

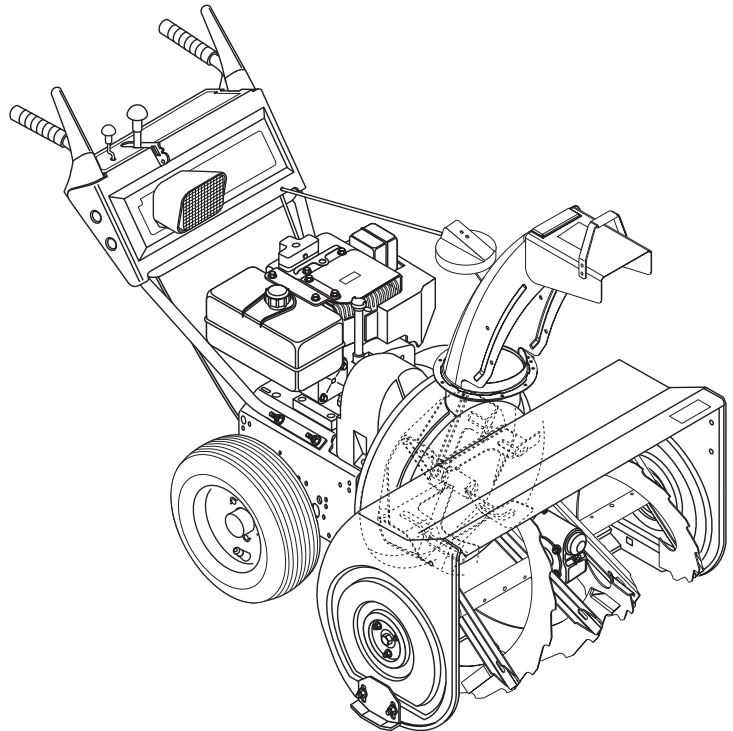


# Sno-Thro®

## Owner/Operator Manual

### Models

- 924108 - ST824SLE
- 924109 - ST1028SLE
- 924110 - ST824DLE
- 924112 - ST928LE
- 924113 - ST1132LE
- 924115 - ST1028SLE





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## SECTION 1: INTRODUCTION

---

The Manual .....	2
Publication, Service and Replacement Parts lists .....	2
Product Registration, Disclaimer .....	2

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## SECTION 2: SAFETY

---

Safety Alert Symbol, Signal Words .....	3
Practices and Laws, Required Operator Training .....	3
Safety Decals and Locations .....	4
Safe Operation Practices and Rules .....	5

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## SECTION 3: ASSEMBLY

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Assembly .....	8
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## SECTION 4: OPERATION

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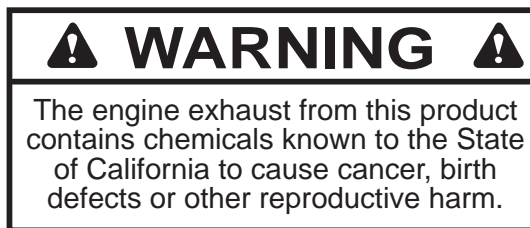
Controls and Features .....	10
Pre-Start .....	13
Starting and Shut Off .....	14
Throwing Snow .....	15
Traveling, Transport .....	15

---

## SECTION 5: GENERAL MAINTENANCE

---

Service Position .....	16
Filling Fuel Tank .....	16
Fuel Shut-Off Valve .....	17
Engine .....	17
Drive Belts .....	17
Shear Bolts .....	19
Tire Pressure .....	19
Friction Wheel, Auger Gearcase .....	19
Lubrication Locations .....	20
Adjustments .....	20
Cleaning and Storage .....	23
Attachments and Accessories .....	23
Maintenance Schedule .....	24
Troubleshooting .....	24
Specifications .....	25
Warranty .....	26



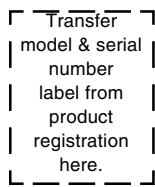
# SECTION 1: INTRODUCTION

## THE MANUAL

Before operation of unit, carefully and completely read your manuals. The contents will provide you with an understanding of safety instructions and controls 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.

## SERVICE AND REPLACEMENT PARTS



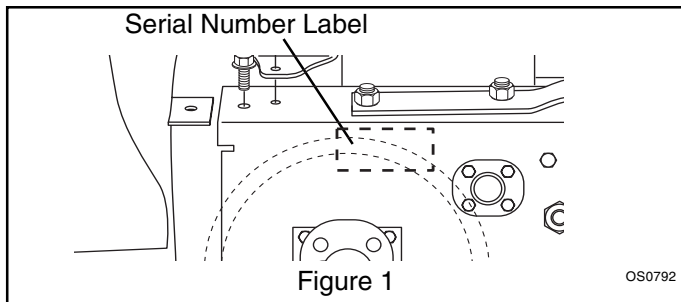
When ordering replacement parts, publications, or making service inquiries, know the Model and Serial numbers of your unit, engine, clutch, etc.

Unit 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 (Figure 1).

Record applicable model and serial numbers here:

Unit \_\_\_\_\_

Engine \_\_\_\_\_



## Publication and Service Part List

Order the Following parts through your Ariens Dealer:

Part No.	Qty.	Description
00012300A	1	Repair Manual
02478300	1	Parts Manual
21533400	1	Spark Plug (108-110,115)
21533500	1	Spark Plug (112,113)
07208600	1	Impeller Belt (108-110,115)
07210800	1	Impeller Belt (112,113)
07211200	1	Traction Belt

Mail Request to:

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

## PRODUCT REGISTRATION

A warranty registration card must be filled out, signed, and returned at time of sale. This form activates the warranty. The replacement of any part on this vehicle with anything other than authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Claims meeting requirements during limited warranty period will be honored.

To guarantee full warranty service, make sure your registration card has been returned.

## DELIVERY

**Customer Note:** Your unit should be ready to run when you take delivery. Your retailer is required to review important information in this manual with you before or upon delivery of the unit or attachment.

### Retailer should:

1. Check to make sure all Assembly steps have been properly completed.
2. Fill out Original Purchaser Registration Card and return the card to Ariens Company.
3. Explain Limited Warranty Policy.
4. Explain recommended lubrication and maintenance. Advise customer on adjustments.
5. Instruct customer on controls and operation of unit. Discuss and emphasize the Safety Precautions. Give customer Product Manuals. Advise customer to thoroughly read and understand them.

## DISCLAIMER

Ariens Company is hereinafter referred to as Ariens. Ariens reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation. Ariens disclaims liability for any claims or damages, whether regarding property, personal injury or death arising out of the use of unauthorized replacement parts. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may not be identified as either standard or optional. Illustrations may not be applicable to your unit.



## SAFETY ALERT SYMBOL

This is a safety alert symbol. It means:

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



When you see this symbol:

- **BECOME ALERT!**
- **OBEY ITS MESSAGE!**

## SIGNAL WORDS

The safety alert symbol is used with the signal words DANGER, WARNING and CAUTION and colors to alert you to safety messages.

They are used in safety decals on the unit and with proper operation and procedures in this manual. They alert you to the existence and relative degree of hazards.

Understand the safety message. It contains important information about personal safety on or near the unit.

### **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.

## 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.

## 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.

## NOTATIONS

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

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

# SAFETY DECALS AND LOCATIONS

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

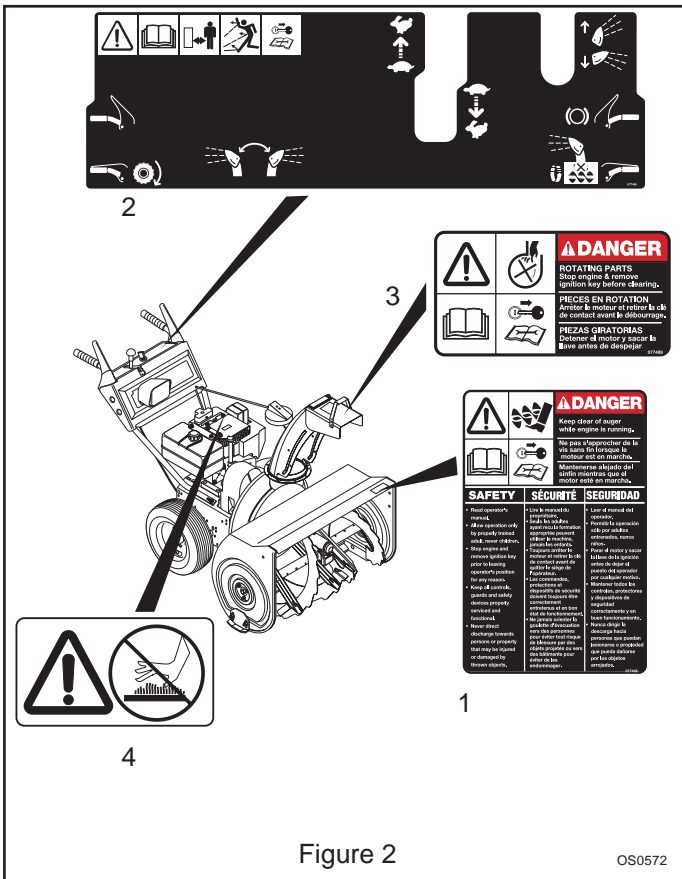


Figure 2

OS0572

1 & 2. **DANGER!** Keep clear of auger while engine is running



**SAFETY**

Read Owner/Operator Manual.

OL1801

- Allow operation only by properly trained adult, never children.

Stop engine and remove ignition key prior to leaving operator's position for any reason.

OL4010

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

OL4000

- Keep all controls, guards and safety devices properly serviced and functional.

Keep people away from unit while operating.

OL3292

3. **DANGER!** Rotating parts! Stop engine and remove key before clearing.

OL0900

4. **HOT SURFACES!** DO NOT touch parts which are hot from operation. ALWAYS allow parts to cool.

OL4340

## UNIT SAFETY

### Walk Around Inspection

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

- Work area
- Your unit
- All safety decals

### Clearances

ALWAYS check overhead and side clearances carefully before operation.

ALWAYS be aware of traffic when operating along streets or curbs.

### Work Area

Keep children and people away.

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

### Clear Work Area

Keep area of operation clear of all toys, pets, and debris. Thrown objects can cause injury.

### Avoid Falls

Check for weak spots on dock, ramps or floors. Avoid uneven work areas and rough terrain. Stay alert for hidden hazards.

### Slippery Surfaces

Avoid slippery surfaces. ALWAYS be sure of your footing, especially when operating in reverse.

DO NOT operate at high transport speeds on slippery surfaces. Never run during operation.

### Visual Obstruction

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

### Safety Guards and Devices

ALWAYS keep protective structures, guards, and panels in good repair, in place and securely fastened.

NEVER modify or remove safety devices.

### Clutches and Brakes

Check clutch and brake operation frequently. Adjust and service as required. All motion of drive wheels and auger/impeller must stop quickly when control levers are released.

## OPERATIONAL SAFETY

### Rules of Operation

Understand:

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

### Child Safety

NEVER allow children to operate, play on or near unit.

Be alert and shut off unit if children enter area.

### Pre-Start

Before starting engine: disengage all clutches and shift into neutral. Adjust runners to clear gravel or crushed rock surface safely.

When using electric starter, use only extension cords and receptacles with U.L. approved 3-wire grounding.

### Speed Ranges

DO NOT operate at too fast a rate.

DO NOT change engine governor settings or over speed engine. Slow down and turn corners slowly.

### Attachment Power

Disengage attachment when not in use.

ALWAYS turn off power to attachment when traveling across previously cleared areas, etc.

### Ambient Temperature

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

### No Riders

Never carry passengers.

### Reverse

DO NOT operate in reverse unless absolutely necessary.

ALWAYS backup slowly.

ALWAYS look down and behind, before and while backing.

### Avoid Tip over

Avoid uneven and rough terrain.

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.

## **Hazardous Slopes**

DO NOT operate on steep slopes. DO NOT clear snow 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.

## **Shutoff**

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

## **Abnormal Vibrations, Foreign Objects, Clogged Unit**

Immediately shut off unit as above.

Check for any damage or loose parts and repair before restart.

## **Parking**

Run unit a few minutes after throwing snow to prevent freeze-up of impeller.

Never leave a running unit unattended.

ALWAYS shut off engine before leaving unit.

ALWAYS remove key to prevent unauthorized use.

## **Unit Roll-Away**

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

# **PERSONAL SAFETY**

## **Responsible Operators**

- Only trained adults may operate unit
- Training includes actual operation

## **No Drugs**

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

## **No Alcohol**

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

## **Safe Distances**

Keep children and people away from unit during operation.

## **Safety Gear**

DO NOT operate unit without wearing adequate winter outer garments. Wear adequate safety gear, protective gloves. Wear proper footwear to improve footing on slippery surfaces.

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

## **Avoid Sharp Edges**

Sharp edges can cut. Movement of parts can cut off fingers or a hand.

## **Avoid Rotating Parts**

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

## **Avoid Pinch Points**

ALWAYS keep hands away from all pinch points.

## **Avoid Hot Surfaces**

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

## **Avoid Entanglement**

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

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

## **Avoid Thrown Objects**

Deflected materials can cause injury and property damage.

DO NOT point discharge at anyone or discharge directly onto paved or gravel surfaces. Use extreme caution on gravel surfaces. Adjust Runners so Scraper Blade does not contact gravel.

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

## **Avoid Exhaust Fumes**

Fumes from engine exhaust can cause injury or death.

## **Ventilation**

DO NOT run engine in an enclosed area. Always provide good ventilation and wait until hazard has been removed.



# MAINTENANCE AND SERVICE SAFETY

## Prepare Unit

Before cleaning or making any inspections, repairs, etc.: disengage clutches, stop unit and engine, remove key, allow moving parts to stop. Disconnect spark plug wire and keep wire away from plug to prevent accidental start-up.

Allow hot parts to cool.

## Service Position

Before tipping unit up onto housing, remove enough fuel so no spillage will occur. Assure unit is secure and will not tip over during maintenance.

## Explosive Fuel

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

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.

## Replacement Parts

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

## Hardware

Keep hardware tight. Check shear bolts frequently.

## Cleaning

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

## Storage

For unit storage or extended storage:

- NEVER store with fuel in fuel tank, inside a building where any ignition sources are present
- Allow engine to cool completely
- For extended storage, clean unit thoroughly. See Engine Manual for proper storage.

## Transport

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.

Close Fuel Shut Off Valve before transport to prevent fuel leakage.

# ATTACHMENTS AND ACCESSORIES

Use only attachments or accessories designed for your unit.

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

# SECTION 3: ASSEMBLY

## WARNING

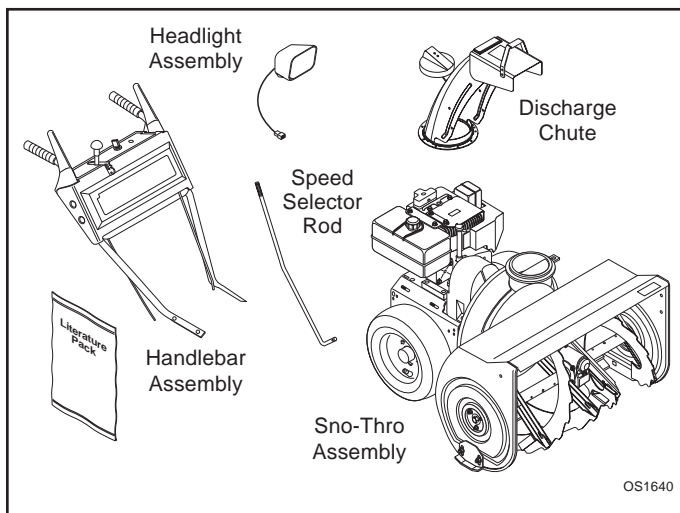
**FAILURE TO FOLLOW INSTRUCTIONS** could result in personal injury and/or damage to unit.

Read, understand, and follow all safety practices in Owner/Operator Manual before beginning.

### Tools Required:

- Needle Nose Pliers
- Open-End Wrenches: 3/8, 7/16, 1/2, 9/16 and/or Adjustable Wrench
- Allen Wrench
- Tire Gauge
- Hand Hex Driver

### Package Contents:



## UNPACKING UNIT

Using a standard box knife, cut off the top of the box approximately one inch down on each side. Remove the handlebar assembly, chute, headlight, shift rod, nuts and bolts, owner's packet and all of the packing cardboard.

Reach into the box and grasp the main unit by the augers. Pull up on the entire assembly until it is resting at approximately 45° inside the box. Now, tip the entire box until it is resting on the auger side. Go to the front of the open box and pull on the augers until the unit is resting on the wheels. Roll the unit out of the box.

Using one of the 3/8" bolts, run it down into both of the left side threaded holes to clear out any paint or other obstructions.

Remove remaining packing material and discard.

## ASSEMBLY CHECKLIST (Figure 3)

Check each box after preparation completion.

### 1. Install Handlebar and Attachment Clutch

Position lower handlebars on frame without installing hardware. Hook clutch cable spring on clutch arm. Fasten lower handlebars to frame using 3/8" hardware supplied. The right hand side is attached using a flat washer, lock washer and nut (front and rear). The left side uses a flat washer, lock washer and cap screw at the front. The rear has the chute crank support bracket, lock washer, and cap screw securing the handlebar.

### 2. Install Headlight

On models with standard headlight, put the wire through the slot and then assemble the light a hardware to the panel. Route the wire down the handlebar. Attach the wire to the handlebar using the plastic ties. Plug the terminal into the mating alternator connector. Unscrew the fan housing bolt, attach the loop terminal to the screw and retighten the bolt for ground.

### 3. Install Discharge Chute and Crank

Grease ring for discharge chute on the blower housing. Install chute by sliding chute ring under front clip on blower housing and putting chute on housing. Attach chute bracket to engine bracket using bolts, flat washers, lock washers, nuts and spacers.

Slide chute crank through bracket under handle bar and hole in front of panel. Adjust bracket under the handlebar to align the chute crank with the universal joint. Attach the chute crank to the universal joint with the spring clip.

**IMPORTANT:** Chute should rotate easily. If the chute is difficult to turn, loosen nut on spring under the chute gear.

### 4. Install Optional Deflector Remote

On models with remote deflector, route cable around right side of engine. Install cable clamp around cable and fasten to engine on right side, using existing screw.

Slide cable end through hole on bracket on side of chute and install e-ring. Attach cable eye to stud on chute. Hold in place with flat washer and e-ring.

**NOTE:** Check deflector movement to highest position. Adjust threaded connector under handlebar to obtain full travel.

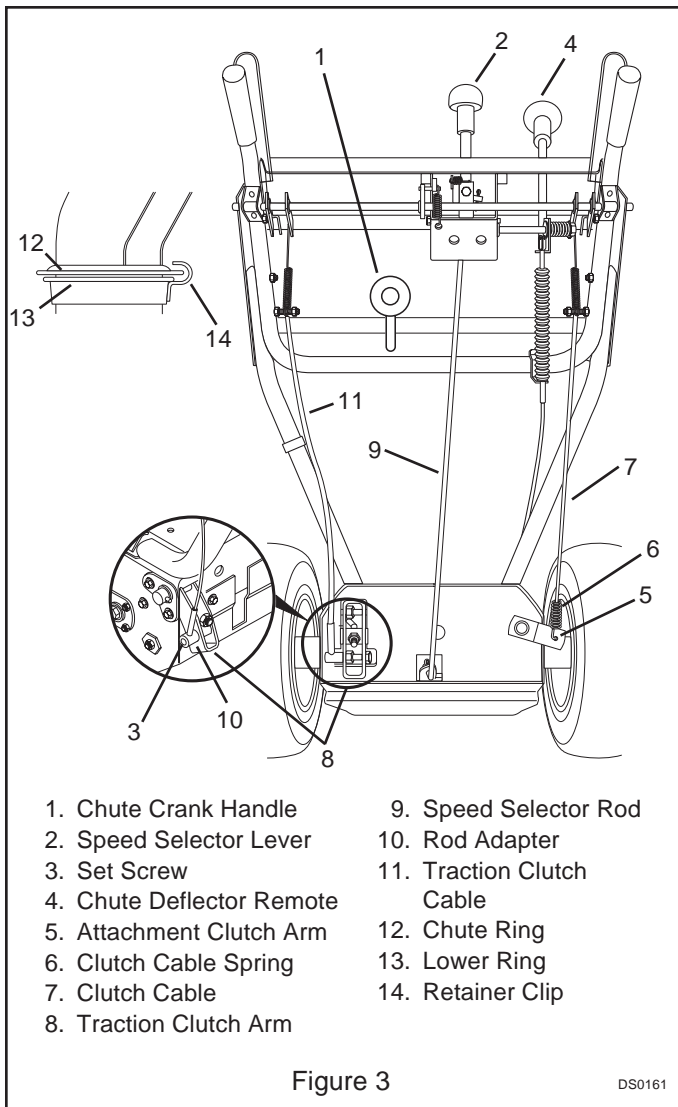


Figure 3

DS0161

**5. Connect Speed Selector**

Remove the bottom cover from the tractor frame. Connect speed selector rod to friction wheel shift arm using washer and cotter pin. Put speed selector into fast reverse notch. Thread the rod adjustment pin along the speed selector rod until it aligns with the mating hole on the speed selector lever. Insert the rod adjustment pin into hole. Move speed selector to the fastest forward speed position. Insert the hairpin into the rod adjustment pin. Check that there is clearance between the idler wheel and the friction wheel. Install bottom cover on tractor using four self-tapping screws.

**6. Check Attachment Clutch Travel**

Clutch cable spring should expand approximately 3/8" beyond free state when clutch is engaged. When clutch is disengaged, lower end of clutch arm should return to its maximum down position, with slight amount of slack in control cable. If proper spring extension is not obtained, adjust Attachment Idler per Maintenance Section.

**WARNING**

**FAILURE OF ATTACHMENT BRAKE** could result in death or serious injury.

Check attachment brake and clutch function (see Maintenance Section).

**7. Connect Traction Clutch**

Install traction clutch cable rod end into rod adapter. Move traction clutch lever up and forward as far as possible and secure rod to adapter with setscrew (adjust per Maintenance Section).

**WARNING**

**FAILURE OF CLUTCH DISENGAGEMENT**, together with improper usage or adjustment of unit could result in death or serious injury.

**8. Check Function of Optional Interlock**

On models with dual handle interlock, check interlock action by pressing down (engaging) both clutch levers. Remove hand from attachment clutch lever. Attachment clutch should remain engaged until traction clutch lever is released then both clutches must disengage.

**9. Install Runners**

On models without runners installed, install them on both sides of auger/impeller housing with carriage bolts, washers and lock nuts (install with heads inside of housing; short carriage bolts go in front holes, long in rear).

**10. Check Tire Pressure**

Check tire pressure and adjust to 20 PSI (137.8 kNm<sup>2</sup>) for operation.

**11. Check Auger Gearcase Oil**

Check oil level in auger gearcase (see Maintenance Section).

**12. Fill Engine Crankcase**

**IMPORTANT:** Engines on all Sno-Thro models are shipped without oil in crankcase. Refer to Engine Manual for proper type oil and crankcase capacity.

**13. Fill Engine Fuel Tank**

Refer to Engine Manual for proper type and capacity.

**14. Check Function of all Controls**

Ensure unit runs and performs properly. See Operation Section.

# SECTION 4: OPERATION

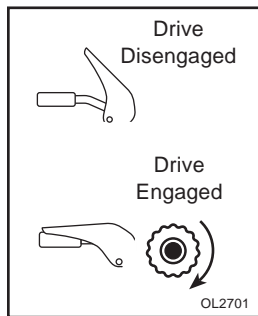
## CONTROLS AND FEATURES

See Figure 4 for all Controls and Features locations.

### Dual Handle Interlock

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

### Traction Drive Clutch - Left Hand Lever



Squeeze the Traction Drive Clutch Lever against the Handlebar to engage wheel drive for propelling unit. Forward speed will vary according to snow depth and moisture content.

Release lever to stop movement.

**NOTE:** When traveling to or from area to be cleared, press down on handlebars enough to raise front of unit slightly off surface and engage Traction Drive Clutch without engaging Attachment Drive Clutch.

**NOTE:** Attachment Clutch should be engaged before Traction Drive Clutch when throwing snow.

### Attachment Clutch - Right Hand Lever

**WARNING**

**THROWN OBJECTS** could result in personal injury and/or property damage. ALWAYS discharge in a safe direction. Disengage attachment power when unit is being transported to work area or is not in use. Use extreme caution when operating on or crossing gravel surfaces.

**CAUTION**

**STRIKING FOREIGN OBJECTS** may damage unit and result in minor or moderate injury. Shut off unit and engine and remove wire from spark plug. Check for any damage or loose parts and repair before restart.

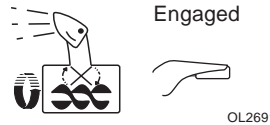
**IMPORTANT:** Check impeller to be sure it is not frozen. If belt squeals when the Attachment Clutch Lever is engaged, the Impeller is frozen. Immediately release the Attachment Clutch Lever and move the unit to a heated area to thaw.

Impeller Disengaged



Release both clutch levers to disengage power and apply brake to attachment.

Impeller Engaged



Squeeze Attachment Clutch Lever against Handlebar to engage attachment.

### Ignition Switch

**WARNING**

**ACCIDENTAL ENGINE START UP or UNAUTHORIZED USE** could result in death or serious injury. ALWAYS shut off unit and remove key before servicing or leaving unit unattended.



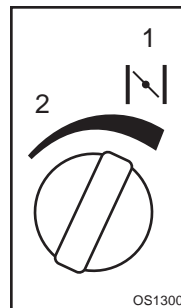
The Ignition Switch is operated by a removable Key. It has two positions:

1. "Stop" - pulled out
2. "Run" - pushed in



### Primer Bulb

Pushing the Primer Bulb in adds fuel for easier engine start (see Starting and Shut Off).

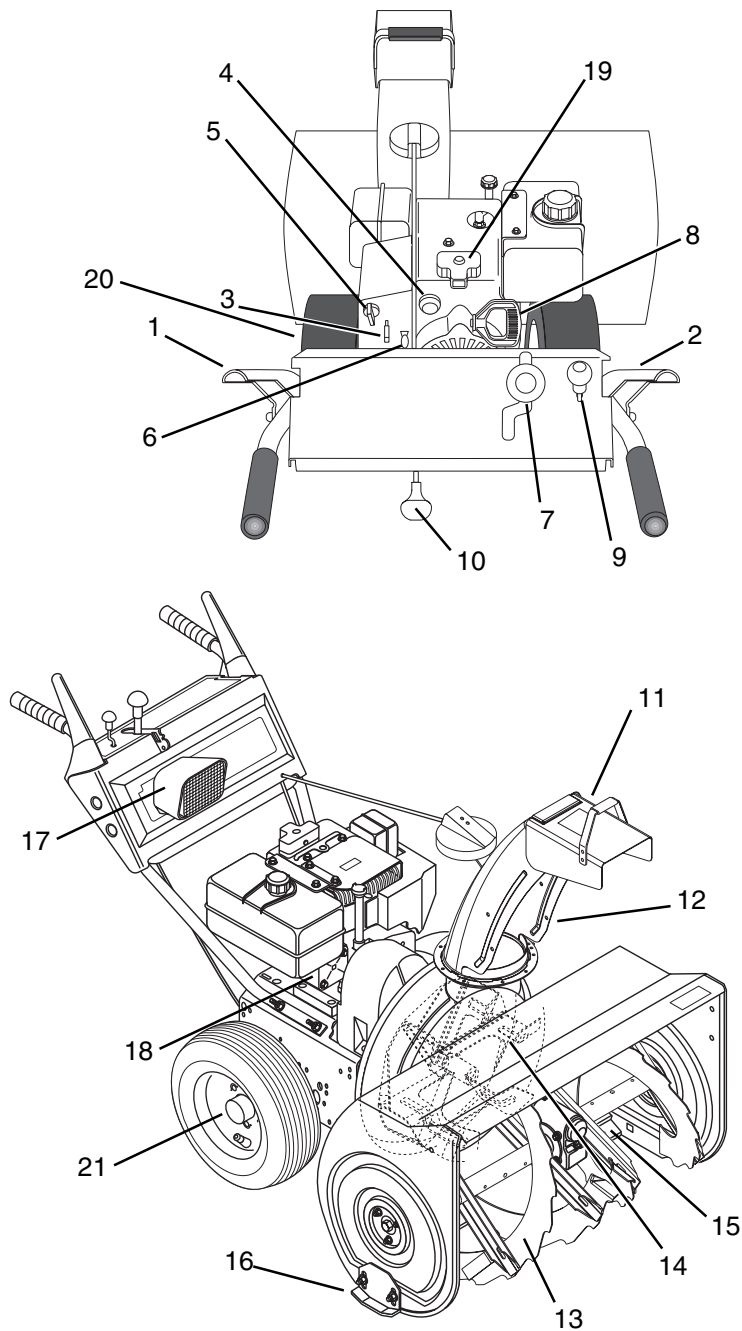


### Choke Control Knob

1. "Choke Closed" position: Choke Control chokes off air to engine for easier start.
2. "Choke Open" position: allows for normal operation.

**IMPORTANT:** After engine starts, adjust choke as needed.

# CONTROLS AND FEATURES LOCATIONS



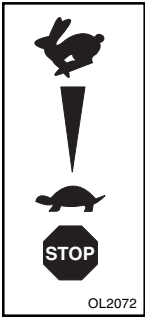
- |                                |                               |                                       |
|--------------------------------|-------------------------------|---------------------------------------|
| 1. Traction Drive Clutch Lever | 8. Recoil Starter Handle      | 15. Scraper Blade                     |
| 2. Attachment Clutch Lever     | 9. Deflector Remote Control   | 16. Runner(s)                         |
| 3. Stop/Run Switch and Key     | 10. Chute Crank               | 17. Headlight                         |
| 4. Primer Bulb                 | 11. Discharge Chute Deflector | 18. Fuel Shut Off Valve               |
| 5. Choke                       | 12. Discharge Chute           | 19. Starter Button                    |
| 6. Throttle                    | 13. Auger                     | 20. Differential Lock (110, 112, 113) |
| 7. Speed Selector              | 14. Impeller                  | 21. Axle Lock Pin (108, 109, 115)     |

Figure 4

OS0591  
OS1131

## Throttle

The Throttle controls the engine speed. To increase or decrease the engine speed position control by adjusting to:



1. "Fast" (normal or warm starts)
2. "Part-Throttle" (cold weather starts)
3. "Slow"
4. "Stop" (engine is off)

OL2072

## Speed Selector

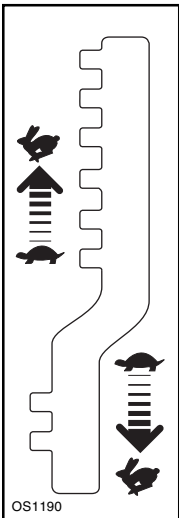
### WARNING

**LOSS OF CONTROL** could result in death or serious injury. **DO NOT** operate at high transport speeds on slippery surfaces. **ALWAYS** use care when backing.

### CAUTION

**OVER-SPEED** can result in serious injury and/or damage to the unit. **DO NOT** clear snow at too fast a rate.

The Speed Selector controls the unit travel in a forward or reverse direction when positioned in notch of speed.



Forward:

- (6) "Fast"
- (5)
- (4)
- (3)
- (2)
- (1) "Slow" (Best used for removing deep or hard packed snow)

Reverse:

- (1) "Slow"
- (2) "Fast"

OS1190

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

## Recoil Starter Handle

When pulled, handle will turn engine over.

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

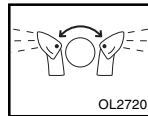
## Discharge Chute

### DANGER

**ROTATING PARTS** will cause serious injury or death. **NEVER** reach into discharge chute or housing while engine is running.

### WARNING

**THROWN OBJECTS** can result in personal injury and/or property damage. **ALWAYS** position Discharge Chute and Deflector in safe direction and angle before starting engine. **DO NOT** allow anyone in front of unit during operation. Be familiar with area of operation.



Discharge Chute rotates 220°.

OL2720

**IMPORTANT:** If Chute does not stay in set position, adjust as directed in Adjustment Section, or repair before operation.

## Chute Crank Handle

Rotate the Chute with Discharge Chute Crank Handle.

**IMPORTANT:** **DO NOT** force frozen Chute controls. Start engine and run for 3-5 minutes to thaw. If still frozen, take to warm place until controls are free.

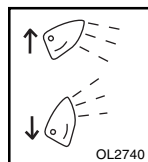
## Discharge Chute Deflector

### CAUTION

**THROWN OBJECTS** can result in personal injury and/or property damage. **DO NOT** throw snow any higher than necessary.

**IMPORTANT:** If Chute Deflector does not stay in set position, adjust as directed in Adjustment Section, or repair before operation.

## Deflector Remote Control (109, 113, 115)

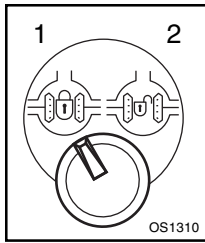


For operation push Deflector Remote Control knob forward to adjust Deflector downward. To adjust Deflector upward push Deflector Remote Control knob downward.

OL2740

## Differential Lock Knob (110,112,113)

Differential Lock Knob is located on the left wheel hub. With differential locked, power is applied equally to both wheels.



To engage differential lock:

- Pull and turn knob to "Locked" (1) position and release (knob will snap in place when positioned correctly).

To resume differential action for transport:

- Pull and turn knob to "Unlocked" (2) position and release.

## Axle Lock Pin (108, 109, 115)

The axle lock pin is located on the right wheel hub. Moving pin from the hub to the axle shaft allows the right wheel to turn freely. Power is applied to left wheel only.

## Scraper Blade

The scraper blade allows the back of the housing to keep better contact with the surface being cleared. It also prevents damage to the housing from normal wear.

**IMPORTANT:** DO NOT allow Scraper Blade to wear or Auger / Impeller housing will become damaged.

## Runners

For operation on gravel surface, lower Runners so that housing will not pick up gravel. On concrete, blacktop or packed snow surfaces raise Runners so that Scraper Blade scrapes clean. To reduce tendency of housing to ride up over heavy wet or hard-packed snow, remove Runners and reinstall with their narrow edge down.

## Headlight

### CAUTION

**VISUAL OBSTRUCTION** can reduce visibility and cause an accident. Operate unit only when there is good visibility and light.

The headlight operates only when the engine is running. Adjust the headlight: loosen the hardware, position light and retighten hardware.

**NOTE:** Lamp remains "On" at all times for longer lamp life. Lamp is more sensitive to fatigue failure when unlit than when lit.

## PRE-START

### WARNING

**IMPROPER CLOTHING AND SAFETY GEAR** could result in death or serious injury. Wear adequate winter gear, protective gloves and footwear which will improve footing on slippery surfaces. **DO NOT** wear loose clothing or jewelry and tie back hair that may get caught in rotating parts.

**THROWN OBJECTS** could result in death or serious injury. Wear safety goggles to protect eyes.

### CAUTION

**IMPROPER MAINTENANCE** may result in minor or moderate injury. Make sure all hardware is tight, all safety devices are in place and all adjustments correct. Check function of all controls before starting engine.

**NOTE:** 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.

## Frozen Impeller

**IMPORTANT:** Before engine start check Impeller to be sure it is not frozen. With key in "Stop" position, squeeze Attachment Clutch Lever to Engaged position and pull Recoil Starter Handle. If Impeller is frozen, (cannot pull Starter Handle) move unit to a heated area and thaw to prevent possible damage.

## Engine Fuel

### 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.

Check and add fuel if required. Refer to General Maintenance Section.

## Crankcase Oil

Check that the engine crankcase oil is full using dipstick. Refer to General Maintenance Section.

## Differential Lock (110,112,113)

ALWAYS engage differential lock (located in left wheel hub) for best traction when throwing snow.

## Runners

### CAUTION

**THROWN OBJECTS** can result in personal injury and/or property damage. On gravel surface, lower runners so that housing will not pick up gravel.

Check and adjust Runners (see Adjustments). Allow 1/8" (3mm) between scraper blade and hard, smooth surface(s). Allow 1-1/4" (30mm) between scraper blade and an uneven surface(s).

## Function of Clutches

### WARNING

**FAILURE OF CLUTCHES OR BRAKES** may result in death or serious injury. Check clutch and brake function before each use. Repair or adjust before operation.

If the Impeller does not stop quickly when the Attachment Clutch Lever is released or there is no noticeable increase in the Lever force before contacting the Handlebar, adjust as directed in the Adjustments Section, or repair before operation.

## Function of Dual Handle Interlock

Check by pressing down on Clutch Levers (engaging both clutches). Remove hand from Attachment Clutch Lever, attachment clutch lever should remain engaged until Traction Clutch Lever is released then both clutches must disengage.

## 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 outdoor temperatures before clearing snow. Before shut off, run impeller a few minutes to prevent freeze-up of impeller.

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

## Electric Start

See Figure 3 for all Controls and Features locations.

### WARNING

Use only extension cords and receptacles with U.L. approved 3-wire grounding.

1. Connect extension cord to prongs on starter. Plug cord into 110 V 3-wire, grounded household outlet.
2. Turn discharge chute straight ahead.
3. Push Primer Bulb 2 or 3 times for cold engine.

**NOTE:** When temperature is below -15° F (-26° C) additional priming may be needed.

4. Turn Choke control to "Choke Closed" position.

**NOTE:** A warm engine requires less choking than a cold engine.

5. Insert key into Ignition Switch.
6. Push into "Run" position.

**NOTE:** The engine key is a two position PUSH/PULL design. **DO NOT** twist key after it is inserted.

7. Set throttle to "Fast" position.
8. Push "Start" button on top of starter to crank engine and release when engine starts. Disconnect power cord from engine and receptacle.
9. Open choke slowly by gradually turning control to "Choke Open" position.
10. Set throttle to "Part Throttle" or Slow" position for adaptation to Ambient temperature or transport. Once achieved, set throttle to "Fast" position for normal operation.
11. Select Speed Control range and direction.
12. Engage Attachment Clutch - Right Hand Lever.
13. Engage Traction Drive Clutch - Left Hand Lever.

## Manual Start

See Figure 4 for all Controls and Features locations.

### WARNING

**BE CERTAIN THAT TRACTION DRIVE LEVER AND ATTACHMENT DRIVE LEVER are in the disengaged position.**

### WARNING

**THROWN OBJECTS** could result in death or serious injury. **ALWAYS** position Discharge Chute straight ahead (away from operator) for starting.



1. Turn discharge chute straight ahead.
2. Push Primer Bulb 2 or 3 times for cold engine.

**NOTE:** When temperature is below -15° F (-26° C) additional priming may be needed.

3. If engine is cold, apply choke. See Engine Manual for detailed instructions.

**NOTE:** A warm engine requires less choking than a cold engine. If fuel drips out of carburetor during starting, engine is over-choked. Pull starter handle several times with choke open before continuing.

4. Set Throttle to proper starting position.
5. Insert key into Ignition Switch.
6. Push key into "Run" position.

**NOTE:** The engine key is a two position PUSH/PULL design. DO NOT twist key after it is inserted.

7. Stand to right of unit. Grasp starter handle and pull rope out slowly until it pulls harder, this is compression stroke, let rope rewind slowly.
8. Pull rope with a rapid continuous full arm stroke. Let rope rewind slowly.

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

9. Repeat until engine starts. (If engine does not start, refer to Engine Manual.)
10. After engine starts, adjust choke as needed.

## WARNING

**ABNORMAL VIBRATIONS** are a warning of trouble. Immediately stop unit and engine, remove key, and allow all moving parts to stop. Remove wire from spark plug. Inspect unit and make any necessary repairs before restart.

11. Set throttle to "Part Throttle" or "Slow" position for adaptation to ambient temperature or travel to work area. Before throwing snow, set throttle to "Fast" position for normal operation.

### Shut Off

## WARNING

**IMMEDIATELY RELEASE BOTH CONTROL LEVERS TO STOP UNIT** in an emergency.

Stop Engine, remove Key and wait for all rotating parts to stop before leaving operators position.

1. Release Traction Drive Clutch Lever and allow unit to come to a complete stop.
2. Engage and run Impeller a few minutes after use to prevent freeze-up of Impeller.

3. Release Attachment Clutch Lever and wait for all moving parts to come a complete stop.
4. Move Throttle to the "Slow" position.
5. Pull key into "Stop" position.
6. Remove key.

## THROWING SNOW

### CAUTION

**HIDDEN HAZARDS** may result in minor or moderate injury and/or damage to unit. Stay alert for holes, rocks, roots, traffic, and other hazards.

After proper Pre-Start and Starting:

1. Select Speed Control range and direction.

**IMPORTANT:** DO NOT overload unit capacity by attempting to clear snow at too fast a rate.

2. Engage Attachment Clutch - Right Hand Lever.
3. Engage Traction Drive Clutch - Left Hand Lever.

### Snow Throwing Tips

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

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

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

## TRAVELING

To travel from one work area to another:

1. Set Throttle to "Slow" or "Part Throttle" position.
2. Press down on handlebars enough to raise front of unit slightly off surface.
3. Engage wheel drive clutch without engaging attachment drive clutch.

## TRANSPORT

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

# SECTION 5: GENERAL MAINTENANCE

Ariens 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 an Ariens dealer or an authorized engine manufacturer's service center.

## WARNING

**ACCIDENTAL ENGINE START UP** can cause death or serious injury. **ALWAYS** stop engine, remove key, wait for moving parts to stop and remove wire from spark plug before adjusting or servicing.

**HOT SURFACES** can result in death or serious injury. **DO NOT** touch parts which are hot from operation.

**ALWAYS** allow parts to cool.

## SERVICE POSITION

Place unit on a flat level surface. Tip unit forward onto front of Impeller housing for service. Assure unit is secure and will not tip over. Strap and clamp onto bench if needed.

## CAUTION

**FUEL SPILLS** may result in minor or moderate injury and/or damage to unit. Before unit is tipped up onto housing, remove enough fuel so that no spillage will occur.

## FILLING 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!**

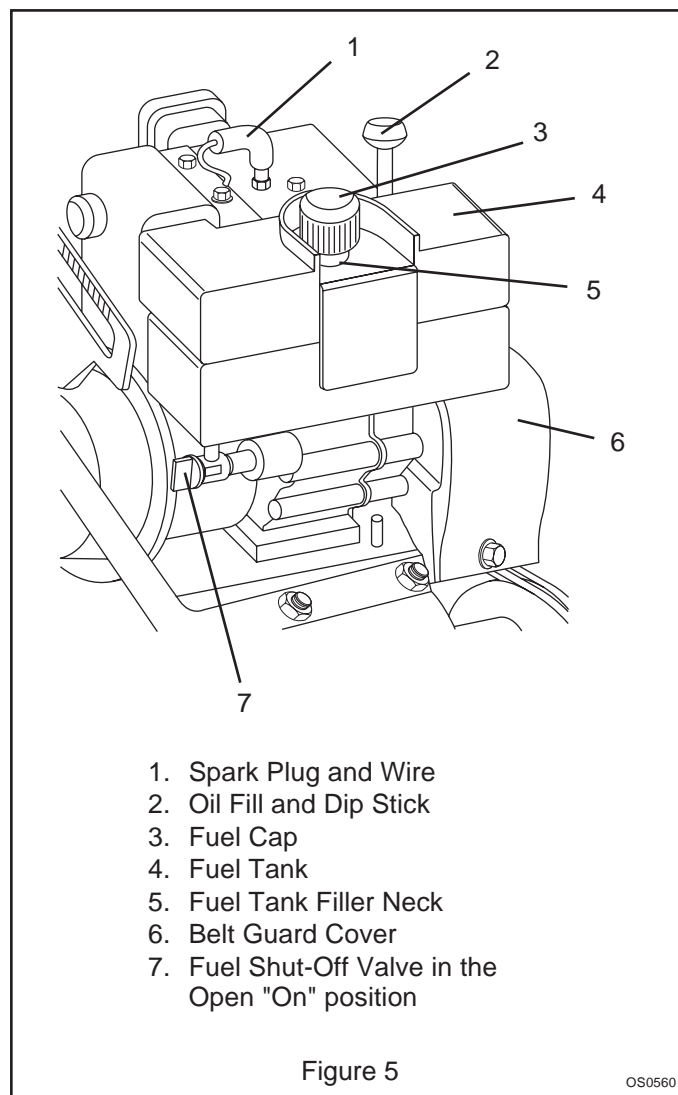
Allow engine to cool before any service.

To add fuel to Fuel Tank:

1. ALWAYS place unit in open or well ventilated area.
2. Stop engine and allow to cool.
3. Clean Fuel Cap and surrounding area to prevent dirt from entering Fuel Tank (Figure 5).
4. Remove Cap.

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

5. Fill fuel tank to within 1/2" (3,1 cm) below bottom of filler neck with unleaded gasoline. Tank capacity is 1 gallon (3,8 liters).
6. Replace Fuel Cap and tighten.
7. ALWAYS clean up any spilled fuel.



## FUEL SHUT-OFF VALVE

**IMPORTANT:** The unit is equipped with a gravity feed type of fuel system. If the Fuel Shut-Off Valve is not in the closed "Off" position, gasoline can leak out of the carburetor while the unit is being transported.

The unit engine Fuel Shut-Off Valve has 2 positions:

1. Closed "Off"
2. Open "On"

ALWAYS close or turn the Fuel Shut-Off Valve to the "Off" position for servicing, transporting or storing the unit.

The unit must have the Fuel Shut-Off Valve in the open "On" position for proper fuel delivery to the engine during normal operation (Figure 5).

Check the Fuel Shut-Off Valve frequently to assure it is in the proper position for operation or service.

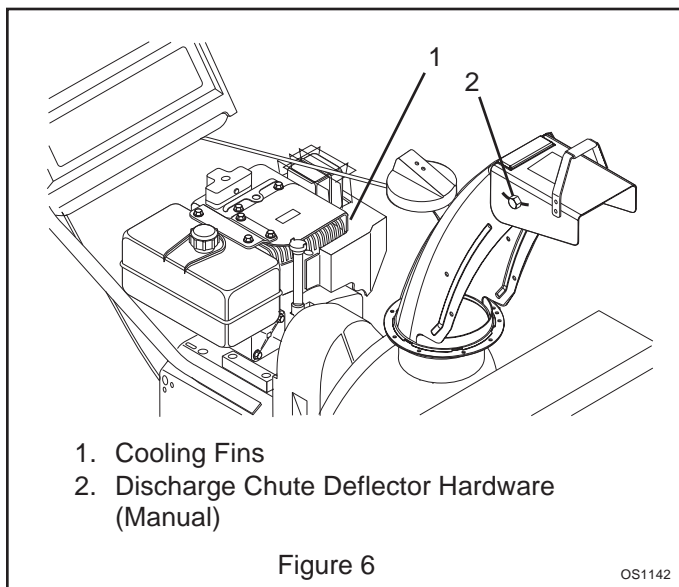
## ENGINE

### Cooling

The Engine is air cooled. Air must circulate freely around engine from Air Intake to cooling fins on cylinder head and block, to prevent overheating (Figure 6).

Each year (more often if conditions require) remove cooling shrouds and clean cooling fins. Clean external surfaces of engine of dust, dirt and oil deposits which can contribute to improper cooling. See Engine Manual.

**IMPORTANT:** DO NOT operate engine with cooling shrouds removed. Engine overheating and damage will result.



## Engine Oil Check

The engine crankcase oil should be checked daily or every 5 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).

To check, park unit on a flat, level surface and:

1. Clean all debris away from around oil cap.
2. Remove oil cap and dipstick. Wipe oil off dipstick with a clean cloth. Replace dipstick until cap bottoms on tube. Remove dipstick again and observe oil level. Oil should be at the Full (F) mark.
3. If low, add oil and bring up to the Full (F) mark.

**IMPORTANT:** DO NOT over fill. Oil Level must not exceed full (F) mark.

Engine Oil Type	Ambient Temperature
SAE 5W30	Below 32° F (0° C)
SAE 30	Above 32° F (0° C)

4. Replace dipstick and cap. Clean up any spilled oil.

## Engine Oil Change

Change oil after first 5 hours of operation, thereafter change oil every 25 hours (more often if required).

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

1. Drain crankcase by removing oil drain plug (see Engine Manual).
2. When oil has drained replace plug and refill engine crankcase with new oil of proper grade.
3. Recheck oil level with dipstick.

## TRACTION DRIVE BELT

### ⚠ WARNING

**ROTATING PARTS** can cut off body parts. Keep hands and feet away.

Loose clothing, long hair or scarves can get caught in rotating parts and cause death or serious injury.

**NOTE:** Housing and frame must be tipped apart and attachment drive belt removed from engine sheave in order to change traction drive belt (Figure 7).

1. Pull idler away from belt and remove belt from idler pulley, engine and driven pulley (it may be necessary to turn engine pulley using rewind starter).

2. Rotate belt fingers out and away from belt and pulley by removing one cap screw and loosening the other.

**IMPORTANT:** Use care when rotating the belt fingers to prevent deformation of parts.

**NOTE:** To gain clearance engage traction clutch and if necessary pull back attachment idler arm clevis pin.

3. Replace traction drive belt and belt fingers in reverse order making sure pulleys align. If alignment is necessary, loosen engine pulley set screws, reposition pulley and retighten set screws. Check alignment of attachment driven pulley and align if necessary.
4. Check and adjust clutch.

## ATTACHMENT DRIVE BELT

### WARNING

**IMPROPER ADJUSTMENT** could result in death or serious injury.

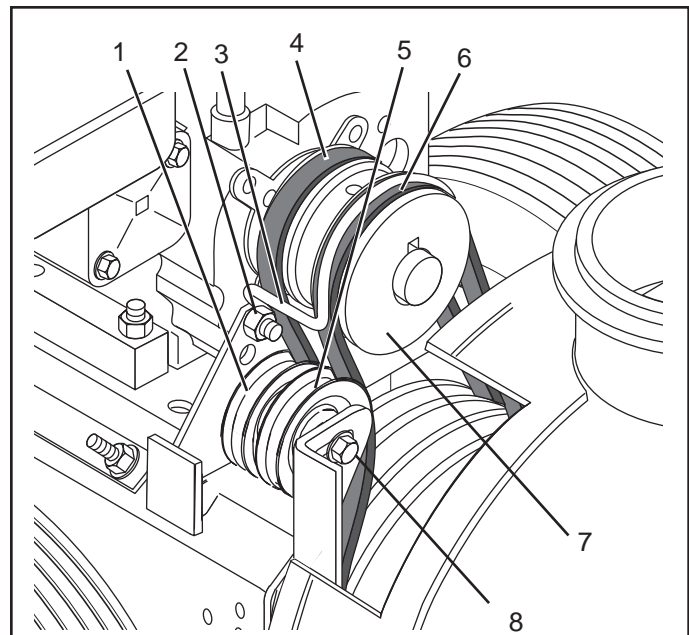
**IMPELLER BRAKE MUST DISENGAGE** when clutch is engaged. Brake must be at least 1/16" (1,6 mm) to 1/8" (3,2 mm) minimum from belt when disengaged.

For Attachment Drive Belt Replacement (Figures 7 & 8):

1. Shut off engine and allow to cool completely.

**IMPORTANT:** To avoid bending bottom cover when tipping unit apart: support handlebars firmly or tip unit up on housing and remove bottom cover before separating unit.

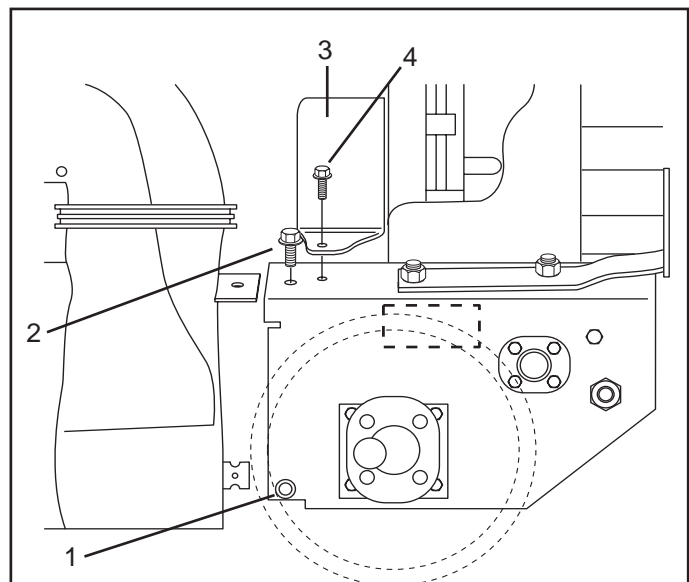
2. Remove two screws securing belt guard to unit and remove belt guard cover.
3. Remove hair pin from chute crank to remove chute crank arm.
4. Loosen cap screws and carefully rotate belt fingers out and away from belt and pulley (Figure 7). Remove attachment drive belt (Figure 8) from engine pulley (it may be necessary to turn engine pulley using rewind starter).
5. Support handlebars. Remove cap screws securing housing to frame (one on each side). Tip housing and frame apart on pivot pin.
6. Remove attachment drive belt from sheave (hold brake away from belt).
7. Replace attachment drive belt in reverse order making sure sheaves align. If alignment is necessary, loosen attachment sheave set screws, reposition sheave and retighten set screws.
8. Replace chute crank and secure with hair pin. Replace belt guard cover and secure with screws.
9. Check and adjust clutch.



1. Traction Belt Idler
2. Cap Screw
3. Belt Finger
4. Traction Drive Belt
5. Attachment Belt Idler
6. Attachment Drive Belt
7. Engine Pulleys
8. Attachment Idler Adjustment Hardware

Figure 7

OS0601



1. Pivot Pin
2. Housing Cap Screws
3. Belt Guard Cover
4. Tapping Screw

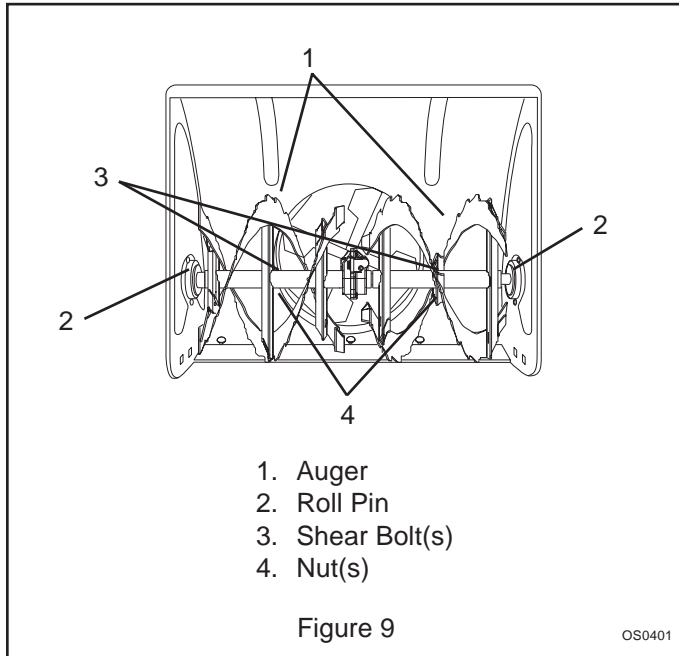
Figure 8

OS0792

## SHEAR BOLTS

**IMPORTANT:** Use only Ariens Shear Bolts for replacement. Use of any other type of shear bolt may result in severe damage to unit.

Occasionally a foreign object may enter the auger/impeller housing and jam the auger, breaking Shear Bolts which secure the auger to the shaft (Figure 9). This allows auger to turn freely on the shaft preventing damage to gear drive.



### For Replacement:

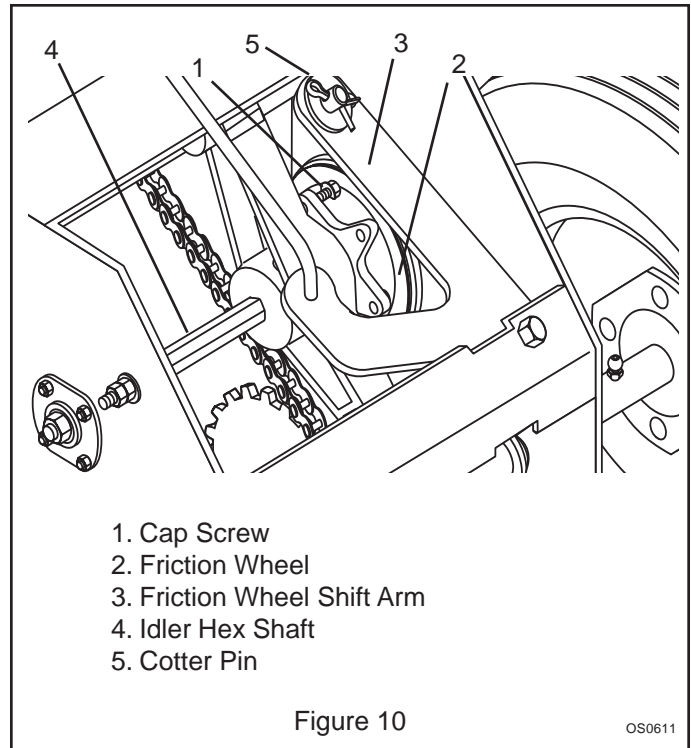
1. Slide auger outward against roll pin and align hole in shaft with hole in auger (holes in shaft for roll pins and Shear Bolts line up).
2. Drive Shear Bolt through hole (if Shear Bolt was broken this will drive remaining part from shaft).
3. Secure Shear Bolt with nut.

## TIRE PRESSURE

Maintain the unit tire pressure at a maximum 20 PSI (138 kPa).

## FRICION WHEEL

1. To replace friction wheel, tip unit up onto housing on a flat level surface.
2. Remove bottom cover by removing four cap screws.
3. Place Speed Selector in first (1) position, depress Traction Clutch Lever to hold friction wheel and hub in position and remove cap screws. Release traction clutch lever, shift to third (3) position, and remove friction wheel (Figure 10).



4. Secure new friction wheel on hub with five cap screws and torque cap screws to 8-10 ft. lbs. (10,6-13,3 Nm)
5. Replace bottom cover.
6. Adjust Traction Drive Clutch (see Adjustments).

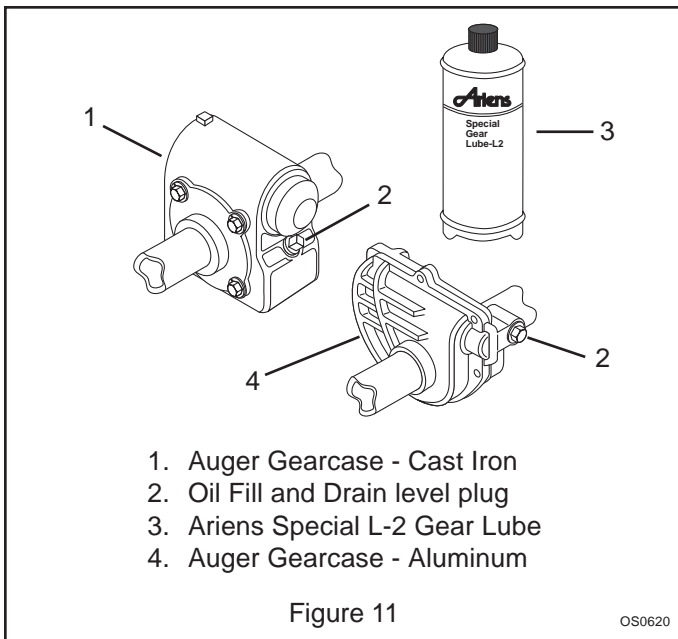
## AUGER GEARCASE

**IMPORTANT:** Too much lubricant may cause excessive leakage. Too little lubricant will cause gear and/or bearing damage. Proper oil level must be maintained for operation.

Gear cases are filled to the correct level at the factory. Unless there is evidence of leakage, no additional lubricant should be required. Check for evidence of leakage every 25 hours of operation.

To ensure adequate lubricant level:

1. Remove filler plug. Lubricant must be at least up to bottom of lubricant filler hole with unit resting on a level-surface.
2. Add lubricant, if required, allow oil to drain to level of plug and replace plug (Figure 11).
3. Use only Ariens special gear lubricant L-2 (Part Number 00008000).



## LUBRICATION LOCATIONS

### ⚠ WARNING

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

**IMPORTANT:** Wipe each fitting clean before and after lubrication.

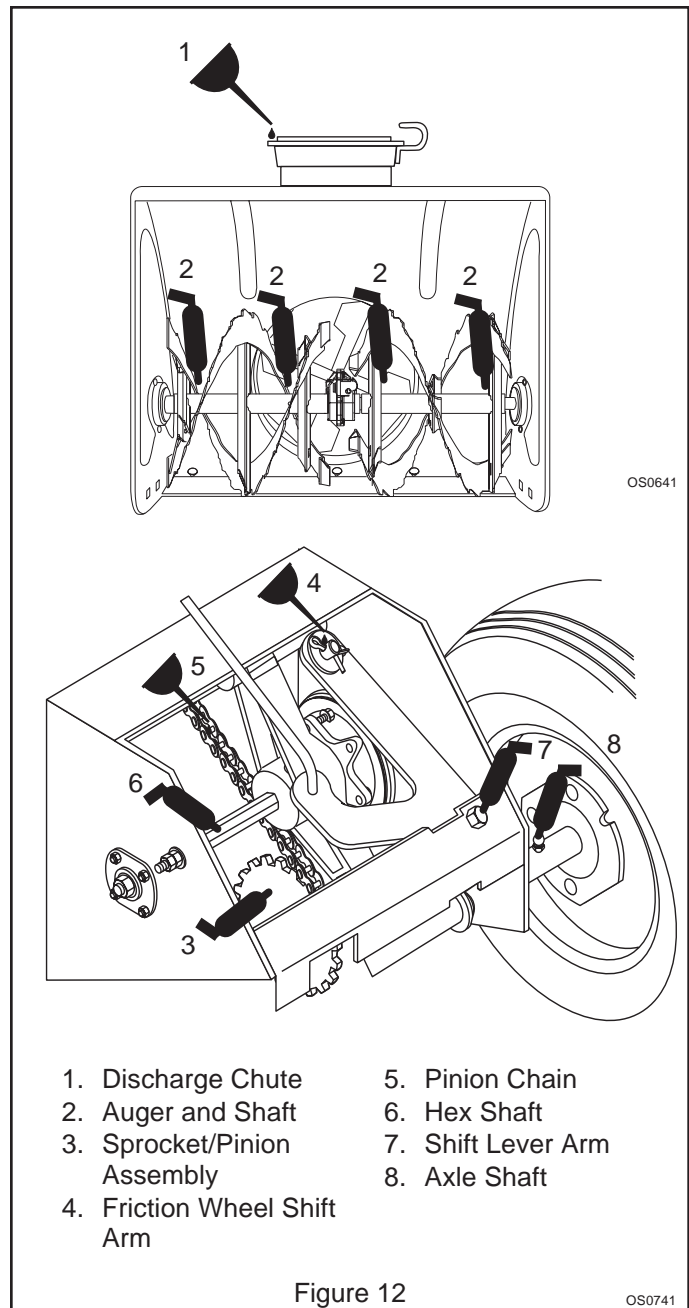
**IMPORTANT:** DO NOT allow grease or oil to get on friction wheel, drive disc or belts.

Apply Sten Mix Hi-Temp Grease or equivalent to the lubrication fittings. Order P/N: 00036800 - Three Pack of 3 oz. cartridges or 00036700 - 10 pack of 14 oz. cartridges.

Apply oil at lubrication points.

Unit should be lubricated at beginning of season or every 25 operating hours (Figure 12). See Maintenance Schedule.

**NOTE:** To grease auger shaft, remove shear bolt nuts, and shear bolts. Turn auger on shaft while applying grease at zerk fittings. Replace shear bolt per instructions in Shear Bolt Replacement.



## ADJUSTMENTS

### ⚠ WARNING

**ACCIDENTAL ENGINE START UP** can cause death or serious injury. **ALWAYS** stop engine, remove key, wait for moving parts to stop and remove wire from spark plug before adjusting or servicing.

### Discharge Chute Deflector (108, 110, 112)

To adjust, loosen then retighten hardware to desired deflector drag force (Figure 6).

## Deflector Remote (109, 113, 115)

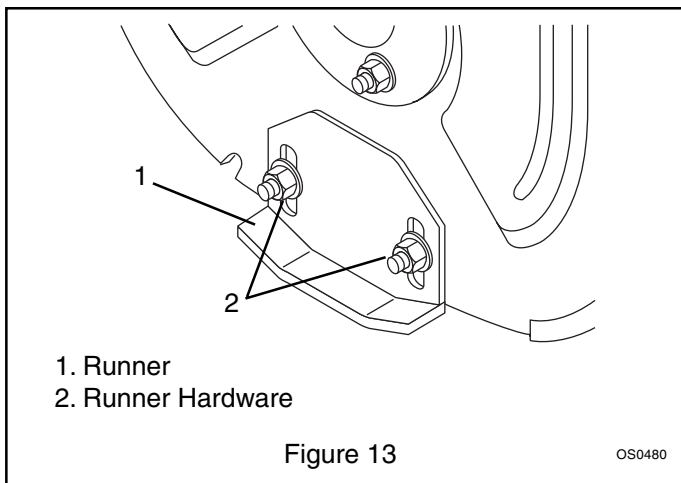
Adjust nuts as required at conduit fitting on cap pivot cable just beneath control panel.

## Runners

Runners should be adjusted as conditions require. Raising or lowering runners controls distance scraper blade (auger/impeller housing) is held above surface being cleared.

1. Position unit on a hard, flat, smooth level surface.
2. Adjust runners by inserting a spacer of desired thickness under center of scraper blade, loosen hardware, slide runners to flat surface (Figure 13). Allow 1/8" (3mm) between scraper blade and hard smooth surface. Allow 1-1/4" (30mm) between scraper blade and uneven surface(s).
3. Retighten hardware.

**NOTE:** Keep housing level by adjusting runners equally. Uneven runners make unit difficult to steer and results in uneven clearing.



## Scraper Blade

**IMPORTANT:** Damage to auger/impeller housing will result if blade wears down too far.

Scraper blade is adjustable to compensate for wear.

To adjust scraper blade:

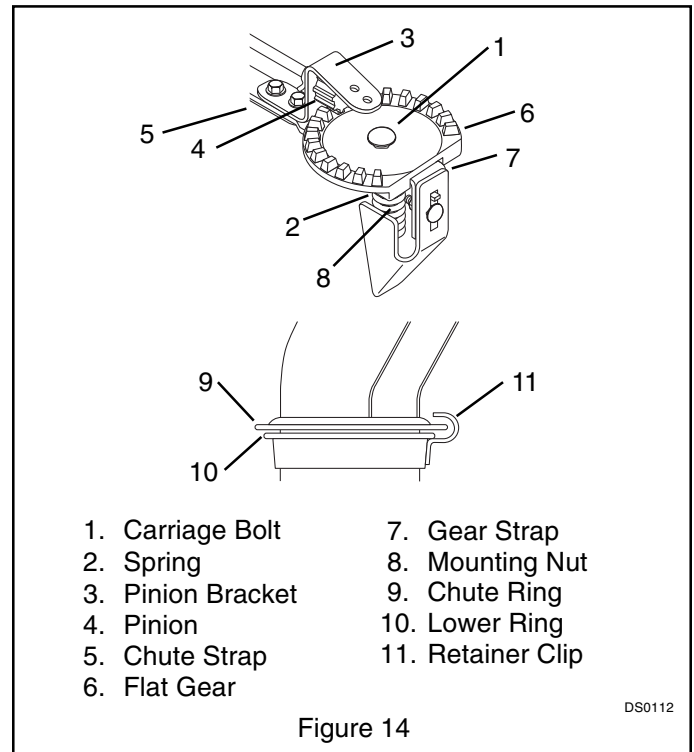
1. Tip unit back onto handlebar, support housing and loosen nuts retaining blade. With runners adjusted to their full up position, reposition scraper blade down, flush with runners, and tighten lock nuts.

## Discharge Chute

If Chute does not stay in position while operating, tighten nut on carriage bolt at pivot point to increase tension on spring (Figure 14).

Smooth and easy rotation of properly lubricated chute with crank (without binding) is obtained by adjusting pinion and flat gear teeth so they mesh together.

Adjust, using adjustment slots in pinion bracket which is secured to chute strap.



## Attachment Clutch/Impeller Brake

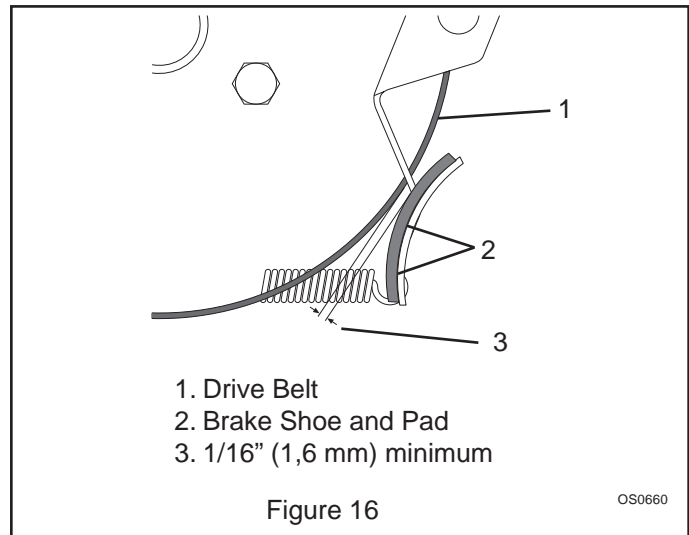
### **WARNING**

**AUGER / IMPELLER MUST STOP within 5 seconds** when Attachment Clutch / Impeller Brake lever is released or unit damage or serious injury may result.

To Adjust Attachment Clutch / Impeller Brake:

1. Remove belt cover. When clutch is disengaged there should be a slight amount of slack in the attachment cable to allow for brake wear.

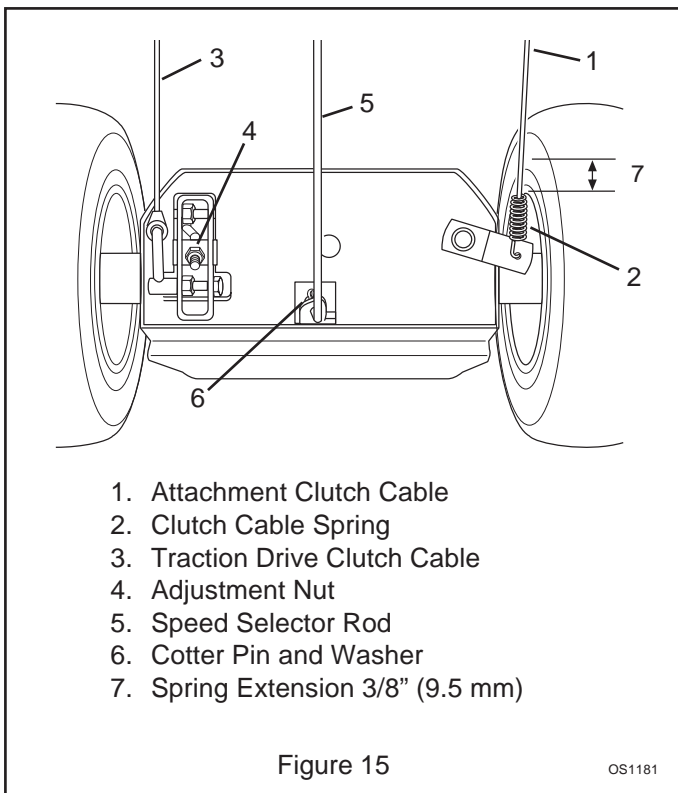
- Clutch cable spring should extend approximately 3/8" (9,5 mm) when clutch is engaged but allow clutch arm (at lower end) to return to its maximum down position when clutch is disengaged. To increase spring extension, loosen adjustment hardware (Figure 7) and move the attachment idler toward the belt. Approximately 1/8" (3,2 mm) movement of the idler will increase spring extension by 1/8" (3,2 mm).
- To check impeller brake, tip unit forward onto auger/impeller housing. Remove bottom cover by removing four cap screws.
- Measure distance between impeller brake shoe pad and belt with attachment clutch engaged (Figure 16). Impeller brake shoe should be 1/16" (1,6 mm) minimum from belt. When attachment clutch is disengaged, brake must contact belt. If brake travel does not meet these requirements, contact your Dealer.
- Replace bottom cover.



### Speed Selector

Adjustment is required if you are unable to shift into all gears.

- Put unit into Service Position.
- Disconnect the speed selector rod from the adjustment lever by removing hairpin. (Figure 17).
- Place the speed selector in the fast reverse speed position. (Figure 17)
- Thread the rod adjustment pin along the speed selector rod until it aligns with the mating hole on the speed selector lever. Insert the rod adjustment pin into hole.
- Move the speed selector to the fastest forward speed position.
- Insert the hairpin into the rod adjustment pin.

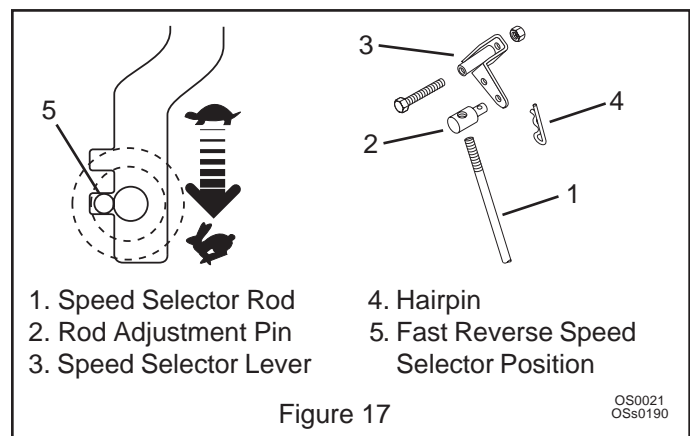


### Traction Drive Clutch

Adjust traction clutch to compensate for wear of friction wheel when slippage occurs.

To adjust traction clutch, place speed selector in First (1) Forward and tip unit forward onto housing.

With traction clutch disengaged turn wheels while tightening Adjustment Nut at clutch yoke until wheels begin to drag (Figure 15). Engage and release traction clutch to align clutch linkage. Repeat as necessary. When wheel drag is obtained with linkage aligned, turn nut back three turns. Wheels will then turn freely.



### Drive Chain

Chain should be taut with little or no play in it. To compensate for looseness or excessive tightness in drive chain:

- Remove bottom cover by removing four cap screws.
- Loosen nut on idler hex shaft (Figure 10), adjust idler hex shaft in slot as necessary and torque the nut to 70-146 in. lbs. (7,9 - 16,5 Nm).



## CLEANING AND STORAGE



### WARNING

**FLAMMABLE FUEL** and its **EXPLOSIVE VAPORS** can result in death or serious injury. **DO NOT** store unit inside a building with fuel in the fuel tank where any ignition sources are present. Drain fuel outdoors away from any ignition source. Allow engine to cool before storing in any enclosure. Only use approved fuel containers.

### Unit

After each use, brush snow and debris off with a soft bristled brush.

Run with Impeller Clutch engaged a few minutes after each use to free unit of any loose or melting snow.

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

Keep all nuts, bolts and screws tight and know unit is in safe working condition. Check all hardware at regular intervals.

Occasionally apply a light coat of spray lubricant to exposed metal joints and surfaces. Wipe off excess with soft cloth. Do not use abrasives or harsh cleaners.

Clean unit thoroughly and lubricate (see lubrication instructions). To avoid rust, touch up any painted areas that may have become scratched or chipped. Store unit in a cool, dry, protected area.

**IMPORTANT:** NEVER spray unit with water or store unit outdoors. Water can seep into sealed bearings, which are sealed against dirt and debris only, causing reduced component life.

### Engine

When storing unit for extended periods of time, remove all fuel from tank and carburetor (run dry). Refer to Engine Manufacturer's instructions.

## ATTACHMENTS

See your authorized Ariens dealer to add this optional attachment to your unit.

824013 ..... 36" Rotary Brush

## ACCESSORIES

See your authorized Ariens dealer to add these optional accessories available for your unit.

Accessories:

71099700 ... Slicer Bar

72402500 ... Light

Be sure to always use genuine Ariens parts to keep your Sno-Thro running like new.

# 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).

See Engine Manuals for further maintenance and trouble shooting information.

MAINTENANCE SCHEDULE				
Service Performed	Intervals			
	Daily	5 ⌚	25 ⌚	Yearly
<input checked="" type="checkbox"/> Fasteners	●			
<input checked="" type="checkbox"/> Clutch Disengagement	●			
<input checked="" type="checkbox"/> Engine Oil		●		
<input checked="" type="checkbox"/> Auger Gearcase for Leakage			●	
<input checked="" type="checkbox"/> Tire Pressure			●	
General Lubrication			●	
Replace Engine Oil		★	●	
Clean Cooling Fins				●

★ First Maintenance Only

OS0751

TROUBLE SHOOTING	
Problem	Probable Cause
<b>Engine will not crank</b>	Check if Key Switch is in run position. Check for electrical problems.
<b>Engine will not start</b>	Fuel tank is empty. Ignition switch in Off position. Build up of dirt and residue around governor/carburetor. Check for electrical problems. Check for engine ignition problems - See Engine Manufacturer's Service Manual.
<b>Engine stops</b>	Wrong carburetor adjustment. Mechanical jam in blower rake or impeller. Check spark. Check fuel supply. Use only clean fuel.
<b>Engine power, noise, idle and shut down</b>	See Engine Manufacturer's Service Manual.
<b>Does not operate in Forward/Reverse</b>	Friction drive wheel is not adjusted properly. Drive belt is not functioning.

OS1150

# SNO-THRO SPECIFICATIONS

Model Number	924108	924110	924112	924109	924113	924115
Description	ST824SLE	ST824DLE	ST928LE	ST1028SLE	ST1132LE	ST1028SLE
Engine	Tecumseh					
Power Max - HP	8	8	9	10	11	10
Fast Idle Speed - RPM	3600					
Displacement - cu. in. (cc)	19.43 (318.3)			21.82 (357.6)	19.43 (318.3)	21.82 (357.6)
Electric Start	Yes, 110 V					
Fuel	See Engine Manual					
Tank Capacity - qt (Liters)	4 (3.8)					
Snow Clearing Width - in (cm)	24 (61.0)		28 (71.2)		32 (81.3)	28 (71.2)
Snow Throwing Distance - ft (m)	5-45(1.5-10.5)		5-50(1.5-15.2)	5-45(1.5-13.7)	5-50(1.5-15.2)	5-45(1.5-13.7)
Chute						
Rotation Angle	220°					
Rotation Control at Handlebar	Yes					
Remote Deflector Control	No	No	No	Yes	Yes	Yes
Dual Handle Interlock	Yes					
Impeller Speed - RPM	1100					
Auger						
Diameter - in (cm)	15 (38.1)		16 (40.6)	15 (38.1)	16 (40.6)	15 (38.1)
Speed - RPM	110					
Auger Brake	Yes					
Auger Clutch	Yes					
Drive	Disc-O-Matic					
Speeds	6 Forward and 2 Reverse					
Lock Out Differential	No	Yes	Yes	No	Yes	No
Adjustment Skids	Yes					
Pneumatic Tires - in. (cm)	4.80/4.00x8 (12.2/10.2x20.3)		16/6.50x8 (40.6/16.5x20.3)			
Size and Weight						
Length - in (cm)	60 (152)					
Height - in (cm)	40 (101.6)					
Width - in (cm)	26.3 (66.6)		30.5 (77.6)		34.5 (87.6)	30.5 (77.6)
Weight - lbs (Kg)	254 (115.2)	272 (123.4)	302 (137.0)	274 (124.3)	309 (140.2)	274 (124.3)



**Ariens Company**  
 655 West Ryan Street  
 P.O. Box 157  
 Brillion, WI 54110-0157  
 920-756-2141  
 Fax 920-756-2407

# 5 Year Limited Warranty

Ariens Company hereby warrants to the original consumer purchaser that consumer products manufactured by Ariens Company will be free from defects in material and workmanship for a period of five (5) years from the date of purchase, except as noted below.

## Protection Plan

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

**This warranty is subject to the following exceptions, conditions, and limitations:**

### Usage Requirement

The five year duration of this warranty shall apply only if the product is put to ordinary, reasonable, and usual personal household uses. If the product is put to any business, commercial, or industrial use, such as but not limited to commercial landscaping, mowing or snow removal services, or golf course or park maintenance, then the duration of this warranty shall be the one year period after date of purchase with respect to products labeled as Professional/Commercial Products, and ninety days after date of purchase for all other products; and the duration of this warranty shall be ninety days after date of purchase if any product is rented or leased.

### Purchaser's Responsibilities

- The purchaser must perform maintenance & minor adjustments per the operator's manual.
- The purchaser must notify Ariens Company or an authorized Ariens service representative of the need for warranty service.
- The purchaser must transport the product to and from the place of warranty repair.

### Product Registration

- The dealer must fill out and return the warranty registration card to validate the warranty.

### Purchased Components and Normal Wear Items

- Purchased components such as tractor drive train components manufactured by Dana, Eaton, Foote, Sundstrand, Hydro Gear, plastic components, electrical components, wire harnesses, bags, boots, seats, tubes, etc., and normal wear items such as belts, rubber components, bearings, cables, controls, clutches, tines, etc., are covered by this warranty for the two-year period following date of purchase, unless a shorter period would apply because of the usage to which the product is put, in which case the shorter period shall apply.

### Service Parts and Accessories

- Service parts and accessories not purchased with the product covered by this warranty are warranted to be free of defects for a period of ninety (90) days following the date of purchase, and will be replaced free of charge (except for labor).

Ariens Company may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating 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 express warranty, and under any implied warranty that may exist, is limited to repair or replacement of any defective part. In no event shall Ariens Company be liable for incidental, special, or consequential damages (including lost profits). This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Some states do not allow the exclusion of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.

### Service

- Warranty service must be done by an authorized Ariens dealer. To find a Ariens dealer near you, contact Ariens Company.

### Battery Warranty Prorated

- One to three months - Free replacement
- Four to twelve months - Prorated over 12 months

### Exclusions (No Warranty)

- Shoes, runners, scraper blades, shear bolts, mower blades, mower vanes, headlights, light bulbs, etc. and any equipment which has been altered, misused, mis-assembled, improperly adjusted, neglected, or damaged by accident are not covered by this warranty.
- Service completed by someone other than an authorized Ariens dealer is not covered by this warranty.
- Parts that are not genuine Ariens service parts are not covered by this warranty.
- Engines and engine accessories are covered only by the warranty made by the engine manufacturer, and are not covered by this warranty.
- This warranty applies only to products purchased in the United States (including Puerto Rico) and Canada. In all other countries, contact place of purchase.

### DISCLAIMER OF FURTHER WARRANTY

**Ariens Company makes no warranty 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 a particular purpose, applies to Ariens Company, any such implied warranty is limited to the duration of this express warranty.**

Form: ALW5-051699



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