



Z-Master

62" Mower

for Z-Master Z 255 Traction Unit

Model No. 74208 – 890001 & UP

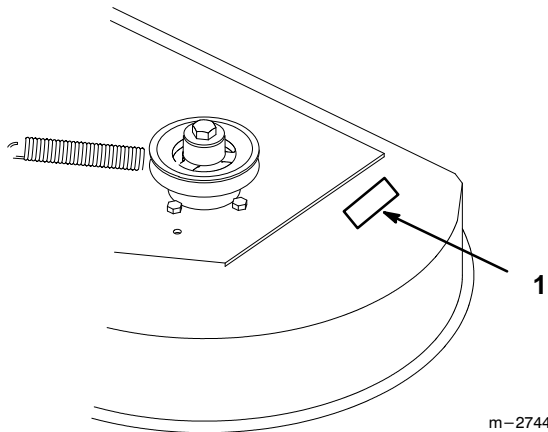
Operator's Manual

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

We 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 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. _____

The 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.

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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 RIGHT SIDE OF MOWER
(Part No. 66-1340)



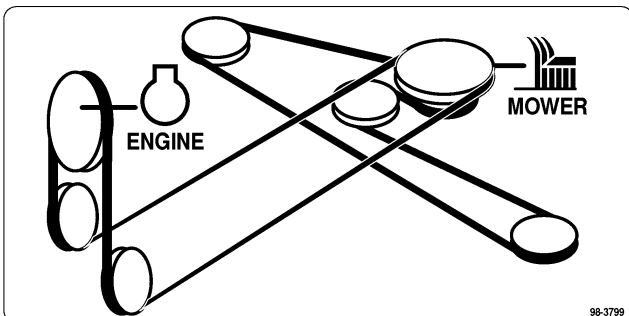
ON LEFT SIDE OF MOWER
(Part No. 43-8480)



(2) ON BELT COVERS
(Part No. 67-5360)



ON TOP CENTER OF MOWER
(Part No. 98-3799)



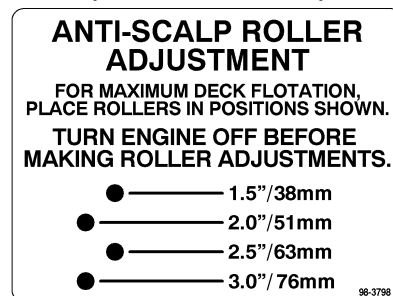
UNDER DEFLECTOR
(Part No. 66-6380)



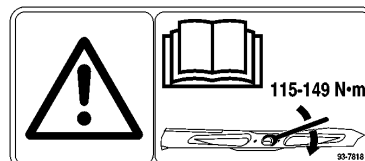
ON DEFLECTOR
(Part No. 54-9220)



NEXT TO ANTI-SCALP ROLLER
(Part No. 98-3798)



ON LEFT SIDE OF MOWER
(Part No. 93-7818)



Installation

Loose Parts

Note: Use the chart below to identify parts used for assembly.

DESCRIPTION	QTY.	USE
PTO (power take off) Belt	1	Install mower to traction unit
Operator's Manual	1	Read before operating
Parts Catalog	1	Ordering parts

Installing the Mower

1. Slide mower under traction unit and remove outer flange locknut from bolts, attach to chains hanging from traction unit lift system (Fig. 1).
2. Attach bolts to cross braces of mower with previously removed 7/16" flange locknut on each bolt (Fig. 1). Tighten flange locknuts securely.

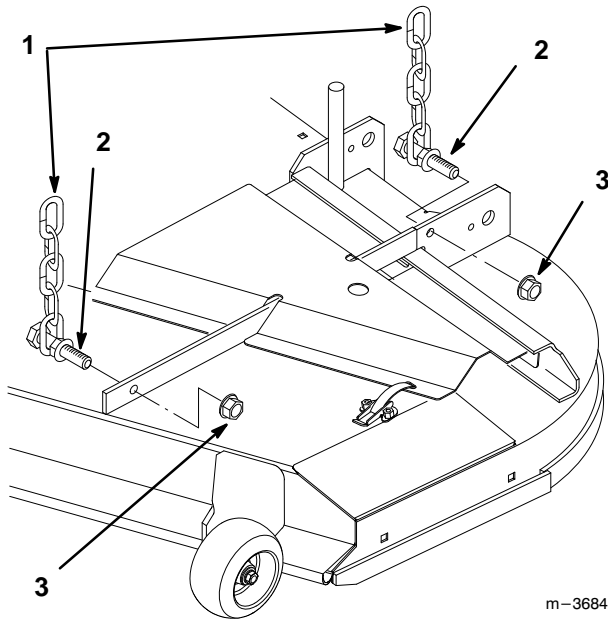


Figure 1

1. Chain from lift system
2. Bolt 7/16-14 x 1-1/2" (38 mm)
3. Flange locknut 7/16-14

3. Place struts between mower brackets and attach to mower with pins.
4. Secure pin flange to mower with 5/16-18 x 3/4" (19 mm) bolt and 5/16-18 flange nut (Fig. 2).

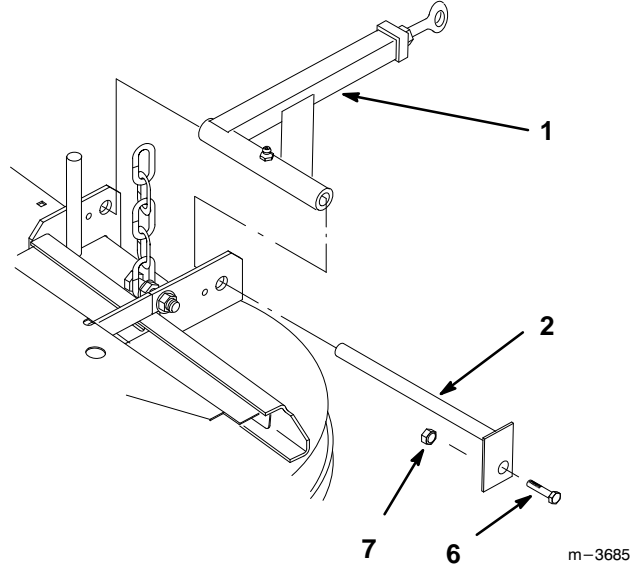


Figure 2

1. Strut
2. Pin
3. Bolt 5/16-18 x 3/4" (19 mm)
4. Flange nut 5/16-18

Install PTO Belt

Refer to; Replacing PTO Belt page 13.

Operation

Side Discharge

The mower has a hinged grass deflector that disperses clippings to the side and down toward the turf.

DANGER

POTENTIAL HAZARD

- Without the grass deflector or complete grass catcher assembly mounted in place, you and others are exposed to blade contact and thrown debris.

WHAT CAN HAPPEN

- Contact with rotating mower blade(s) and thrown debris will cause injury or death.

HOW TO AVOID THE HAZARD

- NEVER remove the grass deflector from the mower because the grass deflector routes material down toward the turf. If the grass deflector is ever damaged, replace it immediately.
- Never put your hands or feet under the mower.
- Never try to clear discharge area or mower blades unless you move the power take-off (PTO) to “OFF” and rotate the ignition key to “OFF.” Also remove the key and pull the wire(s) off the spark plug(s).

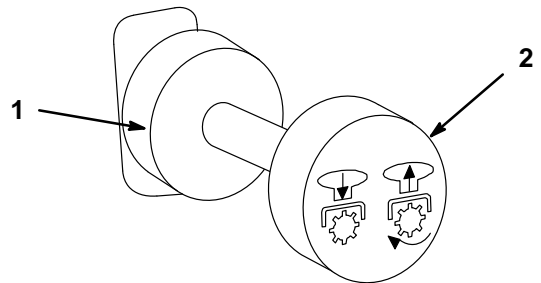
The power take off (PTO) engages and disengages power to the attachment clutch.

Operating the Power Take Off (PTO)

The power take off (PTO) switch engages and disengages power to the electric clutch.

Engaging the PTO

1. Release pressure on the traction control levers and place in neutral, refer to traction unit Operator’s Manual.
2. Release the parking brake, refer to traction unit Operator’s Manual.
3. Pull out on the power take off (PTO) switch to engage (Fig. 3).



m-3739

Figure 3

1. PTO – Off

2. PTO – On

Disengaging the PTO

1. To disengage push the PTO switch to the “OFF” position (Fig. 3).

Adjusting Height-of-Cut

The height-of-cut is adjusted from 1-1/2" to 5" (38 to 127 mm) in 1/2" (13 mm) increments by relocating clevis pin in different hole locations.

1. Raise the height-of-cut lever to the transport position (also the 5" (127 mm) cutting height position) (Fig. 4).
2. To adjust, remove hairpin cotter and clevis pin from height-of-cut bracket (Fig. 4).
3. Select hole in height-of-cut bracket corresponding to the height-of-cut desired. Lift handle to transport position, insert clevis pin (Fig. 4).
4. Secure clevis pin with hairpin cotter (Fig. 4).

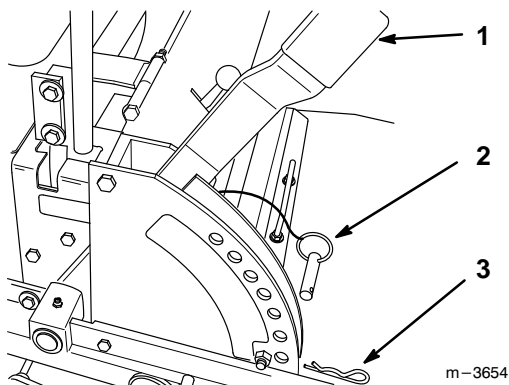


Figure 4

- | | |
|------------------------|-------------------|
| 1. Height-of-cut lever | 3. Hairpin Cotter |
| 2. Clevis Pin | |

Adjusting Anti-Scalp Rollers

Whenever you change the height-of-cut you must also adjust the height of the anti-scalp rollers.

Stop the engine before adjusting the anti-scalp rollers.

1. Raise the height-of-cut lever to the transport position (also the 5" (127 mm) cutting height position) (Fig. 4).
 2. Adjust anti-scalp rollers for maximum deck flotation. Place rollers in one of the positions shown in (Fig. 5).
- Note:** Do not adjust rollers to support the deck.
3. Reposition the roller so it's approximately 1/4" to 3/8" (6 to 10 mm) above the ground, then insert the clevis pin through the gauge wheel plate and mounting bracket (Fig. 5).
 4. Be sure bolt is tightened properly or loss of anti-scalp roller may result.

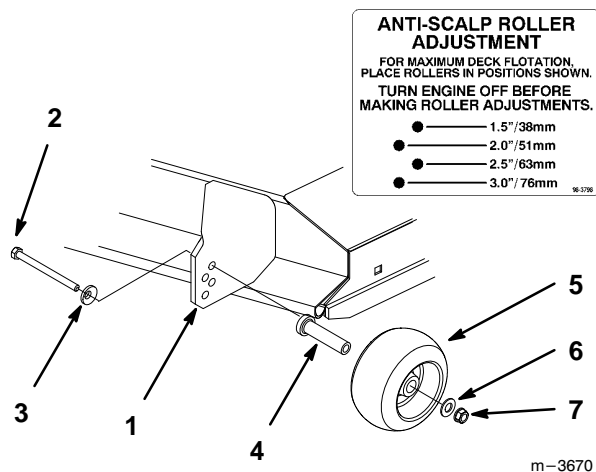


Figure 5

- | | |
|------------------------------|----------------------|
| 1. Mounting Bracket | 5. Roller |
| 2. Bolt 3/8-16 x 4" (102 mm) | 6. Washer 3/8" |
| 3. Spring washer 3/8" | 7. Flange nut 3/8-16 |
| 4. Bushing | |

Tips for Mowing Grass

Fast Throttle Setting

For best mowing and maximum air circulation, operate the engine at “FAST.” Air is required to thoroughly cut grass clippings, so do not set the height-of-cut so low as to totally surround the mower by uncut grass. Always try to have one side of the mower free from uncut grass, which allows air to be drawn into the mower.

Cutting a Lawn for the First Time

Cut grass slightly longer than normal to ensure the cutting height of the mower does not scalp any uneven ground. However, the cutting height used in the past is generally the best one to use. When cutting grass longer than six inches tall, you may want to cut the lawn twice to ensure an acceptable quality of cut.

Cut 1/3 of the Grass Blade

It is best to cut only about 1/3 of the grass blade. Cutting more than that is not recommended unless grass is sparse, or it is late fall when grass grows more slowly.

Mowing Direction

Alternate mowing direction to keep the grass standing straight. This also helps disperse clippings which enhances decomposition and fertilization.

Mow at Correct Intervals

Normally, mow every four days. But remember, grass grows at different rates at different times. So to maintain the same cutting height, which is a good practice, mow more often in early spring. As the grass growth rate slows in mid summer, mow less frequently. If you cannot mow for an extended period, first mow at a high cutting height; then mow again two days later at a lower height setting.

Cutting Speed

To improve cut quality, use a slower ground speed.

Avoid Cutting Too Low

If the cutting width of the mower is wider than the mower you previously used, raise the cutting height to ensure that uneven turf is not cut too short.

Long Grass

If the grass is ever allowed to grow slightly longer than normal, or if it contains a high degree of moisture, raise the cutting height higher than usual and cut the grass at this setting. Then cut the grass again using the lower, normal setting.

When Stopping

If the machine’s forward motion must be stopped while mowing, a clump of grass clippings may drop onto your lawn. To avoid this, move onto a previously cut area with the blades “ENGAGED”.

Keep the Underside of the Mower Clean

Clean clippings and dirt from the underside of the mower after each use. If grass and dirt build up inside the mower, cutting quality will eventually become unsatisfactory.

Blade Maintenance

Maintain a sharp blade throughout the cutting season because a sharp blade cuts cleanly without tearing or shredding the grass blades. Tearing and shredding turns grass brown at the edges, which slows growth and increases the chance of disease. Check the cutter blades daily for sharpness, and for any wear or damage. File down any nicks and sharpen the blades as necessary. If a blade is damaged or worn, replace it immediately with a genuine TORO replacement blade.

Maintenance

Service Interval Chart

Service Operation	Each Use	8 Hours	25 Hours	Storage Service	Notes
Cutting Blades – check		X		X	
Belts – check for wear/cracks				X	
Blade Spindle Bearings – grease		X			
Mower Housing – clean	X			X	
Chipped Surfaces – paint				X	

Cutting Blades

To ensure a superior quality of cut, keep the blades sharp. For convenient sharpening and replacement, you may want to keep extra blades on hand.

WARNING

POTENTIAL HAZARD

- A blade that is worn or damaged could break apart and pieces could be thrown at bystanders or at you as you use the mower.

WHAT CAN HAPPEN

- Pieces of blade that may be thrown could seriously injure or kill you or bystanders.

HOW TO AVOID THE HAZARD

- Periodically inspect the blade for wear and damage. Immediately install a new blade if it is worn or damaged.

Before Inspecting or Servicing the Blades

Park the machine on a level surface, disengage the blade control (PTO) and set the parking brake. Turn the ignition key to “OFF” to stop the engine. Remove the key and disconnect the spark plug wire(s) from the spark plug(s).

Inspecting the Blades

1. Inspect the cutting edges (Fig 6). If the edges are not sharp or have nicks, remove and sharpen the blades. Refer to Sharpening the Blades on page 10.
2. Inspect the blades, especially the curved area (Fig. 6). If you notice any damage, wear, or a slot forming in this area (item 3 in Fig. 6), immediately install a new blade.

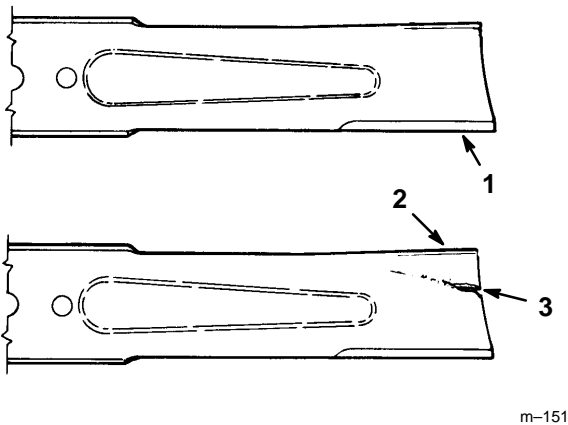


Figure 6

- | | |
|-----------------|----------------------|
| 1. Cutting Edge | 3. Wear/slot Forming |
| 2. Curved Area | |

Checking for Bent Blades

1. Rotate the blades until the ends face forward and backward (Fig. 7). Measure from a level surface to the cutting edge of the blades (Fig. 8). Note this dimension.

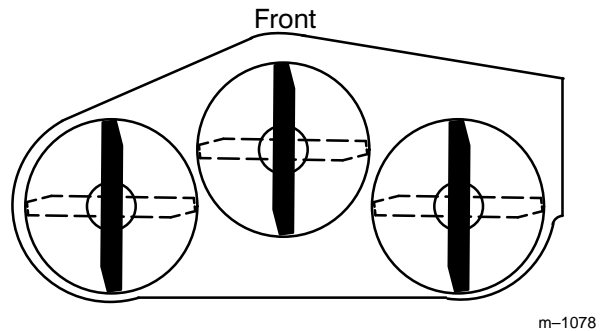
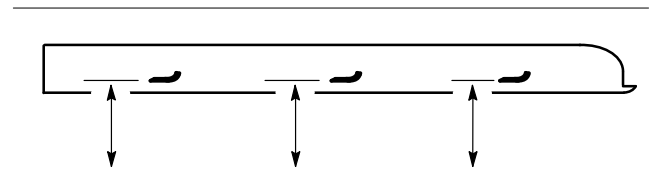


Figure 7



MEASURE FROM
CUTTING EDGE TO A
LEVEL SURFACE

Figure 8

2. Rotate the opposite ends of the blades forward. Measure from a level surface to the cutting edge of the blades at the same position as in step 1 above. The difference between the dimensions obtained in steps 1 and 2 must not exceed 1/8" (3 mm). If this dimension exceeds 1/8" (3 mm), the blade is bent and must be replaced. Refer to Removing the Blades, and Installing the Blades on page 10.

! WARNING

POTENTIAL HAZARD

- A blade that is bent or damaged could break apart and pieces could be thrown at bystanders or at you as you use the mower.

WHAT CAN HAPPEN

- Pieces of blade that may be thrown could seriously injure or kill you or bystanders.

HOW TO AVOID THE HAZARD

- Always replace bent or damaged blade with a new blade.
- Never file or create sharp notches in the edges or surfaces of blade.

Removing the Blades

Blades must be replaced if a solid object is hit, if the blade is out of balance or is bent. To ensure optimum performance and continued safety conformance of the machine, use genuine TORO replacement blades. Replacement blades made by other manufacturers may result in non-conformance with safety standards.

Hold the blade end using a rag or thickly-padded glove. Remove the blade bolt, lock washer, anti-scalp cup and blade from the spindle shaft (Fig. 9).

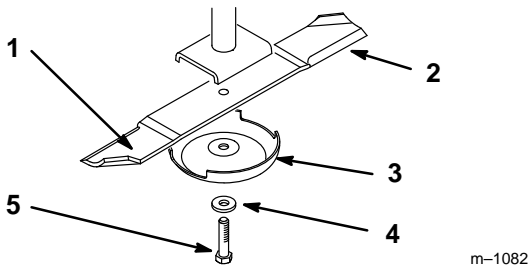


Figure 9

- | | |
|-----------------------|----------------|
| 1. Sail Area of Blade | 4. Lock Washer |
| 2. Blade | 5. Blade Bolt |
| 3. Anti-scalp cup | |

Sharpening the Blades

1. Use a file to sharpen the cutting edge at both ends of the blade (Fig. 10). Maintain the original angle. The blade retains its balance if the same amount of material is removed from both cutting edges.

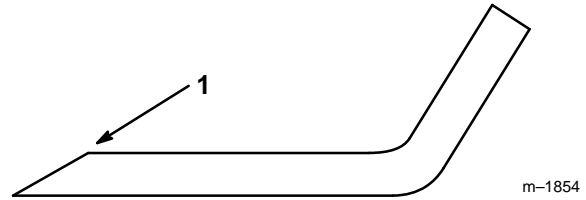


Figure 10

1. Sharpen at original angle

2. Check the balance of the blade by putting it on a blade balancer (Fig. 11). If the blade stays in a horizontal position, the blade is balanced and can be used. If the blade is not balanced, file some metal off the end of the sail area only (Fig. 9). Repeat this procedure until the blade is balanced.

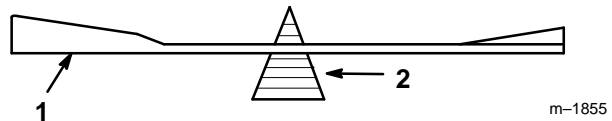


Figure 11

1. Blade
2. Balancer

Installing the Blades

1. Install the blade onto the spindle shaft (Fig. 9).

IMPORTANT: The curved part of the blade must be pointing upward toward the inside of the mower to ensure proper cutting.

2. Install the anti-scalp cup, lock washer and blade bolt (Fig. 9). Torque the blade bolt to 85–110 ft-lb (115–150 N•m).

Mower Leveling

1. Position mower on a flat surface. Stop the engine, set the parking brake, remove the key and disconnect the spark plug wire(s) from the spark plug(s).
2. Check tire pressure of all four (4) tires. If needed, adjust to 13 psi (90 kPa)
3. Set anti-scalp rollers to top holes or remove them completely for this adjustment.
4. Raise the deck to the transport position and take all force off of the two large deck lift springs by loosening nut in front of each spring (Fig. 12).
5. Place two 1-1/2" (38 mm) thick blocks under rear left and right lower edge of mower. Place one 2" (51 mm) block under front center lower edge of mower. Lower mower to the 1-1/2" (38 mm) height-of-cut position (Fig. 12).

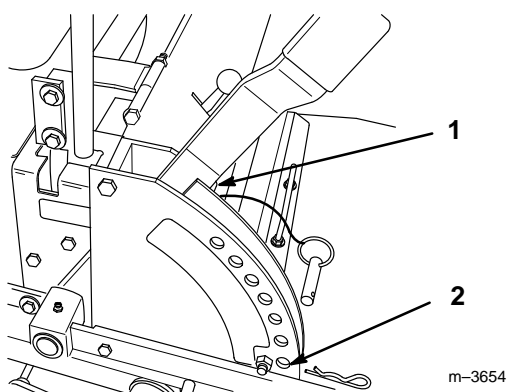


Figure 12

1. Transport position
2. 1-1/2" (38 mm) height-of-cut

6. Loosen four (4) top chain bolts in slots. Check the length of the rod/swivel assemblies. Distance from outside of rear swivel to outside of front swivel should be 20-1/4" (514 mm) (Fig. 13). Make sure that all four swivels move freely in holes.
7. If measurement is not 20-1/4" (514 mm) on each side, adjust by turning nuts on either side of front swivels.

8. Lift up on four (4) top chain attachment bolts, in the slots, to take slack out of chains and tighten flange lock nuts. (Deck is still supported by two rear and one front blocks under mower)
9. If bolts contact the end of slots, shorten or lengthen rod/swivel assemblies as required, for extra clearance, adjust each side same amount.

Note: When properly adjusted, the front of the mower will be slightly lower than the rear.

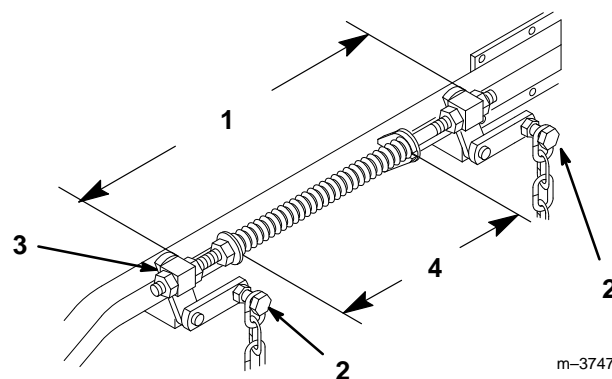


Figure 13

1. 20-1/4" (514 mm) between swivels
2. Top chain bolt
3. Front swivel
4. 11-1/2" (292 mm) spring compressed

10. Recheck that blocks just fit just under the mower and that tension on all four chains is approximately equal. Tighten chain attachment bolts securely.
11. Install anti-scalp rollers for proper height-of-cut and tighten securely.

Compression Spring Adjustment

12. Raise deck lift lever to the transport position, (Fig. 12).
13. Springs are compressed so the distance between the two large washers should be 11-1/2" (292 mm) (Fig. 13).
14. Adjust by turning nut in front of each spring (Fig. 13). (clockwise will shorten spring, counter-clockwise will lengthen spring)

Greasing the Bearings

The cutting unit must be lubricated regularly. Refer to the Service Interval Chart on page 8. Grease with No. 2 general purpose lithium base or molybdenum base grease.

1. Stop the engine, set the parking brake, remove the key and disconnect the spark plug wire(s) from the spark plug(s).
2. Grease the fittings on the three spindle bearings (Fig. 14).
3. Grease the fittings on the push arms (Fig. 14).

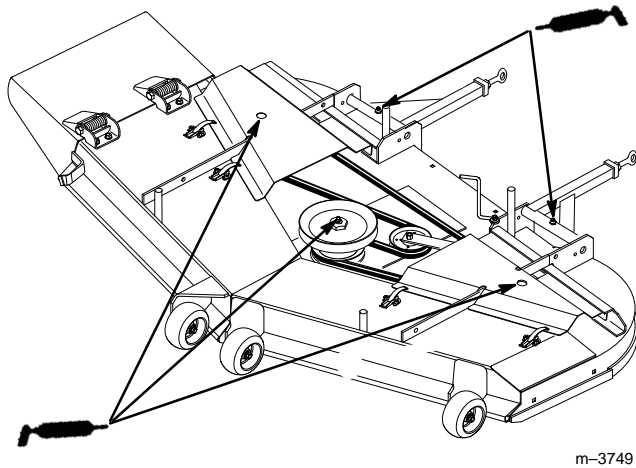


Figure 14

Replacing the Deck Belt

Squealing when the belt is rotating, blades slipping when cutting grass, frayed belt edges, burn marks and cracks are signs of a worn deck belt. Replace the deck belt if any of these conditions are evident.

1. Stop the engine, set the parking brake, remove the key and disconnect the spark plug wire(s) from the spark plug(s).
2. Remove the PTO drive belt. Refer to Replacing the PTO Drive Belt, on page 13.
3. Loosen two nuts securing idler plate and move the idler arm to relieve belt tension on the idler pulley, then remove the worn deck belt (Fig. 15).
4. Install the new deck belt around the spindle pulleys, belt guide, the idler pulley, and in the lower groove of the center spindle pulley (Fig. 15).
5. Using a socket and torque wrench, rotate the idler adjusting nut until torque is 25–30 ft.-lb. (34–41 N•m). Tighten two nuts.

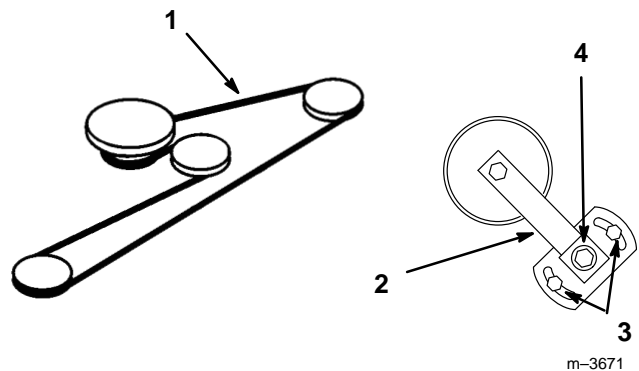


Figure 15

Top View

- | | |
|--------------|------------------------|
| 1. Deck Belt | 3. Idler nuts |
| 2. Idler Arm | 4. Idler adjusting nut |

6. Reinstall the PTO drive belt. Refer to Replacing the PTO Drive Belt, page 13.

Replacing the PTO Drive Belt

Squealing when the belt is rotating, blades slipping when cutting grass, frayed belt edges, burn marks and cracks are signs of a worn drive belt. Replace the PTO drive belt if any of these conditions are evident.

1. Stop the engine, set the parking brake, remove the key and disconnect the spark plug wire(s) from the spark plug(s).
2. Remove the clutch retaining strap and unplug clutch terminal from wire harness (Fig. 16).
3. Place PTO drive belt over clutch, around rear idler pulleys and onto mower top center pulley.

Note: Check that belt has only 1/4 twist between each pulley and idler.

4. Install clutch retaining strap and plug clutch terminal into main wire harness (Fig. 16).

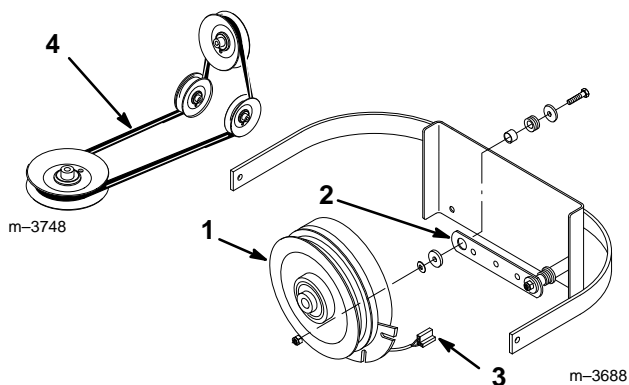


Figure 16

- | | |
|---------------------------|-------------|
| 1. Clutch | 3. Plug |
| 2. Clutch retaining strap | 4. PTO belt |

5. Check belt tension. The center bolt of spring loaded idler must be between the two alignment holes in left support plate (Fig 17).

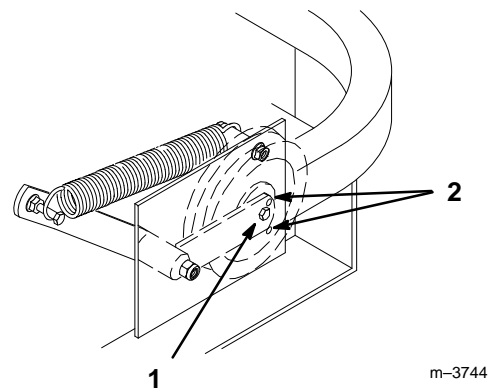


Figure 17

- | | |
|-------------------------------------|-------------------|
| 1. Center bolt, spring loaded idler | 2. Alignment hole |
|-------------------------------------|-------------------|

6. If adjustment is required, loosen the fixed idler on right support plate and move up or down in adjustment slot. To relieve belt tension lift up on spring loaded idler.

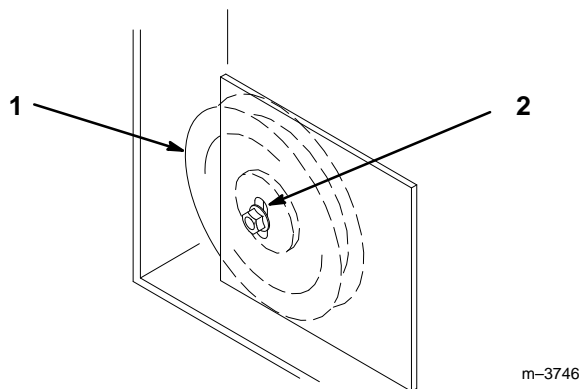
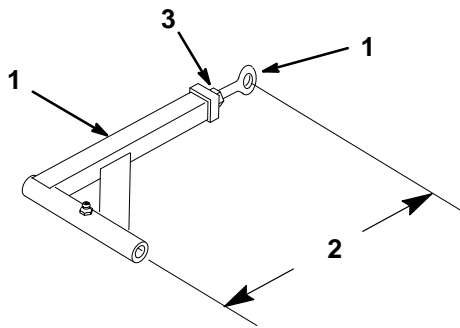


Figure 18

- | | |
|----------------|--------------------|
| 1. Fixed Idler | 2. Adjustment slot |
|----------------|--------------------|

7. Check belt tension again. The center bolt of spring loaded idler must be between the two alignment holes in left support plate (Fig 17). Adjust, if necessary, and tighten all hardware securely.

8. If the fixed idler contacts the end of the adjustment slot and more belt tension is required, a small change in the lengthen the push arms can be made (Fig. 19).
9. To lengthen, loosen jam nut and rotate ball joint counterclockwise, one turn at a time. Adjust each side the same amount.

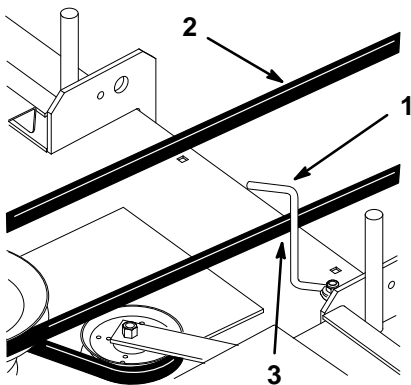


m-3740

Figure 19

- | | |
|-------------------------|---------------|
| 1. Push arm | 3. Jam nut |
| 2. 15" (381 mm) nominal | 4. Ball joint |

10. Rotate the belt guide, on rear of the mower, so it is 1/8"-1/4" (3-7 mm) away from the vertical side of the PTO belt (Fig. 20).



m-3689

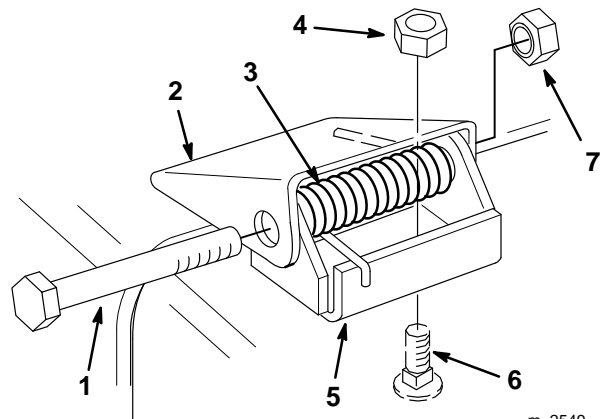
Figure 20

- | | |
|-------------------|-----------------------|
| 1. Belt guide | 3. 1/8"-1/4" (3-7 mm) |
| 2. PTO Drive belt | |

Replacing the Grass Deflector

1. Remove the locknuts, bolts and springs holding the deflector mounts to the pivot brackets (Fig. 21).
2. If the pivot brackets need to be replaced, remove the carriage bolts and cone locknuts holding the old brackets to the top of the discharge opening, then install the replacement pivot brackets. Make sure the carriage bolt heads are on the inside of the cutting unit (Fig. 21).
3. Install the deflector mounts onto the pivot brackets with the bolts, springs and locknuts. Make sure the straight ends of the springs are positioned between the deflector mounts and the grass deflector (Fig. 21).
4. Tighten the locknuts until they contact the pivot brackets (Fig. 21).

IMPORTANT: The grass deflector must be spring-loaded in the down position. Lift the deflector up to test that it snaps to the full down position.



m-2549

Figure 21

- | | |
|--------------------|------------------|
| 1. Bolt | 5. Pivot Bracket |
| 2. Deflector Mount | 6. Carriage Bolt |
| 3. Spring | 7. Locknut |
| 4. Cone Locknut | |

Storage

1. Clean any dirt and chaff from the top of the mower.
2. Scrape any heavy buildup of grass and dirt from the underside of the mower, then wash the mower with a garden hose.
3. Check the condition of the blades. Refer to Cutting Blades on page 8.
4. Check the condition of the drive and deck belts.
5. Check and tighten all bolts, nuts and screws. Repair or replace any part that is damaged or defective.
6. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
7. Store the machine in a clean, dry garage or storage area. Cover the machine to protect it and keep it clean.

Troubleshooting

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Abnormal vibration.	<ol style="list-style-type: none"> 1. Cutting blade(s) is/are bent or unbalanced. 2. Blade mounting bolt is loose. 3. Engine mounting bolts are loose. 4. Loose engine pulley, idler pulley, or blade pulley. 5. Engine pulley is damaged. 6. Blade spindle bent. 	<ol style="list-style-type: none"> 1. Install new cutting blade(s). 2. Tighten blade mounting bolt. 3. Tighten engine mounting bolts. 4. Tighten the appropriate pulley. 5. Contact Authorized Service Dealer. 6. Contact Authorized Service Dealer.
Uneven cutting height.	<ol style="list-style-type: none"> 1. Blade(s) not sharp. 2. Cutting blade(s) is/are bent. 3. Mower is not level. 4. Gage wheel not set correctly. 5. Underside of mower is dirty. 6. Tire pressure is incorrect. 7. Blade spindle bent. 	<ol style="list-style-type: none"> 1. Sharpen blade(s). 2. Install new cutting blade(s). 3. Level mower from side-to-side and front-to-rear. 4. Adjust gage wheel height. 5. Clean the underside of the mower. 6. Adjust tire pressure. 7. Contact Authorized Service Dealer.
Blades do not rotate.	<ol style="list-style-type: none"> 1. Drive belt is worn, loose or broken. 2. Drive belt is off pulley. 3. Deck belt is worn, loose or broken. 4. Deck belt is off pulley. 	<ol style="list-style-type: none"> 1. Install new drive belt. 2. Install drive belt and check adjusting shafts and belt guides for correct position. 3. Install new deck belt. 4. Install deck pulley and check the idler pulley, idler arm and spring for correct position and function.

