



38 in. Mower

Wheel Horse[®] Lawn and Garden Tractor Attachment

Model No. 78216—210000001 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.

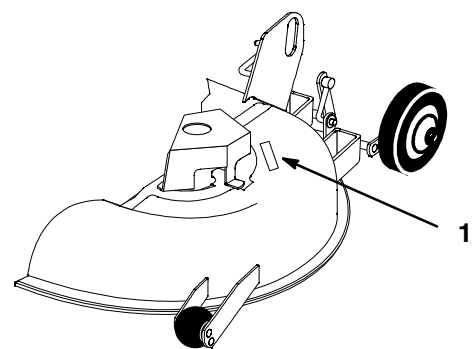


Figure 1

1. Location of the model and serial numbers

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

Model No. _____

Serial No. _____

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.

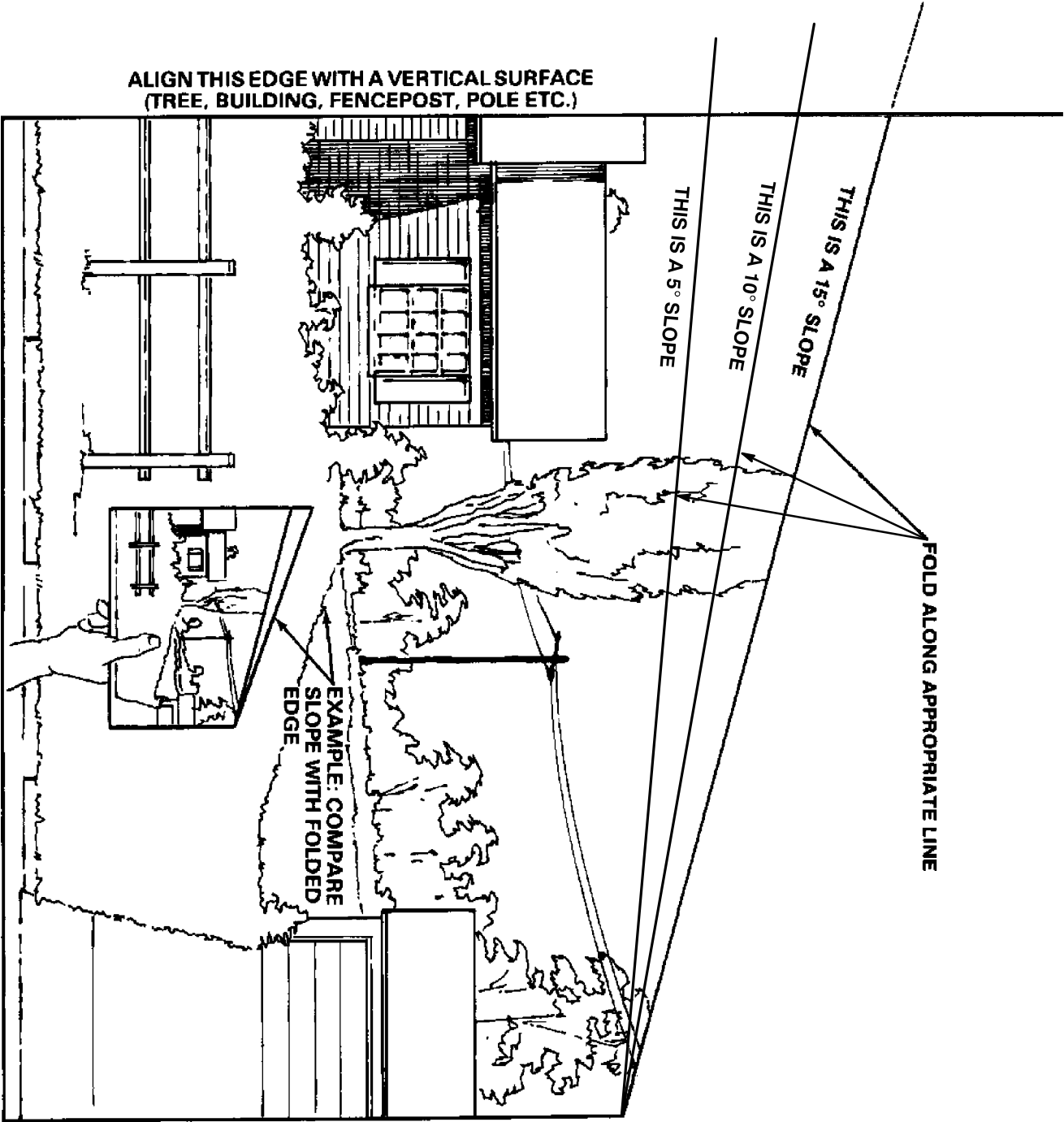
Danger signals an extreme hazard that *will* cause serious injury or death if you do not follow the recommended precautions.

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.

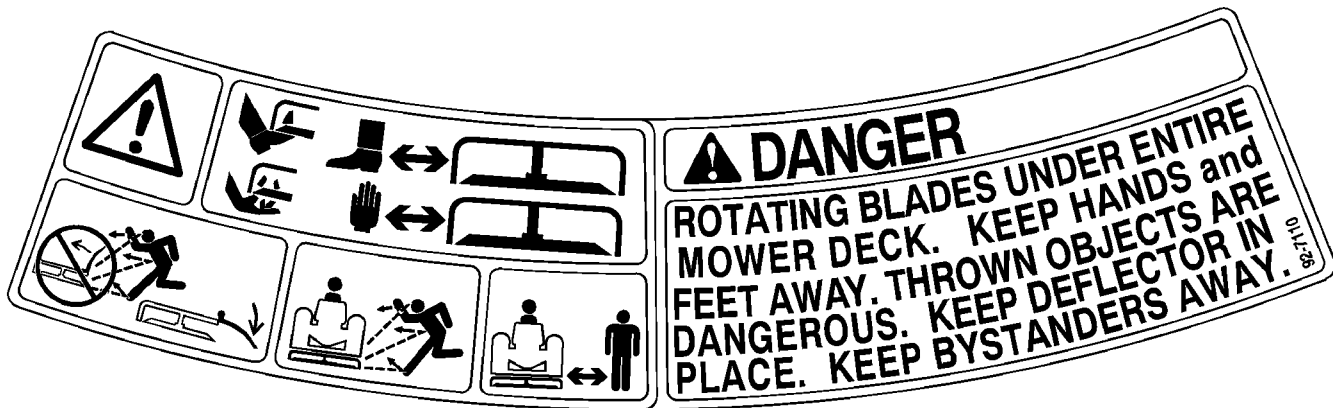
Slope Chart



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.



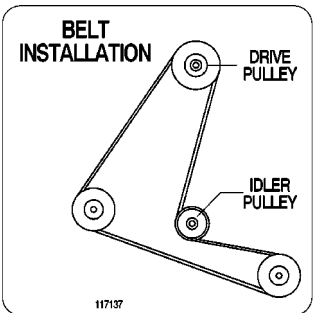
Part No. 92-7110



Part No. 92-7109



Part No. 93-1122



Part No. 117137

Assembly

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

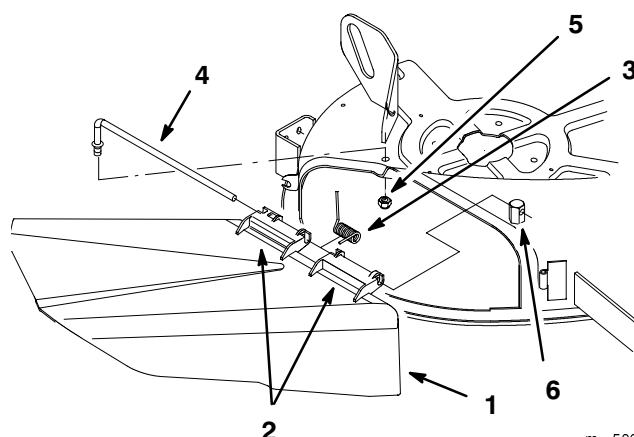
Loose Parts

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

DESCRIPTION	QTY.	USE
Grass deflector	1	Install grass deflector and tension spring
Torsion spring	1	
Rod	1	
Nut, 3/8"	1	
Tension spring	1	
Hairpin cotter, 3-3/8 in.	2	Install mower to tractor
Washer, 3/4 in.	2	
Rear link	1	Install rear link
Washer, 3/8 in.	3	
Cotter pin, 1 in.	1	
Hairpin cotter, 2-9/16 in.	2	
Adjustable link	1	Install adjustable link
Washer, 3/8 in.	2	
Hairpin cotter, 2-9/16 in.	1	
Cotter pin, 1 in.	1	
V-belt	1	Install mower drive belt
Operator's Manual	1	Read before operating

Installing Grass Deflector and Tension Spring

1. Locate items shown in Fig. 2.
2. Slide rod, straight end, through rear grass deflector bracket.
3. Place spring on rod, with end wires down, between grass deflector brackets, and slide rod through second grass deflector bracket.
4. Insert rod at front of grass deflector into short stand-off on deck. Secure rear end of rod into deck with nut (Fig. 2).



m-5068

Figure 2

- | | |
|--------------------|--------------------|
| 1. Grass deflector | 4. Rod |
| 2. Bracket | 5. Nut (3/8") |
| 3. Spring | 6. Short stand-off |

Important Grass deflector must be spring loaded in the down position. Lift deflector up to test that it snaps to the full down position.



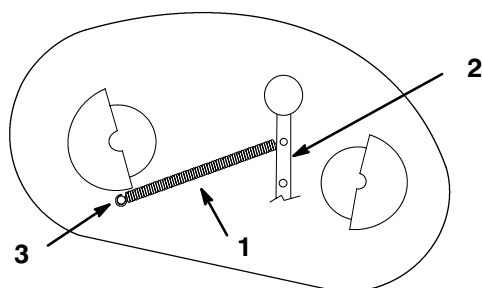
Warning



An uncovered discharge opening could allow the lawn mower to throw objects in the operator's or bystander's direction and result in serious injury. Also, contact with the blade could occur.

- **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 off the spark plug(s).

5. Hook the tension spring onto the idler arm and the bolt by the belt cover (Fig. 3).



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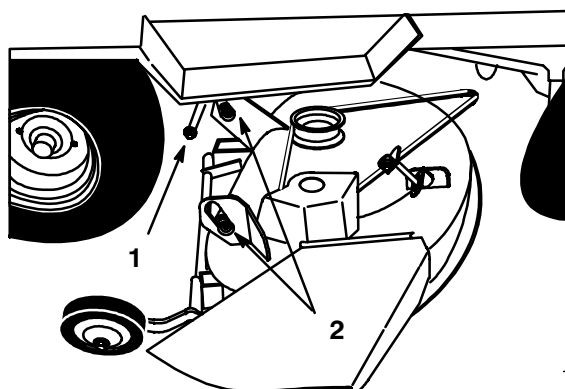
Figure 3

- | | |
|-------------------|---------|
| 1. Tension spring | 3. Bolt |
| 2. Idler | |

Installing the Mower

1. Park the tractor on a flat surface, disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. Turn the front wheels fully to the left and raise attachment lift lever all the way to the latched position; refer to tractor Operator's Manual.

3. Slide the mower under the chassis from the right side (Fig. 4) and align rear mounting bushings with ends of lift arms.

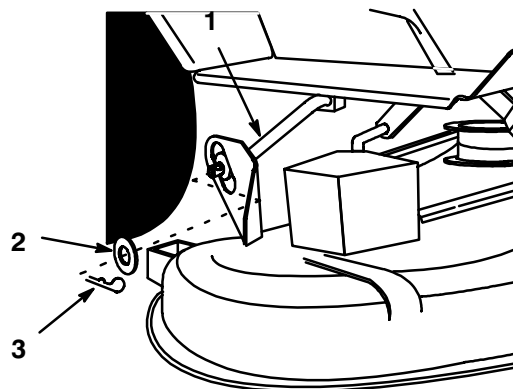


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Figure 4

- | |
|---------------------|
| 1. Lift arms |
| 2. Mounting bushing |

4. Straighten the front wheels, turn Dial-A-Height knob counterclockwise, all the way, and lower the attachment lift lever to the mounting position; refer to tractor Operator's Manual.
5. Place rear guide bushings, first left side then right, onto lift arms then slide deck left into position (Fig. 5).
6. Secure deck to rear lift arms with washers and two hairpin cotters (3-3/8 in.) (Fig. 5).



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Figure 5

- | | |
|--------------------|-------------------------------|
| 1. Lift arm | 3. Hair pin cotter, 3-3/8 in. |
| 2. Washer, 3/4 in. | |

7. Install link to mower lift arm with 1 in. cotter pin, two washers (3/8 in.) and a hairpin cotter (2-9/16 in.) (Fig. 6). Attach rear link to the tractor rear attachment lift arm with a washer (3/8 in.) and a hairpin cotter (2-9/16 in.) (Fig. 6).

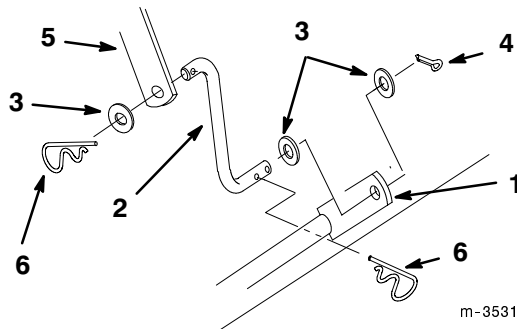


Figure 6

- | | |
|--------------------|--------------------------------|
| 1. Mower lift arm | 4. Cotter pin, 1 in. |
| 2. Rear link | 5. Rear lift arm |
| 3. Washer, 3/8 in. | 6. Hair pin cotter, 2-9/16 in. |

8. Install adjustable link between front bracket and lift arm with two washers (3/8 in.), a hairpin cotter (2-9/16 in.), and a cotter pin (1 in.) (Fig. 7).

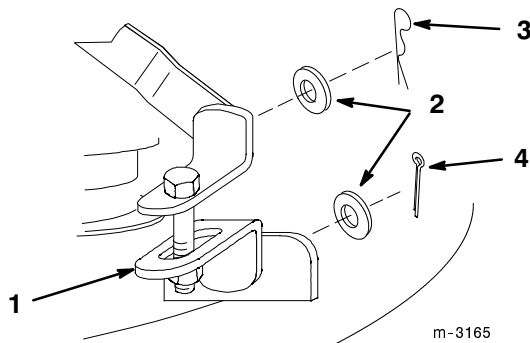


Figure 7

- | | |
|--------------------|-------------------------------|
| 1. Adjustable link | 3. Hairpin cotter, 2-9/16 in. |
| 2. Washer, 3/8 in. | 4. Cotter pin, 1 in. |

9. Pull on idler pulley to relax belt tension and install mower drive belt to the engine pulley (Fig. 8). Place belt in upper pulley groove if engine has a double groove pulley.

Note: Ensure belt is properly located in engine, deck, and idler pulleys.

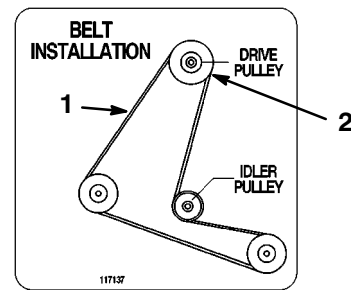


Figure 8

Top View

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

10. Check mower level; refer to Side-to-Side Mower Leveling, page 9, and Front-to-Rear Blade Slope, page 10.

11. Raise attachment lift lever all the way to the latched position and adjust mower height-of-cut; refer to Transport Height Adjustment, page 8.

Transport Height Adjustment

Transport height is set at the factory and should not need adjustment; however if the belt covers contact the footrest in the raised position, adjustment is required.

1. Adjust by turning transport height nut, (Fig. 9) on lift mechanism, clockwise to raise or counterclockwise to lower mower.
2. Adjust nut until there is 1/16-1/8 inch clearance between belt cover and left footrest.

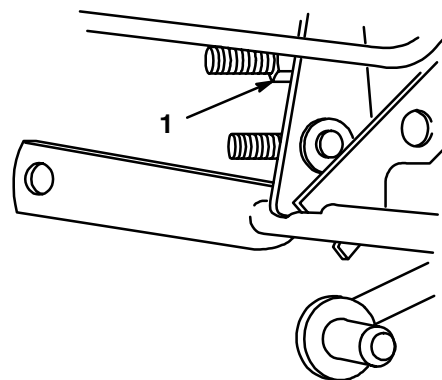


Figure 9

- | |
|--------|
| 1. Nut |
|--------|

Side-to-Side Mower Leveling

The mower blades must be level from side to side. Check the side-to-side level any time you install the mower or when you see an uneven cut on your lawn. Before you level the mower, set the air pressure in the front and rear tires to 12 psi (83 kPa).

3 in. to 4 in. Height-of-Cut Range

When the mower height-of-cut is set to the 3 in. to 4 in. range the mower is suspended from the tractor. The side-to-side adjustment for this height range is made as follows:

1. Park the tractor on a flat surface, disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. Raise attachment lift lever all the way to the latched position.
3. Carefully rotate blade(s) side to side (Fig. 10). Measure between the outside cutting edges and the flat surface (Fig. 10). If both measurements are not within 3/16 in. (4.762mm), an adjustment is required; refer to steps 4 through 6.

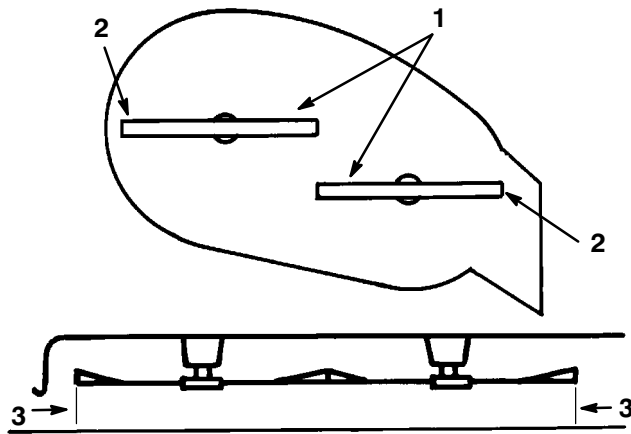


Figure 10

1. Blades side to side
2. Outside cutting edges
3. Measure here

4. Loosen adjustment bolt on one side of tractor and rotate hanger bracket to raise or lower mower (Fig. 11).
5. After adjusting, tighten bolt and check side-to-side level.

Important If hanger is rotated to the end of adjustment on one side and mower is not level, adjust the opposite side.

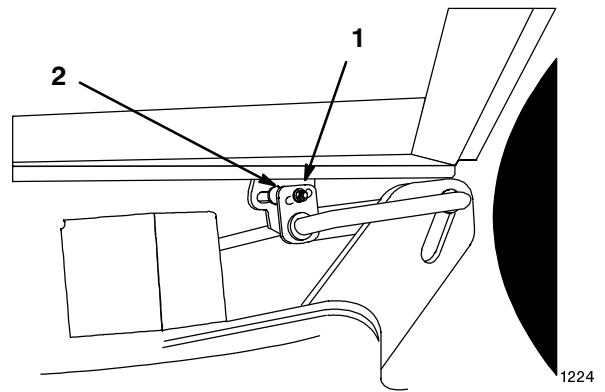


Figure 11

1. Bolt
2. Hanger bracket

6. Now check the front-to-rear blade slope; refer to Front-to-Rear Blade Slope, page 10.

3/4 in. to 3 in. Height-of-Cut Range

When the mower height-of-cut is set to the 3/4 in. to 3 in. range the gage wheels contact the ground. The side-to-side adjustment for this height range is made as follows:

1. Park the tractor on a flat surface, disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. Set Dial-a-Height to the middle of the height-of-cut range or until gage wheels are on the ground; refer to Adjusting Dial-a-Height, page 13.
3. Carefully rotate blade(s) side to side (Fig. 10). Measure between the outside cutting edges and the flat surface (Fig. 10). If both measurements are not within 3/16 in. (4.762mm), an adjustment is required.
4. Raise attachment lift lever to release pressure on the gage wheels. Remove 1-7/16 in. hairpin cotter from trunnion (Fig. 12).
5. Rotate trunnion to adjust side-to-side level adjustment (Fig. 12).

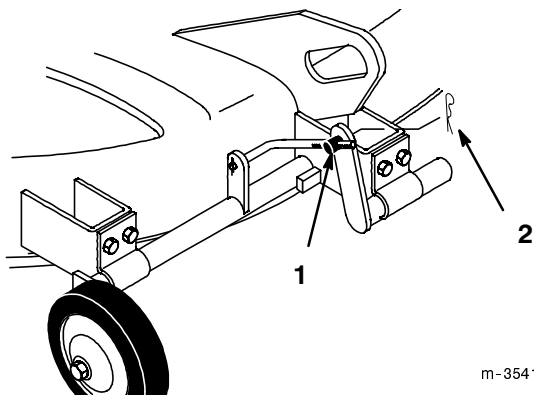


Figure 12

1. Trunnion
2. Hairpin cotter 1-7/16 in.

6. After adjusting, secure trunnion with hairpin cotter (1-7/16 in.), lower attachment lift, and check side-to-side level.

Front-to-Rear Blade Slope

Check the front-to-rear blade slope any time you install the mower. Before checking the slope, set air pressure in the front and rear tires to 12 psi (83 kPa). If the front blade tip is not 0-1/8 in. (0-3.2 mm) lower than the rear blade tip, adjust the blade slope using the following instructions:

1. Park the tractor on a flat surface, disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.
2. Check and adjust side-to-side blade level if you have not checked the setting; refer to Side-to-Side Mower Leveling, page 9.
3. Adjust the Dial-A-Height knob so the height-of-cut is in the middle of the range and lower attachment lift.
4. Carefully rotate blades so they are facing front and rear (Fig. 13).
5. Measure between the tip of the front blade (Fig. 13) and the tip of the rear blade to the flat surface. If the front blade tip is not 0-1/8 in. (0-3.2 mm) lower than the rear blade tip adjust front adjustment link.

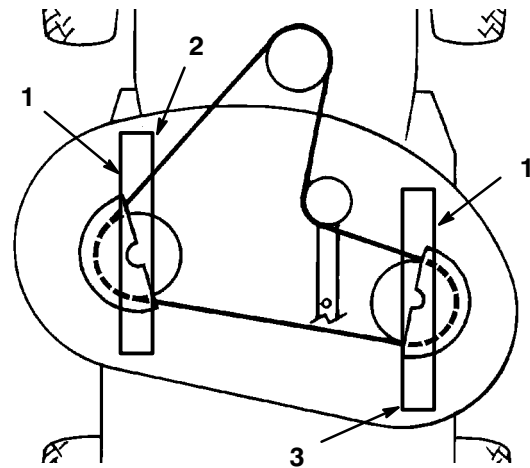


Figure 13

1. Blade front to rear
2. Measure front blade tip
3. Measure rear blade tip

6. To adjust front-to rear blade level loosen jam nut on front adjustable link. (Fig. 14).
7. Rotate the bolt on front adjustable link to change front-to rear blade level (Fig. 14).

Note: To raise the front of the mower, shorten the adjustable link by turning bolt clockwise.

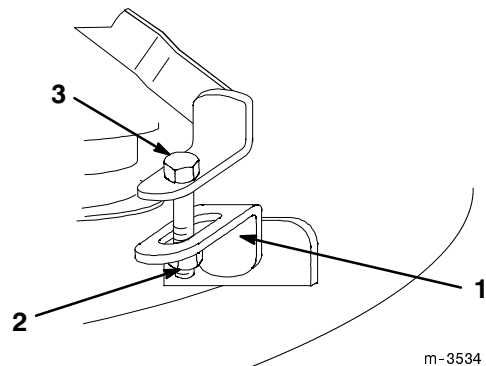


Figure 14

1. Adjustable link
2. Jam nut
3. Bolt

8. When front-to-rear slope is correct, tighten jam nut. Recheck side-to-side mower level; refer to Side-to-Side Mower Leveling, page 9.

Removing the Mower

1. Park the tractor on a flat surface, disengage the power take off (PTO), set the parking brake, and turn the ignition key to "OFF" to stop the engine. Remove the key.

2. Raise attachment lift, turn Dial-a-Height knob counterclockwise, all the way, and lower the attachment lift lever to the mounting position; refer to tractor Operator's Manual.
3. Pull on idler pulley to relax belt tension and remove mower drive belt from engine drive pulley.
4. Remove hairpin cotter (1-7/16 in.) and washer (3/8 in.) from front adjustable link and remove from front lift arm (Fig. 15).

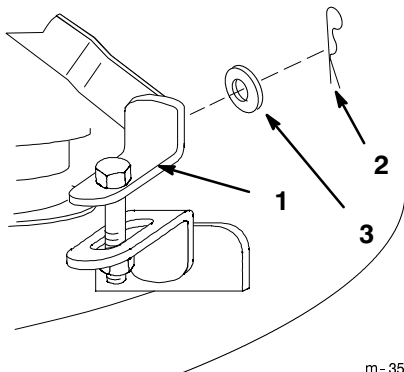


Figure 15

- | | |
|-------------------------------|--------------------|
| 1. Adjustable link | 3. Washer, 3/8 in. |
| 2. Hairpin cotter, 1-7/16 in. | |

5. Remove hairpin cotter (2-9/16 in.) and washer (3/8 in.) from rear lift link and remove from attachment lift (Fig. 16).
6. Remove tow hairpin cotters (3-3/8 in.) and two washers (3/4 in.) from rear lift arms (Fig. 16).
7. Slide deck right, off rear lift arms (Fig. 16).

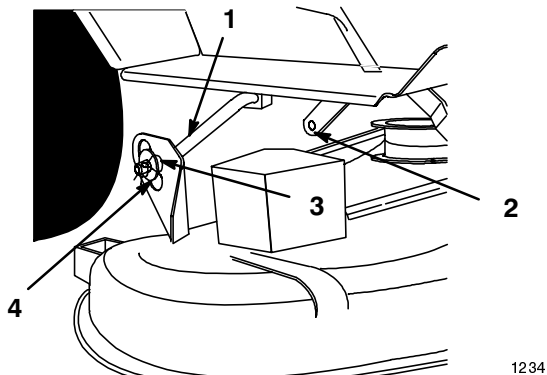


Figure 16

- | | |
|-------------------|-------------------------------|
| 1. Lift arm | 3. Hair pin cotter, 3-3/8 in. |
| 2. Rear lift link | 4. Washer, 3/4 in. |

8. Turn the front wheels fully to the left and raise attachment lift lever all the way to the latched position; refer to tractor Operator's Manual. Slide the mower out from under the chassis to the right side (Fig. 17)

Note: Save all hardware, washers and hairpin cotters for use when installing deck.

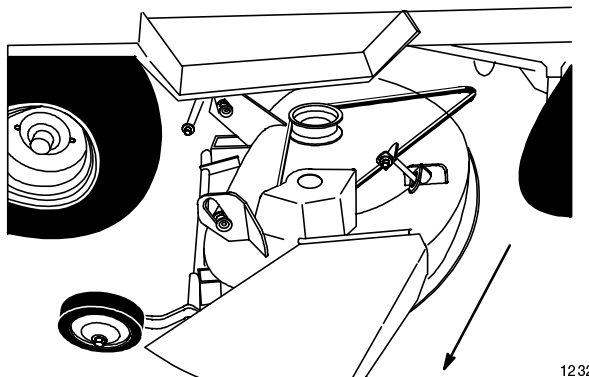


Figure 17

Operation

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

Side Discharge or Mulching Grass



Warning



An uncovered discharge opening could allow the lawn mower to throw objects in the operator's or bystander's direction and result in serious injury. Also, contact with the blade could occur.

- 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 off the spark plug(s).

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

2. To mulch grass clippings you must install the discharge cover (optional on some models) into the opening in the side of the mower; refer to Installing the Discharge Cover, page 6.

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” positions and the power take off (PTO) is engaged “ON”, the PTO light, in the Indicator Module, will be “ON”. When this light is “ON” it is a reminder; the starter will not crank and to turn off the PTO before getting off.

Engaging the Power Take Off (PTO)

1. Depress the brake and/or clutch pedal(s) to stop the machine.
2. Pull the power take off (PTO) to “ON” (Fig. 18).

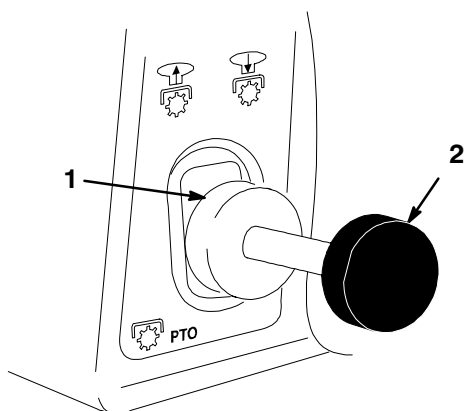


Figure 18

1. Off-Disengaged
2. On-Engaged

Disengaging the Power Take Off (PTO)

1. Depress the brake and/or clutch pedal(s) to stop the machine.
2. Push the power take off (PTO) to “OFF” (Fig.18).

Attachment Power Lift

The attachment power lift (on some models) (Fig. 19) is used to raise and lower attachments.

Raising Attachments

1. Turn key to the “ON” or “RUN” position (Fig. 19).
2. Push the lift switch in the “UP” direction to raise the attachment lift (Fig. 19). This will lift and hold the attachment in the up, or raised position.

Lowering Attachments

1. Turn key to the “ON” or “RUN” position (Fig. 19).
2. Push the lift switch in the “DOWN” direction to lower the attachment lift (Fig. 19). This will lower the attachment lift.

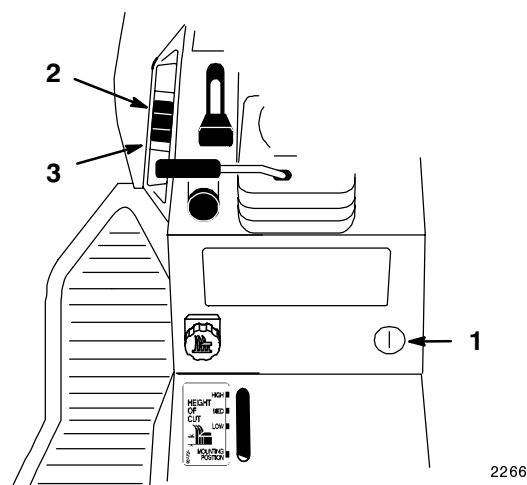


Figure 19

1. Key
2. Lift switch UP
3. Lift switch DOWN

Attachment Lift Lever

The attachment lift lever (on some models) (Fig. 20) is used to raise and lower attachments.

Raising Attachments

1. Depress the clutch and/or brake pedal(s) to stop the machine.
2. Pull attachment lift lever rearward until latch locks. In this position the lift will hold the attachment in the up, or raised position.

Lowering Attachments

1. Depress the clutch and/or brake pedal(s) to stop the machine.

2. Pull attachment lift lever rearward, to release lift pressure, and push the button on top to release the latch. Move lift lever foreword to lower attachment.

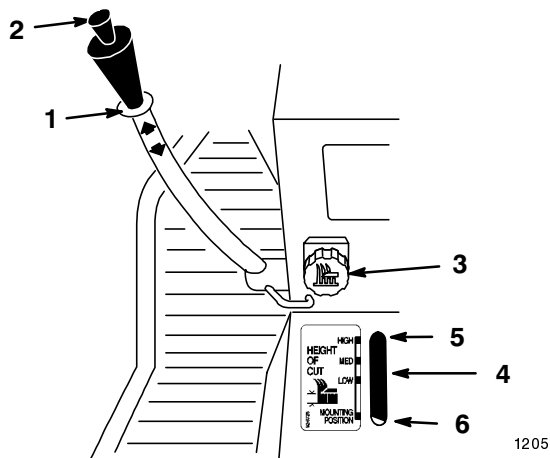


Figure 20

- | | |
|------------------|----------------------|
| 1. Lift lever | 4. Indicator |
| 2. Button | 5. High |
| 3. Dial-A-Height | 6. Mounting position |

Adjusting Dial-A-Height

The Dial-A-Height control (Fig. 20) is used to limit the downward travel of the attachment. The Dial-A-Height knob is rotated to change the location of this stop, up or down.

1. Raise the attachment lift lever: Refer to Raising Attachments. In the raised, position the Dial-A-Height knob (Fig. 20) can be rotated to change the stop location. Turn clockwise to raise and counterclockwise to lower the height of the attachment.
2. The Dial-A-Height indicator (Fig. 20) will show the change, high to low, in attachment lift height as adjustment is made.

Adjusting Anti-Scalp Rollers

The anti-scalp rollers guide the mower over uneven turf without scalping the lawn. For most cutting conditions they should be located in the lower hole. When cutting in 1-1/2 in. height-of-cut, or lower, move the anti-scalp rollers to the upper hole position.

1. Raise the attachment lift lever: Refer to Raising Attachments.
2. Remove cotter pin, bolt and shaft to change hole location (Fig. 21).

3. Select the hole position for the height-of-cut to be used and insert rod (Fig. 21).
4. Secure rod with bolt and cotter pin.

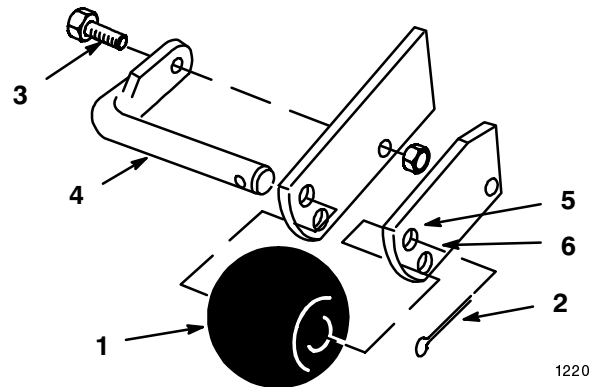


Figure 21

- | | |
|---------------|---------------|
| 1. Roller | 4. Rod |
| 2. Cotter pin | 5. Upper hole |
| 3. Bolt | 6. Lower hole |

Tips for Mowing and Mulching 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 4 days, but remember that grass grows at different rates at different times. 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 setting.

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 allowed to grow 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:

1. With the blade(s) "ENGAGED", move onto a previously cut area.
2. To disperse the clippings evenly, raise the mower one or two height-of-cut settings while driving forward with the blade(s) "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 cutter blade(s) 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">• Mower Housing—clean
5 Hours	<ul style="list-style-type: none">• Cutter Blade—check• Mower Housing—clean
25 Hours	<ul style="list-style-type: none">• Cutter Blade—check• Tires—check pressure
50 Hours	<ul style="list-style-type: none">• Grease—Mower deck
At Storage	<ul style="list-style-type: none">• Cutter Blade—check• Grease—Mower deck• Belts—check for wear/cracks• Mower Housing—clean• Chipped Surfaces—paint• Tires—check pressure

Important Refer to your engine operator's manual for additional maintenance procedures.



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 wire from the spark plug(s) before you do any maintenance. Set the wire aside so that it does not accidentally contact the spark plug.

Cutting Blade

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



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.



Warning

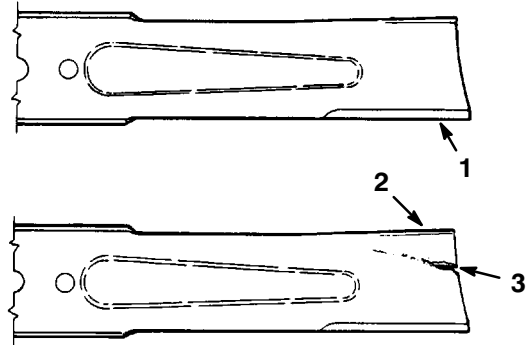


A blade that is bent or damaged could break apart and could seriously injure or kill you or bystanders.

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

Inspecting the Blade(s)

1. Remove the mower; refer to Removing the Mower, page 10.
2. Inspect the cutting edges (Fig. 22). If the edges are not sharp or have nicks, remove the blade(s) and sharpen them; refer to Sharpening the Blade(s), page 16.
3. Inspect the blade(s), especially the curved area (Fig. 22). If you notice any damage, wear, or a slot forming in this area (Fig. 22), immediately install a new blade.



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Figure 22

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

Removing the Blade

1. Remove the mower; refer to Removing the Mower, page 10.
2. Carefully tip the mower over.
3. Remove the bolt (5/8 in. wrench), washer, retainer and blade (Fig. 23). A block of wood may be wedged between the blade and the mower to lock the blade when you are removing the bolt.
4. Inspect all parts. If a defect or damage is noticed, install new parts.

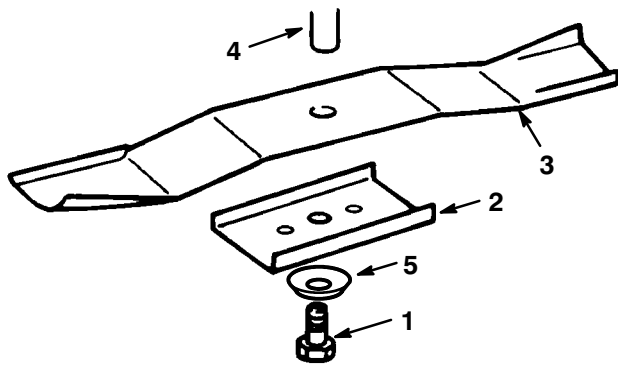


Figure 23

- | | |
|-----------------------------|------------|
| 1. Bolt | 4. Spindle |
| 2. Retainer (mulching only) | 5. Washer |
| 3. Blade | |

Sharpening the Blade(s)

1. Use a file to sharpen the cutting edge at both ends of the blade (Fig. 24). Maintain the original angle. The blade retains its balance if the same amount of material is removed from both cutting edges.

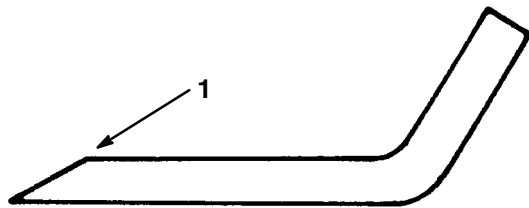


Figure 24

1. Sharpen at original angle

2. Check the balance of the blade by putting it on a blade balancer (Fig. 25). 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.

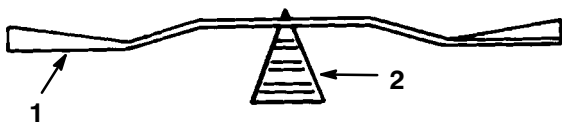


Figure 25

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

Installing the Blade(s)

1. Install the blade, blade retainer, washer, and the blade bolt (Fig. 26).

Important The curved part of the blade must be pointing up to ensure proper cutting.

2. Tighten the blade bolt to 45-60 ft-lb (61-81 Nm).

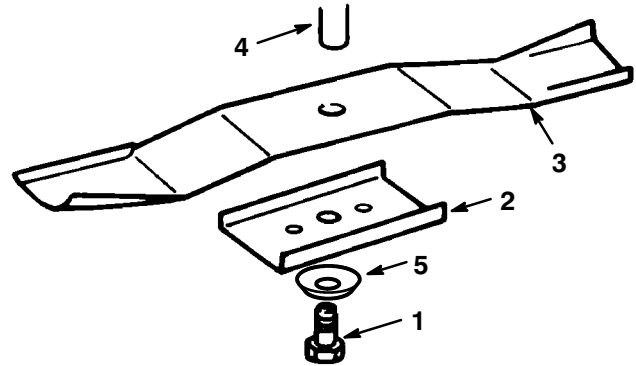


Figure 26

- | | |
|-----------------------------|------------|
| 1. Bolt | 4. Spindle |
| 2. Retainer (mulching only) | 5. Washer |
| 3. Blade | |

Greasing and Lubrication

Service Interval/Specification

Grease the machine after every 50 operating hours or once a year, whichever occurs first. Grease more frequently when operating conditions are extremely dusty or sandy.

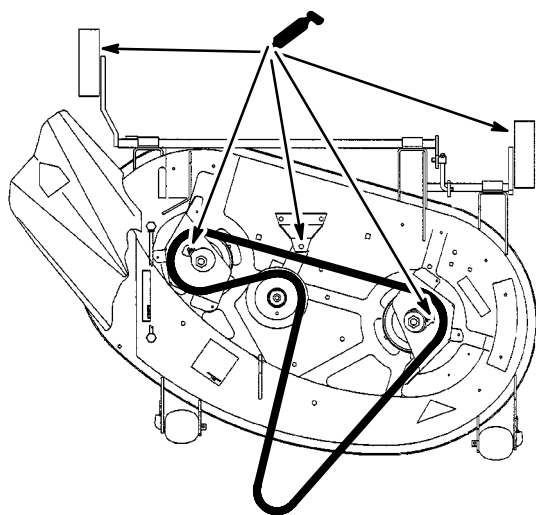
Grease Type: General-purpose grease.

How to Grease

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

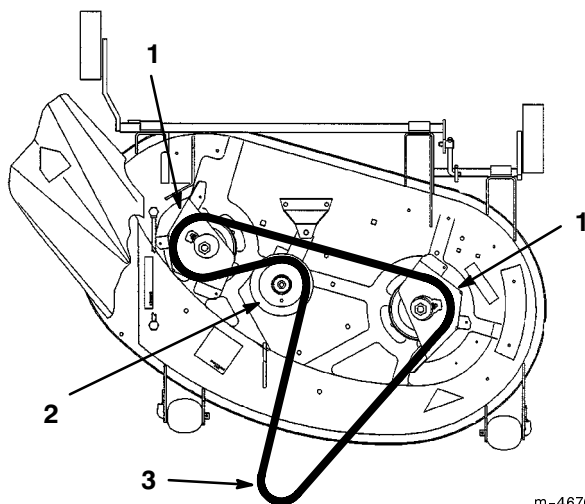
Where to Add Grease

1. Lubricate the blade spindles, idler pulley arm and gage wheel bearings (Fig. 27).



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Figure 27



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Figure 28

Top View

- | | |
|-----------------|---------------|
| 1. Pulley cover | 3. Mower belt |
| 2. Idler pulley | |

Blade Drive Belt Service

Removing the Blade Drive Belt

1. Remove the mower; refer to Removing the Mower, page 10.
2. Remove the pulley cover mounting screws and pulley covers from both blade pulleys (Fig. 28).
3. Remove the belt from the pulleys (Fig. 28).

Installing the Blade Drive Belt

1. Install the new belt around the blade pulleys and the idler pulley.
2. Install the left and right pulley covers with the mounting screws (Fig. 28).
3. Install the mower; refer to Installing the Mower, page 7.

Washing Underside of Mower

After each use, wash the underside of the mower to prevent grass build-up for improved mulch action and clipping dispersal.

1. Park the machine on a hard, level surface, disengage the power take off (PTO) and turn the ignition key to "OFF" to stop the engine.
2. Screw coupling to the end of a garden hose, attach coupling to mower washout fitting and turn water on high (Fig. 29).
3. Lower the mower to the lowest height-of-cut.
4. Sit on the seat and start the engine. Engage power take off (PTO) and let mower run for one to three minutes.
5. Disengage the power take off (PTO) and turn the ignition key to "OFF" to stop the engine.
6. Turn the water off, remove coupling from the washout fitting and hose.

Note: Spread petroleum jelly on washout fitting o-ring to make coupling slide on easier and protect o-ring.

7. Run mower again for one to three minutes to remove excess water.

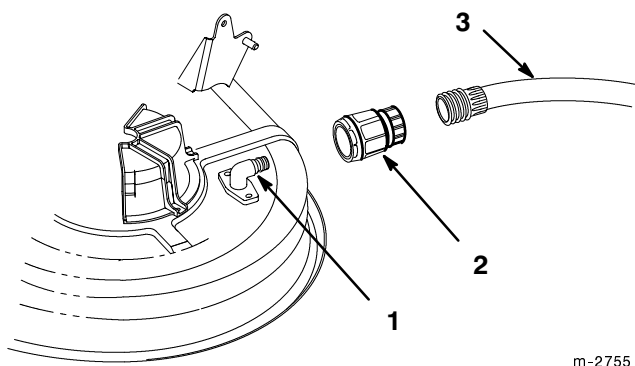


Figure 29

1. Washout fitting
2. Coupling
3. Hose



Warning



A broken or missing washout fitting could expose you and others to thrown objects or blade contact. Contact with thrown debris or blade contact will cause injury or death.

- **Replace broken or missing washout fitting immediately, before using mower again.**
- **Plug any hole(s) in mower with bolts and locknuts.**
- **Never put your hands or feet under the mower or through openings in the mower.**

Storage

1. Clean dirt and chaff from the outside of the engine's cylinder head fins and blower housing. Also remove grass clippings, dirt, and grime from the external parts of the entire machine, especially the engine, shrouding, and the top of the mower.

Important You can wash the machine with mild detergent and water. Do not pressure wash the machine. Avoid excessive use of water, especially near the control panel, lights, engine, and the battery.

2. Scrape 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 blade(s); refer to Cutting Blade, page 15.
4. Check the condition of the blade drive belt.
5. Grease the mower deck; refer to Greasing and Lubrication, page 16.
6. Check and tighten all bolts, nuts, and screws. Repair or replace any part that is damaged or defective.
7. Paint all scratched or bare metal surfaces. Paint is available from your Authorized Service Dealer.
8. Store the machine in a clean, dry garage or storage area. Remove the key from the ignition switch and keep it in a memorable place. 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 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 drive belt off pulley. 	<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. Install blade drive belt and check idler pulley and belt guides for correct position.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
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. 	<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.
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.

