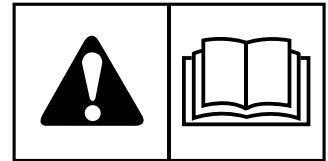




OPERATOR'S MANUAL

Voyager FS5250 Series Spreader Sprayer



Model	Description
5901756	VOYAGER FS5250

**This manual is available in Spanish. For a copy, contact your Ferris dealer or www.ferrismowers.com.
Este manual está disponible en Español. Para obtener una copia, póngase en contacto con su
distribuidor Ferris o www.ferrismower.com.**

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General Information

Thank you for purchasing this quality-built Ferris product. We're pleased that you've placed your confidence in the Ferris brand. When operated and maintained according to the instructions in this manual, your Ferris product will provide many years of dependable service.

This manual contains safety information to make you aware of the hazards and risks associated with this machine and how to avoid them. This machine is designed and intended to be used and maintained according to the manual and operated by trained professionals for the application of dry and wet material to established lawns and is not intended for any other purpose. It is important that you read and understand these instructions thoroughly before attempting to start or operate this equipment. **Save these original instructions for future reference.**

The images in this document are representative, and are meant to complement the instructional copy they accompany. Your unit may vary from the images displayed. *LEFT* and *RIGHT* are as seen from the operator's position.

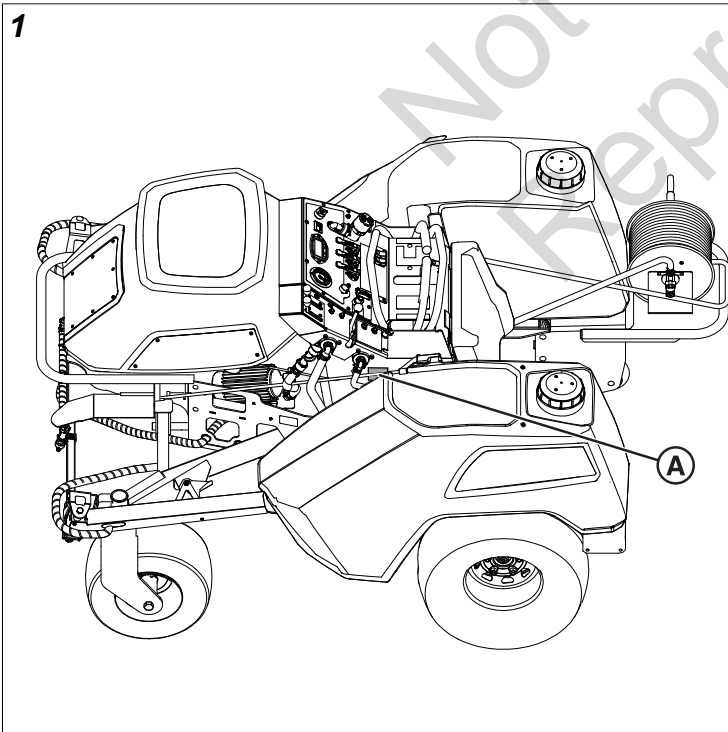
Ferris is a registered trademark of Briggs & Stratton, LLC.

Identifying Your Unit

The following products are covered by this manual:

5901756

The product identification tag (A, Figure 1) can be found in the location as shown in Figure 1.



BRIGGS & STRATTON, LLC
MILWAUKEE, WI 53201, USA
ASSEMBLED IN THE USA

PART NO. **SERIAL NO.**
XXXXXXX **XXXXXXXXXX**

PRODUCT REFERENCE DATE	
Unit Model Number:	
Unit Serial Number:	
Mower Deck Model Number (if applicable):	
Mower Deck Serial Number (if applicable):	
Dealer Name:	
Date Purchased:	
ENGINE REFERENCE DATA	
Engine Make:	
Engine Model:	
Engine Type / Specification:	
Engine Code / Serial Number:	

When contacting your authorized service dealer for replacement parts, service or information you **MUST** have these numbers.

Note: For the location of the engine identification numbers refer to the engine owner's manual.

The Illustrated Parts Lists for this machine can be downloaded from ferrismowers.com. Please provide model and serial number when ordering replacement parts.

Operator Safety

Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of the unit, severe personal injury or death to you, or bystanders, or damage to property or equipment.

The safety alert triangle (⚠) in text signifies important cautions or warnings which must be followed.

California Proposition 65

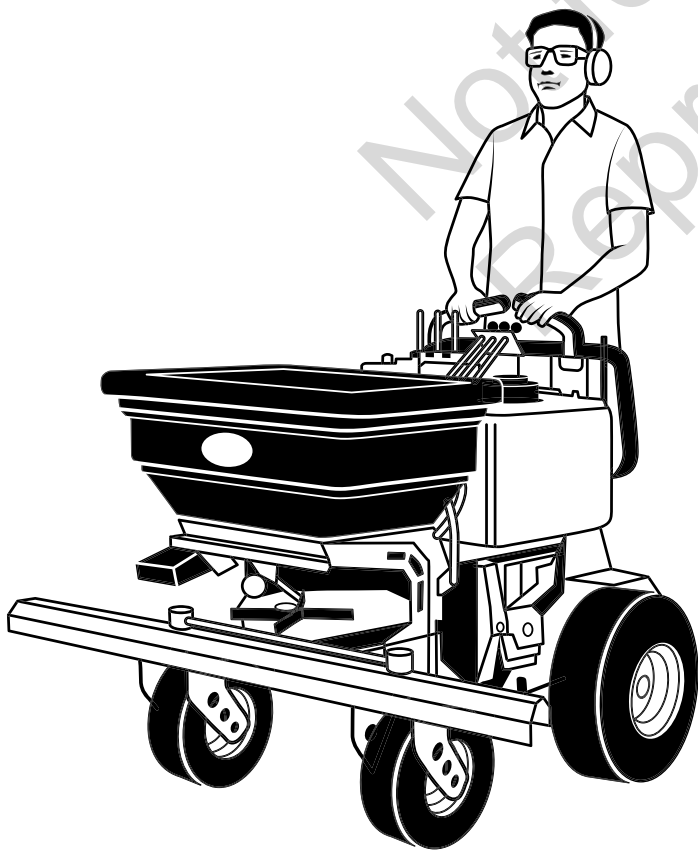
⚠ WARNING

This product can expose you to chemicals including gasoline engine exhaust, which is known to the State of California to cause cancer and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Operating Safely

Congratulations on purchasing a superior-quality piece of lawn and garden equipment. Our products are designed and manufactured to meet or exceed all industry standards for safety.

Do not operate this machine unless you have been trained. Reading and understanding this operator's manual is a way to train yourself.



Keep both feet on the operator platform at all times. Power equipment is only as safe as the operator. If it is misused, or not properly maintained, it can be dangerous! Remember, you are responsible for your safety and that of those around you.

Use common sense, and think through what you are doing. If you are not sure that the task you are about to perform can be safely done with the equipment you have chosen, ask a professional: contact your local authorized dealer.

Chemical Safety

⚠ WARNING

Chemicals used in this machine such as herbicides and pesticides may be hazardous to apply and produce gases that are hazardous if inhaled or if they contact to your skin. Caustic liquid or chemical burns could occur if chemicals are not used properly.

- Read and follow all the instructions and warnings on Material Safety Data Sheets (MSDS) from manufacturer of all chemicals used.
- Become familiar with and follow all warnings, recommendations, instructions, and procedures for: first aid measures, safe use, mixing, handling, applying, spills, clean-up, storage, and disposal of all chemicals as listed on the manufacturer's label or MSDS of any herbicides, pesticides, or other chemicals.
- Wear all personal protective equipment as recommended on the manufacturer's label or MSDS of any herbicides, pesticides, or other chemicals. Personal protective equipment may include safety glasses or goggles and/or face shields, chemical resistant gloves, rubber boots, and a respirator or air purifying filter mask.
- Before working on this machine, be sure the valve system and hopper has been thoroughly rinsed according to the recommendations of the chemical manufacturer (see MSDS and product labels).
- Obtain the proper training before using or handling any chemicals. Follow all local, state, and federal requirements for the handling and spreading of chemicals.
- Be sure to verify there is an adequate supply of clean water and soap nearby and immediately wash off any chemicals that may contact you.
- Handle all chemicals in a well-ventilated area.
- Keep clean water available for immediate rinsing off and clean-up of any spilled chemicals.
- Never enter the spray tank or hopper with your unprotected hands, or place your mouth or face over or into these openings. Chemicals and fumes may be hazardous to your health.
- Reduce your speed and minimize the weight of your load (in the hopper and volume in the tanks) when operating on hills or rough terrain to avoid possible instability, tipping, or rollover of the machine.
- Liquid in the tank and granular materials in the hopper may shift during operation. This is most common while

turning, going up, down, or across hills, when suddenly changing speed, or operating on rough terrain. This shift in load may cause possible instability, tipping, or rollover of the machine. Reduce your speed in these situations.

- The sprayer hand wand may trap liquid under high pressure, even when the engine is off. Accidental high pressure spray discharge is hazardous and could cause serious injury to you or bystanders.
 - **DO NOT** point the hand wand towards or spray near people.
 - Always stay clear of the sprayer hand wand nozzle and never point it at anything you do not intend to spray.
 - The hand wand is pressurized anytime the sprayer pump is activated with the shutoff valve open.
 - Take care to relieve the pressure in the hand wand every time after shutting off the engine by squeezing the trigger while pointing the wand in a safe direction.
 - **DO NOT** point the hand wand at or spray electrical components or wires.
 - **DO NOT** attempt to disconnect the spray wand from the unit while the system is pressurized.

Training

- Read, understand, and follow all instructions in the manual and on the unit before starting. If the operator(s) or mechanic(s) cannot read English it is the owner's responsibility to explain this material to them.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- Only allow responsible adults, who are familiar with the instructions, to operate the unit.
- Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner / user can prevent, and is responsible for, accidents or injuries occurring to themselves, other people, or property.

Preparation

- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Use only accessories and attachments approved by the manufacturer.
- Wear appropriate clothing including safety shoes, safety glasses, and ear protection. Long hair, loose clothing, or jewelry may get tangled in moving parts.
- Inspect the area where the equipment is to be used and remove all objects such as rocks, toys, and wire, which could possibly damage the unit's tires.
- Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.
- Use only an approved container for gasoline.

- Never remove fuel cap or add fuel with the engine running. Allow engine to cool before refueling. Do not smoke. Never refuel or drain the machine indoors.
- Check that safety switches and shields are attached and functioning properly. Do not operate unless they function properly.
- Become familiar with and follow all warnings, recommendations, instructions and procedures for safe use, handling, applying, storage and disposal of all chemicals as listed on the manufacturer's label of any herbicides, pesticides or other chemicals.
- Wear all personal protective equipment as recommended on the manufacturer's label or MSDS of any herbicides, pesticides or other chemicals. Personal protective equipment may include safety glasses or goggles and/or face shields, chemical resistant gloves, rubber boots and a respirator or filter mask.



WARNING

It is a violation of California Public Resource Code, Section 4442, to use or operate the engine on any forest-covered, brush-covered or grass-covered land unless the exhaust system is equipped with a spark arrester, as defined in Section 4442, maintained in effective working order. Other states or federal jurisdictions may have similar laws. Contact an Authorized Service Dealer to obtain a spark arrester designed for the exhaust system installed on this engine.

- OSHA regulations may require the use of hearing protection when exposed to sound levels greater than 85 dBA for an 8 hour time period.



WARNING



This machine produces sound levels in excess of 85 dBA at the operator's ear and can cause hearing loss through extended periods of exposure. Wear hearing protection when operating this machine.

Children

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

- Keep children out of the operating area and under the watchful care of another responsible adult.
- Be alert and turn the unit off if children enter the area.
- Before and while driving in reverse, look behind and down for small children.
- Never carry children, even with the spreader spinner off. They may fall off and be seriously injured or interfere with the safe operation of the unit. Children who have been given rides in the past may suddenly appear in the operation area for another ride and could be run over or backed over by the machine.
- Never allow children to operate the unit.

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

Safe Handling of Gasoline

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

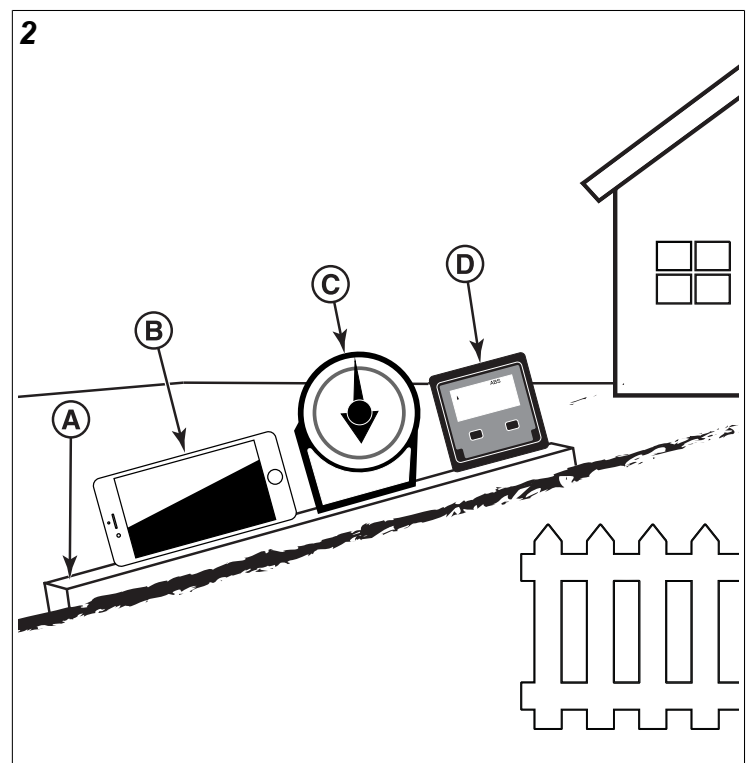
- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only approved gasoline containers.
- Never remove the gas cap or add fuel with the engine running. Allow the engine to cool before refueling.
- Never fuel the machine indoors.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as near a water heater or other appliance.
- Never fill containers inside a vehicle or on a truck bed with a plastic bed liner. Always place containers on the ground away from your vehicle before filling.
- Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
- Keep nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If fuel is spilled on clothing, change clothing immediately.
- Never over-fill the fuel tank. Replace gas cap and tighten securely.
- Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
- If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.
- Replace all fuel tank caps and fuel container caps securely.

Operation

- Keep both feet on the operator platform at all times.
- Never run an engine in an enclosed area.
- Operate only in the daylight or with artificial light from the headlight accessory, if equipped.
- Be sure all drives are in neutral and parking brake is engaged before starting engine. Only start engine from the operator's position.
- Be sure of your footing while using pedestrian controlled equipment, especially when backing up. Walk, don't run. Reduced footing could cause slipping.
- Slow down and use extra care on hillsides. Be sure to travel in the recommended direction on hillsides. Turf conditions can affect the machine's stability. Use caution when operating near drop-offs.
- Do not operate in reverse unless absolutely necessary. Always look down and behind before and while traveling in reverse.

- Slow down and use caution when making turns and changing directions on slopes
- Turn off switches to disengage the spreader spinner and sprayer pump when not operating
- Never operate with guards not securely in place. Be sure all switches are attached, adjusted properly, and functioning properly.
- Do not change the engine governor setting or over speed the engine.
- Stop on level ground, disengage the spreader spinner and sprayer pump, and engage the parking brake before leaving the operator's position for any reason.
- Look behind and down before backing up to be sure of a clear path.
- Never carry passengers and keep pets and bystanders away.
- Do not operate the unit while under the influence of alcohol and/or drugs.
- Slow down and use caution when making turns and crossing roads and sidewalks. Disengage the spreader spinner and sprayer pump if not operating.
- Use care when loading or unloading the machine into a trailer or truck.
- Use care when approaching blind corners, shrubs, trees, and other objects that may obscure vision.
- To reduce fire hazard, keep unit free of grass, leaves, debris, and excess oil. Do not stop or park over dry leaves, grass, or other combustible materials.
- Be sure to inspect the unit for fertilizer build-up before use. If fertilizer builds up, rinse the unit before operating or storing.

Slope Identification Guide



How to measure the slope of a lawn surface with a smartphone or an angle finder tool:



WARNING

Do not operate on slopes greater than 14 degrees.

1. Use a straight edge at least two (2) feet long (A, Figure 2). A 2x4 or a straight piece of metal works well.
2. Angle finder tools.
 - a. **Use your smartphone:** Many smartphones (B, Figure 2) have an inclinometer (angle finder) located under the compass application (app). Or, search an app store for an Inclinometer app.
 - b. **Use angle finder tools:** Angle finder tools (C & D, Figure 2) are available at local hardware stores or online (also called inclinometer, protractor, angle meter, or angle gauge). Dial type (C) or digital type (D) work, others may not. Follow user instructions with the angle finder tool.
3. Place the two (2) feet long straight edge along the steepest part of the lawn slope. Place the board up and down the slope.
4. Lay the smartphone or angle finder tool on the straight edge and read the angle in degrees. This is the slope of your lawn.

Note: A paper gauge slope identification guide is included in your product literature packet and is also available to download from the manufacturer's website (ferrismowers.com).

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 drive on it.



DANGER

LOSS OF CONTROL

Operating on slopes can be hazardous and cause loss of control.

- Avoid sudden turns or rapid speed changes.
- If machine stops forward motion on a slope, stop. Get off and walk the machine slowly off the slope.
- Go across slopes, NOT up and down.
- Reduce speed and use extreme caution on slopes.
- Do NOT operate on slopes when grass is wet.
- Do NOT operate on slopes over 14* degrees.
- Reduce your speed and minimize the weight of your load (in the hopper) when operating on hills or rough terrain to avoid possible instability, tipping or rollover of the machine.

*This limit was determined per International Standard ISO 5395-3:2013, Section 4.6 and is based on the ISO 5395-3 Stability Test procedure described in Annex A. The 14 degree "limit of stability" is equal to 60% of the angle at which machine lift-off occurred in static tests. Actual dynamic stability may vary depending on operating conditions.



DANGER

DANGER

Wet or soft slopes hazard:

- Wet or soft slopes can cause sliding and loss of control.
- Do NOT operate on slopes when grass is wet. Tires may lose traction and cause sliding and loss of control.
- Do NOT operate on slopes when soil is soft (such as after heavy rains). Tires may lose traction and cause sliding and loss of control.



DANGER

DANGER

Water, retaining walls, and drop-off hazard:

- Wheels dropping over edges may result in serious injury, death, and drowning.
- Do NOT operate near water, retaining walls, drop-offs, or embankments. The machine could suddenly roll over if a wheel goes over the edge or the edge breaks away.
- Reduce your speed when operating over rough terrain or near these hazards.
- Give yourself a minimum of two machine widths of clearance around these hazards.

Do:

- Operate across slopes, NOT up and down.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the unit. Tall grass can hide obstacles.
- Use slow speed. Choose a slow speed so that you will not have to stop or change speed while on the slope.
- Use extra care with accessories. These can change the stability of the unit.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.

Do NOT:

- Avoid starting, stopping, turning on a slope. If tires lose traction (i.e. machine stops forward motion on a slope), stop. Get off and walk the machine slowly off the slope.
- Do not turn on slopes unless necessary, and then, turn slowly and gradually uphill, if possible. Never operate straight down slopes.
- Do not operate near drop-offs, ditches, or embankments. The operator could lose footing or balance or machine could suddenly turn over if a wheel is over the edge of a cliff for ditch, or if an edge caves in.
- Do not operate on wet grass. Reduced footing or traction could cause sliding.
- Do not try to stabilize the unit by putting your foot on the ground (ride-on units).
- Do not operate on excessively steep slopes.
- Do not operate on slopes if you cannot back up them.

Maintenance and Storage

- Always observe safe refueling and fuel handling practices when refueling the unit after transportation or storage.
- Always follow the engine manual instructions for storage preparations before storing the unit for both short and long term periods.
- Always follow the engine manual instructions for proper start-up procedures when returning the unit to service.
- Never store the machine or fuel container inside where there is an open flame, such as in a water heater. Allow unit to cool before storing.
- If equipped with a fuel shut off valve, shut off fuel while storing or transporting.
- Do not store fuel near flames or drain indoors.
- Keep all hardware tight and keep all parts in good working condition. Replace all worn or damaged decals.
- Never tamper with safety devices. Check their proper operation regularly.
- Disengage the spreader spinner, set the parking brake, stop the engine, remove the ignition key, and disconnect spark plug wire. Wait for all movement to stop before adjusting, cleaning or repairing.
- Clean grass and debris from moving parts, drives, mufflers, and engine to prevent fires. Clean up oil or fuel spillage.
- Let engine cool before storing and do not store near flame.
- Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.
- Park machine on level ground. Never allow untrained personnel to service machine.
- Use jack stands to support components when required.
- Carefully release pressure from components with stored energy.
- Disconnect the battery cables from the battery and remove spark plug wire before making any repairs. Disconnect the negative battery terminal first and the positive terminal last. Reconnect positive terminal first and negative terminal last.
- Keep hands and feet away from moving parts. If possible, do not make adjustments with the engine running.
- Charge batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothes and use insulated tools.
- Check brake operation frequently. Adjust and service as required.
- Use only factory authorized replacement parts when making repairs.
- Always comply with factory specifications on all settings and adjustments.
- Only authorized service locations should be utilized for major service and repair requirements.
- Never attempt to make major repairs on this unit unless you have been properly trained. Improper service

procedures can result in hazardous operation, equipment damage and voiding of manufacturer's warranty.



WARNING

Units with hydraulic pumps, hoses, or motors: Hydraulic fluid escaping under pressure may have sufficient force to penetrate skin and cause serious injury. If foreign fluid is injected into the skin it must be surgically removed within a few hours by a doctor familiar with this form of injury or gangrene may result. Keep body and hands away from pin holes or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard, and not hands, to search for leaks. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system. If leaks occur, have the unit serviced immediately by your authorized dealer.



WARNING

Stored energy device.

Improper release of springs can result in serious personal injury. Springs should be removed by an authorized technician.

- Always disengage the spreader spinner and close the hopper gate before maintenance or storage.
- Empty the fertilizer hopper before lifting or tilting the machine for maintenance or storage.

Safety Decals and Icons

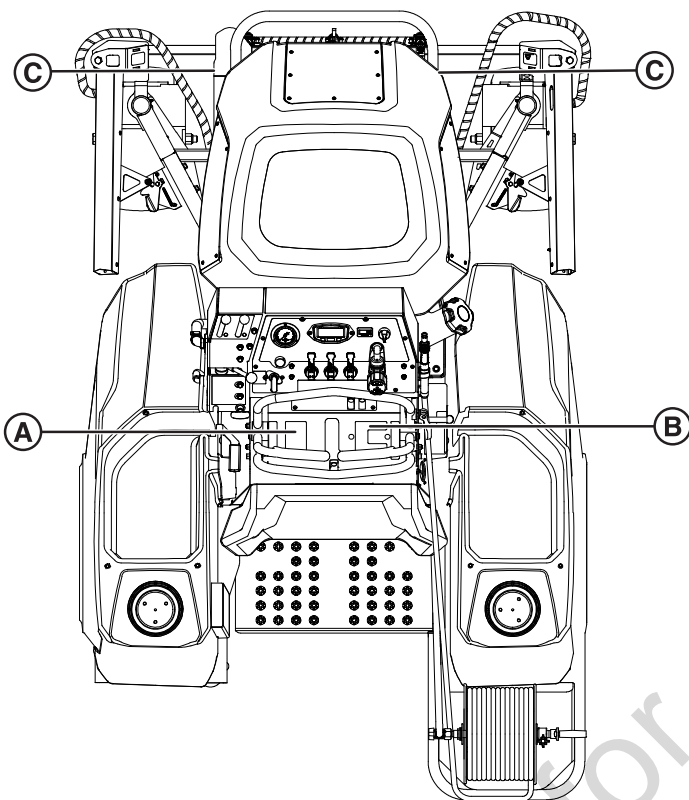
Read the safety decals before operating your unit. The cautions and warnings are for your safety. Understand and follow all safety decals to avoid a personal injury or damage to the unit.



WARNING

If any safety decals become worn or damaged, and cannot be read, order replacement decals from your local dealer.

3



- A. Part Number: 5106708 - Decal, Warning
- B. Part Number: 5105766 - Decal, Danger
- C. Part Number: 5103184 - Decal, Warning, Rotating Parts

5106708 - Decal, Warning

WARNING

To avoid serious injury or death:

- Read and understand the operator's manual before using this machine.
- Do NOT operate unless trained to safely use this machine.
- Hearing protection is recommended.
- Do NOT operate without shields, guards, and safety devices in place and working.
- Do NOT defeat the safety system.
- Stop engine and remove key before adjusting, servicing or cleaning machine.
- Do NOT operate when people and pets are in the area.
- Do NOT carry passengers
- Look behind and to the side before changing directions.
- Before leaving the operator's position engage park brake and stop engine.

A. Safety alert triangle.

5105766 - Decal, Danger

DANGER

Loss of control
 Operating on slopes can be hazardous and cause loss of control.

- Avoid sudden turns or rapid speed changes.
- Go across slopes, NOT up and down.
- Reduce speed and use extreme caution on slopes.
- If machine stops forward motion on a slope, stop. Get off and walk the machine slowly off the slope.
- Do NOT operate on slopes when grass is wet.

B

D

E

C

D

Thrown object hazard.

- Do NOT operate when people are nearby.

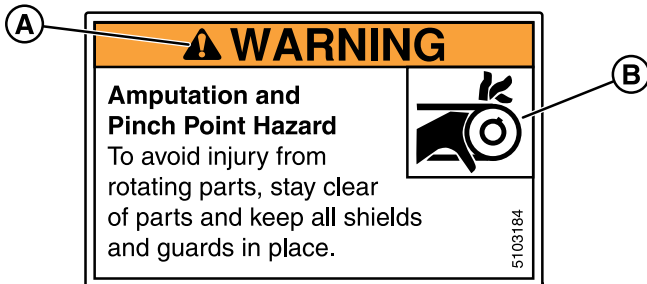
Caustic liquid / chemical burn and gases inhalation hazard.

- Follow instructions for handling and wear all personal protective equipment as recommended on the manufacturer's label of any herbicides, pesticides, or other chemicals used.

5105766 -

- A. **Safety alert triangle.**
- B. **Go across slopes, not up and down.**
- C. **Caustic liquid and chemical burn hazard.**
- D. **Gas inhalation hazard.**
- E. **Thrown object hazard.**

5103184 - Decal, Warning, Rotating Parts



- A. **Safety alert triangle.**
- B. **Amputation - Rotating parts.**

Safety Alert Symbol and Signal Words

The safety alert symbol (▲) is used to identify safety information about hazards that can result in personal injury. A signal word (DANGER, WARNING, or CAUTION) is used with the alert symbol to indicate the likelihood and the potential severity of injury. In addition, a hazard symbol may be used to represent the type of hazard.

▲ **DANGER** indicates a hazard which, if not avoided, **will result in death or serious injury.**

▲ **WARNING** indicates a hazard which, if not avoided, **could result in death or serious injury.**

▲ **CAUTION** indicates a hazard which, if not avoided, **could result in minor or moderate injury.**

NOTICE indicates a situation that **could result in damage to the product.**

Safety Interlock System

This unit is equipped with a parking brake safety interlock switch. These safety systems are present for your safety, do not attempt to bypass safety switches, and never tamper with safety devices. Check their operation regularly.

Test 1 - Engine should NOT start if:

- The parking brake is NOT engaged (unlocked position).

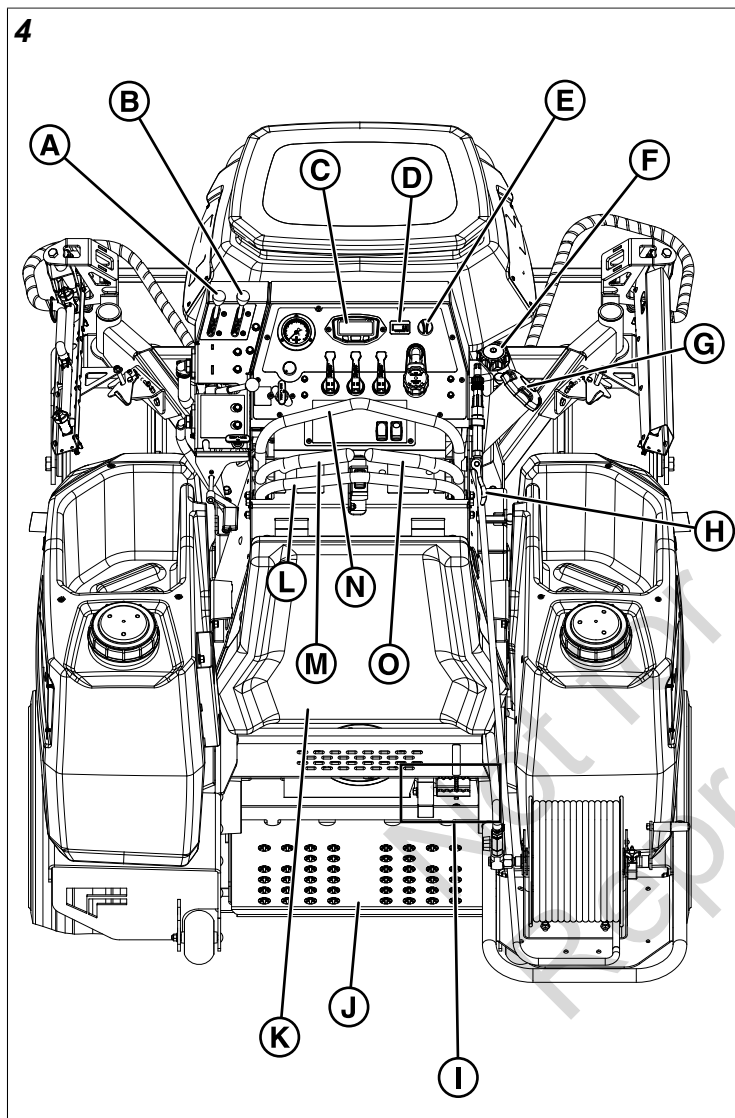
Test 2 - Engine SHOULD start if:

- The parking brake is in the engaged (locked position).

Features and Controls

Unit Control Functions and Locations

The information below briefly describes the function of individual controls. Starting, stopping, and driving require the combined use of several controls applied in specific sequences. To learn what combination and sequence of controls to use for various tasks see the *Operation* section.



Unit Controls List

- A. Engine Throttle Control Lever
- B. Choke Control Lever
- C. Speedometer
- D. Hour Meter
- E. Ignition Switch
- F. Hydraulic Oil Expansion Tank
- G. Fuel Tank Cap
- H. Cam Lever
- I. Parking Brake Pedals
- J. Operator Platform

- K. Operator Cushion
- L. Rear Stationary Lever
- M. Left Ground Speed Control Lever
- N. Maximum Forward Speed Control Bar
- O. Right Ground Speed Control Lever

Engine Throttle Control Lever

The throttle controls engine speed. Move the throttle forward to increase engine speed and back to decrease engine speed.



FAST engine throttle speed



SLOW engine throttle speed

Choke Control Lever

Close the choke for cold starting. Open the choke once the engine starts. A warm engine may not require choking. Move the lever forward to close the choke and rearward to open the choke.



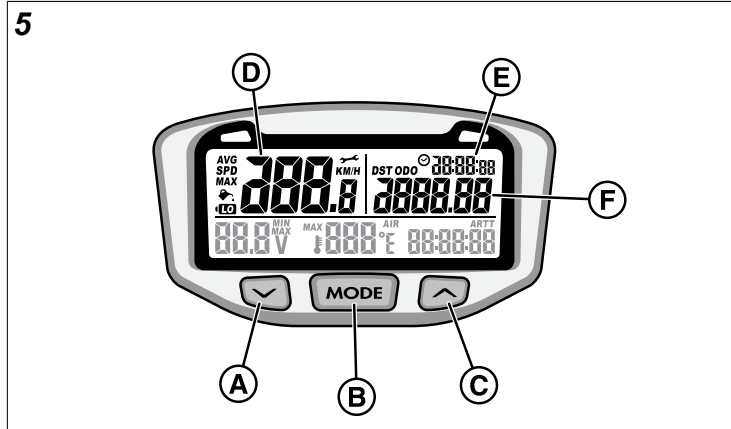
CLOSED choke position



OPEN choke position

Speedometer

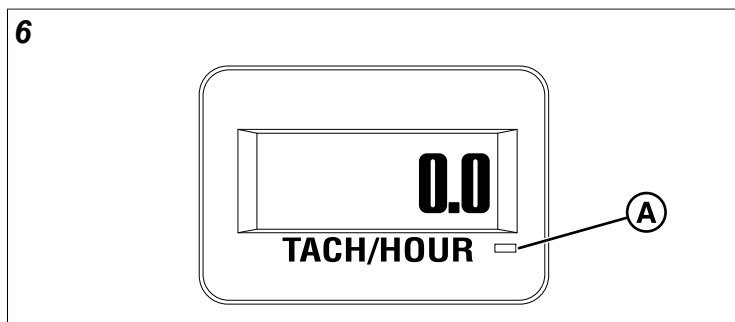
This unit is equipped with a speedometer to help you track the ground speed of the machine so you can ensure ground coverage while operating the unit. In addition to a speedometer, other modes that can be accessed on the speedometer is a clock and trip distance recording. There are other functions built into the speedometer but they are not used on this unit.



- A. Left Button (DOWN)
- B. Center Button (MODE)
- C. Right Button (UP)
- D. Speed Display
- E. Clock Display
- F. Trip Distance Display

Hour Meter

This unit is equipped with an hour meter that records the number of hours that the engine has run. The hour meter also reports the engine RPM. Press the button (A, Figure 6) on the hour meter to switch between the two outputs.



Ignition Switch

The ignition switch starts and stops the engine, it has three positions:



OFF: Stops the engine and shuts off the electrical system.



RUN: Allows the engine to run and powers the electrical system.



START: Cranks the engine for starting.

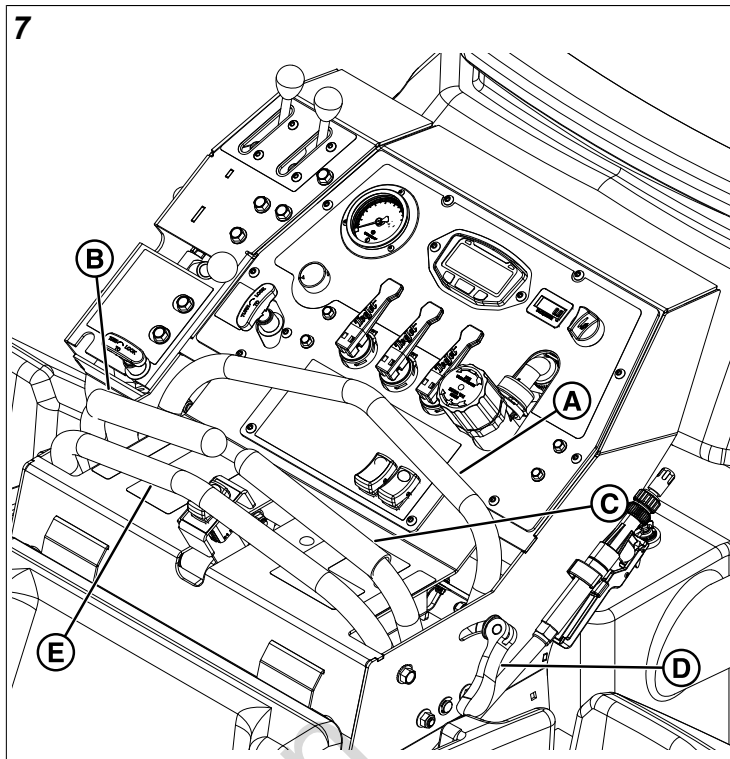
Note: Never leave the ignition switch in the RUN position with the engine stopped—this drains the battery.

Fuel Tank Cap

To remove the fuel tank cap, turn **counter-clockwise**.

Steering Control Levers

This unit is equipped with a maximum forward speed control bar (A, Figure 7) which is located in front of the forward speed control levers.



A. Maximum Forward Speed Control Bar

B. Left Ground Speed Control Lever

C. Right Ground Speed Control Lever

D. Cam Lever

E. Rear Stationary Lever

The maximum forward speed control bar can be adjusted in any position within its positioning slot. The closer the control bar is to the ground speed control levers (B & C) the slower the unit will drive and the further away from the ground speed control levers the faster the unit will drive.

To adjust the position of the maximum forward speed control bar release the cam lever (D), position the control bar in the desired location, and then lock the cam lever back in place.

You should only adjust the position of the maximum forward speed control bar after you have stopped all movement of the unit.

This unit is equipped with a left ground speed control lever (B) and a right ground speed control lever (C). These levers control the ground speed and direction that the unit travels in. The left lever controls the left rear drive wheel and the right lever controls the right drive wheel.



FAST FORWARD



SLOW FORWARD



NEUTRAL



REVERSE

Moving a lever forward increases the FORWARD speed of the associated wheel, and pulling back on a lever increases the REVERSE speed.

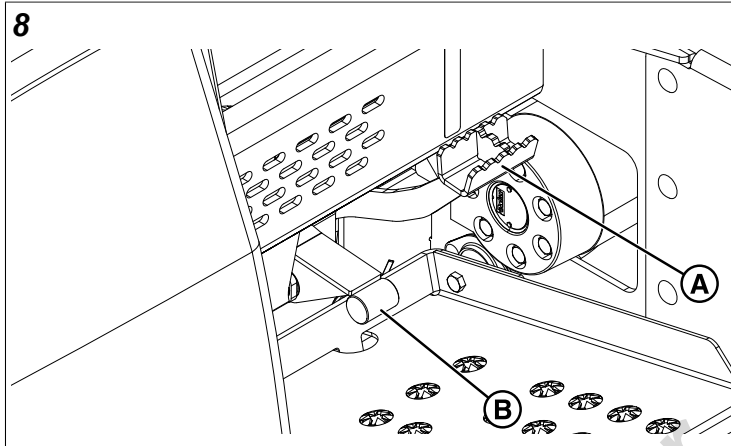
Do not attempt to move the ground speed control levers until the parking brake has been released.

Note: The further a lever is moved away from the neutral position the faster the drive wheel will turn.

See the *Driving the Unit* section for steering instructions.

Parking Brake Pedals

This unit is equipped with a parking brake pedal (A, Figure 8) and a parking brake release pedal (B).



DISENGAGED POSITION: Press the parking brake pedal down fully with your foot to engage the parking brake.

ENGAGED POSITION: Press the parking brake release pedal down fully with your foot to release the parking brake pedal. The parking brake pedal will move upwards.

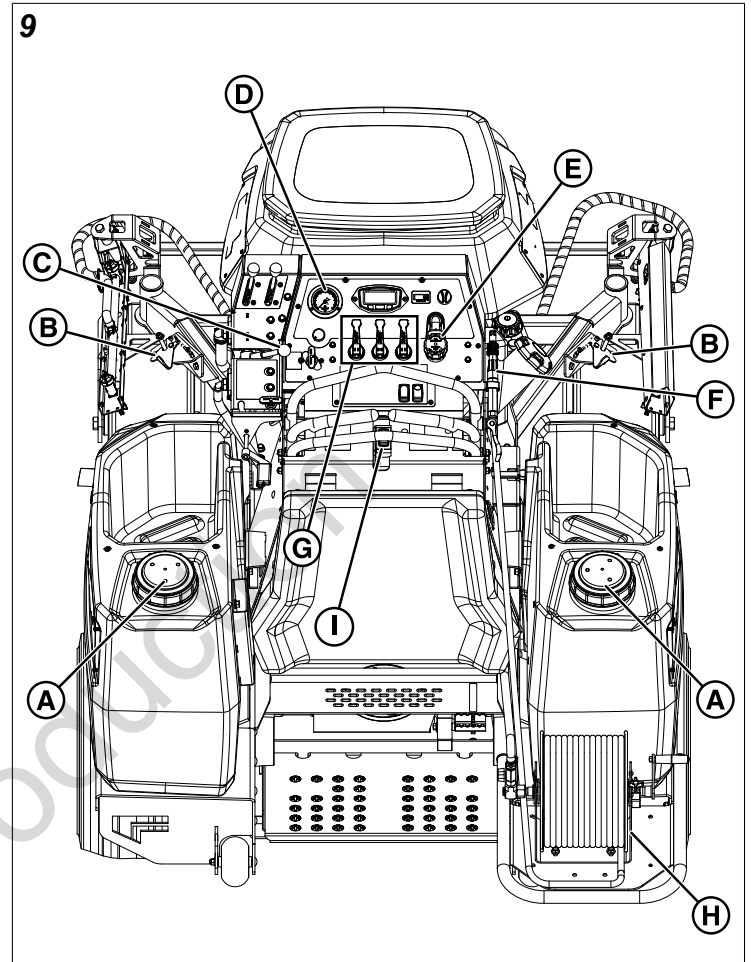
Drive System Release Valves

Icon	Control Name
	Drive System Release Valves

This unit is equipped with two drive system release valves. The drive system release valves deactivate the hydraulic system so that the unit can be pushed by hand. Both drive system release valves must be in the same position whether you are driving the unit or pushing it by hand. See *Pushing the Unit by Hand* for operational information.

Sprayer Control Functions and Locations

The information below briefly describes the function of individual controls. Spraying requires the combined use of several controls applied in specific sequences. To learn what combination and sequence of controls to use for various tasks see the *Operation* section.



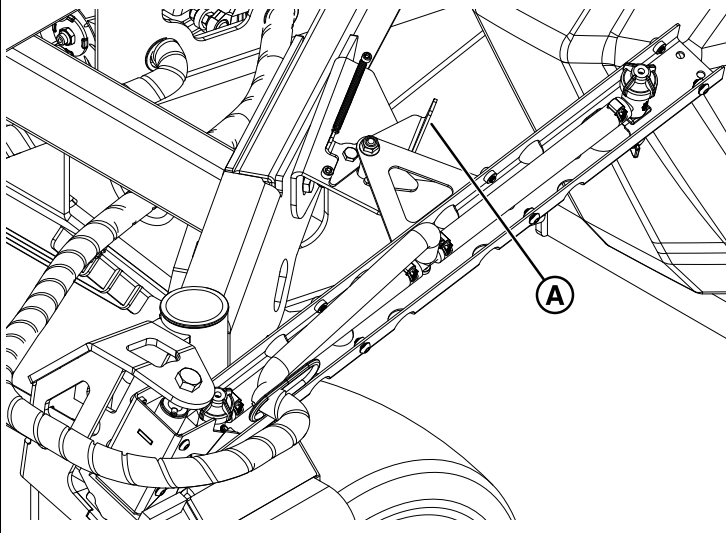
Sprayer Control List

- A. Liquid Material Tank Caps
- B. Boom Release Latches
- C. Liquid Material Tank Selector Lever
- D. Spray System Pressure Gauge
- E. Spray Pressure Adjustment Control
- F. Spray Wand
- G. Boom Control Levers (Spray Toggle Valves)
- H. Spray Wand Hose Reel
- I. Spray Pump ON/OFF Switch

Boom Release Latches

The boom release latches (A, Figure 10) release the left and right spray booms.

10



- To release the spray boom, open the spring latch.
- To close the spray boom, fold the boom towards the spring latch and ensure the spring latch closes over the pin on the end of the boom.

Liquid Material Tank Selector Lever

This lever controls which tank from which liquid fertilizer will be drawn. The left, right, or both tanks can be selected. Move the lever to the position of the desired tank(s).

Spray System Pressure Gauge

This gauge displays the pressure of the spraying system to the operator. To adjust the spray system pressure, see the *Spray Pressure Adjustment Control*

Spray Pressure Adjustment Control

This knob adjusts the pressure of the liquid material spray system. To adjust, turn the knob left or right.

- Turn the knob to **clockwise** to increase the pressure.
- Turn the knob **counter-clockwise** to decrease the pressure.

Boom Control Levers/Spray Toggle Valves

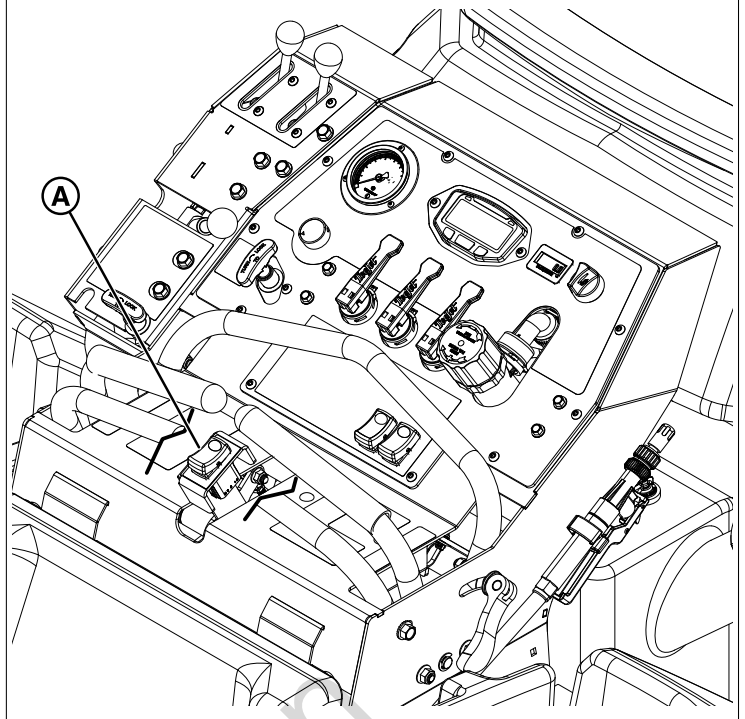
These levers control the boom sections. There are left, right, and center boom sections. Each boom section contains two sprayers. The boom sections can be used simultaneously or separately depending on spraying needs.

- To turn activate the sprayers in a boom section, pull its lever to the ON position.
- To turn deactivate the sprayers in a boom section, push its lever to the OFF position.

Spray Pump On/Off Switch

This switch (A, Figure 11) activates the sprayer pump.

11

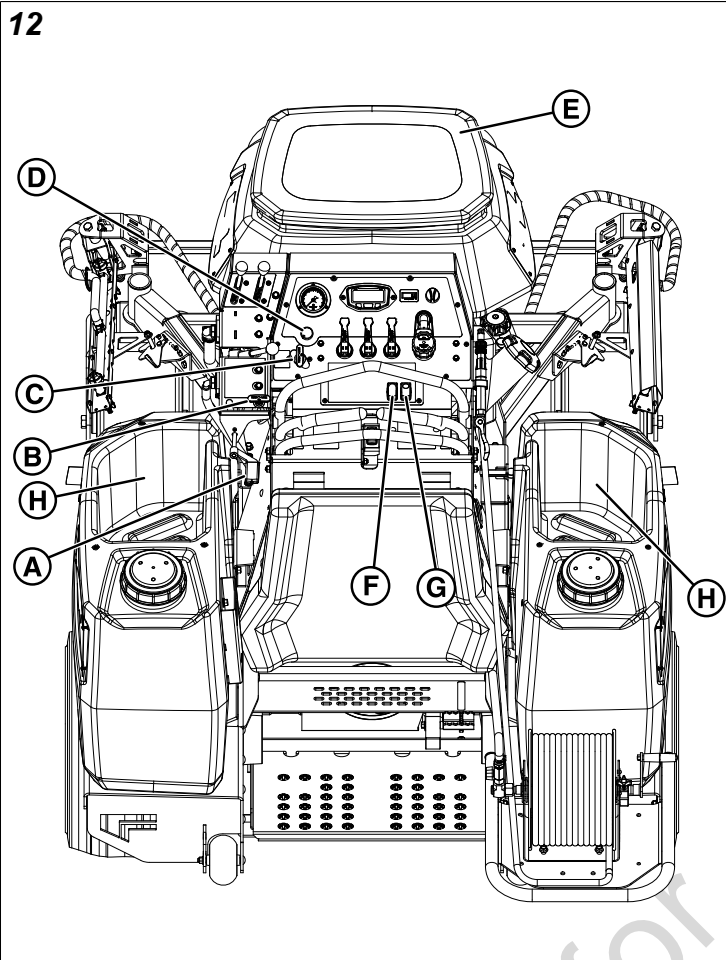


- Press the switch to the ON position to start the sprayer pump.
- Press the switch to the OFF position to stop the sprayer pump.

See *Operating the Sprayer* for additional instructions.

Spreader Control Functions and Locations

The information below briefly describes the function of individual controls. Spreading requires the combined use of several controls applied in specific sequences. To learn what combination and sequence of controls to use for various tasks see the *Operation* section.

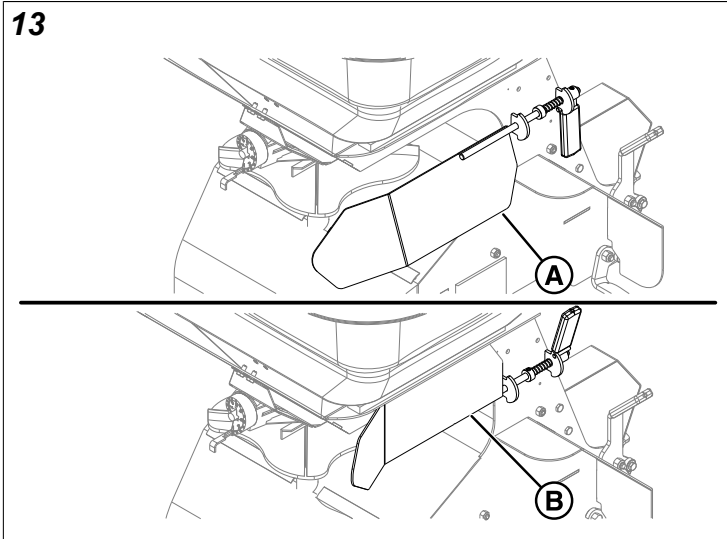


Spreader Control List

- A. Trim Shield Control Lever
- B. Pattern Control
- C. Hopper Gate Control
- D. Spreader Motor Control
- E. Hopper
- F. Momentary Shaker Switch
- G. Spreader ON/OFF Switch
- H. Fertilizer Pockets
- I. Gate Stop (Located Underneath Hopper)

Trim Shield Control Lever

This lever rotates the trim shield in and out of the path of the granular spread pattern. While in the path of the spread pattern, it will stop distribution of granular product to the left of the operator.



- To activate the Trim Shield (A, Figure 13), grasp the lever, push the lever inward, turn the lever **counter-clockwise**, and release the lever.
- To deactivate the Trim Shield (B), grasp the lever, push the lever inward, turn the lever **clockwise**, and release the lever.

Pattern Control

This control adjusts and centers the granular spread pattern. The pattern control centers the spread pattern if granular material spreads too heavily to the left or right of the machine. To use, pull or push the control until desired spread pattern is reached. Turn the control to the right to lock the pattern control at the desired setting.

Hopper Gate Control

This control opens and closes the granular hopper gate.

- To open the gate, pull the control up.
- To close the gate, push the control down.
- To adjust the maximum opening of the hopper gate, see *Gate Stop* in Features and Controls.

Spreader Motor Control

This control determines the speed of the spreader motor. The spreader motor speed affects the distance the granular material will be expelled from the machine. Speed can be selected in increments from zero (off) to ten (fastest).

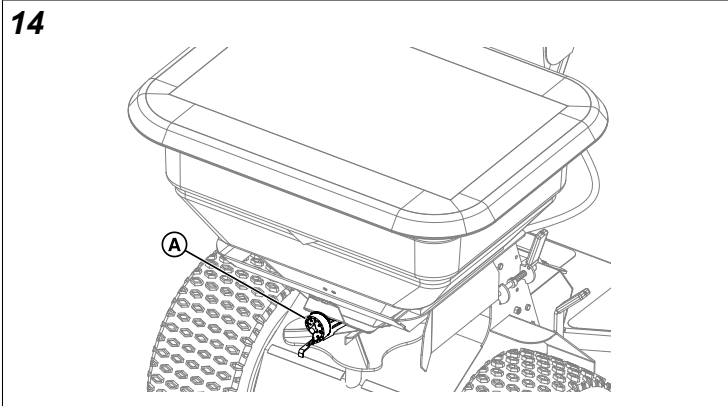
- To increase the speed of the spreader motor, turn the knob **clockwise**.
- To decrease the speed of the spreader motor, turn the knob **counter-clockwise**.

Momentary Shaker/Agitator Switch

This momentary switch activates the hopper shaker/agitator. Press and hold this switch to start the shaker/agitator. This will vibrate the granular material in the hopper, allowing it to loosen and flow inside the hopper. Release the switch to stop the shaker/agitator.

Gate Stop

The gate stop (A, Figure 14) controls the maximum opening of the hopper gate and is located on the front of the hopper. The knob is rotated one direction or the other until the desired maximum gate opening is obtained.



Not for
Reproduction

Operation

Before First Time Operation

- Be sure to read all information in the *Operator Safety* and *Operation* sections before attempting to operate this unit.
- Become familiar with all of the controls and how to stop the unit.
- Drive in an open area without operating the spreader and/or sprayer to become accustomed to the unit.



WARNING

Never operate on slopes greater than 14 degrees.

- Select slow ground speed before driving onto a slope. Use extra caution when operating on slopes with any accessories attached to the unit.
- Operate across slopes, NOT up and down. Use caution when changing direction on slopes and do NOT start or stop on a slope.



WARNING

- Never allow passengers to ride on the unit.
- Before leaving the operator's platform for any reason, engage the parking brake, and turn off spreader and sprayer functions.
- Fuel is highly flammable and must be handled with care. Never fill the tank when the engine is hot from recent operation. Do NOT allow open flame, smoking, or matches in the area. Avoid over-filling and wipe up any spills.

Checks Before Starting

- Fill the fuel tank to the bottom of the filler neck with fresh fuel. This will allow for fuel expansion. Do not overfill. Refer to the engine manual for fuel recommendations. Do not add oil to the gasoline.
- Understand the controls, their locations, their functions, and their safety requirements.
- Refer to Maintenance, Storage, and Safety section to learn how to perform all the necessary inspection and maintenance steps.

Starting the Engine



WARNING



Read the operator's manual before attempting to operate this unit.

- If you do not understand how a specific control functions, or have not thoroughly read the *Features and Controls* section, do so now.
- Do NOT attempt to operate the unit without first becoming familiar with the location and function of all controls.

1. While standing on the operator's platform, engage the parking brake, make sure that the spreader/sprayer controls are turned OFF, and that the ground speed control levers are in the NEUTRAL position.
2. **A warm engine may not require choking.** Set the engine throttle control to the FAST throttle position and then fully close the choke
3. Insert the key into the ignition switch and turn to START. If the engine does not start after five (5) seconds, turn the ignition switch to OFF, and refer to the engine owner's manual.
4. After the engine starts, gradually open the choke. Reduce the engine throttle speed to half and allow the engine to warm.
Warm up the engine by running it for at least a minute before attempting to drive the unit or engage the spreader/sprayer functions.
5. Disengage the parking brake before driving the unit.

In the event of an emergency the engine can be stopped by simply turning the ignition switch to OFF. Use this method only in emergency situations. For normal engine shut down follow the procedure given in *Stopping the Unit*.

Stopping the Unit

1. Turn off the spreader/sprayer function controls.
2. Drive the unit to a flat, level surface.
3. Allow the ground speed control levers to return to the NEUTRAL position. This will stop the movement of the rider.
4. Engage the parking brake by pressing down the parking brake pedal with your foot.
5. Move the engine throttle control lever to the SLOW position and then turn the ignition key to the OFF position. Remove the ignition key.

Driving the Unit

Read the *Features and Controls* section and understand the location and function of all of the unit's controls before driving the unit.

Keep both feet on the operator platform at all times.

The ground speed control levers of this unit are responsive. Learning to gain a smooth and efficient control of the unit's forward, reverse, and turning movements will take some practice.

Practicing the maneuvers shown and becoming familiar with how the unit accelerates, travels, and steers before you begin spreading or spraying is essential to getting the most out of your unit.

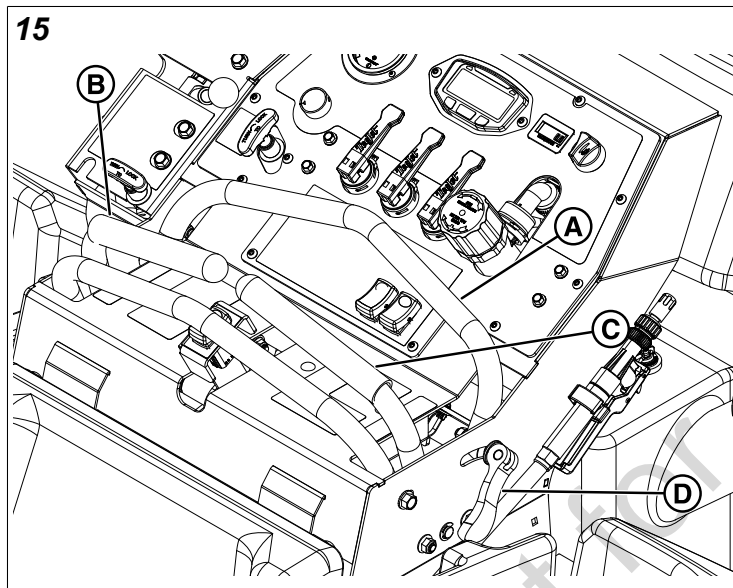
Locate a smooth, flat area of your lawn, one with plenty of room to maneuver. Clear the area of objects, people, and animals before you begin. Operate the unit at mid-throttle during this practice session, and turn slowly to prevent tire slippage and damage to your lawn.

Begin with the *Smooth Travel* procedure, and then advance through the forward, reverse, and turning maneuvers.

Before moving the ground speed control levers you must be standing on the operator platform and the parking brake must be disengaged.

Adjusting the Maximum Forward Speed Control Bar

This unit is equipped with an adjustable maximum forward speed bar (A, Figure 15) which is located in front of the ground speed control levers (B & C). The maximum forward speed bar has an infinite number of adjustment positions to suit the desired maximum forward speed of the operator.



- The closer the maximum forward speed bar is to the ground speed control levers the slower the unit will drive.
- The further away the maximum forward speed bar is from the ground speed control levers the faster the unit will drive.

When learning to drive the unit, it is recommended that the slowest speed setting be used until the operator is comfortable driving the unit.

To adjust the Maximum Forward Speed Bar to the desired position:

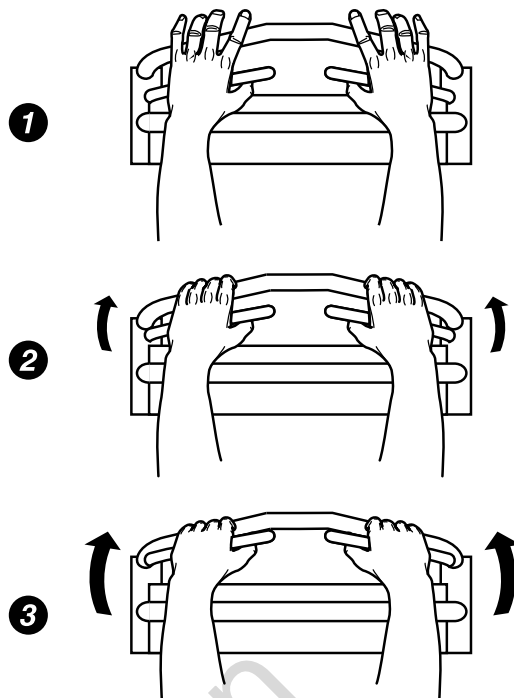
1. Bring the unit to a complete stop.
2. Release the cam lever (D).
3. Position the maximum forward speed control bar to the desired position.
4. Lock the cam lever in place.

Smooth Travel

The ground speed control levers of this unit are responsive.

The BEST method of handling the ground speed control levers is in three steps as shown in Figure 16.

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FIRST, place your hands on the ground speed control levers and the maximum forward speed bar as shown.

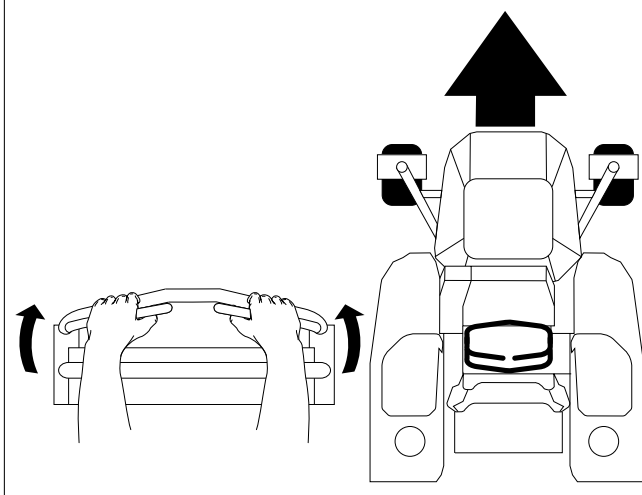
SECOND, to go forward gradually push the ground speed control levers with the palms of your hands evenly towards the maximum forward speed bar.

THIRD, to speed up squeeze the ground speed control levers to the maximum forward speed bar. To slow down smoothly, slowly move the levers evenly towards NEUTRAL.

Basic Driving

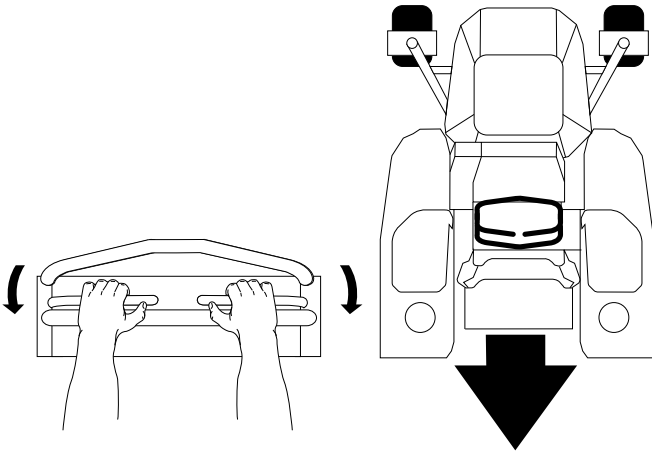
1. **To drive FORWARD:** gradually move both ground speed control levers FORWARD evenly from neutral. Slow down and repeat.

17



2. **To drive in REVERSE:** LOOK DOWN AND BEHIND, then gradually move both ground speed control levers evenly BACK from neutral. Slow down and repeat.

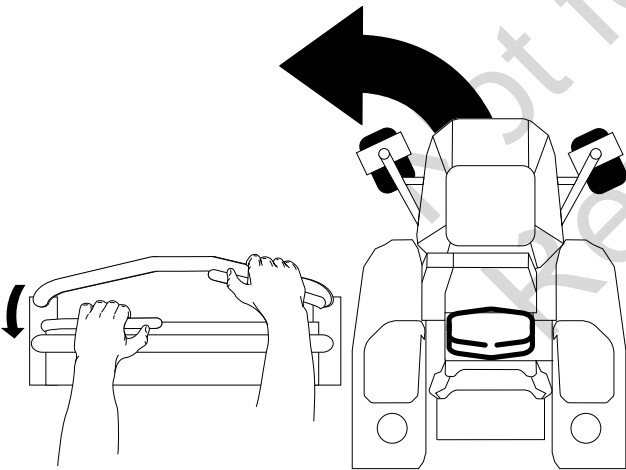
18



Note: Practice backing up for several minutes before attempting to do so near objects. This unit turns sharply in reverse as well as forward, and backing up straight takes practice.

3. **To turn LEFT:** While traveling forward allow the left hand ground speed control lever to gradually return BACK towards neutral. Repeat several times.

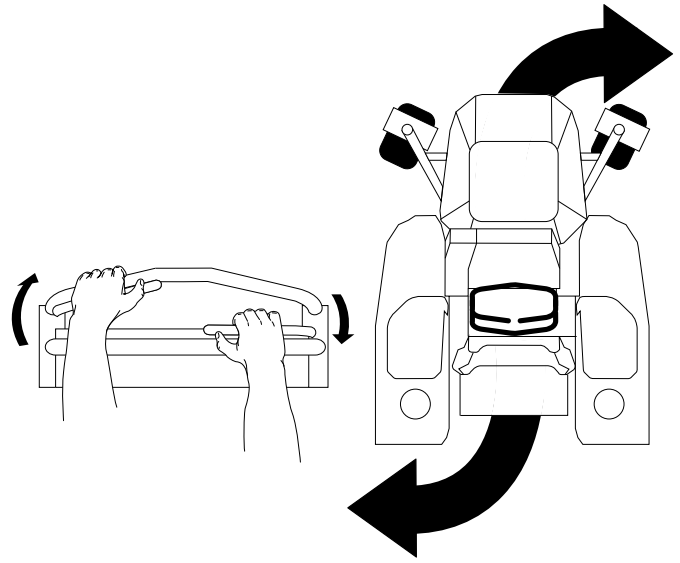
19



Note: To prevent pivoting directly on the tire tread, it is best to keep both wheels going at least slightly forward.

4. **To turn RIGHT:** While traveling forward allow the right hand ground speed control lever to gradually return BACK towards neutral. Repeat several times.
5. **To ZERO-TURN:** gradually move one ground speed control lever FORWARD from neutral while moving the other ground speed control lever BACK from neutral simultaneously. Repeat several times.

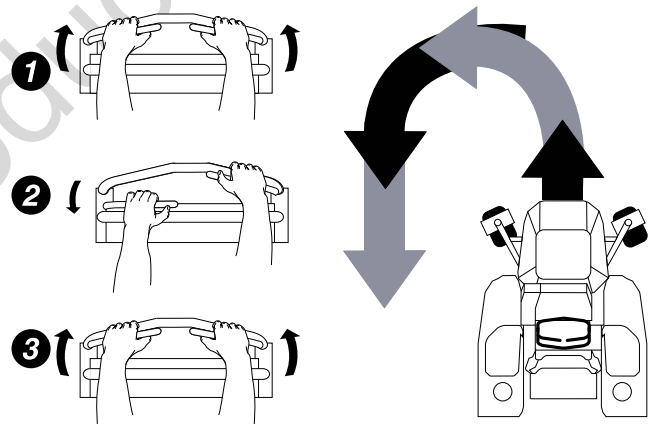
20



Note: Changing the amount each ground speed control lever is pulled, forward or back, changes the "pivot point" you turn on.

Advanced Driving

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Your unit's unique ability to turn in place allows you to turn around at the end of a row rather than having to stop and Y-turn before starting a new row.

For example, to execute a **LEFT END-OF-ROW ZERO-TURN:**

1. Slow down at the end of the row.
2. Move the RIGHT steering control lever forward slightly while moving the LEFT steering control lever back to center and then slightly back from center.
3. Begin driving forward again.

As you become more familiar and experienced with operating the unit, you will learn more maneuvers that will make your operating time easier and more enjoyable.

Remember, the more you practice, the better your control of the unit will be!

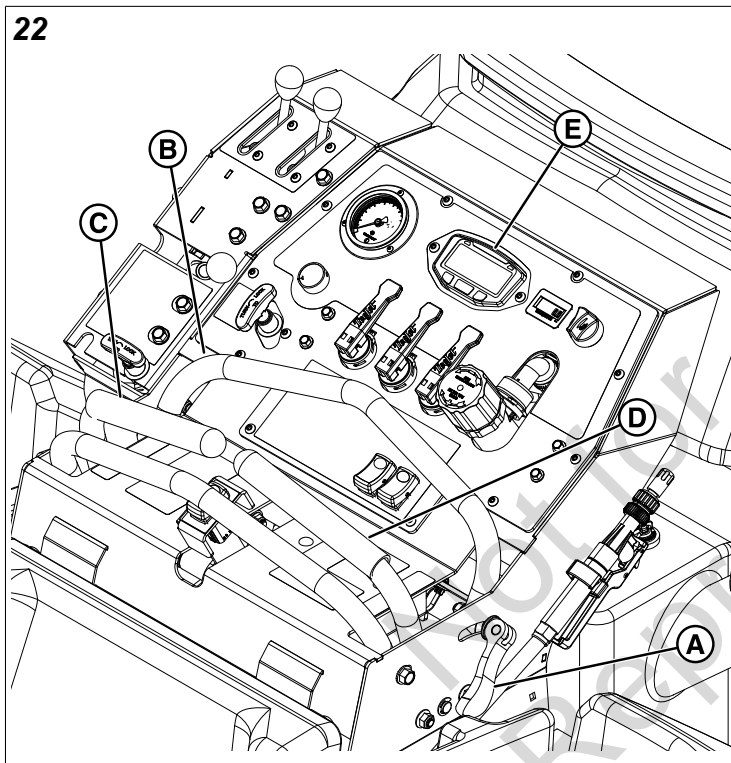
Setting the Ground Speed for Spreading/Spraying

This unit has a maximum forward speed of 8 mph. However, the application speed of the unit should be adjusted to match the target application rate when spreading and spraying. Operating the unit at a higher or lower speed when applying products can greatly alter the application rate of both granular and liquid products.

To adjust the ground speed, the maximum forward speed control bar can be moved so that it limits the travel of the ground speed control levers to limit the overall unit speed.

To set the ground speed to the desired application speed:

1. Loosen the cam lever (A, Figure 22).



2. Adjust the maximum forward speed control bar (B) to the desired position.
3. Tighten the cam lever.
4. Drive the unit and press both ground speed control levers (C & D) against the maximum forward speed control bar. The speedometer should read your desired application rate.
 - If the speedometer reads the desired application speed, the position of the maximum forward speed control bar is properly set.
 - If the speedometer does not read the desired application speed, re-position the maximum forward speed control bar using the procedure above until it does.

Operating on Slopes

Learn how to operate the unit on slopes and use your body position to improve traction and control of the unit.

Operation on slopes can be dangerous. Slopes are a major factor related to accidents, which can result in severe injury or death. Using the unit on a slope that is too steep where you do not have adequate wheel traction (and control) can cause sliding, loss of steering, control, and possible rollover. If you feel unsure about operating the unit on a slope, don't do it. It's not worth the risk.

- This machine has a high center of gravity and may become unstable on slopes. Always lean towards the slope of a hill when operating on slopes and lean towards the center of the turn when changing directions on slopes.
- Operation on wet grass especially when going up and down slopes can cause loss of traction, sliding, loss of steering, control, and possible rollover.

Operate across slopes, NOT up and down slopes.

- Lean your body slightly rearward and towards the uphill side drive wheel, while keeping a firm grip on the control levers. This body position adds more weight to the uphill side drive wheel to maximize traction and control.
- Do NOT accelerate quickly, as this may cause the machine's front wheels to come off the ground.
- Always be gentle operating the controls, travel at a slower speed than normal.

Operate up and down slopes, ONLY if you cannot operate across slopes.

- It is recommended to operate up or down slopes only when you cannot operate across slopes.
- Operation down slopes can be dangerous and cause sliding, loss of steering, control, and possible rollover. Do NOT operate down a slope unless absolutely necessary.
- Operate up the slope and lean your body forward (towards the control panel), while keeping a firm grip on the control levers. This body position helps keep the front wheels on the ground.
- Operate down the slope and lean your body rearward with your arms out-stretched, while keeping a firm grip on the handlebar. This body position adds more weight to the drive wheels and improves traction, downhill braking, and control.
- Always be very gentle operating the controls, travel at a slower speed than normal.
- Do NOT accelerate quickly or change speed or direction suddenly while operating, as this may cause the machine's front wheels to come off the ground (up slopes) and to reduce the tendency to cause the machine to slip and slide (down slopes).

Pushing the Unit by Hand

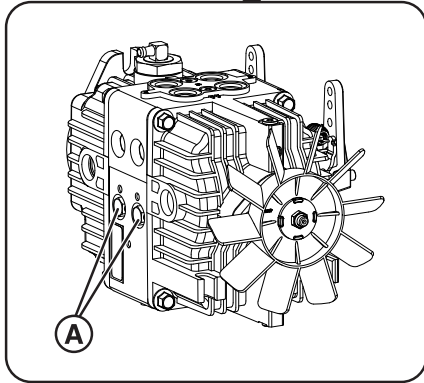
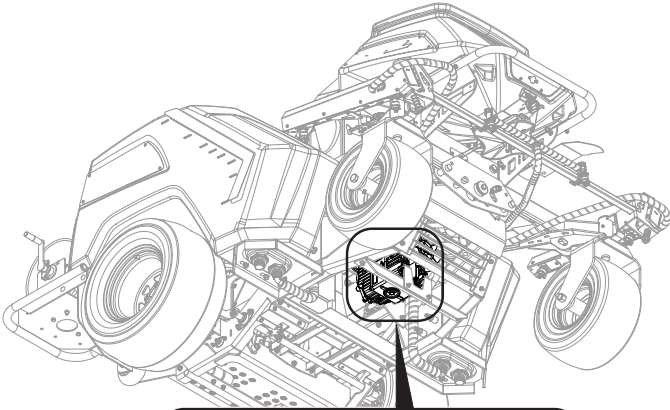
NOTICE

DO NOT tow the unit. Towing the unit while the drive system is engaged could damage the hydraulic system.

DO NOT use another vehicle to push or pull this unit.

This unit can be pushed by hand when the drive system is disengaged. To disengage the drive system, use the drive system release valves located on the transmission.

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1. Turn off the spreading/spraying functions, engage the parking brake, turn the ignition switch to OFF, and remove the ignition key.
2. Locate the drive system release valves on the underside of the unit. There are two drive system release valves on the hydraulic pump.
3. To disengage the drive system, use a 5/8" socket to turn each valve **counter-clockwise**.
4. Disengage the parking brake. The unit can now be pushed by hand.
5. After moving the unit to the desired location, engage the parking brake, and engage the drive system. Use a 5/8" socket to turn each valve **clockwise** and tighten into place.

Note: Both hydraulic release valves must be in the same position.

Transporting the Machine

- Use a heavy-duty trailer to transport the unit. Securely fasten the unit to the trailer or rack with straps, chains, or cables. The unit has tie down points provided. Make sure that the trailer has all of the necessary lighting and markings that are required by law. If using a trailer, make sure that the safety chains are secured.
- Use extreme caution when loading the unit on a trailer. The ramps should be long enough so that the angle between the ramp and the ground does not exceed 14

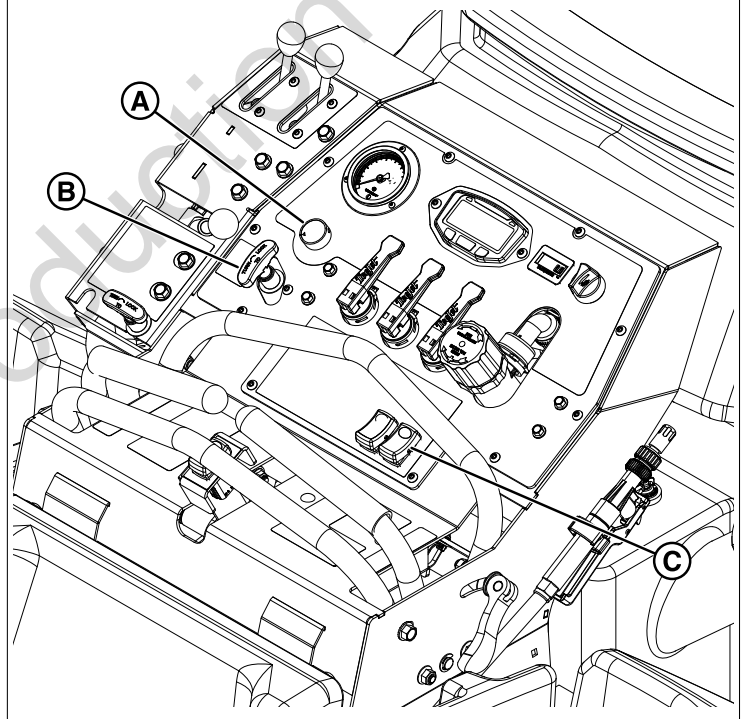
degrees. A steeper angle may cause the unit to lose traction and slide out of control.

- Always load the unit with the unit driving forward.
- Limit the engine throttle and ground speed when loading the unit.
- Engage the parking brake once the unit has been properly loaded and the engine is shut off. This will help minimize movement of the unit on the trailer during transportation.

Operating the Spreader

The spreader has a variable spread width that can be adjusted from 0-25'. The spread width is adjusted by varying the speed of the spreader platter motor with the spreader motor control (A, Figure 24) located on the left side of the console. For normal fertilizer spreading application, the spreader platter should be adjusted so that the granular product is thrown approximately 14'. This spread width allows for a double overlap of product when machine passes are made on 7' centers.

24

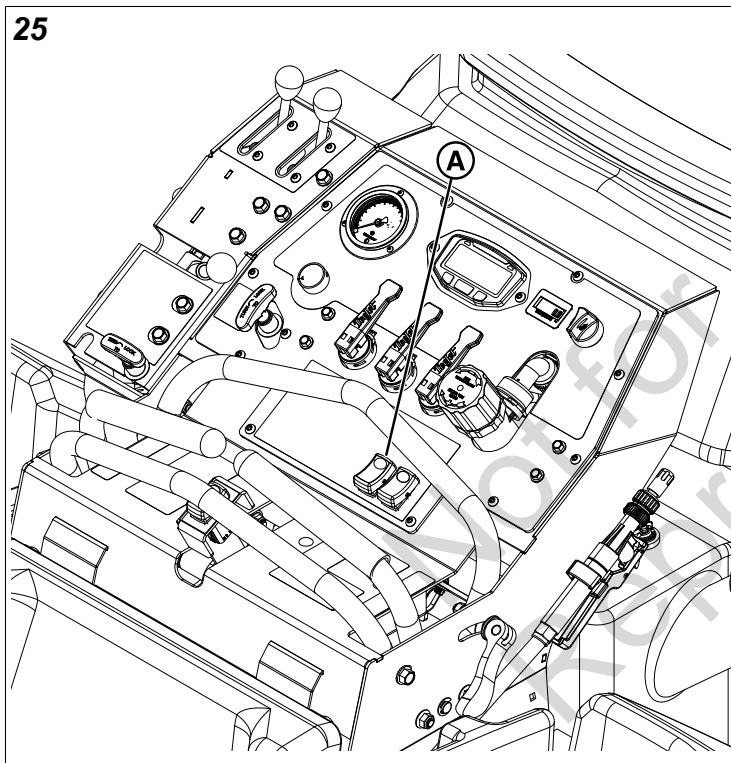


1. Adjust the gate stop on the front of the hopper to the desired setting. A setting of 4.5-5.0 is a good starting point.
2. Completely close the hopper gate with the hopper gate control (B) and add fertilizer to the hopper.
3. Install the hopper shower cap.
4. Step onto the operator platform, engage the parking brake, and make sure the spreader/sprayer controls are turned OFF, and that the ground speed control levers are in NEUTRAL position.
5. Start the engine.

- Disengage the parking brake. Slowly squeeze the ground speed control levers towards the maximum forward speed control bar to start driving the unit forward.
- Turn the spreader ON/OFF switch (C) to the "ON" position.
- Pull the hopper gate control to the "OPEN" position.
- To stop the spreading operation, push the gate lever to the "CLOSED" position, and reverse the steps listed above.

Operating the Shaker

The shaker/agitator vibrates the granular hopper to release additional granular material. The shaker is activated by the momentary shaker switch (A, Figure 25). To activate the shaker/agitator, press and hold the momentary shaker switch. To deactivate the shaker, release the momentary shaker switch.

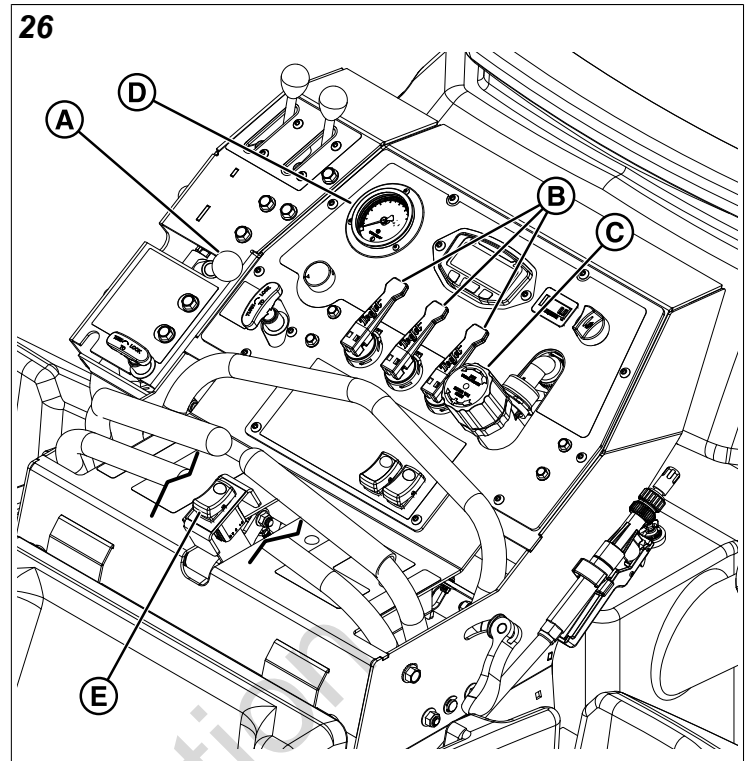


Operating the Sprayer

The sprayer has a pattern width of 12' when both the left and right spray booms are deployed and all of the spray nozzles are activated. The effective pattern width is 10' wide, which allows the same pass width as the spreader. For this reason, the spreader and spraying systems may be operated at the same time. Product should be mixed in the tank at a rate that matches the coverage area, not the spray tank size.

- Add the required liquid materials to the spray tank or tanks.
- While standing on the operator's platform, make sure that all the sprayer/spreader controls are OFF, the parking brake is engaged, and then insert the ignition key into the ignition switch and turn to the START.

- Use the liquid material tank selector lever (A, Figure 26) to select which tank you want to spray liquid fertilizer from. You can choose the left, right, or both tanks.



- Activate the spray system by moving the spray pump on/off switch (E) to the ON position.
- Set the spray pressure adjustment control (C) to the desired pressure setting when the unit is at full throttle and the system is spraying. The spray pressure can be read by viewing the spray system pressure gauge (D). It is common for the spray system pressure to rise above the set pressure setting if the pump is activated and the boom control levers are shut off so that no liquid material is released from the nozzles.

This unit is equipped with Teejet AIXR spray tips.

- To achieve an application rate of 1/4 gallon liquid material per 1000 square feet, set the spray system pressure to 20 psi and the ground speed to 5 mph. This will produce extra coarse droplets.
- To achieve an application rate of 1/3 gallon liquid material per 1000 square feet, set the spray system pressure to 30 psi and the ground speed to 5 mph. This will produce very coarse droplets.

For other application rates, refer to the spreader/sprayer calibration chart found on the underside of the operator thigh pad.

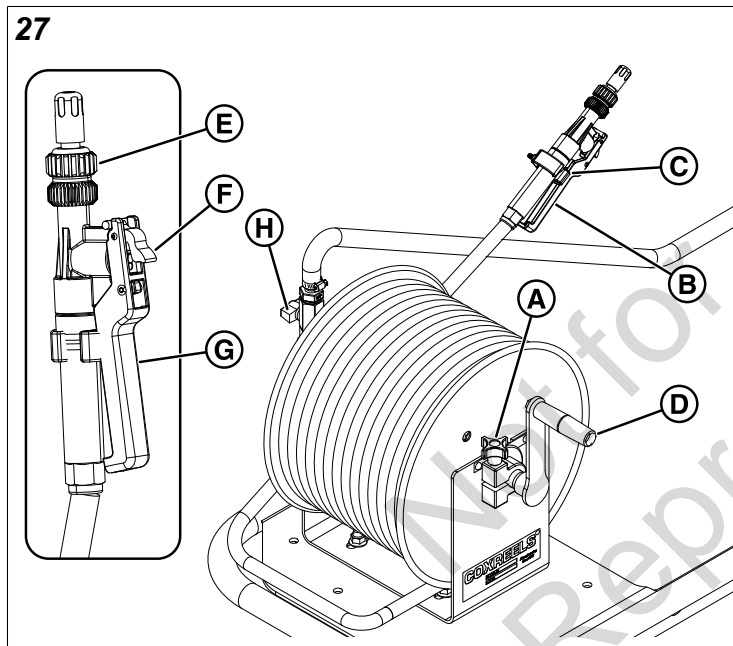
- Observe the direction of the wind and plan an application path that allows the spraying to occur downwind. Avoid spraying in windy conditions as the spray may carry to non-target areas.
- Disengage the parking brake.
- Slowly squeeze the ground speed control levers towards the maximum forward speed control bar to start the unit driving forward.

9. Flip up the boom control levers (B) that correspond with the desired spray nozzles.
10. To stop the spraying operation, move the spray pump on/off switch to the OFF position and flip down the boom control levers.

Operating the Spray Wand

This unit is equipped with a spray wand that is attached to a hose on a reel. This spray wand allows the operator to spot spray liquid material in areas where the unit cannot easily access.

1. Drive the unit near the area where liquid material is intended to be sprayed. Engage the parking brake by pressing down on the parking brake pedal and step off of the operator platform.
2. Close all three boom control levers/spray toggle valves (B, Figure 26)
3. Loosen reel clamp (A, Figure 27).



4. Remove the spray wand handle (B) from the storage clamp (C) on the side of the unit.
5. Turn the crank handle (D) **clockwise** to extend the hose from the reel.
6. The nozzle end (E) on the spray wand can be turned to adjust the width at which the liquid material is sprayed from it.
7. Depress the spray wand handle lock (F) to release the spray handle (G).
8. Open the spray hose valve (H).
9. With the nozzle only pointed at the area where you want to spray liquid material, depress the spray handle to spray liquid material.
10. When you are done spraying release the spray handle to stop the flow of liquid material.
11. Place the spray wand handle into the storage clamp.

12. Turn the crank handle **counter-clockwise** to return the hose to the reel.
13. Tighten the reel clamp

Storage

Temporary Storage (30 Days or Less)

Remember, the fuel tank will still contain some gasoline, so never store the unit indoors or in any other area where fuel vapor could travel to any ignition source. Fuel vapor is also toxic if inhaled, so never store the unit in any structure used for human or animal habitation.



WARNING

Never store the unit, with gasoline in the engine or fuel tank, in a heated shelter or in poorly ventilated enclosures. Gasoline fumes may reach an open flame, spark or pilot light (such as a furnace, water heater, clothes dryer, etc.) and cause an explosion. Handle gasoline carefully. It is highly flammable and careless use could result in serious fire damage to your person or property. Drain fuel into an approved container outdoors away from open flame or sparks.

Here is a checklist of things to do when storing your unit temporarily or in between uses:

- If the unit cannot be stored on a reasonable level surface, chock the wheels.
- Clean any material that may have accumulated from the unit.
- Keep the unit in an area away from where children may come into contact with it.
- Purge the spray system of any leftover liquid material. Should temperatures drop below freezing during storage, fill the liquid tanks with antifreeze and run the sprayer until the nozzles spray anti-freeze. This will prevent any remaining liquid material from freezing, which can damage the sprayer system.

Long Term Storage (Longer Than 30 Days)

Before you store your unit for the off season, read the *Maintenance and Storage* instructions in the Operator Safety section, then perform the following steps:

1. Prepare engine for storage. See engine owner's manual.
2. Purge the spray system of any liquid material. Fill the liquid tanks with anti-freeze and run the sprayer until the nozzles spray the anti-freeze. Be sure the anti-freeze fully circulates through the spraying system. This will prevent any remaining liquid material from freezing, which can damage the sprayer system.
3. Empty the hopper of any granular material.
4. Check the unit for accumulations of any material. Clean all external surfaces and the engine.
5. Check the unit for fertilizer build up. Rinse the unit with water to remove any build up before storing.
6. Completely grease the unit as outlined in the *Lubrication* section.

7. Be sure the battery is fully charged. Battery life will be increased if it is removed, put in a cool, dry place, and fully charged about once a month. If the battery is left in the unit, disconnect the negative cable.
8. Drain the fuel system completely or add a gasoline stabilizer to the fuel system. If you have chosen to use a fuel stabilizer and have not drained the fuel system, follow all safety instructions and storage precautions in this manual to prevent the possibility of fire from the ignition of gasoline fumes. Remember, gasoline fumes can travel to distant sources of ignition and ignite, causing risk of explosion and fire.

Note: Gasoline, if permitted to stand unused for extended periods (30 days or more), may develop gummy deposits which can adversely affect the engine carburetor and cause engine malfunction. To avoid this condition, add a gasoline stabilizer to the fuel tank and run the engine for a few minutes, or drain all fuel from the unit before placing it in storage.

Starting After Long Term Storage

Before starting the machine after it has been stored for a long period of time, perform the following steps:

1. Remove any blocks from under the unit.
2. Install the battery if it was removed.
3. Fill the fuel tank with fresh gasoline. See engine manual for recommendations.
4. See the engine owner's manual and follow all instructions for preparing the engine after storage.
5. Check the oil level in the hydraulic oil tank and add proper oil if necessary. See the *Check/Fill Transmission Oil Level* section of this manual for instructions.
6. Check tire pressures. If necessary, inflate tires to proper pressure.
7. Start the engine and let it run slowly. DO NOT run at high speed immediately after starting. Be sure to run the engine only outdoors or in a well ventilated area.
8. Before adding liquid fertilizer to the tanks, run the sprayer system to completely purge all anti-freeze from the machine. Use containers to capture the anti-freeze that sprays from the unit. Dispose of used anti-freeze properly.

Calibration

Spreader Flow Rate Calibration

The following instructions provide a method for adjusting the flow of fertilizer from the hopper so that the correct amount of fertilizer is applied to a 1000ft² area. The machine is designed to apply fertilizer evenly by overlapping each pass by 50%. The spread width for most products is approximately 14 ft. This means that the center of each pass should be approximately 7 ft from the center of the previous pass. The effective material spread width is 7 ft and is the basis for calibration.

1. Set the ground speed to 5 mph. See *Setting the Ground Speed* in the Operation section.
2. Measure a distance of 143 ft on a flat, paved surface. Using a paved surface will allow the fertilizer to be recollected and will prevent burning the turf if the application rate is largely different from what is intended. Travelling 143 ft with the machine equates to covering approximately 1000 ft² (7 ft x 143 ft = 1001 ft²) with fertilizer.
3. Set the gate stop to a setting of 5. This will be used as the starting setting for dialing in the correct gate stop setting for the particular material that is being used. Note that the spreader will have to be re-calibrated for each different type of material that is to be spread. Make sure to record the final gate stop setting once the correct application rate has been achieved.
4. Place the hopper gate control in the "CLOSED" position. Place enough material in the hopper to cover 1000ft².
5. Begin the spreading operation while moving toward the 143 ft marker. With the unit moving at 5 mph, the hopper should empty out as the unit passes the marker. If the hopper empties before the marker is reached, turn the gate stop dial to a slightly lower setting and repeat the process. If the hopper empties after the marker is reached, turn the gate stop dial to a slightly higher setting and repeat the process. Continue this process until the proper dispensing rate is achieved.
6. When the calibration is complete, collect the fertilizer that has been dispensed for reuse. Never leave fertilizer on the pavement where it can wash away in runoff.

Centering the Spread Pattern

The following instructions provide a method for adjusting the center of the spread pattern so that fertilizer is evenly distributed over the width of the spread area.

1. Obtain the following items:
 - Eleven collection pans, 3 to 4 inches tall and 12 inches square (e.g. aluminum roasting pans).
 - Clear tube, 0.5 inches internal diameter and 4 inches tall. Use a permanent marker to mark the tube at 0.25 inch increments all the way up the tube. This will act as a measuring device for the collected fertilizer pills.
 - A ruler or tape measure.

- A method of recording the collection amounts.
2. Set the gate stop control to a setting of 5.
 3. Move the hopper gate control to the "OPEN" position. The hopper must initially be empty.
 4. Turn the pattern control **counter-clockwise** to release the lock and move the lever in or out so that the baffle can be seen centered just below the opening of the gate in the bottom of the hopper. Turn the pattern control **clockwise** to lock into position.
 5. Move the hopper gate control to the "CLOSED" position.
 6. Load the hopper with the fertilizer to be used for calibration.
 7. Place the eleven collection pans on a flat, paved surface in a straight line on 2 foot centers.
 8. Make at least 3 passes traveling directly over the center pan in a path perpendicular to the row of pans.
Note: All of the passes must be made in the same direction.

9. Pour the contents of the first pan on the left into the graduated tube and record the amount of material that is in the tube. Repeat this measurement for each of the eleven collection pans. Add together all of the eleven amounts to find the total material that was dispensed.
10. Divide the amount caught in each pan by the total amount. This is the percentage that was caught in each pan.
11. The distribution should increase towards the center pan and decrease towards the outside pans. The distribution should be approximately the same on each side. If it appears that the left side is receiving more material, push the pattern control lever in slightly and repeat the process. Only slight adjustments are needed to make spread pattern changes.
12. Once the correct distribution is achieved, measure the distance from the console surface to the top of the pattern control lever. Record this measurement as the setting to be used to the particular fertilizer being evaluated.
Note: The spreader will have to be calibrated for each different type of material that is spread.
13. When the calibration is complete, collect the fertilizer that has been dispensed for reuse. Never leave the fertilizer on the pavement where it can wash away in runoff.

Calibrating the Spray Flow Rate

The following instructions provide a method for verifying the amount of flow being dispensed from the spray nozzles.

1. Fill the spray tanks with water.
2. Adjust the system pressure so that the pressure gauge reads 30 psi
3. Engage the parking brake on the machine and ensure that the ground speed control levers are in the neutral position.

4. Place a container in a position beneath one of the spray nozzles so that all of the spray being dispensed by the nozzle can be captured in the container.
5. Move the spray pump switch to the "ON" position. Run the pump for exactly one minute.
6. Measure the collected water. The amount collected for each tip should be approximately as follows:
 - AIXR Teejet Tip = 28 ounces per minute
7. If the output from the nozzles is slightly different from the values listed above, adjust the pressure slightly using the spray pressure adjustment control. Turning the spray pressure adjustment control **counter-clockwise** will decrease the system pressure and will decrease the output from the tips.
8. If the output from nozzles is drastically different from the values listed above, there may be other problems with the system. Refer to the *Troubleshooting* section for more information.

Not for
Reproduction

Maintenance Schedule

The following schedule should be followed for normal care of your unit. You will need to keep a record of your operating time. Determining operating time is easily accomplished by observing the hour meter.

UNIT MAINTENANCE
Daily Inspections
Check the entire machine for loose hardware or other problems. Resolve any issues before operating the machine.
Check the unit's safety interlock system.
25 Hour Maintenance Interval
Check the tire pressure in all four tires. The front tire pressure should be 15 psi. The back tire pressure should be 12 psi.
Clean debris from the engine and muffler.
Inspect the spray system filter.
50 Hour Maintenance Interval
Check the unit's brakes. Adjust if necessary.
Grease the caster pivot tube bearings and the front pivoting axle.
100 Hour Maintenance Interval
Inspect the fuel tank for debris. Clean if necessary.
Inspect the fuel filter. Clean or replace as necessary.
Flush and clean the spray tank.
Check the spray system output rate. Replace spray tips and/or adjust pressure setting as necessary.

ENGINE MAINTENANCE
Daily Inspections
Check the engine oil level.*
Check the reduction case oil level.*
Check the air filter.**
One (1) month or 20 Hour Maintenance Period, whichever comes first
Initial change of the engine oil.*
50 Hour Maintenance Interval
Clean the air filter.**
100 Hour Maintenance Interval
Change the engine oil.*
Clean the sediment cup on the engine.*
Check and adjust the spark plug.*
Check the spark arrester on the engine.*
200 Hour Maintenance Interval
Replace the air filter.*
Replace the spark plug.*
Clean the fuel cap.*

ENGINE MAINTENANCE
Check the engine idle and adjust if necessary.***
Check the valve clearance and adjust if necessary.***
500 Hour Maintenance Interval
Replace spark plug.*
Remove carbon from cylinder head.
Check and adjust valve clearance.*
Clean and adjust carburetor.*
Clean the combustion chamber.***

* See the engine manufacturer's operator's manual.

** More often in hot (over 85° F; 30° C) weather or dusty operating conditions.

*** These items should be service by the engine manufacturer's servicing dealer, unless you have proper tools and are mechanically proficient. Refer to the engine manufacturer's shop manual for service procedures.

Maintenance Procedures

Before Maintaining Your Unit

Units Equipped with Electronic Fuel Injected Engines:

If electric welding on vehicle, remove battery negative cable (black) from battery negative (-) terminal, and disconnect the ECM electrical connector(s). If welding on the muffler, also disconnect the O2 sensor electrical connector and remove the O2 sensor from the muffler.

Checking / Adding Fuel

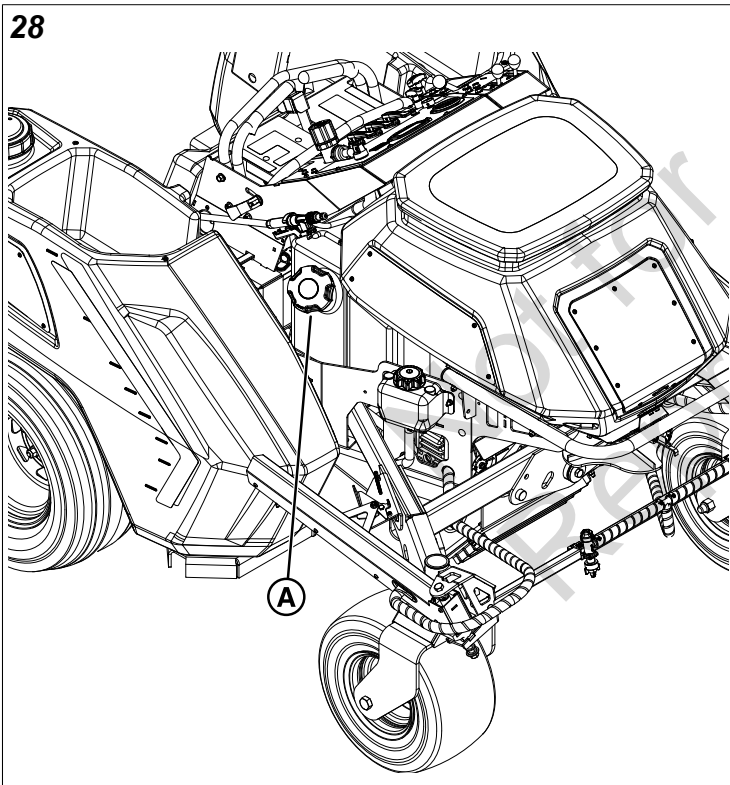


WARNING

Gasoline is highly flammable and must be handled with care. Allow engine to cool for at least 3 minutes before refueling. Do not allow open flame, smoking or matches in the area. Avoid over-filling and wipe up any spills.

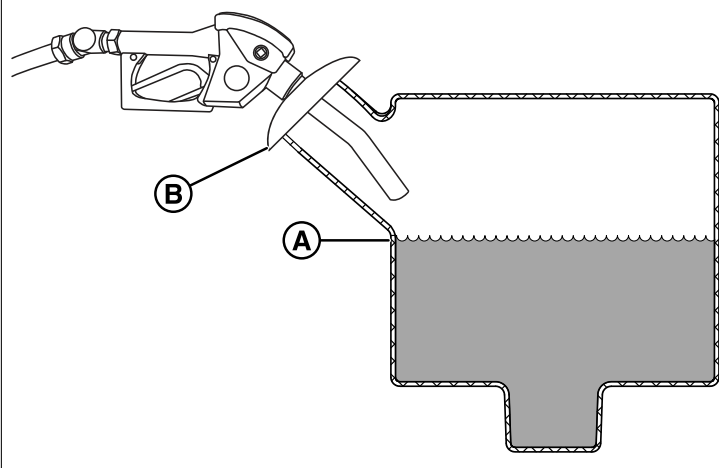
To add fuel:

1. Remove the fuel cap (A, Figure 28).



2. Fill the fuel tank to the bottom of the filler neck with fresh fuel (A, Figure 29). This will allow for fuel expansion. If you are filling the tank from a fueling station make sure that the nozzle is inserted into the tank far enough that the splash guard (B) contacts the opening of the filler neck.

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Note: Do not overfill. Refer to your engine owner's manual for specific fuel recommendations.

3. Install and hand tighten the fuel cap.

NOTICE Refer to your engine owner's manual for specific fuel recommendations.

Replacing the Fuel Filter



WARNING

Fuel and its vapors are extremely flammable and explosive.

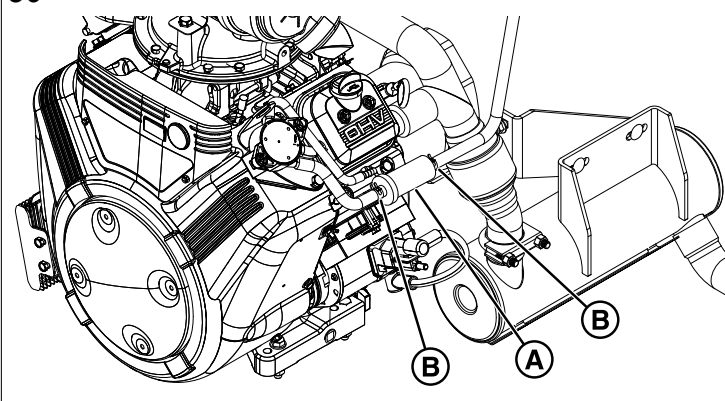
Fire or explosion can cause severe burns or death.

Do NOT remove the fuel filter when the engine is hot, as spilled gasoline may ignite. Do NOT spread hose clamps further than necessary. Ensure clamps grip hoses firmly over filter after installation.

If filter is dirty or clogged, replace as follows:

1. Disconnect the negative battery cable.
2. Place a container below the fuel filter (A, Figure 30) to catch spilled fuel.

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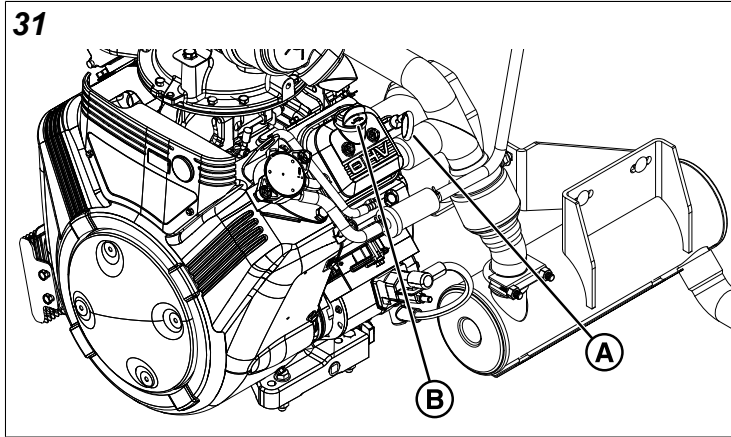
3. Using pliers, open and slide the hose clamps (B) from the fuel filter.

- Remove the hoses from the fuel filter.
- Install the new filter in the proper flow direction in the fuel line.
- Secure with the hose clamps.
- Reconnect the negative battery cable when finished.

Checking the Engine Oil Level

Interval: Before each use.

- Use the engine oil dipstick (A, Figure 31) to check the engine oil level.

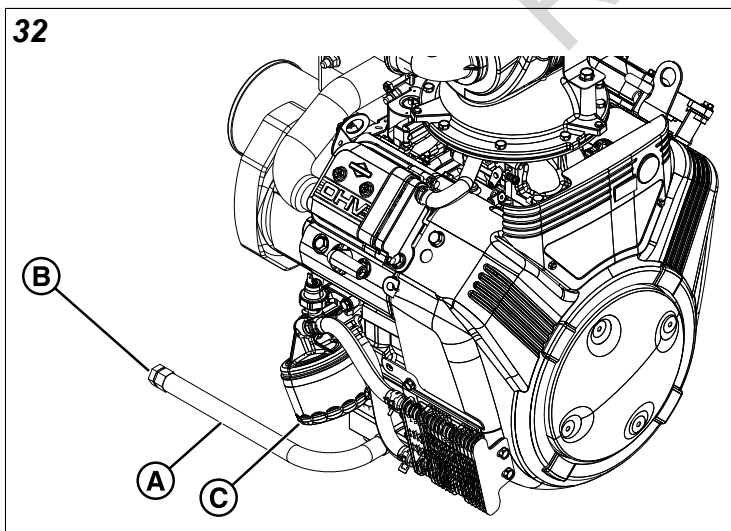


- If necessary, add engine oil through the oil fill (B).

Refer to the engine operator's manual for specific engine oil check and fill procedures.

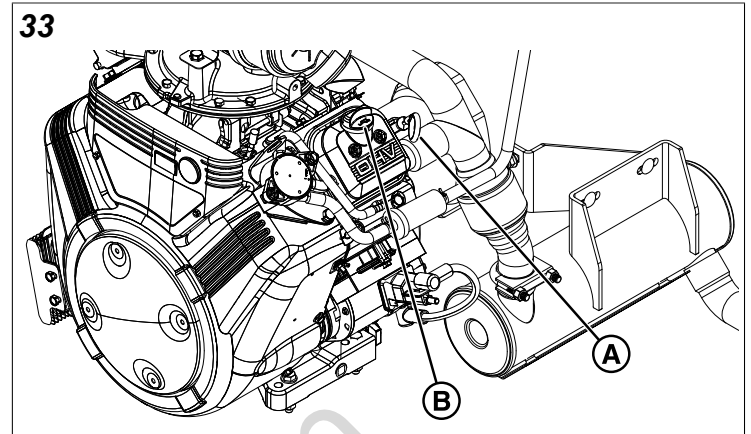
Changing the Engine Oil and Filter

- Warm engine by running for a few minutes. (Refer to the engine operator's manual for oil & filter replacement instructions.)
- Remove the oil drain hose (A, Figure 32) from its storage location and route the hose into a position so that when the oil drain cap (B) is removed the oil can be drained into an adequately sized pan.



- Place an adequately sized pan under the oil drain hose to catch the oil. Using the appropriate tools, remove the oil drain cap from the oil drain hose and drain the engine oil.

- After draining, replace the cap and wipe up any spilled oil. Reinstall the oil drain hose into its storage position so it is retained during normal operation.
- Place an absorbent shop cloth under the engine oil filter (C). Remove the engine oil filter and replace with a new one.
- Add engine oil (refer to engine operator's manual) in the fill tube (B, Figure 33) and check the amount of oil in the engine using the engine oil dipstick (A).



- Remove the shop cloth and wipe up any spilled oil.

Engine Maintenance

For engine maintenance schedules and procedures, please refer to the engine operator's manual.

Disposing of Used Engine Oil

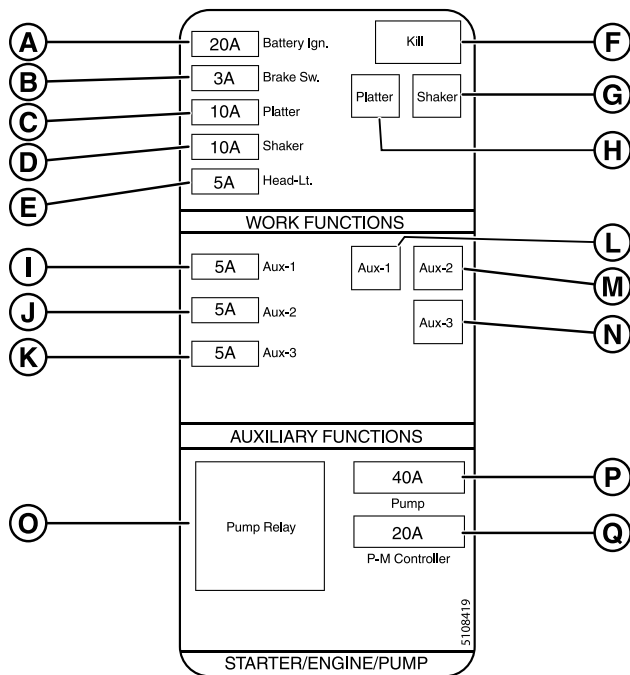
Used oil is a hazardous waste product and must be discarded correctly. Do not discard with household waste. Check with your local authorities, service center, or dealer for safe disposal and recycling facilities.

Fuse Location and Identification

The electrical system for this unit is equipped with a fuse box with several fuses. See Figure 34 and the chart below for the identification and amperage of the fuses.

To access the fuse box, raise the operator cushion. The fuse box is located on the left side of the engine.

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Work Functions:

Callout	Function	Amperage
A	Battery Ignition	20 amp
B	Brake Switch	3 amp
C	Platter	10 amp
D	Shaker	10 amp
E	Headlight	5 amp
F	Kill	N/A
G	Platter	N/A
H	Shaker	N/A

Auxiliary Functions:

Note: The auxiliary functions are not included with the machine. The machine is equipped with auxiliary fuses for optional add-on functions.

Callout	Function	Amperage
I	Auxiliary 1 Fuse	5 amp
J	Auxiliary 2 Fuse	5 amp
K	Auxiliary 3 Fuse	5 amp
L	Auxiliary 1 Relay	N/A
M	Auxiliary 2 Relay	N/A
N	Auxiliary 3 Relay	N/A

Starter / Engine / Pump:

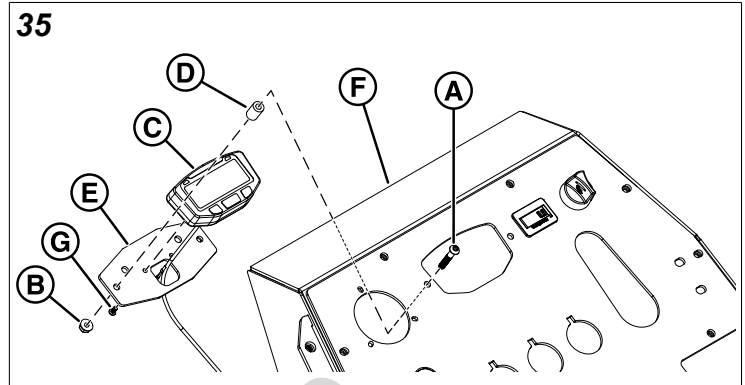
Callout	Function	Amperage
O	Pump Relay	N/A
P	Pump	40 amp

Callout	Function	Amperage
Q	Spreader Motor Controller	20 amp

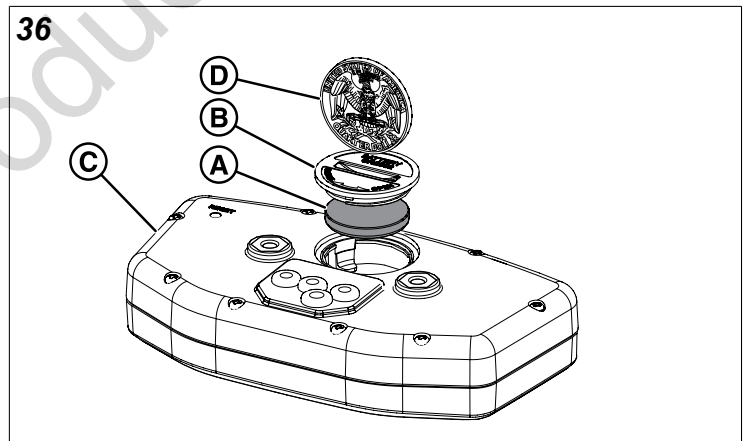
Replacing the Speedometer Battery

Battery Model Number: #CR2032

1. Remove the bolts (A, Figure 35) and nuts (B) that secures the speedometer (C), spacers (D) and backing plate (E) to the control panel (F).



2. Remove the two (2) screws (G) that holds the speedometer to the backing plate.
3. To change the battery (A, Figure 36), unscrew the battery cap (B) on the back of the speedometer (C) with a coin (D).



4. Remove the old battery and replace with a new battery (model number #CR2032). Make sure the positive side of the battery is facing up when replaced.
5. Install the battery cap on the back of the computer with a coin.
6. Install the speedometer to the backing plate using the two (2) screws previously removed.
7. Install the speedometer and backing plate to the control panel using the two (2) bolts, spacers, and nuts.

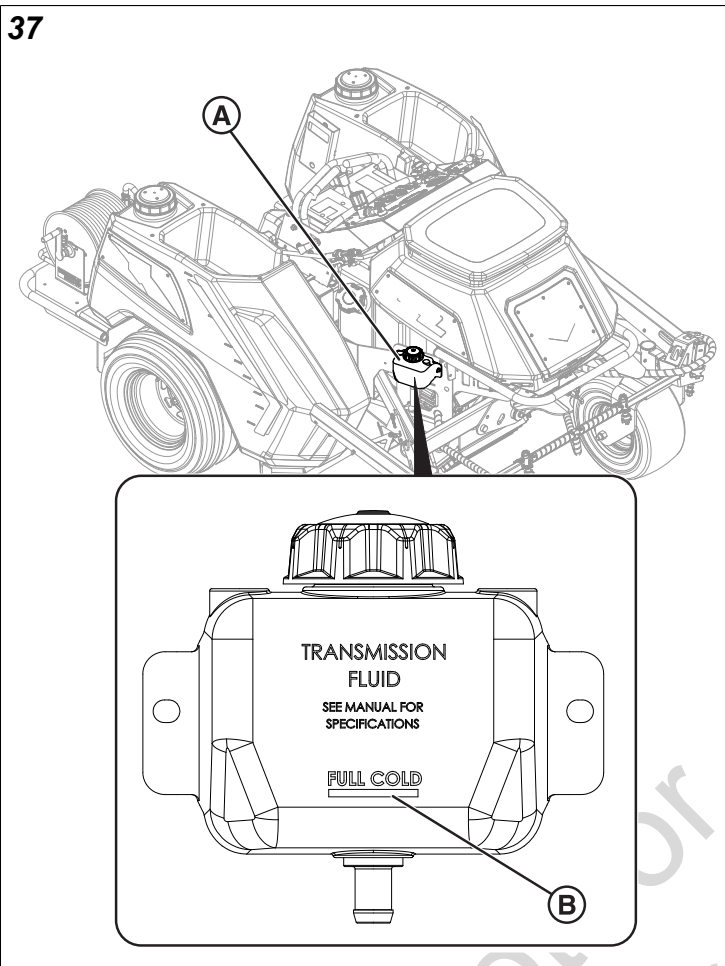
Check/Fill Hydraulic Oil Level

Oil Type: Parker HT-1000 hydraulic oil or equivalent.

This unit is equipped with one hydraulic oil tank. This hydraulic oil tank provides oil to the two wheel motors and

the pump. The level of oil in the hydraulic oil tank must be checked, and if necessary, filled.

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1. Locate the hydraulic oil tank. The hydraulic oil tank is located on the right side of the unit (A, Figure 37).
2. Check the oil level when the unit is cold. The oil should be up to the "FULL COLD" mark (B) on the hydraulic oil tank. If the oil is below this level, proceed to step #3.
3. Before removing the tank cap, make sure that the area around the tank cap and fill neck of the tank is free of dust, dirt, and other debris. Remove the tank cap.
4. Add oil up to the "FULL COLD" mark.
5. Install the tank cap.
6. After adding oil to the tank, it may be necessary to purge air from the hydraulic system. To purge air from the hydraulic system, simply drive the machine.

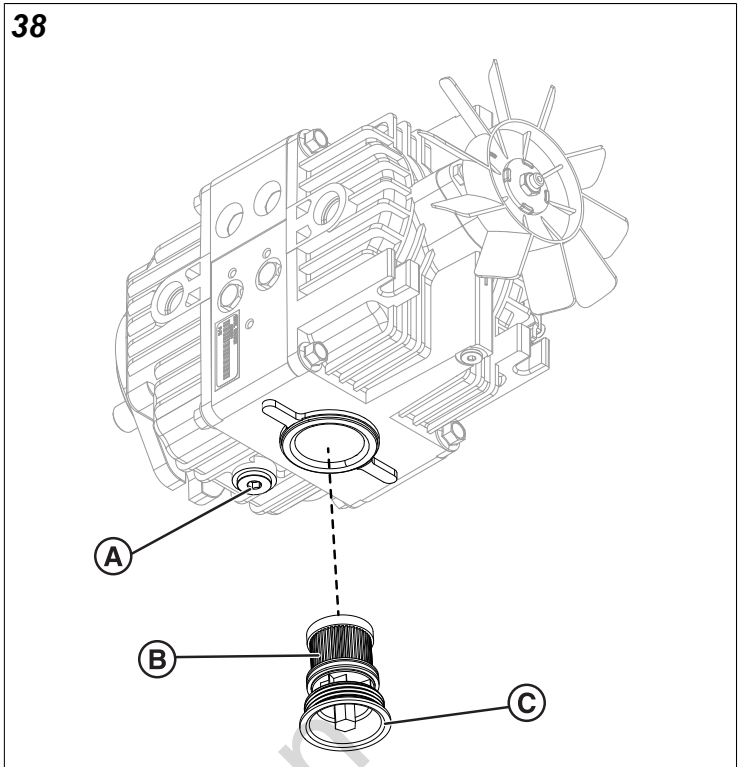
Changing the Hydraulic Pump Filter

Change Interval: Every 400 Hours or Yearly (Initial hydraulic oil and filter change after first 100 hours of operation)

Replacement Filter Number: 5109173

Note: Removing the oil filter from the hydraulic pump will drain the oil from the pump. Have a suitable container ready to catch any spilled oil.

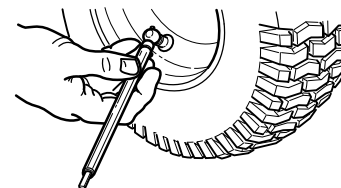
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1. Use a 5/16" allen wrench to unscrew the oil drain plug (A, Figure 38). Drain the oil from the tank into a suitable container.
2. Use a 5/8" socket wrench to unscrew the hydraulic pump cap (C). The hydraulic filter (B) is attached to the hydraulic pump cap. Therefore, you must purchase a new hydraulic pump cap in order to replace the hydraulic pump filter.
3. Screw on the new hydraulic pump cap. Tighten with a 5/8" socket wrench.
4. Replace the oil drain plug, and tighten with a 5/16" allen wrench.
5. Fill the transmission oil tank with new hydraulic oil. See the *Check/Fill Hydraulic Oil Level* section.

Checking Tire Pressures

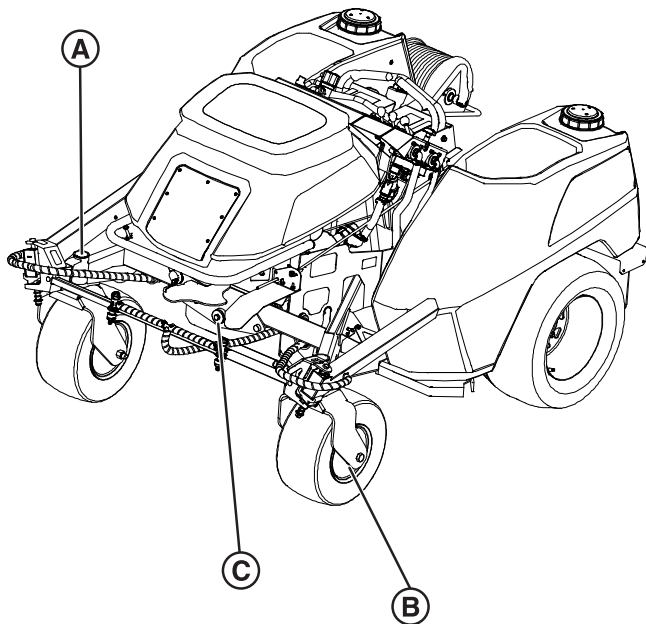
Tire pressure should be checked periodically, and maintained at the levels shown in the Specifications chart. Note that these pressures may differ slightly from the "Max Inflation" stamped on the side-wall of the tires. The pressures shown provide proper traction and extend tire life.



Lubrication

Lubricate the unit at the locations shown in the following lubrication points.

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Grease:



- A. front caster wheel axles and yokes
- B. front caster wheel bearings
- C. front axle pivot

Use grease fittings when present. Disassemble parts to apply grease to moving parts when grease fittings are not installed.

Not all greases are compatible. Use wheel bearing grease. Automotive type, high temperature, lithium grease may be used when this is not available.

Neutral Adjustment

The neutral system for this unit is a function of the hydraulic pump.

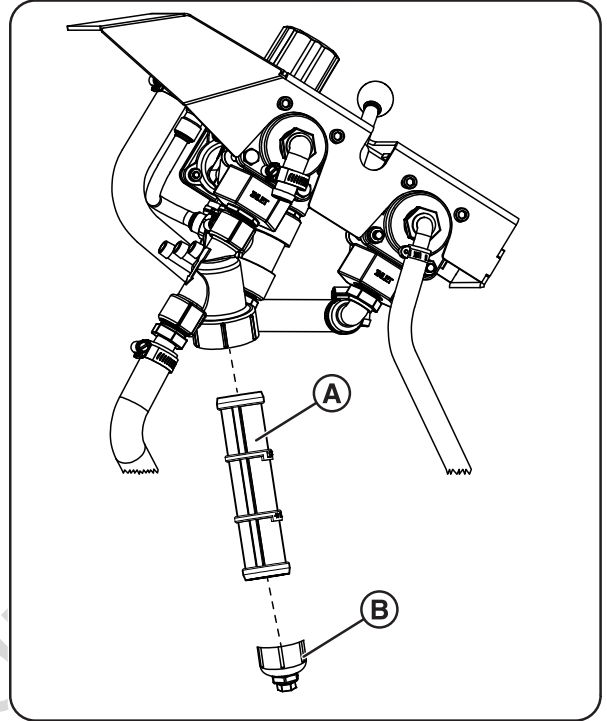
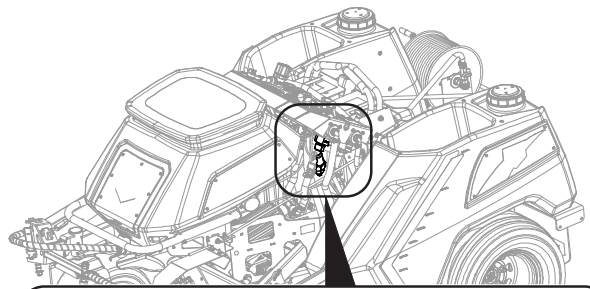
1. Drive the unit to a flat level surface. Stop the unit and engage the parking brake.
2. Without touching the ground speed control levers, disengage the parking brake. If the unit moves, the neutral system on the hydraulic pump is not correctly adjusted. **See your dealer for service.**

Changing the Spray System Filter/Screen

Change Interval: Every 400 Hours or Yearly (Initial Spray System filter/screen change after first 100 hours of operation)

Replacement Filter Number: 5109172

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1. Use a 7/8" wrench to remove the spray system filter cap (B, Figure 40).
2. After removing the cap, remove the filter/screen (A) from the cap. It will slide out with ease.
3. Insert a new filter/screen.
4. Insert the cap with new filter/screen into the spray system.
5. Tighten the spray system filter cap with a 7/8" wrench.

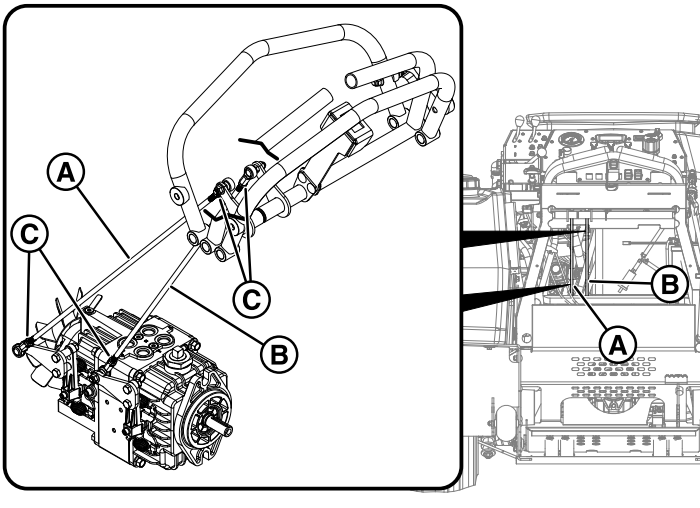
Speed Balancing Adjustment

1. Drive the unit to a smooth, flat area of your lawn, one with plenty of room to maneuver. Clear the area of objects, people, and animals before you begin.
2. Release the cam lever.
3. Position the maximum forward speed control bar to maximum forward position.
4. Lock the cam lever in place.
5. Set the engine throttle to the FAST throttle position.
6. Push both ground speed control levers evenly forward until they contact the maximum forward speed control bar.

The unit should drive across the lawn in a straight line.

- If the unit veers in either direction, the linkage rods (A & B, Figure 41) will need to be adjusted.

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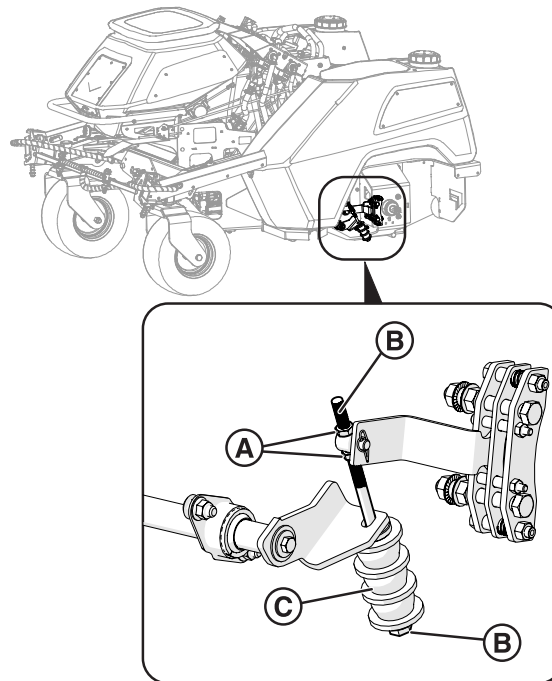
- Stop the unit. Engage the parking brake and turn the ignition switch to OFF.
- Remove the operator cushion from the unit.
- If the unit veers to the left, loosen the jam nuts (C) and turn the right (B) linkage rod **clockwise**.
- If the unit veers to the right, loosen the jam nuts (C) and turn the left (A) linkage rod **clockwise**.
- Tighten the jam nuts.
- Put the operator cushion back onto the unit.
- Drive the unit on a flat, level surface to test and repeat the steps in this process as necessary.

This process may need to be performed several times to get the unit to track properly.

Parking Brake Adjustment

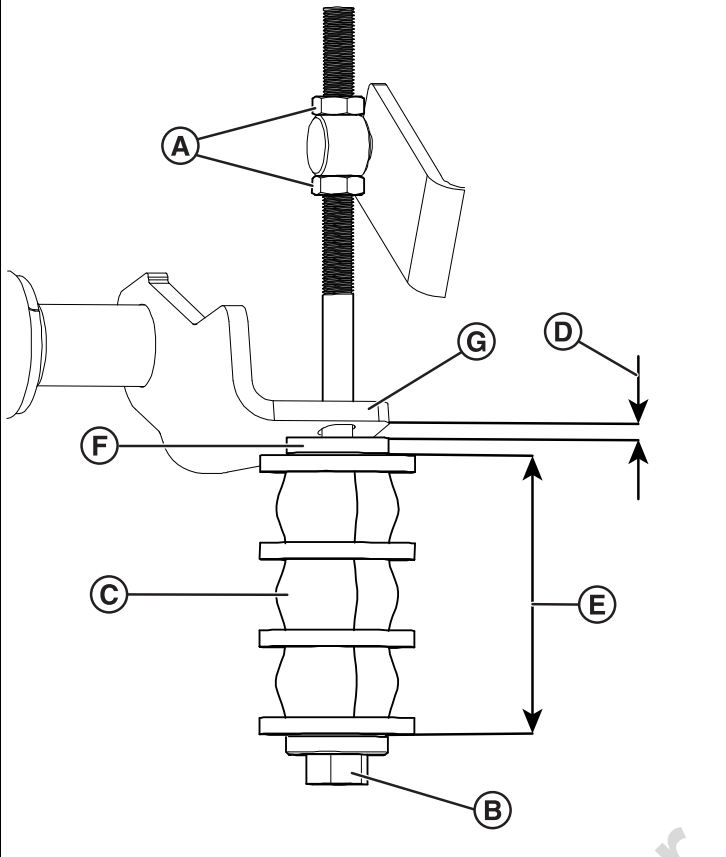
- Park the unit on a flat, level surface such as a concrete floor. Turn the spreader/sprayer functions OFF, engage the parking brake, turn the ignition to OFF, and remove the ignition key.
- Chock the unit's front wheels to prevent it from moving.
- Use a jack to raise the rear of the unit. Secure the unit with jack stands.
- Disengage the parking brake.
- Use a 13/16" wrench to remove the nuts on the left rear wheel. Remove the wheel from the unit.
- Locate the parking brake jam nuts (A, Figure 42) and the parking brake rod (B). Note that in Figure 42, the left rear wheel has been removed.

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- Use a 9/16" wrench to break the parking brake jam nuts (A) loose from the parking brake rod (B). Do not remove the jam nuts from the rod, only loosen them.
- Use an 11/16" wrench on the head of the parking brake rod. Screw the rod until the distance (D, Figure 43) between the washer (F) and the parking brake arm (G) measures 3/8".

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9. Use a 9/16" wrench to re-tighten the parking brake jam nuts (A).
10. Reattach the left rear wheel and use a 13/16" wrench tighten the wheel nuts.
11. Repeat Steps 2-7 on the right side of the unit. With the parking brake engaged, the compressed springs (C) on each side of the parking brake arm should measure 1 7/8" (E).

Note: If this does not correct your braking problem, see your authorized dealer.

Cleaning the Battery and Cables

This unit is equipped with a maintenance-free BCIU1 battery.

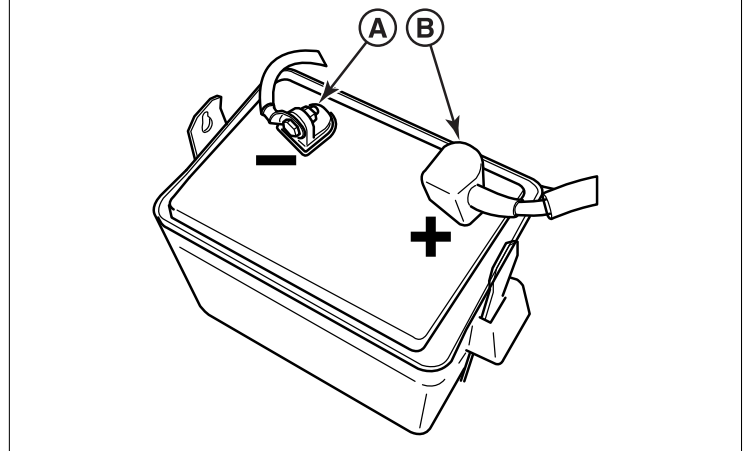


Keep open flames and sparks away from the battery.

- Be careful when handling the battery.
- Avoid spilling electrolyte.
- Keep flames and sparks away from the battery.
- When removing or installing battery cables, disconnect the negative cable FIRST and reconnect it LAST. If not done in this order, the positive terminal can be shorted to the frame by a tool.

1. Remove the rubber strap and battery box cover.
2. Disconnect the cables from the battery, negative [-] cable first (A, Figure 44).

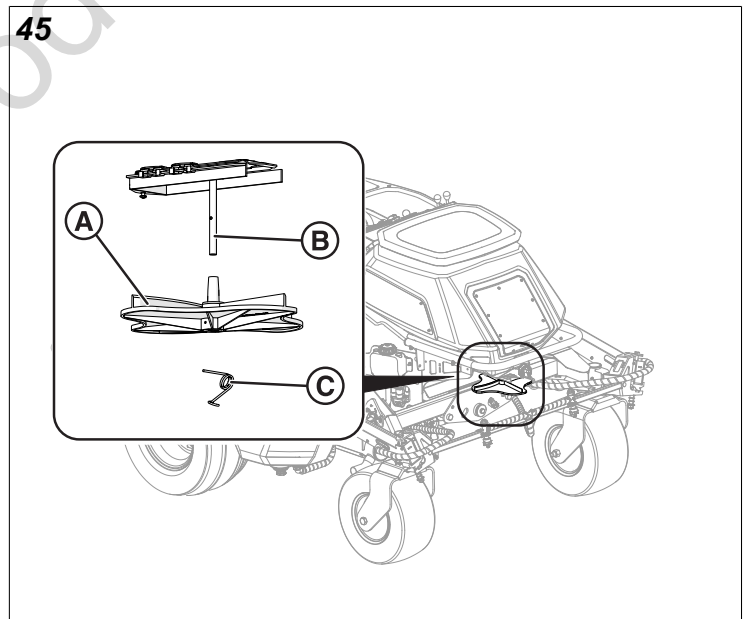
44



3. Clean the battery terminals and cable ends with a wire brush until shiny.
4. Reinstall the battery and reattach the battery cables, positive [+] cable first (B).
5. Coat the cable ends and the battery terminals with petroleum jelly or non-conducting grease.
6. Reinstall the battery box cover and rubber strap.

Replacing the Platter

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1. Use your hands to remove the platter spring pin (C, Figure 45).
2. Slide the platter (A) off the platter motor shaft (B).
3. Slide the new platter onto the platter motor shaft.
4. Use your hands to replace the platter spring pin.

Troubleshooting

While normal care and regular maintenance will extend the life of your equipment, prolonged or constant use may eventually require that service be performed to allow it to continue to operating properly.

This troubleshooting guide lists the most common problems, their causes, and remedies.

Machine Does Not Start

FAILURE MODE	CAUSE OF PROBLEM	CORRECTIVE ACTION
Machine does not start	The fuel level in the tank is low.	Add fuel to the fuel tank.
	The fuel line is clogged.	Clean the fuel line.
	The fuel tank has contamination.	Clean out the fuel tank and add fresh fuel.
	The choke setting is incorrect.	Ensure that the choke setting is correct for the starting conditions. Cold starts will require the choke to be activated while warm starts may not require the choke.

Spreading System Operates Incorrectly

FAILURE MODE	CAUSE OF PROBLEM	CORRECTIVE ACTION
Spreader pattern is uneven or spreader does not operate.	The gate opening in the bottom of the hopper is blocked.	Remove the material from the hopper and dislodge any clumps around the gate opening. Inspect the agitator wire and make sure that it is not worn, damaged, or missing.
	The spread control baffle is positioned incorrectly.	Follow the procedure in the <i>Calibration</i> section of this manual for centering the spread pattern.
	The input shaft of the platter gearbox is not turning.	Make sure that the platter gear motor spins freely by hand. Inspect the gear motor fuse located under the console to ensure it is not blown.
	The platter is dirty, worn or damaged.	Inspect the platter and clean or replace if necessary.
	The platter clip is damaged or missing.	Inspect the platter spring clip on the bottom of the platter. If it is damaged or missing, the platter may not spin even though the platter motor shaft is rotating. Replace the platter spring clip if necessary.

Spraying System Operates Incorrectly

FAILURE MODE	CAUSE OF PROBLEM	CORRECTIVE ACTION
Spraying pattern is uneven or spraying system does not operate.	The spray nozzle tips are out of position.	Ensure the spray nozzles are not damaged or that the nozzle mounting tab is not bent.
	The pressure relief valve is set incorrectly.	Verify that the pressure gauge reads approximately 20 psi at full engine speed when spraying. Adjust the pressure relief knob in or out to obtain this pressure. Tighten the locking nut against the pressure relief knob.

FAILURE MODE	CAUSE OF PROBLEM	CORRECTIVE ACTION
	The strainer or tip is clogged.	Remove the spray nozzle tip. Inspect the tip orifice and the strainer to ensure they are not clogged. Clean or replace these components as necessary.
	The filter is clogged.	Remove the sediment from the filter housing and inspect the filter screen. Clean or replace the screen as necessary.
	The pump won't operate.	Inspect the pump fuse located in the fuse box. Ensure that either the spray pump ON/OFF console switch activates the pump.
	Hoses are kinked.	Smooth out hoses and use wire ties to make sure that they do not kink again.
	Spray tank volume is low.	Refill the spray tank. Note that in very rough or hilly conditions, the liquid in the spray tanks may slosh around and the tank discharge tube may starve when the tank level is low. This can cause poor spraying performance.
	The engine speed is too low.	Operate the machine at full engine speed. The spray system is designed to operate most efficiently at full engine speed.
	The pump is worn or damaged.	Replace the pump.

Electrical System Operates Incorrectly

FAILURE MODE	CAUSE OF PROBLEM	CORRECTIVE ACTION
Electrical system does not operate or operates incorrectly.	Battery terminals require cleaning.	Clean the battery terminals.
	Battery discharged or dead.	Recharge or replace battery.
	Wiring loose or broken.	Visually check wiring and replace broken or frayed wires. Tighten loose connections.
	Electrical wiring damage.	Locate and repair damaged wire.
	Spark plug(s) faulty, fouled, or incorrectly gapped.	Clean and gap or replace. See authorized service dealer.
	Fuse blown.	Replace fuse.

Specifications

Specifications are correct at time of printing and are subject to change without notice.

Model Number	5901756
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Engine

For complete engine specifications see the engine manufacturer's operator's manual included with your unit.

Make	Briggs & Stratton
Model	386447-0245-G1

Electrical System

Charging System	20/50 AMP Alternator
Battery	12V, 230 CCA

Fuel System

Fuel Tank Capacity	9 gallons (34 L)
Fuel Type	Refer to engine owner's manual.
Fuel Shut-Off Valve	N/A

Transmission

Pump Model	Parker HP2 Tandem
Wheel Motor Model	Parker TG0475UB
Maximum Forward Speed	8 mph (13 km/hour)
Maximum Reverse Speed	4 mph (6.4 km/hour)
Oil Type	Parker HT-1000 hydraulic oil or equivalent
Oil Capacity	1 qt (0.95 L)

Tires and Wheels

Front Tires	16X8.50-8
Inflation Pressure	15 psi
Rear Tires	24X12-12
Inflation Pressure	12 psi

Spreader

Spreader Model	Custom 250 lb Hopper
Spreader Capacity	250 lb (113 kg)

Spraying System

Spray Pump	Hypro 4001XL Roller (9.2 GPM max)
Tanks	40 Gallon Right and Left Tanks
Nozzle	AIXR Teejet Tip
Spray Pattern Widths	4', 8', or 12'
Spray Pressure Rate	28 oz/min @ 30 psi

Dimensions

Overall Length	94" (239 cm)
Overall Width (with spray booms deployed)	106" (269 cm)
Overall Width (with spray boom in storage positions)	61" (155 cm)
Overall Height	51" (130 cm)
Weight (approximate)	1406 lbs (638 kg) with empty tanks

Warranty Statement

BRIGGS & STRATTON PRODUCTS WARRANTY POLICY (November 2017)

LIMITED WARRANTY

Briggs & Stratton warrants that, during the warranty period specified below, it will repair or replace, free of charge, any part that is defective in material or workmanship or both. Transportation charges on product submitted for repair or replacement under this warranty must be borne by purchaser. This warranty is effective for and is subject to the time periods and conditions stated below. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at ferrismowers.com. The purchaser must contact the Authorized Service Dealer, and then make the product available to the Authorized Service Dealer for inspection and testing.

There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to the warranty period listed below, or to the extent permitted by law. Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law. Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state or country to country.**

LIMITED WARRANTY

Briggs & Stratton warrants that, during the warranty period specified below, it will repair or replace, free of charge, any part that is defective in material or workmanship or both. Transportation charges on product submitted for repair or replacement under this warranty must be borne by purchaser. This warranty is effective for and is subject to the time periods and conditions stated below. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at ferrismowers.com. The purchaser must contact the Authorized Service Dealer, and then make the product available to the Authorized Service Dealer for inspection and testing.

There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to the warranty period listed below, or to the extent permitted by law. Liability for incidental or consequential damages are excluded to the extent exclusion is permitted by law. Some states or countries do not allow limitations on how long an implied warranty lasts, and some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state or country to country.**

WARRANTY PERIOD

Covered Parts	Standard Warranty Period	Rental Warranty Period
Spreader-Sprayer and Spreaders	1 year (12 months)	90 days
<ul style="list-style-type: none"> • Belts • Tires • Brake Pads • Hoses • Battery 	90 days	90 days
Accessories	1 year	90 days
Engine*	See Engine Operator's Manual	See Engine Operator's Manual

* Emissions-related components are covered by the Emissions Warranty Statement

** In Australia - Our goods come with guarantees that cannot be excluded under 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 the failure does not amount to a major failure. For warranty service, find the nearest Authorized Service Dealer in our dealer locator map at ferrismowers.com (Select region: Australia), or by calling 1300 274 447, or by emailing or writing to salesenquires@briggsandstratton.com.au, Briggs & Stratton Australia Pty Ltd, 1 Moorebank Avenue, NSW, Australia, 2170.

The warranty period begins on the date of purchase by the first retail or commercial customer.

To ensure prompt and complete warranty coverage, register your product at the website shown above or at www.onlineproductregistration.com, or mail the completed registration card (if provided), or call 1-800-743-4115 (in USA).

Save your proof of purchase receipt. If you do not provide proof of the initial purchase date at the time warranty service is requested, the manufacturing date of the product will be used to determine the warranty period. Product registration is not required to obtain warranty service on Briggs & Stratton products.

ABOUT YOUR WARRANTY

Warranty service is available only through *Ferris* Authorized Service Dealers. This warranty only covers defects in materials or workmanship. It does not cover damage caused by improper use or abuse, improper maintenance or repair, normal wear and tear, or stale or unapproved fuel.

Improper Use and Abuse - The proper, intended use of this product is described in the Operator's Manual. Using the product in a way not described in the Operator's Manual or using the product after it has been damaged will not be covered under this warranty. Warranty coverage will also not be provided if the serial number on the product has been removed or the product has been altered or modified in any way, or if the product has evidence of abuse such as impact damage, or water/chemical corrosion damage.

Improper Maintenance or Repair - This product must be maintained according to the procedures and schedules provided in the Operator's Manual, and serviced or repaired using genuine Briggs & Stratton parts or equivalent. Damage caused by lack of maintenance or use of non-original or non-equivalent parts is not covered by warranty.

Normal Wear and Tear - Like all mechanical devices, the unit is subject to wear even when properly maintained. This warranty does not cover replacement or repairs when normal use has exhausted the life of a part or the equipment. Except as noted in the warranty period, maintenance and wear items such as filters, belts, cutting blades, and brake pads (except engine brake pads) are not covered by warranty due to wear characteristics alone, unless the cause is due to defects in material or workmanship.

Stale or Unapproved Fuel - In order to function correctly, this product requires fresh fuel that conforms to the criteria specified in the Operator's Manual. Engine or equipment damage caused by stale fuel or the use of unapproved fuels (such as E15 or E85 ethanol blends) is not covered by warranty.

Other Exclusions - This warranty excludes damage due to accident, abuse, modifications, alterations, improper servicing, freezing or chemical deterioration. Attachments or accessories that were not originally packaged with the product are also excluded. This warranty does not include used, reconditioned, second-hand, or demonstration equipment or engines. This warranty also excludes failures due to acts of God and other force majeure events beyond the manufacturer's control.

