



## **60" Mower**

### **Wheel Horse® 5xi Garden Tractor Attachment**

**Model No. 78395—Serial No. 220000001 and Up**

**Operator's Manual**

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## Introduction

Read this manual carefully to learn how to operate and maintain your product properly. The information in this manual can help you and others avoid injury and product damage. Although Toro designs and produces safe products, you are responsible for operating the product properly and safely.

Whenever you need service, genuine Toro parts, or additional information, contact an Authorized Service Dealer or Toro Customer Service and have the model and serial numbers of your product ready. Figure 1 illustrates the location of the model and serial numbers on the product.

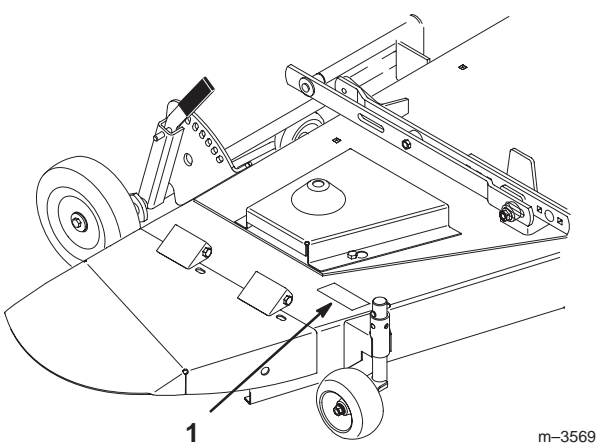


Figure 1

1. Location of the model and serial numbers

Write the product model and serial numbers in the space below:

<b>Model No.</b> _____
<b>Serial No.</b> _____

This manual identifies potential hazards and has special safety messages that help you and others avoid personal injury and 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 you do not follow the recommended precautions.

**Warning** signals a hazard that *may* cause serious injury or death if you do not follow the recommended precautions.

**Caution** signals a hazard that may cause minor or moderate injury if you do not follow the recommended precautions.

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

# Safety and Instruction Decals

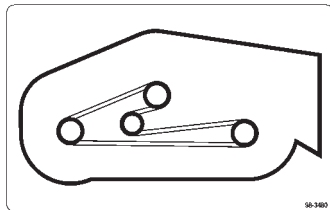
This machine meets or exceeds the B71.1-1998 specifications of the American National Standards Institute, in effect at the time of production. However, improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety alert  symbol, which means CAUTION, WARNING, or DANGER—"personal safety instruction." Failure to comply with the instruction may result in personal injury or death. Refer to your tractor *Operator's Manual* for additional safety instructions.



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.



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98-3480



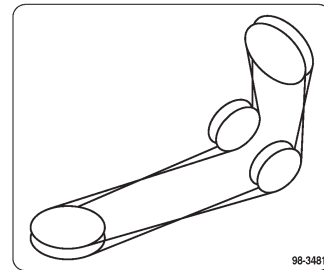
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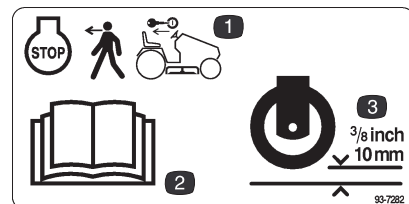
92-7108



98-3478



98-3481



93-7282

1. Stop the engine and remove the key before leaving the tractor
2. Read the Operator's Manual
3. Wheel height

# Setup

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

## Loose Parts

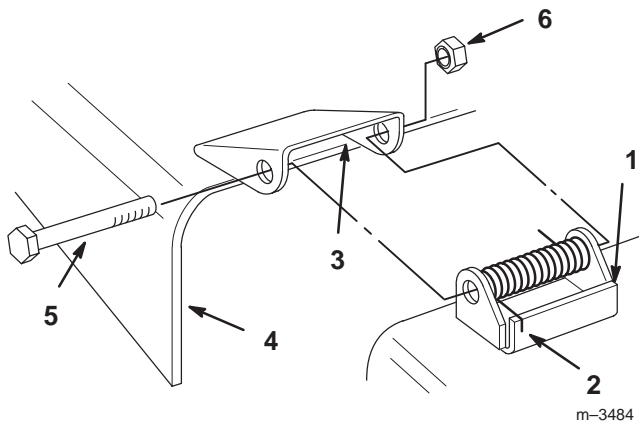
**Note:** Use the chart below to identify parts used for assembly.

Description	Qty.	Use
Discharge chute	1	Install discharge chute
Spring	2	
Bolt, 3/8 x 3-1/2 in.	2	
Locknut, 3/8 in.	2	
Pulley box	1	Install the PTO drive belt
PTO drive belt	1	

## Assembling the Mower

### Installing the Discharge Chute

1. Place the springs into the brackets on the mower with the hooked ends over the raised back of the bracket (Fig. 2).



**Figure 2**

1. Bracket
  2. Spring hook end
  3. Space for spring
  4. Discharge chute
  5. Bolt
  6. Locknut
2. Align the discharge chute with the holes in the brackets and the spring straight ends in the space under the hinge and above the chute (Fig. 2).
  3. Secure the chute to the bracket with bolts through the discharge chute, springs, and brackets. Secure them with locknuts (Fig. 2).

4. Lift the discharge chute and check that it is spring loaded and snaps freely to the full down position.

**Important** The discharge chute must be spring loaded in the down position.



### Danger

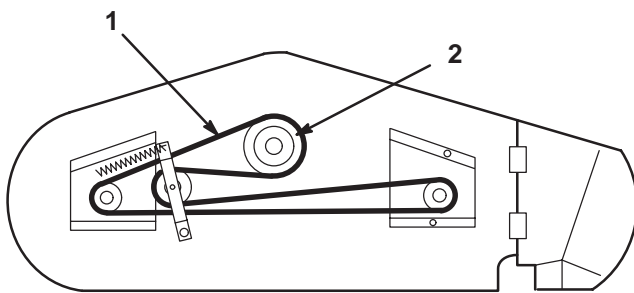


Without the grass deflector mounted in place, you and others are exposed to blade contact and thrown debris. Contact with the rotating mower blades and thrown debris will cause injury or death.

- 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 the 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 wires off of the spark plugs.

### Mower Belt Routing

Route the mower belt as shown in Fig. 3. Ensure that you install the belt on the lower mower deck pulley.



m-3573

**Figure 3**

Top View

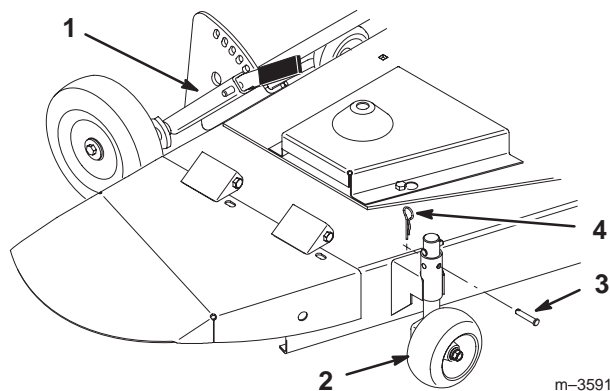
1. Mower belt
2. Mower deck pulley

## Installing the Mower

### Preparing the Mower

Install the mower on a level concrete surface. Rough dirt or lawn surfaces make installation much more difficult.

1. Place the height of cut lever on the mower to the position for lowest cut (Fig. 4).



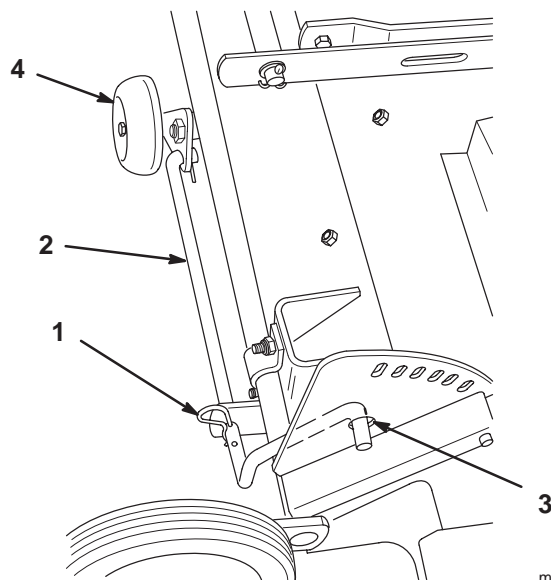
m-3591

**Figure 4**

1. Height of cut lever position
2. Front mower wheels parallel to mower
3. Clevis pin
4. Hairpin cotter

2. Lower the rear center wheel (if not already lowered), using the following procedure:

- A. Remove the hairpin cotter from the wheel rod (Fig. 5).



m-3579

**Figure 5**

1. Hairpin cotter
2. Wheel rod
3. Hole in height-of-cut plate
4. Rear center wheel

- B. Lift the rear of the mower.

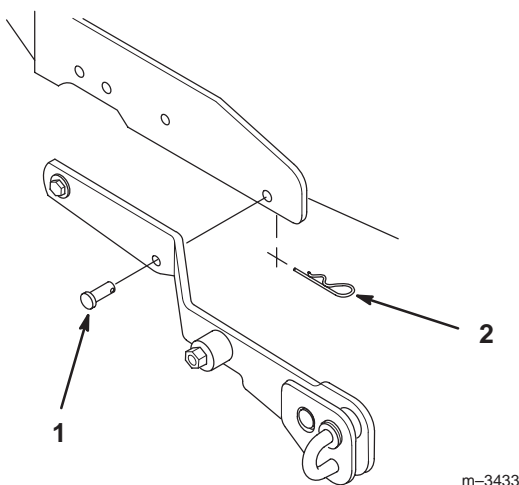
- C. Pull the rod toward the outside of the mower, insert the end of the rod into the hole in the height of cut plate, and install the hairpin cotter into the second hole of the wheel rod (Fig. 5).

3. Set the height of the two front mower wheels and turn the wheels parallel to the mower by removing the clevis pins and hairpin cotters, then turning and raising or lowering the wheels until you can put the clevis pins and hairpin cotters in the third position from the top (Fig. 4).

### Preparing the Tractor

Install the mower on a level concrete surface. Rougher dirt or lawn surfaces make installation more difficult.

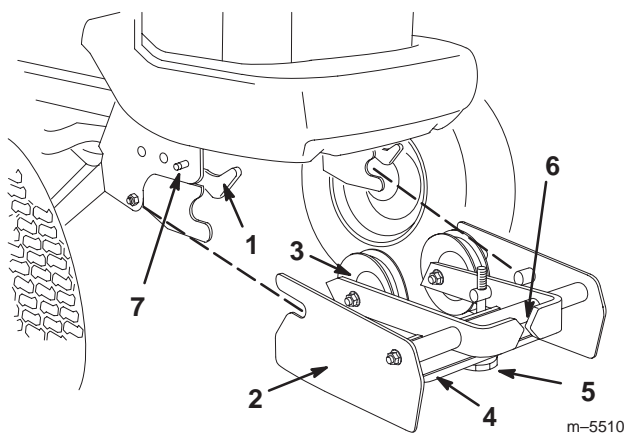
1. Position the tractor and mower side by side, with the mower on the right side of the tractor.
2. Set the parking brake, raise the attachment lift, **turn the steering wheel all the way to the right**, stop the engine, and remove the ignition key.
3. If you have previously had a snowthrower, blade, or tiller attached to the attachment lift, remove the two clevis pins on each side of the attachment lift (Fig. 6).



**Figure 6**

1. Clevis pin                      2. Hairpin cotter

4. Attach the pulley box if it is not already on the tractor (Fig. 7).



**Figure 7**

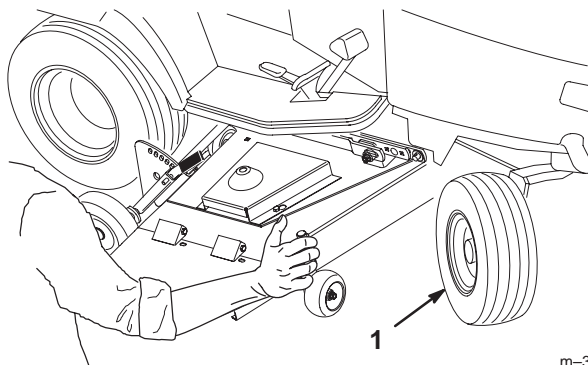
- |                             |   |
|-----------------------------|---|
| 1. Attach-A-Matic™ latches  | 5. Belt tension adjustment knob               |
| 2. Pulley box               | 6. Belt tension indicators                    |
| 3. Idler pulley             | 7. Attach-A-Matic™ buttons (one on each side) |
| 4. Belt tension release arm |   |

- A. Ensure that the latches on the tractor's front Attach-A-Matic™ are open.
- B. Slide the pulley box into the Attach-A-Matic™ latches and seat it.
- C. Close the latches.

## Attaching the Mower

1. From the right side of the tractor, slide the mower under the tractor (Fig. 8).

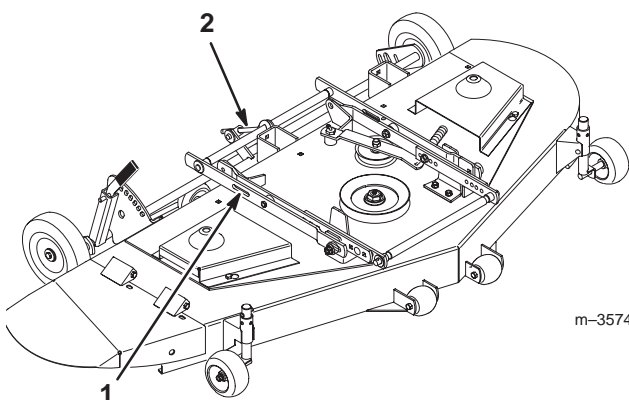
**Note:** Once the mower is almost under the tractor, you may need to turn the steering wheel to the left to provide enough room for the mower to slide completely under the tractor.



**Figure 8**

1. Front tractor wheels

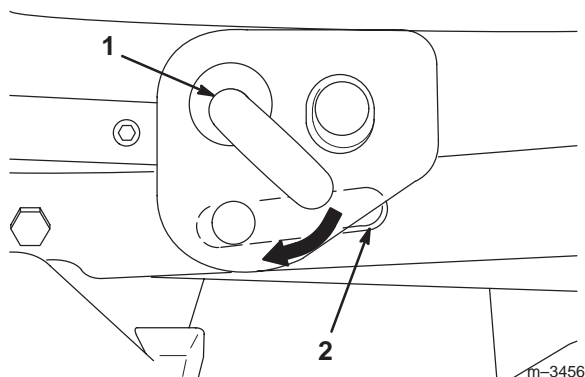
2. Position the mower so that the slots in the side of each of the mower mounting brackets (Fig. 9) are aligned directly below the tractor attachment lift arm.



**Figure 9**

1. Slots in the side mounting brackets (2)
2. Front to rear adjustment rod

3. Start the tractor.
4. Lower the attachment lift arm fully and adjust the mower position until you can pull out on the J-pin of the lift arm and slide it into the slot in the mounting bracket of the mower (Fig. 10).



**Figure 10**

Left Side of Tractor Shown

1. J-pin
2. Mower slot in side mounting bracket.

5. On the left side, pull out the attachment lift J-pin and slide it into the slot on the other mower mounting bracket.
6. After the two J-pins are seated through the mower mounting brackets, using the attachment lift and your hand on the right front adjustable mower wheel bracket (Fig. 11), position the mower so its attachment bar fits into the mid Attach-A-Matic™ mount.

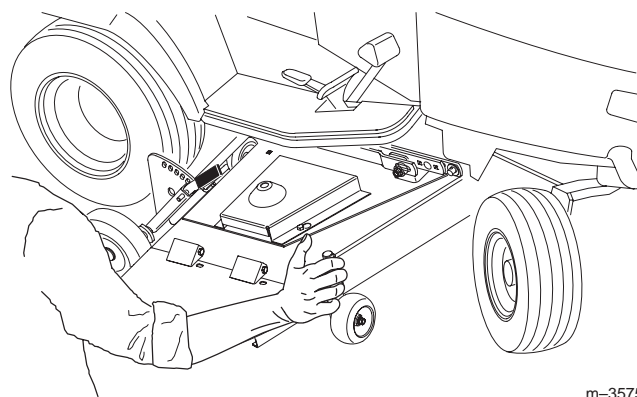


### Caution



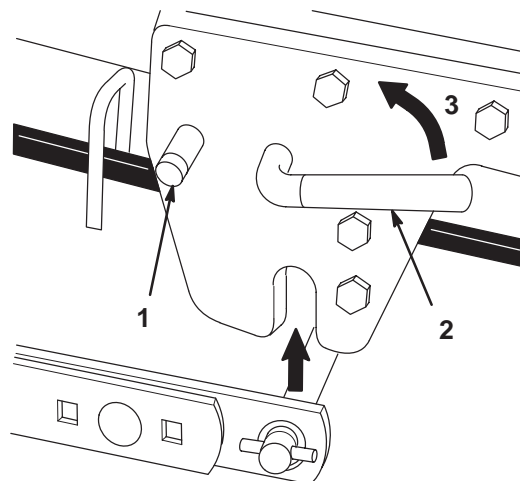
Movement of the attachment lift between the mower mounting brackets and the attachment lift arms can injure a person when aligning the mower with the lift arms.

- Keep hands away from moving parts while operating the attachment lift.
- Always position the mower with your hand on the right front mower wheel bracket.
- Never try to position the mower with your hands on the mower mounting brackets or below the mower housing.



**Figure 11**

7. Turn the lever of the Attach-A-Matic™ counterclockwise to lock the mower to the tractor (Fig. 12).



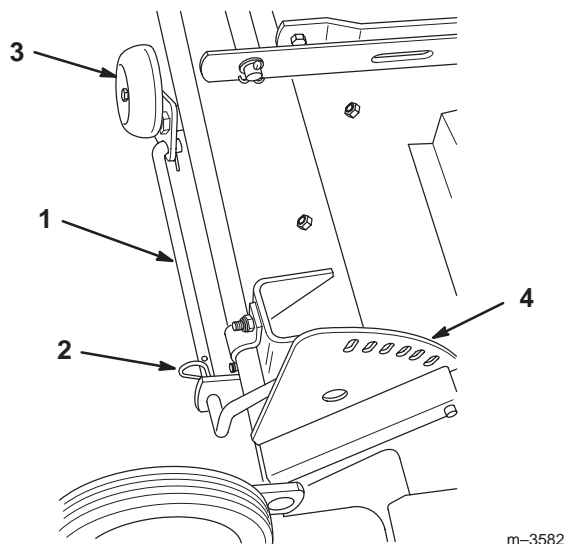
**Figure 12**

1. Attach-A-Matic™ button
2. Attach-A-Matic™ lever
3. Lock

8. Raise the rear center wheel on the mower so that it will not interfere with mowing, using the following procedure:

**Important** Always raise the rear center wheel before mowing. The mower may become damaged if the wheel is left in the down position while mowing.

- A. Remove the hairpin cotter from the wheel rod (Fig. 13).



**Figure 13**

- |                   |                        |
|-------------------|------------------------|
| 1. Wheel rod      | 3. Rear center wheel   |
| 2. Hairpin cotter | 4. Height-of-cut plate |

B. Slide the wheel rod back toward the center wheel as far as it will go. The end of the control rod should no longer be in the hole in the height of cut plate (Fig. 13).

C. Install the hairpin cotter into the wheel rod hole closest to the height of cut plate (Fig. 13).

**9. Turn the two front mower wheels parallel to the tractor.**

A. If the mower **has not** been leveled with the tractor, set the height of the front wheels to the highest position from the ground.

B. If the mower **has** been leveled with the tractor, refer to Adjusting the Two Front Wheels, page 14.

**10. Set the parking brake, lower the attachment lift, stop the engine, and remove the ignition key.**

## Attaching the PTO Drive Belt

**1. Remove the tractor grill.**



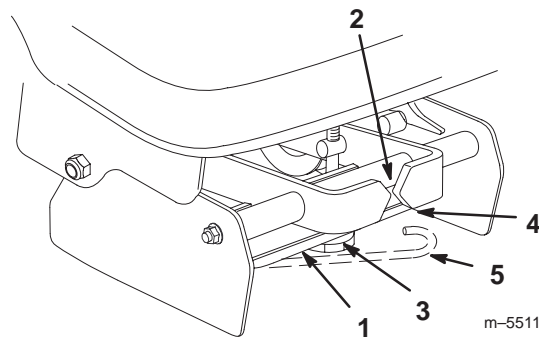
### Caution



**Components under the hood will be hot if the tractor has been running. If you touch hot components you may be burned.**

**Allow the tractor to cool before performing maintenance or touching components under the hood.**

**2. Release the belt tension release arm on the pulley box housing and swing it out toward you (Fig. 14).**

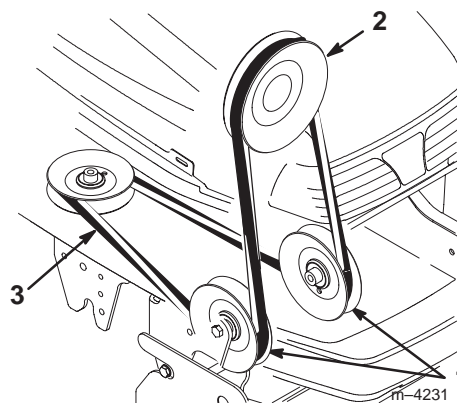


**Figure 14**

- |                                 |                                     |
|---------------------------------|-------------------------------------|
| 1. Belt tension release arm     | 4. Seating position for tension arm |
| 2. Belt tension indicators      | 5. Belt tension released knob       |
| 3. Belt tension adjustment knob |                                     |

**3. Hang the belt over the mower and extend the belt through the center of the pulley box, between the two pulleys.**

**4. Position the belt into the groove of the PTO pulley (Fig. 15), making sure it is also under the pulleys in the pulley box.**



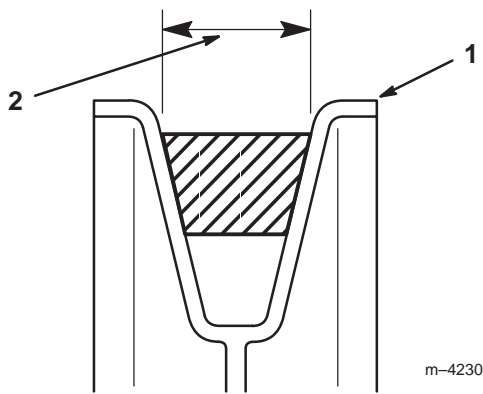
**Figure 15**

- |                      |                   |
|----------------------|-------------------|
| 1. Pulley box pulley | 3. PTO drive belt |
| 2. PTO pulley        |                   |

**5. Loop the other end of the belt over the drive pulley of the mower. Additional belt slack can be obtained (if needed) by turning the belt tension adjustment knob (Fig. 14).**

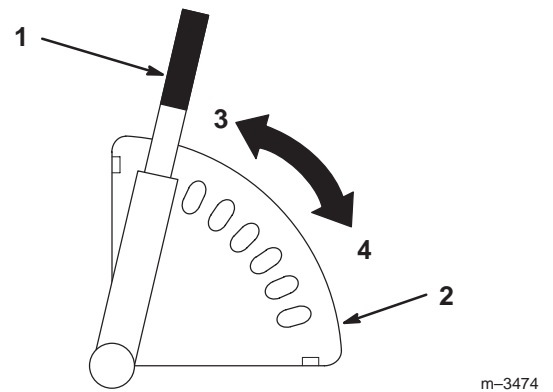
**6. Make certain that the wide side of the PTO drive belt is toward the outside diameter of **all (four) pulleys** (Fig. 16).**





**Figure 16**

1. Pulley outside diameter
2. Wide side of belt



**Figure 17**

1. Height-of-cut lever
  2. Quadrant
  3. High
  4. Low
3. Adjust the height-of-cut to the desired level (Fig. 17).
  4. Release the lever inward to lock it into the quadrant (Fig. 17).
  5. Adjust the front wheels in the proper hole location for the selected height-of-cut; refer to *Adjusting the Two Front Wheels*, page 14.

## 7. Adjust the belt tension.

- A. Push the belt tension release arm toward the pulley box to tension the belt.
- B. Check the tension indicators on front of the pulley box. The two arrow points on the indicators should line up (Fig. 14).
- C. If the tension indicators do not line up, release the belt tension, turn the adjustment knob and repeat steps A through C until the indicators line up (Fig. 14).

When finished, swing the tension release arm into the pulley box and seat it by moving it into the position shown in Figure 14.

## 8. Replace the front grill of the tractor.

# Adjusting the Mower

## Adjusting the Height of Cut

You can adjust the rear support wheels in different hole locations for 1-1/2 to 4 in. (4 to 10 cm) heights of cut.

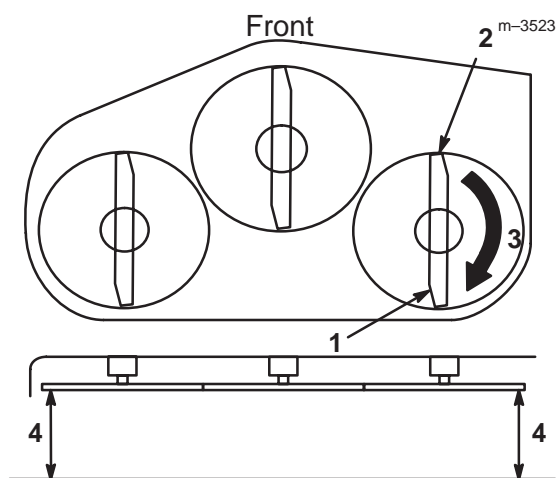
1. Start the tractor, set the parking brake, and raise the mower. Get off the tractor.
2. Pull the height of cut lever out to disengage it from the quadrant (Fig. 17).

## Checking the Mower Level

For optimum efficiency, check the level of the mower after installation and periodically, to ensure that the blades are 1/8 in. (3 mm) lower in the front than in the rear.

Check and adjust the mower on a flat, level surface, preferably concrete. Before checking the mower level, set the air pressure in the front and rear tires as specified in the tractor *Operator's Manual*. Place the mower height-of-cut lever to the middle cut position. Ensure that the two adjustable front wheels are off of the ground.

1. Disengage the PTO, set the parking brake, lower the attachment lift, stop the engine, and remove the ignition key.
2. Carefully rotate one of the blades so it is oriented front to rear (Fig. 18).



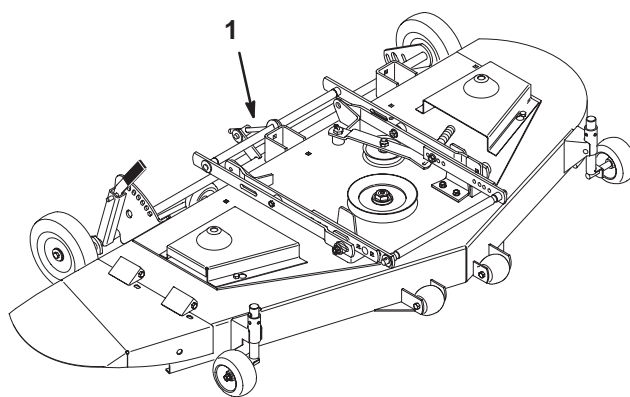
**Figure 18**

1. Blade oriented front to rear
2. Measure front blade tip
3. Rotate front tip to rear and measure
4. Measure here (side to side)

3. Measure the distance from the front tip of the blade (Fig. 18) to the flat surface.
4. Carefully rotate the blade tip until it is in the rear position and measure it in that position.

When the blade tip is in the front position, it should be 1/8 in. (3 mm) lower than when it is in the rear position.

5. If an adjustment is required, turn the adjusting nut (Fig. 19) on the back of the mower.
  - To raise the front of the mower, turn the adjustment nut clockwise.
  - To lower the front of the mower, turn the nut counterclockwise.



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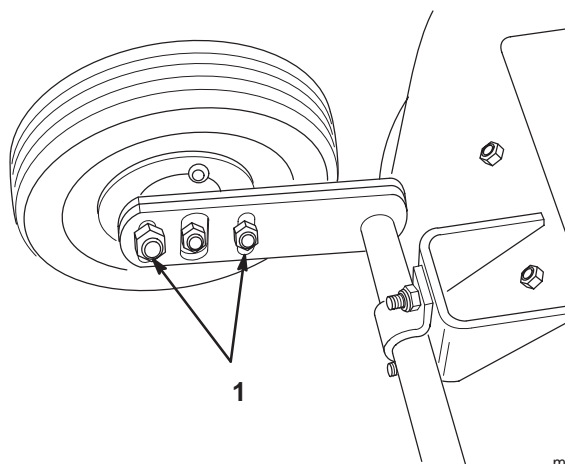
**Figure 19**

1. Front to rear adjustment rod

## Adjusting the Side to Side Blade Cut

This optional adjustment is available if necessary to compensate for uneven side to side cut.

Equalize the side to side cut by adjusting the two carriage bolts (Fig. 20) on the mower wheels. Check the height of the blade at outside blade tips (Fig. 18).



m-3577

**Figure 20**

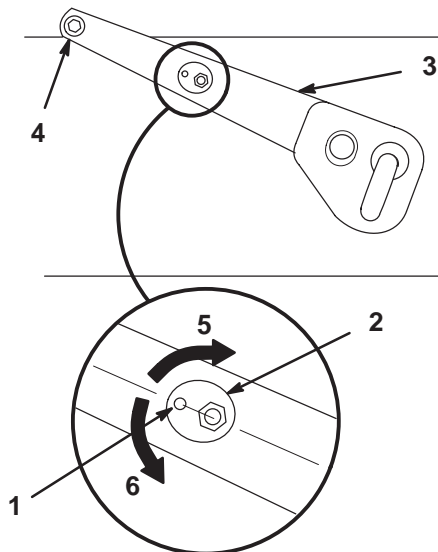
1. Side to side adjustment bolts

## Adjusting the Blade Slope for Transport

Because the attachment lift is used when the PTO drive is engaged, you must adjust the transport blade slope to extend the PTO drive belt life. This adjustment also provides adequate transport height.

**Important** Failure to adjust for blade slope in transport can result in drive belt failure and/or insufficient transport height.

1. Check to see that both adjustment cams are oriented with the indicator toward the pivot point at the rear of the tractor (Fig. 21).



m-3518

**Figure 21**

Right Side of Tractor Shown

- |                   |                         |
|-------------------|-------------------------|
| 1. Indicator      | 4. Pivot point          |
| 2. Adjustment cam | 5. Lowers front of deck |
| 3. Lift arm       | 6. Raises front of deck |
2. If they are not, park the machine on a level surface, set the parking brake, lower the attachment lift to take pressure off the cams, stop the engine, and remove the ignition key.



## Caution



**Movement of the attachment lift between the mower mounting brackets and the attachment lift arms can injure a person when aligning the deck with the lift arms.**

- **Keep hands away from moving parts while operating the attachment lift.**
- **Set the parking brake, lower the attachment lift, stop the engine, and remove the ignition key before making any adjustments.**

3. Loosen the nuts on the cams, rotate the cams to the proper position, then tighten the cam nuts.
4. Start the tractor and raise the attachment lift.
5. Stop the engine and remove the ignition key.
6. Check the slope of one of the blades (Fig. 18).
  - A. Measure the distance from the front tip of the blade to the flat surface.
  - B. Carefully rotate the blade tip until it is in the rear position and measure it there.

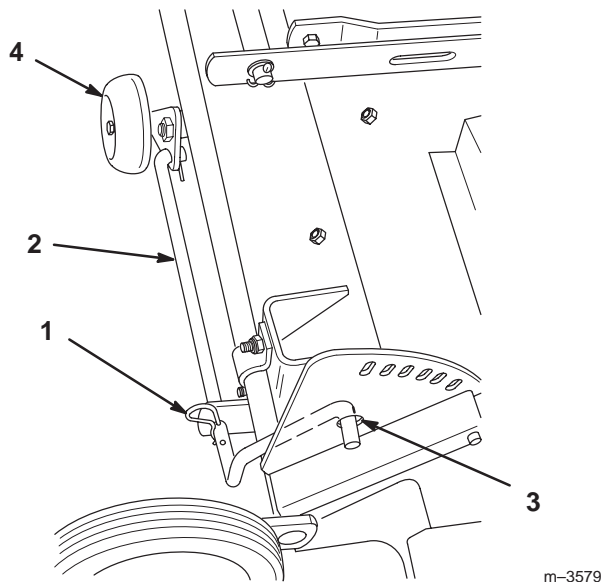
When the blade tip is in the front position, it should be approximately 1/4 in. (7 mm) lower than when it is in the rear position.
7. To adjust the blade slope, start the tractor, lower the attachment lift to take pressure off the cams, stop the engine, and remove the ignition key.
8. Loosen the cam nuts and equally rotate the left and right cams down to raise the front of the mower, or up to lower it. Tighten the nuts.
9. Repeat steps 4 through 8 until the slope of the blade is approximately 1/4 in. (7 mm) lower in the front than it is in the rear.

## Removing the Mower

Remove the mower on a level, concrete surface. Rougher dirt or lawn surfaces make removing the mower more difficult.

1. Set the parking brake, start the tractor, and raise the attachment lift.
2. Get off the tractor.

3. Lower the rear center wheel, using the following procedure:
  - A. Place the height-of-cut lever on the mower to the position for lowest cut.
  - B. Remove the hairpin cotter from the wheel rod (Fig. 22).



**Figure 22**

- |               |                                |
|---------------|--------------------------------|
| 1. Cotter pin | 3. Hole in height-of-cut plate |
| 2. Wheel rod  | 4. Rear center wheel           |

- C. Pull the rod toward the outside of the mower, insert the end of the rod into the hole in the height-of-cut plate, and install the hairpin cotter into the second hole of the wheel rod (Fig. 22).
4. Remove the clevis pins and hairpin cotters from the two front mower wheels.
5. Turn the mower wheels parallel to the mower and secure them with the clevis pins and hairpin cotters in the third position from the top (Fig. 4).
6. Lower the mower until its weight is completely on its wheels, not on the tractor.
7. Stop the engine and remove the ignition key.

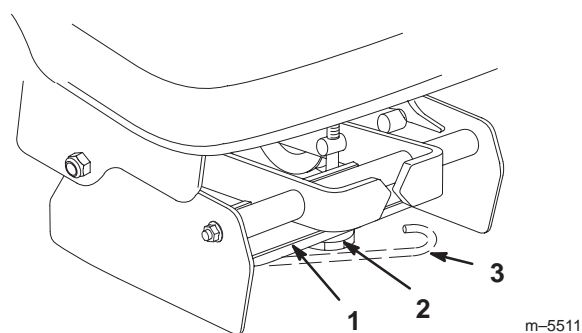
8. Remove the grill.

! **Caution** !

**Components under the hood will be hot if the tractor has been running. If you touch hot components you may be burned.**

**Allow the tractor to cool before performing maintenance or touching components under the hood.**

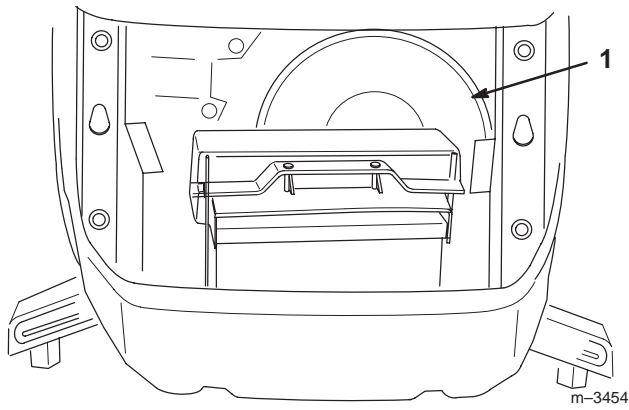
9. Release the belt tension release arm on the pulley box to release the tension on the drive belt (Fig. 23).



**Figure 23**

- |                                 |                          |
|---------------------------------|--------------------------|
| 1. Belt tension release arm     | 3. Belt tension released |
| 2. Belt tension adjustment knob |                          |

10. Remove the belt from around the PTO pulley (Fig. 24). Additional belt slack can be obtained (if needed) by turning the belt tension adjustment knob.

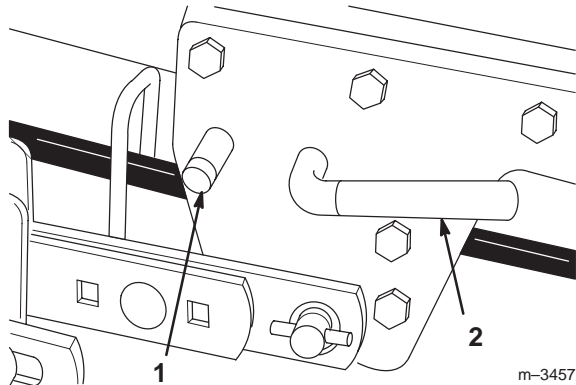


**Figure 24**

1. PTO pulley

**11. Replace the grill.**

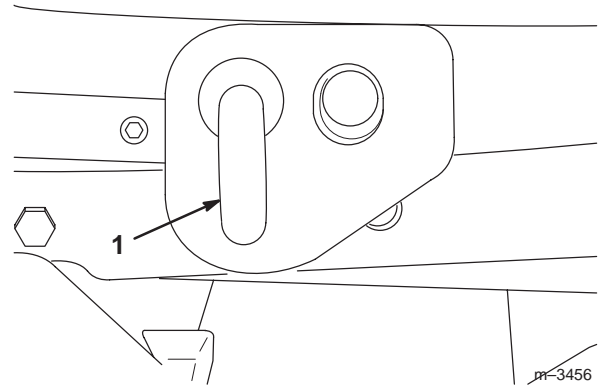
**12. Press the button of the mid Attach-A-Matic™ and twist the lever clockwise to release the mower (Fig. 25).**



**Figure 25**

1. Mid Attach-A-Matic™ button      2. Mid Attach-A-Matic™ lever

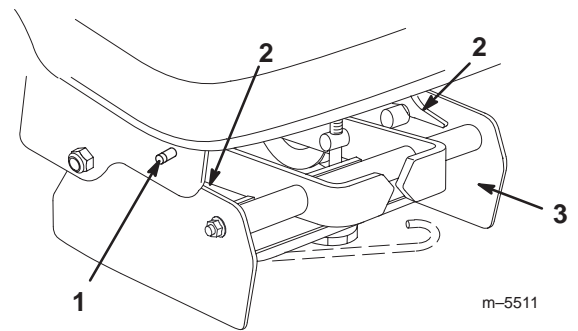
**13. Pull the two spring loaded J-pins from the deck lift arms and twist them slightly so that they stay disengaged (Fig. 26).**



**Figure 26**

1. J-pin

**14. If you wish to remove the pulley box, push the latch release buttons on the front Attach-A-Matic™ (Fig. 27) and raise the latch levers to open the latches holding the pulley box. Remove the pulley box.**



**Figure 27**

1. Front Attach-A-Matic™ button (one on each side)      3. Pulley box  
2. Front Attach-A-Matic™ latches

**15. Start the tractor and raise the attachment lift to provide ample clearance to slide out the mower.**

**16. Turn the steering wheel all the way to the left.**

**17. Stop the engine and remove the ignition key.**

**18. Slide the mower out from the right side of the tractor.**

**Note:** Turn the steering wheel as needed to remove the mower.

**19. Replace the grill.**

# Operation

## Operating the Mower

The power take off (PTO) engages and disengages power to the mower. The attachment lift lever raises and lowers the mower. For detailed information on operating your tractor's controls, refer to the tractor *Operator's Manual*.

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



### Danger



**Without the grass deflector mounted in place, you and others are exposed to blade contact and thrown debris. Contact with the rotating mower blades and thrown debris will cause injury or death.**

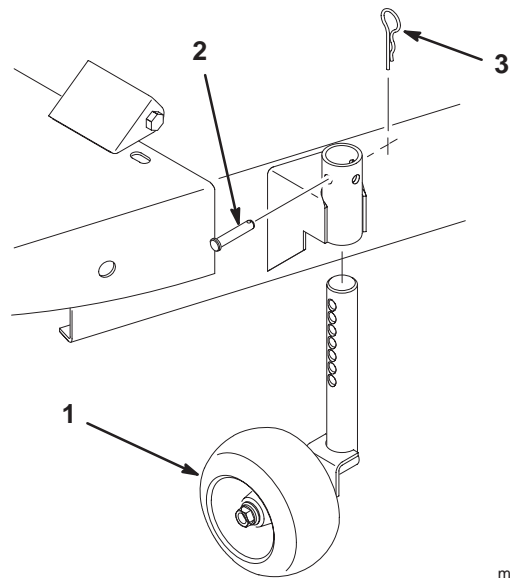
- **Never remove the grass deflector from the mower because the grass deflector routes material down toward the turf. If the grass deflector is ever damaged, replace it immediately.**
- **Never put your hands or feet under the mower.**
- **Never try to clear the discharge area or mower blades unless you move the PTO to Off and rotate the ignition key to Off. Also remove the key and pull the wires off of the spark plugs.**

## Adjusting the Front Wheels

The two front adjustable wheels must be adjusted in the proper hole location each time you change the height-of-cut.

**Important** For cutting, orient the wheels parallel to the tractor (Fig. 28). Only turn the wheels parallel to the mower for installation or removal.

1. After selecting a height of cut, make sure the front adjustable wheels are approximately 3/8 in. (9.5 mm) off the ground.
2. To adjust the wheel height, remove the hairpin cotter and pin to change hole location (Fig. 28).



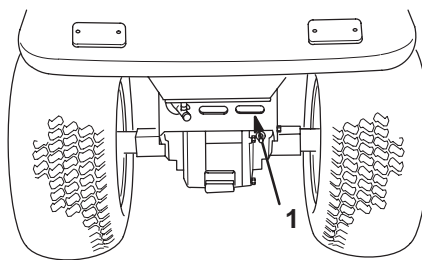
m-3578

**Figure 28**

1. Wheel
  2. Pin
  3. Hairpin Cotter
3. Select a hole position so the wheel is approximately 3/8 in. (9.5 mm) off the ground for the height-of-cut position to be used (Fig. 28).
  4. Insert the pin and secure it with a hairpin cotter.
  5. Repeat this adjustment on the other wheel.

## Checking for Debris

Each time you use the mower, be sure to check for debris build up on and inside the rear transaxle cover (Fig. 29). Remove any build up.



m-3436

**Figure 29**

1. Rear transaxle cover

## Tips for Mowing Grass

- For best mowing and maximum air circulation, operate the engine at the fastest throttle position.
- When using the mower for the first time, cut grass slightly longer than normal to ensure the cutting height of the mower does not scalp any uneven ground.

- 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.
- Alternate mowing direction to keep the grass standing straight. This also helps disperse clippings which enhances decomposition and fertilization.
- Avoid mowing in reverse.
- To improve cut quality, use slower ground speed. For best results on average lawns, operate the engine at full throttle while controlling the ground speed with the transmission. Operate the tractor at 2 to 3.5 MPH (3.2 to 5.6 kms/hr) while mowing grass. Excessive ground speed may result in uneven cutting.
- 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.
- If the cutting width of the mower is wider than the mower you previously used, raise the cutting height to ensure uneven turf is not cut too short. Average lawns are usually cut at a height between 2 and 3 inches (5 to 7.6 cm).
- To cut long or wet grass, raise the cutting height and cut the grass. Then, cut the grass again using the lower, normal setting.
- If you must stop while mowing, a clump of grass clippings may drop onto your lawn. To avoid this, move onto a previously mowed area with the blades engaged and then raise the attachment to disperse the clippings evenly.
- 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.
- Keep the blade sharp. A sharp blade cuts cleanly without tearing or shredding the grass blades. Tearing and shredding slows growth and increases the chance of disease. Every 30 days, check the blades for sharpness and file down any nicks.

## Maintenance

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

### Recommended Maintenance Schedule

Maintenance Service Interval	Maintenance Procedure
Each Use	<ul style="list-style-type: none"> <li>• Wash the underside of the mower.</li> </ul>
5 hours	<ul style="list-style-type: none"> <li>• Inspect the blades.</li> <li>• Check the belt tension (initial check only).</li> </ul>
25 hours	<ul style="list-style-type: none"> <li>• Grease the mower.</li> </ul>
50 Hours	<ul style="list-style-type: none"> <li>• Check the belt tension.</li> </ul>
Storage Service	<ul style="list-style-type: none"> <li>• Wash the underside of the mower.</li> <li>• Inspect the blades.</li> <li>• Grease the mower.</li> <li>• Check the belt tension.</li> <li>• Check the belts for wear and cracks.</li> <li>• Paint chipped surfaces.</li> </ul>



## Caution



If you leave the key in the ignition switch, someone could accidentally start the engine and seriously injure you or other bystanders.

Remove the key from the ignition and disconnect the wires from the spark plugs before you do any maintenance. Set the wires aside so that they do not accidentally contact the spark plugs.

## Servicing the Blades

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



## Danger



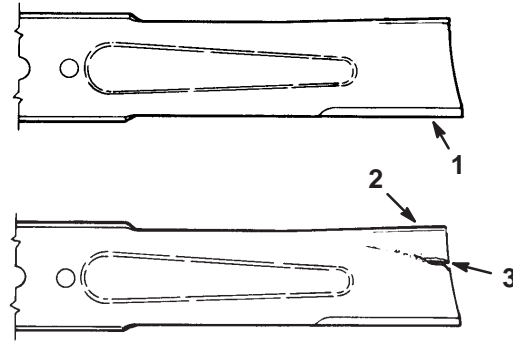
A worn or damaged blade can break, and a piece of the blade could be thrown into the operator's or bystander's area, resulting in serious personal injury or death.

- Inspect the blade periodically for wear or damage.
- Replace a worn or damaged blade.

1. Remove the mower; refer to Removing the Mower, page 11.
2. Carefully turn the mower over to expose the blades

## Inspecting the Blades

1. Inspect the cutting edges (Fig. 30).
2. If the edges are not sharp or have nicks, remove the blades and sharpen them.
3. Inspect the blades, especially the curved area (Fig. 30).
4. If you notice any damage, wear, or a slot forming in this area (Fig. 30), immediately install a new blade.



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Figure 30

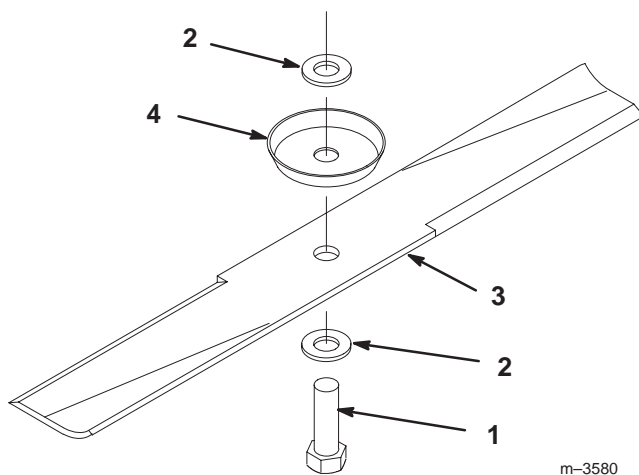
1. Cutting edge
2. Curved area
3. Wear/slot forming

## Removing a Blade

1. Hold the blade end using a rag or thickly padded glove.
2. Remove the bolt, washer, blade, spindle cup, and washer (Fig. 31).

**Note:** A block of wood may be wedged between the blade and the mower to lock the blade when you are removing the nut.





**Figure 31**

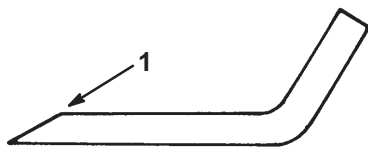
- |           |                |
|-----------|----------------|
| 1. Bolt   | 3. Blade       |
| 2. Washer | 4. Spindle cup |

3. Inspect all parts. If damage is noticed, install new parts.

## Sharpening a Blade

1. Use a file to sharpen the cutting edge at both ends of the blade (Fig. 32).

Maintain the original angle. The blade retains its balance if the same amount of material is removed from both cutting edges.



**Figure 32**

1. Sharpen at original angle

2. Check the balance of the blade by putting it on a blade balancer (Fig. 33).

If the blade stays in a horizontal position, the blade is balanced and can be used.



**Figure 33**

- |          |             |
|----------|-------------|
| 1. Blade | 2. Balancer |
|----------|-------------|

3. If the blade is not balanced, file some metal off the back side of the blade.
4. Repeat steps 2 and 3 until the blade is balanced.

## Installing the Blades

1. Hold the blade end using a rag or thickly padded glove.
2. Install the washer, spindle cup, blade, washer, and blade bolt (Fig. 31).

**Important** The sail (curved part of the blade) must be pointing up toward the inside of the mower to ensure proper cutting.

3. Tighten the nut to 80 to 100 ft.-lb. (109 to 136 N·m).

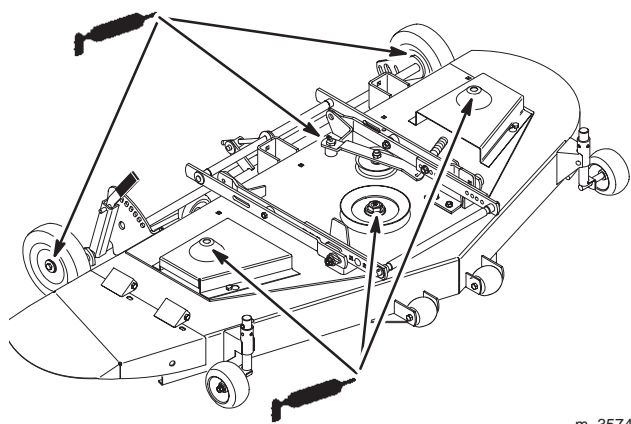
## Greasing the Mower

Grease the mower after every 25 operating hours or once a year, whichever occurs first. Grease more frequently when operating conditions are extremely dusty or sandy.

**Grease Type:** General-purpose grease.

## How to Grease

1. Disengage the PTO, set the parking brake, lower the attachment lift, stop the engine, and remove the ignition key.
2. Clean the grease fittings (Fig. 34) with a rag.



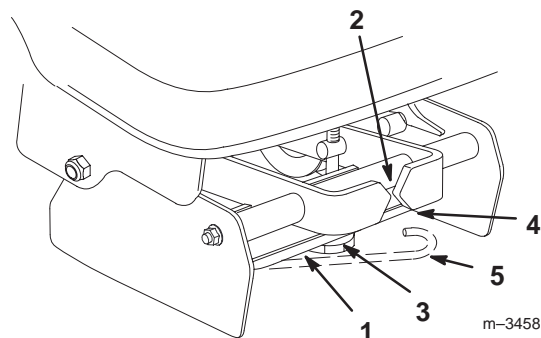
**Figure 34**

3. Scrape any paint off the end of the fittings.
4. Connect a grease gun to each fitting (Fig. 34).
5. Pump grease into the fittings.
6. Wipe up any excess grease.

## Checking PTO Drive Belt Tension

Check the PTO drive belt tension after 5 hours of operating with a new belt, then every 50 hours or once a year, whichever occurs first.

1. Check the tension indicators on the front of the pulley box. If the tension indicators do not line up, release the belt tension and turn the adjustment knob. Push the belt tension release arm back toward the pulley box to tension the belt (Fig. 35).



**Figure 35**

- |                             |                                     |
|-----------------------------|-------------------------------------|
| 1. Belt tension release arm | 4. Seating position for tension arm |
| 2. Belt tension indicators  | 5. Belt tension released knob       |
| 3. Belt tension adjustment  |                                     |
2. Repeat step 1 until the indicators move to the same position.
  3. Swing the tension release arm into the pulley box by moving it into the position shown in Figure 35.

## Extending PTO Drive Belt Life

The PTO drive belt will provide a long service life if properly installed and operated. Check the following to help extend belt life.

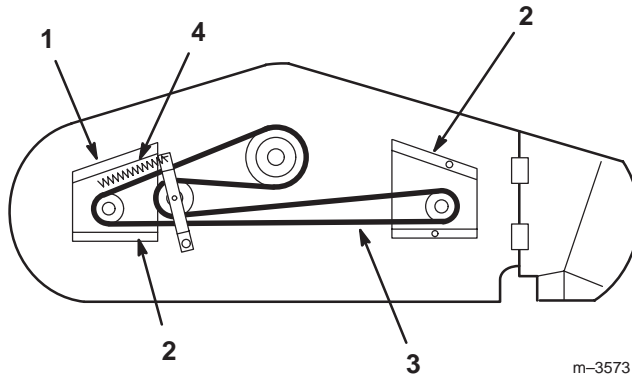
- Maintain correct belt tension.
- Maintain correct mower level.
- Maintain correct blade slope in transport.
- Adjust the position of the mower belt guide.
- Replace damaged pulleys.
- Always operate engine-powered attachments at full throttle.
- Avoid engaging the PTO when the mower is in tall uncut grass or weeds.
- Cut tall grass and weeds with the mower in its highest position, making a second pass cutting at desired height.
- Regularly clean the mower of any buildup of grass clippings.

- Use low range or reduce ground speed when mowing in heavy conditions.

## Replacing the Blade Drive Belt

### Removing the Blade Drive Belt

1. Remove the mower; refer to Removing the Mower, page 11.
2. Remove the pulley cover mounting screws and pulley covers from the blade pulleys (Fig. 36).



**Figure 36**

Top View

- |                       |               |
|-----------------------|---------------|
| 1. Pulley cover screw | 3. Mower belt |
| 2. Pulley cover       | 4. Spring     |

3. Release the spring (Fig. 36).
4. Remove the belt from the pulleys (Fig. 36).

### Installing the Blade Drive Belt

1. Install the new belt around the blade pulleys and the idler pulleys.
2. Attach the spring (Fig. 36).
3. Install the left and right pulley covers with the mounting screws (Fig. 36).
4. Install the mower; refer to Installing the Mower, page 5.

## Storage

1. Clean dirt and chaff from the top of the mower.
2. Scrape heavy buildup of grass and dirt from the underside of the mower. Then wash the mower with a garden hose. Run the tractor for two to three minutes.
3. Check the condition of the blades; refer to Cutting Blade, page 16.
4. Check the condition of the blade drive belt.
5. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged.
6. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
7. Store the mower in a clean, dry garage or storage area.
8. Cover the mower to protect it and keep it clean.

## Troubleshooting

Problem	Possible Causes	Corrective Action
Abnormal vibration.	<ol style="list-style-type: none"> <li>1. A blade is bent or unbalanced.</li> <li>2. A blade mounting bolt is loose.</li> <li>3. The engine mounting bolts are loose.</li> <li>4. A loose engine pulley, idler pulley, or blade pulley.</li> <li>5. The engine pulley is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install new blades.</li> <li>2. Tighten the blade mounting bolts.</li> <li>3. Tighten the engine mounting bolts.</li> <li>4. Tighten the appropriate pulley.</li> <li>5. Contact your Authorized Service Dealer.</li> </ol>

<b>Problem</b>	<b>Possible Causes</b>	<b>Corrective Action</b>
Blades do not rotate.	<ol style="list-style-type: none"> <li>1. The blade drive belt is worn, loose, or broken.</li> <li>2. The blade drive belt is off the pulley.</li> <li>3. The PTO belt is worn, loose, or broken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install a new blade drive belt.</li> <li>2. Install the blade drive belt and check idler pulley and belt guides for correct position.</li> <li>3. Install a new PTO belt.</li> </ol>
Uneven cutting height.	<ol style="list-style-type: none"> <li>1. The tire pressure is incorrect.</li> <li>2. The mower is not level.</li> <li>3. The underside of the mower is dirty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set tire pressure.</li> <li>2. Level the mower from side to side and front to rear.</li> <li>3. Clean the underside of the mower.</li> </ol>
<p>Insufficient transport height.</p> <p>PTO drive belt comes off of pulleys, slips or fails.</p>	<ol style="list-style-type: none"> <li>1. The lift arm cams are improperly adjusted.</li> <li>1. The belt tension is incorrect.</li> <li>2. The mower level is incorrect.</li> <li>3. The blade slope in transport is incorrect.</li> <li>4. The belt is worn or damaged.</li> <li>5. The Pulley is damaged.</li> <li>6. The engine is not at full throttle.</li> <li>7. The PTO is being engaged when the mower is in tall uncut grass or weeds.</li> <li>8. The mower is overloaded because too much grass is being cut at a time.</li> <li>9. The mower is overloaded because deck is clogged with grass clippings.</li> <li>10. The mower is overloaded because tractor is mowing too fast for conditions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust lift arm cams.</li> <li>1. Adjust the belt tension.</li> <li>2. Adjust the mower level.</li> <li>3. Adjust the blade slope in transport.</li> <li>4. Install a new belt.</li> <li>5. Contact your Authorized Service Dealer.</li> <li>6. Always operate engine-powered attachments at full throttle.</li> <li>7. Engage the PTO only in shorter or previously cut grass.</li> <li>8. Cut tall grass and weeds with the mower in its highest position, making a second pass cutting at height desired.</li> <li>9. Clean the mower.</li> <li>10. Reduce ground speed.</li> </ol>