



Walk Behind Lawn Mower

Owner/Operator Manual

Manuel du Propriétaire/Utilisateur

Models

911170 – LM21P Classic
(SN 022000 +)

911193 – LM21SP Classic
(SN 022000 +)

911194 – LM21SPSW Classic
(SN 022000 +)



The use of any gasoline exceeding 10% ethanol (E10) or 10% MTBE will void the product warranty.

L'utilisation d'une essence contenant plus de 10% d'éthanol (E10) ou de 10% de MTBE annulent la garantie.



EN ENGLISH

FR FRANÇAIS

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INTRODUCTION

THE MANUAL

Before using the unit, carefully and completely read your manuals. The contents will give you an understanding of safety instructions and controls during normal operation and maintenance.

All reference to left, right, front, or rear are given from the operator's position, facing the direction of forward travel.

ENGINE MANUAL

The engine on this unit is covered by a separate manual specific to the engine. This manual is included in the literature package that shipped with the unit. Refer to this manual for engine service recommendations. If the engine manual is not available, contact the engine manufacturer for a replacement manual.

SERVICE AND REPLACEMENT PARTS

When ordering replacement parts or making service inquiries, know the Model and Serial numbers of your unit and engine.

Numbers are located on the product registration form in the unit literature package. They are also printed on a serial number label located on the frame of your unit. See Figure 1.

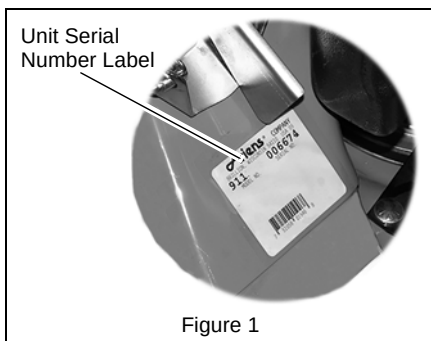


Figure 1

- Record unit model and serial numbers here:

- Record engine model and serial numbers here:

PRODUCT REGISTRATION

The Ariens dealer must register the product at the time of purchase. Registering the product will help the company process warranty claims or contact you with the latest service information. All claims meeting requirements during the limited warranty period will be honored, whether or not the product registration card is returned. Keep a proof of purchase if you do not register your unit.

Customer Note: If the Dealer does not register your product, please fill out, sign and return the product registration card to Ariens or go to www.ariens.com on the Internet.

UNAUTHORIZED REPLACEMENT PARTS

Use only Ariens replacement parts. Replacing any part on this vehicle with anything other than an Ariens authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Ariens disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts. To locate your nearest Ariens Dealer, go to www.Ariens.com on the Internet.

DEALER DELIVERY

Dealer should:

1. Check that all assembly and adjustments have been properly completed.
2. Fill out Original Purchaser Registration Card and return the card to Ariens.
3. Explain Ariens Limited Warranty Policy.
4. Explain recommended lubrication and maintenance. Advise customer on adjustments. Remind customer to change oil in 4 cycle engine crankcase after first five (5) hours of operation.
5. Instruct customer on controls and operation of unit. Discuss and emphasize the Safety Rules.

DISCLAIMER

Ariens reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not apply to your unit.

SAFETY



WARNING: This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the safety instructions in the manuals and on decals could result in serious injury or death.

Slopes are a major factor related to slip and fall accidents. Operation on all slopes requires extra caution.

Tragic accidents can occur if the operator is not alert to the presence of children. Never assume that children will remain where you last saw them.

Gasoline is extremely flammable and the vapors are explosive, handle with care.

Stop unit and engine, remove key (if equipped) and allow moving parts to stop before leaving operator's position.



CAUTION: POTENTIALLY HAZARDOUS SITUATION! If not avoided, MAY RESULT in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTATIONS

NOTE: General reference information for proper operation and maintenance practices.

IMPORTANT: Specific procedures or information required to prevent damage to unit or attachment.

SAFETY DECALS AND LOCATIONS

ALWAYS replace missing or damaged safety decals. Refer to Figure 2 for safety decal locations.

SAFETY ALERT SYMBOLS



These are safety alert symbols. They mean:

- ATTENTION!
- YOUR SAFETY IS INVOLVED!



When you see this symbol:

- BECOME ALERT!
- OBEY THE MESSAGE!

The safety alert symbols above and signal words below are used on decals and in this manual.

Read and understand all safety messages.



DANGER: IMMINENTLY HAZARDOUS SITUATION! If not avoided, WILL RESULT in death or serious injury.



WARNING: POTENTIALLY HAZARDOUS SITUATION! If not avoided, COULD RESULT in death or serious injury.



Figure 2

1. Safety Decal Description

1. DANGER!



DANGER!



Read and understand the operator's manual before operating unit.

1.1 Amputation Hazard



To avoid amputation hazard do not put hands near rotating blades.



To avoid amputation hazard do not put feet near rotating blades.



To avoid amputation hazard do not put hands of feet near moving belts.

1.2 Amputation Hazard



Keep hands and feet away from all rotating or moving parts.



Keep all guards and shields in place.

1.3 Discharge Hazard



Discharge Hazard – NEVER direct discharge toward people, pets or property. Thrown objects can cause injury or damage.



Keep children and others away from unit while unit is in operation.



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

1.4 Tipping Hazard



SERIOUS INJURY OR DEATH MAY RESULT FROM MACHINE ROLLOVER

- Failure to follow these instructions could result in serious injury or death
- Do not operate machine on steep slopes or near drop offs
- Avoid sharp and/or quick turns



DO NOT operate on slopes.



Look down and behind before and while moving backward.

2. DANGER!



ALWAYS Keep hands and feet away from discharge chute.

SAFETY RULES

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.

The following safety instructions are based on the B71.1 specifications of the American National Standards Institute in effect at the time of production.

Training
Read, understand, and follow all instructions on the machine and in the manuals before starting.
Be sure the area is clear of bystanders and pets before operating. Stop machine if anyone enters the area.
Improper use of power equipment can cause serious permanent injury or death to the operator or a bystander. Understand: • How to operate all controls • The functions of all controls • How to STOP in an Emergency If the operator or the mechanic cannot read the manual, it is the owner's responsibility to explain it to them.
Always train any inexperienced operators and require them to read and understand all manuals and decals.
Only allow responsible adults, who are familiar with the instructions, to operate this machine.
Only the user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

Operator Age
Do not allow children under the age of 18 to operate any outdoor power equipment.
Local regulations may restrict the age of the operator.

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.
Be alert and turn mower off if a child enters the area.

Never allow children to operate the machine.
Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.
Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator.

Personal Protection
DO NOT wear loose clothing or jewelry and tie back hair that may get caught in rotating parts.
Wear adequate outer garments.
Wear adequate safety gear and protective gloves.
Do not operate machine barefooted or while wearing sandals. Always wear substantial footwear.
Always wear eye and ear protection when operating machine.

Before Operating
Keep all nuts and bolts tight to be sure the equipment is in safe working condition.
Maintain the machine to be in compliance with the maintenance schedule.
Clean grass and debris from unit, especially from around muffler and engine, to help prevent fires.
Inspect unit before each use for missing or damaged decals and shields, correctly operating safety interlock system, and deterioration of grass catchers. Replace or repair as needed.
Ensure safety interlock system is functioning properly. Do not operate unit if safety interlock is damaged or disabled.
Never tamper with safety devices. Check their proper operation regularly. Never do anything to interfere with the intended function of a safety device or to reduce the protection provided by the safety device.
Keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel-soaked debris.

Operation	Do not pull machine backward unless absolutely necessary. Always look down and behind before and while moving backward.
Releasing the operator presence control (OPC) handle stops engine and blade within 3 seconds. Check this feature frequently. If feature fails to operate, disconnect spark plug wire and adjust as necessary or have the unit inspected and repaired by an authorized Ariens dealer before using.	Stop engine before removing grass catcher or unclogging chute.
Be sure the area is clear of bystanders before operating. Stop machine if anyone enters the area.	If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.
Never operate machine in a closed or poorly ventilated area.	Never leave a running machine unattended.
ALWAYS maintain unit in safe operating condition. Damaged or worn out muffler can cause fire or explosion.	Stop the engine (motor) and wait until the blade(s) comes to a complete stop before cleaning the machine, removing grass catcher, or unclogging the discharge guard.
This product is equipped with an internal combustion type engine. DO NOT use unit on or near any unimproved, forest-covered or brush covered land unless exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if it is used, must be maintained in effective working order by operator.	On self-propelled models, wheel drive must be disengaged when starting engine.
Do not operate machine while under the influence of alcohol or drugs.	On self-propelled models, releasing wheel drive control must stop mower's forward movement. If this feature fails to operate, disconnect spark plug wire and repair before using unit.
Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.	Operating Conditions
DO NOT touch parts which are hot. Allow parts to cool.	Watch for traffic when operating near or crossing roadways.
Do not operate machine without the entire grass catcher, discharge guard, or other safety devices in place and working.	Clear the area of objects such as rocks, wire, toys, etc., which could be thrown by the blades. Stay behind the handle when the engine (motor) is running.
Always keep hands and feet away from all pinch points.	Use care when approaching blind corners, shrubs, trees or other objects that may obscure vision.
Never operate mower in wet grass. Always be sure of your footing; walk; never run.	Dust, smoke, fog, etc. can reduce vision and cause an accident.
Never direct discharged material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator. Stop the blade(s) when crossing gravel surfaces.	Operate machine only in daylight or good artificial light.
Disengage the drive system, if so equipped, before starting the engine (motor).	See manufacturer's instructions for proper operation and installation of accessories. Only use accessories approved by the manufacturer.
If the machine should start to vibrate abnormally, stop the engine (motor) and check for the cause immediately. Vibration is generally a warning of trouble.	Slope Operation
Keep safety devices or guards in place and functioning properly. Never modify or remove safety devices.	Slopes are a major factor related to loss of control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution. If you feel uneasy on it, do not mow it.
	Mow across slopes, never up and down. Exercise caution when changing direction on slopes.
	Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could cause a slip and fall accident. Tall grass can hide obstacles.

Do not mow wet grass or excessive steep slopes. Poor footing could cause a slip and fall accident.
DO NOT operate near drop-offs, ditches, or embankments. You could lose your footing or balance.

Fuel

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.
Ethanol blends must not exceed E10. Higher ethanol content may cause your machine to run hotter and damage your engine.
Replace fuel cap securely and clean up spilled fuel before starting engine.
Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
Use only an approved gasoline container.
Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water or space heater or other appliances.
Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
Never fuel the machine indoors.
Never remove gas cap or add fuel with the engine running. Allow engine to cool before fueling.
Fuel is highly flammable and its vapors are explosive. Handle with care. Use only an approved gasoline container with an appropriately sized dispensing spout. NO smoking, NO sparks, NO flames.
Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment with a portable container, rather than from a gasoline dispenser nozzle.
Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until the fueling is complete. Do not use a nozzle lock-open device.
Never overfill fuel tank. Replace gas cap and tighten securely.
If fuel is spilled on clothing, change clothing immediately.

Accessories

Check grass catcher components and the discharge guard frequently and replace with the manufacturer's recommended parts, when necessary.
Use only Ariens Company-recommended attachments that are appropriate to your use and can be used safely in your application.

Batteries

Avoid Electric Shock. Objects contacting both battery terminals at the same time may result in injury and unit damage. DO NOT reverse battery connections.
No flames, No sparks, No smoking near battery.
ALWAYS wear safety glasses and protective gear near battery. Use insulated tools.
ALWAYS keep batteries out of reach of children.
Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Service

Maintain or replace safety and instruction labels, as necessary.
Keep unit free of debris. Clean up oil or fuel spills.
Do not change engine governor setting or overspeed the engine.
Never make any adjustments or repairs with the engine (motor) running. *Disconnect the spark plug wire and ground against engine to prevent unintended starting.
Allow engine to cool before servicing.
Moving parts can cut or amputate fingers or a hand. On multiblade mowers, rotation of one blade will cause all blades to rotate.
Never weld or straighten mower blades.
Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.

Transporting Unit

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

Secure unit chassis to transport vehicle. Never secure from rods or linkages that could be damaged.

Do not transport machine while engine is running.

ALWAYS stop engine and shut off fuel when transporting unit.

Storage

NEVER store unit with fuel in fuel tank, inside a building where any ignition sources are present.

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

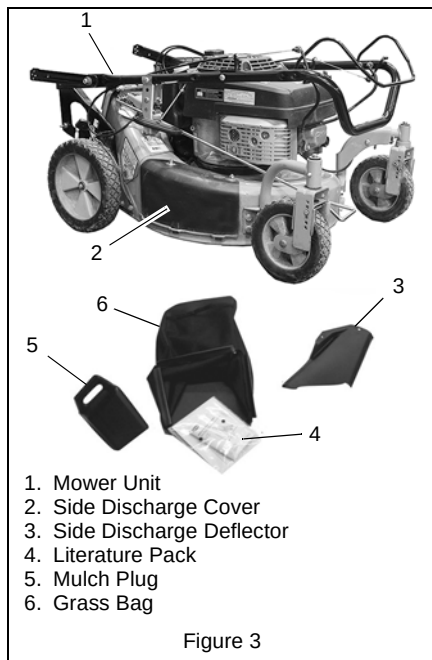
For extended storage, shut off fuel and clean unit thoroughly. See engine manual for proper storage.

ASSEMBLY



CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

CARTON CONTENTS



1. Mower Unit
2. Side Discharge Cover
3. Side Discharge Deflector
4. Literature Pack
5. Mulch Plug
6. Grass Bag

Figure 3

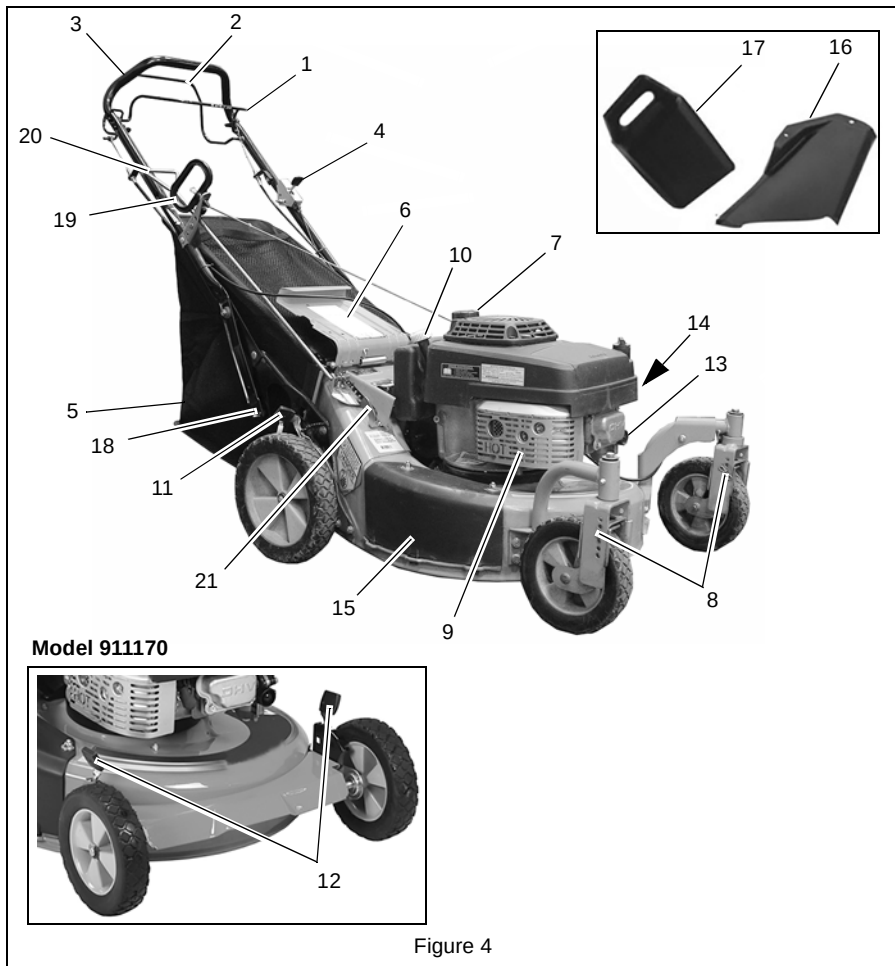
ASSEMBLY

1. Unfold and adjust handlebar. See *Handlebar Height* on page 19.

NOTE: DO NOT bend the speed control rod (if equipped) when unfolding the handlebars.

2. Check oil level. See engine manual.
3. Set-up mower for bagging, side discharge or mulching. See *Mower Set-Up* on page 14.
4. Fill fuel tank. See *Filling The Fuel Tank* on page 13.
5. Connect spark plug wire.
6. Check the operator presence control feature. Try starting the engine *without* the handle held against the handlebar. Engine must not start. If engine starts, stop engine by disconnecting spark plug while wearing gloves. Contact an authorized Ariens dealer for adjustment or repair. See *Operator Presence Control (OPC) Handle* on page 11.

CONTROLS AND FEATURES



- | | |
|---|--|
| 1. Operator Presence Control (OPC) Handle | 11. Rear Cutting Height Lever (2) |
| 2. Wheel Drive Control (Models 911193, 194) | 12. Front Cutting Height Levers |
| 3. Adjustable and Folding Handlebars | 13. Primer Bulb (Models 911193, 194) |
| 4. Swivel Wheel Lock (Model 911194) | 14. Air Filter |
| 5. Grass Bag | 15. Side Discharge Cover |
| 6. Rear Door | 16. Side Discharge Deflector |
| 7. Fuel Tank and Cap | 17. Mulchmaster™ Plug |
| 8. Height Adjustment Pins (Model 911194) | 18. Handlebar Adjustment Holes |
| 9. Muffler and Muffler Guard | 19. Recoil Starter Handle |
| 10. Oil Fill/Dipstick | 20. Speed Control Rod (Models 911193, 194) |
| | 21. Speed Selector Bracket |

OPERATION

CONTROLS AND FEATURES

See Figure 4 for locations.



WARNING: Improper operation can lead to injury. Learn what the controls do and how they work. Thoroughly read and understand entire Operator Manual.



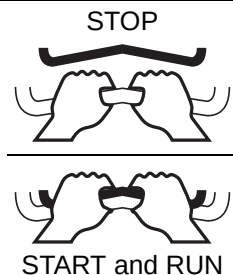
CAUTION: AVOID INJURY. Read and understand the entire Safety section before proceeding.

Operator Presence Control (OPC) Handle



CAUTION: Check function of operator presence control handle regularly. Improper function of control could cause injury.

The OPC handle must be held against the handlebar to start the engine and blade.



IMPORTANT: Releasing the operator presence control handle stops engine and blade within 3 seconds. Check this feature frequently. If feature fails to operate, disconnect spark plug wire and adjust as necessary or have the unit inspected and repaired by an authorized Ariens dealer before using.

Handlebar

Adjust handlebar to a safe and comfortable height. See *Handlebar Height* on page 19.

Recoil Starter Handle

When pulled, handle will turn engine over.

CUTTING HEIGHT ADJUSTMENT



DANGER: Avoid injury from rotating blade. ALWAYS shut off engine before adjusting cutting height.



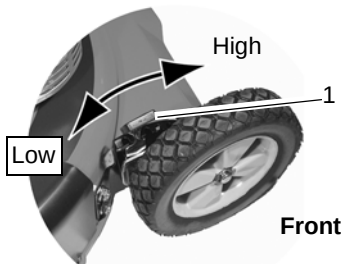
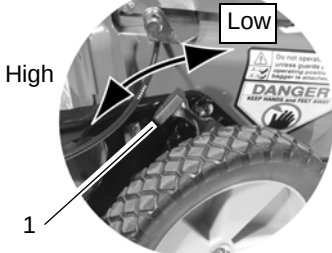
CAUTION: On self-propelled models, both rear wheels must be set at same height or traction drive may not work properly.

Models 911170, 193

To change cutting height, move cutting height levers one notch at a time on each wheel to set desired height (Figure 5).

NOTE: Each wheel on mower must be set at the same height for a level cut.

Rear



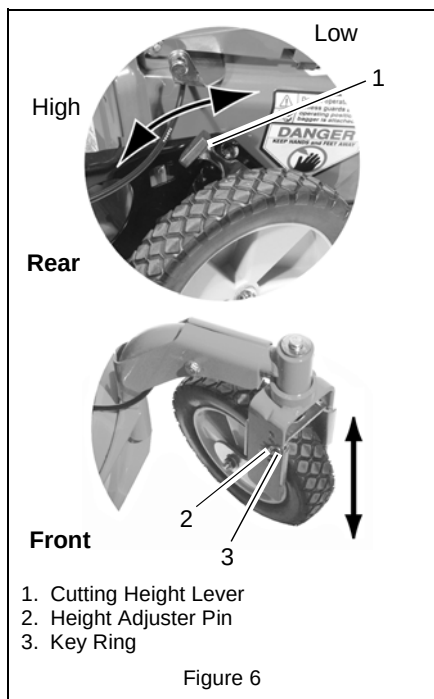
1. Cutting Height Lever

Figure 5

Model 911194

To change front wheel cutting height, insert height adjuster pin into the holes that match the desired cutting height and fasten with key ring (Figure 6).

To change rear wheel cutting height, move cutting height lever one notch at a time to set the desired cutting height.



OPTIONAL CONTROLS

Primer Bulb

Models 911193, 194

Push the primer bulb in to add fuel for easier engine start.

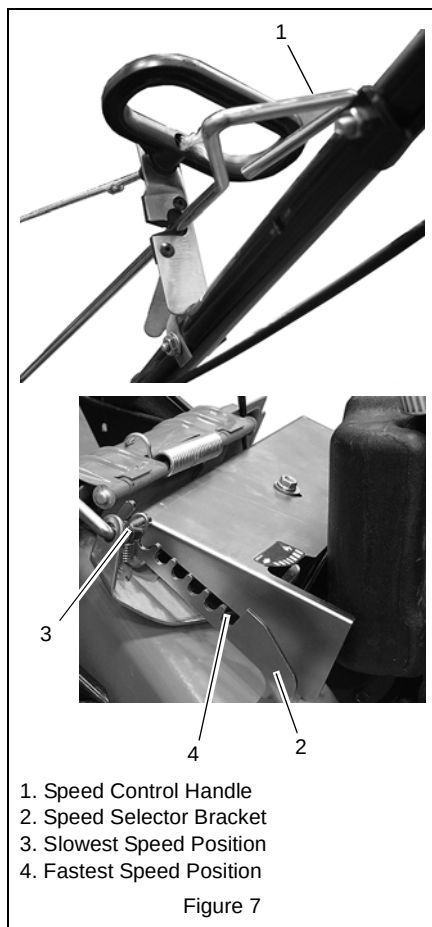
Speed Control

Models 911193, 194

The speed control rod changes the mower's forward travel speed.

To change speed:

1. Twist handle to rotate rod end away from speed selector bracket.
2. Move rod up or down to desired speed position. See Figure 7.
3. Release handle.



Wheel Drive Control

Models 911193, 194



CAUTION: Unit will move forward at engine start if wheel drive control is engaged. ALWAYS release wheel drive control before starting unit.

See Figure 8.

NOTE: Engine must be running for wheel drive to propel unit.

To drive forward, slowly squeeze and hold wheel drive control against handlebar. To change speed, see *Speed Control* on page 12.

To stop, release wheel drive control.

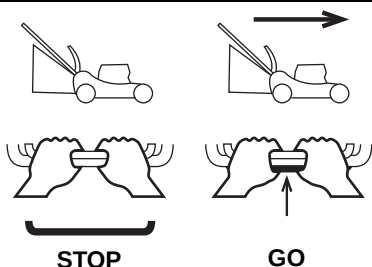


Figure 8

Swivel Wheel Lock

Model 911194



CAUTION: Avoid loss of control. Lock swivel wheels when mowing on a slope or hill. Do not mow on steep slopes.

See Figure 9.

To hold wheel straight:

1. Push swivel wheel lock forward.
2. Push unit forward until wheel locks in place.

To allow wheel to swivel:

1. Pull swivel wheel lock back.

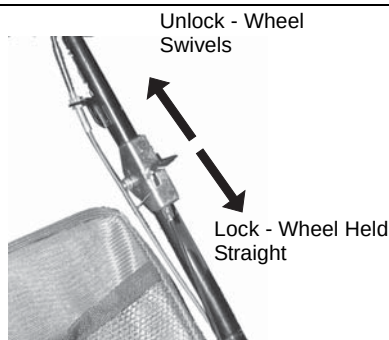


Figure 9

FILLING THE FUEL TANK

GASOLINE

IMPORTANT: ALWAYS use gasoline that meets the following guidelines:

- Clean, fresh gasoline.
- A minimum of 87 octane/87 AKI (91 RON). High altitude use may require a different octane. Consult your engine manual.
- Gasoline with up to 10% ethanol (gasohol) or up to 15% MTBE (methyl tertiary butyl ether) is acceptable.
- Use of any gasoline other than those approved above may void the engine warranty. If the pumps are not marked for the content of alcohol or ethers, check ethanol and MTBE levels with the fuel supplier.
- Do not modify the fuel system to use different fuels.
- Never mix oil and gasoline.

NOTE: All gasoline is not the same. If the engine experiences starting or performance problems after using a new gasoline, switch to a different fuel provider or fuel brand.

IMPORTANT: Excessively oxygenated or reformulated fuels (fuels blended with alcohols or ethers) can damage the fuel system or cause performance problems. If any undesirable operating problems occur, use a gasoline with a lower percentage of alcohol or ether.

Fuel Stabilizer

Gasoline left in the fuel system for extended periods without a stabilizer will deteriorate, resulting in gum deposits in the system. These deposits can damage the carburetor and the fuel hoses, filter and tank. Prevent deposits from forming in the fuel system during storage by adding a quality fuel stabilizer to the fuel. Follow the recommended mix ratio found on the fuel stabilizer container.

To add fuel to fuel tank:

1. Put unit in open or well-ventilated area.
2. Stop engine and allow to cool.
3. Clean fuel cap and surrounding area.
4. Remove cap.

IMPORTANT: See engine manual for correct type and grade of fuel.

5. Fill fuel tank (see *SPECIFICATIONS* on page 25 for tank capacity). Do not overfill.
6. Replace fuel cap and tighten.
7. ALWAYS clean any spilled fuel.

MOWER SET-UP



CAUTION: DO NOT operate mower unless either side discharge cover or side discharge deflector is installed. Thrown objects may cause damage or injury. Never operate unit with rear door open unless grass bag is in place.



CAUTION: If clog or obstruction prevents grass flow, release operator presence control handle and disconnect spark plug wire before attempting to clear away any clogs.

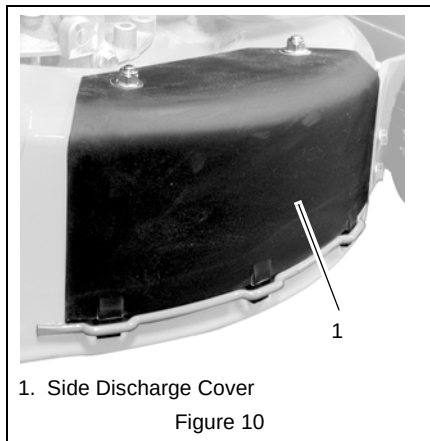
To Bag

See Figure 10.



CAUTION: Grass bag material is subject to wear and deterioration under normal usage. Check bag frequently for necessary replacement. Replace worn or damaged bag with Ariens original equipment replacement bag only.

1. Shut off unit.
2. Install side discharge cover.



1. Side Discharge Cover

Figure 10

3. Lift rear door.
4. Remove Mulchmaster plug.
5. Hook grass bag frame on mounting flange.
6. Lower rear door.

If necessary, lift rear of grass bag frame to lock in position.

There should be no openings between bag and mounting surface after installing bag. If necessary, clear debris from bag mounting surface.

Grass Bag Removal

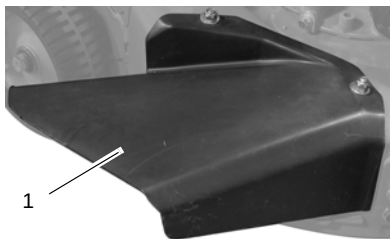
1. Shut off unit.
2. Lift rear door.
3. Use handle to lift bag off mounting flange.
4. Close rear door.

NOTE: Empty grass bag and clean mower pan after each use. DO NOT allow grass clumps or a grass coating to collect inside of grass bag or mower pan. Remove grass bag from mower, wash bag with hose and allow to dry.

To Side Discharge

See Figure 11.

1. Shut off unit.
2. Remove grass bag.
3. Install Mulchmaster plug. (See Figure 12.)
4. Remove side discharge cover and retain hardware.
5. Attach side discharge deflector to studs on mower. Make sure deflector covers discharge opening.
6. Secure with cover hardware from step 4.



1. Side Discharge Deflector

Figure 11

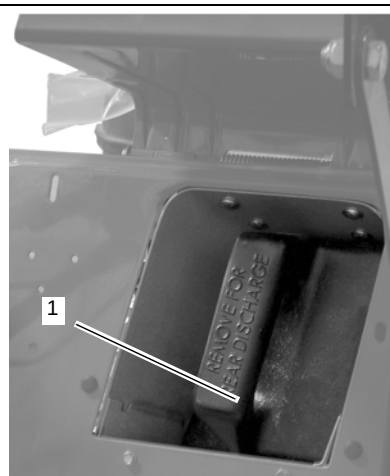
To Mulch

See Figure 12.

1. Shut off unit.
2. Remove grass bag and install side discharge cover.
3. Open rear door and insert Mulchmaster plug with the beveled face to the left.
4. Close rear door.

NOTE: Rear door must close flush.

NOTE: For maximum mulching performance, install the Mulchmaster Mulching Kit. See *ACCESSORIES* on page 23.



1. Mulchmaster Plug

Figure 12

EMERGENCY STOPPING

To stop the mower in an emergency:

1. Release the operator presence control handle.

2. Release the wheel drive control (models 911193, 194).
3. Allow all moving parts to stop before leaving operator's position.

STARTING AND SHUT OFF



WARNING: Improper operation can lead to injury. Learn what the controls do and how they work. Thoroughly read and understand entire Operator Manual.

See Figure 4 for all Controls and Features.

NOTE: Start engine on a level surface that is free of debris.

Manual Start

1. Check each item under Before Each Use in the *MAINTENANCE SCHEDULE* on page 16.
2. For engines with a primer, push primer bulb 2 or 3 times for a cold engine.

NOTE: It is unnecessary to prime or choke a warm engine.

3. For engines with a throttle, place throttle control in the choke position. Once the engine has started, place throttle in the high speed detent.
4. With operator presence control handle held against the handlebar, grasp starter handle and pull rope slowly until it pulls harder. This is the compression stroke. Let rope rewind slowly.
5. Pull rope with rapid continuous full arm stroke to start engine. Allow rope to rewind slowly.

IMPORTANT: DO NOT let starter handle snap against bracket.

6. Repeat steps 4 and 5 until engine starts. (If engine does not start, see *TROUBLESHOOTING* on page 24.)

Shut Off

1. Release wheel drive control and allow unit to stop completely (self-propelled models).
2. Release operator presence control handle.

Mowing Tips

Cut grass when it is dry.

Keep mower blades sharp.

Do not set cutting height too low. For tall grass, mow twice.

Do not mow too fast.

Mow with engine at full throttle. Discharge clippings into areas already cut.

Vary cutting pattern with each mowing.

NOTE: To prevent dirt and grass from collecting on mower pan, avoid operating over bare ground with only patches of grass.

Mulching Tips

For best mulching performance, cut no more than 1 inch of grass per cutting.

MAINTENANCE



CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

Ariens Dealers will provide any service, parts or adjustments which may be required to keep your unit operating at peak efficiency. Should engine require service, contact an Ariens Dealer or an authorized engine manufacturer's service center.

MAINTENANCE SCHEDULE

NOTE: Some working conditions (heavy loads, high ambient temperatures, dusty conditions, or airborne debris) may require more frequent service.

See engine manual for further maintenance and troubleshooting information.

MAINTENANCE SCHEDULE				
Service Performed	Before Each Use	25 hrs	50 hrs	100 hrs
Check Operator Presence Control Handle	•			
Check Wheel Drive Control	•			
Check Grass Bag	•			
Clean Unit	•			
Check Engine Oil	•			
Check Mower Blade	•			
Check Drive Belt	•			
Check Fasteners	•			
Check Air Cleaner		•		•
Change Engine Oil *				
Change Engine Oil Filter *				
General Lubrication		•		
Check Spark Plug				•
Check Engine Cooling	•			•
Check Muffler				•

* Refer to Engine Manual for detailed instructions.

CHECK OPERATOR PRESENCE CONTROL HANDLE

The engine and blade must stop within 3 seconds after releasing the control. If the engine and blade continue to run, adjust or repair control immediately.

CHECK WHEEL DRIVE CONTROL

Models 911193, 194

The unit must stop quickly and completely when the control is released. Adjust or repair if necessary. See *Wheel Drive Control Adjustment* on page 21.

CHECK GRASS BAG

Check grass bag frequently for wear or deterioration. Replace worn or damaged bag with an Ariens original equipment replacement bag only.

CLEAN UNIT

Before each use clean unit, muffler and engine surfaces of debris, oil or fuel spills to ensure proper cooling and prevent fires.

CHECK ENGINE OIL

IMPORTANT: Maintain proper oil level at all times or engine damage will result.

Check the level of the engine crankcase oil before each use.

Make sure engine is level when checking oil. See engine manual for instructions.

CHECK MOWER BLADE

See Figure 13.

Check blade mounting: blade must be secure and bolt torqued to 37.5 – 50 lbf-ft (bolt should fully compress lock washer).

Check blade for nicks and dull cutting edges. Sharpen if necessary.

Check blade for rounded or broken ends, thinned metal or other damage. Replace if necessary.

NOTE: Blades should be sharpened and balanced professionally. Contact your Ariens Dealer.

To remove blade:

1. Stop engine, wait for all moving parts to stop, and disconnect spark plug wire.
2. Block blade to prevent rotation.
3. Remove bolt, lock washer, flat washer and blade from shaft.

To install blade:

1. Replace blade, flat washer, lock washer and bolt on shaft.
2. Torque bolt to 37.5 – 50 lbf-ft (bolt should fully compress lock washer).
3. Connect spark plug wire.

Sharpen the Mower Blades

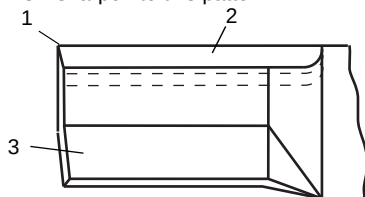


CAUTION: DO NOT sharpen mower blades while on unit. An imbalanced mower blade will cause excessive vibration and eventual damage to unit. Check mower blade balance before reinstalling blades.

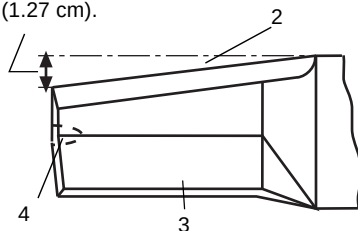
NEVER weld or straighten bent blades.

1. Remove mower blade from unit. Discard mower blade if:
 - More than 1/2" (1.27 cm) of metal is removed.
 - Air lifts become eroded.
 - Blade is bent or broken.
2. Sharpen mower blade by removing an equal amount of material from each end of mower blade. DO NOT change angle of cutting edge or round the corner of the mower blade.

DO NOT sharpen to this pattern.



DISCARD if more than 1/2" (1.27 cm).



Sharpen to this pattern.

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

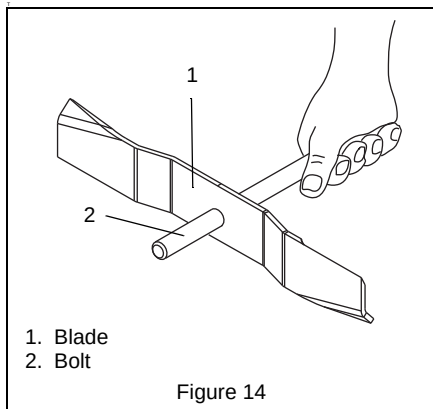
Figure 13

3. Check mower blade balance.

Slide mower blade on an unthreaded bolt. A balanced blade should remain in a horizontal position. If either end of mower blade moves downward, sharpen the heavy end until blade is balanced (Figure 14).

4. Install mower blade on unit.

5. Tighten the bolts to a torque of 37.5 – 50 lbf-ft.



CHECK DRIVE BELT

Models 911193, 194

Check drive belt and replace if worn or damaged. See *Drive Belt Replacement* on page 19.

CHECK FASTENERS

Check all fasteners for proper tightness. Pay special attention to blade hardware and all guards, shields and safety devices.

CHECK AIR CLEANER

See engine manual for specific information.

CHANGE ENGINE OIL

Refer to engine manual for detailed instructions.

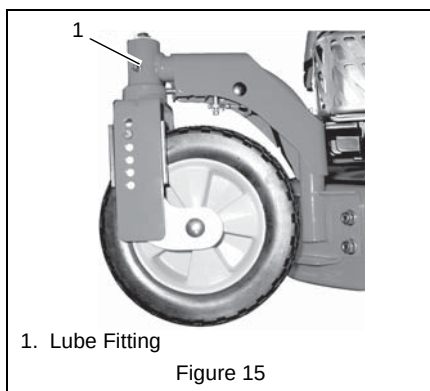
NOTICE: Run engine just prior to changing oil. Warm oil will flow more freely and carry away more contaminants.

GENERAL LUBRICATION

Model 911194

See Figure 15.

Use Mix Hi-Temp Grease or equivalent on the lube fittings. Order P/N: 00036800 - 3 pack of 3 oz. cartridges.



CHECK SPARK PLUG

Spark plug should be replaced every 100 hours of operation or each year.

NOTE: Loose spark plug wire terminals can cause sparking. Replace terminal if damaged.

CHECK ENGINE COOLING



WARNING: HOT SURFACES can cause death or serious injury. DO NOT TOUCH parts which are hot from operation. ALWAYS allow parts to cool.

To prevent overheating, air must circulate freely around the cooling fins, cylinder head and block.

Every 100 hours of operation or yearly (more often if conditions require) remove blower housing and clean cooling fins. See engine manual for instructions.

CHECK MUFFLER

Check muffler for debris, cracks, wear, or other damage.



CAUTION: Replace worn-out mufflers immediately. Continued use could result in fire or explosion.

SERVICE AND ADJUSTMENTS



CAUTION: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

SERVICE POSITION

Put unit into service position for easy access to underneath the deck.



CAUTION: Avoid fuel spills. Follow steps below to help prevent fuel spills. If fuel leaks into air cleaner, replace air cleaner. ALWAYS clean up any spilled fuel.

1. Place unit on a flat, level surface.
2. Disconnect spark plug wire.
3. Remove fuel cap, place a piece of plastic bag over the opening and tighten cap securely.
4. Tip unit *onto right side*. Make sure unit is secure and will not tip over.

IMPORTANT: Remove plastic from fuel cap after unit is upright and service is complete.

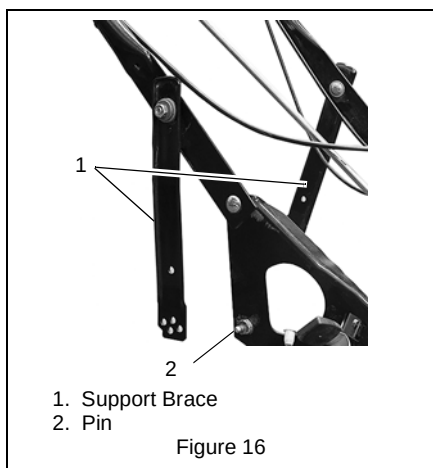
HANDLEBAR HEIGHT

To adjust:

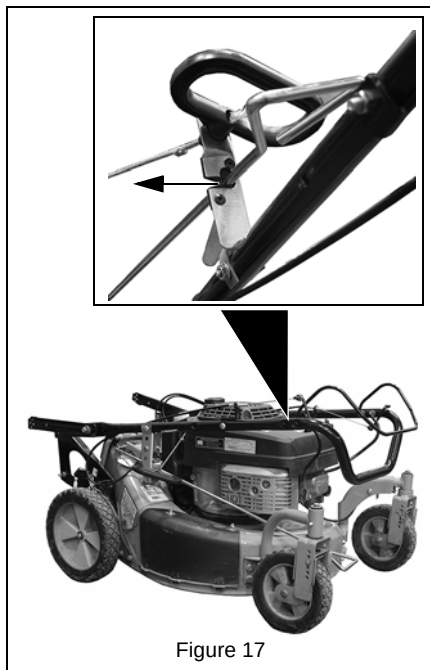
1. Place a hole at the bottom of the braces over the pins on the bracket. See Figure 16.

To fold handlebar flat for storage:

1. Remove support braces from brackets. See Figure 16.



2. Pull speed control handle inward and remove speed control rod from slot at top of handlebar. See Figure 17.
3. Simultaneously fold speed control rod and handlebar onto unit. See Figure 17.



DRIVE BELT REPLACEMENT

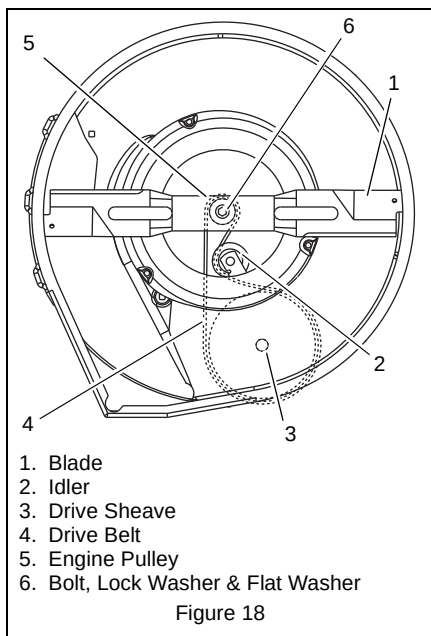
Models 911193, 194

To remove drive belt:

1. Disconnect spark plug wire.
2. Set the right rear wheel to its lowest cutting height, and the left rear wheel to the third cutting height. This position provides clearance between friction disc and drive sheave.
3. Remove belt from the idler, then the drive sheave, and finally, the engine pulley (Figure 18).
4. Pull belt through opening under mower pan and over blade.
5. Make sure the idler pulley turns and the idler arm moves freely.
6. Reinstall drive belt in reverse order.

IMPORTANT: Be sure the belt seats in sheave and pulley grooves with the idler touching the back (flat) side of belt.

7. Adjust rear wheels to the same cutting height.

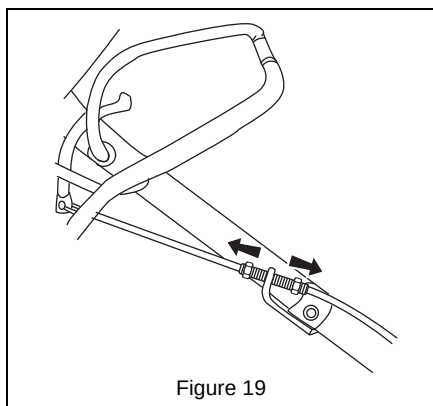


OPERATOR PRESENCE CONTROL HANDLE ADJUSTMENT

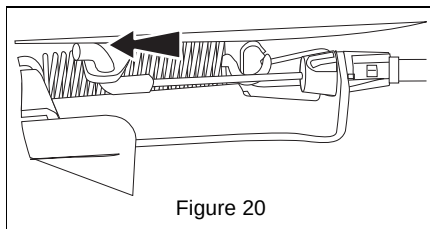
Model 911194

To adjust operator presence control handle:

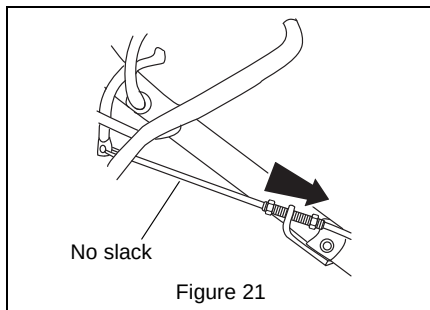
1. Loosen cable nuts away from bracket. See Figure 19.



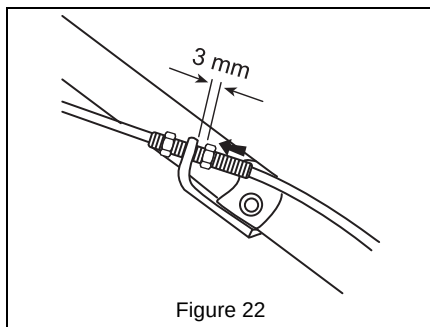
2. Squeeze z-bend bracket at engine end of cable toward front of unit and hold in place. See Figure 20.



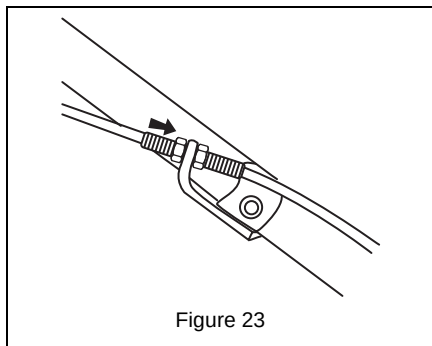
3. Pull cable down from bracket until there is no slack in cable. See Figure 21.



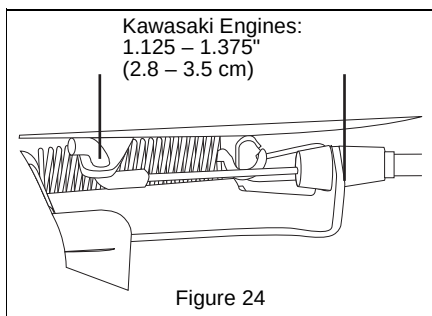
4. Tighten lower cable nut to 3 mm below bracket. Release z-bend bracket. See Figure 22.



5. Tighten upper cable nut until bracket is secure between cable nuts. See Figure 23.



6. Engage operator presence control handle. Measure distance between middle of z-bend and cable bracket. See Figure 24.



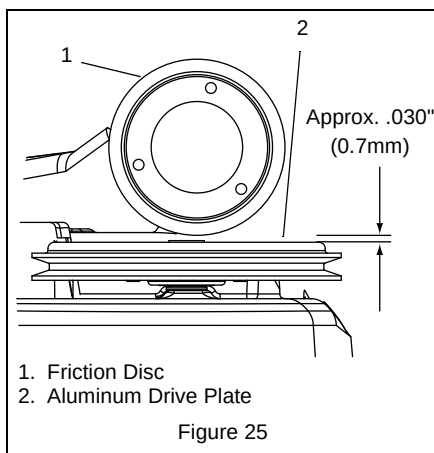
7. If correct measurement cannot be set, contact your local dealer.

WHEEL DRIVE CONTROL ADJUSTMENT

Models 911193, 194

See Figure 25.

NOTE: When the wheel drive control is disengaged, the gap between the friction disc and the aluminum drive plate should be approximately .030" (.7 mm).



Check the adjustment with the engine off and with the engine on:

1. With the engine off and the wheel drive control disengaged, push the mower forward in both fast and slow speed settings.

If the mower pushes freely, the gap between the friction disc and aluminum drive plate is sufficient. If the mower is difficult to push or the rear wheels drag, increase the gap between the friction disc and aluminum drive plate.

2. With the engine on, the mower should start moving as soon as the wheel drive control begins to pull on the cable.

If the wheel drive control requires a long travel before the mower begins to pull, decrease the gap between the friction disc and aluminum drive plate.

To increase the gap between the friction disc and the aluminum drive plate:

1. Loosen the lower cable nut on the wheel drive control cable, and then tighten the upper cable nut against the adjuster bracket. See Figure 26.

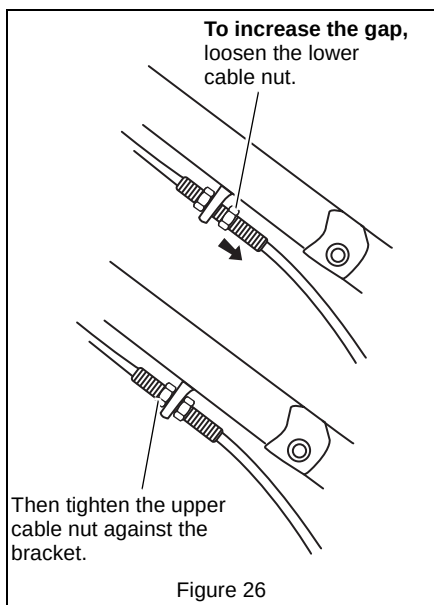


Figure 26

To decrease the gap between the friction disc and the aluminum drive plate:

1. Loosen the upper cable nut on the wheel drive control cable, and then tighten the lower cable nut against the adjuster bracket. See Figure 27.

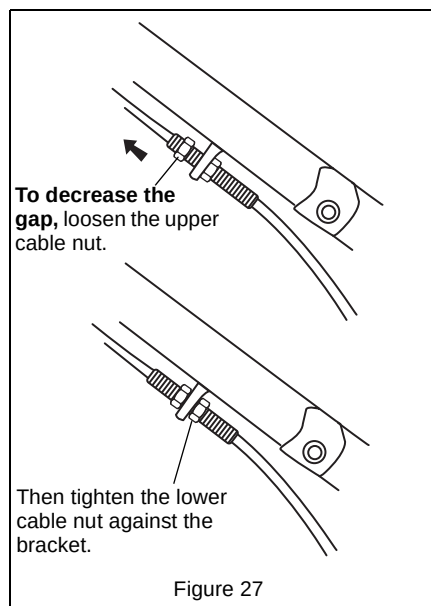


Figure 27

2. Check the adjustment and readjust as needed.

NOTE: If the gap between the friction disc and aluminum drive plate cannot be adjusted to this tolerance, take the unit to an authorized service dealer for repairs.

STORAGE



CAUTION: AVOID INJURY. Read and understand the entire Safety section before proceeding.

IMPORTANT: NEVER spray unit with high-pressure water or store unit outdoors. Store mower in a cool, dry, protected location.

Cleaning

Clean unit thoroughly with mild soap and low pressure water. Brush off dirt and debris from all surfaces. Touch up all scratched surfaces to prevent rust. Matching touch-up paint is available from your Ariens Dealer. Do not use abrasives, solvents, or harsh cleaners.

Inspection

Inspect mower and repair or replace worn or damaged parts to avoid delays when beginning use again.

Regularly check all hardware and keep fasteners tight. Know unit is in safe working condition.

Grass Bag

Wash out grass bag and allow to dry before storage. Grass bag may be stored in position on mower.

Engine

When storing unit for extended periods of time, remove all fuel from tank and carburetor (run dry). Refer to engine manual.

Fuel System

Gasoline left in the fuel system for extended periods without a stabilizer will deteriorate, resulting in gum deposits in the system. These deposits can damage the carburetor and the fuel hoses, filter and tank. Prevent deposits from forming in the fuel system during storage by adding a quality fuel stabilizer to the fuel. Follow the recommended mix ratio found on the fuel stabilizer container.

To treat the fuel system for storage:

1. Add fuel stabilizer according to manufacturer's instructions.
2. Run engine for at least 10 minutes after adding stabilizer to allow it to reach the carburetor.

NEVER store the engine with fuel in the fuel tank inside of a building with potential sources of ignition.

SERVICE PARTS

Always use genuine Ariens parts to keep your mower running like new.

Description	Part Number
Air Filter	21543500 (Model 911170)
Air Filter	21541000 (Models 911193, 194)
Spark Plug	21543600 (Model 911170)
Spark Plug	21540800 (Models 911193, 194)
Blade	01137000
Drive Belt	07217100
Friction Disc	03248300

ACCESSORIES

See your authorized Ariens Dealer to add these optional accessories.

Part Number	Description
71102400	Dethatcher
71102700	Mulchmaster Plug
71103000	Grass Bag
71103200	Rear Discharge Chute
71103500	Mulchmaster Mulching Kit
71103700	Leaf Shredder
71103900	Straight Axle Kit
71104100	Front Swivel Wheel Kit
71104700	Bag-N-Drag Bagger Kit

TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTION
Engine will not start	1. Fuel tank empty or low. 2. Spark plug wire loose or off. 3. Operator presence control handle cable detached, broken, or not adjusted properly.	1. Check fuel level. Fill tank if necessary. 2. Check connection. 3. Check cable. Adjust, repair or replace as necessary.
Engine is difficult to restart	1. Mower clogged with grass.	1. Clear clippings from under mower. (Allow the mower to clear clippings before shutting off engine.)
Cut is poor	1. Worn blade. 2. Too much grass is being removed per cutting. 3. Grass is too wet. 4. Mowing speed is too fast.	1. Check blade (see <i>CHECK MOWER BLADE</i> on page 17). 2. Raise cutting height. 3. Allow grass to dry. 4. Mow slower.
Grass does not disperse evenly	1. Too much grass is being removed per cutting. 2. Grass is too wet. 3. Mowing speed is too fast.	1. Raise cutting height. 2. Allow grass to dry. 3. Mow slower.
Mower does not bag clippings	1. Grass bag is overfilled. 2. Mulching plug is installed.	1. Empty grass bag and do not allow it to overfill. 2. Remove mulching plug.
Wheel drive does not engage (Models 911193, 194)	1. Wheel drive control not engaged. 2. Drive belt out of position. 3. Drive belt worn or damaged. 4. Rear wheels at different cutting heights. 5. Idler spring detached. 6. Wheel drive control cable detached or broken. 7. Friction disc not adjusted properly or damaged. 8. Bearings damaged. 9. Debris in gear set.	1. Engage wheel drive control. 2. Check drive belt. Adjust as necessary (see <i>CHECK DRIVE BELT</i> on page 18). 3. Replace belt (see <i>CHECK DRIVE BELT</i> on page 18). 4. Adjust rear wheels to same cutting height (see <i>CUTTING HEIGHT ADJUSTMENT</i> on page 11). 5. Attach idler spring to notch on idler arm. Contact your Dealer. 6. Check wheel drive control cable. Adjust or replace as needed. See <i>CHECK WHEEL DRIVE CONTROL</i> on page 17. 7. Contact your Dealer. 8. Contact your Dealer. 9. Contact your Dealer.

SPECIFICATIONS

Model Number	911193	911194	911170
Description	LM21SP	LM21SPSW	LM21P
Length – in. (cm)	61.5 (156)		
Height – in. (cm)	38 (96.5)		
Width – in. (cm)	23 (58.4)		
Actual Weight – lbs (kg)	109 (49.4)	125 (56.7)	99 (44.9)
Cutting Width – in. (cm)	21 (53.3)		
Cutting Height – in. (cm)	6 Positions: 1.00 – 3.25 (2.5 – 8.3)		
Engine, 4 cycle	Kawasaki		Kohler
Model	FJ180V		Courage XT775
Max Rotation Speed of Cutting Edge – RPM (min)	3,300		3,200
Governed RPM (May be different from maximum rpm.)	3,200 ± 100		3,100 ± 100
Displacement – Cu. In. (cc)	10.9 (179)		10.6 (173)
Cylinder Bore	Aluminum		Cast Iron
Engine Oil Type	See Engine Manual		
Crank Case Capacity – Oz. (Liter)	23 (.7)		
Oil System	Forced/Splash		Splash
Spark Plug Gap - in. (mm)	0.030 (0.762)		0.030 (0.762)
Fuel Type	Unleaded		
Fuel Tank Capacity – qt (Liter)	2.1 (2.0)		1.6 (1.5)
Primer Bulb	Standard		N/A
Throttle	N/A		
Air Cleaner	Paper Element with Foam		Paper Element
Starting	Recoil		
Differential	Standard		N/A
Variable Speeds – MPH (km/hr)	0 – 4 (0 – 6.4)		N/A
Mower Deck	14 Gauge Stamped Steel		
Front Wheel Dia – in. (cm)	7.5 (19.1)		
Rear Wheel Dia – in. (cm)	10.5 (26.7)		



Consumer Mowing Equipment Limited Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that Ariens, Gravely and Countax brand lawn and garden consumer products purchased on or after 1/1/2013 will be free from defects in material and workmanship for the time period noted in the chart below. Equipment put to personal use around a single household or residence is considered "Consumer Use"; equipment put to any business use (agricultural, commercial, or industrial) or used at multiple locations is considered "Commercial Use." If any product is rented or leased, then the duration of these warranties shall be 90 days after the date of purchase.

An authorized Ariens dealer (Ariens brand products), Gravely dealer (Gravely brand products), or Countax dealer (Countax brand products) will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge (labor and parts) to the original purchaser except as noted below.

Warranty Code	Product Group	Warranty Period Consumer Use	Warranty Period Commercial Use
HA	Zoom & ZT Zero-Turn Riders; AMP™ Rider	3 Years	90 Days
HB	Max Zoom & ZT HD Zero-Turn Riders	3 Years	1 Year
HC	Tractors, "961" Series Walk-Behind Mowers	2 Years	90 Days
HD	Classic LM Series Mowers; Wide Area Walk Mowers; Razor, XD3	3 Years	90 Days
N/A	Service (replacement) Parts	90 Days (no labor)	90 Days (no labor)

Special Extensions

The chart below details special extensions to this warranty:

Warranty Code	Warranty Exception	Warranty Period	Use	Detail
HA, HB	Mower Deck Shell on Zero-Turn Riders	5 Years	Consumer	3 years parts and labor Additional 2 years parts only
HA, HB	Main Frame on Zero-Turn Riders	5 Years	Consumer	3 years parts and labor Additional 2 years parts only
HA	Batteries for AMP™ Rider	2 Years	Consumer	100% first year; prorated second year

Exceptions and Limitations

The chart below details special exceptions to this warranty:

Warranty Code	Warranty Exception	Warranty Period	Use	Detail
All	Batteries	1 Year	Consumer	Prorated
All	Belts, Muffler, Tires	None	Commercial	These components are not covered when used commercially.
All	Cloth, Plastic, and Rubber Components (Including Belts and Cables)	Maximum 2 Years	All	Warranty is limited to 2 years for consumer use. Except as noted above, these components are covered for defect, not for wear.
All	Engines	See Engine Manufacturer's Warranty	All	Engines are covered by engine manufacturer's warranty. Refer to engine manufacturer's warranty statement.

Customer Responsibilities

Register the product immediately at the time of sale. If the dealer does not register the product, the customer must complete the product registration card in the literature package and return it to the Ariens Company, or register the unit online at www.ariens.com, www.gravely.com, www.countax.com.

To obtain warranty service, the **original purchaser** must:

- Perform the maintenance and adjustments explained in the owner's manual.
- Promptly notify Ariens or an authorized Ariens, Gravely or Countax service representative of the need for warranty service.

- Transport the product to and from the place of warranty service at owner's expense.
- Have the warranty service performed by an authorized Ariens, Gravely or Countax service representative.

To Find an Authorized Service Representative:

In the U.S. and Canada:		
Use the dealer locator on our websites: www.ariens.com • www.gravely.com		
Or contact us by mail or by phone:		
In the U.S., Canada, Mexico, Caribbean, Central and South America:	In Europe, Asia, Africa or the Middle East:	In Australia or New Zealand:
Ariens Company 655 W. Ryan Street Brillion, WI 54110 Phone: (920) 756 - 4688 www.ariens.com	Countax Ltd, Countax House Great Haseley, Oxfordshire, OX44 7PF Phone: 0800 597 7777 www.countax.com	Ariens Company Building 2 6 Wedgewood Rd. Hallam, Victoria 3803 Australia Phone: (03) 9796 4244 1800 335 489 www.ariens.com.au

Exclusions – Items Not Covered by This Warranty

- Parts that are not genuine Ariens, Gravely or Countax service parts are not covered by this warranty and may void the warranty.
- Damages resulting from the installation or use of any part, accessory, or attachment which is not approved by the Ariens Company for use with product(s) identified herein are not covered by this warranty.
- The following maintenance, service and replacement items are not covered by this warranty unless they are noted in the Limitations section above: lubricants, spark plugs, oil, oil filters, air filters, fuel filters, brake linings, brake arms, brake shoes, skid shoes, scraper blades, shear bolts, mower blades, mower vanes, brushes, headlights, light bulbs, knives, cutters.
- Any misuse, alteration, improper assembly, improper adjustment, neglect, or accident which requires repair is not covered by this warranty.
- **Use of gasoline blends exceeding 10% ethanol voids any and all warranties.**
- Products are designed to the specifications in the area that the product was originally distributed. Different areas may have significantly different legal and design requirements. This warranty is limited to the requirements in the area in which the unit was originally distributed. Ariens Company does not warrant this product to the requirements of any other area. Warranty service is limited to service within the area originally distributed.
- In countries other than the United States and Canada, contact the Ariens Company dealer for warranty policies that govern within your country. Rights may vary from country to country and within any one country.

Disclaimer

Ariens Company may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating the Ariens Company to incorporate such design changes into previously manufactured products, nor shall such changes be construed as an admission that previous designs were defective.

LIMITATION OF REMEDY AND DAMAGES

Ariens Company's liability under this warranty, and under any implied warranty that may exist, is limited to repair of any defect in workmanship, and repair or replacement of any defective part. Ariens Company shall not be liable for incidental, special, or consequential damages (including lost profits). Some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

AUSTRALIAN CONSUMER LAW

The following applies solely to warranties subject to Subsection 102(1) of the Australian Consumer Law: Our goods come with guarantees that cannot be excluded by the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and failure does not amount to a major failure.

DISCLAIMER OF FURTHER WARRANTY

Ariens Company makes no warranty, express or implied, other than what is expressly made in this warranty. If the law of your state provides that an implied warranty of merchantability, or an implied warranty of fitness for particular purpose, or any other implied warranty, applies to Ariens Company, then any such implied warranty is limited to the duration of this warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from region to region.



Ariens
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Fax 920-756-2407
www.ariens.com
www.ariens.com.au



WARNING



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

An *Ariens* Company Brand