

# Ariens®

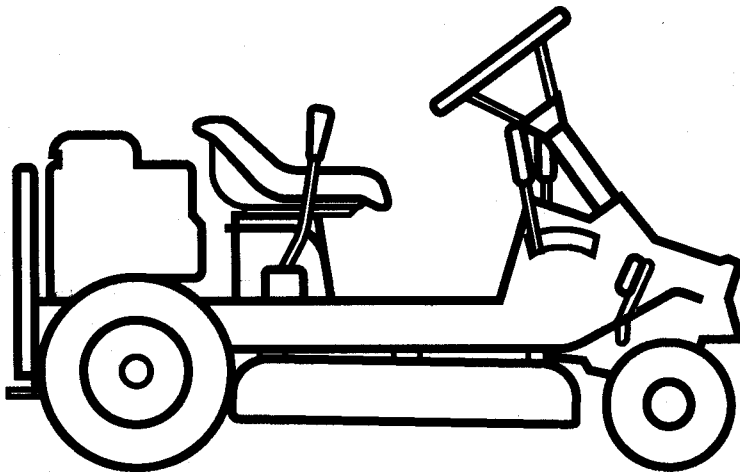
# 927

**Series**

**Riding Mower**

## **Owner's Manual**

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# A Message To Ariens Customers...

Welcome to the world of Ariens equipment. We are pleased that you have purchased the best equipment available. The care you give your Ariens equipment will determine the satisfaction and service life you will obtain from it. Use this manual and the engine manual, supplied, as your guide. By observing the instructions and suggestions in these manuals, your Ariens equipment will serve you well for many years.

Your Ariens dealer will be happy to supply any service or advice which may be required to keep your Ariens equipment operating at peak efficiency. He stocks genuine Ariens parts and lubricant; manufactured with the same precision and skill as the original equipment. His factory trained staff as the original equipment. His factory trained staff is kept well informed on the best methods of servicing Ariens equipment and is ready and

able to serve you. If engine repair or service is required, they can be obtained from an Ariens dealer or from an authorized engine manufacturer's service center. If service is required, be prepared to supply the service person with the Model and Serial Number of the equipment and the engine, as well as a full description of the problem encountered.

**NOTE:** The descriptions and specifications contained in this manual were in effect at the time the manual was approved for printing. Ariens Company reserves the right to discontinue models without notice and without incurring obligation. The equipment described within this manual may not be identified as either standard or optional and the various illustrations may not all be applicable to your particular unit. If you have questions, always check with your Ariens dealer.

## Safety Alert Symbol And Notations

The following safety notations are used throughout this manual to call attention to special information or operating procedures. Understand the message in each notation and be alert to unsafe conditions and the possibility of personal injury.

**NOTE:** A **NOTE** points out general reference information regarding proper operation and maintenance practices.

**IMPORTANT:** An **IMPORTANT** statement indicates specific procedures or information that is required to prevent damage to the machine or its attachments.



This safety alert symbol is used to attract your attention! **PERSONAL SAFETY IS INVOLVED!** When you see this symbol - **BECOME ALERT - HEED ITS MESSAGE.**



**CAUTION:** A **CAUTION** identifies safe operating practices or indicates unsafe conditions that could result in personal injury.



**WARNING:** A **WARNING** describes a condition where failure to follow the instructions could result in severe personal injury.



**DANGER:** A **DANGER** designates a condition where failure to follow instructions or heed warning will most likely result in serious personal injury or death.

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This manual covers the above models. Specific Model and Serial Number of your riding mower are on a label on frame located near engine. Record numbers below and use them whenever parts or service are required.

Model Number - Riding Mower	_____
Serial Number - Riding Mower	_____
Model Number - Engine	_____
Serial Number - Engine	_____

# Models

**Model 927037 (RM830e) - 8.5 H.P.**  
Briggs & Stratton elect. start w/30" pan  
Serial No. 006400 and up.

**Model 927043 (RM1230e) - 12 H.P.**  
Briggs & Stratton elect. start w/30" pan  
Serial No. 001400 and up.

**Model 927045 (RM828e) - 8 H.P.**  
Briggs & Stratton elect. start w/28" pan  
Serial No. 000600 and up.

**Model 927047 (RM1132e) - 11.5 H.P.**  
Briggs & Stratton elect. start w/32" pan  
Serial No. 000101 and up.

## Safety Precautions

### Safe Operation Practices For Ride-On Mowers

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death. Your complete and unimpaired attention is required at all times.

### General Operation

1. Read, understand, and follow all instructions in this owners manual, the engine manual and on the machine before starting.
2. Only allow responsible adults, who are familiar with the instructions, to operate the machine.
3. Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.
4. Be sure the area is clear of other people & pets before mowing. Stop machine if anyone enters the area.
5. Never carry passengers.
6. Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.
7. Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the guard in place.
8. Slow down before turning to prevent tipping or loss of control.
9. Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys to prevent unauthorized use before dismounting.

# Safety Precautions (Continued)

10. Turn off blades when not mowing.
11. Disengage mower clutch, stop engine, remove key and wait for moving parts to stop before leaving operators position for any reason such as removing grass catcher or unclogging chute.
12. Mow only in daylight or good artificial light.
13. Do not operate the machine while under the influence of medication, alcohol or drugs.
14. Watch for traffic when operating near or crossing roadways or drives.
15. Use extra care when loading or unloading the machine into a trailer or truck.
16. Use only attachments or accessories designed for your unit. See your Ariens Dealer.
17. Wear sturdy footwear. Do not operate riding mower barefoot or when wearing open sandals or canvas shoes. Do not wear loose clothing that may get caught in rotating parts of unit.

## Slope Operation

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

### Do

1. Mow up and down slopes, not across.
2. Remove obstacles such as rocks, tree limbs, etc.
3. Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
4. Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
5. Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
6. Use extra care with grass catchers or other attachments. These can change the stability of the machine. Use only approved hitch points.

7. Limit loads to those you can safely control.
8. Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.
9. Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.

### Do Not

10. Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
11. Do not mow near drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
12. Do not mow on wet grass. Reduced traction could cause sliding.
13. Do not try to stabilize the machine by putting your foot on the ground.
14. Do not use grass catcher on steep slopes.

## Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under the watchful care of another responsible adult.
2. Be alert and turn machine off if children enter the area.
3. Before and when backing, look behind and down for small children.
4. Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
5. Never allow children to operate the machine.
6. Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

# Safety Precautions (Continued)

## Service

1. Do not change engine governor setting or over speed the engine.
2. Replace damaged or worn out muffler immediately. Continued use could result in fire or explosion.
3. Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
  - A. Use only an approved container.
  - B. Never remove gas cap or add fuel with the engine running. Allow engine to cool before refueling. Do not smoke. Wipe off any spilled gasoline and allow vapors to dissipate before starting engine.
  - C. Never refuel the machine indoors.
  - D. Never store the machine or fuel container inside where there is an open flame, such as in a water heater.
4. Never run a machine inside a closed area. Exhaust fumes contain carbon monoxide an oderless and deadly gas.
5. Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
6. Never tamper with safety devices. Check their proper operation regularly. See page 5 for safety interlock check.
7. Keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. Allow machine to cool before storing.
8. Stop and inspect the equipment if you strike an object. Repair any damage before restarting.
9. Never make adjustments or repairs with the engine running or when engine and exhaust parts are hot from operation.
10. Grass catcher components are subject to wear, damage, and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary.
11. Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
12. Check brake operation frequently. Adjust and service as required.
13. Refer to Storage Section of this owners manual if unit is to be stored for extended period.

# Decals

## WARNING

**TO AVOID SERIOUS INJURY OR DEATH**

- Read operator's manual.
- Understand location and function of all controls.
- Look down and behind before and while backing.
- Remove objects that could be thrown by the blade.
- Avoid sudden turns.
- Check Interlock system per manual before use.
- Keep all shields in place.
- Never carry children.
- Keep people and pets away when operating machine.
- Go up and down slopes, not across.
- If machine stops going uphill, shut off PTO and back down slowly.

## GO

- Release parking brake
- Depress clutch pedal
- Shift to 1st or 2nd speed
- Slowly release clutch
- Shift to desired speed

## STOP

- Depress clutch pedal
- Depress Brake pedal
- Before leaving operator's position:  
Shift to neutral  
Engage parking brake  
Disengage mower clutch  
Stop Engine  
Remove ignition key

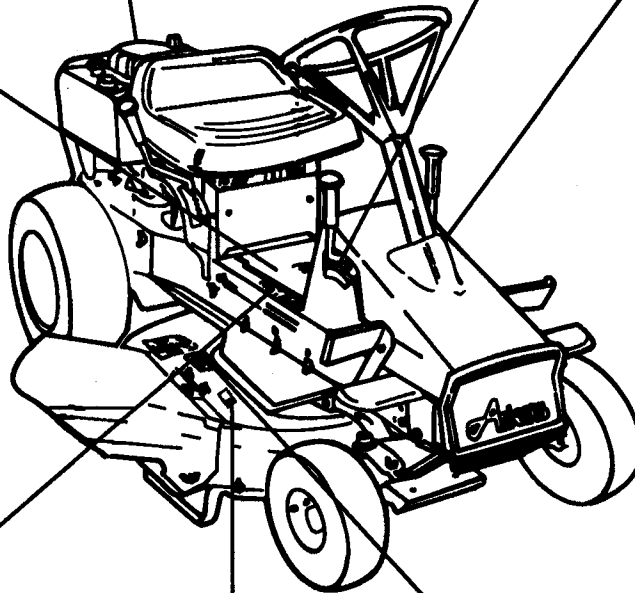
## SERVICING

- Wait for all movement to stop
- Disconnect spark plug wire
- Before tipping unit, drain gas tank and remove battery - if electric

Manufactured Under Pat. Numbers 3,834,919 & 3,785,094

## CAUTION

Before starting engine be sure machine is in neutral and mower clutch is disengaged.



Mower Clutch

Mower Height

6  
5  
4  
3  
2  
1  
N  
R  
Down arrow

Speed Selector

Controlled on right hand side of driver's seat

## WARNING

Do not operate mower unless guards are in operating position or bagger is attached.

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## DANGER

**ROTATING BLADE**

- Keep hands & feet away.
- Stop engine & remove ignition key before clearing.

Figure 1: Decal Location

# Dealer Preparation for Operation

**NOTE:** All references to "Left", "Right", "Front" and "Rear" are given from operator's position.

**Customer Note:** Your Ariens Dealer is expected to complete these preparation steps and review important information, including this manual, with you before or upon delivery of this unit.

The preparation information is included here so that you and your dealer may review it together.

## Steering Wheel

Place steering wheel onto column shaft (lubricate shaft) with holes lined up and drive roll pin through holes to secure. (Pin should have equal spacing on both sides of steering wheel base.)

## Wheel Brakes

Wheel brakes are properly adjusted at factory. Test brakes after riding mower is assembled to be sure adjustment has not been disturbed in shipment.

## Belt Adjustment

Mower belt tends to "seat-in" during first few hours of operation. Ariens recommends adjustment of belt tension after first five hours of operation. (No adjustment required on 32" mowers.)

## Engine

**IMPORTANT:** Engine is shipped without oil in crankcase. Refer to instructions in Lubrication and Maintenance Section to fill.

## Tire Pressure

Rotary mower was shipped with tires over inflated to ensure seating of bead. Reduce tire pressure to 12 PSI before operating unit.

## Battery (electric start models)

Battery is shipped without electrolyte. After removing battery from tractor, fill each cell with electrolyte to level indicator. Instructions for battery removal and charging are in Lubrication and Maintenance section of this manual.

## Safety Interlock System



**DANGER:** Failure of interlock, together with improper operation of unit, could result in severe personal injury.

Check the safety interlock system to make sure that it is functioning properly. With operator on seat, tractor must not start unless Speed Selector is in neutral (N) and Mower Clutch is disengaged (OUT). Engine will crank but **MUST** not start. Engine **MUST** stop if operator leaves seat when Speed Selector is in any drive position or with Mower Clutch engaged (IN). Refer to Repair Manual for adjustment or correction of improper interlock function.

## Registration

Complete Riding Mower Warranty Registration Form and mail original copy to Ariens Company.

Warranty is registered under model and serial number found on plate attached to frame near engine.

## Delivery

Using the Owner's Manual instruct the customer on controls and operation of unit. Emphasize safety and discuss the Safety Precautions.

**IMPORTANT:** Remind customer to change oil in engine crankcase after first two (2) hours of operation.

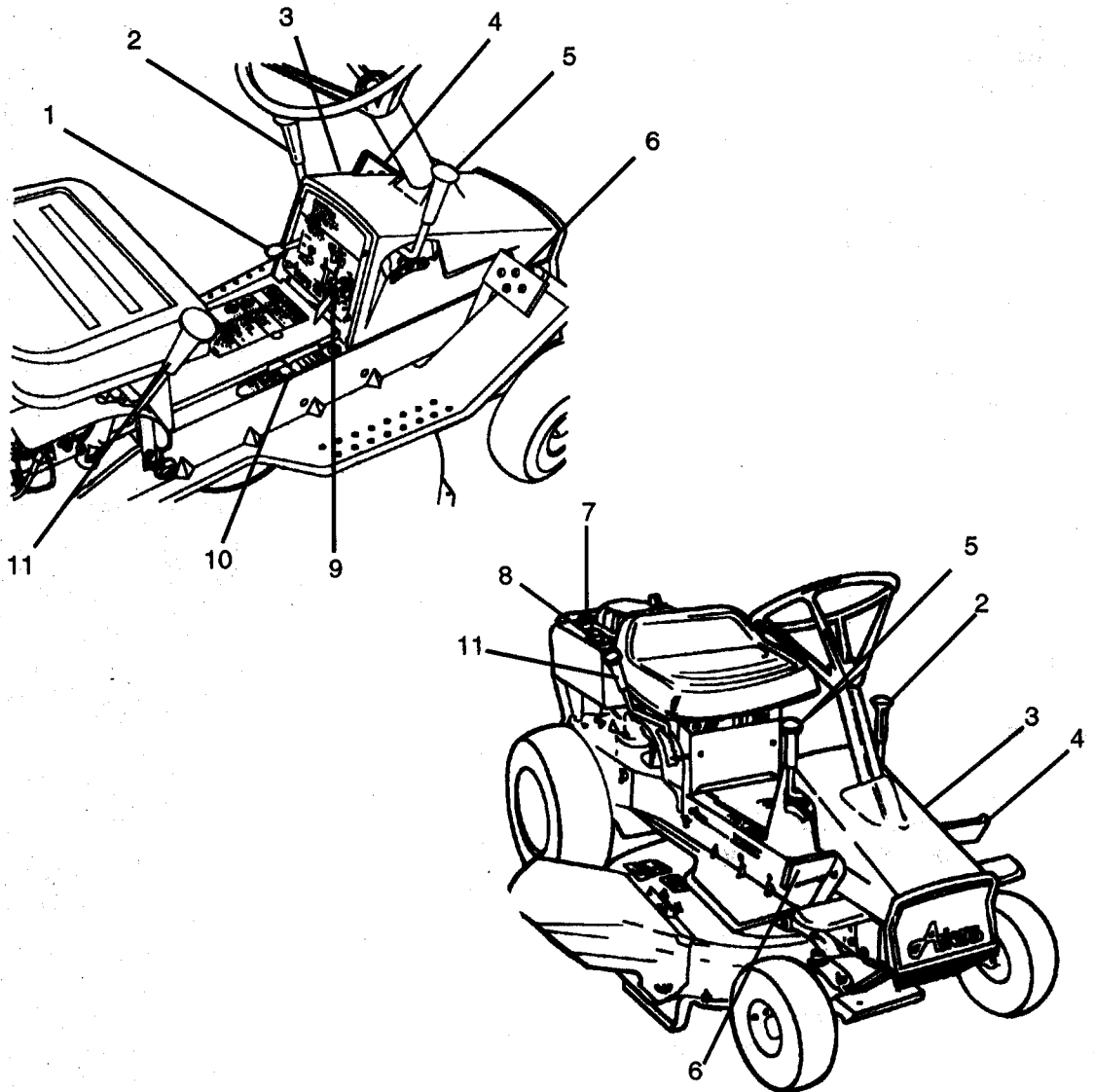
Explain recommended lubrication and maintenance of unit.

Advise customer on adjustments, demonstrate how to mount and dismount mower.

Explain Ariens Company, Limited Warranty Policy, fill out Original Purchaser Registration Card, Parts and Repair Manuals order form and return to Ariens Company. Place Model and Serial Number on page (1) of this manual.

Give customer his Owner's Manual and engine manufacturer instructions. Advise him to thoroughly read and understand them.

# Control and Features



1. Throttle Control
2. Mower Clutch Lever
3. Parking Brake
4. Clutch Pedal
5. Mower Height Lever
6. Brake Pedal
7. Engine Oil Fill
8. Fuel Tank Fill
9. Ignition/Key Switch
10. Speed Indicator
11. Speed Selector

**Figure 2: Control and Feature Locations**



# Operation

## PRE-STARTING

Check that engine crankcase oil is at proper level using dipstick. Fill or change per instructions in Lubrication and Maintenance Section.



**CAUTION:** Make sure all hardware is tight, all safety devices in place and all adjustments made correctly.

Check air filter for dirt. Clean as required. Refer to Lubrication and Maintenance Section.

## Fuel



**WARNING:** Gasoline is highly flammable and must be handled with care. Never fill tank when the engine is running or hot from operation, allow engine to cool several minutes before removing fuel cap. DO NOT allow open flame, matches or smoking in area. DO NOT over fill. Wipe up any spills and allow all vapors to dissipate before starting engine. Use approved (RED) gasoline container.

**NOTE:** To prevent foreign particles from entering tank while filling; wipe dust, dirt and debris from around cap before removing it.

Check fuel supply. Fill gasoline tank with clean, fresh low lead or lead free gasoline (leaded if unleaded is unavailable). DO NOT use premium, gasahol or mix gasoline with oil. Use of lead free gasoline produces fewer combustion deposits.

## Seat

Be sure all controls can be reached safely from operator's position. To move seat, loosen four bolts under seat, move seat to desired position, and tighten bolts.

The seat interlock switch is actuated by the operator's weight. If operator leaves seat when Speed Selector is not in neutral (N) or Mower Clutch is engaged (IN) engine must shut off or interlock circuit is defective.

**NOTE:** Check interlock system before each day's usage.



**DANGER:** Failure of interlock, together with improper operation of unit, could result in severe personal injury.

## STARTING



**WARNING:** DO NOT attempt to start your engine at this time. Thoroughly read and understand entire Operator's Manual before starting engine.

**NOTE:** Try out controls without running engine to see how they work and what they do.

Engine will not start unless Speed Selector is in neutral (N) and Mower Clutch Lever is disengaged (OUT). (On electric start models, engine will crank but will not start.)

On electric start models, depress both Brake and Clutch Pedals when starting engine to prevent unit from rolling.

## Throttle

Move Throttle Lever to Choke position to start a cold engine. When engine has started, move lever from Choke to Fast position. (It should not be necessary to choke when starting a warm engine.)



**CAUTION:** Idle speed of engine and top governed engine speed are factory adjusted. DO NOT change engine governor setting or over speed engine.

Throttle Lever controls engine speed (to increase push up and to decrease pull down).

Mower should be operated at full throttle unless otherwise specified in Owner's Manual. Select desired travel speeds with Speed Selector.

# Operation (Continued)

## Rewind Starter

Grasp starter handle and pull rope out slowly until it pulls harder, this is the compression stroke, let rope rewind slowly. Then pull rope with rapid continuous full arm stroke. Let rope rewind slowly.

**IMPORTANT:** DO NOT let starter rope snap back against starter.

Repeat above instructions until engine starts. (Refer to engine manufacturer's instructions.)

## Ignition Switch



**WARNING:** Turn Ignition Key (OFF) and remove it before attempting any maintenance, adjustment or leaving unit unattended.

On rewind start models, to start engine place ignition key in ignition switch and turn it clockwise to (RUN).

On electric start models, turn key to (START) position, and when engine starts, release ignition key. If engine fails to start on first attempt, turn ignition key (OFF), wait a few minutes and try again. Best starter life is obtained by using short starting cycles.

**IMPORTANT:** DO NOT operate starter motor more than 15 seconds per minute, as overheating and damage can occur.

After engine has started, allow it to warm up before applying load.

Turn ignition key counterclockwise to (OFF) to stop engine.

## Brake Pedal

When Brake Pedal is depressed (with clutch pedal depressed), brake band on friction wheel hub stops riding mower.

Depress Brake Pedal, to keep riding mower from rolling backward down a slope, when releasing clutch.



**CAUTION:** Brake will not stop riding mower without depressing Clutch Pedal.

## Clutch Pedal

When Clutch Pedal is depressed, transmission is disengaged from engine, permitting shifting from neutral (N) to desired direction of travel. With Speed Selector in 1st or 2nd speed, release Clutch Pedal slowly for smooth acceleration and remove foot from pedal.

**IMPORTANT:** Do not leave foot on pedal during operation as belt slippage may occur.

When unit is in motion, use of Clutch Pedal is not required when shifting between forward travel speeds.

Depressing Clutch Pedal beyond clutching point will activate brake.



**CAUTION:** To stop riding mower in emergency situations, fully depress clutch pedal.



**CAUTION:** If unit rolls backward down a hill or slope, with Speed Selector in forward speed, use brake to stop. DO NOT release clutch pedal until unit has stopped rolling and Speed Selector has been moved to 1st or 2nd speed.

## Speed Selector

Speed Selector Lever is used to select neutral (N) or travel speeds that provide six forward and one reverse speed. These speeds are shown at indicator on side of frame. First (1) speed is slowest, (6) indicates fastest speed, (R) indicates reverse and (N) indicates neutral position.

To start engine, Speed Selector lever must be in neutral (N).

Ariens recommends starting forward travel in first (1) or second (2) speed, then shifting "on-the-go" to desired travel speed.

# Operation (Continued)

## Parking Brake



**CAUTION:** Before leaving operators position, engage Parking Brake and Latch.

Parking Brake is provided to prevent riding mower from rolling when parked or left unattended.

To engage Parking Brake, fully depress Clutch Pedal and engage Parking Brake Latch, then remove pressure from Clutch Pedal. To disengage Parking Brake, depress Clutch Pedal fully and disengage Parking Brake Latch.

**IMPORTANT:** Operating unit with Parking Brake and Latch engaged will damage brake band and friction wheel.

## Mower Clutch

Move Mower Clutch Lever to left, then forward to (ON) position to start mower blade rotation and cutting (move to right to latch). Pull lever to left, then to rear (OUT) position to apply blade brake and stop blade rotation.

## Mower Height Control

Move Mower Height Control to right then to rear position for maximum cutting height (4"). Move lever to right, then to forward position for lowest cutting height (1"). Intermediate positions allow selection of cutting heights between these values.

## Stopping

To stop, depress Clutch and Brake Pedal, disengage Mower Clutch lever (OUT), and engage Parking Brake.

Turn Ignition Key counterclockwise to stop engine.



**CAUTION:** Remove Ignition Key to prevent accidental starting or unauthorized use of riding mower.

**NOTE:** This product is equipped with an internal combustion engine. DO NOT use on or near any unimproved, forest covered or brush covered land unless the exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if used, must be maintained in effective working order by the operator. See your Ariens Dealer or engine manufacturer's service center.

## Operating Tips

The following tips will help you to mow safely, achieve maximum performance from your riding mower and maintain the appearance of your lawn.

Be sure your mower blade is sharp. A dull blade will tear grass blades. (This usually results in a white cast over a freshly cut lawn. Later, tips of grass blades will turn brown.)

Proper leveling and pitch of riding mower pan is essential to obtain a smooth even lawn mowing operation. Reverse or inadequate pitch makes blade cut grass twice, resulting in frazzled fresh cut lawn. Too much pitch causes trough type uneven cut. Improper leveling results in step type uneven cut. (Refer to Adjustments Section for Level and Pitch instructions.)

A new lawn has much softer blades of grass and has a higher moisture content. It is important for this type of lawn to be cut with sharp blades.

Cutting height will vary with different types of grass, climate, and individual preference.

When first using your riding mower, cut grass a little longer than you did with narrower cutting units until you are sure that a greater cutting width will not cause scalping due to irregularities in lawn.

Generally, grass should be cut about 1-1/2" long in spring, and not less than 2" long in hot summer weather.

If grass is high, or if it contains a high degree of moisture, cut it first with mower pan set high and then cut it with mower pan set lower. This gives better distribution of clippings and provides a clean second cut.

Height of cut should not be set too low on thick, lush lawns. Such grass, if cut too short, may die. This also applies to springy, heavy growth lawns. If blade is set too low, mower pan will drag on grass and restrict air flow thus reducing discharge of grass clippings.



**WARNING:** NEVER attempt to clear riding mower pan or discharge while engine is running. Disengage Mower Clutch lever (OUT), stop engine, remove key, wait for moving parts to stop before attempting to clear away any obstruction.

# Operation (Continued)

Grass should be cut when it is dry; not when it is wet from dew, rain or from watering. When wet, grass tends to pack inside mower pan and will not discharge properly, especially if height of cut is set too low.



**CAUTION: Stay alert for holes, rocks, roots and hidden hazards in area of operation. Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for traffic.**

To insure most complete and even cut, overlap each swath.

Plan your cutting so that you always trim with the left side of mower pan.

Following the same pattern each time you mow your lawn can develop ridges at right angles to direction of mowing. By changing direction of mowing (when possible) you can prevent this.

Turn clockwise (right turn) when beginning to mow large, open areas. This discharges clippings away from borderline objects (sidewalks, driveways, fences, etc.).

After making a clockwise pass, mow in a counterclockwise (left turn) direction. This discharges clippings evenly over cut grass. Continuous clockwise mowing will cause a build up of clippings, preventing a uniform cut.

Slow down when making turns. Short, fast turns can cause scuffing (outside front tire slides and pulls out grass).

For smoothest appearing cut when using models with anti-scalp rollers, keep anti-scalp rollers adjusted to the minimum 1/2" above flat hard smooth surface after setting height of cut.

When mowing, regulate forward travel speed with Speed Selector and always operate engine at full throttle. This maintains proper blade speed and air flow to facilitate discharging of clippings. Mowing with a lower throttle setting causes blade to tear grass, resulting in poor lawn appearance.

For best performance when **mulching** it is recommended that the height of your mower deck is set at, or as near as possible to, 3 inches and that not more than 1 inch of grass is removed per cutting.

Grass should be cut when it is dry; not when it is wet from dew, rain or from watering. When wet, the grass will tend to ball and pack inside the mower pan and will not disperse evenly. If the grass does not disperse evenly, it is probably because too much grass is being removed per cutting, the grass is too wet or the travel speed is too fast.

The mulcher is not recommended for newly seeded lawns. A new lawn has much softer blades of grass and has a higher moisture content. New lawns should be cut by conventional side discharge or bagging for the first few mowings.

Do not attempt to mulch with the air openings, on top of the mower deck, assembled in the open position.

A good fertilization program and frequent watering will help keep your lawn weed free and green all year long. Due to variations in climate, soil and grass varieties, contact your local garden supply dealer, park or golf course superintendent, or county agent to obtain specific information pertaining to your area.

**NOTE:** Be sure to clean mower pan after each use. Do not allow grass clumps or a coating of grass and debris to collect inside of mower pan. Avoid operation over bare ground intermittent with grass cutting as this causes dirt and grass to collect and cake under pan surface.

# Lubrication and Maintenance

Ariens dealers will provide any service which may be required to keep your riding mower operating at peak efficiency. Should engine repair or service be required, it can be obtained from an Ariens dealer or an authorized engine manufacturer's service center.



**WARNING:** Stop engine, remove key and wait for moving parts to stop before attempting any lubrication or maintenance procedures.



**CAUTION:** DO NOT touch engine or riding mower parts which are hot from operation. Allow such parts to cool before servicing unit.

## General

Your Ariens riding mower may be driven up on ramps or, if so equipped, tipped up on its service bar and secured for ease of access during lubrication and maintenance procedures.



**CAUTION:** DO NOT tip unit up onto service bar without draining enough gasoline from tank to avoid spilling gasoline. On electric start models, remove battery to prevent spillage of electrolyte.

**IMPORTANT:** When unit is tipped up onto its service bar, undrained gasoline, drawn into cylinder may wash cylinder wall and shorten engine life.



**WARNING:** Gasoline is highly flammable and must be handled with care.

## General Lubrication

**IMPORTANT:** Wipe each grease zerk fitting clean before and after lubrication. Keep grease and oil off belts to avoid slippage and deterioration.

**NOTE:** Use Ariens Multi-Purpose Grease (Part Number 000150) or good grade of general purpose grease at zerk fittings, and oil at lubrication points.

The steering system, front wheels, left rear wheel and linkage pivot points (shown below) should be lubricated every 25 hours of operation, or twice each season, whichever occurs first.

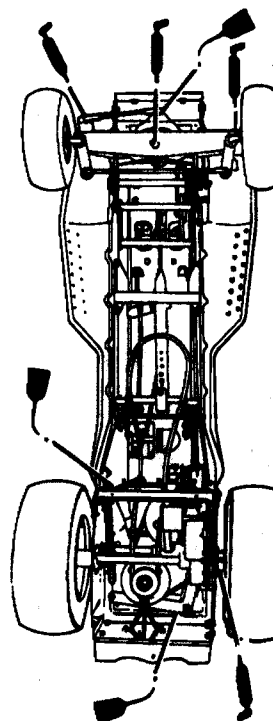


Figure 3: Lubrication Points

## Lubrication and Maintenance Schedule

Hours of Operation/ Time Interval	Service Required
Every 5 Hours Or Daily	Check Engine Crankcase Oil
Every 10 Hours	Oil bell crank and other pivot points.
Every 25 Hours	* Service Engine Air Filter * Change Engine Crankcase Oil Service Battery Check Tire Pressure Check Brake Adjustment Grease Steering System and Front Axle Spindles
Every 100 Hours Or Annually	Check Spark Plugs * Clean or Replace Air Filter Cartridge * Clean Engine Cooling Fins

\* Under extremely dust dirty conditions it may be necessary to service more often.

# Lubrication and Maintenance (Continued)

## ENGINE OIL

Use a high quality oil classified for Service SF, SE, SD or SC. These oils keep engine cleaner and retard formation of gum and varnish deposits. DO NOT add anything to recommended oil.

Refer to chart for recommended viscosity grades to use with temperature range anticipated before next oil change.

### Recommended SAE Oil Viscosity Grades

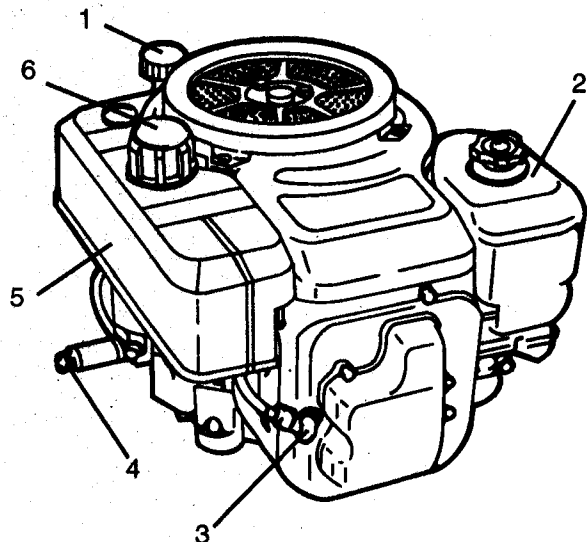
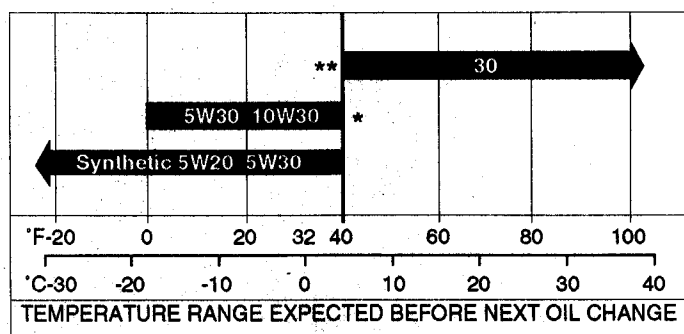


Figure 4: Typical Engine Components

## Checking

The engine crankcase oil should be checked daily or every 5 hours of operation.

To check oil, park rider on a flat level surface, stop engine, and wipe all debris from around dipstick cap.

Turn cap, remove dipstick from engine and wipe oil off dipstick. Insert dipstick into fill hole and turn slowly until cap bottoms firmly. Remove dipstick and observe oil level. If low, add clean fresh oil (of same type and viscosity as is in engine) to bring oil level to full (F) mark. Replace dipstick being sure to tighten cap firmly.

**IMPORTANT:** DO NOT over fill. Level must not exceed full (F) mark. Oil level **MUST** be maintained in safe operating range on dipstick at all times or engine damage will result.

## Changing

**IMPORTANT:** Change oil after first 2 hours of operation, thereafter change oil every 25 hours of operation (more often in dusty, dirty conditions). See chart for proper type and viscosity.

**NOTE:** Run engine just prior to changing oil. Oil will flow more freely and carry away more contamination when warm.

Drain engine crankcase by removing oil drain plug. After oil has drained replace plug.

Remove oil fill cap with dipstick and pouring slowly, fill crankcase to full mark on dipstick (approximately 2 pints) with oil. Check oil level with dipstick being sure that you replace dipstick and tighten cap firmly.

1. Oil Fill Cap and Dipstick
2. Air Cleaner Cover
3. Spark Plug
4. Oil Drain Plug
5. Fuel Tank
6. Fuel Fill

# Lubrication and Maintenance (Continued)

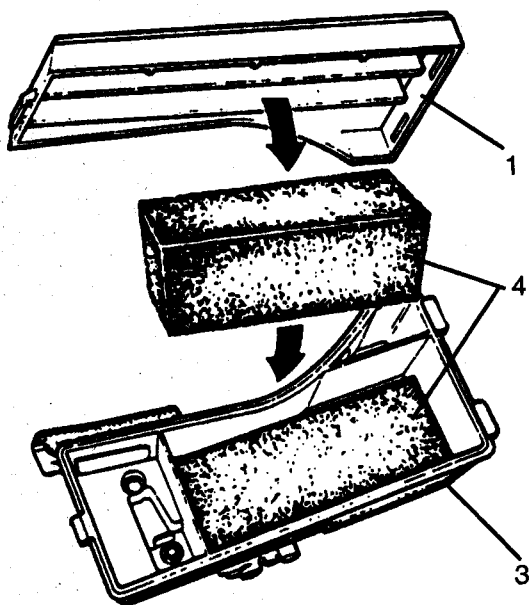
## Air Cleaner

**IMPORTANT:** DO NOT run engine with air cleaner removed. Operating engine with an extremely dirty air cleaner for only a brief period of time can cause engine damage.

Inspect filter every twenty-five (25) operating hours. (More often if unit is used under extremely dirty or dusty conditions.)

Remove the air filter cover by; loosening or removing screws, or snapping tab open depending on which type of air cleaner is incorporated on your engine. Pull out the filter element and wash thoroughly in warm water and detergent. Rinse in clear water and squeeze (DO NOT wring) dry. Wrap filter in clean cloth and squeeze until dry. Saturate filter with engine oil and squeeze to distribute and remove excess oil. (DO NOT twist).

Clean inside of cover and body of filter holder. Replace filter and cover and secure.



1. Cover
2. Screws
3. Body
4. Filter Element
5. Paper Element

## Engine Cooling

The engine is air cooled. Air must circulate freely around engine from air intake screen, over cooling fins on cylinder head and block to prevent overheating.

Every 100 operating hours or yearly (more often if conditions require) remove blower housing and clean cooling fins. Also clean external surfaces of your engine of dust, dirt and oil deposits which can contribute to improper cooling.

**IMPORTANT:** DO NOT operate engine with blower housing removed - this will cause overheating and engine damage.



**CAUTION:** Periodically clean muffler and manifold areas to remove all grass, dirt and combustible debris. If engine muffler is equipped with spark arrester screen assembly, remove every 50 hours for cleaning and inspection. Replace if damaged.

## Spark Plugs

Spark plugs should be cleaned or replaced (if necessary) and gap reset to .030" every 100 hours of operation or yearly whichever comes first.

To clean, remove spark plug from engine, scrape or wire brush and wash with a commercial solvent. DO NOT blast clean them.

**NOTE:** Sparking can occur if wire terminals do not fit firmly on spark plugs. Reform terminals if necessary.

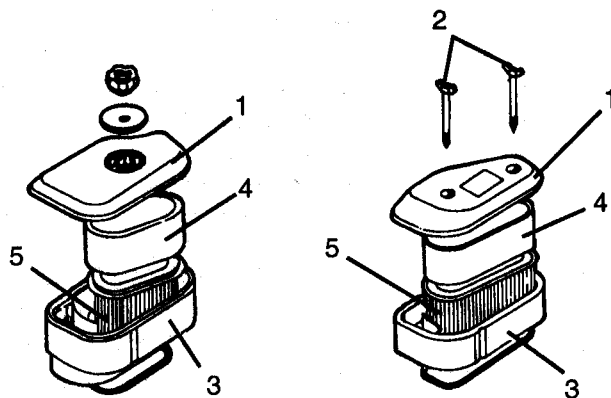


Figure 5: Air Cleaners (Typical Examples)

# Lubrication and Maintenance (Continued)

## Muffler

Worn out mufflers are more than just a noise nuisance and should be replaced immediately. Continued use could result in fire or explosion.

## Battery (electric start models)



**WARNING:** Batteries produce explosive gases which can cause personal injury. DO NOT allow flames, sparks or any ignited object to come near battery. When charging or working near a battery, always shield your eyes and provide ventilation.



**WARNING:** Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. In case of acid contact with skin, eyes or clothing, flush immediately with water for a minimum of 15 minutes. If acid is swallowed, drink large quantities of milk or egg or vegetable oil. Call a physician immediately.

Every 25 hours or each week check electrolyte level of each cell by removing caps one at a time. The electrolyte level should be at level indicator. Use distilled water to fill each cell if needed. Install and tighten each cap after checking.

**IMPORTANT:** When distilled water is added to battery during freezing weather, it must be charged to mix water with electrolyte or water will remain at top and freeze.

Keep battery and its terminals clean and inspect monthly to be sure of obtaining best performance.



**WARNING:** DO NOT allow tools or other objects to come into contact with both terminals at same time. When removing battery from tractor, remove negative (-) cable first to reduce risk of sparks.

To clean terminals remove battery from riding mower by removing cables. Remove battery strap and hooks and lift battery out. Clean or service away from unit. Remove corrosion from battery terminals and cable connections with a wire brush, then wash with a weak baking soda solution.

After cleaning, apply a thin coat of grease or petroleum jelly to terminals and cable ends, to retard corrosion. Reinstall battery.



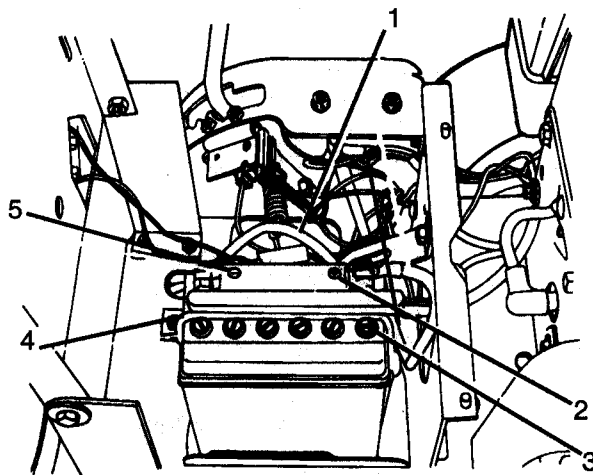
**CAUTION:** Connect positive (+) cable first, negative (-) cable last.

To charge battery remove battery from riding mower, remove vents and charge at a rate of 1.2 amps for 10 hours on a fully discharged battery.

**IMPORTANT:** Charging at a higher rate will damage battery.



**WARNING:** When charging battery, remove it from tractor and make certain that you connect positive (+) lead of charger to positive (+) terminal and negative (-) lead to negative (-) terminal. Reverse connections can cause sparks and potential unsafe conditions.



1. Battery Cables
2. Positive Terminal
3. Filler Caps
4. Battery Strap
5. Negative Terminal

**Figure 6: Battery Frame**



# Lubrication and Maintenance (Continued)

## Seat

Clean seat regularly, using a vinyl cleaner (not solvent). Extreme temperatures can damage seat when left unprotected against weather. If seat should tear, apply vinyl repair tape to protect damaged area.

## Tire Pressure

**NOTE:** Keep tires properly inflated to 12 psi at all times. Use a low pressure tire gauge for accurate pressure readings.

Check tire pressure at least once a month. Over inflation may cause operator discomfort and excessive tire tracks on lawns or soft surfaces, while under inflation causes short tire life.

**NOTE:** After checking and or inflating, replace and tighten valve caps to prevent air loss.

## Mower Belt Replacement



**WARNING:** Stop engine, remove key, wait for moving parts to stop and remove wire form spark plug before attempting to replace mower belt.

Disengage (OUT) Mower Clutch lever.

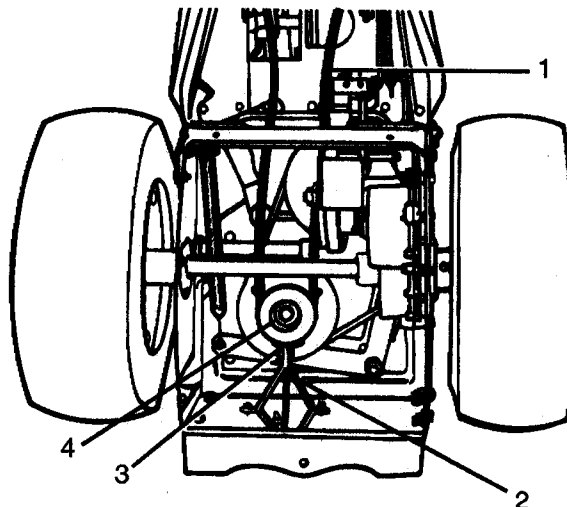
Loosen three nuts securing rear belt finger to back cover and rotate belt finger counterclockwise to remove from unit.

On 32" mowers, remove mower pulley belt finger, loosen cap screw on clutching idler and fixed idler to provide clearance for belt between belt fingers and idlers.

Remove old belt and place new belt in position on mower and engine pulley.

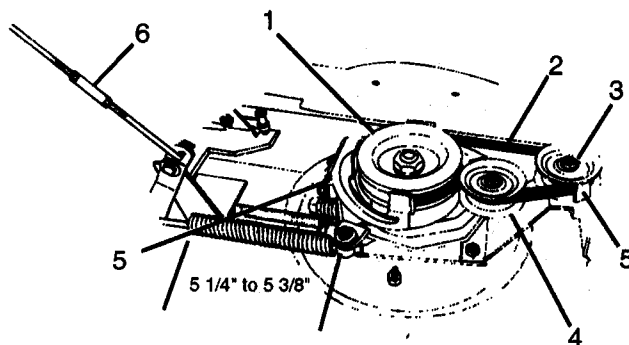
Position rear belt finger with 1/16" clearance between belt and finger, secure rear belt finger to rear cover by tightening top two nuts first, then bottom nut. Adjust belt as described in Adjustments Section of this manual.

On 32" mowers tighten cap screws on clutching idler (with 1/8" clearance between belt and finger) and fixed idler (with tab on mount engaged in hole of belt finger). Install belt finger at mower pulley with 1/16" clearance between belt and finger (bend finger as required).



1. Mower Belt
2. Rear Belt Finger
3. Belt Finger Adjustment
4. Engine Pulley

Figure 7: Mower Belt Replacement



1. Mower Pulley
2. Mower Belt
3. Fixed Idler
4. Clutching Idler
5. Belt Finger
6. Adjustable Clutch Rod

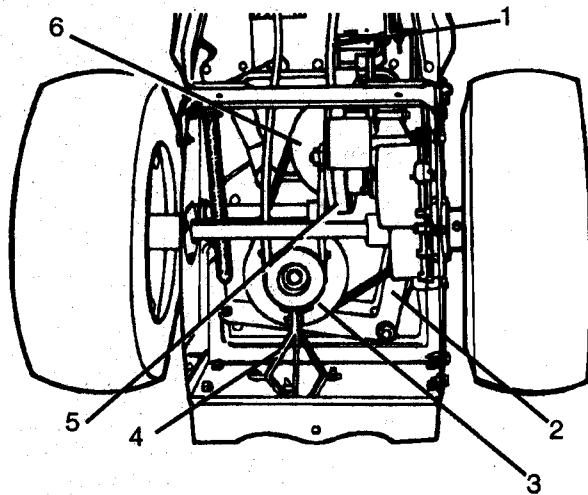
Figure 8: 32" Mower Belt Replacement

## Drive Belt Replacement

Remove rear belt finger from back cover and mower belt from engine pulley. (Refer to Mower Belt Replacement).

Remove five cap screws with lock washers that secure friction wheel and guard to hub (this provides clearance for removal of belt). Place Speed Selector in neutral "N", release drive belt from idler and remove it from drive disk and engine pulley.

# Lubrication and Maintenance (Continued)



1. Mower Belt
2. Idler Arm
3. Engine Pulley
4. Rear Belt Finger
5. Friction Wheel
6. Drive Disc

**Figure 9: Drive Belt**

Install new belt around engine pulley, drive disk and idler with belt properly seated in grooves.

Secure friction wheel and guard on hub with five cap screws and lock washers.

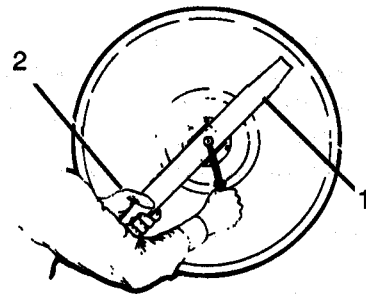
Install mower belt on engine pulley and secure rear belt finger to back cover. (Refer to Mower Belt Replacement).

## Mower Blade



**CAUTION: Use sturdy gloves or padding to protect hands when working with mower blades.**

Regularly check mower blades for wear (vanes if used) and that lock washer is fully compressed by nut (requires 50-60 ft. lbs of torque on nuts).



1. Mower Blade
2. Heavy Glove or Padding

**Figure 10: Mower Belt Replacement**



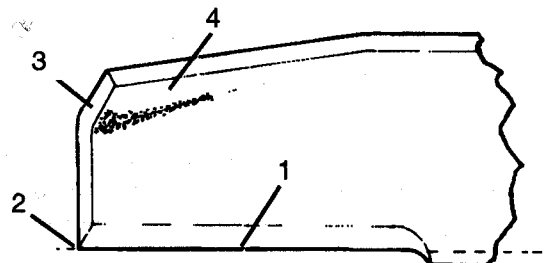
**WARNING: Stop engine, remove key, wait for moving parts to stop and remove wire from spark plug before attempting any maintenance procedures.**



**CAUTION: Wear of mower blade will cause structural weakness. DO NOT install new or replacement vanes on worn blades.**

When blade needs sharpening, block blade to prevent rotation, remove nut, lock washer and blade from shaft.

Sharpen both ends of blade at original angle (25 degrees), removing equal amounts of material from each end to maintain proper blade balance. New blades are balanced to within 1.3 inch ounces at factory. DO NOT grind around corner at tip of blade. If cutting edge of blade cannot be sharpened in a straight line to within 1/8 of an inch of its end, replace blade with Ariens replacement blade only. Blades are available through your Ariens Dealer.



1. Cutting Edge
2. Square Corner
3. Air Lift Erosion
4. Air Lift

**Figure 11: Mower Blade**

# Lubrication and Maintenance (Continued)

Install blade, lock washer and tighten nut until lock washer is fully compressed (requires 50-60 ft. lbs. of torque on nuts).

**IMPORTANT:** If mower is used under sandy soil conditions, replace blades when air lifts become eroded through at end.

**IMPORTANT:** On 28" & 32", when replacing blade, blade should be 3/8" above flange. To position, turn cap screws on each end of blade tray until both tips of blade clear flange by 3/8" all the way around pan.

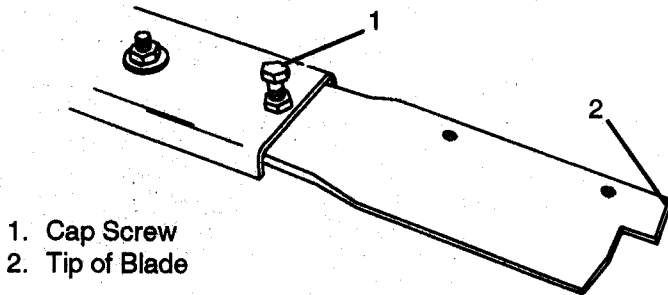


Figure 12: 28" & 32" Mower Blade

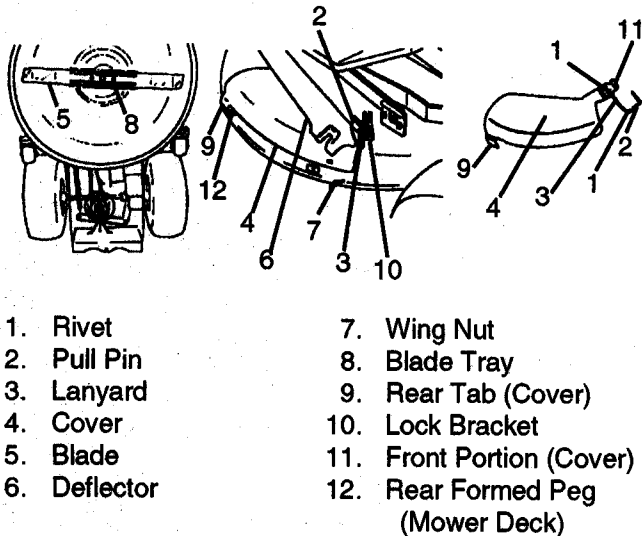


Figure 13: Mulching Components

## Mower Pan Removal



**CAUTION:** When adjusting, replacing or moving mower blade or mower belt, remove key from key switch and disconnect spark plug wire from spark plug to prevent accidental starting.

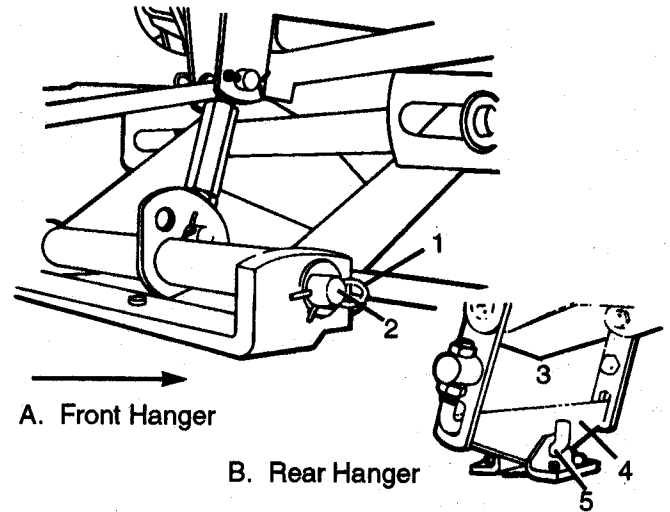


Figure 14: Mower Pan Removal

Remove rear belt finger and mower belt from engine pulley (refer to Mower Belt Replacement).

Position mower on flat level surface. Lower mower pan with Height Control lever. (Lowering mower pan down on blocks will relieve weight on linkage and make removal of pins easier.)

Remove hair pin and rear hanger pin from swivel bracket to disconnect rear link.

Remove cotter pin from clutch rod and rod from clutch link.

Remove hair pin and front hanger pin to disconnect front linkage.

On 32" mower, remove hair pins and positioning arms from front mounting bracket.

Remove mower pan from rider.

Install mower pan on rider in reverse order.

# Adjustments

Ariens Company recommends that you have adjustments made by your Ariens dealer. He has tools and the know how to properly perform adjustments which may be required to keep your riding mower operating at peak efficiency. Should you decide to make the following adjustments on your riding mower yourself, Ariens Company recommends that you call your dealer for answers to any questions that might arise.

Your Ariens riding mower may be tipped up on its service bar and blocked securely for ease of access during some adjustment procedures.



**CAUTION:** Refer to instructions in beginning of Lubrication and Maintenance Section when tipping riding mower.



**WARNING:** Stop engine, remove key, wait for moving parts to stop and remove wire from spark plug before attempting any adjustment procedures.



**CAUTION:** DO NOT touch engine or tractor parts which are hot from operation. Allow such parts to cool before servicing unit.

## Seat

Adjust seat to suit operator by loosening four cap screws under seat, sliding seat to a safe comfortable operating position and tighten cap screws.

## Clutch and Brake

Clutch and brake adjustments are dependent upon each other. If depressing Clutch and Brake Pedal fully does not stop riding mower and/or hold it on hill, brake must be adjusted.

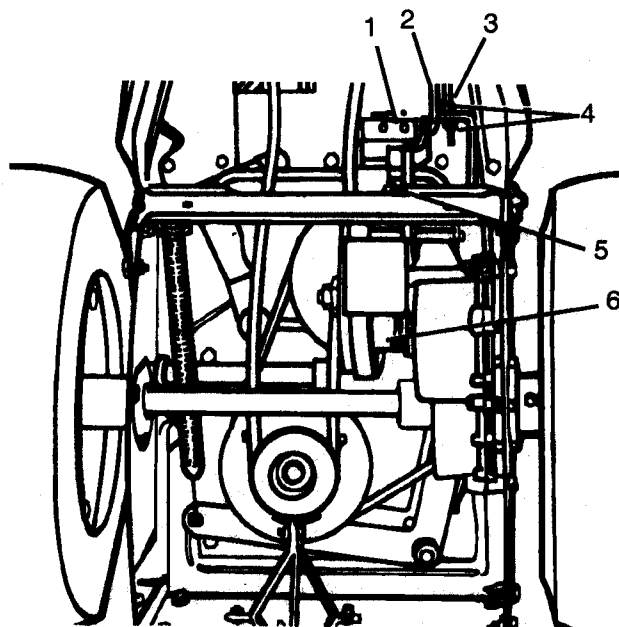
With Speed Selector in neutral (N), depress Clutch Pedal fully and engage Parking Brake.

Adjust double nuts on clutch rod until carrier yoke clears neutral stop by 1/8 to 1/4 inch.

Release Parking Brake and turn both rear wheels by hand. They should rotate freely in neutral (N) but not rotate with Speed Selector in any other position.

Using two 1/2" wrenches (to avoid twisting or distorting brake band), hold inner adjusting nut with one wrench and loosen outer lock nut with the other.

Turn rear wheel by hand while tightening inner adjustment nut until brake band just binds on hub. Back off adjusting nut 1-1/2 turns and secure with locknut.



1. Neutral Stop
2. Brake Rod
3. Clutch Rod
4. Clutch Adjustment Nuts
5. Brake Adjustment Nuts
6. Brake Band

**Figure 15: Clutch and Brake Adjustment**

Test by fully depressing Clutch Pedal and trying to turn wheels by hand, they should not turn.

## Mower Belt

Ariens Company recommends that mower belt be adjusted after first five hours of operation. 32" mower belt clutch rod should be adjusted so that the compressed spring length is between 5-1/4 to 5-3/8 inches when belt is engaged. Refer to Figure 8.

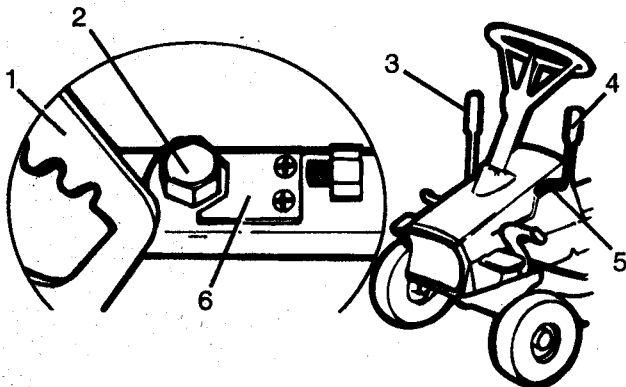
# Adjustments (Continued)

Belt engagement should occur when front edge of Mower Clutch lever is positioned in line with rear edge of forward notch of quadrant (as viewed through slot in left side of cowl). Full locked-in engagement should occur when lever is positioned completely into front notch of quadrant. (Some resistance should be felt when moving lever into notch.)

**IMPORTANT:** Over-tightening belt will result in premature belt and bearing wear.

To adjust, place height control lever in midnotch position, depress spring clip and tighten cap screw at adjustment yoke on front of unit with a 3/4" socket wrench.

When tightening cap screw, hold Mower Clutch lever so that front edge of lever is positioned in line with rear edge of forward notch of quadrant. (tighten belt just enough to prevent slippage under load). Mower Clutch lever (when tightening cap screw) will move slightly to rear of this point when tension is correct.



1. Steering Gear
2. Adjustment Cap Screw
3. Height Control
4. Clutch Lever
5. View Quadrant Through Slot
6. Spring Clip

**Figure 16: Mower Belt Adjustment**

## Cutting Height



**WARNING:** Stop engine, remove key, wait for moving parts to stop and remove wire from spark plug before attempting the following adjustment procedures.



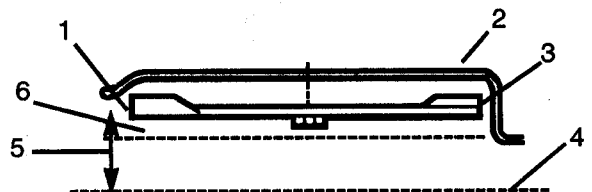
**CAUTION:** Use sturdy gloves or padding to protect hands when working with mower blades. Rotate mower blade with Mower Clutch disengaged (OUT) and take measurements with Mower Clutch engaged (IN).

**NOTE:** A wood block (about 1" square by 5" long) may be used under pan for blade measurement. Wrap block with masking tape, mark tape with cutting edge of blade and measure distance from end of block to mark(s). (This method avoids errors by having to read any measurements under pan.)

With riding mower positioned on a smooth, flat, level surface and tire pressure properly set, perform the following procedures in order of appearance.

The cutting height range is 1" to 4". To check, lower mower pan with Mower Height lever to its lowest cutting height, rotate one blade tip to discharge opening and measure distance from blade tip to surface. Distance from blade tip to surface should be 1". Rotate blade 180 degrees and measure other blade tip. The difference in measurement between blade tips should not be greater than 3/16". If it is greater than 3/16" see your Ariens dealer to have it corrected.

To adjust cutting height, proceed with pitch and level instructions as follows.



1. Cutting Tip
2. Mower Pan
3. Blade
4. Ground Level
5. Cutting Height
6. Discharge Chute

**Figure 17: Cutting Height**

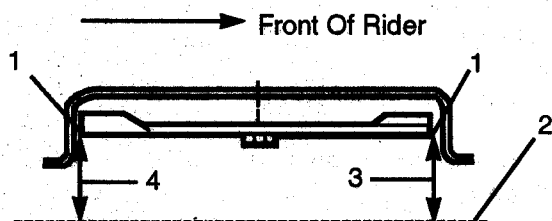
# Adjustments (Continued)

## Pitch

Proper blade pitch is when blade tip (measured from surface) is 1/4" to 3/8" lower at front center of mower pan than when same tip is at rear center of mower pan.

Adjust to achieve a proper balance between cutting height and pitch.

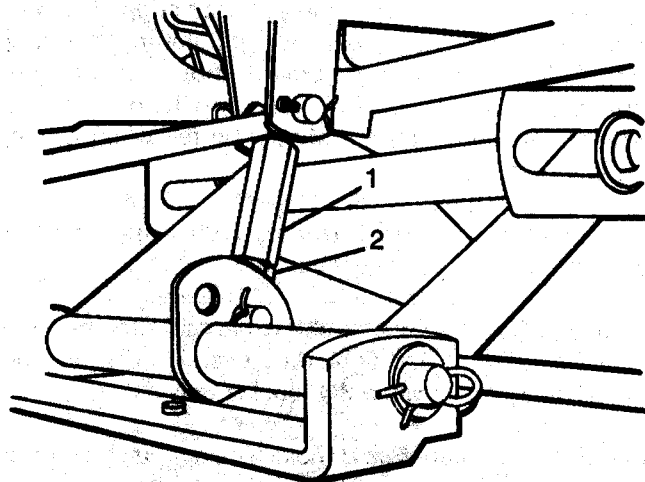
Adjusting front lift link raises or lowers front of mower pan and changes both cutting height and pitch. To adjust, loosen jam nut on front link to allow for movement of coupling nut. Turn coupling nut clockwise to raise and counterclockwise to lower front of mower pan. Secure coupling in position by tightening jam nut.



- 1. Blade Cutting Edges
- 2. Ground Level
- 3. Front Blade Height
- 4. Rear Blade Height

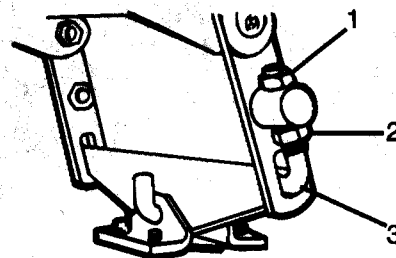
**Figure 18: Blade Pitch**

Adjusting rear lift links raises or lowers rear of mower pan and changes both cutting height and pitch. To adjust, loosen both lower jam nuts to allow for movement of upper jam nuts on lift rods. Turn both upper jam nuts on each lift rod equally to raise or lower rear of pan. Secure lift rods in position by tightening lower jam nuts.



- 1. Coupling Nut
- 2. Jam Nut

**Figure 19: Front Lift Link**

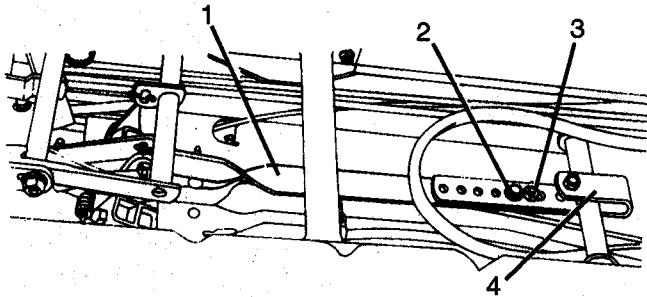


- 1. Upper Jam Nut
- 2. Lower Jam Nut
- 3. Lift Rod

**Figure 20: Rear Lift Link**

## Adjustments (Continued)

If proper pitch cannot be obtained with front and rear lift links, loosen nut on carriage bolt and remove cap screw holding lift strap and adjustment strap together. Slide lift strap and adjustment strap together to raise, or apart to lower rear of pan. Select tapped hole in lift strap that provides proper adjustment, install cap screw in tapped hole and tighten nut on carriage bolt to secure.

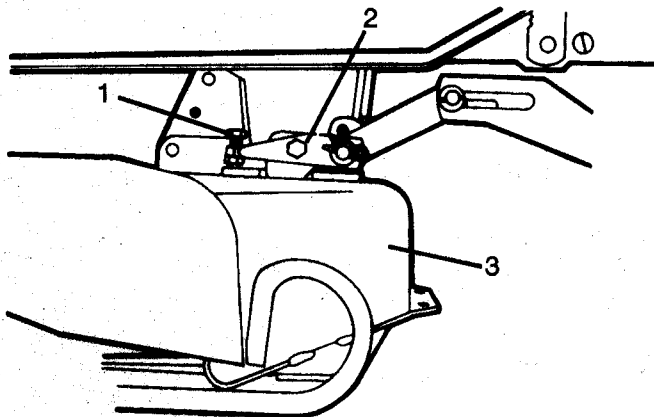


1. Lift Strap
2. Cap Screw-Remove To Adjust
3. Carriage Bolt
4. Adjustment Strap

**Figure 21: Adjustment Strap**

### Level (side to side)

To level mower pan, turn adjustment cap screw on adjustment lever clockwise to raise right side or counterclockwise to lower it.



1. Adjustment Cap Screw
2. Adjustment Lever
3. Mower Pan

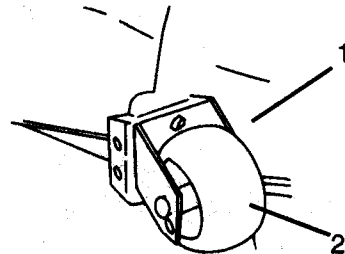
**Figure 22: Leveling Lever**

### Anti-scalp Rollers

On units with rollers, secure rollers in middle position for average lawn mowing. Use lowest roller position when mowing in higher cutting heights and rough terrain to guard against most scalping. Use highest roller position when cutting at lowest cutting height.

For smoothest appearing cut when using models with anti-scalp rollers, keep anti-scalp rollers adjusted to the minimum 1/2" above flat hard smooth surface after setting height of cut.

**NOTE:** The rollers are intended for anti-scalping, not for controlling cutting height.



1. Mower Pan
2. Roller

**Figure 23: Roller**

# Storage

Your authorized Ariens Dealer is trained and equipped to service your equipment. A periodic check up by your dealer will help reduce your maintenance costs.

Inspect unit for visible signs of wear, breakage or damage. Order any parts required and make necessary repairs to avoid delays when beginning use again.

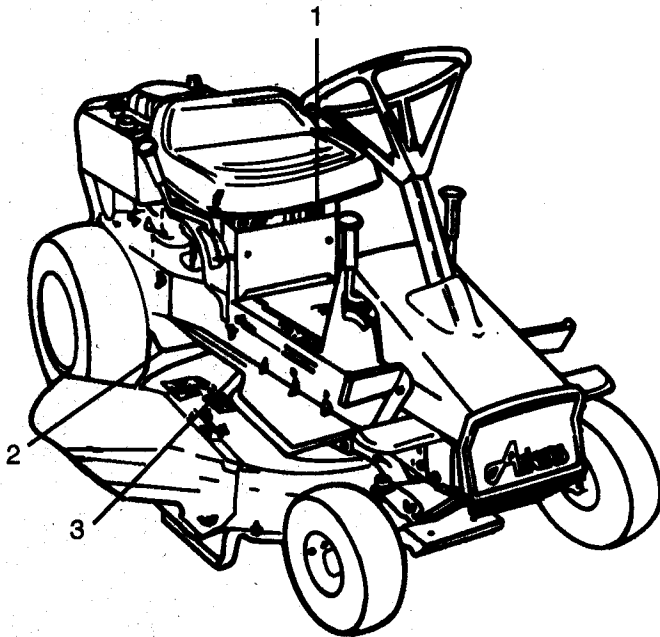
Lubricate unit according to instructions in Lubrication and Maintenance section of this manual.

Clean unit thoroughly. Touch up all painted areas to avoid rust and store in a cool, dry protected place.

## User Service Components

Publications are available for riding mower owners who wish to perform some of their own maintenance and service operations. Should a complete parts and/or repair manual be desired, order by machine model and serial number.

Components illustrated and described in this manual are most commonly used for consumer service and can be ordered through your Ariens Dealer. When ordering parts always include the Model and Serial Number of your unit to assure prompt service.



- |                     |        |
|---------------------|--------|
| 1. Battery          | 027494 |
| 2. Mower Belt 28/30 | 072169 |
| Mower Belt 32       | 072155 |
| 3. Drive Belt       | 072112 |

**Figure 24: User Service Components**

Riding Mower Model Number \_\_\_\_\_

Riding Mower Serial Number \_\_\_\_\_

Parts Manual @ \$4.00 ea.....\$ \_\_\_\_\_

Repair Manual @ \$6.00 ea.....\$ \_\_\_\_\_

Postage and Handling .....\$ 3.00

Wisconsin residents add 5% sales tax.....\$ \_\_\_\_\_

TOTAL.....\$ \_\_\_\_\_

Please submit this amount by check or money order.

**Mail Requests to:**      **Ariens Service**  
655 West Ryan Street  
Brillion, WI 54110-1098

### Attachments

827020 Bagger-Vac - 26" & 30" Mowers  
827026 Bagger-Vac - 28" & 32" Mowers  
831017 Ariens Trailer

### Accessories

703985	Tire Chains
727013	Dethatcher
727016	Front Weight
727034	Leaf Mulcher
727035	28 in Mulching Kit
727036	32 in Mulching Kit