



Ariens®

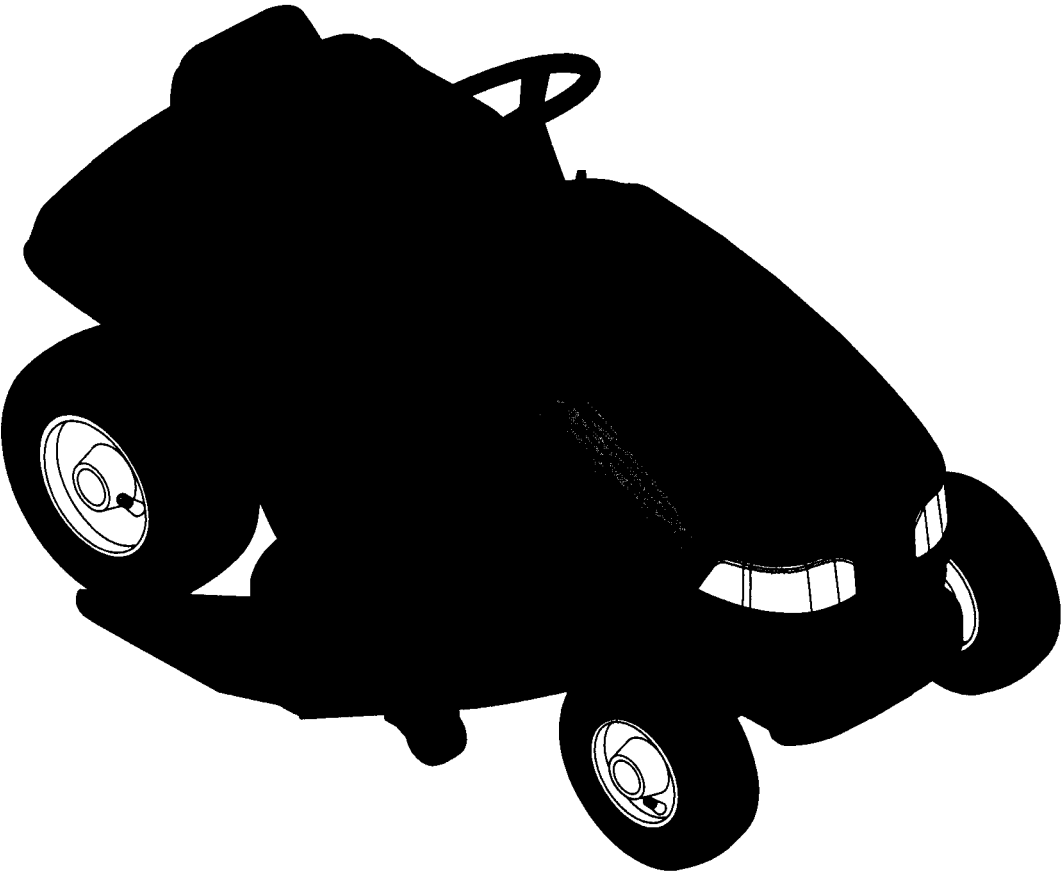
Sierra™

Owner/Operator Manual

936
SERIES

M O D E L S

014 – 1340G
015 – 1440G
016 – 1340H
017 – 1440H
018 – 1540H
019 – 1640H
020 – 1640H
021 – 1648H Twin



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Printed in USA

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. The dealer stocks genuine Ariens parts and lubricants, manufactured with the same precision and skill as the original equipment. A factory trained staff is kept well informed on the best methods of servicing Ariens equipment. They are ready and able to serve you. If engine repair or service is required, it 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.**



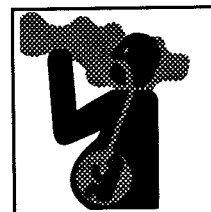
CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury



DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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Specific Model and Serial Numbers are on a label located on the frame of your Tractor and on a label located on the product registration form. Record those numbers below and transfer the label from the product registration to place indicated below. Use these numbers whenever parts or service is required.

Equipment

Model Number _____

Equipment

Serial Number _____



Engine

Model Number _____

Engine

Serial Number _____

Models

Model 936014 (Sierra 1340G)

13.0 HP Tecumseh w/40" pan

Model 936015 (Sierra 1440G)

14.0 HP Briggs & Stratton w/40" Pan

Model 936016 (Sierra 1340H)

13.0 HP Tecumseh w/40" pan

Model 936017 (Sierra 1440H)

14.0 HP Briggs & Stratton w/40" pan

Model 936018 (Sierra 1540H)

15.0 HP Kohler w/40" pan

Model 936019 (Sierra 1640H)

16.0 HP Briggs & Stratton w/40" pan

Model 936020 (Sierra 1640H)

16.0 HP Tecumseh w/40" pan

Model 936021 (Sierra 1648H Twin)

16.0 HP Briggs & Stratton w/48" pan

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

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

Read, understand, and follow all instructions in this owners manual, the engine manual and on the machine before starting.

Only allow responsible adults, who are familiar with the instructions, to operate the machine.

Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.

Be sure the area is clear of other people and pets before mowing. Stop machine if anyone enters the area.

Never carry passengers.

Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing.

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.

Slow down before turning to prevent tipping or loss of control.

Never leave a running machine unattended. Always turn off blades, set parking brake, stop engine, and remove keys to prevent unauthorized use before dismounting.

Turn off blades when not mowing.

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.

Mow only in daylight or good artificial light.

Do not operate the machine while under the influence of medication, alcohol or drugs.

Watch for traffic when operating near or crossing roadways or drives.

Use extra care when loading or unloading the machine into a trailer or truck.

Use only attachments or accessories designed for your unit. See your Ariens Dealer.

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. Wear safety goggles or safety glasses with side shields when operating mower.

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

Mow up and down slopes, not across.

Remove obstacles such as rocks, tree limbs, etc.

Watch for holes, ruts, or bumps. Uneven terrain could overturn the machine. Tall grass can hide obstacles.

Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.

Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.

Use extra care with grass catchers or other attachments. These can change the stability of the machine. Use only approved hitch points.

Limit loads to those you can safely control.

Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.

Safety Precautions (Continued)

Avoid starting or stopping on a slope. If tires lose traction, disengage mower clutch and proceed slowly straight down the slope. If you must stop when going up the slope and can not safely back down: for gear drive models, depress clutch/brake pedal, disengage mower clutch, place travel speed selector in first gear (low speed) and slowly release the clutch/ brake pedal.

For hydro models depress clutch/brake pedal only if necessary, disengage mower clutch, slowly release clutch brake pedal and slowly engage the forward pedal.

Do Not

Do not turn on slopes unless necessary, and then, turn slowly and gradually, downhill, if possible.

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.

Do not mow on wet grass. Reduced traction could cause sliding.

Do not try to stabilize the machine by putting your foot on the ground.

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.

Keep children out of the mowing area and under the watchful care of another responsible adult.

Be alert and turn machine off if children enter the area.

Before and when backing, look behind and down for small children.

Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.

Never allow children to operate the machine.

Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

Service

Do not change engine governor setting or over speed the engine.

Replace damaged or worn out muffler immediately. Continued use could result in fire or explosion.

Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.

Use only an approved container.

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.

Replace fuel tank cap and container cap securely.

Never refuel the machine indoors.

Never store the machine or fuel container inside where there is an open flame, such as in a water heater.

Never run a machine inside a closed area. Exhaust fumes contain carbon monoxide an odorless and deadly gas.

Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.

Never tamper with safety devices. Check their proper operation regularly. See page 7 for safety interlock check.

Keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. Allow machine to cool before storing.

Stop and inspect the equipment if you strike an object. Repair any damage before restarting.

Never make adjustments or repairs with the engine running or when engine and exhaust parts are hot from operation.

Safety Precautions (Continued)

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.

Mower blades are sharp and can cut. Wrap the blade (s) or wear gloves, and use extra caution when servicing them.

Check brake operation frequently. Adjust and service as required.

Refer to Storage Section of this owners manual if unit is to be stored for extended period.

Safety Decals

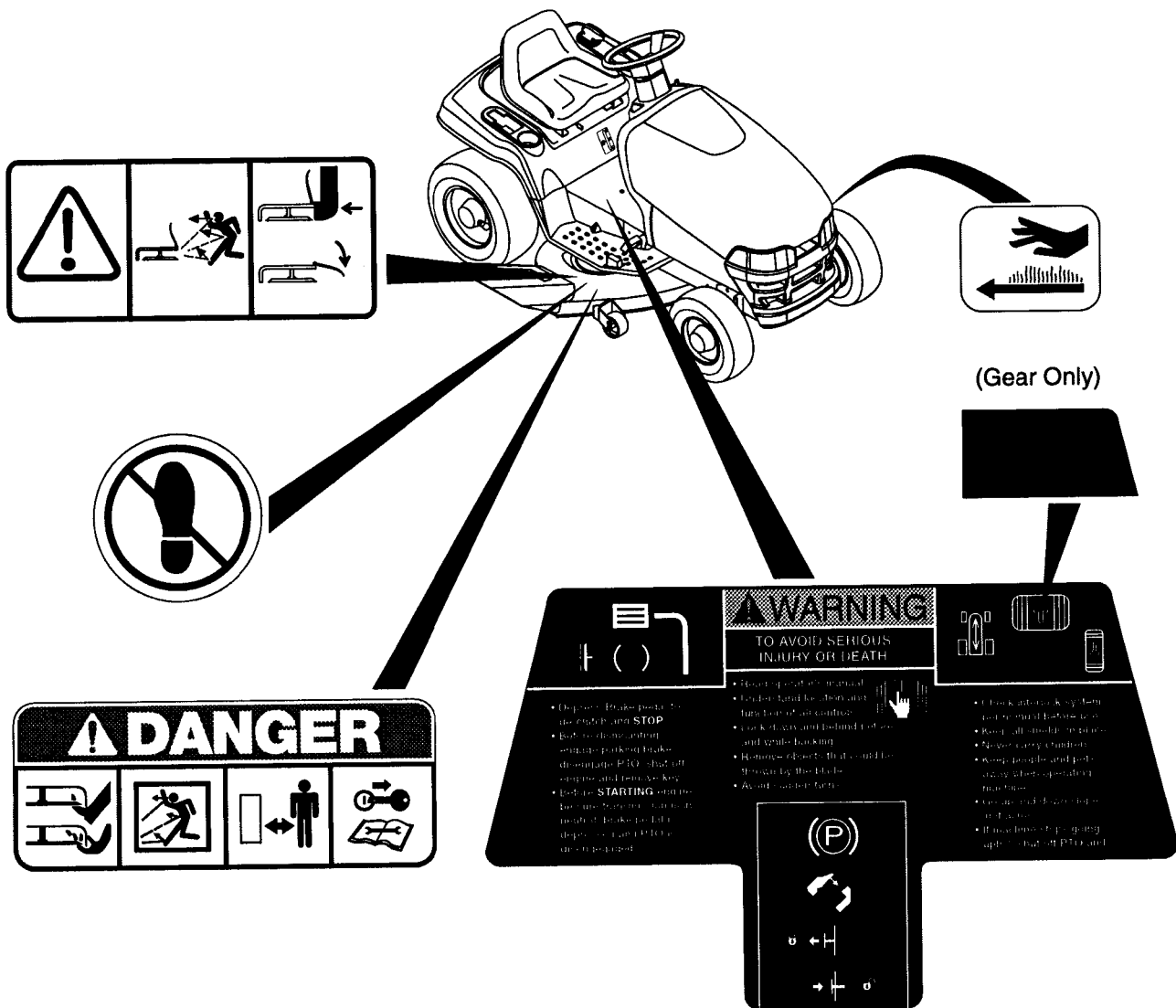
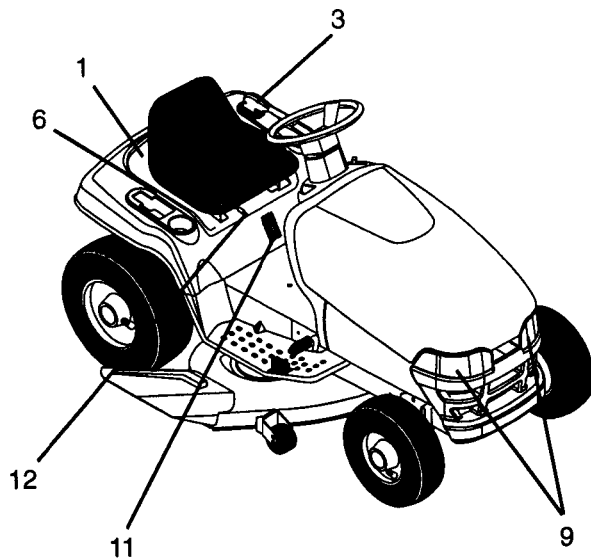
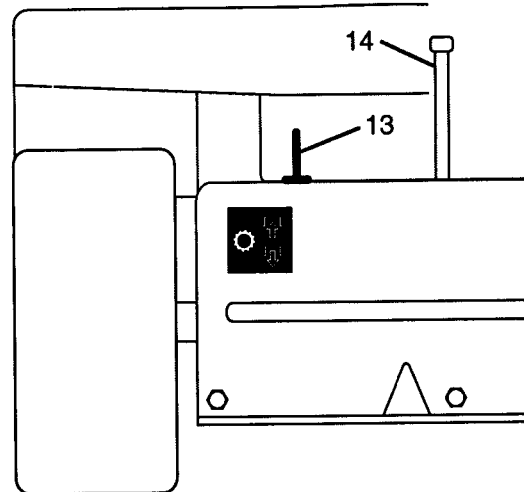


Figure 1: Safety Decals

Controls and Features

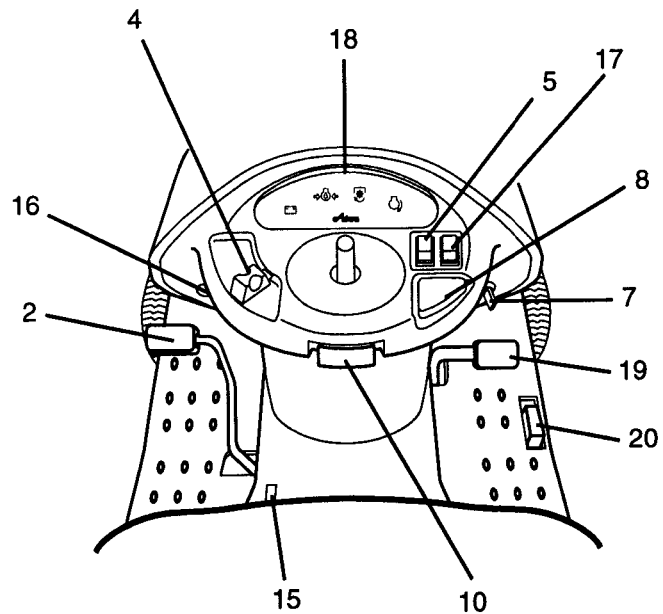


PT0640



OT0020

1. Fuel Tank Fill
2. Clutch/Brake Pedal
3. Attachment Lift Lever
4. Throttle/Choke Lever
5. Head Light Switch
6. Travel Speed Selector (Gear Drive Only)
7. Ignition/Key Switch
8. PTO Switch
9. Headlights
10. Parking Brake Control
11. Fuel Level Indicator
12. Seat Position or Adjustment
13. Transmission Disconnect Control (Hydro Only)
14. Expansion Hose with Vent (Hydro Only)
15. Mower Height Indicator
16. Choke Control (16 HP B&S Twin Only)
17. Cruise Control Switch (Hydro Only)
18. Indicator Lights (Hydro Only)
19. Forward Pedal (Hydro Only)
20. Reverse Pedal (Hydro Only)



OT0120

Figure 2: Controls and Features

Operation

Hood

To open the hood, push left the hood latch located inside center of grille. To prevent possible damage, do not slam the hood to close it, use a firm downward push at the center of the hood to ensure that the latch engages. Tractor should not be driven unless the hood is fully closed and latched.

Pre-Starting

Check that the engine 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. DO NOT allow open flame, matches or smoking in area. DO NOT over fill. Wipe up any spills and allow vapors to dissipate before starting engine. Use approved (RED) gasoline container.

NOTE: To prevent foreign particles from entering tank while filling, wipe snow, 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, gasohol or mix gasoline with oil. Use of lead free gasoline produces fewer combustion deposits.

NOTE: For cold weather starts, use a winter grade gasoline which has a higher volatility to improve starting. DO NOT use gasoline left over from summer.

Seat Adjustment

On models with seat slides, seat can be adjusted forward and rearward by moving the handle on the seat slides towards the center of the tractor and sliding seat to a safe comfortable position.

Safety Interlock System

Engine must shut off if the operator attempts to leave the seat with the transmission engaged, parking brake disengaged or PTO engaged.

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. Familiarize yourself with controls to see what they do and how they work. Thoroughly read and understand entire Owner's Manual before operating unit.

Indicator Lights (Hydros Only)

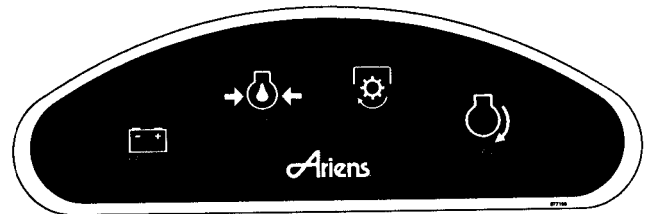
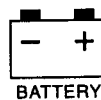


Figure 3: Dash Decal

Each symbol on dash decal will light up when the key is turned to the run position and the condition listed below exists.



BATTERY

This symbol will light up "Amber" if battery voltage is lower than 12 volts. Refer to Battery Maintenance Section.



OIL

This symbol will light up "Amber" if oil pressure (16.0 hp Tecumseh, 16.0 hp B & S Twin and 15.0 hp Kohler only) is low. Check oil level and add if necessary. Refer to Engine Manual.



PTO
ENGAGED

This symbol will light up "Amber" if PTO switch is engaged (on). Disengage PTO when starting tractor.



OKAY TO
CRANK

This symbol will light up "Green" if tractor is in a safe condition to start. All conditions stated under the "Ignition" portion of the Operation Section must be met before tractor will start.

Operation (Continued)

Throttle/Choke



- Throttle/Choke lever controls engine speed (to increase, push up-to decrease, pull down) and activates choke (push lever up and to right past offset). On the 16 HP B & S twin model, the throttle and choke are separate controls.
- To start a cold engine move lever to "CHOKE" position and after engine has started, gradually pull lever down to open choke and allow engine to warm up at 1/2 throttle setting. (It should not be necessary to choke a warm engine).



CAUTION: Idle speed of engine is 2100 RPM (Tecumseh engines) & 1800 RPM (Kohler and B & S engines) and top governed engine speed is 3250 RPM for all domestic model engines. Refer to Certificate of Conformity sheet for exported units. **DO NOT** change engine governor setting or over speed engine.

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

Ignition



- With operator on seat, tractor will not start unless Speed Selector is in neutral (N), (gear drive only) Implement Power is disengaged, (Off) Clutch/Brake Pedal is depressed or parking brake is set. Refer to indicator lights figure 3.
- To start engine, place ignition key in ignition switch and turn it clockwise to (Start) position. When engine starts, release ignition key. Turn ignition key counterclockwise to (Off) to stop engine.



CAUTION: Turn ignition key (OFF) and remove it before attempting any maintenance, adjustments, or leaving tractor unattended.

- If engine fails to start on first attempt, turn ignition key (OFF), wait a few seconds 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.

IMPORTANT: Run engine at 1/2 of (FAST) engine speed for at least five minutes in below freezing temperatures to prevent internal damage to engine and transaxle.

Clutch/Brake Pedal



CAUTION: Test brake regularly. To test, roll tractor by hand on a level surface while depressing clutch/brake pedal. If brake does not hold tractor with 3/4" to 1" of pedal travel remaining, adjust disc brake according to instruction in Adjustments Section. Be sure transmission disconnect is disengaged when testing brakes on hydro.

- When Clutch/Brake Pedal is fully depressed, disc brake on transaxle stops tractor.
- It is recommended that clutch/brake pedal be fully depressed when shifting to any desired gears on gear drive transaxles. Release clutch/brake pedal slowly for smooth acceleration and remove foot from pedal on gear drive transaxles. Do not leave foot on pedal during operation as belt slippage may occur.



CAUTION: Fully depressing clutch/brake pedal unlatches parking brake.

NOTE: When starting engine, depress clutch/brake pedal. (In extremely cold weather, allow engine to warm up, then release clutch/brake pedal and allow transaxle to warm up before applying load.)

- Depressing pedal de-clutches drive belt and then applies brake. To stop tractor in emergency situations, fully depress clutch/brake pedal. Always position speed control in slow ground speed prior to releasing clutch/brake pedal on gear drive models.

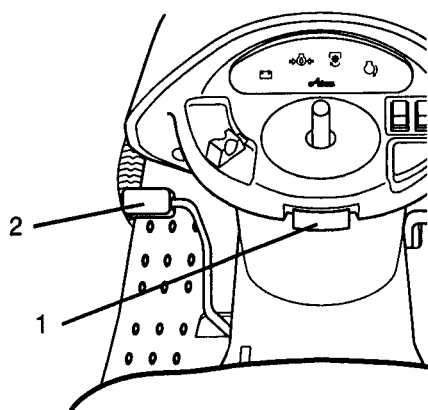
Operation (Continued)

Parking Brake (P)



CAUTION: Before leaving operators position, engage parking brake and lock.

- Parking Brake is provided to prevent tractor from rolling when parked or left unattended.
- To engage parking brake, shift into neutral, depress clutch/brake pedal and pull parking brake knob out, then release clutch/brake pedal. Parking brake lock is disengaged by depressing clutch/brake pedal. (Refer to Adjustments Section if parking brake does not function properly.)



1. Parking Brake Knob
2. Clutch/Brake Pedal

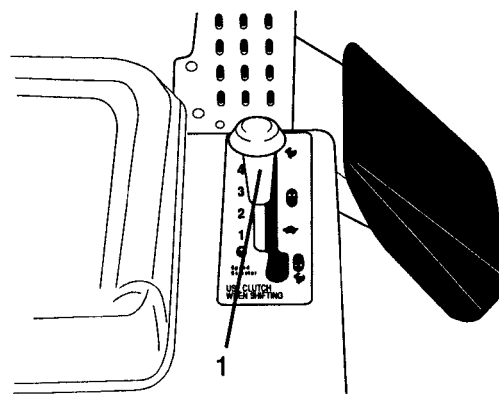
Figure 4: Parking Brake Lever

Travel Speed Selector (Gear Drive)



- Travel Speed Selector lever is used to select neutral (N) or gears in tractor transaxle that provided six forward speeds with one reverse speed. These speeds are shown on shift lever quadrant.
- First (1) speed is slowest and (6) indicates fastest forward speed.
- To start engine, Travel Speed Selector must be in neutral (N).

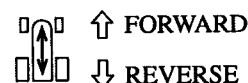
IMPORTANT: DO NOT force Speed Selector lever if gear does not engage. Apply slight pressure on lever while releasing Clutch Pedal.



1. Travel Speed Selector

Figure 5: Speed Selector (Gear Drive)

Speed Selector (Hydro)



- Forward is controlled by depressing forward pedal to increase speed.
- Reverse is controlled by depressing reverse pedal to increase speed.
- When you remove your foot from the forward or reverse pedals, tractor will stop (neutralize) if cruise control switch is not in the on position (light on).

Cruise Control (Hydro)



To fix speed: depress forward pedal to the desired speed, press the rocker switch into the spring loaded "ON" position (light on will go on), and release to the "RUN" position (Figure 2). Your speed from 0 to 3 MPH will be maintained. To disengage cruise: push switch off or depress the clutch/brake pedal.



CAUTION: If the forward (reverse) pedal is repositioned while the cruise indicator light is on, the cruise will reset at the new speed and/or direction selected.

Transmission Disconnect (Hydro)



IMPORTANT: DO NOT push or pull (tow) tractor with another vehicle as transmission damage will occur. When transporting, use truck or trailer.

Operation (Continued)

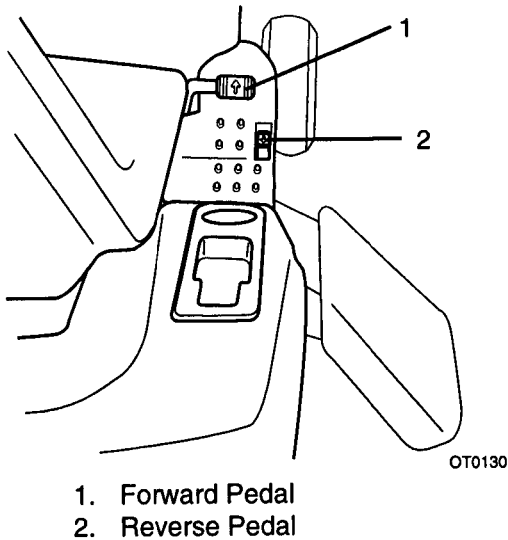


Figure 6: Speed Selector (Hydro)

IMPORTANT: When starting engine, in below freezing temperatures (32 degrees F or below), in its disconnect position. allow engine to warm up, then slowly engage Transmission Disconnect and allow transmission to warm up before applying load.

- To disconnect transmission, pull disconnect control rod rearward and lock in slot. To engage, slowly release forward. See figure 2.
- Place transmission disconnect in its disconnect position to push tractor short distances with engine stopped. After pushing tractor, apply Parking Brake and engage transmission disconnect.

Attachment Lift



- To raise attachment, (mower deck) depress thumb button, on attachment lift lever located on left side of rear deck, raise lever to position and release button.
- To lower mower deck, depress thumb button and slowly allow lever to move downward until mower deck is at desired height. Anti-scalp rollers must be adjusted for desired height. See Adjustment Section. For other attachments, refer to Attachment Manual.

Electric PTO



DANGER: Failure of interlock, together with improper operation of unit, could result in severe personal injury. Engine must not start unless Implement Power is disengaged (Off).



WARNING: Keep hands, feet, hair and clothing away from rotating parts.

- To engage Implement Power, lift switch up to (On) position to start attachment rotation. To disengage, push switch down (Off) position to automatically apply blade brake and stop attachment rotation.

Light Switch



CAUTION: Operate equipment only with good visibility and light.

With key in run position, flip light switch forward to turn headlights on and push switch rearward to turn them off. (Lights on tractor will not light unless engine is running, except on tractors with 15 hp and up).

Stopping (Gear Drive)

- To stop, depress clutch/brake pedal, move speed selector to neutral, disengage Implement Power (Off), lower attachment, engage parking brake lock and then release pedal.
- Lower engine speed to idle, and allow engine to idle for a few minutes so that engine parts can cool evenly before shutting engine off.
- Turn Ignition Key counterclockwise to stop engine and remove key.



CAUTION: Remove Ignition Key to prevent accidental starting or unauthorized use of tractor.

Operation (Continued)

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.

Stopping (Hydro)

- To stop, disengage cruise and/or remove foot from pedal, disengage Implement Power (Off), lower attachment, and engage Parking Brake.
- Lower engine speed to idle, and allow engine to idle for a few minutes so that engine parts can cool evenly before shutting engine off.
- Turn Ignition Key counterclockwise to stop engine and remove key.

Operating Tips

- The following tips will help you to mow safely, achieve maximum performance from your yard tractor and maintain the appearance of your lawn.
- Be sure your mower blade(s) is/are 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 rotary 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 through 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 rotary 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 rotary mower pan or discharge while engine is running. Disengage Implement Power (Off), stop engine, remove key, wait for moving parts to stop before attempting to clean away any obstruction.

- Grass should be cut when it is dry; not when it is wet from dew, rain or from watering. Wet grass tends to pack inside mower pan and will not discharge, mulch or bag 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.

Operation (Continued)

- 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.
- Proper adjustment of anti-scalp wheels is important for obtaining smoothest appearing cut especially over uneven terrain. Refer to Adjustments Section for recommended positions.
- Slow down when making turns. Short, fast turns can cause scuffing (outside front tire slides and pulls out grass), step type cutting or some grass may not be 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.

- 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

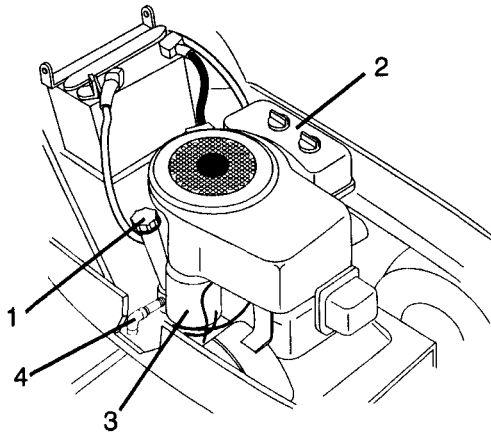
Ariens dealers will provide any service which may be required to keep tractor operating at peak efficiency. Should engine or transaxle service be required, it can be obtained from an Ariens dealer or an authorized engine or transaxle manufacturer's service center.



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 tractor parts which are hot from operation. Allow such parts to cool before servicing unit.



OT0080

1. Oil Fill and Dipstick
2. Air Filter
3. Starter Motor
4. Oil Drain

Figure 7: Engine Components and Battery

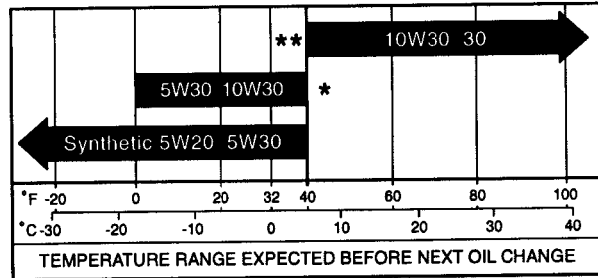
Engine Oil

Use a high quality oil classified for Service SF or SG. 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.

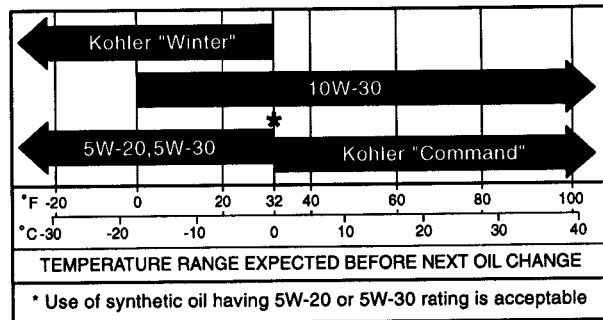
Chart from engine manufacturers instructions.

RECOMMENDED SAE VISCOSITY GRADES Briggs and Tecumseh Engines



OT0811

Kohler Engines



OT0800

* Air cooled engines run hotter than automotive engines. Use of multi-viscosity oils (10W-30, etc.) above 40°F (4°C) will result in high oil consumption. Check oil level more frequently if using these types of oils. Refer to engine manufacturers manual for recommended oil.

** SAE 30 oil, if used below 40°F (4°C), will result in hard starting and possible engine bore damage due to inadequate lubrication.

Checking Oil

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

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

Turn cap, remove dipstick from engine and wipe oil off dipstick. Insert dipstick into filler tube 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 and 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.

Lubrication and Maintenance (Continued)

Changing Oil

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 cap. After oil has drained, replace cap and lift hood.

Remove oil fill cap and dipstick. Pouring slowly, fill crankcase with oil. (See specifications section for amount of oil). Check oil level with dipstick, making sure you replace dipstick and tighten cap firmly.

Air Cleaner

IMPORTANT: Never run engine without complete air cleaner installed on engine.

Foam Filter

Clean and reoil every three (3) months or every 25 operating hours. Clean and reoil daily if used in extremely dusty conditions.

Wash in water and detergent solution and squeeze (don't twist) until all dirt is removed. Rinse thoroughly in clear water. Wrap in a clean cloth and squeeze (don't twist) until completely dry. Saturate with engine oil and squeeze (don't twist) to distribute oil and remove excess oil.

Paper Filter

Do not attempt to clean or oil filter. Replace once a year or every 100 operating hours, more often if used in extremely dusty conditions.

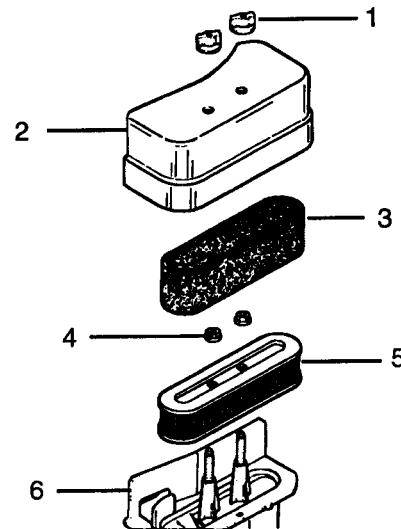
Replacement filters are available at any Authorized Tecumseh Service Outlet.

Remove and Install Filter

Remove wing nuts and cover. Slide Filter A off Filter B.

Inspect filter(s) for discoloration or dirt accumulation. If either is present, service per preceding "Service Filter" instructions. Remove nuts and Filter B.

Discard Filter B and nuts (if service is necessary). Clean inside of cover and body thoroughly. Install new Filter B and new nuts. Tighten nuts finger tight and then turn one (1) more complete turn. Slide foam filter over paper filter. Install cover and wing nuts. Tighten wing nuts.



- | | |
|--------------------|---------------------|
| 1. Wing Nuts | 4. Nuts |
| 2. Cover | 5. Filter B (Paper) |
| 3. Filter A (Foam) | 6. Body |

Figure 8: Air Cleaner

Oil Filter

Oil filter (14, 15, 16 HP models only) should be changed at every other oil change.

To change oil filter, drain engine crankcase and then remove old filter.

Before installing replacement filter, apply a thin coating of oil on surface of rubber seal. Also, clean filter adapter gasket surface.

Turn filter clockwise until rubber seal contacts filter adapter, then tighten filter an additional 2/3 to 3/4 turn.

Fill engine crankcase with new oil of the proper type to "F" mark on dipstick.

NOTE: Oil filter requires an additional 1/2 pint of oil.

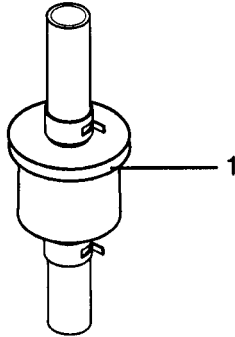
Start engine and check for oil leakage around filter and at drain plug.

Lubrication and Maintenance (Continued)

Fuel Filter



WARNING: Gasoline is flammable and must be handled with care. **DO NOT** allow open flame, matches or smoking in area. Wipe up any spills. Use approved (RED) fuel container.



1. Fuel Filter

Figure 9: Fuel Filter

Fuel filter should be replaced every season.

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.



CAUTION: Use non-flammable solvent to clean parts - **DO NOT** use gasoline.

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.

NOTE: Sparking can occur if wire terminal does not fit firmly on spark plug. Reform terminals if necessary.

Muffler

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

Transaxle (Gear and Hydro)

Unless there are indications of leakage, transaxle does not have to be checked for proper oil level. If leakage occurs, have leak repaired by your Ariens Dealer.

Battery



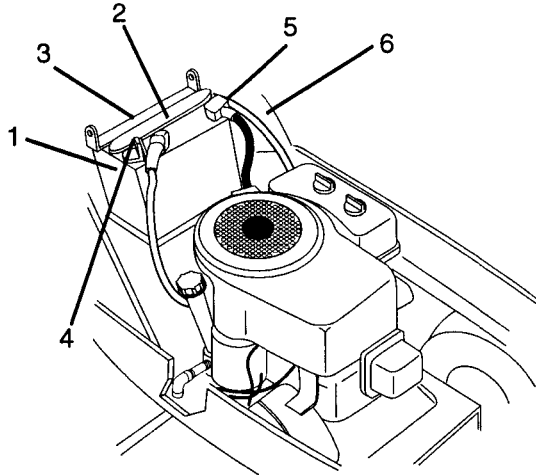
WARNING: Batteries product explosive gases which can cause personal injury. **DO NOT** allow flames, sparks or any ignited object to come near battery. When charging or working near a battery, always shield your eyes and provide ventilation.



CAUTION: 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, egg or vegetable oil. Call a physician immediately.

Lubrication and Maintenance (Continued)

Every 25 hours or each week check electrolyte level of each cell by removing battery cover. The electrolyte level should be at level indicator. Use distilled water to fill each cell if needed. Install battery cover after checking.



OT0080

- | | |
|----------------------|--------------------------|
| 1. Battery | 4. Positive Terminal (+) |
| 2. Battery Cover | 5. Negative Terminal (-) |
| 3. Battery Hold Down | 6. Vent Hose |

Figure 10: Battery

IMPORTANT: When distilled water is added to battery during freezing weather, battery 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 maintain 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 tractor by removing cables. Remove battery strap and lift battery out. Clean or service battery 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 tractor, remove vents, and charge at a rate of 4 to 6 amps for 10 hours on a fully discharged battery. (Specific Gravity reading of 1260 plus or minus 5 points on all cells.)

IMPORTANT: DO NOT fast charge. Charging at a higher rate will damage or destroy 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.

General Lubrication

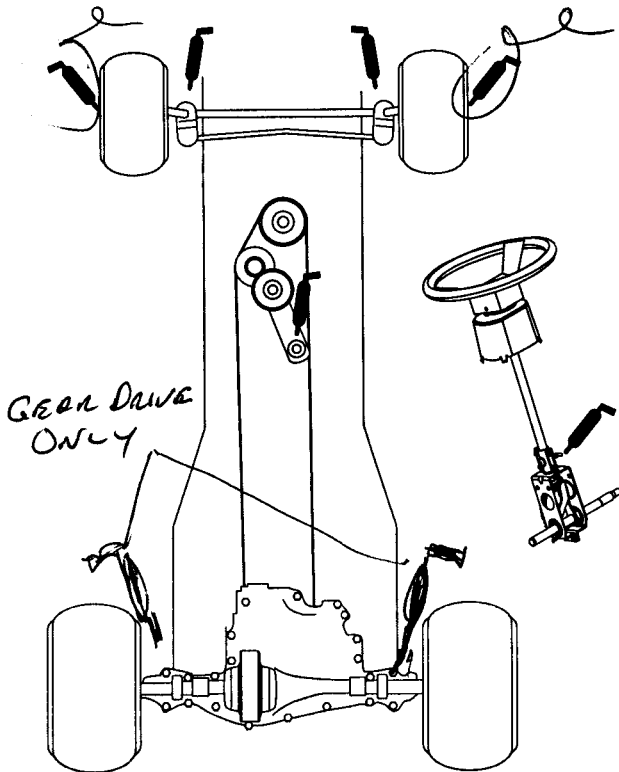
IMPORTANT: Wipe each grease zerk fitting clean before and after lubrication. Keep grease and oil off belts to avoid slippage and deterioration.

NOTE: Use **Sten Mix** Hi-Temp Grease or equivalent. Order P/N: 00036800 - Three pack of 3 oz. cartridges or P/N 00036700 - 10 pack of 14 oz. cartridges. Use a good grade of general purpose oil at lubrication points.

The steering system, front axle and wheels, brake/clutch shaft support and pivot points should be lubricated every 50 hours of operation, or every 3 months, whichever occurs first.

Lubrication and Maintenance (Continued)

Grease fittings are indicated below. Oil pivot points on brake, clutch and mower deck linkage as needed. Hydrostatic transaxles do not have grease fittings.



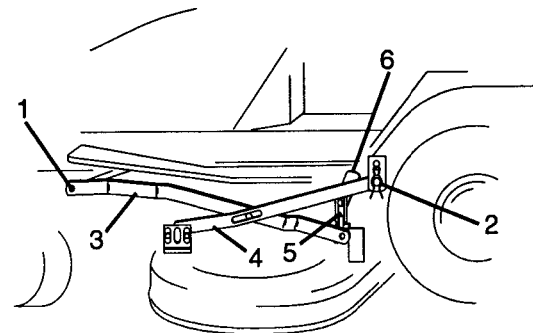
Remove the mower belt from the electric clutch.

Turn the front tires all the way to the left (opposite the mower discharge side).

Remove the supports from underneath the mower deck.

Remove the mower deck by sliding it out between the tractor's RH front and rear tires.

To install the rotary mower, install in the reverse order with the exception of installing the mower belt last.



1. Front Pin
2. Hair Pin
3. Front Lift Arm
4. Rear Hanger
5. Height Adjuster
6. Lift Lever Hook

Rotary Mower Removal

Place (2) supports approximately 1 1/2 inches high (the thickness of a 2" x 4") under the RH and LH side of the mower deck.

Lower the mower deck onto the supports thus relieving all the mower deck's weight from the tractor's lift system.

Disconnect the mower rear hangers by pulling the hair pins out of the tractor mount lugs.

Slide the mower deck forward enough to remove the front pin and front lift arms from the tractor front hooks.

Remove the mower height adjusters from the tractor lift lever hooks.

Figure 11: Rotary Mower Removal

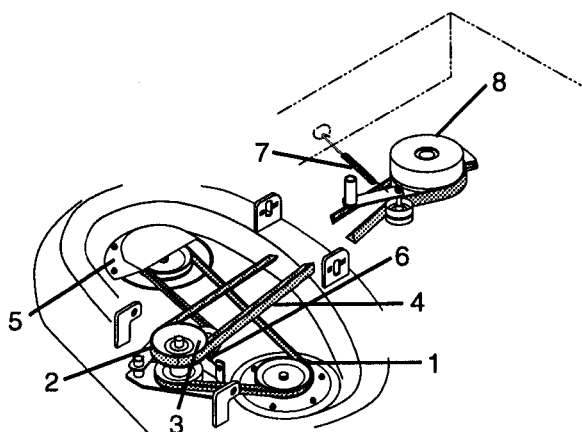
Rotary Mower Belt Replacement

To replace the belt on the mower deck, first remove mower drive belt per instructions and then disconnect the idler spring from the spring mount post welded to the mower deck.

Remove the sheave cover on the LH sheave.

Remove the old belt from the mower deck and install the new belt in the reverse order. Be sure that the belt is seated in all pulley grooves.

Lubrication and Maintenance (Continued)



- | | |
|---------------------|-----------------------|
| 1. Mower Belt | 5. Sheave Cover |
| 2. Drive Pulley | 6. Mower Idler Spring |
| 3. Idler | 7. Main Idler Spring |
| 4. Mower Drive Belt | 8. Electric Clutch |
- 48" Deck with 3 Spindles (Not Shown)

Figure 12: 40" & 48" Mower Belt Replacement

Mower Drive Belt



WARNING: Stop engine, remove key and remove wire from spark plug before attempting to replace belts.

Disconnect main idler spring from frame and remove belt from electric clutch and mower pan.



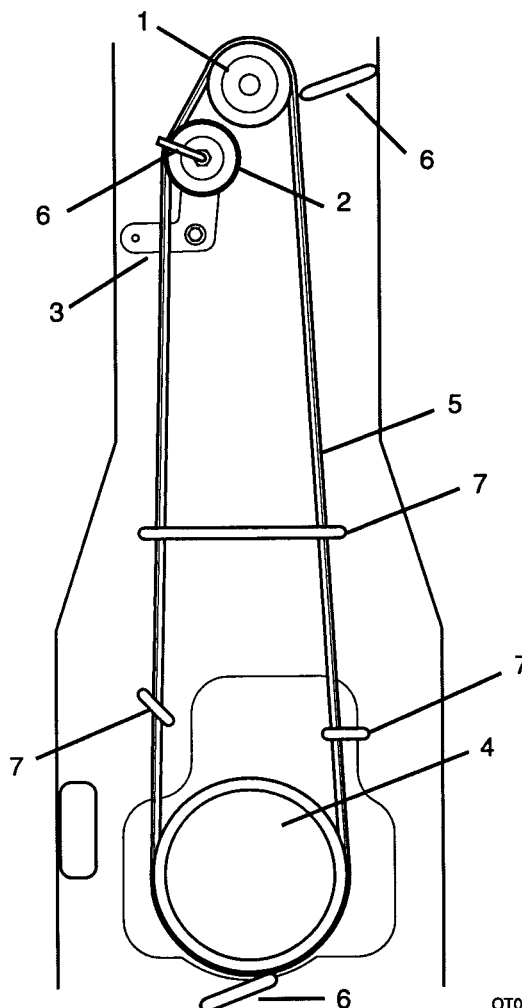
CAUTION: Stored energy in spring can cause injury.

Install new belt in reverse order, checking for belt alignment and clearance.

Traction Drive Belt (Gear Drive)



WARNING: Stop engine, remove key and remove wire from spark plug before attempting to replace belts.



OT0051

1. Engine Sheave
2. Vee Idler
3. Clutch Idler Arm
4. Transaxle Pulley
5. Traction Drive Belt
6. Belt Finger (3)
7. Belt Guide (3)

Figure 13: Traction Drive Belt (Gear Drive)

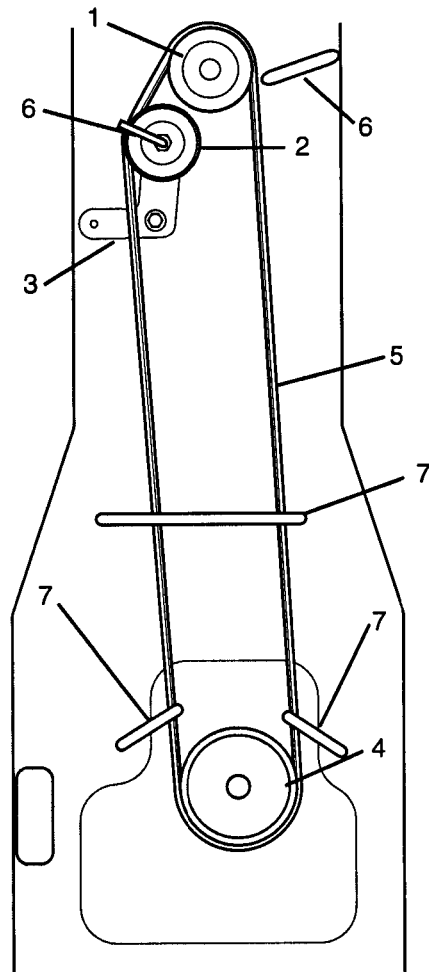
Lubrication and Maintenance (Continued)

Loosen hardware securing belt fingers at idler and pulleys, depress clutch/brake pedal and remove belt from idler and pulleys. Install new belt in reverse order and secure belt finger hardware with 1/16" to 1/8" clearance between belt fingers and belt.

Traction Drive Belt (Hydro)



WARNING: Stop engine, remove key and remove wire from spark plug before attempting to replace belts.



- 1. Engine Sheave
- 2. Vee Idler
- 3. Clutch Idler Arm
- 4. Transaxle Pulley
- 5. Traction Drive Belt
- 6. Belt Finger (2)
- 7. Belt Guide (3)

OT0061

Figure 14: Traction Drive Belt (Hydro)

Loosen hardware securing belt fingers at idler and pulleys, depress clutch/brake pedal and remove belt from idler and pulleys. Install new belt in reverse order and secure belt finger hardware with 1/16" to 1/8" clearance between belt fingers and belt.

Tires

NOTE: Keep tires properly inflated at all times. For proper tire inflation when working under various conditions, refer to chart below. Use a low pressure tire gauge for accurate pressure readings.

Loading

	Light & Medium	Heavy (Sno-Thro)
Front	10 psi	14 psi
Back	10 psi	10 psi

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.

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.

Mower Blade



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

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

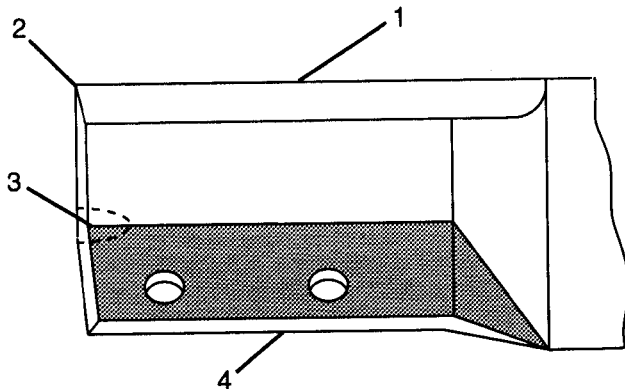


WARNING: Stop engine, remove key, wait for moving parts to stop and remove wire from spark plug before attempting any maintenance procedures.

Lubrication and Maintenance (Continued)



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



- | | |
|------------------|---------------------|
| 1. Cutting Blade | 3. Air Lift Erosion |
| 2. Square Corner | 4. Air Lift |

Figure 15: Mower Blade

When blade needs sharpening, block blade to prevent rotation and 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 to a square corner to within 1/8 of an inch of its end, replace blade with Ariens replacement blade only. Blades are available through your Ariens Dealer.

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

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

Lubrication and Maintenance (Continued)

Chart 1 shows the recommended service schedule that should be performed on a regular basis. More frequent service may be required due to working condition. (i.e. Heavy loads, high ambient temperatures, dusty conditions, or when airborne debris are present.) See the engine manual for maintenance instructions. Use chart 2 to record the actual hours on the hourmeter and the date at which each service item is performed.

MAINTENANCE SCHEDULE					
SERVICE PERFORMED	TIME INTERVALS BETWEEN SERVICE				
	DAILY	25 HRS.	50 HRS.	100 HRS.	500 HRS.
Check Safety Interlock System	●				
Check Engine Oil	●				
Check the Air Cleaner	●				
Clean and Recoil Foam Air Filter		●			
Change Engine Crankcase Oil		●			
Check Tire Pressure		●			
Check the Battery Fluid		●			
Check the Battery		●			
Check Fasteners and Brake Adjustment		●			
Check Mower and Drive Belts		●			
Lubricate All Pivot Points			●		
Grease Steering System and Front Axle Spindles			●		
Grease Mower Spindles			●		
Check Spark Plugs				●	
Replace Fuel Filter				●	
Clean Engine				●	
Replace Paper Air Filter				●	

Chart 1

Always use genuine Ariens service parts and accessories to ensure your machines peak performance.

Lubrication and Maintenance (Continued)

SERVICE TO BE PERFORMED		TIME INTERVALS BETWEEN SERVICE	
	375 HRS.		
	ACTUAL HOURS		
	DATE		
	400 HRS.		
	ACTUAL HOURS		
	DATE		
	425 HRS.		
	ACTUAL HOURS		
	DATE		
	450 HRS.		
	ACTUAL HOURS		
	DATE		
	475 HRS.		
	ACTUAL HOURS		
	DATE		
	500 HRS.		
	ACTUAL HOURS		
	DATE		
	525 HRS.		
	ACTUAL HOURS		
	DATE		
	550 HRS.		
	ACTUAL HOURS		
	DATE		
	575 HRS.		
	ACTUAL HOURS		
	DATE		
	600 HRS.		
	ACTUAL HOURS		
	DATE		
	625 HRS.		
	ACTUAL HOURS		
	DATE		
	650 HRS.		
	ACTUAL HOURS		
	DATE		
	675 HRS.		
	ACTUAL HOURS		
	DATE		
	700 HRS.		
	ACTUAL HOURS		
	DATE		

Chart 2

Lubrication and Maintenance (Continued)

SERVICE TO BE PERFORMED		TIME INTERVALS BETWEEN SERVICE	
	375 HRS.		
	ACTUAL HOURS		
	DATE		
	400 HRS.		
	ACTUAL HOURS		
	DATE		
	425 HRS.		
	ACTUAL HOURS		
	DATE		
	450 HRS.		
	ACTUAL HOURS		
	DATE		
	475 HRS.		
	ACTUAL HOURS		
	DATE		
	500 HRS.		
	ACTUAL HOURS		
	DATE		
	525 HRS.		
	ACTUAL HOURS		
	DATE		
	550 HRS.		
	ACTUAL HOURS		
	DATE		
	575 HRS.		
	ACTUAL HOURS		
	DATE		
	600 HRS.		
	ACTUAL HOURS		
	DATE		
	625 HRS.		
	ACTUAL HOURS		
	DATE		
	650 HRS.		
	ACTUAL HOURS		
	DATE		
	675 HRS.		
	ACTUAL HOURS		
	DATE		
	700 HRS.		
	ACTUAL HOURS		
	DATE		

Always use genuine Ariens service parts and accessories to ensure your machines peak performance

Chart 2 (Continued)

Adjustments

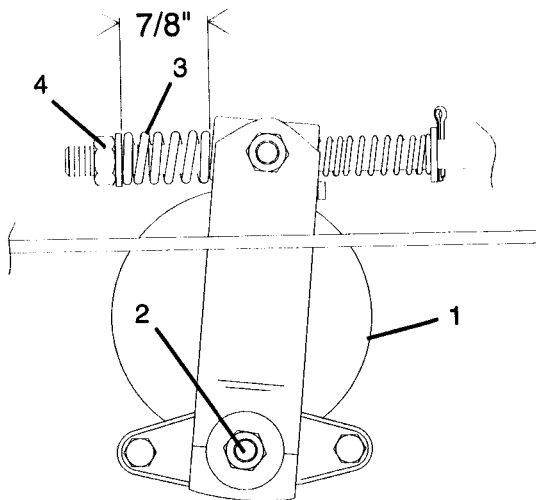
Ariens recommends that you have adjustments made by your Ariens dealer. Your dealer has the knowledge and tools to properly perform adjustments which may be required to keep your equipment operating at peak efficiency. Should you decide to make the following adjustments on your unit yourself, Ariens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



WARNING: Lower attachment, engage parking brake, stop engine, remove key, wait for moving parts to stop before leaving operators position and attempting to make any adjustments.

Disc Brake (Gear Drive)

- The brake was factory set.
- Disc Brake is located on lower right side of transaxle.
- To adjust, tighten adjustment nut until it stops. With wheel off ground, back off until rear wheel brake drag is eliminated.

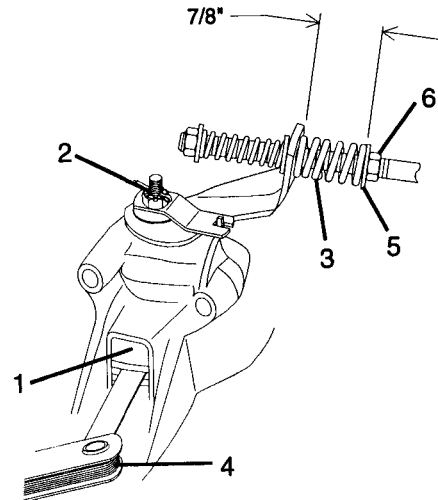


1. Disc Brake
2. Adjustment Nut
3. Compression Spring .78" OD x 1" Long
4. Jam Nut

Figure 16: Disc Brake Adjustment (Gear Drive)

Disc Brake (Hydro)

- The brake was factory set for a specific running clearance.
- To check for proper setting, place a feeler gage between the two discs. With clutch/brake pedal released there should be from 0.015" to 0.025" clearance. If the clearance is not correct, make the necessary change with the castellated nut.



1. Disc Brake
2. Castellated Nut w/Cotter Pin
3. Compression Spring - .78" OD x 1" Long
4. Feeler Gage
5. Washer
6. Nylon Lock Nut

Figure 17: Disc Brake Adjustment (Hydro)

Brake Spring

- The compression spring shown in figures 16 and 17 should be compressed to the length indicated with the brake in the on position (Park Brake Set). This adjustment is made by turning the jam nut (figure 16) or the nylon locknut (figure 17).

Seat

- Be sure all controls can be reached safely from operators position. To adjust seat, see seat in Operation Section, page 7.

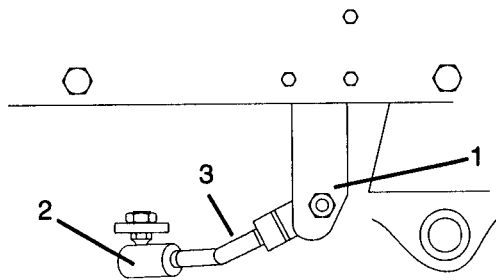
Adjustments (Continued)

Steering

- If looseness is noticed in steering system, check hardware for tightness and wear points for excessive wear. (Replace as needed.)
- Proper front wheel toe-in is necessary to assure proper steering and to reduce tire wear. Proper toe-in is when front of wheels are 1/16" to 1/8" closer together than rear of wheels (measured at horizontal center line of rim flange).
- If tractor wanders or excessive tire wear develops, toe-in should be checked. To correct toe-in, loosen jam nuts at tie rod ends, turn tie rod clockwise to decrease or counterclockwise to increase toe-in and tighten jam nuts.

Neutral Adjustments (Gear)

- Move speed selector so that transmission is in neutral. Remove one of the spring loaded ball joints and adjust link in or out to position the speed selector at neutral (N) in shift quadrant located on right side of rear deck. Removal of left rear tire may be helpful.

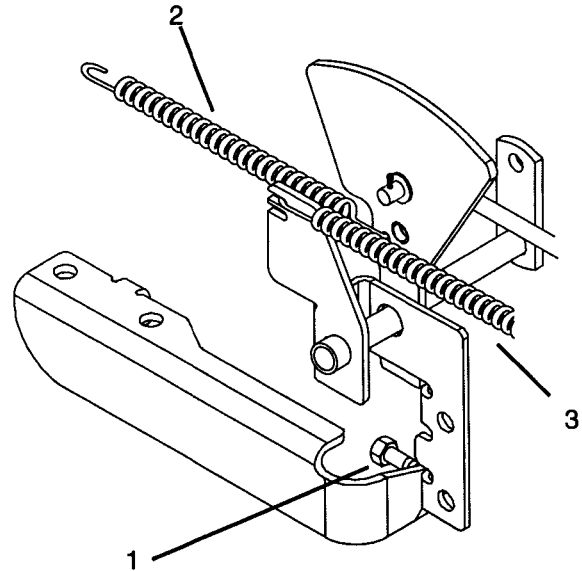


- OT0030
1. Speed Selector
 2. Ball Joint (2)
 3. Link

Figure 18: Speed Selector Adjustment

Hydro Neutral Adjustment

- With right rear wheel off ground, turn neutral adjustment bolt in or out to stop the wheel from rotating.
- Springs for forward and reverse can be positioned in upper hole and upper slot to increase force to return pedals to neutral.



OT0041

1. Neutral Adjustment Bolt
2. Spring-Forward
3. Spring-Reverse

Figure 19: Hydro Neutral Adjustment

Adjustments (Continued)

Mower Level (Side to Side)

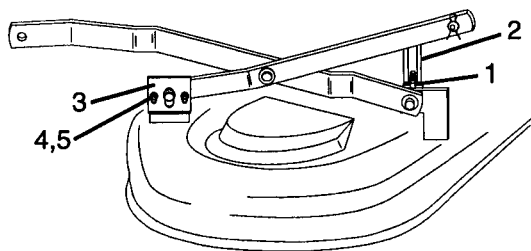


WARNING: Stop engine, remove key, wait for moving parts to stop and remove wire from spark plug before attempting the following adjustment procedures.



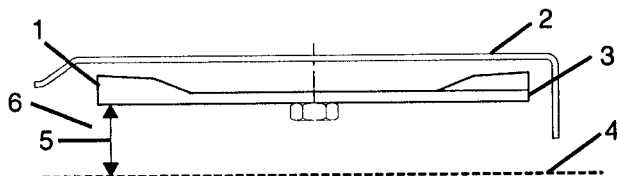
CAUTION: Use sturdy gloves or padding to protect hands when working with mower blade(s).

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.)



- | | |
|--------------------|-------------------|
| 1. Nut | 4. Carriage Bolt |
| 2. Height Adjuster | 5. Flangelock Nut |
| 3. Adjusting Tab | |

Figure 20: Mower Pan Leveling and Pitch

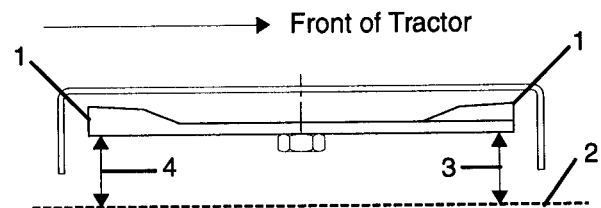


- | | |
|----------------|--------------------|
| 1. Cutting Tip | 4. Ground Level |
| 2. Mower Pan | 5. Cutting Height |
| 3. Blade | 6. Discharge Chute |

Figure 21: Mower Pan Leveling (Side to Side)

- With tractor positioned on a smooth, flat, level surface and tire pressure properly set, perform the following procedures in order of appearance. Refer to figure 20 and 21.

- With blade(s) positioned side to side, measure distance of blade(s) tips to floor at right and left side of mower pan. Rotate blade(s) 180 degrees and check again. The measurement should be equal within 1/8 of an inch side to side.
- To correct for difference in height of blade tips from side to side, loosen nut on height adjuster. Turn height adjuster clockwise on low side of mower pan to raise low side one half the difference in height. Turn height adjuster counterclockwise on high side to lower high side the other one half of the height difference.



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

Figure 22: Mower Level and Pitch

Mower Pitch and Height

- Proper blade pitch is when blade tip (measured from surface) is 1/8" to 1/4" lower at front of mower pan than when same tip is at rear of mower pan. To adjust pitch loosen flangelock nuts and slide adjusting tabs up or down to achieve proper pitch. Refer to figure 20 and 22.
- Adjusting height adjuster hooks equally raises or lowers mower pan and changes cutting height. To adjust, loosen upper nuts on hanger hooks and turn lower nuts equally clockwise to lower or counterclockwise to raise rear of rotary mower. With mower attachment lift in highest position front blade height should measure 4" from ground level.
- Secure hanger hooks in position by securely tightening nuts.

Adjustments (Continued)

Mower Attachment Lift

- Depress thumb pin and move attachment lift lever to rear for maximum cutting height (4"). Depress thumb pin and move attachment lift lever to forward position for lowest cutting height (1"). Intermediate positions allow selection of cutting heights between these values.

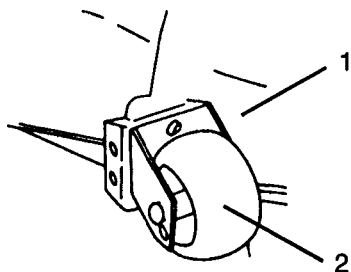
Anti-Scalp Rollers (40" Mower Pan)

- 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 frame suspended 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.

Anti-Scalp Rollers (48" Mower Pan)

- There is no adjustment necessary for the rollers on the 48" pan.

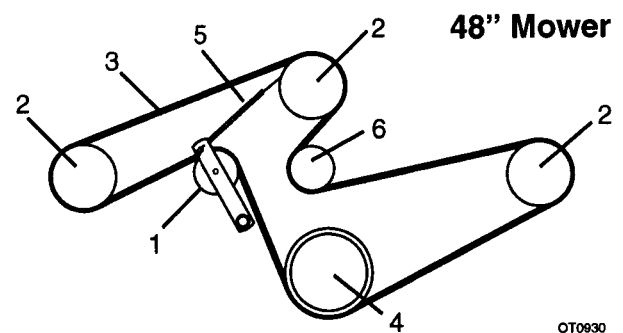
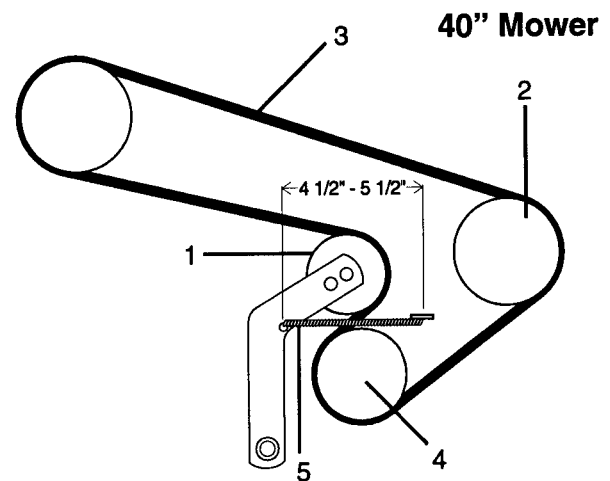


1. Mower Pan
2. Roller

Figure 23: Roller

Mower Belt

- The mower belt idler system is designed to provide constant tension on the belt. To maintain proper belt tension, the idler spring must be extended as shown. If the spring is extended less than 4 1/2", replace the belt on 40" mower. (See Rotary Mower Belt Replacement Section).



1. Idler
2. Mower Pulley
3. Mower Belt
4. Jackshaft Pulley
5. Idler Spring
6. Mower Idler Pulley

Figure 24: Mower Belts

Storage

Cleaning and Storage

IMPORTANT: NEVER spray unit with water or store unit outdoors to aid in prevention of rust or corrosion.

Water can seep into sealed bearings, which are sealed against dirt and debris only, causing reduced component life.

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 instruction in Lubrication and Maintenance Section of this manual.



CAUTION: Use non-flammable solvent to clean parts - DO NOT use gasoline.

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

If stored for over 30 days, disconnect the positive (+) cable from battery.

Service Manual

Service manuals are available for owners who wish to perform some of their own maintenance and service operations. Should a complete service manual be desired, order under the following part number.

When ordering parts always include the Model and Serial Number of your unit to assure prompt service. A parts manual is included in your literature package to make ordering of service parts easier.

Mail Request to:

**Ariens Service
655 West Ryan Street
P.O. Box 157
Brillion, WI 54110-0157**

936 Tractor

Service Manual

Part No. 00029800

Tractor Model Number _____
Tractor Serial Number _____

Trouble Shooting

1. Starter will not operate when the ignition key is turned to the "S" position.

Fwd-Rev lever in "FORWARD"/"REVERSE" position
PTO engaged
Defective solenoid switch
Blown fuse
Discharged battery
Loose battery cable(s)
Defective starter
Faulty interlock switch at clutch/brake pedal

2. Solenoid switch clicks but starter will not operate when the ignition is turned to the "S" position.

Discharged battery
Defective starter
Loose battery cable

3. Engine starter operates but engine will not start when the ignition switch is turned to the "S" position.

Fuel tank empty
Engine failure - See Engine Manual

4. Engine starts but runs roughly.

Restricted fuel cap vent
Engine carburetor malfunction - See Engine Manual
Engine choke in "ON" position
Restricted air cleaner element
Engine electrical system trouble - See Engine Manual

5. Engine stops when PTO or Fwd-Rev is engaged.

Operator presence seat switch not pressed
Faulty seat switch
Wiring to PTO switch incorrect

6. The tractor will not move when the direction control lever or pedal is moved to "FORWARD" or "REVERSE" position.

Gear shift lever in "NEUTRAL" position
Fwd-Rev clutch needs adjustment
Transmission disconnect is in the disengaged position.

7. Attachment will not operate.

PTO belt is off.

Specifications

Model No.	936014	936015	936016
Description Name	Sierra 1340G	Sierra 1440G	Sierra 1340H
Length	66.50"	66.50"	66.50"
Height	41.25"	41.25"	41.25"
Width	52.00"	52.00"	52.00"
Wheel Base	46.00"	46.00"	46.00"
Actual Weight	480 Lbs.	480 Lbs.	480 Lbs.
Battery	12 Volt 290 CCA.	12 Volt 290 CCA.	12 Volt 290 CCA.
Hour Meter	Optional (73600800)	Optional (73600800)	Optional (73600800)
Seat	Medium	Medium	Medium
Brakes	Disc.	Disc.	Disc.
Steering	Gear	Gear	Gear
Turning Radius	20"	20"	20"
Tire Size			
Front	15x6.00-6	15x6.00-6	15x6.00-6
Rear	20x8.80-8	20x8.00-8	20x8.00-8
Diagnostic Lights	No	No	Yes
Engine	OHV 13 HP	OHV 14 HP	OHV 13 HP
Manufacture	Tecumseh	Briggs	Tecumseh
Fuel and Capacity	Unleaded 3 Gal.	Unleaded 3 Gal.	Unleaded 3 Gal.
Idle R.P.M.	2100	1800	2100
Governed R.P.M.	3250	3250	3250
Crank Case Capacity w/ filter (Oil Filter)	39 Oz. (Yes)	56 Oz. (Yes)	39Oz. (Yes)
Air Cleaner	Paper Element Foam Precleaner	Paper Element Foam Precleaner	Paper Element Foam Precleaner
Charging Capacity	3/5AMP Unregulated	3/5 AMP Unregulated	3/5 AMP Unregulated
Fuel Filer	120 Micron	120 Micron	120 Micron
Engine Oil	2 1/2 GPA Capacity 5W30 Below 40° 30W Above 40°	2 1/2 GPA Capacity 5W30 Below 40° 30W Above 40°	2 1/2 GPA Capacity 5W30 Below 40° 30W Above 40°
Spark Plug Gap	.030 Champion RN-4C	.030 Champion RC12YC	.030 Champion RN-4C
Transmission	Peerless 206-517 6 Speed	Peerless 206-517 6 Speed	Hydrogear 325-0750
Speed - Forward Max.	0.8 - 5.5 MPH	0.8 - 5.5 MPH	0.0 - 5.5 MPH
Reverse Max	1.9 MPH	1.9 MPH	0.0 - 2.5 MPH
Transmission Lube	Grease	Grease	20W50 Oil
Drive Clutch	Belt Clutched	Belt Clutched	Belt Clutched
Axle Capacity	150 Ft. Lb.	150 Ft. Lb.	175 Ft. Lb.
Allowable Added Weight	130 Lb.	130 Lb.	130 Lb.
Rear Axle Maximum Load	450 Lb.	450 Lb.	568 Lb.
Tire Pressure With Loads			
Front/Rear - Light & Medium	10 PSI/10 PSI	10 PSI/10 PSI	10 PSI/10 PSI
Heavy (Sno Thro)	14 PSI/10 PSI	14 PSI/10 PSI	14 PSI/10 PSI
Lift System	Manual	Manual	Manual
Power Take Off - Front	Electric	Electric	Electric
Mower Pan	40"	40"	40"
Bagger 3 Bucket/1 Bag	836008/836007	836008/836007	836008/836007
Sno-Thro	836010	836010	836010
Dozer Blade	834034	834034	834034

Specifications (Continued)

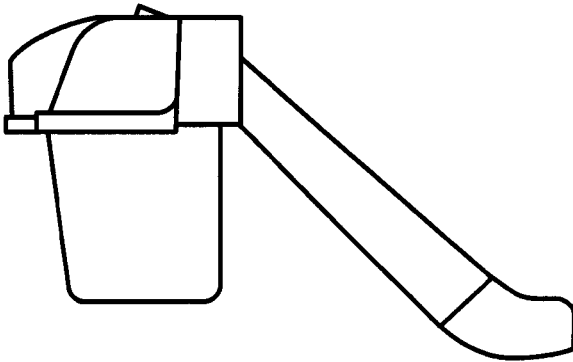
Model No.	936017: 936019	936018	936020
Description Name	Sierra 1440H: 1640H	Sierra 1540H	Sierra 1640H
Length	66.50"	66.50"	66.50"
Height	41.25": 42.00"	42.00"	42.00"
Width	52.00"	52.00"	52.00"
Wheel Base	46.00"	46.00"	46.00"
Actual Weight	480 Lb.	480 Lb.	480 Lb.
Battery	12 Volt 290 CCA.	12 Volt 290 CCA.	12 Volt 290 CCA.
Hour Meter	Optional (73600800)	Optional (73600800)	Optional (73600800)
Seat	Medium: High	High	High
Brakes	Disc.	Disc.	Disc.
Steering	Gear	Gear	Gear
Turning Radius	20"	20"	20"
Tire Size			
Front	15x6.00-6	15x6.00-6	15x6.00-6
Rear	20x8.00-8	20x8.00-8	20x8.00-8
Diagnostic Lights	Yes	Yes	Yes
Engine	OHV 14 HP: OHV 16 HP	OHV 15 HP	OHV 16 HP
Manufacture	Briggs	Kohler	Tecumseh
Fuel and Capacity	Unleaded 3 Gal.	Unleaded 3 Gal.	Unleaded 3 Gal.
Idle R.P.M.	1800	1800	2100
Governed R.P.M.	3250	3250	3250
Crank Case Capacity w/ filter (Oil Filter)	56 Oz. (Yes)	64 Oz. (Yes)	62Oz. (Yes)
Air Cleaner	Paper Element Foam Precleaner	Paper Element Foam Precleaner	Paper Element Foam Precleaner
Charging Capacity	3/5 AMP Unreg: 16 AMP Reg	15 AMP Regulated	16 AMP Regulated
Fuel Filer	120 Micron 2 1/2 GPA Capacity	120 Micron 2 1/2 GPA Capacity	120 Micron 2 1/2 GPA Capacity
Engine Oil	5W30 Below 40° 30W Above 40°	5W30 Below 32° 10W30 Above 32°	5W30 Below 40° 30W Above 40°
Spark Plug Gap	.030 Champion RC12YC	.030 Champion RC12YC	.030 Champion RN-4C
Transmission	Hydrogear 325-0750	Hydrogear 325-0750	Hydrogear 325-0750
Speed - Forward Max.	0.0 - 5.5 MPH	0.0 - 5.5 MPH	0.0 - 5.5 MPH
Reverse Max	0.0 - 2.5 MPH	0.0 - 2.5 MPH	0.0 - 2.5 MPH
Transmission Lube	20W50 Oil	20W50 Oil	20W50 Oil
Drive Clutch	Belt Clutched	Belt Clutched	Belt Clutched
Axle Capacity	175 Ft. Lb.	175 Ft. Lb.	175 Ft. Lb.
Allowable Added Weight	130 Lb.	130 Lb.	130 Lb.
Rear Axle Maximum Load	568 Lb.	568 Lb.	568 Lb.
Tire Pressure With Loads			
Front/Rear - Light & Medium	10 PSI/10 PSI	10 PSI/10 PSI	10 PSI/10 PSI
Heavy (Sno Thro)	14 PSI/10 PSI	14 PSI/10 PSI	14 PSI/10 PSI
Lift System	Manual	Manual	Manual
Power Take Off - Front	Electric	Electric	Electric
Mower Pan	40"	40"	40"
Bagger 3 Bucket/1 Bag	836008/836007	836008/836007	836008/836007
Sno-Thro	836010	836010	836010
Dozer Blade	834034	834034	834034

Specifications (Continued)

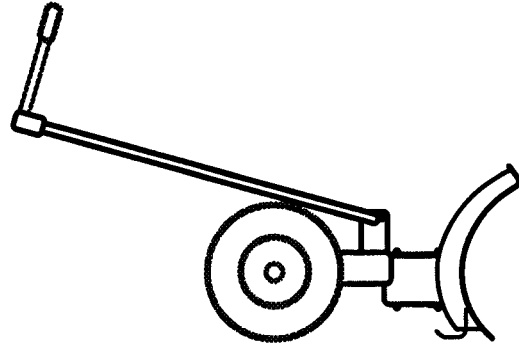
Model No.	936021
Description Name	Sierra 1648H
Length	66.50"
Height	42.50"
Width	52.00"
Wheel Base	46.00"
Actual Weight	518 Lb.
Battery	12 Volt 290 CCA.
Hour Meter	Optional (73600800)
Seat	High
Brakes	Disc.
Steering	Gear
Turning Radius	20"
Tire Size	
Front	15x6.00-6
Rear	20x8.00-8
Diagnostic Lights	Yes
Engine	16 HP V-Twin
Manufacture	Briggs
Fuel and Capacity	Unleaded 3 Gal.
Idle R.P.M.	1800
Governed R.P.M.	3400 Max
Crank Case Capacity	56 Oz.
(Oil Filter)	(Yes)
Air Cleaner	Paper Element
	Foam Precleaner
Charging Capacity	16 AMP Regulated
Fuel Filer	120 Micron
	2 1/2 GPA Capacity
Engine Oil	5W30 Below 40°
	30W Above 40°
Spark Plug Gap	.030 Champion RC12YC
Transmission	Hydrogear 312-0750
Speed - Forward Max.	0 - 5.0 MPH
Reverse Max	0.0 - 2.5 MPH
Transmission Lube	20W50 Oil
Drive Clutch	Belt Clutched
Axle Capacity	175 Ft. Lb.
Allowable Added Weight	130 Lb.
Rear Axle Maximum Load	568 Lb.
Tire Pressure With Loads	
Front/Rear - Light &	
Medium	10 PSI/10 PSI
Heavy (Sno	
Thro)	14 PSI/10 PSI
Lift System	Manual
Power Take Off - Front	Electric
Mower Pan	48"
Bagger 3 Bucket/1 Bag	N/A
Sno-Thro	836010
Dozer Blade	834034

Attachments

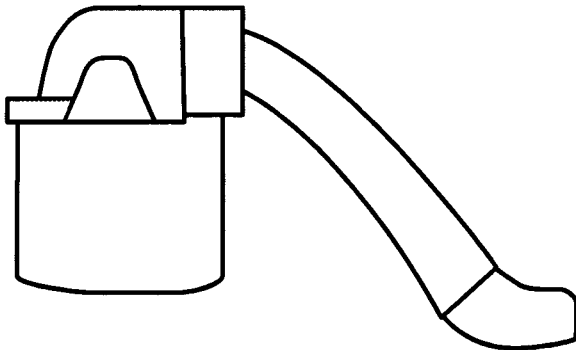
See your authorized Ariens dealer to these addition attachments
to your Tractor.



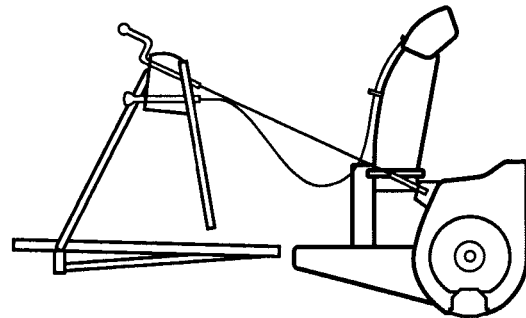
83600800 - 3 Bucket Bagger 40"



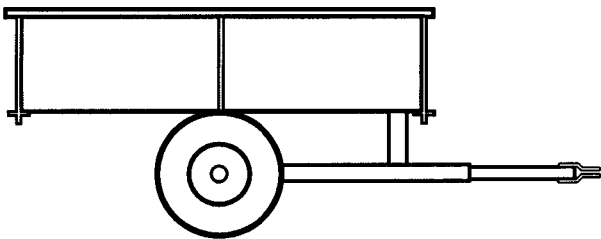
83403400 - 42" Front Blade



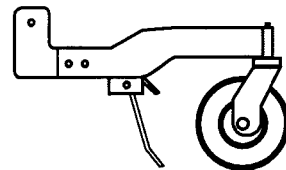
83600700 - Single Bag Bagger 40"



83601000 - 36" Sno Thro



83101700 - Ariens Trailer



73600700 - Dethatcher

OT0070

Accessories

Enhance your Tractor with these Ariens accessories

71099700	Sno-Thro Slicer Bar
73600900	Rear Mounted Weight Box
73600100	Mulching Kit 40"
73600200	Tire Chains 20 x 8-8 Tires
73600300	Rear Wheel Weights. - 40# Each.
73600700	Dethatcher
73600800	Hour Meter

Be sure to always use genuine Ariens parts to keep your tractor running like new.

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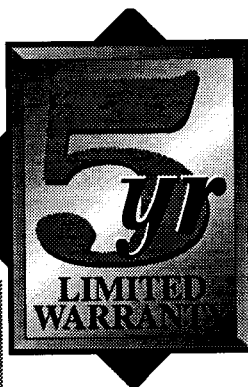
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Q U A L I T Y

Q U A L I T Y

P R O D U C T S

G U A R A N T E E



Ariens

Ariens Company hereby warrants to the original consumer purchaser that products manufactured by Ariens Company will be free from defects in material and workmanship FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF PURCHASE, EXCEPT AS NOTED BELOW.

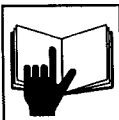
PROTECTION PLAN



- The Company will provide for the replacement of any part found upon examination by the Company to be defective. Such repair or replacement will be free of charge to the purchaser (labor and parts) for two years (24 months) from the date of purchase. Ariens manufactured parts (but not labor) will be free of charge for an additional three years (36 months) thereafter.

This warranty is subject to the following exceptions and limitations:

PURCHASER RESPONSIBILITIES



- Maintenance & minor adjustments per owners manual
- Notification of need for warranty service
- Transportation to/from place of warranty repair

PRODUCT REGISTRATION



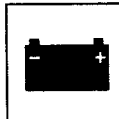
- Return of registration card required to validate warranty

PURCHASED COMPONENTS & NORMAL WEAR



- Two year** labor and parts on purchased components i.e., (tractor drive train components manufactured by Dana, Eaton, Foote, Sundstrand and any plastic and electrical components, wire harness, bags, boots, tubes, etc.).
- Two year** labor and parts on normal wear items i.e., (belts and rubber components, bearings, cables, controls, clutches, tines, etc.).

BATTERY WARRANTY PRORATED



- One to six months - free replacement**
- Seven to twelve months - 50% credit
- Thirteen to twenty-four months - 25% credit

WARRANTY - COMMERCIAL PRODUCTS



- One year** parts and labor
- Product labeled commercial/professional
- Household use - 5 year limited warranty applies



RENTAL USE - ALL PRODUCTS

- NINETY DAYS LABOR & PARTS

CONSUMER PRODUCT - PUT TO COMMERCIAL, INDUSTRIAL, INSTITUTIONAL USE

- NINETY DAYS LABOR & PARTS

SERVICE PARTS & ACCESSORIES

- NINETY DAYS LABOR & PARTS

SERVICE

- For warranty service, contact any Ariens Distributor or Dealer. For the name and location of the Ariens Distributor or Dealers in your area, and for further warranty information, write or call Ariens Company.

ENGINES, ENGINE ACCESSORIES, & PEERLESS PRODUCTS

- Covered only by manufacturer's warranty

EXCLUSIONS

- No warranty is extended to blades, mower vanes, skid shoes, runners, scraper blades, shear bolts, light bulbs, headlights and any equipment which has been altered, misused, misassembled, improperly adjusted, neglected, or damaged by accident.
- No warranty is extended for service completed by anyone other than an authorized distributor or dealer.
- No warranty is extended on any parts that are not genuine Ariens service parts.
- Ariens Company reserves the right to incorporate any changes in design into its products without obligation to make such changes on products previously manufactured.

DISCLAIMER OF FURTHER WARRANTY

There is no other express warranty. Implied warranties, including any warranty of merchantability or fitness for a particular purpose, are limited to the duration of this written warranty, and are excluded to the extent permitted by law. There are no warranties which extend beyond the description of the product contained herein. In no event shall the company be liable for indirect, special or consequential damages (such as loss of anticipated profits)

In connection with the consumer's use of the product. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitation and exclusions may not apply to you.



655 West Ryan Street • P.O. Box 157 • Brillion, WI 54110-0157 • 920-756-2141 • Fax 920-756-4421

***Ask Your Dealer For Information On
These Other Fine Ariens Products***

- **Front and Rear Tine Tillers**
- **Walk-Behind Lawn Mowers**
- **Zero-Turning Radius Mowers**
- **Rear Engine Riding Mowers**
- **Yard and Garden Tractors**
- **Commercial Walk-Behind and Riding Mowers**
- **Sno-Thros**