazer Z XS	All Serial Numbers	103-7876 - Kit, UV to XS

#### UVD72C

The following accessories are required for installation:

Unit	Serial Number	Required to Mount Ultra Vac QDS
72" Lazer Z	510,000 and Higher	None Required
72" Lazer Z	SN 352,000 – 509,999	103-7419- Kit, 05 UV to previous Lazer Z units
72" Lazer Z XP	All Serial Numbers	None Required
72" Lazer Z XS	All Serial Numbers	None Required

### 2.2 DIMENSIONS

#### 5.2.1 Overall unit length w/Ultra Vac QDS:

	60" Deck		72" Deck	
	Length	Length	Length	Length
Lazer Z XP & Lazer Z XS	107.90"	(274.1 cm)	112.00"	(284.5 cm)
Lazer Z - Air Cooled	106.65"	(270.9 cm)	110.75"	(281.3 cm)
Lazer Z - Liquid Cooled	106.90"	(271.5 cm)	111.00"	(281.9 cm)

#### 5.2.2 Overall unit width w/Ultra Vac QDS:

	60" Deck		72" Deck	
	Width	Width	Width	Width
All Units	74.44"	(189.1 cm)	86.49"	(219.7 cm)

### 2.3 BAGGING SYSTEM

#### 5.3.1 Weight:

	60" Deck		72" Deck	
	Weight	Weight	Weight	Weight
Lazer Z XP	308 lbs.	(140 kg)	308 lbs.	(140 kg)
Lazer Z & Lazer Z XS	361 lbs.	(164 kg)	308 lbs.	(140 kg)

5.3.2 Collection Hopper: Steel and Polyethylene hopper. Commercial grade, cloth mesh door with reinforced bottom.

Capacity: 11.0 bushels

5.3.3 Dump Mechanism: Manual dump from seat

5.3.4 Blower tube: fixed, abrasion resistant molded polyethylene

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

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

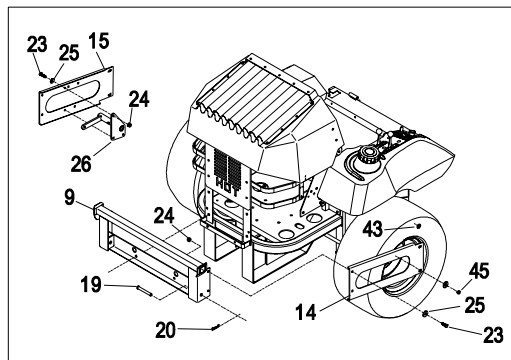
### 3. ASSEMBLY INSTRUCTIONS – LAZER Z & LAZER Z XP

#### 3.1 ASSEMBLY DIAGRAM

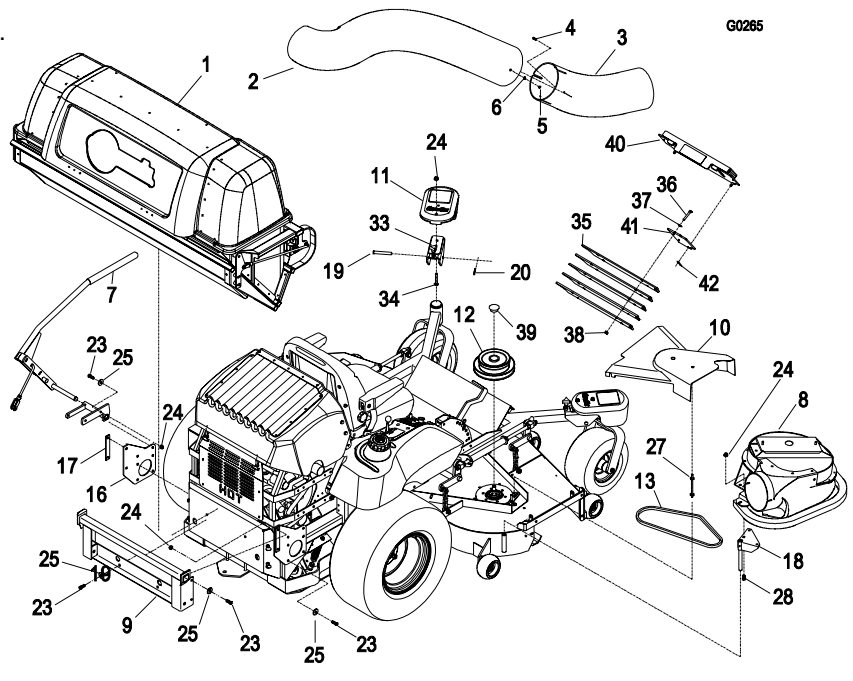
Item	Description	QTY (60/72)	
		LZ (352,000- 509,999)	LZ XP, XS (All) & LZ (510,000 & Higher)
1	Hopper Assembly	1	1
2	Upper Tube	1	1
3	Lower Tube	1	1
4	#10-24 X .75 Screw	3 / 6	3 / 6
5	#10-24 Nyloc Nut	3 / 6	3 / 6
6	#10 Flat Washer	3 / 6	3 / 6
7	Handle Assembly	1	1
8	Blower Assembly	1	1
9	Bagger Mount Weldment	1	1
10	Belt Cover	1	1
11	Removable Weight	2	2
12	Jackshaft	1	1
13	Blower Drive Belt	1	1
14	Frame Bracket RH	1	
15	Frame Bracket LH	1	
16	Frame Bracket		2
17	Mount Spacer		2
18	Mount Pin Weldment	1	1
19	Clevis Pin	4	4
20	Hair Pin (large)	4	4
21	Chute Pivot Pin	1	1
22	Hair Pin (small)	1	1
23	3/8-16 x 1.00 Hex Screw	13	16

Item	Description	QTY (60/72)	
		LZ (352,000- 509,999)	LZ XP, XS (All) & LZ (510,000 & Higher)
24	3/8 Whizlock Nut	20	23
25	3/8 Spring Disk Washer	13	16
26	Handle Mount	1	
27	Belt Shield Stud	1	1
28	3/8-16 x .75 Hex Screw	3	3
29	Belt Cover Spacer	1 - 60 only	1 - 60 only
30	7/16 Spring Disk Washer	2 - 60 only	2 - 60 only
31	Washer – ¼ thick *	2 - 60 only	
32	3/8-16x3.25 Tap Bolt *	2 - 60 only	
33	Weight Bracket	2	2
34	3/8-16 Square Head Bolt	4	4
35	Weight Plate	5	5
36	5/16-18 Hex Screw	4	4
37	5/16 Flat Washer	4	4
38	5/16-18 Whizlock nut	4	4
39	Plug	1	1
40	Weight Plate Assembly	2	2
41	Weight Mounting Plate	2	2
42	Cotter Hairpin	2	2
43	Spacer	6	
44	Drill Template	1	1
45	Nut, Nyloc thin	2	2

\* Used only on units below SN 352,000  
 Items 21, 22, 29, 30, 31, 32 and 44 not shown.  
 See figure 7 for installation of 29 and 30.  
 See figure 16 for installation of 21 and 22.  
 See figure 13 for use of 44.



**LAZER Z SN 352,000 – 509,999  
 ASSEMBLY DIAGRAM  
 (Shown without ROPS for clarity)**



**LAZER Z XP, LAZER Z XS,  
 and LAZER Z SN 510,000 & HIGHER  
 ASSEMBLY DIAGRAM  
 (Shown without ROPS for clarity)**

### 3.2 INSTALL THE HOPPER ASSEMBLY

**Lazer Z XP, Lazer Z XS and Lazer Z SN 510,000 & Higher units only (Lazer Z SN 352,000 – 509,999 units skip to section 3.2.9)**

**NOTE:** Units with a 2 post folding ROPS installed, the ROPS must be temporarily removed for installation of the Ultra Vac QDS.

**For Lazer Z units SN 510,000 and Higher:**

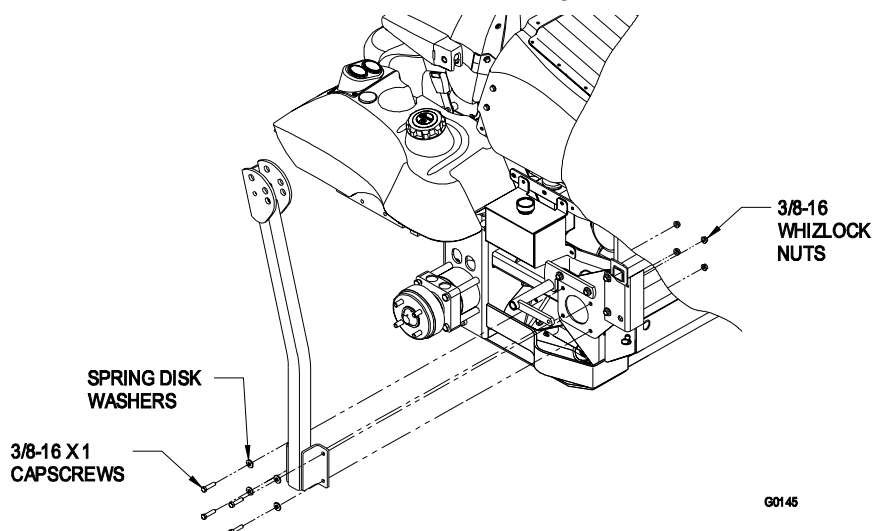
- 3.2.1 When installing the Ultra Vac QDS onto a liquid cooled Lazer Z, the rear bumper plate must be removed. Remove rear bumper plate. Reattach the lower side bumper bars to the vertical "HOT" engine guard shield using two of the original screws, washers and whizlock nuts removed from the bumper plate.
- 3.2.2 Remove the lower two screws holding the rear engine guard ("HOT" engine guard on liquid cooled units) to the rear frame of the Lazer Z unit.
- 3.2.3 Install the mount weldment (Item 9) loosely to the rear of the machine using the two screws and nuts removed in section 3.2.2.

**For Lazer Z XP and Lazer Z XS units:**

- 3.2.4 Install rear mount weldment (Item 9) loosely to the rear bumper using the two holes provided. Use the 3/8-16 x 1.00 screws (Item 23), 3/8 spring disk washers (Item 25) and 3/8-16 whizlock nuts (Item 24).

**For Lazer Z XP, Lazer Z XS and Lazer Z SN 510,000 and Higher units:**


- 3.2.5 Attach the handle assembly (Item 7) onto frame bracket (Item 16) using 3/8-16 x 1.00 screws (Item 23), 3/8 spring disk washers (Item 25) and 3/8-16 whizlock nuts (Item 24). Make sure that the raised portion of the spring disk washer faces the head of the screw.
- 3.2.6 Install the frame brackets (Item 16) and spacers (Item 17) loosely to the mount weldment (Item 9). Use (2) 3/8-16 x 1 screws (Item 23), (2) 3/8 spring disk washers (Item 25) and (2) 3/8-16 whizlock nuts (Item 24). Make sure that the raised portion of the spring disk washer faces the head of the screw.
- 3.2.7 *For units without a ROPS installed:* Install the frame brackets (Item 16) to the mounting pads on the Lazer frame. Use (4) 3/8-16 x 1 screws (Item 23), (4) 3/8 spring disk washers (Item 25) and (4) 3/8-16 whizlock nuts (Item 24).
- 3.2.8 *For units with a ROPS installed:* Install the frame brackets (Item 16), and ROPS lower roll bar tubes **LOOSELY** to the mounting pads on the Lazer frame. Use the ROPS mounting hardware, 3/8-16 x 1 1/2 screws, 3/8 spring disk washers and 3/8-16 whizlock nuts. Make sure that the raised portion of the spring disk washer faces the head of the screw. See Figure 4.



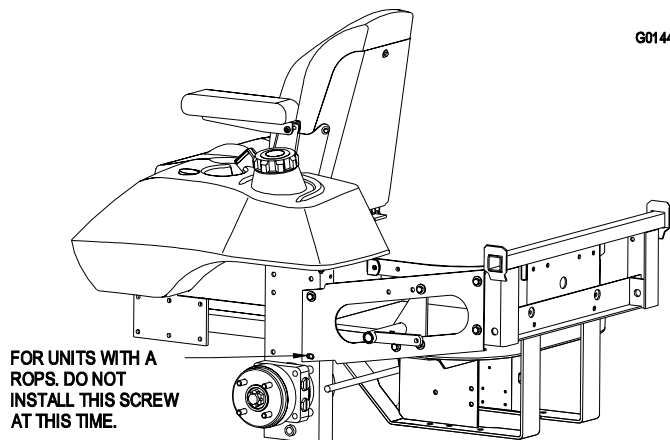
**FIGURE 4  
LOWER ROLL BAR INSTALLATION**

**Lazer Z units SN 352,000 – 509,999 only (Lazer Z XP, Lazer Z XS, and Lazer Z 510,000 units skip to section 3.2.17):**

- 3.2.9 When installing the Ultra Vac QDS onto a liquid cooled Lazer Z, the rear bumper plate must be removed. Remove rear bumper plate. Reattach the lower side bumper bars to the vertical “HOT” engine guard shield using two of the original screws, washers and whizlock nuts removed from the bumper plate.
- 3.2.10 Remove the lower two screws holding the rear engine guard (“HOT” engine guard on liquid cooled units) to the rear frame of the Lazer Z unit.
- 3.2.11 Install the mount weldment (Item 9) loosely to the rear of the machine using the two screws and nuts removed in section 3.2.7.

 <b>CAUTION</b>	
<b>POTENTIAL HAZARD</b>	◆ Relying solely on mechanical or hydraulic jacks to support the mower could be dangerous.
<b>WHAT CAN HAPPEN</b>	◆ The mechanical or hydraulic jacks may not be enough support or may malfunction allowing the unit to fall, which could cause injury.
<b>HOW TO AVOID THE HAZARD</b>	◆ <b>DO NOT</b> rely solely on mechanical or hydraulic jacks for support. Use adequate jack stands or equivalent support.

- 3.2.12 Remove the E-clip and handle from the handle assembly (Item 7). Discard the mount that came with the handle assembly. Install the handle and E-clip onto the handle mount (Item 26) that came in the completing kit.
- 3.2.13 Mount the handle assembly (Item 7) onto left hand frame bracket (Item 15) using 3/8-16 x 1.00 screws (Item 23), 3/8 spring disk washers (Item 25) and 3/8-16 whizlock nuts (Item 24). Make sure that the raised portion of the spring disk washer faces the head of the bolt.
- 3.2.14 Jack the rear of the unit up and safely support it on jack stands. Remove the rear wheels.
- 3.2.15 Install the right and left hand frame brackets (Items 14 and 15) loosely to the mount weldment and the wheel channels of the Lazer Z frame. The flanges on the right and left hand frame brackets should face in towards the unit to provide the maximum tire clearance.



**FIGURE 2**

Secure using (8) 3/8-16 x 1.00 screws (Item 23), (8) 3/8 spring disk washers (Item 25) and (8) 3/8-16 whizlock nuts (Item 24). Make sure that the raised portion of the spring disk washer faces the head of the bolt.

**NOTE:** On units with a ROPS installed, the lower front screw that attaches to the wheel motor channel must be left uninstalled. Units with Serial Numbers above 440,000 will have a captured bolt in this position. See Figure 2.

**NOTE:** On 60 inch units, this bolt on the wheel channel is best installed by positioning the nut behind the hole using a deep socket and turning the bolt through the hole into the nut.

***For installation (or re-installation) of a 2 post foldable ROPS on Lazer Z units with SN 352,000 – 509,999:***

3.2.16 Install the two lower roll bar tubes.

- a) Align three spacers on each side and tape with masking tape to the rear frame as shown in Figure 3.
- b) Align lower roll bar tubes along wheel motor channels as shown in Figure 3.
- c) **LOOSELY** install the lower roll bar hardware from the bolt bag to the tubes in the following order (Reference Figure 3 for alignment and installation instructions below):
  - 1) Discard the 3/8-16 regular nyloc nut provided with the Lazer Z unit or ROPS kit and replace with the 3/8-16 thin nyloc nut (Item 45) provided with this Ultra Vac.
  - 2) Install the 3/8-16 thin nyloc nut and spring disk washer to bolt protruding from the wheel motor channel as shown.

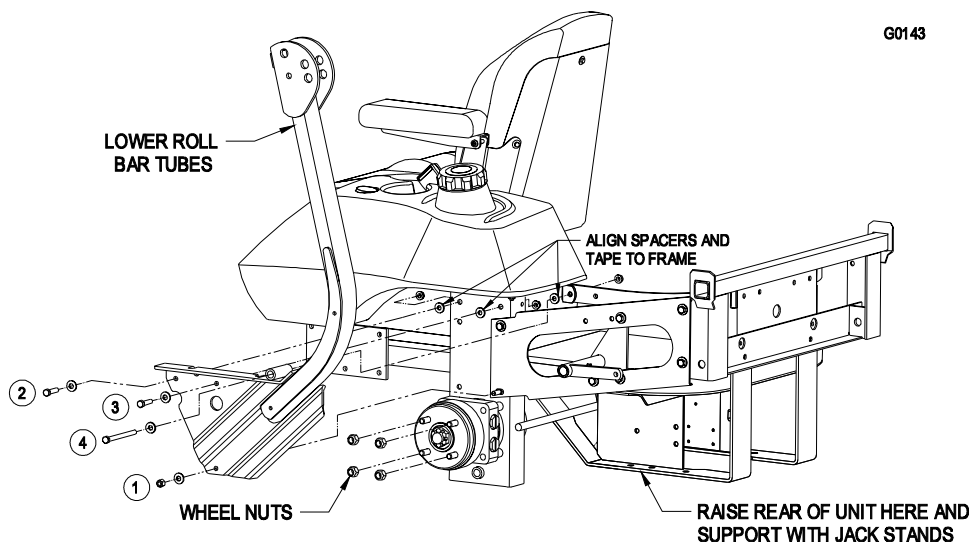
**NOTE:** Be sure the spring disk washer cone is installed towards the nyloc nut.

Units with Serial Numbers below 440,000 require use of a Grade 5 3/8-16 x 1 1/2 screw, spring disk washer and whizlock nut. These items are included with ROPS kit number FRPSLZ.

**NOTE:** On 60 inch units, the lower bolt on the wheel channel is best installed by positioning the nut behind the hole using a deep socket and turning the bolt through the hole into the nut.

- 3) Install one 3/8-16 x 1 1/2 hex capscrew, spring disk washer and 3/8-16 whizlock nut to the top front hole as shown (it will be necessary to push the capscrew through the masking tape applied in step a).
- 4) Install one 3/8-16 x 1 1/2 hex capscrew, spring disk washer and 3/8-16 whizlock nut to the top rear hole as shown (it will be necessary to push the capscrew through the masking tape applied in step a).
- 5) Install one 3/8-16 x 4 1/2 hex capscrew, spring disk washer and 3/8-16 whizlock nut through the top tube as shown (it will be necessary to push the capscrew through the masking tape applied in step a).

**NOTE:** Be sure the spring disk washer cone is installed towards the head of all capscrews.



**FIGURE 3**  
**LOWER ROLL BAR INSTALLATION**

3.2.17 *All units with a ROPS installed:* Install the upper u-shaped section of the roll bar. (Reference Figure 4 for alignment and installation instructions below):

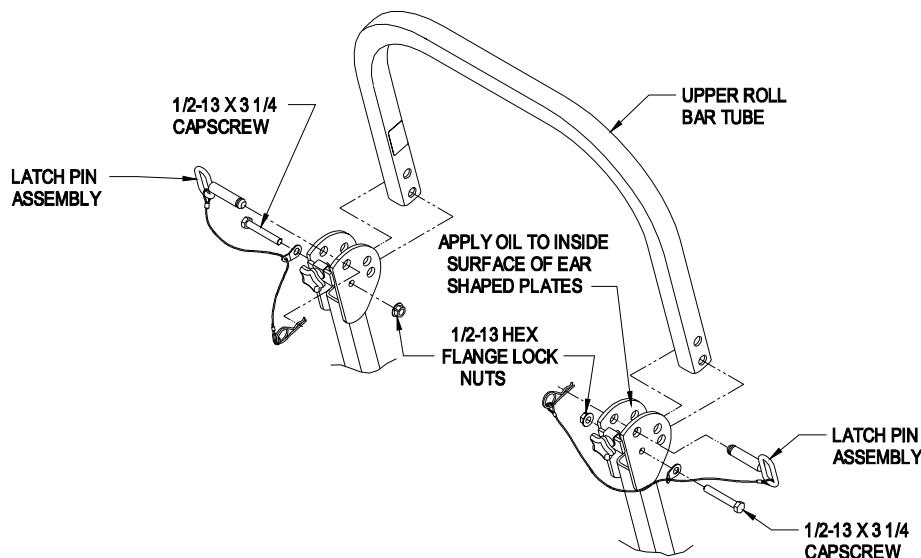
- a) Locate the latch pin assemblies (pin and hairpin connected with a lanyard).
- b) Install a 1/2-13 x 3 1/4 capscrew in the washer on the lanyard of each pin assembly.

Note: Make sure the bent tab in the washer points toward the head of the capscrew.

- b) Lightly oil the inside surfaces of the ear-shaped plates at the upper end of the lower roll bar tubes.
- c) Locate the upper u-shaped section of the roll bar. Install the upper roll bar section using one 1/2-13 x 3 1/4 capscrew (from step b) and one 1/2-13 hex flange lock nut on each side. Do not over tighten. Make sure upper roll bar can pivot freely.

Notes:

- Make sure the capscrew and nuts are installed with the nut to the inside of the roll bar.
  - Make sure the tab on the lanyard washer is installed as shown and points toward the front of the unit.
- d) Raise the roll bar into the upright position and secure with the latch pin assemblies on each side. Install latch pin from outer surface of roll bar assembly and secure with the hairpin to the inside.
  - e) Tighten the front knobs against the upper roll bar ends.



00087

**FIGURE 4**  
**UPPER ROLL BAR INSTALLATION**

- 3.2.18 *All Units:* Tighten all the hardware that attaches the Ultra Vac mount to the machine frame. Start with the screws that hold the mount weldment to the rear of the unit and work forward.
- 3.2.19 *All Units with a ROPS installed:* Torque all lower roll bar hardware attached to the machine frame to 30-35 ft-lbs. (41-47 N-m).
- 3.2.20 *All Lazer Z units SN 352,000 – 509,999:* Reinstall the rear wheels and lower the unit from the jack stands.
- 3.2.21 Apply a light coat of grease to the front and rear of the upper tube of the mount weldment. Install the hopper assembly (Item 1) onto the mount by slipping the hook portion over the top mounting tube of the mount weldment. Secure the assembly to the mount using the clevis pins (Item 19) and hairpins (Item 20).
- 3.2.22 Attach the handle link to the actuation arm on the hopper assembly.

### **3.3 INSTALL BLOWER ASSEMBLY**

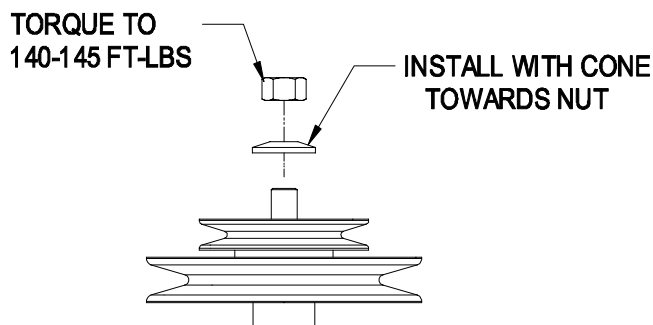
- 3.3.1 Lower the deck fully. Remove the right hand belt cover. Remove the belt cover mounting stud that protrudes from the deck.
- 3.3.2 Remove the deck drive belt from around the right hand spindle sheave.
- 3.3.3 Support the right mower blade and shaft so that it will not fall out of the deck when the right sheave nut is removed.
- 3.3.4 Remove the right sheave nut, spring disk washer, and sheave from the spindle shaft.

***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.***

- 3.3.5 Apply a light coat of Mobile HTS grease (or food grade antisieze) to the top portion of the spindle shaft where the sheave mounts.
- 3.3.6 Install the jackshaft (Item 12) onto the right spindle shaft. Install the spring disk washer and nut. Torque the sheave nut to 140-145 ft. lbs. Make sure that the spring disk washer cone is installed towards nut. See Figure 5.

***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.***





**FIGURE 5**

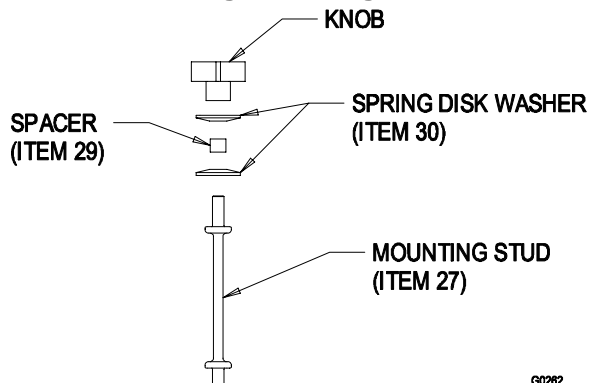
**Check blade bolt torque after completing this installation:**

**For units with a 5/8-18x2 3/4 blade bolt, torque to 115-120 ft-lbs (156-163 N-m)**

**For units with a 1/2-20x2 blade bolt, torque to 55-60 ft-lbs (75-81N-m)**

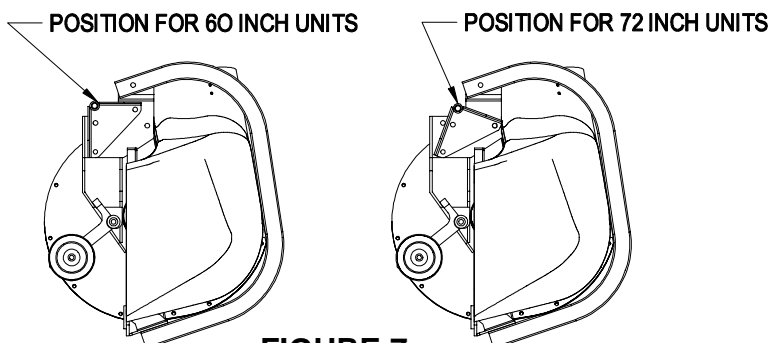
- 3.3.7 Re-install the deck drive belt in the lower groove of the double sheave. Install the plug (Item 24) into the bore of the double sheave.
- 3.3.8 Remove the discharge chute from the deck. Discard the mounting hardware, but save the discharge chute for use during side discharge operation. The chute pivot pin (Item 21) and hairpin (Item 22) may be stored in the pivot holes on the discharge chute during bagging operation.
- 3.3.9 Install the belt cover mounting stud (Item 27) included in the Ultra Vac QDS completing kit.

**For 60 inch units only, install the spacer (Item 29), two 7/16 spring disk washers (Item 30) and the plastic knob as shown in Figure 6. The knob does not need to be tightened against the washers at this time.**



**FIGURE 6**

- 3.3.10 Install the mounting pin weldment (Item 18) to the blower assembly using the 3/8-16 x .75 screws (Item 28) and whizlock nuts (Item 24). Maximum deck clearance will be provided if the bolts are installed from below the mounting pin. The mount pin can be installed in two positions. For 60 inch decks the pin should be installed as far away from the bumper end as possible. For 72 inch decks the pin should be installed close to the bumper end. See Figure 7.



**FIGURE 7**

- 3.3.11 Install the belt (Item 13) onto the blower by working it around the impeller sheave.
- 3.3.12 Mount the blower on the deck by sliding the mounting pin into the tube at the rear right corner of the deck. Swing the blower closed. Adjust the position of the front pin to engage the slot in the front of the deck. Use the latch to lock the blower in this position. Adjust the tension on the latch to draw the blower up to the deck, yet allow for release by hand.
- 3.3.13 Pull the spring loaded idler back and slip the belt over the top sheave on the deck spindle.
- 3.3.14 Install the plastic belt cover (Item 10). On 60" units the outside end of the cover is slotted and can slip between the two washers assembled in step 3.3.9. The plastic knob does not need to be removed. On 72" units the cover has a hole, and the plastic knob must be installed after the cover has been positioned.

### **3.4 ASSEMBLE THE TUBES**

- 3.4.1 Remove the (6) screws, nuts, and washers (Items 4, 5, and 6) from the lower tube (Item 3) and slide the lower and upper tube (Item 2) together. The arrow on the upper tube should align with the dimple on the lower tube. There are two sets of holes on the lower tube. The first set reached is for use with Lazer XP and Lazer XS units. The second set reached is for Lazer Z units. Align the arrow on the upper tube with the dimple on the lower tube and slide them together until the proper set of holes is reached.
- 3.4.2 Fasten the upper and lower tubes together using three of the hardware sets removed from the lower tube in step 3.4.1. The heads of the screws must be inside the tube to prevent accumulation of grass inside the tube. The washer and the nut should be installed on the outside of the tube. Use the remaining three hardware sets to plug the exposed holes in the lower tube. On 60" Lazer Z units, discard the remaining hardware sets.
- 3.4.3 Slip the upper end of the tube assembly into the hopper opening. Slide the lower end of the tube assembly over the blower outlet and align the notch with the tube latch. Latch the tube to the blower.

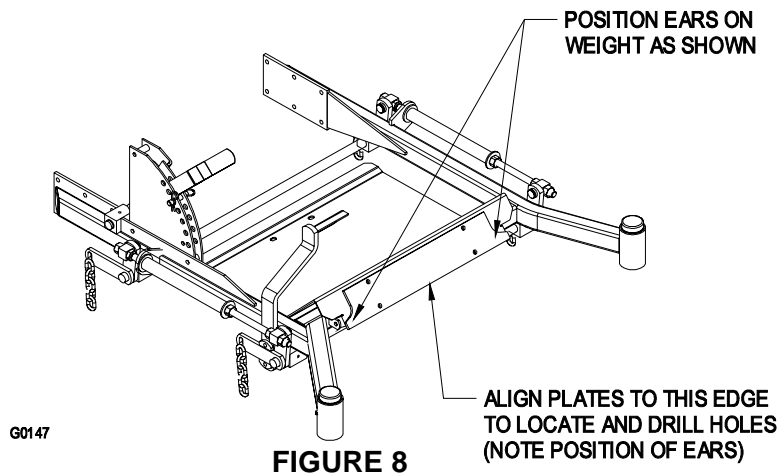
### **3.5 INSTALL THE FRONT WEIGHTS**

- 3.5.1 A total of five weight plates (Item 35) must be installed on the front panel of the floor pan. Four of these weights are mounted behind the front panel of the floor pan. The remaining weight plate must be mounted on top of the front panel of the floor pan. These weights give proper balance to the machine when the mount and handle are installed and the blower, hopper, and tubes are removed for side discharge operation.

Units with the 2 post foldable ROPS installed require additional mounting plates (Item 44) and front weight (Item 43) to be installed. The front weight is removable and retained by using hairpins (Item 45).

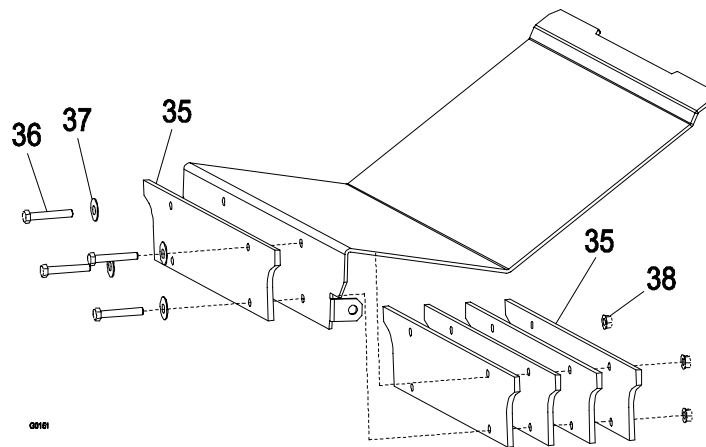
*Lazer Z units prior to SN 440,000:*

- 3.5.2 Locate the position of the mounting holes by clamping a weight plate to the front of the floor pan (See Figure 8). The ears on the weight plate should be towards the bottom (upside down from the actual mounted position). Align the bottom edge of the weight plate with the bottom edge of the floor pan front panel. Center the weight plate side to side. Mark the position of all four holes using a center punch.



**FIGURE 8**

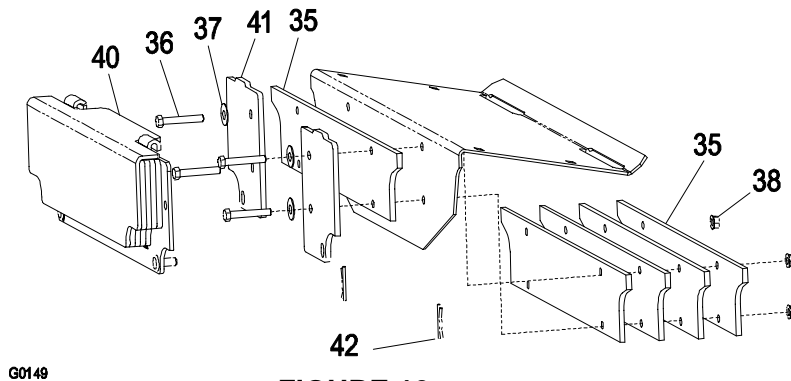
- 3.5.4 Drill 3/8" holes at the points marked.
- 3.5.5 *For Lazer Z units without a ROPS:* Open the floor pan and install four weight plates (Item 35) behind the front panel and one weight plate (Item 35) in front of the panel using the 5/16-18 x 1.75 screws, 5/16 washers and 5/16-18 whizlock nuts (Items 36, 37, and 38). The weight plates will only fit with the ears located near the bend in the floor pan (See Figure 9). Apply the decal included in the literature pack to the center of the weight plate that was mounted to the top of the floor pan.



**FIGURE 9**

- 3.5.6 *For Lazer Z units prior to SN 440,000 with a ROPS:* Open the floor pan and install (4) weight plates behind the front panel, (1) weight plate in front of the front panel, and (2) weight mounting plates (Items 35, and 41) as shown in Figure 12 using (4) 5/16-18 x 2.0 screws, (4) 5/16 flat washers, and (4) 5/16-18 whizlock nuts (Items, 36, 37, and 38).
- 3.5.7 Hook weight plate assembly (Item 40) over the top of the weight mounting plates and secure with two hairpins (Item 42) as shown in Figure 10.

**Note: The removable weight is heavy. Use care when lifting. Make sure that you can hold the weight securely before lifting. Use caution when positioning your hands so that you do not set the weight down on your hands or fingers.**

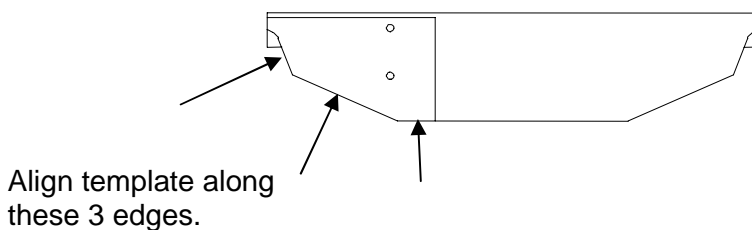


G0149

**FIGURE 10**

*Lazer Z units SN 440,000 and higher:*

- 3.5.8 Locate the position of the mounting holes by aligning the template (P/N 103-5865) on the front face of the floor pan as shown in Figure 11. Clamp the template in place. Using a center punch, mark the positions of the holes on the floor pan. Flip the template over and repeat on the other end of the floor pan face.



**FIGURE 11**

- 3.5.9 Drill 3/8" holes at the points marked.

- 3.5.10 Follow steps 3.5.6 through 3.5.7 for weight installation (See Figure10).

### 3.6 INSTALL THE CASTER WEIGHTS

**Note: The caster weights are heavy. Use care when lifting them. Make sure that you can hold them securely before lifting them. Use caution when positioning your hands so that you do not set them down on your hands or fingers.**

- 3.6.1 Assemble the weight brackets (Item 33) to the caster weights (Item 11) using the 3/8-16 square head bolts (Item 34) and 3/8 whizlock nuts (Item 25).

Unit	1.5" Bracket	2.0" Bracket
Lazer Z 60" Units	1	1
Lazer Z 72" Units		2
Lazer Z XP 60" Units		2 <sup>1</sup>
Lazer Z XP 72" Units		2
Lazer Z XS 60" Units		2 <sup>2</sup>
Lazer Z XP 72" Units		2

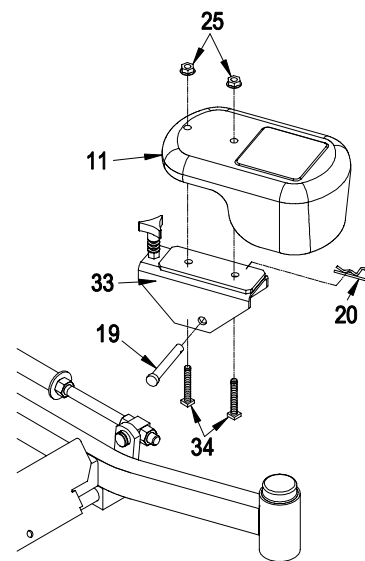
<sup>1</sup> Second 2.0" bracket is included in Ultra Vac XS completion kit 103-7876.

<sup>2</sup> Second 2.0" bracket is included in Ultra Vac XP completion kit 103-7420.

- 3.6.2 Install the caster weight assemblies over the caster arms. On 60 inch Lazer Z machines one weight has a wide mounting bracket and one has a narrow bracket. They will only fit the machine one way. Weights for the 60 Lazer XP, 60" Lazer XS, and all 72's are interchangeable left and right.

- 3.6.3 Install a clevis pin (Item 19) and hairpin (Item 20) on each caster weight to retain them.

- 3.6.4 Tighten knob on weight assembly until the weight is clamped securely to the caster arm.



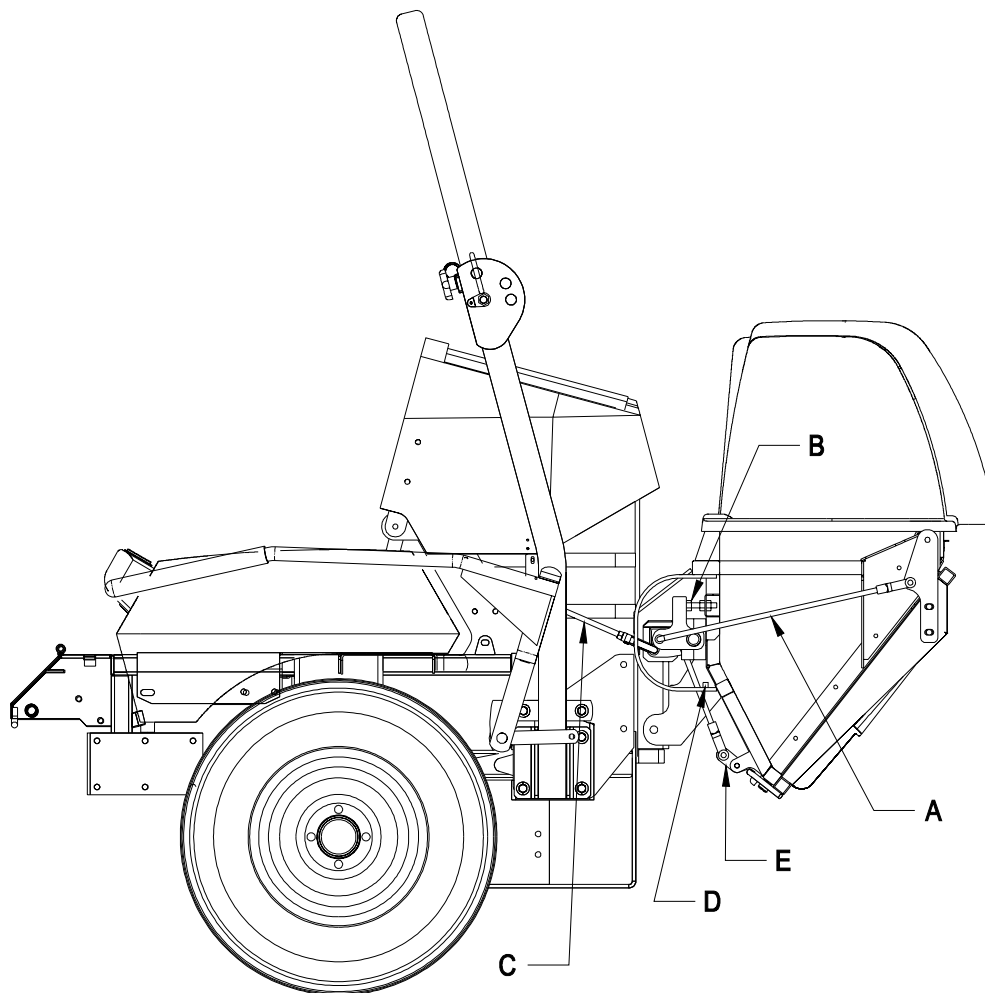
G0054

**FIGURE 12**

### 3.7 ADJUSTMENTS:

Your Ultra Vac QDS was adjusted at the factory to operate properly. However, there are three basic adjustments that can be made, should your unit require them:

- 3.7.1 **Door closing:** The closing of the door is controlled by the two hinge links (Figure 13 – A) and the two stop screws (Figure 13 – B). The stop screws should be adjusted so that both will be contacted when the contacting arm is straight up and down. With the stop screws adjusted, the length of the hinge links can be changed to provide complete closing of the door, and reasonable force on the handle to latch or unlatch the door. Lengthen the links to reduce the force. Shorten the links to increase the force. With the door closed, both links should be slightly tight to minimize rattling.
- 3.7.2 **Door opening:** After adjusting the hinge links for door closing, the handle link (Figure 13 – C) can be adjusted to obtain maximum door opening. Lengthen the link to open the door farther. Shorten the link to open the door less. The maximum door opening is limited by the contacting arm hitting the stop (Figure 13 – D). This stop is non adjustable, and prevents over opening damage from occurring to the linkage.
- 3.7.3 **Latches:** Once the open and closed positions have been set, the latches (Figure 13 – E) can be adjusted. With the door closed, the latch link should be set so that the latch plate completely engages and contacts the latch rod welded to the door. The latch plates should not be tight against the latch rod. They should easily “wiggle”.



G0268

FIGURE 13

## 4. OPERATION:

### 4.1 PRE-START

- 4.1.1 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.
- 4.1.2 Ensure the blower, belt cover, door mesh, tube and hopper are in good condition, properly attached, and latched.


**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.**

### 4.2 MOWING

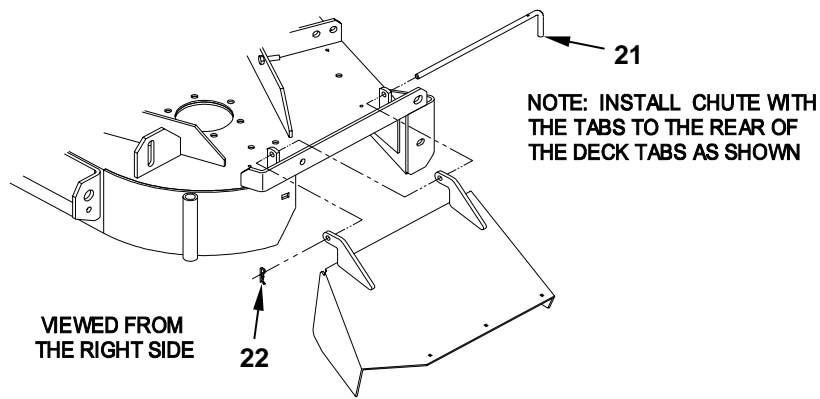
- 4.2.1 The Ultra Vac QDS blower operates when deck drive is engaged. Be sure that *all* persons are **clear** of the mower deck **before engaging** the cutting blades. Set the throttle to "midway" position. Pull outward on the PTO switch to the "ROTATE" position. Accelerate to full throttle to begin mowing.
- 4.2.2 To disengage the PTO 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. Verify that all rotation indicators have stopped before clearing blower assembly or mower deck
- 4.2.3 To empty the hopper, first shut off deck drive. Lift up on the handle to open the door and empty the hopper. **If the unit is to be driven onto a truck or trailer with the hopper full, always back the unit up the ramp. This will reduce the chance of rearward tip up. See section 4.1 Transporting for additional information regarding loading a unit on a truck or trailer.**
- 4.2.4 Close and latch the door before continuing mowing. **Do not engage the cutting blades while the door is in the open position.**

### 4.3 BAGGER REMOVAL FOR SIDE DISCHARGE:

- 4.3.1 Disengage the PTO, stop engine and wait for all moving parts to stop. Remove spark plug wire(s) or remove key.
- 4.3.2 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 hopper.
- 4.3.3 Remove the Belt cover by loosening the knobs. For 60" units the outboard knob does not need to be removed completely to remove the belt cover.

 <b>CAUTION</b>	
<b>POTENTIAL HAZARD</b>	◆ The deck sheave will become very hot
<b>WHAT CAN HAPPEN</b>	◆ Touching a hot deck sheave can cause severe burns.
<b>HOW TO AVOID THE HAZARD</b>	◆ Allow the deck sheave to cool completely before removing the belt.

- 4.3.4 Pull the idler release handle and remove the belt from the upper groove of the deck sheave.
- 4.3.5 Unlatch the front end of the blower. Pivot the blower back and lift it off the deck.
- 4.3.6 Install the discharge chute using the chute pivot pin and hairpin (See Figure 14).



**FIGURE 14**  
**DISCHARGE CHUTE INSTALLATION**

- 4.3.7 Re-install the plastic belt cover and tighten the knobs.
- 4.3.8 Disconnect the handle link from the actuation arm on the hopper. Connect the link to the arm on the handle mount for storage during side discharge operation.
- 4.3.9 Remove the hair pins and clevis pins holding the hopper assembly to the mount weldment.
- 4.3.10 Lift the hopper assembly off the mount.
- 4.3.11 The removable weights must be removed from above the caster wheels (and front of floor pan for units with a 2 post foldable ROPS). To remove the caster weights. Loosen the clamping knobs until the weight can be moved relative to the caster arm. Remove the hairpins and clevis pins that hold the weights to the caster arms. Carefully lift the weights off of the caster arms.

*For units with 2 post foldable ROPS:* To remove the front weight , remove the 2 hairpins that retain it and then lift it from the mount plates.

The weights and brackets bolted to the floor pan remain on the unit.

**Note:** The removable weights are heavy. Use care when lifting them. Make sure that you can hold them securely before lifting them. Use caution when positioning your hands so that you do not set them down on your hands or fingers.


**Note:** The portions of the Ultra Vac QDS bagger that are not bolted to the mower are designed to be installed or removed in their entirety. 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 QDS installed.


 <b>CAUTION</b>	
<b>POTENTIAL HAZARD</b>	◆ Caster or front floor pan weights installed without bagger may cause Loss of Traction and Steering control.
<b>WHAT CAN HAPPEN</b>	◆ Loss of control can result in an accident, which may cause Death, Injury, or property damage.
<b>HOW TO AVOID THE HAZARD</b>	◆ Install caster and front floor pan weights ONLY when bagger is installed.

- 4.3.12 The machine can now be used for side discharge mowing.

## 4.4 TRANSPORTING

- 4.4.1 **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.

 <b>CAUTION</b>
<b>POTENTIAL HAZARD</b> <ul style="list-style-type: none"> <li>◆ 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.</li> </ul>
<b>WHAT CAN HAPPEN</b> <ul style="list-style-type: none"> <li>◆ Driving on a street or roadway without such equipment is dangerous and can lead to accidents causing personal injury.</li> <li>◆ 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.</li> </ul>
<b>HOW TO AVOID THE HAZARD</b> <ul style="list-style-type: none"> <li>◆ Do not drive a unit on a public street or roadway.</li> </ul>

 <b>WARNING</b>
<b>POTENTIAL HAZARD</b> <ul style="list-style-type: none"> <li>◆ Loading a unit on a trailer or truck increases the possibility of backward tip-over.</li> </ul>
<b>WHAT CAN HAPPEN</b> <ul style="list-style-type: none"> <li>◆ Backward tip-over of the unit could cause serious injury or death.</li> </ul>
<b>HOW TO AVOID THE HAZARD</b> <ul style="list-style-type: none"> <li>◆ Use extreme caution when operating a unit on a ramp.</li> <li>◆ Use only a single, full width ramp; <b>DO NOT</b> use individual ramps for each side of the unit.</li> <li>◆ If individual ramps must be used, use enough ramps to create an unbroken ramp surface wider than the unit.</li> <li>◆ <b>DO NOT</b> exceed a 15° angle between ramp and ground or between ramp and trailer or truck.</li> <li>◆ Avoid sudden acceleration while driving unit up a ramp to avoid tipping backward.</li> <li>◆ Avoid sudden deceleration while backing unit down a ramp to avoid tipping backward.</li> </ul>

- 4.4.2 **Loading a Unit:** **If the unit is to be driven onto a truck or trailer with the hopper full, always back the unit up the ramp. This will reduce the chance of rearward tip up.** 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, you must 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.

Dump contents of hopper before transport. **Do not transport the unit with the hopper full.**

## 5. MAINTENANCE

 <b>WARNING</b>	
POTENTIAL HAZARD	
<ul style="list-style-type: none"> <li>◆ While maintenance or adjustments are being made, someone could start the engine.</li> </ul>	
WHAT CAN HAPPEN	
<ul style="list-style-type: none"> <li>◆ Accidental starting of the engine could seriously injure you or other bystanders.</li> </ul>	
HOW TO AVOID THE HAZARD	
<ul style="list-style-type: none"> <li>◆ Remove the key from the ignition switch 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).</li> </ul>	

 <b>WARNING</b>	
POTENTIAL HAZARD	
<ul style="list-style-type: none"> <li>◆ The engine can become very hot.</li> </ul>	
WHAT CAN HAPPEN	
<ul style="list-style-type: none"> <li>◆ Touching a hot engine can cause severe burns.</li> </ul>	
HOW TO AVOID THE HAZARD	
<ul style="list-style-type: none"> <li>◆ Allow the engine to cool completely before service or making repairs around the engine area.</li> </ul>	

### 5.1 PERIODIC MAINTENANCE

**IMPORTANT:** Before conducting any maintenance, Disengage the PTO, 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 Door Handle: **Service Interval: 25 Hours.**

Lubricate with 1-2 pumps of SAE No. 2 multi-purpose grease.

5.1.4 Door cloth mesh: **Service Interval: Daily.**

Inspect the cloth mesh for wear, tears, or damage.

 <b>WARNING</b>
<b>POTENTIAL HAZARD</b> <ul style="list-style-type: none"><li>◆ Under normal use the cloth mesh will deteriorate and wear. Objects could exit through worn cloth mesh at high speeds.</li></ul>
<b>WHAT CAN HAPPEN</b> <ul style="list-style-type: none"><li>◆ Thrown objects can cause serious injury or kill you or bystanders.</li></ul>
<b>HOW TO AVOID THE HAZARD</b> <ul style="list-style-type: none"><li>◆ Check cloth mesh frequently for tears and holes. Replace worn cloth mesh.</li></ul>


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

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

60" deck – PN 103-0866

72" deck – PN 103-0867

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

 <b>WARNING</b>
<b>POTENTIAL HAZARD</b> <ul style="list-style-type: none"><li>◆ Operating engine parts, especially the muffler, become extremely hot.</li></ul>
<b>WHAT CAN HAPPEN</b> <ul style="list-style-type: none"><li>◆ Severe burns can occur on contact.</li><li>◆ Debris, such as leaves, grass, brush, etc. can catch fire.</li></ul>
<b>HOW TO AVOID THE HAZARD</b> <ul style="list-style-type: none"><li>◆ Allow engine parts, especially the muffler, to cool before touching.</li><li>◆ Remove accumulated debris from muffler and engine area.</li><li>◆ Install and maintain in working order a spark arrester before using equipment on forest-covered, grass-covered, brush-covered unimproved land.</li></ul>

## 5.2 ADJUSTMENTS

Your Ultra Vac QDS was adjusted at the factory to operate properly. However, there are three basic adjustments that can be made, should your unit require them:

- 5.2.1 **Door closing:** The closing of the door is controlled by the two hinge links (Figure 15 – A) and the two stop screws (Figure 15 – B). The stop screws should be adjusted so that both will be contacted when the contacting arm is straight up and down. With the stop screws adjusted, the length of the hinge links can be changed to provide complete closing of the door, and reasonable force on the handle to latch or unlatch the door. Lengthen the links to reduce the force. Shorten the links to increase the force. With the door closed, both links should be slightly tight to minimize rattling.

- 5.2.2 **Door opening:** After adjusting the hinge links for door closing, the handle link (Figure 15 – C) can be adjusted to obtain maximum door opening. Lengthen the link to open the door farther. Shorten the link to open the door less. The maximum door opening is limited by the contacting arm hitting the stop (Figure 15 – D). This stop is non adjustable, and prevents over opening damage from occurring to the linkage.
- 5.2.3 **Latches:** Once the open and closed positions have been set, the latches (Figure 15 – E) can be adjusted. With the door closed, the latch link should be set so that the latch plate completely engages and contacts the latch rod welded to the door. The latch plates should not be tight against the latch rod. They should easily “wiggle”.

## 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.

- 6.1 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 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.
- 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.
- 6.5 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.
- 6.6 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. Boggling 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 The condition of the belt drive is critical to proper operation. A sticking idler arm or worn belt may cause plugging or blowout. Replace the belt when the idler arm is riding on or near the stop.

6.

**2-Year Limited Warranty  
Exmark Turf Equipment**

(For units purchased on or after October 1, 2004)

**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 manufactured by Exmark and found by us (in the exercise of our reasonable discretion) to be defective in factory materials or workmanship for a period of two years.

This warranty applies to Exmark turf equipment purchased on or after October 1, 2004 sold in the US 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.

<u>Products</u>	<u>Warranty Period</u>
• All Products (except as noted below)	2 years
• All Attachments and Accessories	1 year
• Metro 21 Series	1 year
• Belts and Tires	90 days
• Battery	1 Year Prorated
• Engine*	Warranty is covered by engine manufacturer

\*Please refer to the engine manufacturer's warranty statement that is included in the literature packet. We are not authorized to handle warranty adjustments on engines.

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 turf equipment 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**

1. 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](http://www.exmark.com). U.S. Customers may also call 402-223-6375.
2. Bring the product and your proof of purchase (sales receipt) to the Exmark Service Dealer.

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](mailto:service@exmark.com)

**Owner's Responsibilities**

The Exmark turf equipment, including any defective part, must be returned to an authorized Exmark service dealer within the warranty period. This warranty extends only to turf equipment operated under normal conditions. You must properly service and maintain your Exmark product as described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

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

**General Conditions**

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:

- Expenses related to gasoline, oil or lubricants.
- 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.
- 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 mower.

There are no understandings, agreements, representations, or warranties, express or implied, including but not limited to any regarding the merchantability (that product is fit for ordinary use) or fitness for use (that product is fit for a particular purpose), not specified herein, respecting the equipment which is the subject of this 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.

## NOTES

## NOTES



## SEE EXMARK'S COMPLETE LINE OF ACCESSORIES

### RIDING ACCESSORIES

CUSTOM RIDE SEAT SUSPENSION SYSTEM  
DECK LIFT ASSIST KIT  
HITCH KIT  
LIGHT KIT  
MICRO-MULCH SYSTEM  
ROLL OVER PROTECTION SYSTEM (ROPS)  
SNOW BLADE  
SUN SHADE  
TRASH CONTAINER  
TURF STRIPER  
ULTRA VAC COLLECTION SYSTEM  
ULTRA VAC QUICK DISPOSAL SYSTEM

### WALK BEHIND ACCESSORIES

GRASS CATCHER  
MICRO-MULCH SYSTEM  
STEERABLE SULKY  
SULKY HITCH KIT  
TURF STRIPER

Check us out on the Web:

**[www.exmark.com](http://www.exmark.com)**

©2000-2004 EXMARK MFG. CO. INC.  
INDUSTRIAL PARK BOX 808  
BEATRICE, NE 68310

PART NO. 103-8854  
(402) 223-6300  
FAX (402) 223-5489

ALL RIGHTS RESERVED

PRINTED IN U.S.A.

