



Wheel Horse®

60 in. Side Discharge Mower

5xi Tractor Attachment

Model No. 78395-200000001 and Up

Operator's Manual

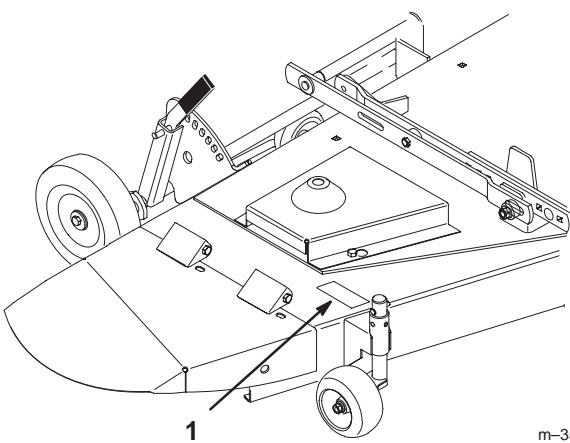
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Introduction

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.

Safety and Instruction Decals



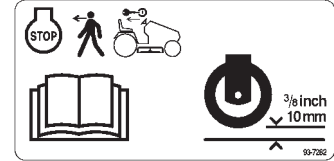
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



On the Discharge Chute
(Part No. 93-1122)



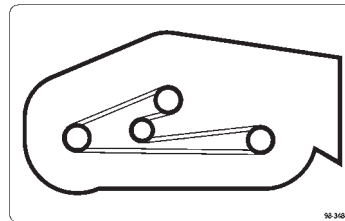
One on the Discharge Chute and
One on the Left side of the Mower
(Part No. 92-7108)



Next to the Front Wheels
(Part No. 93-7282)



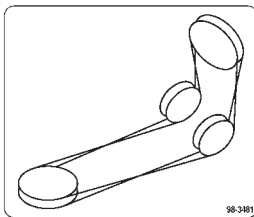
Two on the Leveler Bar
(Part No. 98-3478)



On the Top, Rear of the Mower
(Part No. 98-3480)



On the Height-of-Cut Bracket
(Part No. 111655)



On the Right Side of the Mower
(Part No. 98-3481)

Installation

Loose Parts

Use the chart below to identify parts used for assembly.

DESCRIPTION	QTY.	USE
Discharge chute	1	Install discharge chute
Spring	2	
Bolt 3/8-24 x 3-1/2"	2	
Lock nut 3/8"	2	
PTO drive belt	1	Install PTO drive belt
Pulley box	1	Install pulley box

Mower Preparation

Install 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. 1).
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. 1).
3. Secure the chute to the bracket with bolts through the discharge chute, springs, and brackets. Secure them with locknuts (Fig. 1).
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.

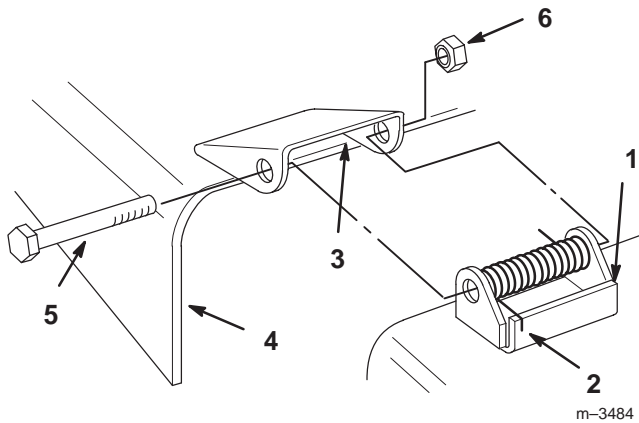


Figure 1

- | | |
|---------------------|--------------------|
| 1. Bracket | 4. Discharge chute |
| 2. Spring hook end | 5. Bolt |
| 3. Space for spring | 6. Lock nut |



DANGER



POTENTIAL HAZARD

- Without the discharge chute mounted in place, you and others are exposed to blade contact and thrown debris.

WHAT CAN HAPPEN

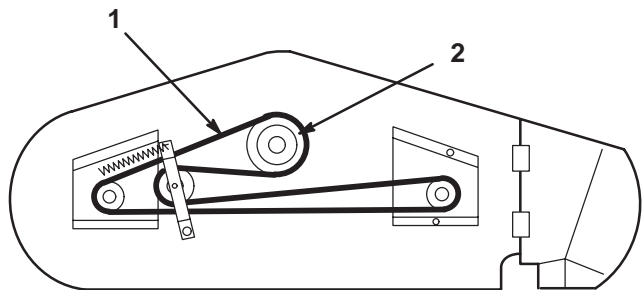
- Contact with rotating mower blade(s) and thrown debris will cause injury or death.

HOW TO AVOID THE HAZARD

- Do not remove the discharge chute from the mower because the discharge chute routes material down toward the turf. If the discharge chute is ever damaged, replace it immediately. Never put your hands or feet under the mower.
- Do not try to clear the discharge area or mower blades unless you move the power take off (PTO) to "OFF" and turn the ignition key to "STOP." Also, remove the ignition key and pull the wire(s) off the spark plug(s).

Mower Belt Routing

1. Route the mower belt as shown in Fig. 2. Be sure to install the belt on the lower mower pulley.



m-3573

Figure 2

Top View

- | | |
|---------------|-----------------|
| 1. Mower belt | 2. Mower pulley |
|---------------|-----------------|

Installing the Mower

Initial Preparation

The mower must be installed 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. 3).

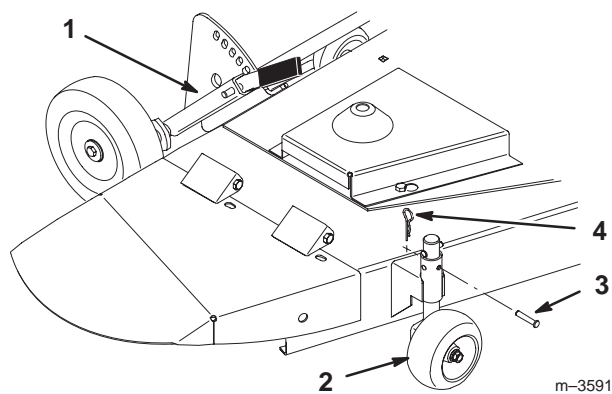


Figure 3

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

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

- A. Removing the hairpin cotter from the wheel rod (Fig. 4).
- B. Lifting 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. 4).

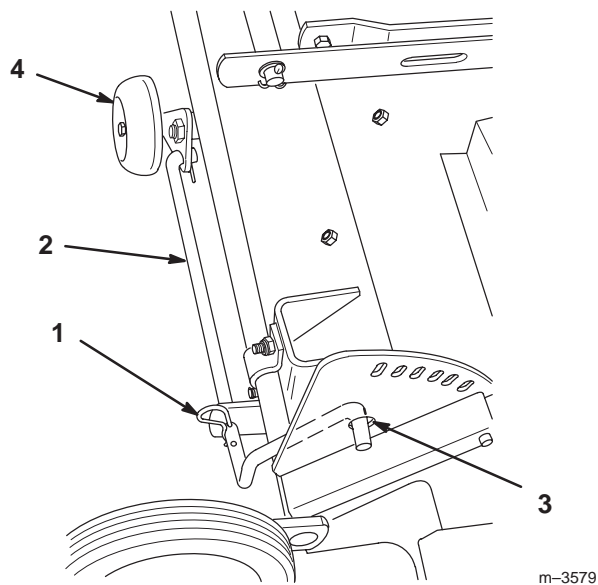
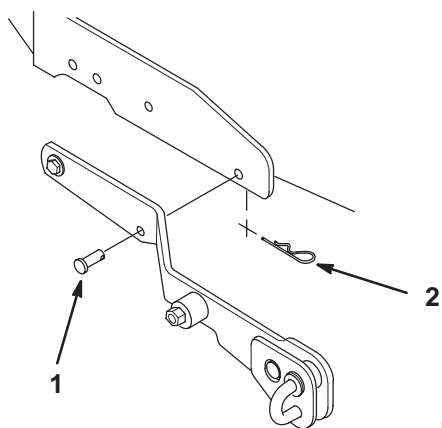


Figure 4

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

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 cottes, then turning and raising or lowering the wheels until you can put the clevis pins and hairpin cottes in the third position from the top (Fig. 3).
4. Position the tractor and mower side by side, with the mower on the right-hand side of the tractor.
5. Set the parking brake, raise the attachment lift, stop the engine, and remove the ignition key.
6. 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. 5).



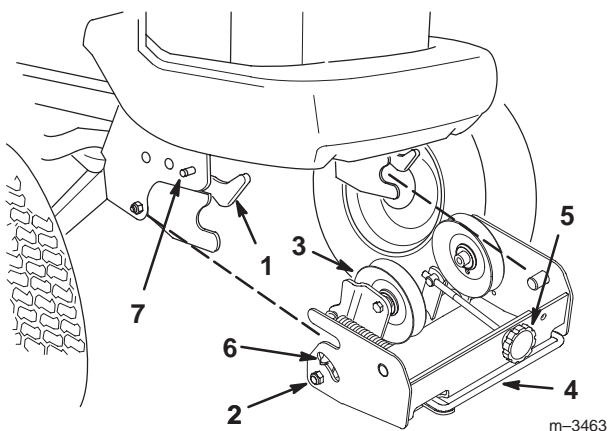
m-3433

Figure 5

1. Clevis pin
2. Hairpin cotter

7. Attach the pulley box if it is not already on the tractor, using the following procedure:

- A. Open the latches on the front Attach-A-Matic™ (Fig. 6).
- B. Slide the pulley box into the Attach-A-Matic™ latches and seat it (Fig. 6).
- C. Close the latches.



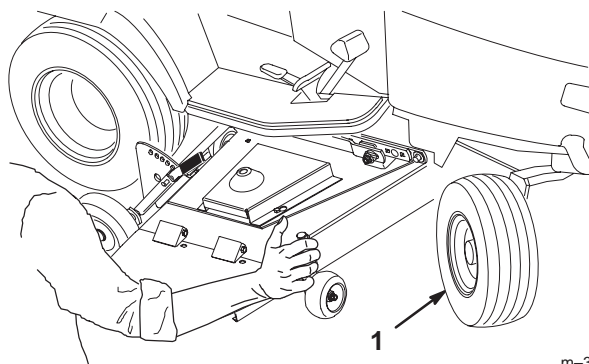
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Figure 6

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

Attach the Mower

1. 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.



m-3575

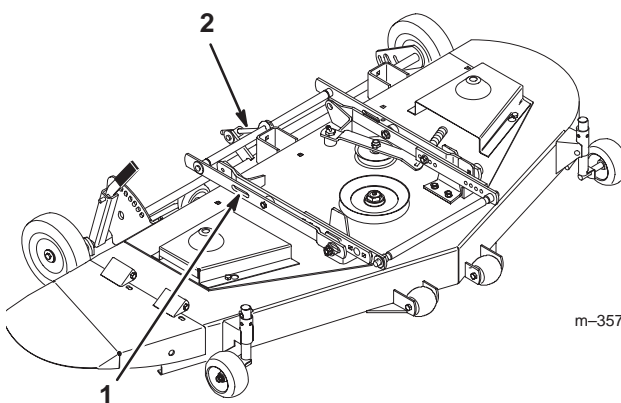
Figure 7

1. Front tractor wheels

2. Ensure that the front mower wheels are turned parallel to the mower and the rear center wheel is lowered (Fig. 3).

3. From the right side of the tractor, slide the mower under the tractor. 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.

4. Position the mower so that the slots in the side of each of the mower mounting brackets (Fig. 8) are aligned directly below the attachment lift arm on the tractor.



m-3574

Figure 8

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

5. Start the tractor.

6. Lower the attachment lift arm fully and adjust the position of the mower 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. 9).

7. On the left side, pull out the second attachment lift J-pin and slide it into the slot on the other mower mounting bracket.

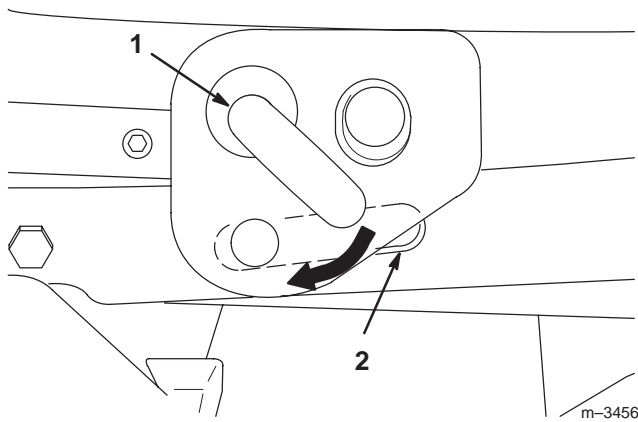


Figure 9

Left Side of Tractor Shown

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

8. Using the attachment lift and your hand on the right front, adjustable mower wheel bracket (Fig. 10), position the mower so that the mower attachment bar fits into the mid Attach-A-Matic™ mount (Fig. 11).



WARNING



POTENTIAL HAZARD

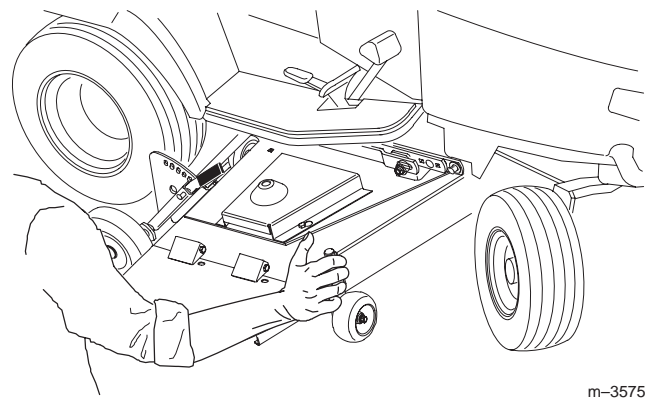
- The “scissor” formed by the mower mounting brackets and the attachment lift arm is dangerous.

WHAT CAN HAPPEN

- Hands and fingers can get caught between the mower parts and the tractor and be injured.

HOW TO AVOID THE HAZARD

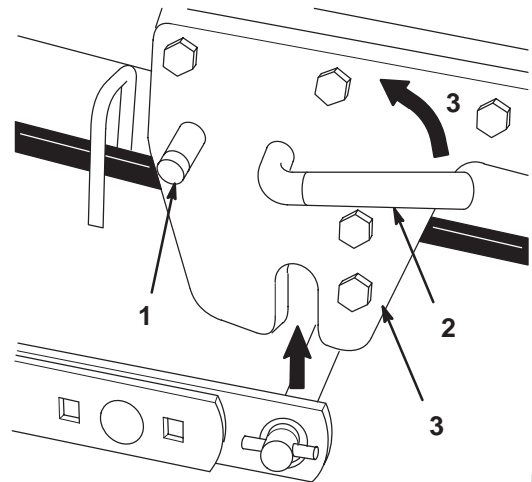
- Keep hands away from moving parts while operating the attachment lift.
- Always position the mower with your hand on the right front mower wheel bracket.
- Do not try to position the mower with your hands on the mower mounting brackets or below the mower housing.



m-3575

Figure 10

9. Turn the lever of the Attach-A-Matic™ counterclockwise to lock the mower to the tractor (Fig. 11).



m-3611

Figure 11

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

10. 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.

- 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. 12).
- C. Install the hairpin cotter into the wheel rod hole closest to the height-of-cut plate (Fig. 12).

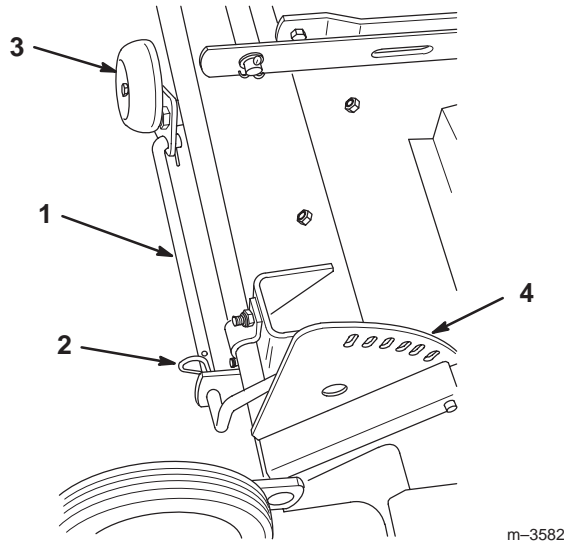


Figure 12

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

11. 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 15.
12. Set the parking brake, lower the attachment lift, stop the engine, and remove the ignition key.

Attach the PTO Drive Belt

1. Hang the belt over the mower and thread it forward through the center of the pulley box, between the two pulleys.
2. Extend the belt through the center of the pulley box, between the two pulleys.
3. Release the belt tension release arm on the pulley box housing and swing it out toward you (Fig. 15).

4. Remove the tractor grill by pulling it straight out toward you.



CAUTION



POTENTIAL HAZARD

- Components under the hood will be hot if the tractor has been running.

WHAT CAN HAPPEN

- Touching hot components can cause burns.

HOW TO AVOID THE HAZARD

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

5. Position the belt into the groove of the PTO pulley (Fig. 13), ensuring that it is also under the pulleys in the pulley box.

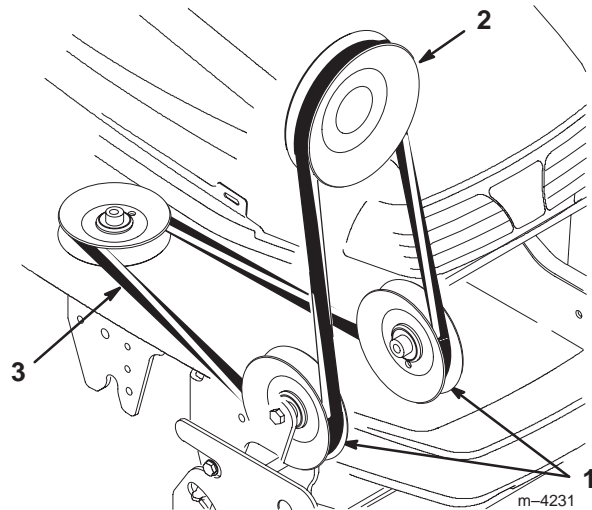


Figure 13

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

6. 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. 15).
7. Ensure that the wide side of the PTO drive belt is toward the outside diameter of **all four pulleys** (Fig. 14).

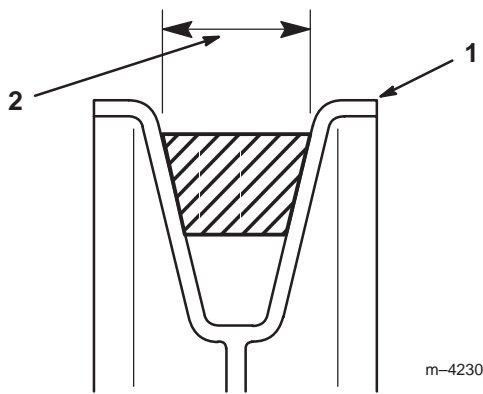


Figure 14

1. Pulley outside diameter 2. Wide side of belt

8. Adjust the belt tension, using the following procedure:

- A. Push the belt tension release arm back toward the pulley box to tension the belt.
- B. Check the tension indicators on each side of the pulley box.
- C. If the tension indicators are not in the same position on both the left and right sides, release the belt tension, turn the adjustment knob and repeat steps A and B until the indicators move to the same position (Fig. 15).
- D. Once the indicators are in the same position on both sides, swing the tension release arm into the pulley box and seat it by moving it into the position shown in Fig. 15.

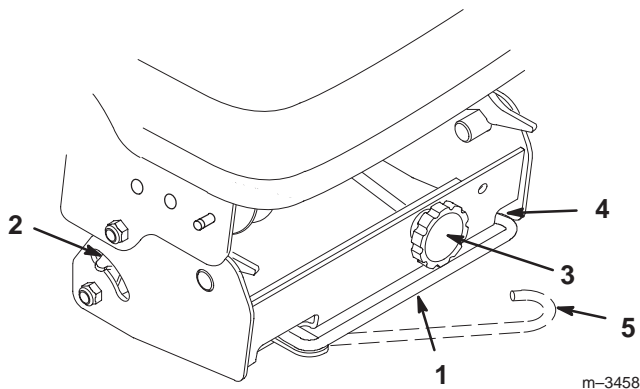


Figure 15

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

9. Replace the front grill of the tractor.

Adjusting the Height of Cut

The rear support wheels are adjusted in different hole locations for 1 1/2 to 4 in. (4 to 10 cm) heights of cut.

1. Start the tractor, apply the parking brake, and raise the mower.
2. Get off the tractor.
3. Pull the height-of-cut lever out to disengage it from the quadrant.
4. Adjust the height of cut to the desired level, release the lever inward to lock into the quadrant (Fig. 16).

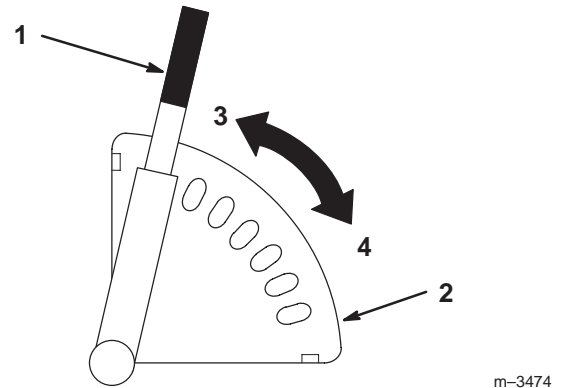


Figure 16

- | | |
|------------------------|---------|
| 1. Height-of-cut lever | 3. High |
| 2. Quadrant | 4. Low |

5. Adjust the front adjustable wheels to the new height-of-cut; refer to Adjusting the Front Wheels, page 15.

Checking the Mower Level

For optimum efficiency, the level of the mower should be checked at the time of initial installation and periodically, to ensure that the blades are 1/8 in. (3 mm) lower in the front than in the rear.

The mower must be checked and adjusted 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 the ground.

Adjusting Front-to-Rear Blade Cut

1. Disengage the power take off (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 facing front and rear (Fig. 17).

3. Measure the distance from the front tip of the blade (Fig. 17) to the flat surface.
4. Carefully rotate the blade tip until it is in the rear position, and measure it there. The blade tip should be 1/8 in. (3 mm) lower in the front position than in the rear position.

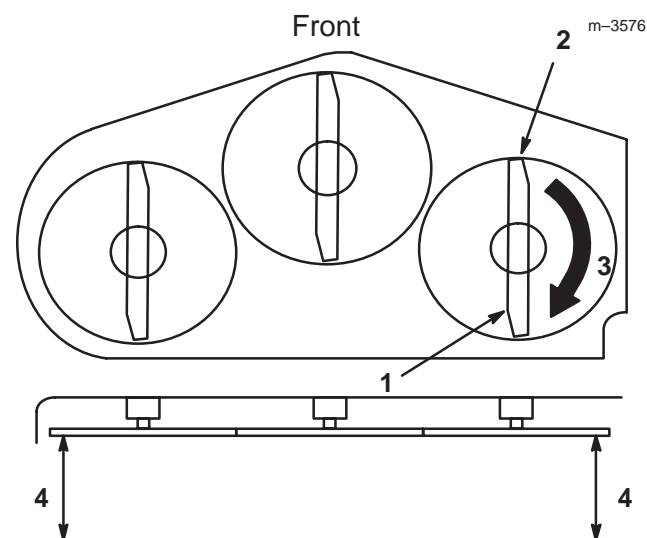


Figure 17

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)

5. To adjust the front-to-rear level, turn the adjusting nut (Fig. 18) 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.

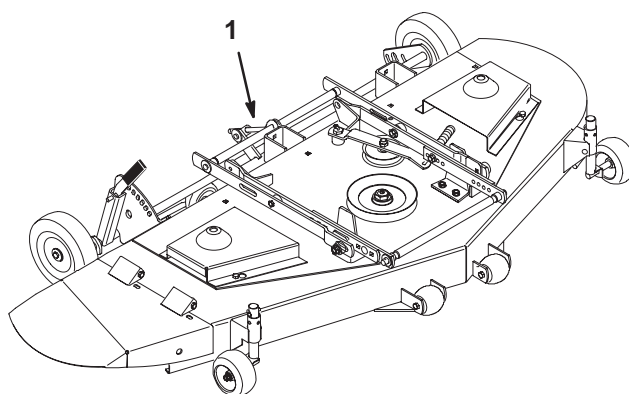


Figure 18

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 side-to-side cut by adjusting the two carriage bolts (Fig. 19) on the mower wheels. Check height of blade at outside blade tips as shown (Fig. 17).

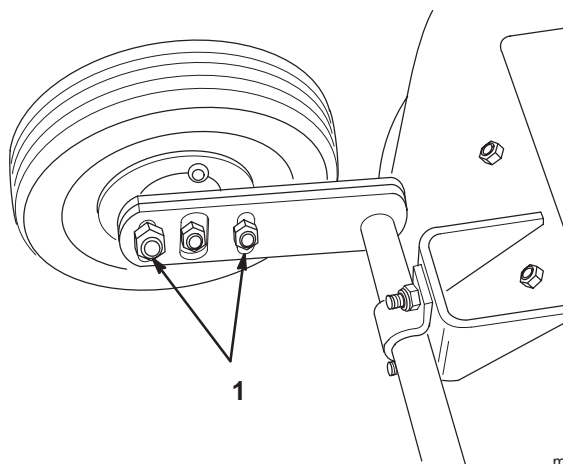


Figure 19

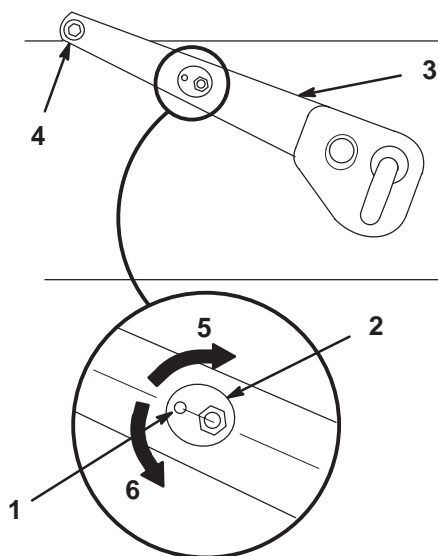
1. Side-to-side adjustment bolts

Adjusting the Blade Slope for Transport

Because the attachment lift is used when the PTO drive is engaged, the blade slope in transport must be adjusted to extend the PTO drive belt life. This adjustment also provides for adequate transport height. Three steps accomplish this: 1) Making sure the lift arm cams are in the same position, 2) Measuring blade slope in its front and rear positions, and 3) Making adjustments if the blade slope is not within specification.

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

1. Ensure that both adjustment cams are oriented with the indicator toward the pivot point at the rear of the tractor (Fig. 20).



m-3518

Figure 20

Right Side of Tractor Shown

- | | |
|-------------------|--------------------------|
| 1. Indicator | 4. Pivot point |
| 2. Adjustment cam | 5. Lowers front of mower |
| 3. Lift arm | 6. Raises front of mower |
2. If they are not, park the tractor 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.



WARNING



POTENTIAL HAZARD

- The “scissor” formed by the mower mounting brackets and the attachment lift arm is dangerous.

WHAT CAN HAPPEN

- Hands and fingers can get caught between the mower parts and the tractor and be injured.

HOW TO AVOID THE HAZARD

- 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. 17).
 - 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.
 - C. 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. If it is not, 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 the front of the mower. 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

The mower is most easily removed from the tractor when done on a level concrete surface. Rougher dirt or lawn surfaces make removing the mower more difficult.

1. Apply 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.
- 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. 21).

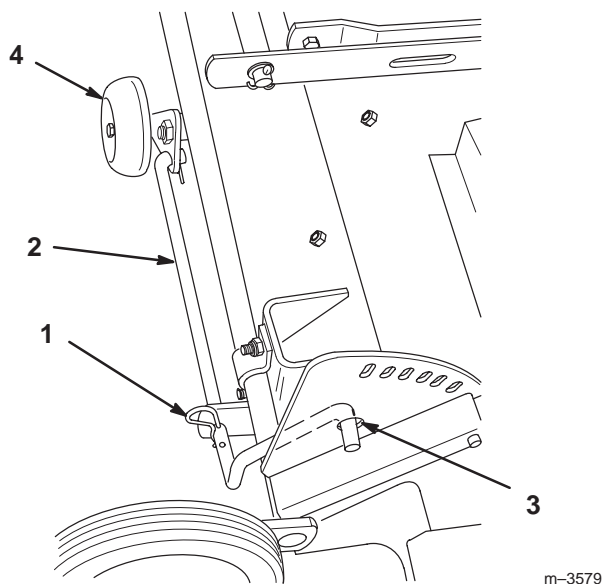


Figure 21

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

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. 3).
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

POTENTIAL HAZARD

- **Components under the hood will be hot if the tractor has been running.**

WHAT CAN HAPPEN

- **Touching hot components can cause burns.**

HOW TO AVOID THE HAZARD

- **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 (Fig. 22).

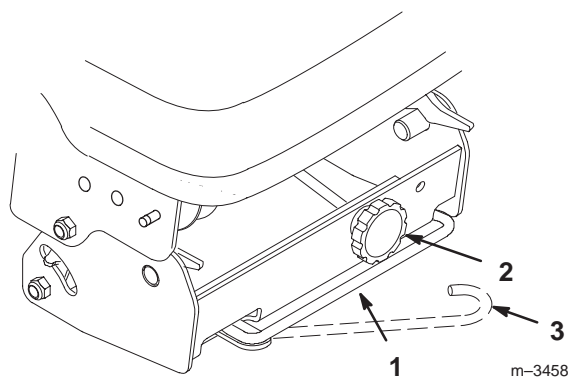


Figure 22

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

10. Remove the belt from the PTO pulley (Fig. 23).

Note: If you need additional belt slack, turn the belt tension adjustment knob.

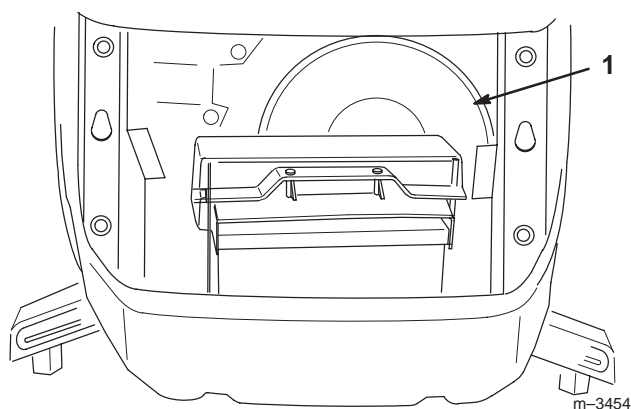


Figure 23

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. 24).

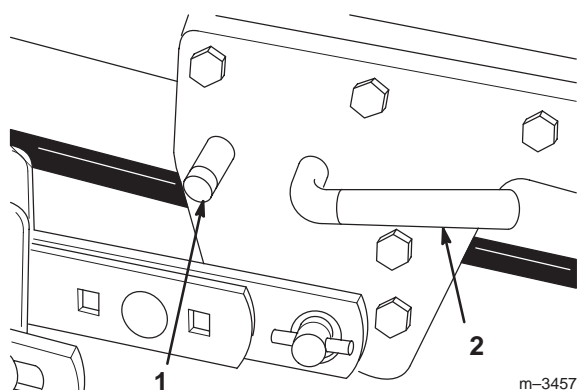


Figure 24

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

13. Pull the two spring-loaded J-pins from the mower lift arms and twist them slightly so that they stay disengaged (Fig. 25).

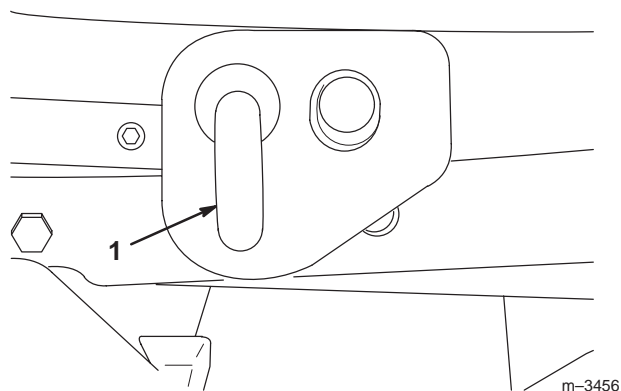


Figure 25

1. J-pin

14. If you want to remove the pulley box, push the latch release buttons on the front Attach-A-Matic™ (Fig. 26) and raise the latch levers to open the latches holding the pulley box. Remove the pulley box.

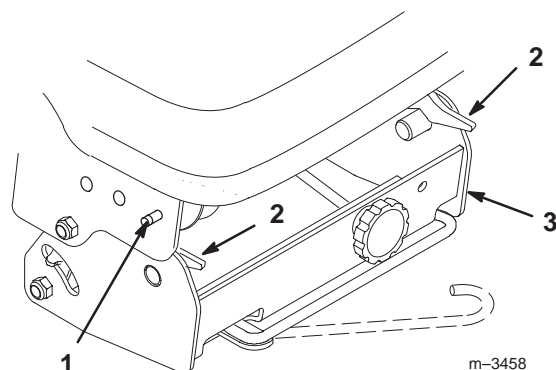


Figure 26

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

15. Start the tractor and raise the attachment lift.

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. Turn the steering wheel as needed to remove the mower.

19. Replace the grill.

Operation

Side Discharge

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



DANGER

POTENTIAL HAZARD

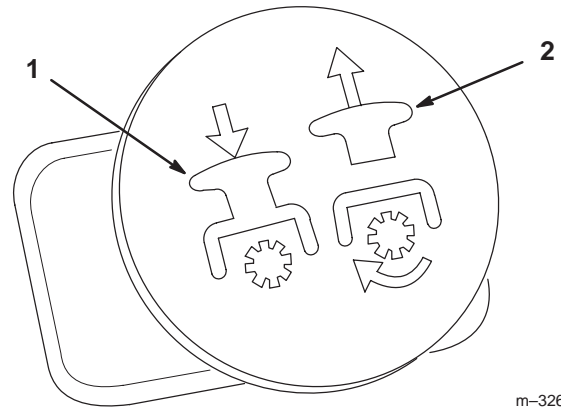
- Without the discharge chute mounted in place, you and others are exposed to blade contact and thrown debris.

WHAT CAN HAPPEN

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

HOW TO AVOID THE HAZARD

- Do not remove the discharge chute from the mower because the discharge chute routes material down toward the turf. If the discharge chute is ever damaged, replace it immediately.
- Do not put your hands or feet under the mower.
- Do not try to clear the discharge area or mower blades unless you move the power take off (PTO) to "OFF," stop the engine, remove the ignition key, and pull the wire(s) off the spark plug(s).



m-3264

Figure 27

1. Push (off-disengaged)

2. Pull (on-engaged)

Disengaging the Power Take Off (PTO)

1. Push the power take off (PTO) switch in.

Attachment Lift Lever

Use the attachment lift lever (Fig. 28 & 29) to raise and lower attachments.

Raising Attachments

1. Start the tractor.
2. Pull the attachment lift lever upward until the latch locks. In this position, the lift will hold the attachment in the up, or raised position.



WARNING

POTENTIAL HAZARD

- When the engine is off, attachments in the raised position can gradually lower.

WHAT CAN HAPPEN

- Someone nearby may be pinned or injured by the attachment as it lowers.

HOW TO AVOID THE HAZARD

- Always lower the attachment lift each time you shut off the tractor.

Operating the Power Take Off (PTO)

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

While the ignition key is in the RUN or LIGHTS position and the power take off (PTO) is engaged, the PTO indicator light will be on. When this light is on, it is a reminder: the implement is being powered and the starter will not crank while the PTO is engaged. Always turn off the PTO before getting off the seat.

Engaging the Power Take Off (PTO)

1. Press the brake pedal to stop the tractor from moving.
2. Move the throttle lever to FAST.

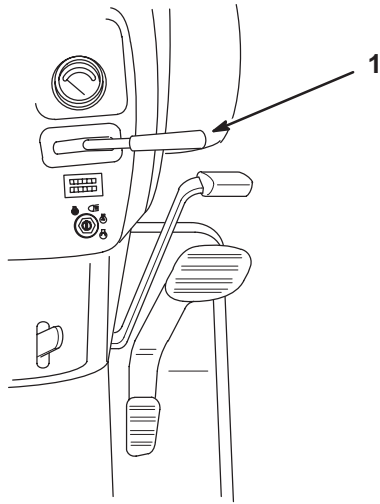
IMPORTANT: For best performance, always use full throttle when the power take off (PTO) switch is on.

3. Pull the power take off (PTO) switch out (Fig. 27).

Lowering Attachments

1. Start the tractor.

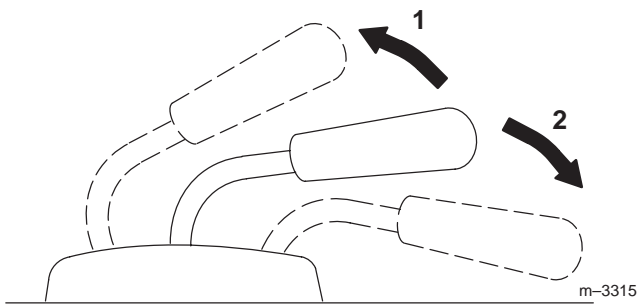
2. Push the attachment lift lever downward to lower the attachment.



m-3258

Figure 28

1. Attachment lift lever



m-3315

Figure 29

1. Raise attachment
2. Lower attachment

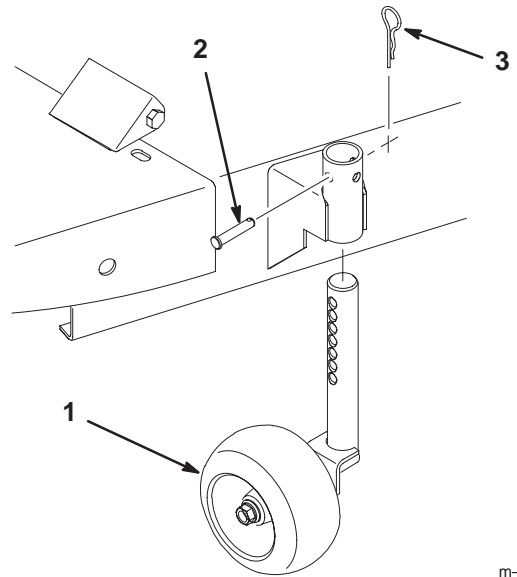
Adjusting the Front Wheels

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

IMPORTANT: For cutting, the wheels should be oriented parallel to the tractor (Fig. 30). Only turn the wheels parallel to the cutter mower for installation or removal.

1. After selecting the height-of-cut, ensure that the front adjustable wheels are approximately 3/8 in. (1 cm) off of the ground.
2. To adjust the wheel height from the ground, remove the hairpin cotter and clevis pin to change hole location (Fig. 30).
3. Select a hole position so the wheel is approximately 3/8 in. (1 cm) off of the ground for the height-of-cut position to be used (Fig. 30).

4. Insert the clevis pin and secure it with a hairpin cotter.
5. Repeat this adjustment on the other wheel.



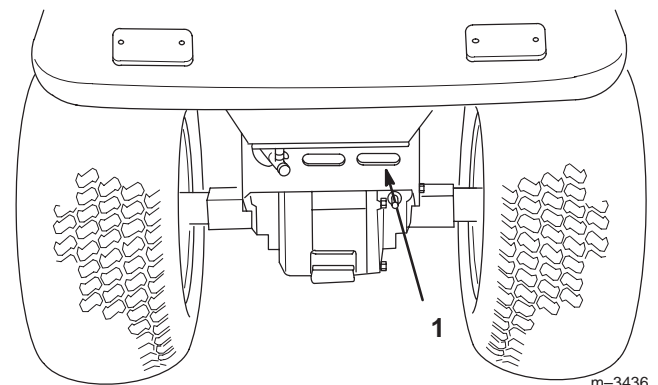
m-3578

Figure 30

1. Wheel
2. Clevis pin
3. Hair pin cotter

Check for Debris

Each time you use the mower, check for debris build up on and inside the rear transaxle cover (Fig. 31). Remove any build up.



m-3436

Figure 31

1. Rear transaxle cover

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.

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. 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 a quality 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. Avoid mowing in reverse.

Mow at Correct Intervals

Normally, mow every 4 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 2 days later at a lower height setting.

Ground Speed

To improve cut quality, use slower ground speed. For best operation on average lawns, operate engine at full throttle while controlling ground speed with transmission. The tractor should be operated at 2 to 3.5 mph (3.2 to 5.6 kms/hr) while mowing grass. Uneven cutting is often a

result of excessive ground speed. To correct, use low range with the high-low lever, or reduce ground speed in high range.

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 uneven turf is not cut too short. Average lawns are usually cut at a height between 2 and 3 inches (5–7.6 cm).

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, perform the following procedure:

1. With the blades engaged, move onto a previously cut area.
2. To disperse the clippings evenly, raise the mower while driving forward 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. Every 30 days, check the blades for sharpness and file down any nicks.

Maintenance

Service Interval Chart

Service Operation	Each Use	5 Hours	25 Hours	50 Hours	Storage Service	Spring Service
Blade—check		X	X		X	
Mower Spindles—grease			X		X	
Center Idler and Rear Wheels—grease			X		X	

Service Operation	Each Use	5 Hours	25 Hours	50 Hours	Storage Service	Spring Service
Belts—check for wear/cracks					X	
Mower Housing—clean	X	X			X	
Belt Tension—check		initial		X	X	
Chipped Surfaces—paint					X	

⚠ CAUTION

POTENTIAL HAZARD

- If you leave the key in the ignition switch, someone could start the engine.

WHAT CAN HAPPEN

- Accidental starting of the engine could seriously injure you or other bystanders.

HOW TO AVOID THE HAZARD

- Remove the key from the ignition switch and pull the wire(s) off the spark plug(s) before you do any maintenance. Also push the wire(s) aside so it does not accidentally contact the spark plug(s).

Cutting Blade

For a superior quality of cut, keep the blade(s) sharp. For convenient sharpening and replacement, you may want to have an extra blade(s).

⚠ 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.

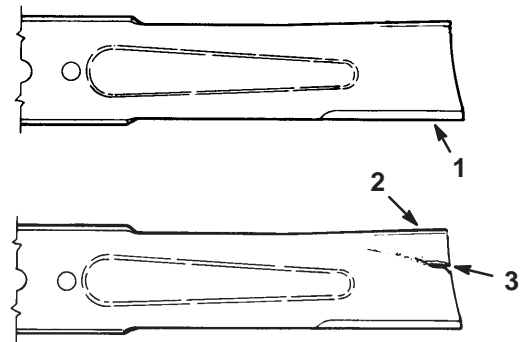


Figure 32

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

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Inspecting the Blades

1. Remove the mower; refer to Removing the Mower, page 11.
2. Inspect the cutting edges (Fig. 32). If the edges are not sharp or have nicks, remove the blade(s) and sharpen them; refer to Sharpening the Blade(s), page 18.
3. Inspect the blade(s), especially the curved area (Fig. 32). If you notice any damage, wear, or a slot forming in this area (Fig. 32), immediately install a new blade.

Removing the Blade

1. Remove the mower; refer to Removing the Mower, page 11.
2. Carefully tip the mower over.
3. Hold the blade end using a rag or thickly padded glove.
4. Remove the bolt, washer, blade, spindle cup, and washer (Fig. 33).

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

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

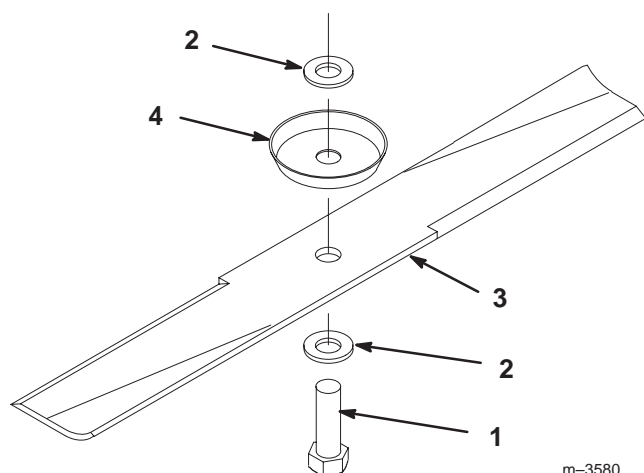


Figure 33

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

Sharpening the Blade(s)

1. Use a file to sharpen the cutting edge at both ends of the blade (Fig. 34), maintaining the original angle.

Note: The blade retains its balance if the same amount of material is removed from both cutting edges.

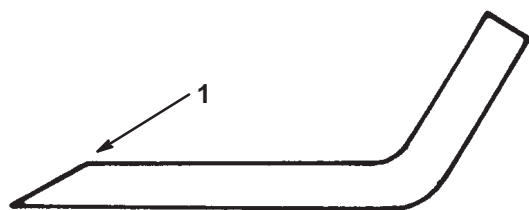


Figure 34

1. Sharpen at original angle

2. Check the balance of the blade by putting it on a blade balancer (Fig. 35). 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 back side of the blade. Repeat this procedure until the blade is balanced.

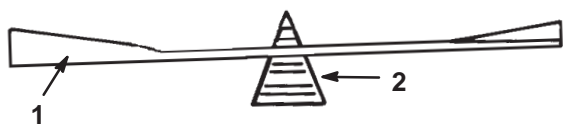


Figure 35

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

Installing the Blade(s)

1. Hold the blade end using a rag or thickly padded glove.
2. Install the washer, spindle cup, blade, washer, and blade bolt (Fig. 36).

IMPORTANT: The sail (curved part of the blade) must be pointing up toward the inside of the mower to assure proper cutting.

3. Tighten the blade bolt to 80-100 ft-lb (109-136 Nm).

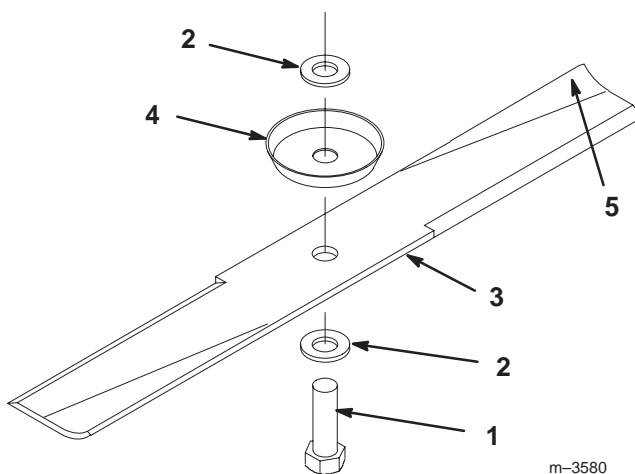


Figure 36

- | | |
|-----------|----------------|
| 1. Bolt | 4. Spindle cup |
| 2. Washer | 5. Sail |
| 3. Blade | |

Greasing and Lubrication

Service Interval/Specification

Grease the mower spindles, idler pulley, and two rear wheels after every 25 operating hours or once a year, whichever occurs first. Grease more frequently when operating conditions are extremely dusty or sandy.

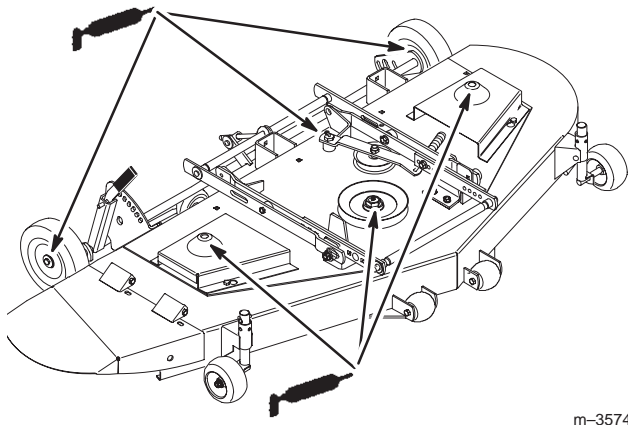
Grease Type: General-purpose grease.

How to Grease

1. Disengage the power take off (PTO), set the parking brake, lower the attachment lift, stop the engine, and remove the ignition key.
2. Clean the grease fittings with a rag. Make sure to scrape any paint off the end of the fitting(s).
3. Connect a grease gun to the fitting. Pump grease into the fittings.
4. Wipe up any excess grease.

Where to Add Grease

Lubricate the blade spindles (Fig. 37).

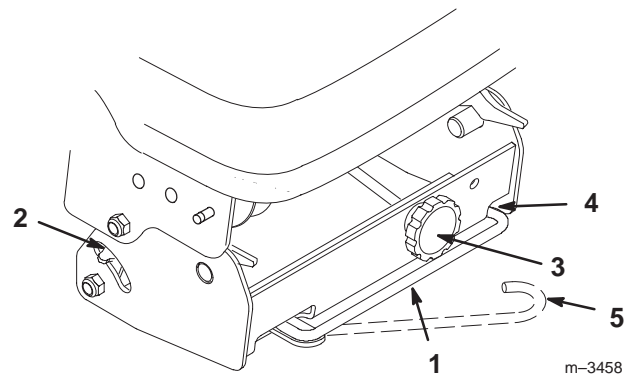


m-3574

Figure 37

Checking PTO Drive Belt Tension

1. Check the tension indicators on each side of the pulley box. If the tension indicators are not in the same position on both the right and left sides, 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. 38).
2. Repeat step 1 until the indicators move to the same position.
3. Once the indicators are in the same position on both sides, swing the tension release arm into the pulley box by moving it into the position shown in Fig. 38.



m-3458

Figure 38

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

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.
- Replace damaged pulleys.
- 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 cutter mower of any buildup of grass clippings.
- Use low range or reduce ground speed when mowing in heavy conditions.

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. 39).
3. Release the spring (Fig. 39).
4. Remove the belt from the pulleys (Fig. 39).

Installing the Blade Drive Belt

1. Install the new belt around the blade pulleys and the idler pulleys.
2. Attach the spring (Fig. 39).
3. Install the left and right pulley covers with the mounting screws (Fig. 39).
4. Install the mower; refer to Installing the Mower, page 4.

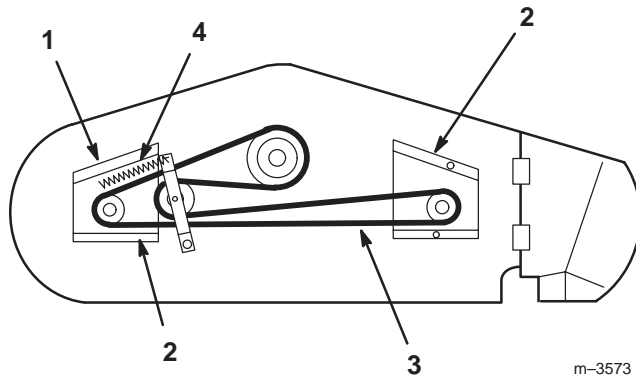


Figure 39

Top View

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

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 17.
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"> 1. Cutting blade(s) is 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. 	<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.
Blade(s) does not rotate.	<ol style="list-style-type: none"> 1. Blade drive belt is worn, loose or broken. 2. Blade drive belt is off pulley. 3. PTO belt is worn, loose or broken. 	<ol style="list-style-type: none"> 1. Install new blade drive belt. 2. Install blade drive belt and check idler pulley and belt guides for correct position. 3. Install new PTO belt.
Uneven cutting height.	<ol style="list-style-type: none"> 1. Tire pressure is incorrect. 2. Mower is not level. 3. Underside of mower is dirty. 	<ol style="list-style-type: none"> 1. Set tire pressure. 2. Level mower from side-to-side and front-to-rear. 3. Clean the underside of the mower.
Insufficient transport height.	<ol style="list-style-type: none"> 1. Lift arm cams are improperly adjusted. 	<ol style="list-style-type: none"> 1. Adjust lift arm cams.
PTO (cutter mower) belt comes off of pulleys, slips or fails.	<ol style="list-style-type: none"> 1. Belt tension is incorrect. 2. Mower level is incorrect. 3. Blade slope in transport is incorrect. 4. Belt is worn or damaged. 5. Pulley is damaged. 6. Engine is not at full throttle. 	<ol style="list-style-type: none"> 1. Adjust belt tension. 2. Adjust mower level. 3. Adjust blade slope in transport. 4. Install new belt. 5. Contact Authorized Service Dealer. 6. Always operate engine-powered attachments at full throttle.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
PTO (cutter mower) belt comes off of pulleys, slips or fails. (continued)	<p>7. PTO is being engaged when cutter mower is in tall uncut grass or weeds.</p> <p>8. Cutter mower is overloaded because too much grass is being cut at a time.</p> <p>9. Cutter mower is overloaded because mower is clogged with grass clippings.</p> <p>10. Cutter mower is overloaded because tractor is mowing too fast for conditions.</p>	<p>7. Engage PTO only in shorter or previously cut grass.</p> <p>8. Cut tall grass and weeds with mower in its highest position, making a second pass cutting at height desired.</p> <p>9. Clean cutter mower.</p> <p>10. Reduce ground speed.</p>

