



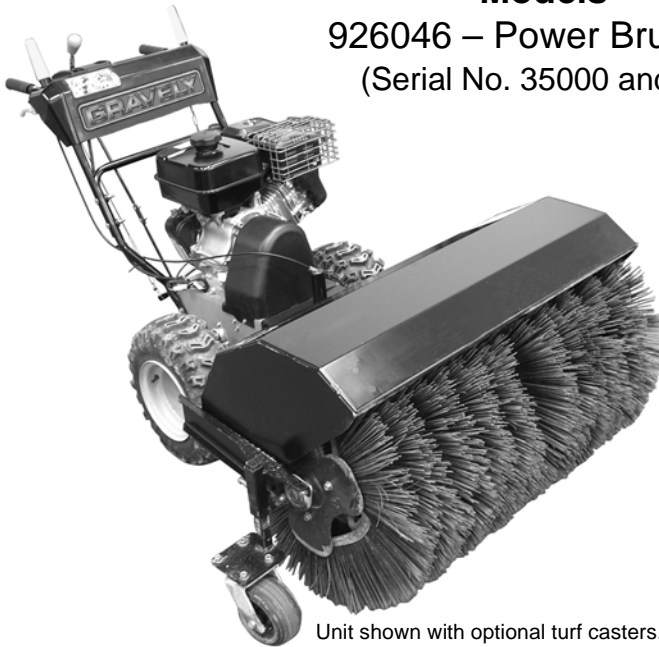
# Power Brush 36

Owner/Operator Manual

Manuel du Propriétaire/Utilisateur

## Models

926046 – Power Brush 36  
(Serial No. 35000 and up)



Unit shown with optional turf casters.

Gasoline containing up to 10% ethanol (E10) or up to 10% MTBE (methyl tertiary butyl ether) is acceptable for use in this machine.

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

Il est possible d'utiliser de l'essence contenant jusqu'à 10% d'éthanol (E10) ou 10% de MTBE (éther méthyl-tertiobutylique) sur cette machine.

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



**(GB)** ENGLISH

**(F)** FRANÇAIS

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Printed in USA

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## INTRODUCTION

### NON-ENGLISH MANUALS



Manuals in languages other than English may be obtained from your Dealer. Visit your dealer or [www.gravely.com](http://www.gravely.com) for a list of languages available for your equipment.



Manuals printed in languages other than English are also available as a free download on our website:

<http://www.gravely.com>

### MANUALES EN IDIOMAS DIFERENTES DEL INGLES



Puede obtener manuales en idiomas diferentes del inglés en su distribuidor. Visite a su distribuidor o vaya a [www.gravely.com](http://www.gravely.com) para obtener una lista de idiomas disponibles para su equipo.



También puede imprimir manuales en idiomas diferentes del inglés descargándolos gratuitamente de nuestra página Web:

<http://www.gravely.com>

### MANUELS NON ANGLAIS



Des manuels dans différentes langues sont disponibles chez votre revendeur. Rendez-vous chez votre revendeur ou allez sur le site [www.gravely.com](http://www.gravely.com) pour consulter la liste des langues disponibles pour votre équipement.



Les manuels imprimés dans des langues différentes de l'anglais sont également disponibles en téléchargement gratuit sur notre site Web:

<http://www.gravely.com>

### THE MANUAL

Before operation of unit, carefully and completely read your manuals. If used improperly, this unit could be dangerous and cause personal injury or property damage. The contents will provide you with safety instructions for the safe use of your unit during normal operation and maintenance.

All reference to left, right, front, or rear are given from operator standing in operation position and facing the direction of forward travel.

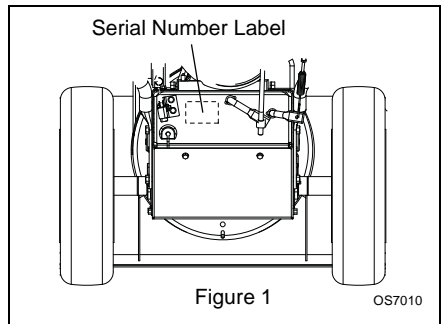
### ENGINE MANUAL

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

### MODEL AND SERIAL NUMBERS

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

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



- Record Unit Model and Serial number here.

- Record Engine Model and Serial number here.

## PRODUCT REGISTRATION

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

**Customer Note:** If Dealer does not register your product, please fill out, sign and return the product registration card to Ariens Company or go to [www.gravely.com](http://www.gravely.com).

## UNAUTHORIZED REPLACEMENT PARTS

Use only Gravely replacement parts. The replacement of any part on this unit with anything other than a Gravely authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Gravely disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts. To locate your nearest Gravely Dealer, go to [www.gravely.com](http://www.gravely.com) on the Internet.

## DISCLAIMER

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

## DELIVERY

**Customer Note:** If you have purchased this product without complete assembly and instruction by your retailer, it is your responsibility to:

1. Read and understand all assembly instructions in this manual. If you do not understand or have difficulty following the instructions, contact your nearest Gravely Dealer for assistance. Make sure all assembly has been properly completed.

**NOTE:** To locate your nearest Gravely Dealer, go to [www.gravely.com](http://www.gravely.com) on the Internet.



**WARNING:** Improper assembly or adjustments can cause serious injury.

2. Understand all Safety Precautions provided in the manuals.
3. Review control functions and operation of the unit. Do not operate the unit unless all controls function as described in this manual.
4. Review recommended lubrication, maintenance and adjustments.
5. Review Limited Warranty Policy.
6. Fill out Original Purchaser Registration Card and return the card to Ariens Company or go to [www.gravely.com](http://www.gravely.com) on the internet.

# SAFETY



**WARNING:** To avoid injury to hands and feet, always disengage clutches, shut off engine, and wait for all movement to stop before unclogging or working on brush. Keep hands and feet away from brush.

## SAFETY ALERT SYMBOL



These are safety alert symbols. They mean:

- **ATTENTION!**
- **YOUR SAFETY IS INVOLVED!**



When you see this symbol:

- **BECOME ALERT!**
- **OBEY THE MESSAGE!**

## SIGNAL WORDS

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

Read and understand all safety messages.



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



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



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

## NOTATIONS

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

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

## PRACTICES AND LAWS

Practice usual and customary safe working precautions, for the benefit of yourself and others. Understand and follow all safety messages. Be alert to unsafe conditions and the possibility of minor, moderate, or serious injury or death. Learn applicable rules and laws in your area. Always follow the practices set forth in this manual.

## REQUIRED OPERATOR TRAINING

Original purchaser of this unit was instructed by the seller on safe and proper operation. If unit is to be used by someone other than original purchaser; loaned, rented or sold, ALWAYS provide this manual and any needed safety training before operation.

## SAFETY DECALS AND LOCATIONS

ALWAYS replace missing or damaged Safety Decals. Refer to Figure 2 for Safety Decal locations.

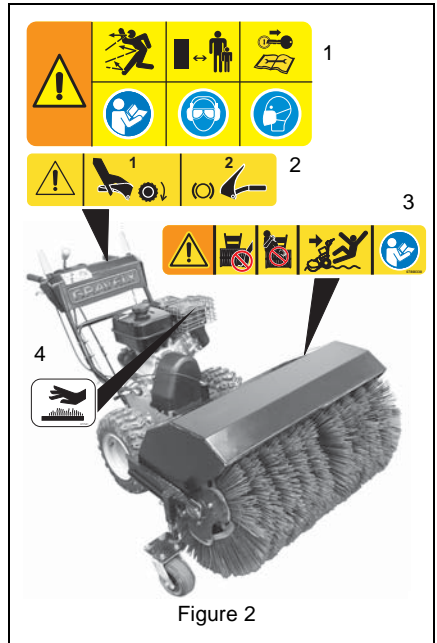


Figure 2

## 1. DANGER!



Danger!



Never direct discharge towards persons or property that may be injured or damaged by thrown objects.



Keep children and people away. Keep children out of work area and under watchful care of a responsible adult.



Stop engine, remove key, read manual before making any repairs or adjustments.



Read Owner/Operator Manual.  
Allow operation only by properly trained adult, never children.



Wear appropriate hearing protection. Always wear safety goggles or safety glasses with side shields when operating.



Operator should wear a dust particle mask at all times while clearing debris

## 2. DANGER!



Danger!



Be sure to engage the traction drive clutch first. Engaging the attachment clutch before traction drive clutch can cause the unit to travel backwards.



## 3. DANGER!



Danger!



Keep clear of brush while engine is running.



NEVER use your hands to clear blockages.



Operating on irregular terrain could cause the brush to dig in and drive the machine rearward.



Read Owner/Operator Manual.  
Allow operation only by properly trained adult, never children.

#### 4. DANGER!



Danger!



DO NOT touch parts which are hot from operation. ALWAYS allow parts to cool.

### EMISSION CONTROL SYSTEM

This equipment and/or its engine may include exhaust and evaporative emissions control system components required to meet U.S. Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB) regulations. Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by an Ariens Company dealer or an authorized engine manufacturer's service center. Contact your Ariens Company Equipment Retailer concerning emission controls and component questions.

### SAFETY RULES

Read, understand, and follow all safety practices in Owner/Operator Manual before beginning assembly or operating. Failure to follow instructions could result in personal injury and/or damage to unit.

ALWAYS remove key and/or wire from spark plug before assembly, maintenance or service. Unintentional engine start up can cause death or serious injury.

Complete a walk around inspection of unit and work area to understand:

- Work area
- Your unit
- All safety decals

ALWAYS check overhead and side clearances carefully before operation. ALWAYS be aware of traffic when operating along streets or curbs.

Keep children and people away. Keep children out of work area and under watchful care of a responsible adult.

NEVER allow children to operate or play on or near unit. Be alert and shut off unit if children enter area.

DO NOT allow adults to operate unit without proper training. Only trained adults may operate unit. Training includes being familiar with controls and actual operation.

Keep area of operation clear of all toys, pets, and debris. Thrown objects can cause injury. Check for weak spots on docks, ramps or floors. Avoid uneven work areas and rough terrain. Stay alert for hidden hazards.

DO NOT operate near drop-offs, ditches, or embankments. Unit can suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

Falling snow, fog, etc. can reduce vision and cause an accident. Operate unit only when there is good visibility and light.

NEVER operate unit after or during the use of medication, drugs or alcohol. Safe operation requires your complete and unimpaired attention at all times.

NEVER allow anyone to operate this unit when their alertness or coordination is impaired.

DO NOT operate unit without wearing adequate outer garments. Wear adequate safety gear, including safety glasses with side shields, and protective gloves. Wear proper footwear to improve footing on slippery surfaces.

DO NOT wear loose clothing or jewelry and tie back hair that may get caught in rotating parts.

Protect eyes, face and head from objects that may be thrown from unit. Wear appropriate hearing protection.

Avoid sharp edges. Sharp edges can cut. Moving parts can cut off fingers or a hand.

ALWAYS keep hands and feet away from all rotating parts during operation. Rotating parts can cut off body parts.

NEVER place your hands or any part of your body or clothing inside or near any moving part while unit is running.

ALWAYS keep hands away from all pinch points.

DO NOT touch unit parts which might be hot from operation. Allow parts to cool before attempting to maintain, adjust or service.

Never direct discharge towards persons or property that may be injured or damaged by thrown objects. Use extreme caution on gravel surfaces. Stay alert for hidden hazards or traffic.

Deflected materials can cause injury and property damage.

Always stand clear of the discharge area when operating this unit.

Fumes from engine exhaust can cause injury or death. DO NOT run engine in an enclosed area. Always provide good ventilation.

ALWAYS disengage attachment, stop unit and engine, remove key and allow moving parts to stop before leaving operator's position.

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

Understand:

- How to operate all controls.
- The functions of all controls.
- How to STOP in an emergency.

Before starting engine, disengage control(s).

Use only approved extension cords and receptacles when starting units equipped with electric starter. DO NOT connect electric starter cord to any wiring system that is not a three-wire grounded system.

ALWAYS allow unit and engine to adjust to outdoor temperatures before clearing snow.

Always be sure of your footing, especially when operating in reverse or leaving the operator's position. Walk, never run during operation.

DO NOT overload the machine capacity by attempting to clear debris at too fast a rate.

Slow down and turn corners slowly.

Do not operate in reverse unless absolutely necessary. ALWAYS back up slowly. Always look down and behind before and while backing.

Disengage attachment drive when traveling from one work area to another.

Abnormal vibrations are a warning of trouble. Striking a foreign object can damage unit. Immediately stop unit and engine. Remove key and wait for all moving parts to stop. Remove wire from spark plug. Inspect unit and make any necessary repairs before restart.

Before cleaning, removing clogs or making any inspections, repairs, etc.: disengage clutch(es), stop unit and engine, remove key, allow moving parts to stop. Allow hot parts to cool.

Run unit a few minutes after clearing snow to prevent freeze-up of attachment.

Disengage attachment when not in use.

Disengage all clutches before starting engine.

Never leave a running unit unattended.

ALWAYS shut off engine before leaving unit.

ALWAYS remove key to prevent unauthorized use.

Never carry passengers.

Adjust brush height before operating. Engage traction drive clutch before attachment clutch. If brush is set too low or if terrain is irregular brush can drive machine rearward.

DO NOT operate on steep slopes.

DO NOT clear debris across the face of slopes. Keep all movement on slopes slow and gradual. DO NOT make sudden changes in speed or direction. Use a slow speed to avoid stops or shifts on slopes. Avoid starting or stopping on a slope.

DO NOT park unit on a slope unless absolutely necessary. When parking on a slope always block the wheels.

ALWAYS shut off engine, remove key, and close fuel shut-off valve or drain fuel when transporting unit on a truck or trailer.

Use extra care when loading or unloading unit onto trailer or truck.

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

DO NOT transport machine while engine is running.

Keep unit free of ice or other debris. Clean up oil or fuel spills.

This product is equipped with an internal combustion type engine. DO NOT use unit on or near any unimproved, forest-covered or brush covered land unless exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if it is used, must be maintained in effective working order by operator.

Fuel is highly flammable and its vapors are explosive. Handle with care. Use an approved fuel container with an appropriately sized dispensing spout.

NO smoking, NO sparks, NO flames.

ALWAYS allow engine to cool before servicing.

NEVER fill fuel tank when engine is running or hot from operation.

NEVER fill or drain fuel tank indoors.

Replace fuel cap securely and clean up spilled fuel.

Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, 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 the 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.

Adjust brush height before operating. Refer to *Operation*.

Before separating brush attachment from unit frame, remove fuel so no spills will occur. Ensure unit is secure and will not tip over during maintenance.

ALWAYS keep protective structures, guards, and panels in good repair, in place and securely fastened. NEVER modify or remove safety devices.

DO NOT change engine governor settings or over-speed engine.

Fumes from engine exhaust can cause injury or death. DO NOT run engine in an enclosed area. Always provide good ventilation.

ALWAYS maintain unit in safe operating condition. Damaged or worn out muffler can cause fire or explosion.

Keep all hardware properly tightened.

Maintain or replace safety and instruction labels, as necessary.

NEVER store unit with fuel in fuel tank, inside a building where any ignition sources are present such as hot water heaters, space heaters, or clothes dryers. Allow the engine to cool before storing in any enclosure.

Shut off fuel and allow engine to cool completely before storing in closed area or covering unit.

For extended storage, clean unit thoroughly. See Engine Manual for proper storage.

Use only attachments or accessories designed for your unit.

Check components frequently. If worn or damaged, replace with manufacturer's recommended parts.

## ASSEMBLY



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

### Tools Required:

- Tire Gauge
- Pliers
- 1/2-In. 3/8-In, 7/16-In, and 9/16-In Wrench and/or Adjustable Wrench

### Unpacking Unit



**WARNING:** Dropping or tipping over boxed unit could result in personal injury or damage to unit.

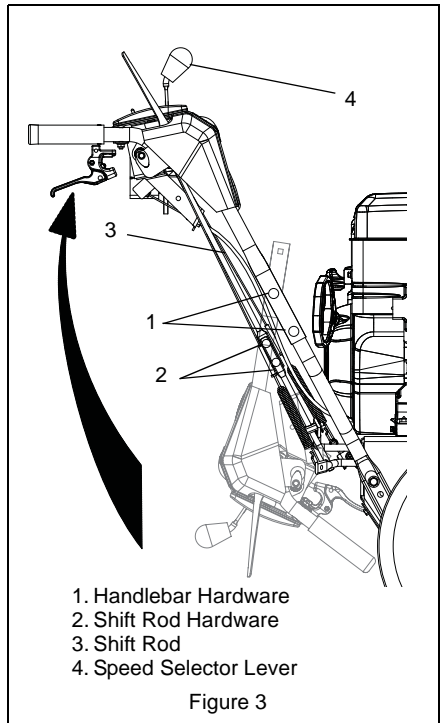
### Unfold Handlebar

(Figure 3)

1. Remove the lower and loosen the upper hardware on the handlebar assembly.
2. Loosen the hardware on the shift rod.
3. Put the speed selector lever in the second reverse position.
4. Rotate the handlebars into operating position.

**IMPORTANT:** Be careful not to damage cable spring hooks when rotating handlebars upward.

5. Install and tighten all hardware on the handlebar assembly and shift rod.



1. Handlebar Hardware
2. Shift Rod Hardware
3. Shift Rod
4. Speed Selector Lever

Figure 3

### Check Function of Dual Handle Interlock

Without the engine running, press down (engage) both clutch levers. Release attachment clutch lever. Attachment clutch should remain engaged until traction clutch lever is released, then both clutches *must* disengage. If they do not, contact your Dealer for repairs.



## Check Tire Pressure

Check tire pressure and adjust to the pressure listed on tire sidewall.



**CAUTION:** Avoid injury! Explosive separation of tire and rim parts is possible when they are serviced incorrectly:

- Do not attempt to mount a tire without the proper equipment and experience to perform the job.
- Do not inflate the tires above the recommended pressure.
- Do not weld or heat a wheel and tire assembly. Heat can cause an increase in air pressure resulting in an explosion. Welding can structurally weaken or deform the wheel.
- Do not stand in front or over the tire assembly when inflating. Use a clip-on chuck and extension hose long enough to allow you to stand to one side.

## Check Engine Crankcase Oil

**IMPORTANT:** Engine is shipped with 5W-30 oil in crankcase. Refer to Engine Manual for detailed instructions.

## Fill Engine Fuel Tank

Refer to Engine Manual for proper fuel type and tank capacity. Refer to *FILLING FUEL TANK* on page 13.

## Check Function of all Controls

Ensure unit runs and performs properly. Refer to *Operation* on page 11.

## Run-in Attachment Belt

1. Start unit in a well-ventilated area according to *Starting and Shut Off* on page 14.
2. Engage attachment clutch lever and run attachment for about 15 minutes.
3. Stop unit, wait for all moving parts to stop, and remove spark plug wire.
4. Adjust clutch idler according to *Attachment Clutch/Brake Adjustment* on page 21.
5. Adjust belt finger, if necessary. See *Check Belt Finger Clearance* on page 22.

## CONTROLS AND FEATURES

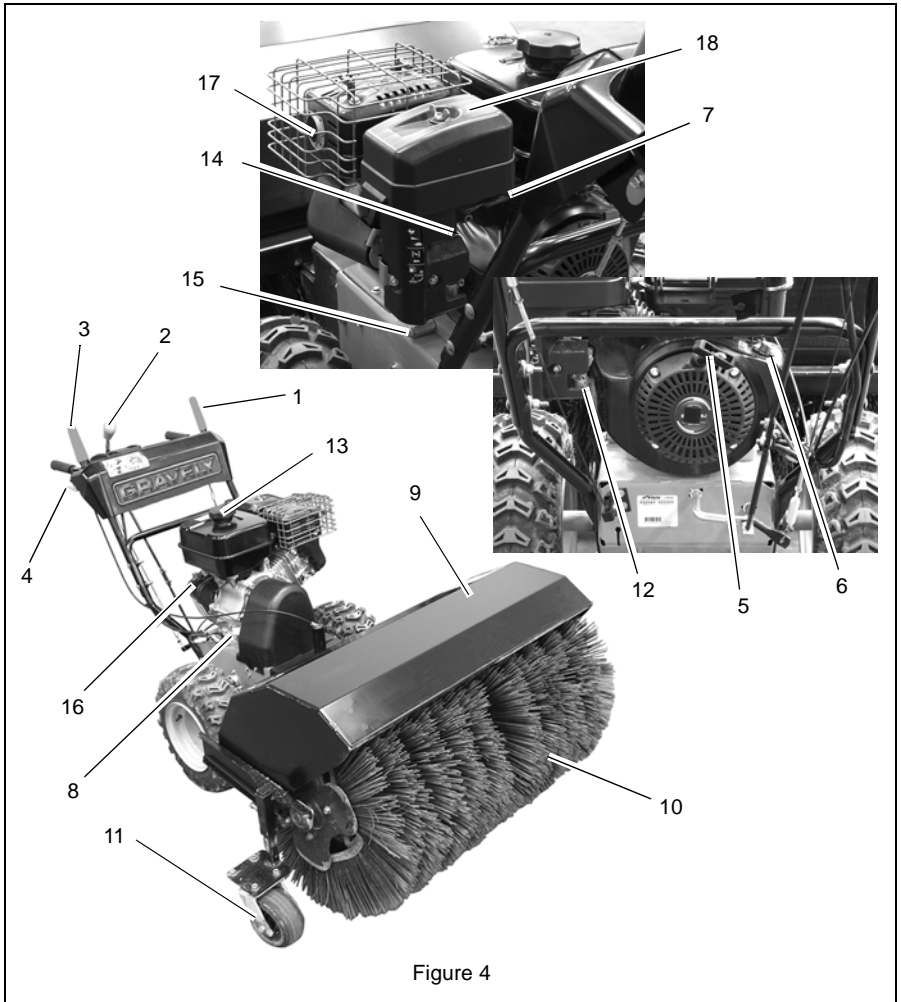


Figure 4

- |                                |                                |
|--------------------------------|--------------------------------|
| 1. Traction Drive Clutch Lever | 11. Height Adjustment Wheels   |
| 2. Speed Selector Lever        | 12. Fuel Shut Off Valve        |
| 3. Attachment Clutch Lever     | 13. Fuel Fill Cap              |
| 4. Brush Angle Lock Lever      | 14. Choke                      |
| 5. Recoil Starter Handle       | 15. Oil Drain Plug             |
| 6. Engine Shut Off Switch      | 16. Electric Start Push Button |
| 7. Engine Throttle             | 17. Muffler                    |
| 8. Oil Fill/Dipstick           | 18. Air Filter                 |
| 9. Brush Guard                 |                                |
| 10. Brush                      |                                |

# OPERATION



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

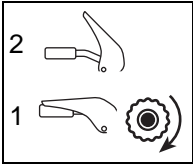


**WARNING:** To avoid injury to hands and feet, always disengage clutches, shut off engine, and wait for all movement to stop before unclogging or working on brush. Keep hands and feet away from brush.

## STANDARD CONTROLS

See *Controls and Features* on page 10.

### Traction Drive Clutch - Left Hand Lever

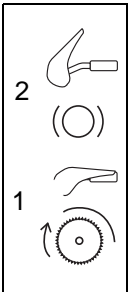


Squeeze the Traction Drive Clutch Lever against the handlebar (1) to engage wheel drive for propelling unit. Release lever (2) to stop movement.

**IMPORTANT:** When traveling to or from an area to be cleared, press down on the handlebars enough to raise the front of the unit slightly off the surface. Engage the traction drive clutch without engaging the attachment drive clutch.

**NOTE:** Traction drive clutch should be engaged before the attachment clutch when brushing.

### Attachment Drive Clutch - Right Hand Lever



Squeeze Attachment Clutch Lever against handlebar (1) to engage attachment. Release both clutch levers (2) to disengage power to attachment.

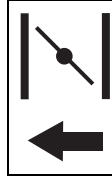
**IMPORTANT:** If the belt squeals when the attachment clutch lever is engaged, the attachment drive may be frozen. Immediately release the attachment clutch lever and move the unit into a heated area to thaw.

**NOTE:** If belt squeals when brush runs freely, (see *Attachment Clutch/Brake Adjustment* on page 21).

### Dual Handle Interlock

When Attachment Clutch and then Traction Drive Clutch are engaged, the Attachment Clutch Lever will remain engaged (down) if released. To stop attachment, release Traction Drive Clutch Lever and both clutches will disengage.

### Choke Control Lever



1. Choke Closed position (lever to left): chokes off air to engine for easier start.

2. Choke Open position (lever to right): allows for normal operation.

Gradually open choke after engine starts.

### Engine Shut-Off Switch

(Figure 5)

1. Set the engine shut off switch to the On position to start and operate the engine.
2. Set the engine shut off switch to the Off position to shut off a running engine.



ON



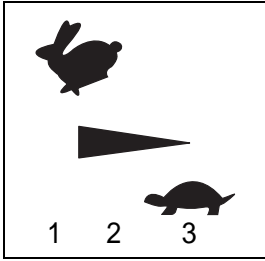
OFF

Figure 5

## Throttle Lever

The throttle controls the engine speed. To increase or decrease engine speed, adjust to:

1. Fast (normal or warm starts) to left
2. Part-Throttle at center
3. Slow (cold weather starts) to right



## Electric Starter

The electric starter will start a properly choked engine when the starter button is pushed. Refer to *Starting and Shut Off* on page 14.

## Recoil Starter Handle

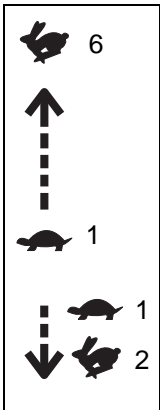
When pulled, handle will turn engine over.

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

**NOTE:** When operating unit in the winter months recoil guard foam cover must be installed. See *Recoil Guard Foam Cover Installation* on page 20.

## Speed Selector Lever

Position lever in the appropriate notch to control speed of forward and reverse travel.



### FORWARD:

- (6) Fastest
- (1) Slowest

**IMPORTANT:** DO NOT change motion from forward to reverse with clutch engaged. Forward or reverse speed can be changed without de-clutching.

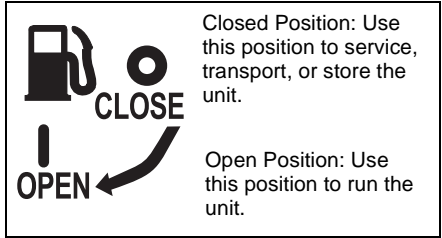
### REVERSE:

- (1) Slow
- (2) Fast

## Fuel Shut-Off Valve

**IMPORTANT:** The fuel shut-off valve MUST be in the closed position prior to transporting the unit.

The fuel shut-off valve has two positions:



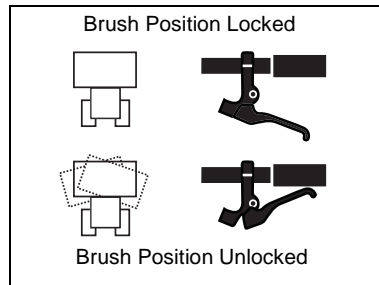
Closed Position: Use this position to service, transport, or store the unit.

Open Position: Use this position to run the unit.

## BRUSH ANGLE ADJUSTMENT

Brush can be positioned either straight ahead or angled 20° to either right or left. To change the angle of the brush:

1. Release both clutch levers and wait for all moving parts to come to a complete stop.
2. Pull up on the Brush Angle Lock Lever and hold. This will release the cable-operated lock pin.



3. With the brush assembly resting on ground, push/pull on handlebars to rotate brush right or left.
4. With brush in the desired position, release Brush Angle Lock Lever to lock brush in position.

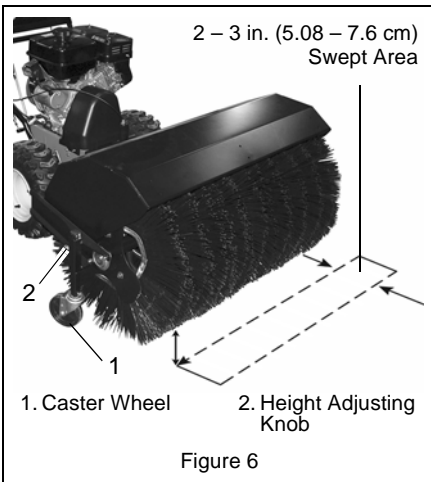
## BRUSH HEIGHT ADJUSTMENT

**IMPORTANT:** If brush height is set too low, brush can drive machine rearward when attachment clutch is engaged. Engage brush slowly with brush set at proper height.

The brush works best with the brush properly leveled. To adjust the brush height:

1. Move the brush to a dusty, flat surface. Leave the engine running.
2. Start the brush at a slow speed. Run the brush in a stationary position for 30 seconds.

- Lift the brush head assembly off the ground and reverse the unit to move it away from the swept area.
- Stop engine and allow all moving parts to stop.
- Check the width of the swept area. The brush pattern should be 2 – 3 inches (5.08 – 7.6 cm) wide, running the length of the brush (Figure 6).
- To adjust, turn caster wheel support knobs (one each side) counterclockwise to loosen. Slide caster wheel supports up or down as required. Measure height of both supports to ensure they are equal so that brush is level.
- Turn caster wheel support knobs clockwise to tighten.
- Repeat steps 1 – 7 until proper adjustment is attained.



## FILLING FUEL TANK



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

## GASOLINE

**IMPORTANT:** ALWAYS use gasoline that meets the following guidelines:

- Clean, fresh gasoline.
- A minimum of 87 octane/87 AKI (91 RON). High altitude use may require a different octane. Consult your engine manual.
- Gasoline with up to 10% ethanol (gasohol) or up to 10% MTBE (methyl tertiary butyl ether) is acceptable.

- Use of any gasoline other than those approved above will void the engine warranty. If the pumps are not marked for the content of alcohol or ethers, check ethanol and MTBE levels with the fuel supplier.
- Do not modify the fuel system to use different fuels.
- Never mix oil and gasoline.

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

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

## Add Fuel to Fuel Tank



**WARNING: FLAMMABLE FUEL** and its **EXPLOSIVE VAPORS** can result in death or serious injury. Handle fuel with extreme care. ALWAYS use an approved fuel container. **NO Smoking! NO Lighted Materials! No Open Flames!** Allow engine to cool before any service.

- ALWAYS place unit in open or well-ventilated area.
- Stop engine and allow to cool.
- Clean Fuel Cap and surrounding area to prevent dust, dirt and debris from entering Fuel Tank.
- Remove fuel cap.

**IMPORTANT:** Refer to Engine Manual for correct type and grade of fuel.

- Fill fuel tank to within 1/2 in (1.27 cm) below bottom of filler neck. See *Specifications* on page 29 for fuel tank capacity.

**IMPORTANT:** DO NOT OVERFILL! This equipment and/or its engine may include evaporative emissions control system components, required to meet EPA and/or CARB regulations, that will only function properly when the fuel tank has been filled to the recommended level. Overfilling may cause permanent damage to evaporative emissions control system components. Filling to the recommended level ensures a vapor gap required to allow for fuel expansion. Pay close attention while filling the fuel tank to ensure that the recommended fuel level inside the tank is not exceeded. Use a portable gasoline container with an appropriately sized dispensing spout when filling the tank. Do not use a funnel or other device that obstructs the view of the tank filling process.

6. Replace fuel cap and tighten.
7. ALWAYS clean up spilled fuel.

## Fuel Stabilizer

**IMPORTANT:** Fuel stabilizer is recommended for extended storage (see *Add Fuel Stabilizer* on page 27).

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

## PRE-START

### 1. Check Function of Clutches

Brush must stop quickly when attachment clutch lever is released.

Wheels must stop quickly when traction clutch lever is released.

If clutches do not engage or disengage properly, adjust or repair before operation. See *Attachment Clutch/Brake Adjustment* on page 21 and *Traction Drive Clutch Adjustment* on page 23.

### 2. Check Dual Handle Interlock

Without the engine running, press down (engage) both clutch levers. Release attachment clutch lever. Attachment clutch should remain engaged until traction clutch lever is released, then both clutches *must* disengage.

If clutches do not engage or disengage properly, adjust or repair before operation. See *Attachment Clutch/Brake Adjustment* on page 21. and *Traction Drive Clutch Adjustment* on page 23.

## 3. Adjust Brush

Adjust brush height and angle before operation. See *Brush Angle Adjustment* on page 12 and *Brush Height Adjustment* on page 12.

## 4. Check Engine Fuel and Crankcase Oil Levels



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

Check and add fuel if required. Check that the engine crankcase oil is full using dipstick. Refer to Engine Manual for detailed instructions.

## TO STOP IN AN EMERGENCY

Immediately release both control levers to stop unit in an emergency. Stop engine and wait for all rotating parts to stop before leaving operator's position.

## STARTING AND SHUT OFF



**WARNING:** FAILURE TO FOLLOW INSTRUCTIONS could result in personal injury and/or damage to unit. DO NOT attempt to start your unit at this time. Read entire Owner/Operator Manual and the Engine Manual first.

**IMPORTANT:** At start-up, allow unit and engine to adjust to the outside temperature before operating. Before shut-off, run unit a few minutes to prevent freeze-up.

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

### Manual Start

1. Make sure that traction clutch lever and attachment clutch lever are fully disengaged.
2. Turn engine shut-off switch to "ON" position.
3. If engine is cold, apply choke. A warm engine requires less choking than a cold engine. See Engine Manual for detailed instructions.
4. Set throttle to proper starting position.

5. Pull recoil starter handle with a rapid continuous full arm stroke. Let rope rewind slowly.

**IMPORTANT:** DO NOT let Starter Handle snap against Starter.

**NOTE:** When operating unit in the winter months, recoil guard foam cover must be installed. See *Recoil Guard Foam Cover Installation* on page 20.

6. Repeat until engine starts. (If engine does not start, refer to *Troubleshooting* on page 28.)
7. Adjust choke as needed.
8. Set throttle to Part Throttle or Slow position to adapt to outside temperature or travel speed. Set throttle to Fast position for normal operation.

## Electric Start (120V)

1. Connect extension cord to starter.

**IMPORTANT:** Prevent damage to unit. Know voltage of your starter and only use matching outlets.

2. Plug extension cord into 120V, 3-wire, grounded outlet.

**IMPORTANT:** Use only Ariens extension cord (P/N 02483100) or an equivalent cord that is rated for a minimum of 13 amps, grounded, UL listed, CSA certified and labeled as suitable for outdoor use.

3. Make sure that traction clutch lever and attachment clutch lever are fully disengaged.
4. Turn engine shut-off switch to "ON" position.
5. If engine is cold, apply choke. A warm engine requires less choking than a cold engine. See Engine Manual for detailed instructions.
6. Set throttle to proper starting position.
7. Press starter button on engine until engine starts.

**IMPORTANT:** DO NOT operate starter more than 15 seconds per minute, as overheating and damage can occur. (If engine does not start, refer to *Troubleshooting* on page 28.)

8. Adjust choke as needed.
9. Disconnect power cord from outlet, then starter.
10. Set throttle to Part Throttle or Slow position to adapt to outside temperature or travel speed. Set throttle to Fast position for normal operation.

## Shut Off

1. Release both clutch levers and wait for all moving parts to come to a complete stop.
2. Run unit a few minutes after use to prevent freeze-up.
3. Move throttle to STOP position.

4. Turn engine shut-off switch to "OFF" position.

## USING THE BRUSH

After proper Pre-Start and Starting:

1. Select speed control position and direction.

**IMPORTANT:** DO NOT overload unit capacity by sweeping at too fast a rate.

2. Engage the traction drive clutch first.
3. Engage the attachment clutch next.

## Tips for Sweeping

To clear an area, run unit in an overlapping series of paths. For large areas, start in the middle and sweep debris to each side, so it is not cleared more than once.

ALWAYS direct discharge away from area to be cleared and with direction of the wind.

Snow is best removed as soon as possible after snow fall.

## Tips for De-thatching

De-thatch in the spring to clear winter undergrowth.

Adjust brush height so it just touches the grass.

Set the brush angle full left or full right so thatch gets cleared only once.

De-thatch dry grass.

Use a slow speed to clear thatch without damaging the lawn.

## TRAVELING

To travel from one work area to another:

1. Set throttle to SLOW position or slightly higher.
2. Press down the handlebars enough to raise the front of the unit slightly off the surface.
3. Engage traction clutch without engaging the attachment drive clutch.

## TRANSPORT

ALWAYS shut off engine and close fuel shut-off when transporting unit on a truck or trailer. Use extra care when loading or unloading unit onto trailer or truck.

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

DO NOT transport machine while engine is running.

# MAINTENANCE

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



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

## SERVICE POSITION

(Figure 7)



**WARNING:** ALWAYS remove key and/or wire from spark plug before assembly, maintenance or service. Unintentional engine start up can cause death or serious injury.

**IMPORTANT:** DO NOT tip unit up onto brush. Remove the brush if maintenance requires tipping the unit forward. Ensure unit is secure and will not tip over. Strap or clamp unit onto bench if required.

To separate the brush attachment from traction unit:

1. Shut off engine, close fuel shut-off valve, disconnect spark plug wire and allow unit to cool completely. Place unit on a flat level surface.

2. Remove belt cover.
3. Remove hardware attaching remote trigger cable to brush assembly and detach cable.
4. Remove six cap screws securing bottom cover of traction unit and remove cover.
5. Remove cap screws and belt finger.
6. Remove attachment drive belts from engine sheave (it may be necessary to turn engine sheave using recoil starter handle).



**CAUTION:** Always support unit frame and brush attachment when loosening the cap screws holding them together.

7. Remove cap screws securing brush attachment to traction unit (one on each side at top).
8. Tip traction unit back so that it comes apart from brush attachment.
9. While brush attachment is supported on traction unit lower pivot rod, remove attachment drive belts from attachment pulley.
10. Separate brush attachment from traction unit.

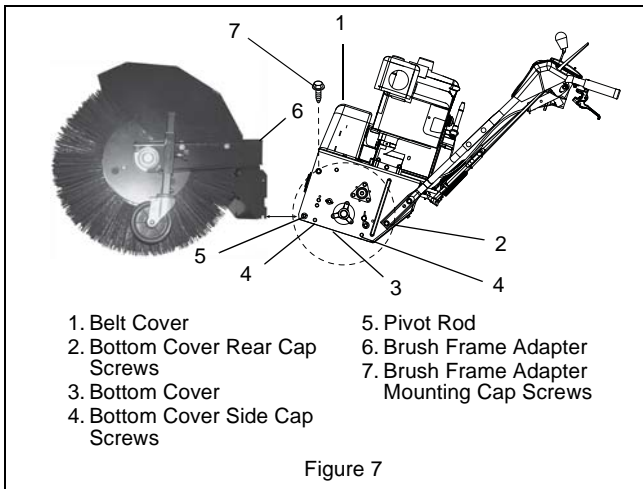


Figure 7



## OPERATING POSITION

(Figure 7)

To connect the brush attachment to traction unit:

1. Place attachment belts onto attachment pulley.

**NOTE:** Holding down the attachment clutch lever will make it easier to reconnect the brush attachment to traction unit.

2. Tip traction unit back while guiding brush attachment up and onto lower pivot rod.
3. Tilt traction unit back up level to bring it together with brush attachment.
4. Install cap screws (one on each side at top) to secure brush attachment to traction unit.
5. Place attachment drive belts onto engine sheave. It may be necessary to turn engine sheave using recoil starter handle (Figure 12).
6. Reinstall belt finger. Check belt finger clearance (See *Check Belt Finger Clearance* on page 22).

**IMPORTANT:** DO NOT bend belt finger out of shape.

7. Install bottom cover with six cap screws.
8. Install belt cover.
9. Reinstall remote trigger cable to brush assembly.

## MAINTENANCE SCHEDULE

The chart below shows the recommended maintenance schedule that should be performed on a regular basis. More frequent service may be required due to working conditions (heavy loads, high ambient temperatures, dusty conditions, or airborne debris).

## MAINTENANCE SCHEDULE

Service Performed	Each Use	Daily (8 hrs.)	Every 25 hrs	Yearly or 100 hrs
Check Dual Handle Interlock	•			
Check Fasteners	•			
Check Clutch Operation	•			
Clean Engine	•			
Clean Recoil Guard Foam Cover	•			
Check Engine Oil		•		
General Lubrication		•		
Check Clutch Cable Adjustments			*•	
Check Tire Pressure			•	
Change Engine Oil**				

\* After first 5 hours of operation.

\*\* Refer to Engine Manual for detailed instructions.

## CHECK DUAL HANDLE INTERLOCK

Without the engine running, press down (engage) both clutch levers. Release attachment clutch lever. Attachment clutch should remain engaged until traction clutch lever is released, then both clutches *must* disengage.

## CHECK FASTENERS

Make sure all hardware is tightened properly.

## CHECK CLUTCH OPERATION

Brush must stop quickly when attachment clutch lever is released.

Wheels must stop quickly when traction drive clutch lever is released.

If clutches do not engage or disengage properly, adjust or repair before operation (see *Attachment Clutch/Brake Adjustment* on page 21 and *Traction Drive Clutch Adjustment* on page 23).

## CHECK CLUTCH CABLE ADJUSTMENT

Make sure the attachment clutch and traction drive clutch are adjusted as specified in *Attachment Clutch/Brake Adjustment* on page 21 and *Traction Drive Clutch Adjustment* on page 23.

## CLEAN ENGINE

Refer to Engine Manual for detailed instructions.

## CLEAN RECOIL GUARD FOAM COVER

Make sure the recoil guard foam cover is always kept clean and free of snow and debris.

If cover becomes clogged with debris gently vacuum the foam or wash with warm water.

**NOTE:** Cover is not necessary for operation during the non-winter months.

If cover is clogged with snow remove it immediately and allow foam to thaw or rinse with warm water.

**IMPORTANT:** Allow foam to dry completely before reinstallation.

See *Recoil Guard Foam Cover Installation* on page 20.

## CHECK ENGINE OIL

The engine crankcase oil should be checked every 8 hours of operation. Oil level **MUST** be maintained in safe operating range on dipstick at all times or engine damage will result (See Engine Manual).

Park unit on a level surface. Refer to Engine Manual for detailed instructions.

## CHANGE ENGINE OIL

Refer to Engine Manual for detailed instructions.

## CHECK TIRE PRESSURE



**CAUTION:** Avoid injury! Explosive separation of tire and rim parts is possible when they are serviced incorrectly:

- Do not attempt to mount a tire without the proper equipment and experience to perform the job.
- Do not inflate the tires above the recommended pressure.
- Do not weld or heat a wheel and tire assembly. Heat can cause an increase in air pressure resulting in an explosion. Welding can structurally weaken or deform the wheel.
- Do not stand in front or over the tire assembly when inflating. Use a clip-on chuck and extension hose long enough to allow you to stand to one side.

Check tire pressure and adjust to the pressure listed on tire sidewall.

## GENERAL LUBRICATION

(Figure 8)

1. Place unit into the service position (See *Service Position* on page 16).

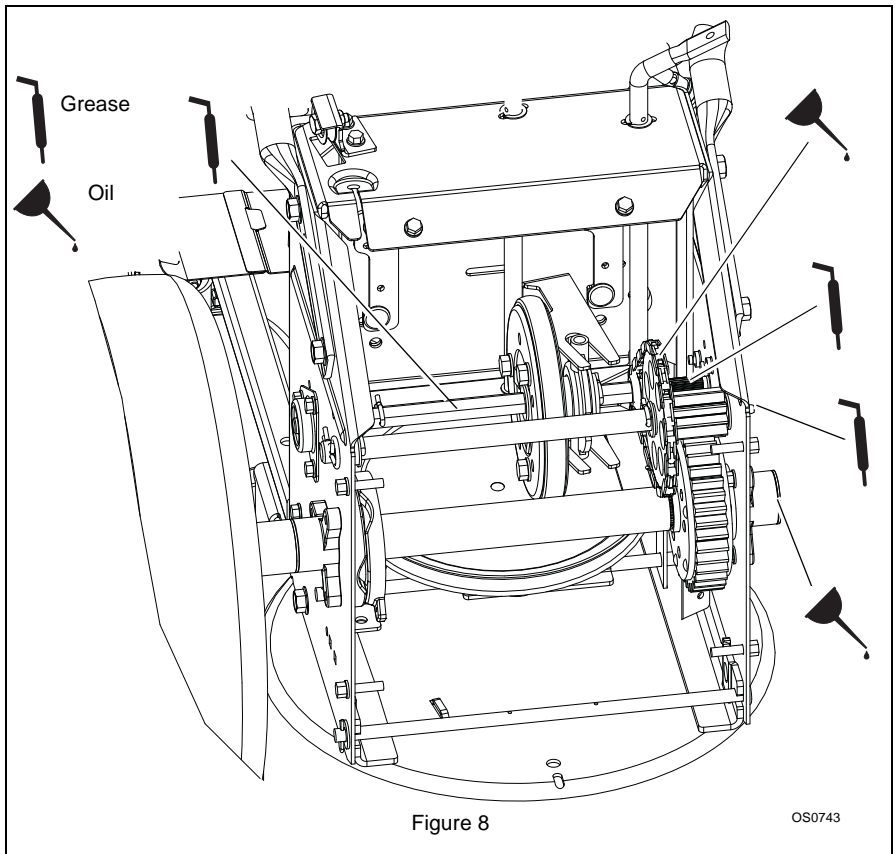
**IMPORTANT:** Wipe each fitting clean before and after lubrication. DO NOT allow grease or oil to get on friction disc, friction plate or belts.

2. Apply Hi-Temp Grease or equivalent to the lubrication fittings after the first 16 hours of use and every 8 hours thereafter. See *Service Parts* on page 28.

3. Apply a few drops of oil to the roller chain at the beginning of the season or every 25 operating hours.

**NOTE:** Brush attachment gear case is lubricated at the factory and should not require additional lubrication.

4. Place unit into the operating position (See *Operating Position* on page 17).



# SERVICE AND ADJUSTMENTS



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

## RECOIL GUARD FOAM COVER INSTALLATION

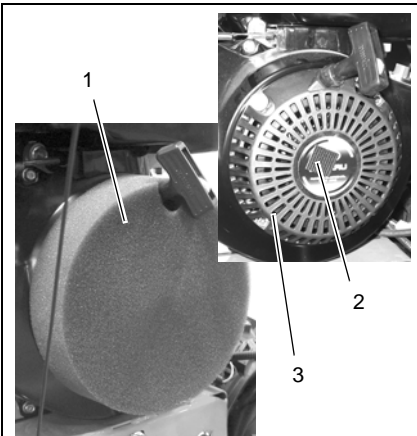
(Figure 9)

The recoil guard foam cover slides over the starter handle and attaches to the recoil guard with Velcro®.

**NOTE:** The recoil guard foam cover is not necessary for operation during the non-winter months.

**IMPORTANT:** When using the unit in the winter months the cover must be installed. The foam prevents snow from getting into the recoil guard and freezing the recoil pawls.

**IMPORTANT:** Be sure to keep the recoil foam cover clean and clear of snow and debris at all times. See *Clean Recoil Guard Foam Cover* on page 18.



1. Recoil Guard Foam Cover
2. Velcro®
3. Recoil Guard

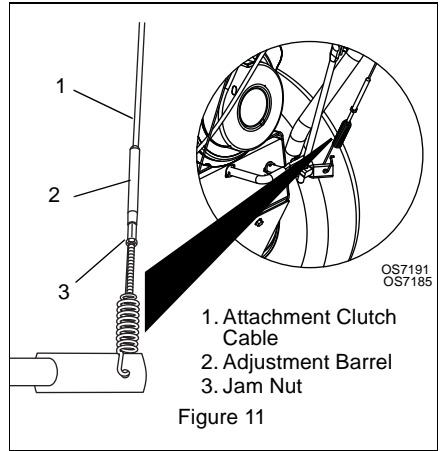
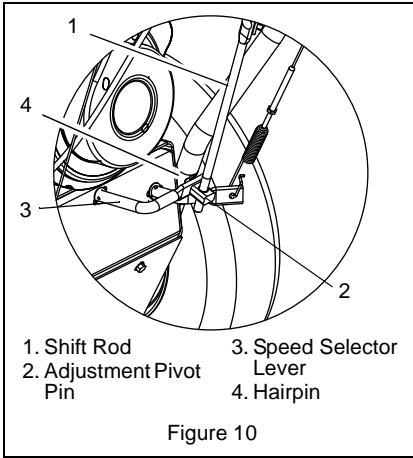
Figure 9

## SPEED SELECTOR ADJUSTMENT

(Figure 8)

To adjust:

1. Disconnect adjustment pivot pin from speed selector lever.
2. Place the speed selector in the fastest forward speed position.
3. Turn the speed selector lever straight down towards the ground as far as it will go.
4. Thread the adjustment pivot pin along the shift rod until it aligns with the mating hole on the speed selector lever. Insert the pivot pin into hole.
5. Secure adjustment pivot pin with hairpin.
6. Make sure the speed selector shifts into each speed position.
7. Check forward and reverse speeds:
  - a. Start unit.
  - b. Shift speed selector into the first forward speed.
  - c. Engage the traction clutch. Unit should move forward.
  - d. Stop unit.
  - e. Shift speed selector into first reverse speed.
  - f. Engage the traction clutch. Unit should move backward.
  - g. Shut off unit.
8. Adjust pivot pin on the shift rod as necessary so unit travels forward when speed selector is in first forward position and travels backward when speed selector is in first reverse position.
9. Connect the pivot pin to the speed selector arm with the hardware removed in step 1.



## ATTACHMENT CLUTCH/BRAKE ADJUSTMENT

(Figures 11, 12 and 13)



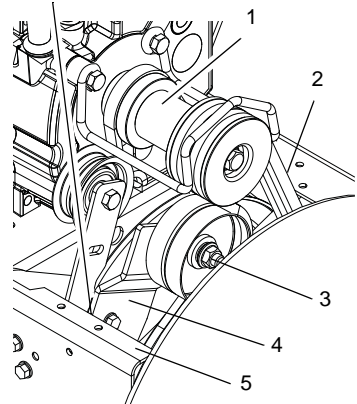
**WARNING: IMPROPER ADJUSTMENT** could result in unexpected movement of brush causing death or serious injury. **BRUSH MUST STOP** within 5 seconds when Attachment Clutch Lever is released.



**WARNING:** Adjustment procedure requires the engine to be run with the belt cover off. **AVOID INJURY.** Read and understand the entire *Safety* section before proceeding.

3. With the attachment clutch disengaged, check that the attachment idler arm lightly touches the frame (Figure 12).
4. Tighten jam nut on the adjustment barrel (Figure 11).

With the attachment clutch **DISENGAGED**, check the attachment idler arm position here. The attachment idler arm should lightly touch the frame.



1. Engine Sheave
2. Attachment Drive Belts
3. Idler Pulley Adjustment Nut
4. Idler Arm
5. Frame

Figure 12

OS7196

### Remove Attachment Cable Slack

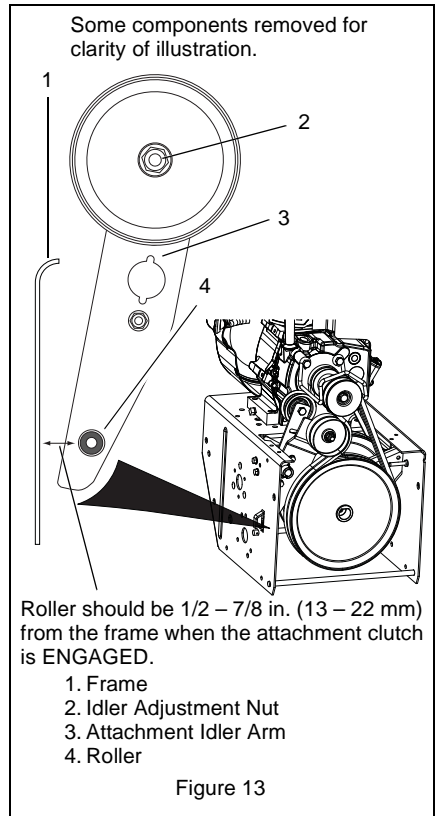
1. Remove the belt cover.
2. Loosen jam nut on cable adjustment barrel, and then turn the adjustment barrel down to shorten cable and remove all cable slack (Figure 11).

## Check Attachment Idler Arm Roller Clearance

(Figure 13)

**NOTE:** It will be difficult to check the measurement inside the frame. Use a 1/2 in. (12.7 mm) minimum spacer as a gauge to check the clearance between the roller and the frame.

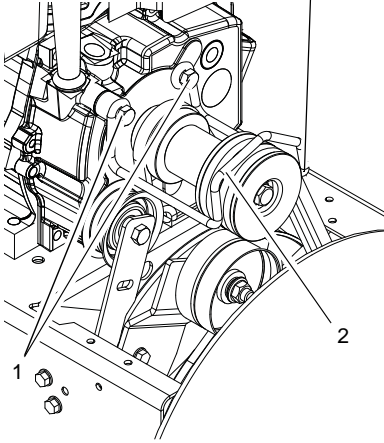
1. Remove bottom cover.
2. With the attachment clutch lever engaged, check the clearance between the frame and plastic roller on the lower end of the attachment idler arm (Figure 13).
  - If roller is 1/2 – 7/8 in. (12.7 – 22.2 mm) from frame, no further adjustment is required.
  - If roller is less than 1/2 in. (12.7 mm) from frame, loosen idler adjustment nut and move idler closer to the belt. Tighten adjustment nut and recheck the roller clearance.
  - If roller is more than 7/8 in. (22.2 mm) from frame, loosen idler adjustment nut and move idler away from the belt. Tighten adjustment nut and recheck roller clearance.



## Check Belt Finger Clearance

1. With attachment clutch lever engaged, the belt finger located opposite the belt idler must be less than 1/8 in. (3 mm) from belts, but not touching the belts (Figure 14).
2. Remove the belt cover.
3. To adjust belt finger, loosen the bolts and move the finger to the proper position. Tighten the bolts and recheck the belt finger clearance.
4. Replace the belt cover.

Check belt finger clearance here. With the attachment clutch engaged, there should be less than 1/8 in. (3 mm) clearance between the belts and the belt finger. The belt finger should not touch the belts.



1. Mounting Hardware
2. Belt Finger

Figure 14

## TRACTION DRIVE CLUTCH ADJUSTMENT

(Figure 15)

If drive slips, adjust traction clutch to compensate for friction disc wear.

To adjust traction clutch:

1. Loosen jam nut on traction cable adjustment barrel. Turn the adjustment barrel down to shorten cable and remove all cable slack.
2. With the traction clutch disengaged check that the drive plate assembly lightly touches to stop screw inside the frame (Figure 15).

## ATTACHMENT DRIVE BELTS REPLACEMENT



**WARNING:** ALWAYS remove key and-or wire from spark plug before assembly, maintenance or service. Unintentional engine start up can cause death or serious injury.

1. Place the unit into the service position (See *Service Position* on page 16).
2. Using new attachment drive belts, place unit into the operating position (See *Operating Position* on page 17).

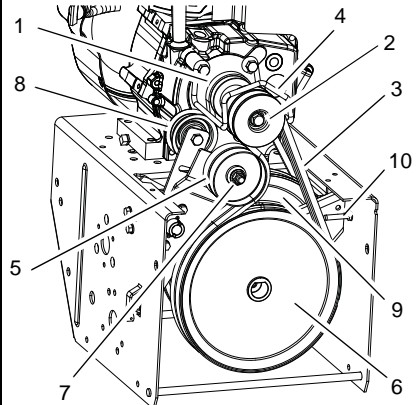
## TRACTION DRIVE BELT REPLACEMENT

(Figure 15 and 16)

1. Remove attachment drive belts (See *Attachment Drive Belts Replacement* on page 23).

**NOTE:** Make sure the drive plate assembly return spring remains connected to the frame.

Some components removed for clarity of illustration.



1. Traction Drive Belt
2. Engine Sheave
3. Attachment Drive Belts
4. Belt Finger
5. Attachment Belts Idler
6. Attachment Pulley
7. Attachment Idler Adjustment Nut
8. Traction Belt Idler
9. Traction Drive Pulley
10. Drive Plate Assembly Stop Screw

Figure 15

2. To gain belt clearance, back out the stop screw from the frame until the drive plate assembly can swing past it (Figure 15).
3. Pull idler away from traction drive belt and remove belt from engine sheave. It may be necessary to turn engine pulley using recoil handle (Figure 16).

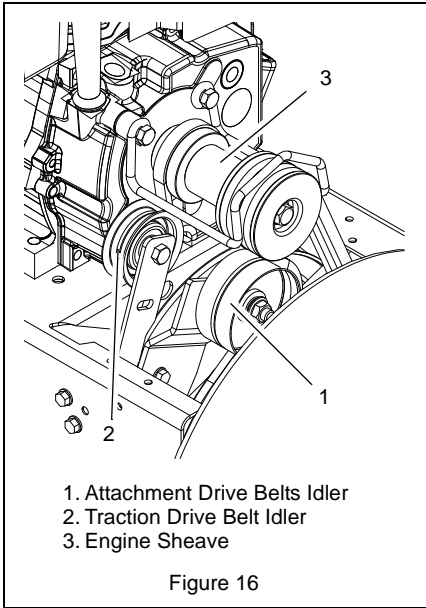


Figure 16

4. Remove traction drive belt from drive plate assembly pulley (Figure 17).
5. Install new traction drive belt onto drive plate assembly pulley and engine sheave.
6. Pull the drive plate assembly toward the friction disc and turn stop screw all the way in.
7. Replace attachment drive belts (see *Attachment Drive Belts Replacement* on page 23).

## FRICION DISC REPLACEMENT

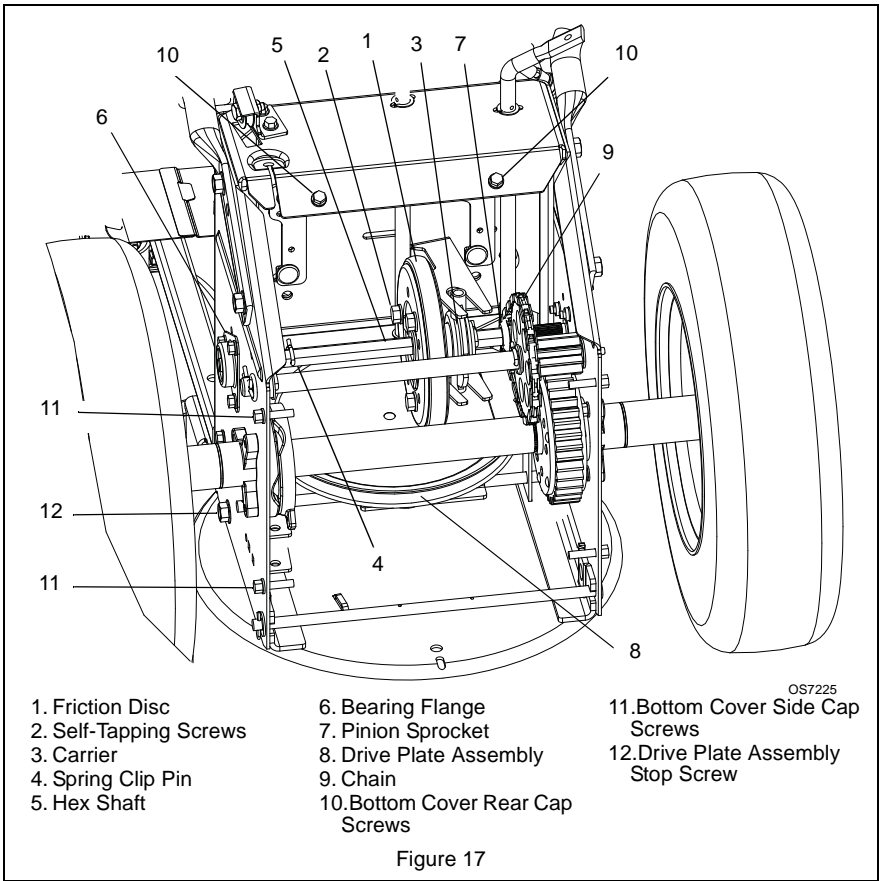
(Figure 17)

1. Place the unit into the service position (See *Service Position* on page 16).
  2. With axle locked, hold one wheel/tire so friction disc will not rotate and remove three self-tapping screws holding friction disc to carrier.
  3. Remove both wheel/tires.
  4. Remove two spring clip pins from hex shaft.
- NOTE:** Bearings are retained by flanges.
5. Remove right and left bearing flanges from frame.
  6. Slide hex shaft to the left enough to remove pinion sprocket from hex shaft.

**NOTE:** Outside bearing will fall free from hex shaft.

7. Slide hex shaft to the right enough to remove friction disc.
8. Slide new friction disc onto hex shaft.
9. Slide hex shaft to the left and install pinion sprocket and chain on hex shaft.
10. Slide hex shaft to the right until centered in frame and install bearings on shaft ends and retain with bearing flanges.
11. Install both wheel/tires.
12. Hold wheel/tire so friction disc will not rotate and secure new friction disc to carrier with three self-tapping screws.
13. Place unit into the operating position (See *Operating Position* on page 17).
14. Adjust traction drive clutch (See *Traction Drive Clutch Adjustment* on page 23).





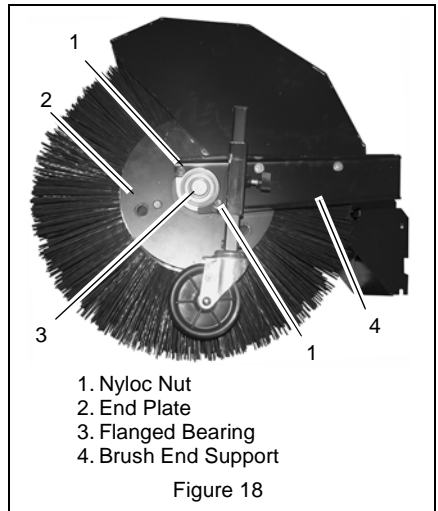
## BRUSH SEGMENT REPLACEMENT

(Figure 18, 19, and 20)



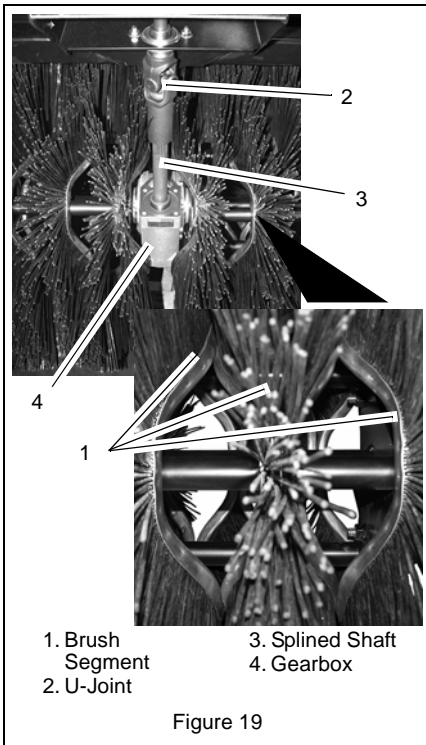
**WARNING:** ALWAYS remove key and/or wire from spark plug before assembly, maintenance or service. Unintentional engine start up can cause death or serious injury.

1. Shut off engine, close fuel shut-off valve, disconnect spark plug wire and allow unit to cool completely. Place unit on a flat level surface.
2. Remove two nyloc nuts and round head square neck bolts securing flanged bearing to horizontal end support at each side of brush (Figure 18).



- Loosen each bearing setscrew and slide bearings inward, away from horizontal end supports.

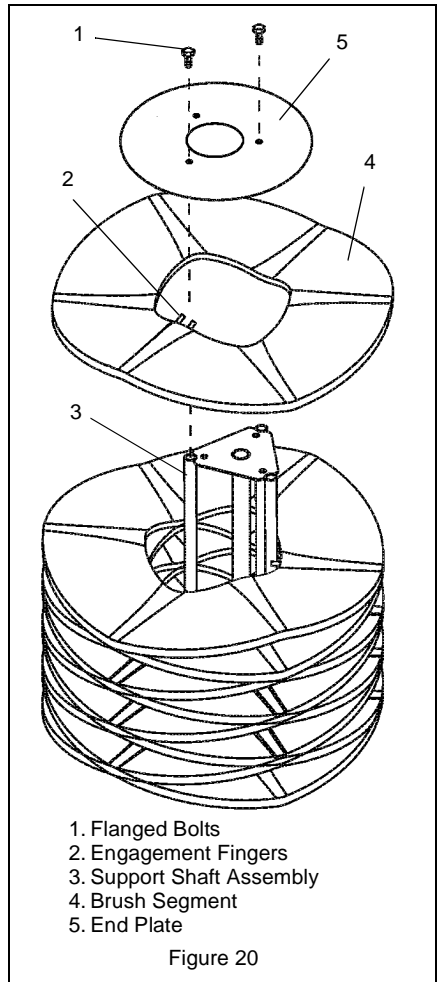
**IMPORTANT:** Brush gearbox splined shaft will separate from brush housing u-joint. Support splined shaft to prevent damage (Figure 19).



- Manually move traction unit backwards, pulling brush housing away from brush assembly.

**NOTE:** The gearbox at the center of the brush allows only half the brush segments to be removed from each end.

- Stand brush assembly upright on one end.
- Remove three flanged bolts securing end plate to support shaft assembly. Remove the end plate (Figure 20).



**IMPORTANT:** Brush segments must be aligned properly so they do not nest together (Figure 19).

7. Remove used brush segments and replace with new segments.

**IMPORTANT:** For each brush segment, align the pair of engagement fingers on alternating support shafts. This will evenly spread the rotating force throughout the support shaft assembly.

8. Install end plate on support shaft assembly and secure with three flanged head bolts (Figure 20).
9. Position brush back down horizontally.
10. Repeat steps 5 through 8 to replace segments for opposite end of brush.
11. Manually move traction unit forward while guiding brush gearbox splined shaft into brush housing u-joint.
12. Slide brush shaft bearings outward, against brush housing. Tighten each bearing setscrew to lock it in place on center shaft.
13. Install two round head square neck bolts and nyloc nuts to secure each flanged bearing to the brush housing (Figure 18).

## STORAGE



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

## SHORT TERM

**IMPORTANT:** NEVER spray unit with high-pressure water or store unit outdoors.

Run unit a few minutes after each use to free unit of any debris.

Inspect unit for visible signs of wear, breakage or damage.

Keep all nuts, bolts and screws properly tightened and know unit is in safe working condition.

Close fuel shut-off valve.

Store unit in a cool, dry protected area.

## LONG TERM

Clean unit thoroughly with mild soap and low pressure water and lubricate (See *Maintenance* on page 16). Touch up all scratched painted surfaces.

Remove weight from wheels by putting blocks under frame or axle.

## FUEL SYSTEM

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

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

### Add Fuel Stabilizer

1. Turn the fuel valve off while engine is running and allow the engine to run until it stops. Turn engine OFF when it begins surging to avoid engine damage.
2. Add fuel stabilizer, following the manufacturer's instructions.
3. Turn fuel valve on after adding fuel stabilizer.
4. Re-start engine.
5. Run the engine outdoors for 5 minutes to be sure that treated gasoline has replaced the untreated gasoline in the carburetor.
6. Slow the engine to an idle speed.
7. Repeat step 1.

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTION
<b>Engine will not crank/start.</b>	<ol style="list-style-type: none"> <li>1. Fuel tank is empty.</li> <li>2. Fuel shut-off valve closed.</li> <li>3. Engine shut off switch turned off.</li> <li>4. Engine ignition problems.</li> <li>5. Recoil pawls frozen.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill fuel tank.</li> <li>2. Open fuel shut-off valve.</li> <li>3. Turn on engine shut off switch.</li> <li>4. See Engine Manual.</li> <li>5. Remove snow and debris screen and clean. See <i>Clean Recoil Guard Foam Cover</i> on page 18. Bring unit into a warm area and allow the recoil assembly to thaw. Let recoil assembly dry completely before operating the unit.</li> </ol>
<b>Engine stops.</b>	<ol style="list-style-type: none"> <li>1. Out of fuel.</li> <li>2. Mechanical jam in brush.</li> <li>3. Polluted fuel supply.</li> <li>4. Faulty spark plug.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill fuel tank.</li> <li>2. Turn off engine and wait for all moving parts to stop. Check for and remove obstruction and repair before restart.</li> <li>3. Replace with clean fuel.</li> <li>4. Replace or clean spark plug.</li> </ol>
<b>Engine problems.</b>	<ol style="list-style-type: none"> <li>1. See Engine Manual.</li> </ol>	<ol style="list-style-type: none"> <li>1. See Engine Manual.</li> </ol>
<b>Does not operate in Forward/Reverse.</b>	<ol style="list-style-type: none"> <li>1. Friction disc not adjusted properly.</li> <li>2. Traction belt not functioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace friction disc. See <i>Service and Adjustments</i> on page 20.</li> <li>2. Repair or replace traction drive belt. See <i>Service and Adjustments</i> on page 20.</li> </ol>
<b>Small rubber beads collect in frame</b>	<ol style="list-style-type: none"> <li>1. Friction disc wear.</li> </ol>	<ol style="list-style-type: none"> <li>1. Normal friction disc wear. Chunks or large pieces of rubber mean friction disc should be checked and replaced as necessary.</li> </ol>
<b>U-joint is noisy</b>	<ol style="list-style-type: none"> <li>1. Friction.</li> <li>2. Wear.</li> </ol>	<ol style="list-style-type: none"> <li>1. Lubricate u-joint.</li> <li>2. Replace worn parts.</li> </ol>

## SERVICE PARTS

Order the following parts through your Dealer:

Part No.	Description
07231000	Traction Drive Belt
07200601	Attachment Drive Belt (Set of 2)
21547200	Spark Plug
00170800	Friction Disc
00036800	Hi-Temp Grease (Three 3 oz. cartridges)
03972500	Recoil Guard Foam Cover

To obtain a complete parts manual, find your model and serial number. Then go to [www.gravely.com](http://www.gravely.com).

## SPECIFICATIONS

<b>Model Number</b>	926046
<b>Engine</b>	Subaru EX27
Engine Displacement - in <sup>3</sup> (cc)	16.2 (265)
Fast Idle Speed-RPM	3800 ±100
Starter	120VAC Electric and Recoil
Fuel	See Engine Manual
Tank Capacity - qts. (L)	6.3 (6.1)
Clearing Width - in. (cm)	36 (91.44)
Brush Diameter-in. (cm)	24 (60.1)
Brush Rotation Speed - RPM	200
Drive (Traction Unit)	Disc-O-Matic®
Drive Speeds (Traction Unit)	6 Forward 2 Reverse
Pneumatic Tires - in	16 x 6.50-8
Brush Angle	40° Total (20° left/right)
<b>Size</b>	
Length - in (cm)	72 (183)
Height - in (cm)	43.0 (109.2)
Width - in (cm)	44.0 (111.8)
Weight - lbs. (kg)	325 (147.4)



# Sno-Thro<sup>®</sup>, Sno-Tek<sup>®</sup> and Chore Performing Equipment Limited Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that Ariens, Gravely, Parker, and Countax brand chore performing equipment (including Sno-Thro<sup>®</sup> and Sno-Tek<sup>®</sup> equipment) purchased on or after 1/1/2011 will be free from defects in material and workmanship for the time period noted in the chart below. Equipment put to personal use around a single household or residence is considered "Consumer Use"; equipment put to any business use (agricultural, commercial, or industrial) or used at multiple locations is considered "Commercial Use." If any product is rented or leased, then the duration of these warranties shall be 90 days after the date of purchase.

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

Warranty Code	Product Group	Warranty Period Consumer Use	Warranty Period Commercial Use
PA	Log Splitters, Brushes, String Trimmers, Edgers	3 Years	90 Days
PB	Professional Powered Brushes	3 Years	1 Year
PC	Tillers	2 Years	90 Days
PD	Vacuums, Blowers, Sweepers, Truck Loaders, Lawn Rakes, Sprayers, Aerators, etc.	1 Year	1 Year
SA	Professional Sno-Thro <sup>®</sup>	3 Years	1 Year
SB	Compact, Deluxe, Platinum, AMP <sup>™</sup> Sno-Thro <sup>®</sup>	3 Years	90 Days
SC	Sno-Tek <sup>®</sup>	2 Years	90 Days
UA	Utility Vehicles	1 Year	1 Year
N/A	Service (Replacement) Parts	90 Days (no labor)	90 Days (no labor)

## Special Extensions

The chart below details special extensions to this warranty:

Warranty Code	Warranty Exception	Warranty Period	Use	Detail
SA	Cast Iron Auger Gear Case	5 Years	All	5 Years for all users including Commercial
SB	Cast Iron Auger Gear Case	5 Years	Consumer	5 Years for Consumer use; 1 Year for Commercial Use
SB	Batteries for AMP <sup>™</sup> Sno-Thro <sup>®</sup>	2 Years	Consumer	100% first year; prorated second year.

## Exceptions and Limitations

The chart below details special exceptions to this warranty:

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

## Customer Responsibilities

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

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

- Perform the maintenance and adjustments explained in the owner's manual.
- Promptly notify Ariens or an authorized Ariens, Gravely, Parker or Countax service representative of the need for warranty service.
- Transport the product to and from the place of warranty service at owner's expense.
- Have the warranty service performed by an authorized Ariens, Gravely, Parker or Countax service representative.

## To Find an Authorized Service Representative:

<b>In the U.S. and Canada:</b>		
Use the dealer locator on our websites: <a href="http://www.ariens.com">www.ariens.com</a> • <a href="http://www.gravely.com">www.gravely.com</a>		
Or contact us by mail or by phone:		
<b>In the U.S., Canada, Mexico, Caribbean, Central and South America:</b>	<b>In Europe, Asia, Africa or the Middle East:</b>	<b>In Australia or New Zealand:</b>
Ariens Company 655 W. Ryan Street Brillion, WI 54110 Phone: (920) 756 - 4688 <a href="http://www.ariens.com">www.ariens.com</a>	Countax Ltd, Countax House Great Haseley, Oxfordshire, OX44 7PF Phone: 0800 597 7777 <a href="http://www.countax.com">www.countax.com</a>	109-111 Abbot House Hallam, Victoria 3803 Australia Phone: (03) 9796 4244 1800 335 489 <a href="http://www.bynorm.com.au">www.bynorm.com.au</a>

## **Exclusions - Items Not Covered by This Warranty**

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

## **Special Exclusions on Utility Vehicles**

The following uses void the warranty terms on Utility Vehicles (Warranty Code UA):

- Renting or leasing the utility vehicle.
- Using the utility vehicle to tow or carry loads in excess of the limits specified in the owner/operator manual.
- Modifying the utility vehicle with parts and accessories that are not genuine or authorized Ariens or Gravely parts or accessories.
- Modifying the utility vehicle without express written authorization from the Ariens Company.
- Operating the utility vehicle when it has not been completely and properly assembled and pre-delivered by an authorized Gravely dealer.

## **Disclaimer**

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

## **LIMITATION OF REMEDY AND DAMAGES**

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

## **DISCLAIMER OF FURTHER WARRANTY**

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

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



# CALIFORNIA AND EPA (UNITED STATES ENVIRONMENTAL PROTECTION AGENCY) EVAPORATIVE EMISSION CONTROL WARRANTY STATEMENT

## YOUR WARRANTY RIGHTS AND OBLIGATIONS

The CARB (California Air Resources Board), the EPA, and Ariens Company are pleased to explain the evaporative emission control system's warranty on your 2011 model year small off-road equipment. In California, new equipment that uses small off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. Ariens Company must warrant the evaporative emission control system on your small off-road equipment for the period listed below provided there has been no abuse, neglect or improper maintenance of your equipment.

Your evaporative emission control system may include parts such as: fuel tanks, fuel lines, fuel caps, valves, canisters, filters, vapor hoses, clamps, connectors, and other associated components.

## MANUFACTURER'S WARRANTY COVERAGE:

This evaporative emission control system is warranted for two years. If any evaporative emission-related part on your equipment is defective, the part will be repaired or replaced by Ariens Company.

## OWNER'S WARRANTY RESPONSIBILITIES:

- As the small off-road equipment owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. Ariens Company recommends that you retain all receipts covering maintenance on your small off-road equipment, but Ariens Company cannot deny warranty solely for the lack of receipts.
- As the small off-road equipment owner, you should however be aware that the Ariens Company may deny you warranty coverage if your evaporative emission control system part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.
- You are responsible for presenting your small off-road equipment to an authorized Ariens, Gravely, or Parker service representative as soon as the problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty coverage, you should contact Ariens Company Technical Service Center at 1-920-756-2141.

## DEFECTS WARRANTY REQUIREMENTS:

- (a.) The warranty period begins on the date the small off-road equipment is delivered to an ultimate purchaser.
- (b.) General Evaporative Emissions Warranty Coverage. Ariens Company warrants to the ultimate purchaser and any subsequent owner that the evaporative emission control system when installed was:
  - (1.) Designed, built, and equipped so as to conform with all applicable EPA and CARB regulations; and
  - (2.) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.
- (c.) The warranty on evaporative emissions-related parts will be interpreted as follows:
  - (1.) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions must be warranted for the warranty period defined in subsection (b)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by the Ariens Company. Any such part repaired or replaced under the warranty must be warranted for a time not less than the remaining warranty period.
  - (2.) Any warranted part that is scheduled only for regular inspection in the written instructions must be warranted for the warranty period defined in subsection (b)(2). A statement in such written instructions to the effect of "repair or replace as necessary" will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for a time not less than the remaining warranty period.
  - (3.) Any warranted part that is scheduled for replacement as required maintenance in the written instructions must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by the Ariens Company. Any such part repaired or replaced under warranty must be warranted for a time not less than the remainder of the period prior to the first scheduled replacement point for the part.

- (4.) Repair or replacement of any warranted part under the warranty provisions of this article must be performed at no charge to the owner at an authorized Ariens, Gravelly, or Parker service representative.
- (5.) Notwithstanding the provisions of subsection (4) above, warranty services or repairs must be provided at authorized Ariens, Gravelly, or Parker service representatives that are franchised to service the subject small off-road equipment.
- (6.) The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at an authorized Ariens, Gravelly, or Parker service representative.
- (7.) Throughout the evaporative emission control system's warranty period set out in subsection (b)(2), the Ariens Company must maintain a supply of warranted parts sufficient to meet the expected demand for such parts.
- (8.) Manufacturer-approved replacement parts must be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of the manufacturer issuing the warranty.
- (9.) The use of any add-on or modified parts will be grounds for disallowing a warranty claim made in accordance with this article. The manufacturer issuing the warranty will not be liable under this Article to warrant failures of warranted parts caused by the use of an add-on or modified part.

### **Evaporative Emission Warranty Parts List**

The following parts are considered emission-related components for evaporative emissions:

- Fuel Tank, Fuel Cap and Tether
- Fuel Line, Fuel Line Fittings, Clamps\*
- Pressure Relief Valves, Control Valves\*
- Control Solenoids\*, Electronic Controls\*
- Vacuum Control Diaphragms\*
- Control Cables\*, Control Linkages\*
- Purge Valves
- Vapor Hoses, Liquid/Vapor Separator
- Carbon Canister, Canister Mounting Brackets
- Carburetor Purge Port Connector

\* As related to the evaporative emission control system

### **Disclaimer**

New equipment sold in the state of California that uses small off-road engines must be exclusively certified and appropriately labeled for sale in California. Some equipment covered by this Owner's Manual may not be certified for sale in California and the presence of the preceding CARB and EPA Warranty Statement does not by its existence indicate which, if any, of the equipment covered by this Owner's Manual may be sold in California.

Some equipment covered by this Owner's Manual may have been manufactured prior to certain affectivity dates requiring the inclusion of evaporative emission control systems. Therefore some equipment covered by this Owner's Manual may not include the evaporative emission control systems referred to in the preceding CARB and EPA Warranty Statement.





GRAVELY  
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Brillion, WI 54110-1072  
920-756-4688  
Fax 920-756-2407  
[www.gravelly.com](http://www.gravelly.com)

 **WARNING** 

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

An *Ariens* Company Brand