FORM NO. 3319–489

TORO®

Z MASTER™

52” Vac–Bagger

for Z-118 and 616\620 Zero Radius Tractors

Model No. 79402 – 790001 & Up

Operator’s Manual

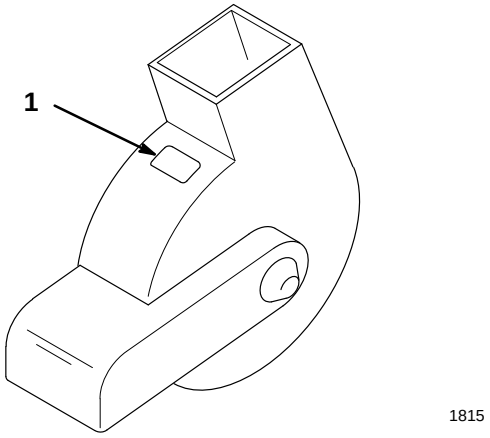
IMPORTANT: Read this manual carefully. It contains information about your safety and the safety of others. Also become familiar with the controls and their proper use before you operate the product.

Introduction

Thank you for purchasing a Toro product.

All of us at Toro want you to be completely satisfied with your new product, so feel free to contact your local Authorized Service Dealer for help with service, genuine Toro replacement parts, or other information you may require.

Whenever you contact your Authorized Service Dealer or the factory, always know the model and serial numbers of your product. These numbers will help the Service Dealer or Service Representative provide exact information about your specific product. You will find the model and serial number plate located in a unique place on the product as shown below.



1. Model and Serial Number Plate

For your convenience, write the product model and serial numbers in the space below.

Model No: _____

Serial No. _____

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

The Toro warning system in this manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death. DANGER, WARNING and CAUTION are signal words used to identify the level of hazard. However, regardless of the hazard, be extremely careful.

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

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

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

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

The left and right side of the machine is determined by sitting on the seat in the normal operator’s position.

Printed in USA

Contents

Safety and Instruction Decals

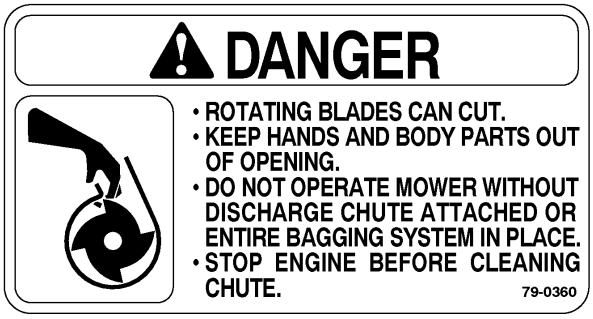
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.

ON BLOWER HOUSING
(Part No. 93–1122)

ON BLOWER MOUNTING PLATE
(Part No. 82–5510)

ON BLOWER HOUSING AND BELT COVER
(Part No. 79–0350)

ON TOP OF BLOWER HOUSING
(Part No. 79–0360)



ON CANISTER SUPPORT
(Part No. 79–3970)

Installation

Loose Parts

Note: Use the chart below to verify all parts have been shipped.

DESCRIPTION	QTY.	USE
Blower deflector	1	Install deflector to mower deck
Hex bolt – 5/16”-18 x 3/4” (19 mm)	3	
Locknut – 5/16”-18	3	
Blower assembly	1	Install blower to mower
Dual pulley	1	
Spindle-long	1	
V-Belt	1	
Hex bolt – 5/16”-18 x 3/4” (19 mm)	6	
Locknut – 5/16”-18	6	
Bracket assembly – welded	1	Install lift assist spring
Spring clip	1	
Extension spring	1	
Bolt – 5/16”–18 x 3/4” (19 mm)	1	
Locknut – 5/16”	1	
Bolt – 1/4”–20 x 1-1/4” (32 mm)	2	
Washer	2	
Lock washer	2	
Locknut – 1/4”	2	
Belt cover	1	Install belt cover and pulley shield
Bolt – 5/16”-18 x 3/4” (19 mm)	1	
Belt shield bracket	1	
Locknut – 5/16”	2	
Washer – 11/32”	2	
Bolt – 5/16”-18 x 1/2”, thread-forming	4	
Bagger mount	1	Install lower bagger mount and canister to frame
Support bracket	1	
Bolt – 3/8”-16 x 3/4” (19 mm)	2	
Locknut – 3/8”	2	
Canister	1	

DESCRIPTION	QTY.	USE
Canister support	1	Install canister top assembly to canister support assembly
Bolt – 3/8”-16 x 3/4” (32 mm)	2	
Locknut – 3/8”	2	
Canister top assembly	1	
Bolt – 3/8”-16 x 2-1/4”	2	
Nut – 3/8”-16	2	
Extension spring	2	
Seal	1	Install hose
Wire tie	1	
Hose	1	
Adaptor	1	
Hose clamp	1	

For Optimum Performance with your Vacuum Bagger

For optimum performance, Toro recommends that you install a High-lift Blade Kit (p/n 56–2390) and a Front Baffle Kit (p/n 68–7210) on the mower deck when you install the Vacuum Bagger.

Front Weight Kit Safety Requirement

⚠ DANGER

POTENTIAL HAZARD

- **When Vacuum Bagger is attached to the tractor, without Front Weight Kit, the tractor may become unstable.**

WHAT CAN HAPPEN

- **Loss of traction and stability may cause loss of tractor control.**

HOW TO AVOID THE HAZARD

- **NEVER operate tractor, equipped with the Vacuum Bagger, unless the Front Weight Kit (p/n 81127) is installed.**

IMPORTANT: The tractor requires one Front Weight Kit when equipped with a Vacuum Bagger Attachment.

The tractor requires two Front Weight Kits when equipped with both a Vacuum Bagger Attachment and a ROPS.

Note: The Front Weight Kit (part number 81127) is an accessory for the Z Master™ Tractor, and is purchased separately from the Vacuum Bagger Kit.

Mower Preparation

For ease of marking and assembly of vacuum bagger remove mower from traction unit.

1. Remove the discharge chute from the mower and save chute and hardware for installation when the vacuum bagger is removed.

2. Measure the location of lower deflector hole in the front of the mower deck. Center punch and drill one (1) 11/32” hole (Fig. 1).

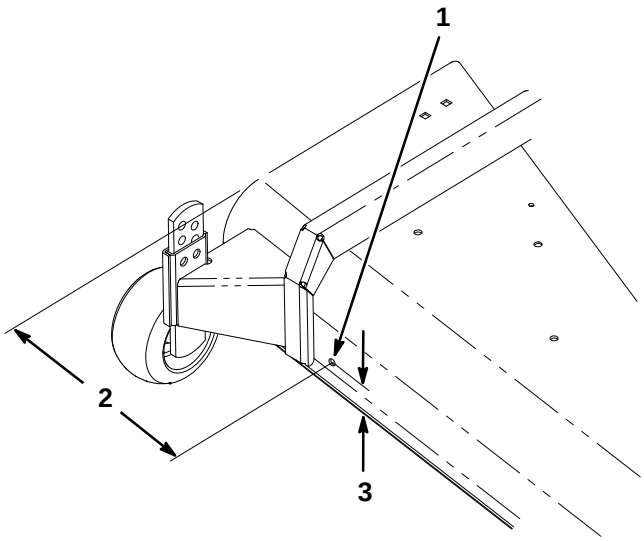


Figure 1

1. Mark and drill 11/32” hole
2. 11” (27.9 cm)
3. 7/8” (22 mm) from lowest part of deck

3. Position the deflector underneath the mower and align the front deflector mounting hole with the drilled hole in the mower.

4. Fasten the deflector to the mower with 5/16”-18 x 3/4” (19 mm) hex bolt and locknut. Insert the hex bolt from inside the deflector (Fig. 2).

5. Hold the deflector against the back and top of mower discharge opening. Using the deflector as a guide, mark the remaining (2) front and rear deflector mounting holes in the mower (Fig. 5).

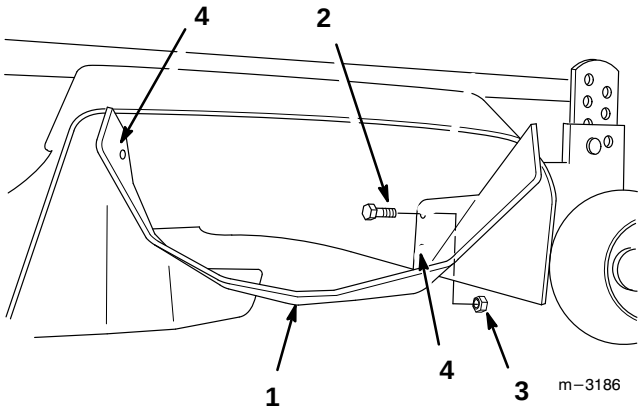


Figure 2

1. Deflector
2. 5/16”-18 x 3/4” (19 mm) Hex Bolt
3. 5/16”-18 Locknut (3)
4. Mark and drill 11/32” hole

IMPORTANT: Blower must fit over discharge opening of mower; adjust blower flange to assure this condition.

6. Align blower over mower discharge opening, holding tight against front and side of mower discharge opening. Mark the location of (6) holes in the angle brackets and blower mounting flange (Fig. 3).

7. Drill (6) 11/32” mounting holes in top of the mower for blower mounting (Fig. 3).

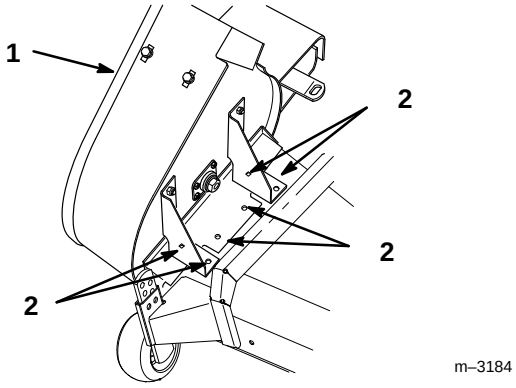


Figure 3

1. Blower
2. Mark and drill 11/32” hole

8. Remove the belt, nut and washer from the right-hand blade spindle. Remove the single pulley and slide short spindle out of the spindle housing (Fig. 4).

Note: Save the single pulley and short spindle for installation when the vacuum bagger is removed.

9. Drill (2) 11/32” holes, previously marked, in front and rear of mower for deflector Ref. 9-1/2” (24.1 cm) (Fig. 4).

10. Mark and drill (1) 11/32” hole for spring clip mounting (Fig. 4).

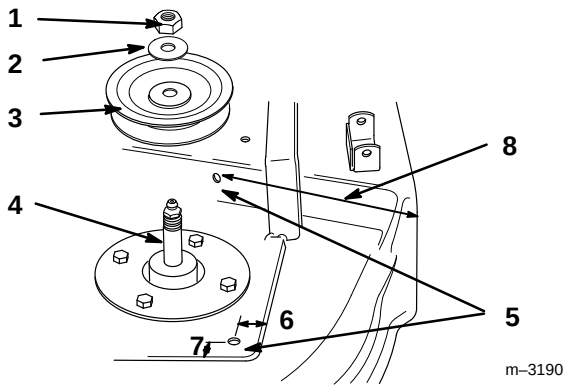


Figure 4

1. Nut (reuse)
2. Washer (reuse)
3. Existing pulley
4. Spindle-short
5. Drill 11/32” hole
6. 1-1/8” (29 mm)
7. 3/4” (19 mm)
8. Ref. 9-1/2” (24.1 cm)

11. Complete fastening the deflector to the front and rear of mower with (2) 5/16”-18 x 3/4” (19 mm) bolts and locknuts (Fig. 5).

IMPORTANT: Check to make sure the right-hand mower blade does not hit the deflector. Adjust the position of the deflector if necessary to make sure it clears the blade.

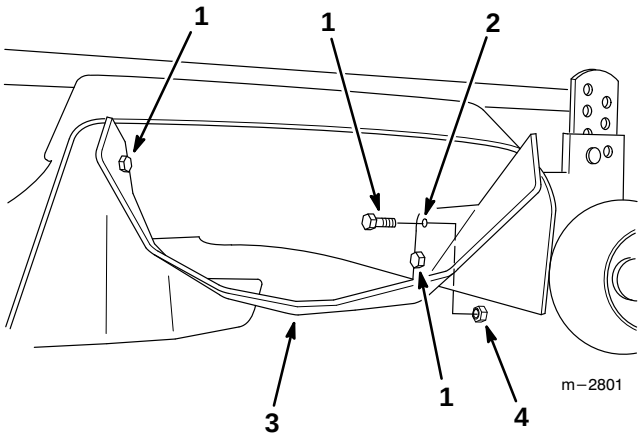


Figure 5

1. 5/16”-18 x 3/4” (19 mm) Hex Bolt
2. Mark and drill 11/32” hole
3. Deflector
4. 5/16”-18 Locknut (3)

12. Remove outside spindle mounting bolt, file hole square and re-install carriage bolt from the bottom (Fig. 6).

13. Install belt guard bracket onto carriage bolt and secure with locknut (Fig. 6).

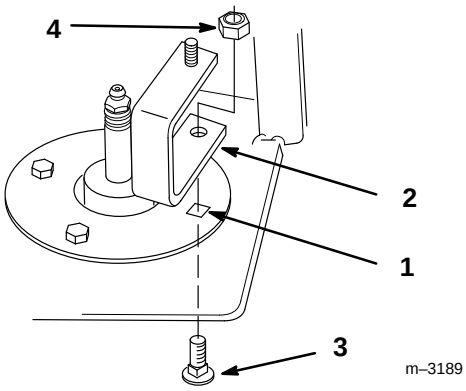


Figure 6

1. Square hole
2. Bracket
3. Carriage bolt
4. Locknut

14. Fasten the spring clip to the deck using a 5/16”-18 x 3/4” (19 mm) bolt and locknut (Fig. 9).

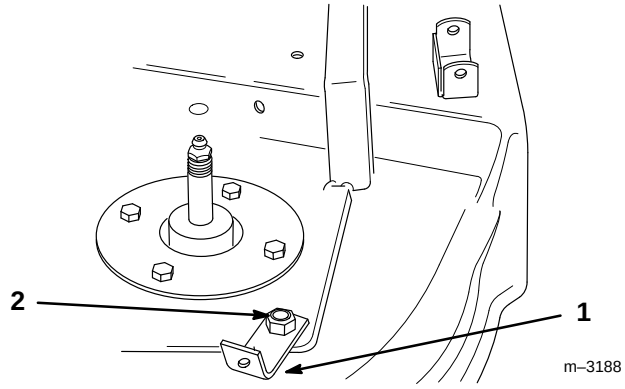


Figure 7

1. Spring clip
2. 5/16”–18 x 3/4” (19 mm) bolt and locknut

15. Slide new long spindle up from the bottom into housing. Install the new double pulley with the larger diameter pulley on bottom and secure with existing washer and nut.(Fig. 8).

16. Torque the nut to 80–100 ft-lbs. (108–136 N•m).

17. Transfer grease fitting and mower blade to long spindle.

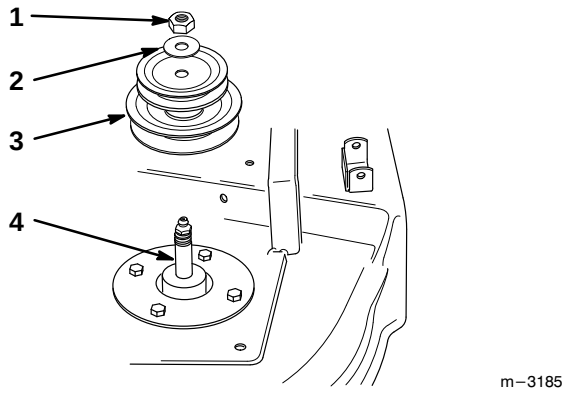


Figure 8

1. Nut (reuse)
2. Washer (reuse)
3. New Dual Pulley
4. Spindle-long

18. Inflate the tractor front tires to 12 psi (83 kPa), and the rear tires to 10 psi (69 kPa).

Installing the Blower

1. Fasten the spring clip to the deck using a 3/8”-16 x 3/4” (19 mm) bolt, with head below housing, and secure with locknut (Fig. 9).

2. Remove the existing hardware from spindle mounting hole, then fasten the belt shield bracket to the spindle hole using a 3/8”-16 x 1-1/4” (32mm) bolt, washer under the bracket, and locknut (Fig. 9).

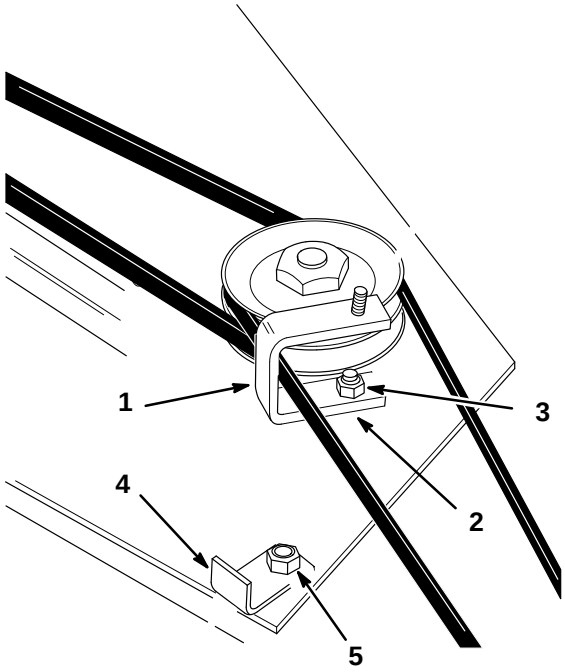


Figure 9

1. Belt Shield Bracket
2. Washer (under bracket)
3. 3/8”-16 x 1-1/4” (32 mm) Bolt and Locknut
4. Spring Clip
5. 3/8”-16 x 3/4” (19 mm) Bolt and Locknut

3. Install the blower assembly onto the mower deck using six (6) 5/16”-18 x 3/4” (19 mm) bolts and locknuts. Insert the hex bolts from the bottom of the deck (Fig. 10).

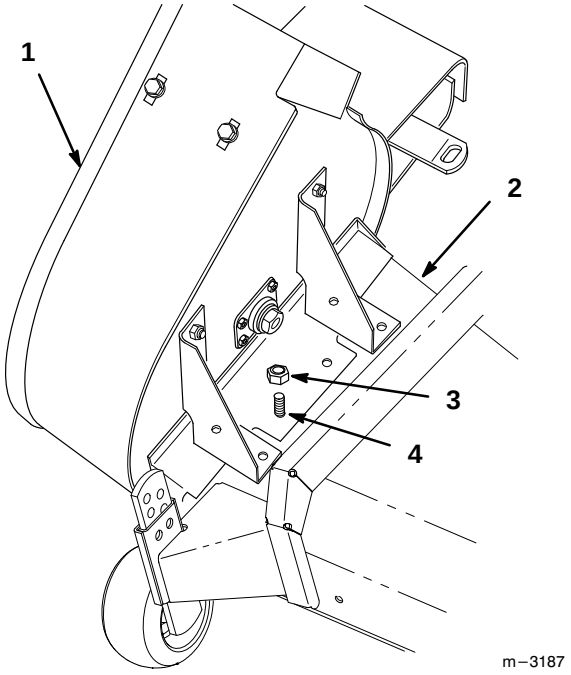


Figure 10

1. Blower Assembly
2. Mower Deck
3. Locknut (6)
4. 5/16”-18 x 3/4” (19 mm) Bolt (6)

4. Remove hardware securing right fender to footrest. Save for installing spring bracket. Fasten spring bracket below footrest using previously removed hardware (Fig. 11).

5. Locate holes in footrest, covered over by footpads. Punch out footpad at holes and secure spring bracket with (2) 3/8”-16 x 1-1/4”(32 mm) bolts, washers, lock washers and locknuts

Note: On units with rubber footpads use lock washer as spacer, then flatwasher and nut for holes in footrest.

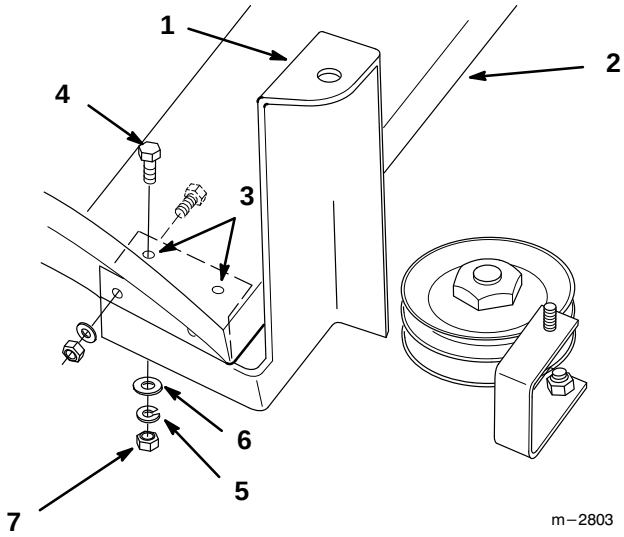


Figure 11

1. Spring Bracket
2. Footrest
3. Punch out hole
4. Bolt 1/4” 20 x 1-1/4” (32 mm)
5. Lock washer
6. Washer
7. Locknut 1/4”

6. Raise the mower to the highest height-of-cut and install the spring between spring bracket and spring clip. Adjust the position of the spring clip on the deck if necessary so the spring is vertical (Fig. 12).

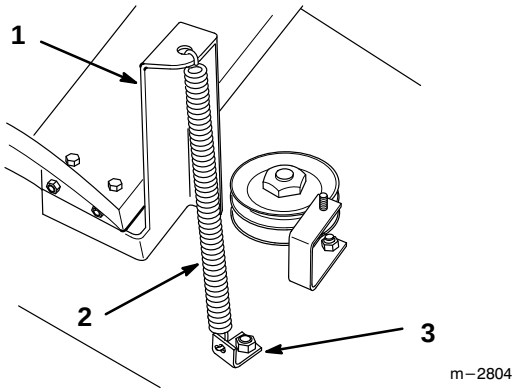


Figure 12

1. Spring Bracket
2. Spring
3. Spring Clip

7. Install the drive belt as shown around the idler pulleys and right side mower pulley (Figs. 9 and 13).

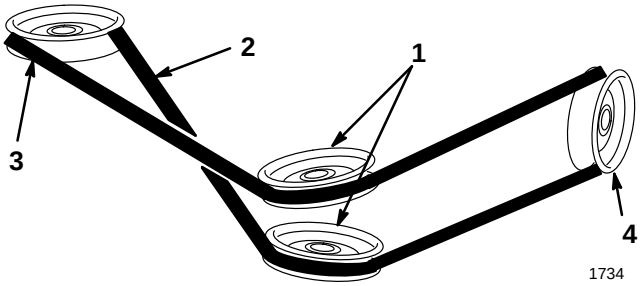


Figure 13

1. Idler Pulley
2. Drive Belt
3. Mower Pulley
4. Blower Pulley

8. Install the pulley shield to the blower and mower with four (4) 5/16”-18 x 1/2” (13 mm) thread-forming bolts (Fig. 14).

9. Install a 5/16”-18 x 3/4” carriage bolt through the 1” x 2-1/2” (25 x 64 mm) flat plate. Install a flat washer and locknut onto the 5/16”-18 x 3/4” (19 mm) carriage bolt. Leave the locknut finger-tight (Fig 14).

10. Position the 1” x 2-1/2” 25 x 64 mm) flat plate underneath the shield with the flat washer and locknut above the shield (Fig 14).

11. Slide the slotted end of the belt cover onto the carriage bolt in the flat plate between the top of the shield and the flat washer (Fig 14).

12. Position the hole in the other end of the belt cover over the stud on the shield bracket. Loosely install the washer and locknut (Fig 14).

13. Push the belt cover as far toward the pulley shield as possible, then tighten the locknuts (Fig 14).

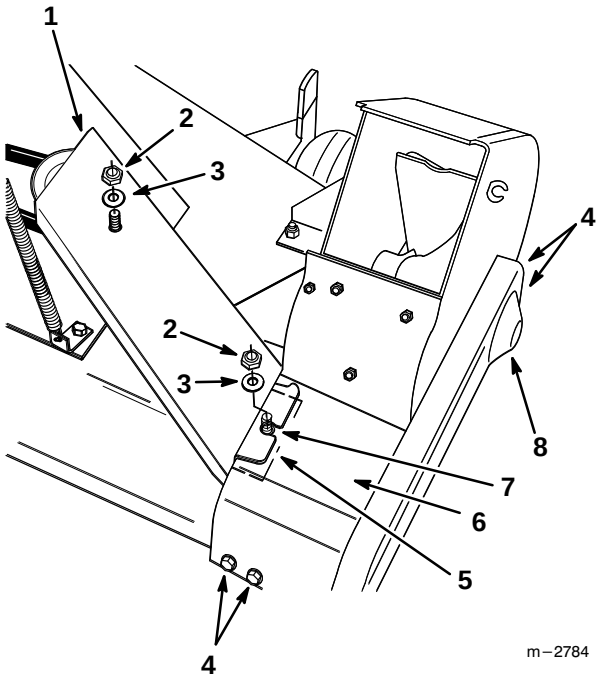


Figure 14

1. Belt Cover
2. Locknut
3. Washer
4. 5/16”-18 x 1/2” (13 mm) Thread-forming Bolt
5. 1” x 2-1/2” (25 x 64 mm) Flat Plate
6. Shield
7. 5/16”-18 x 3/4” (19 mm) Carriage bolt
8. Pulley Shield

Installing the Canister

1. Assemble the support bracket into the bagger mount with (2) 3/8”-13 x 3/4” (19 mm) bolts and locknuts (Fig. 15).
2. Install the bagger mount over pin inside rear traction frame cross member (Fig. 15).
3. Lift latch levers and install mounting rod (Fig. 15).
4. Secure latch levers closed with clevis pins and hairpin cotters (Fig. 15).

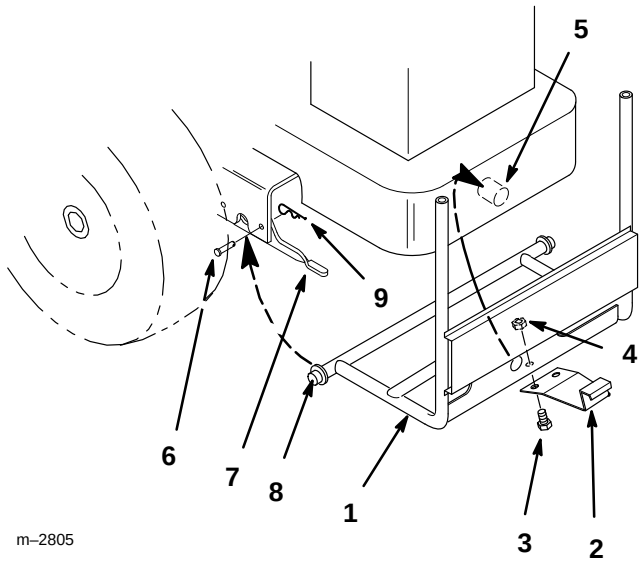


Figure 15

1. Bagger Mount
2. Support Bracket
3. 3/8”-16 x 3/4” (19 mm) Bolt
4. 3/8” Locknut
5. Pin
6. Clevis pin
7. Latch lever
8. Mounting rod
9. Hairpin cotter

5. Align the canister support over the bagger mount tubes and slide down (Fig. 16).
6. Assemble the spring anchor bolts to the canister support brackets. Thread a locknut partway onto the 3/8”-16 x 2-1/4” (57 mm) bolt. Install the bolt into the bracket with the head toward the inside. Install a second locknut onto the end and tighten the inner locknut so bolt extends inward. Repeat for the second bracket (Fig. 16).
7. Slide the top assembly pivot bolts into the slots of the canister support brackets. Retain the top assembly with springs hooked between the top anchor bolts and the spring anchor bolts in the canister support brackets (Fig. 16).

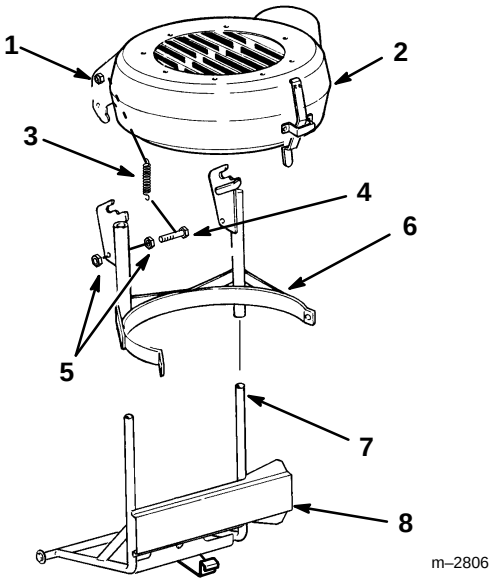


Figure 16

1. Anchor Bolt (2)
2. Top Assembly
3. Spring (2)
4. 3/8”-16 x 2-1/4” 57 mm) Bolt (2)
5. Locknut (4)
6. Canister Support
7. Tube (typical)
8. Bagger Mount

8. Raise the top and install the canister. Lower the top assembly and latch in place (Fig. 17).

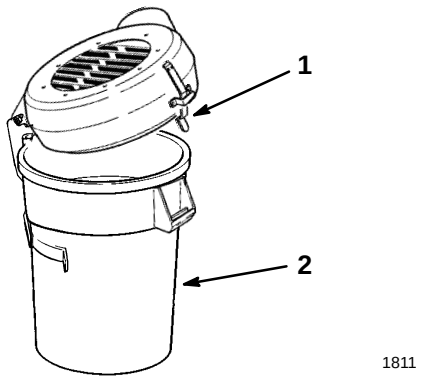


Figure 17

1. Latch
2. Canister

Installing the Hose

1. Assemble the hose onto the adaptor and secure with the clamp (Fig. 18).

2. Slide the adapter onto the blower assembly and secure with the latch handle (Fig. 18).

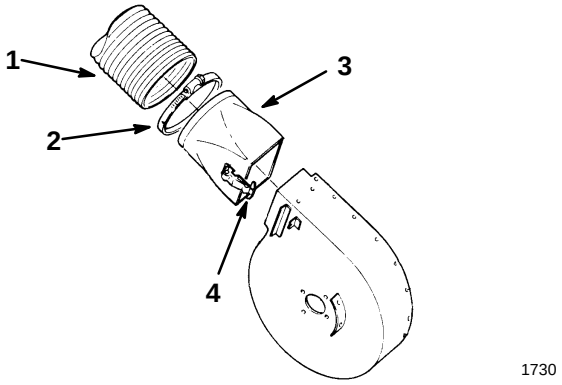


Figure 18

1. Hose
2. Clamp
3. Adapter
4. Latch Handle

3. Slide the large opening of the seal over the top assembly inlet. Place the seam to the bottom and overlap the seal one inch onto the top (Fig. 19).

4. Position the tie strap in the groove in the top assembly inlet. Pull the tie strap tight to secure the seal to the top assembly, then cut off the loose end (Fig. 19).

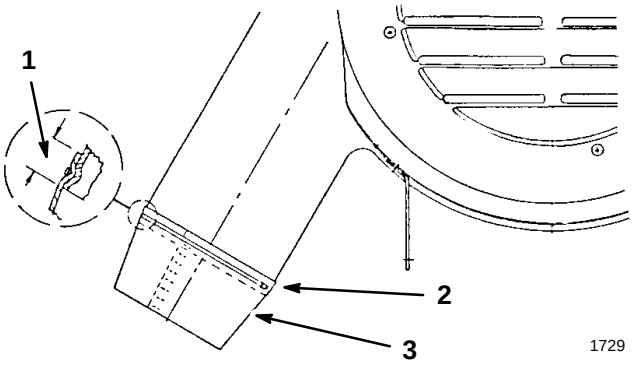


Figure 19

1. 1” overlap
2. Tie Strap
3. Seal

5. Fold the seal into the top assembly inlet and install the discharge tube. The seal should remain folded inside the top assembly inlet to prevent blowout (Fig. 20).

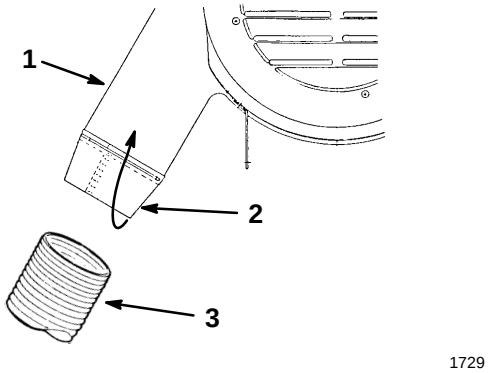


Figure 20

1. Top Assembly
2. Seal
3. Hose

Operation

Become familiar with all operating instructions and safety suggestions contained in applicable Operator's Manual before attempting to operate this equipment. Never do any maintenance or repairs while the engine is running.

⚠ DANGER

POTENTIAL HAZARD

- **When Vacuum Bagger is attached to the tractor, without Front Weight Kit, the tractor may become unstable.**

WHAT CAN HAPPEN

- **Loss of traction and stability may cause loss of tractor control.**

HOW TO AVOID THE HAZARD

- **NEVER operate tractor, equipped with the Vacuum Bagger, unless the Front Weight Kit (p/n 81127) is installed.**

General Operating Instructions

1. Never operate the tractor with the vacuum bagger attached unless the front weight kit is installed.

2. Never remove the discharge tube while the engine is running. Debris can fly out of the discharge area and injure you.

3. With a few exceptions, operation of the machine with the vacuum bagger is similar to operation without it. Keep in mind that the machine is made longer and wider when this attachment is installed, so be sure to avoid sharp turns in confined places. Also, do not trim with the right side of the mower. Trimming with the right side of the mower can result in damage to the blower assembly.

4. The vacuum attachment is designed to operate efficiently at normal mowing speed. Due to the extra amount of power required to drive the mower and vacuum, it may be necessary to reduce the machine ground speed to keep the engine running smoothly at maximum governed RPM. When mowing uphill, it is recommended that you reduce the machine's ground speed. This will help to avoid a large power drop. When practical, set up a mowing pattern that will permit as much downhill mowing as possible.

5. Avoid stopping when mowing uphill. If it becomes necessary to stop when moving uphill, place the machine back into motion with extreme care. Sudden starts can cause a roll over or personal injury.

6. The suction action generated by the mower and vacuum is capable of picking up grass clippings, leaves, small twigs and other light debris from the lawn and depositing it in the canister. Remove larger twigs, branches, tree limbs, stones and other solid debris from the lawn before mowing to avoid damage to the mower and vacuum.

7. Small amounts of grass clippings blown out of the front of the mower during operation indicates that the canister is full.

8. If the suction action or pick-up should stop during use, disengage the mower and shut off the engine. Check for a full canister, or for a clogged blower assembly, adapter or discharge hose. Always empty the canister when full and after each use.

9. Grass canisters are not storage containers. Never leave fresh grass clippings or other organic material in the canister for any length of time. Under the right conditions, spontaneous combustion, a fire generating process which occurs without an external ignition source, can occur with this type of material and cause severe injury to you.

Emptying the Canister

1. Move the transmission levers into the neutral position, apply the parking brake and disengage the PTO. Stop the engine before leaving the operator position.

2. Open the latch and lift the top assembly to remove or look inside the canister. Remove the canister from the canister support and empty if full (Fig. 21).

3. Reinstall the canister in the canister support, then close and latch the top assembly (Fig. 21).

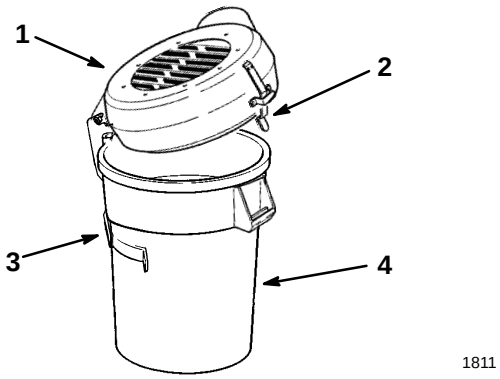


Figure 21

1. Top Assembly
2. Latch
3. Canister Support
4. Canister

Maintenance

Service Interval Chart

Service Operation	Each Use	8 Hours	25 Hours	Storage Service	Notes
Blower wear strip – inspect			X		Replace if necessary
Belts – check for wear/cracks				X	Replace if necessary
Blower pulley idler arm – grease		X			
Wash discharge hose and adapter	X				Replace if cracked or broken
Canister – clean	X				
Chipped Surfaces – paint				X	

Maintenance and Storage

1. Normal maintenance of the vacuum bagger attachment is minimal. After use, remove the discharge hose and wash the hose and adapter with a garden hose. Use a mild detergent to remove stubborn dirt. Allow the parts to dry thoroughly after washing. Check the underside of the mower and the inside of the canister after use and clean as necessary. Matted grass in these areas can affect performance.

2. After the first 10 hours of operation, inspect all parts of the vacuum and all fasteners to make sure they are in good condition. Pay particular attention to the condition of the discharge hose and adapter. Replace the discharge hose or adapter if cracked or broken. Inspect the blower wear strip every 25 hours of operation. Replace the strip when it is worn thin.

IMPORTANT: Inspect the mower blades and blower impeller frequently, and whenever a blade strikes a foreign object. Replace the mower blades and blower impeller if worn or damaged.

Greasing the Blower Pulley Idler Arm

Lubricate the blower pulley idler arm every 25 operating hours with # 2 multi-purpose lithium grease. Note that the pulley shield must be removed to access the grease fitting (Fig. 22).

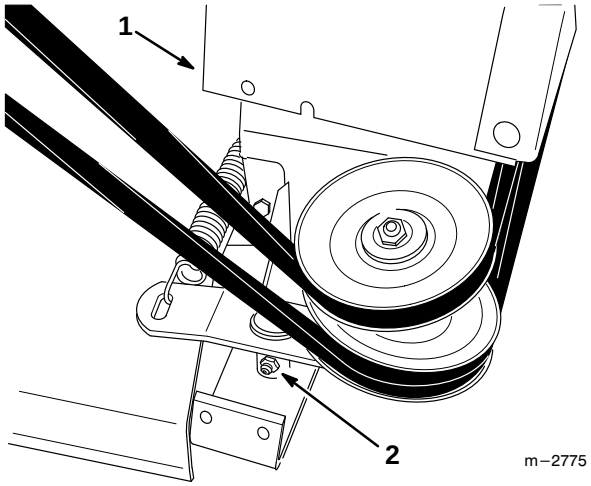


Figure 22

1. Pulley Shield
2. Idler Arm Grease Fitting

Replacing the Drive Belt

1. Remove the belt covers and note the belt routing (Fig. 23).

2. Remove the worn drive belt (Fig. 23).

Note: This belt is designed specifically for this application.

3. Install the new belt and belt covers as outlined in Installing the Blower on page 8 (Fig. 23).

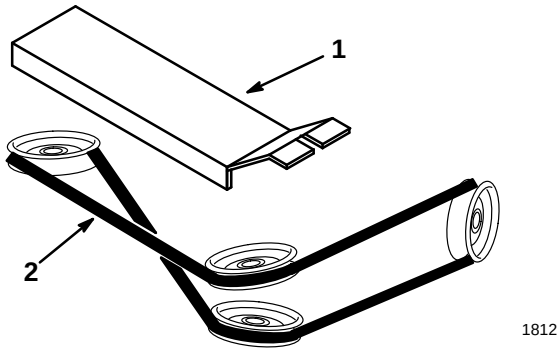


Figure 23

1. Belt Cover
2. Drive Belt

Replacing the Blower Wear Strip

1. Remove the adaptor from the blower.

2. Remove the five (5) locknuts, washers and carriage bolts and pull the wear strip from the blower (Fig. 24).

3. Clean the inside of the blower thoroughly (Fig. 24).

4. Slide the new wear strip inside the blower and install the three (3) lower carriage bolts, washers and locknuts. Make sure you install the carriage bolts with the heads inside the blower (Fig. 24).

5. Push the wear strip tight against the inside of the blower and install the two (2) upper carriage bolts, washers and locknuts. Make sure you install the carriage bolts with the heads inside the blower (Fig. 24).

6. Check that the blower impeller clears the wear strip (Fig. 24).

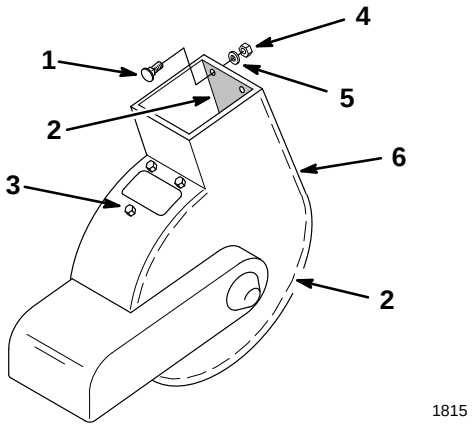


Figure 24

1. Upper Carriage Bolt (2)
2. Wear Strip
3. Lower Carriage Bolt, Washer and Locknut (3)
4. Locknut (typical)
5. Washer (typical)
6. Blower