

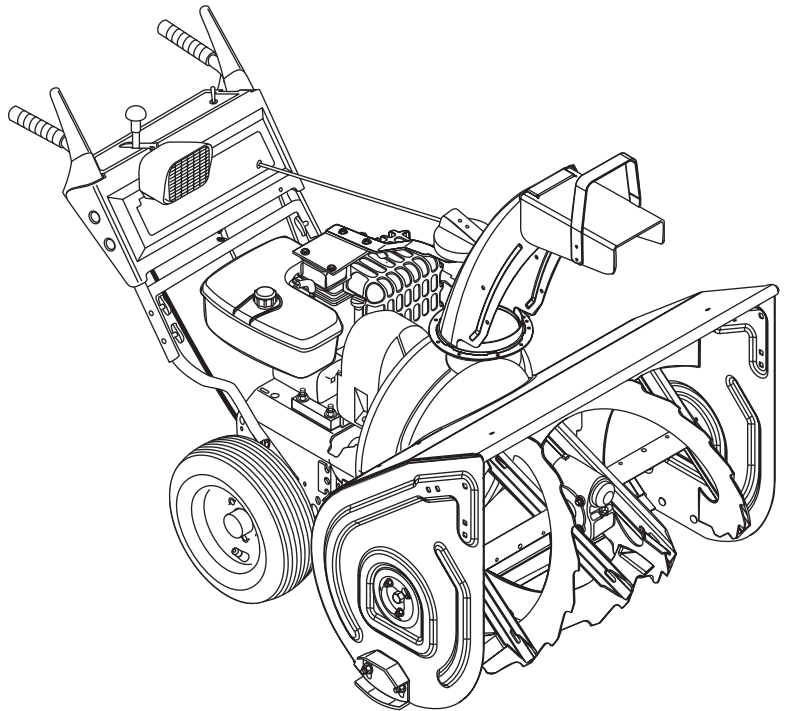


# Sno-Thro®

## Owner/Operator Manual

### Models

- 924119 - 1028
- 924120 - 1024
- 924333 - 1024
- 924334 - 1128
- 924502 - 1332
- 924503 - 1336



- GB ENGLISH
- F FRANÇAIS
- E ESPAÑOL



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 USA  
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MODEL CERTIFICATE OF CONFORMITY ISSUED BY THE MANUFACTURER  
 CERTIFICAT DE CONFORMITÉ DU MODÈLE DÉLIVRÉ PAR LE FABRICANT  
 MODELL-KONFORMITÄTSBESCHEINIGUNG AUSGESTELLT DURCH DEN HERSTELLER  
 MODELCERTIFICAAT VAN OVEREENSTEMMING AFGEGEVEN DOOR DE FABRIKANT  
 CERTIFICATO DI COMFORMITÀ DEL MODELLO RILASCIATO DAL PRODUTTORE  
 CERTIFICADO DE CONFORMIDAD DEL MODELO PROVISTO POR EL FABRICANTE  
 MODEL KONFORMITETSERKLÆRING UDSTEDT AF FABRIKANTEN  
 MODELLSERTIFIKAT FOR OVERENSSTEMMELSE UTSTEDT AV FABRIKANT  
 TILLVERKARENS MODELLCERTIFIKAT OM ÖVERENSSTÄMMELSE  
 VALMISTAJAN ANTAMA VAKUUTUS MALLIN MÄÄRÄYSTEN MUKAISUUDESTA

We the undersigned, - Je soussigné, - Mit meiner Unterschrift - Wij de ondergetekenden, - Il sottoscritto, - El abajo firmante - Undertegnede, - Undertecknaren av detta dokument, - Me, allekirjoittaneet,  
 ARIENS COMPANY, certify that the Sno Thrower - certifie que le chasse-neige - bestätigen daß die Schneefräse, verklaren dat de sneeuwschuiver - certifica che lo spazzavere - certifica que el quita nieves - attesterer at sneslynger - bevitrer at snøfreseren - försäkrar att snöslungan, vakuutamme, että lumilinko:

Category: **WALK BEHIND SNO THRO**

Make and Trade Name: **ARIENS**

Model: 924333	924334	924502	924503
Serial # Range: 000101 and up	000101 and up	000101 and up	000101 and up

conform to the specifications of directive 98/37/EC and EC directive (EMC) 89/336/EEC as amended by EC directive 92/31/EEC.  
 est conforme aux spécifications de la directive 98/37/EC et de la directive EC (EMC) 89/336/EEC modifiée par la directive EC 92/31/EEC.  
 den Spezifikationen der Direktive 98/37/EC, sowie der EU-Direktive (EMC) 89/336/EEC, modifiziert durch die EU-Directive 92/31/EEC, entspricht.  
 in overeenstemming zijn met de specificaties in richtlijn 98/37/EG, en EG richtlijn (EMC) 89/336/EEG zoals gerechtigd in EG richtlijn 92/31/EEG.  
 sono conformi alla direttiva CE 98/37 e la direttiva CE (EMC) CEE 89/336, emendata dalla direttiva CEE 92/31.  
 cumple con las especificaciones de la directiva 98/37/EC, 93/44/CEE y 93/68/CEE, y la directiva EC (EMC) 89/336/EEC reformada por la directiva EC 92/31/EEC.  
 opfylder spesifikasjonene i direktiv 98/37/EC og direktiv 89/336/EEC (EMC) med ændringer i EC direktiv 92/31/EEC.  
 oppfyller spesifikasjonene i direktiv 98/37/EC og EC direktiv (EMC) 89/336/EEC med endringer i EC direktiv 92/31/EEC.  
 är i överensstämmelse med specifikationerna i direktiv 98/37/EC, och EC direktiv (EMC) 89/336/EEC med ändringar i EC direktiv 92/31/EEC.  
 On valmistettu 98/37/EC, mukään. Ja neuvostori määräysten, 84/538/EEC tarkennettu 87/252/EEC, 83/180/EEC ja 88/181/EEC mukaan, ja EC määräysten (EMC) 89/336/EEC tarkennettu määräysten EC 92/31/EEC mukaan.

MAY, 2000  
 Date/Datum/Data/  
 Fecha/Dato/Päiväys

Manager of Product Conformance  
 Position/Qualité/Functie/Qualifica/  
 Puesto/Stilling/Titel/Arvo

Signature/Unterschrift/Handtekening/Firma/  
 Underskrift/Underskrift Handtekening/  
 Underskrift/Allekirjoitus

# CONTROLS AND FEATURES

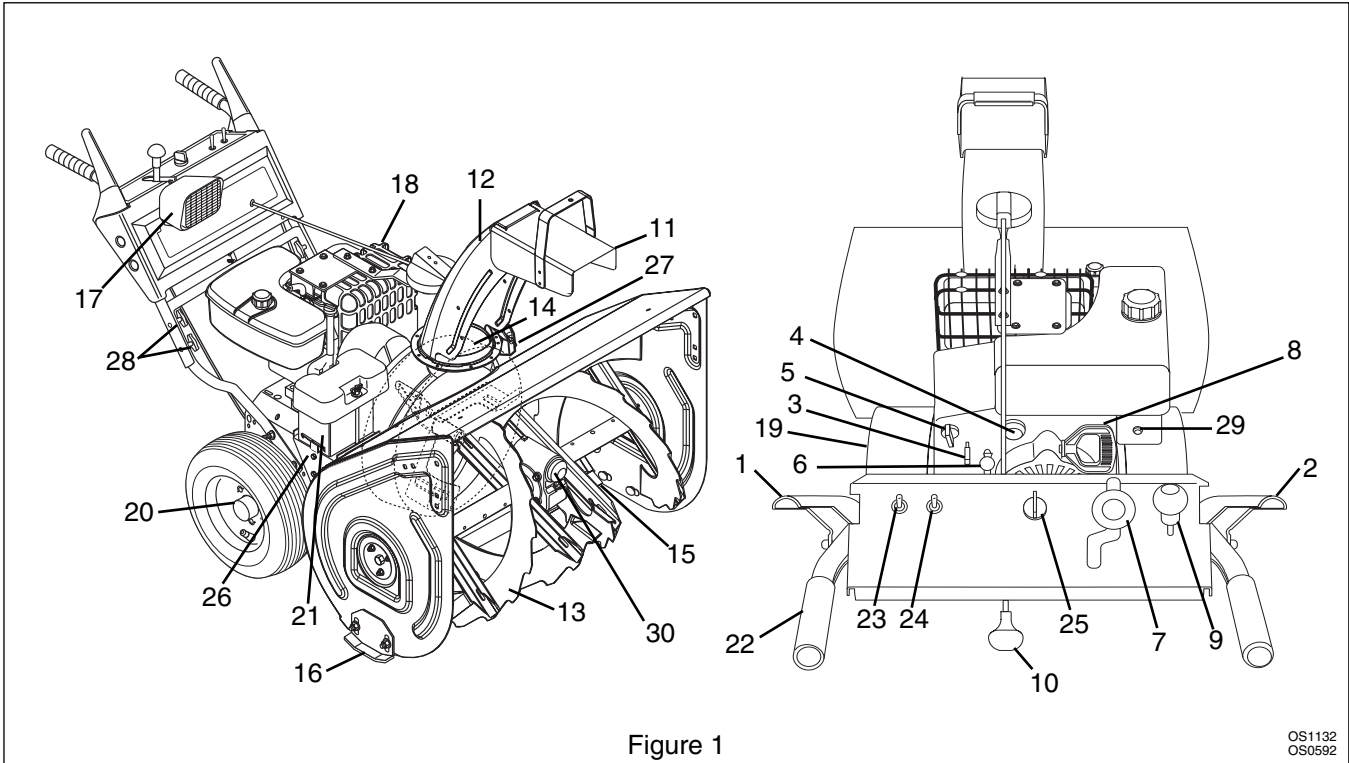


Figure 1

OS1132  
OS0592

## ENGLISH

1. Traction Drive Clutch Lever
2. Attachment Clutch Lever
3. Ignition Key (119, 120)
4. Primer Bulb
5. Choke
6. Throttle
7. Speed Selector
8. Recoil Starter Handle
9. Deflector Remote Control (119, 502, 503)
10. Chute Crank (119, 120, 333, 334)
11. Discharge Chute Deflector
12. Discharge Chute
13. Auger
14. Impeller
15. Scraper Blade
16. Runner
17. Headlight
18. Muffler Guard
19. Differential Lock (120, 333, 334, 502, 503)
20. Axle Lock Pin (119)
21. Battery Cover and Battery (333, 334, 502, 503)
22. Heated Handles
23. Heated Handles Switch (502, 503)
24. Chute Rotation Switch (502, 503)
25. Ignition Key (333, 334, 502, 503)
26. Solenoid Compartment (333, 334, 502, 503)
27. Electric Chute Motor (502, 503)
28. Wing Knobs
29. Electric Starter (119, 120)
30. Auger Gearcase

## FRANÇAIS

1. Levier d'embrayage de la traction
2. Levier d'embrayage de l'outil
3. Clé de contact (119, 120)
4. Poire d'amorçage
5. Starter
6. Commande des gaz
7. Sélecteur de vitesse
8. Poignée du démarreur à cordon
9. Commande à distance du déflecteur (119, 502, 503)
10. Manivelle de la goulotte (119, 120, 333, 334)
11. Déflecteur de la goulotte d'évacuation
12. Goulotte d'évacuation
13. Rotor
14. Turbine
15. Lame racleuse
16. Patin
17. Phare
18. Garant du silencieux
19. Blocage du différentiel (120, 333, 334, 502, 503)
20. Broche de blocage de l'essieu (119)
21. Couvercle de batterie et batterie (333, 334, 502, 503)
22. Poignées chauffées
23. Commande de poignées chauffées
24. Commande de rotation de la goulotte (502, 503)
25. Clé de contact (333, 334, 502, 503)
26. Compartiment du solénoïde (333, 334, 502, 503)
27. Moteur électrique de la goulotte (502, 503)
28. Boutons
29. Démarreur électrique (119, 120)
30. Boîtier de renvoi du rotor

## **⚠ WARNING ⚠**

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

## ESPAÑOL

1. Palanca del embrague de la transmisión de la tracción
2. Palanca del embrague del accesorio
3. Llave de encendido (119, 120)
4. Botón del cebador
5. Estrangulador
6. Aceleración
7. Selector de velocidad
8. Manilla de retroceso del motor de arranque
9. Control remoto del deflector (119, 502, 503)
10. Manivela de la tolva (119, 120, 333, 334)
11. Deflector de la tolva de descarga
12. Tolva de descarga
13. Sinfín
14. Propulsor
15. Cuchilla raspadora
16. Guía
17. Luces delanteras
18. Protector del silenciador
19. Traba del diferencial (120, 333, 334, 502, 503)
20. Pasador de traba del eje (119)
21. Cubierta de la batería y batería (333, 334, 502, 503)
22. Manillas térmicas
23. Interruptor de las manillas térmicas
24. Interruptor de rotación de la tolva (502, 503)
25. Llave de encendido (333, 334, 502, 503)
26. Compartimento del solenoide (333, 334, 502, 503)
27. Motor de la tolva eléctrica (502, 503)
28. Perillas de mariposa
29. Arranque eléctrico (119, 120)
30. Caja de engranajes del sinfín

# TABLE OF CONTENTS

Controls and Features . . . . .	3	Storage . . . . .	20
Introduction . . . . .	5	Accessories . . . . .	21
Safety . . . . .	6	Service Parts . . . . .	21
Assembly . . . . .	9	Troubleshooting . . . . .	21
Operation . . . . .	11	Specifications . . . . .	22
Maintenance . . . . .	15	Warranty . . . . .	23
Service and Adjustments . . . . .	17		

## INTRODUCTION

### THE MANUAL

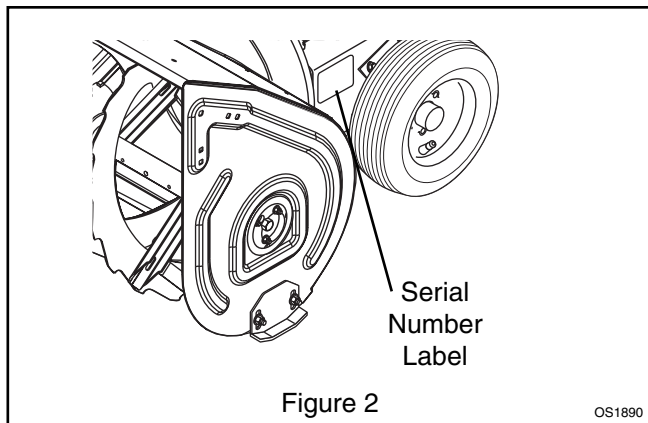
Before operation of unit, carefully and completely read your manuals. If used improperly, this unit could be dangerous and cause personal injury or property damage. The contents will provide you with safety instructions for the safe use of your unit during normal operation and maintenance.

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

### MODEL AND SERIAL NUMBERS

Transfer model & serial number label from product registration here.

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 numbers here.

- Record Engine Model and Serial number here.

### PRODUCT REGISTRATION

A warranty registration card must be filled out, signed, and returned at time of purchase. This card activates the warranty.

### UNAUTHORIZED REPLACEMENT PARTS

Use only Ariens replacement parts. The replacement of any part on this vehicle with anything other than an Ariens authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Ariens disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts.

For a brief list of replacement parts see *Service Parts* in this manual. To obtain a complete parts manual, find your model and serial number. Then go to [www.ariens.com](http://www.ariens.com) or call 1-800-678-5443.

### DISCLAIMER


Ariens reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not 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 Ariens Dealer for assistance. Make sure all assembly has been properly completed.

**NOTE:** To locate your nearest Ariens Dealer, call 1-800-678-5443 or go to [www.ariens.com](http://www.ariens.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 Sno-Thro unless all controls function as described in this manual.

4. Review recommended lubrication, maintenance and adjustments.
5. Review Limited Warranty Policy. Fill out Original Purchaser Registration Card and return the card to Ariens Company.

## SAFETY

### SAFETY ALERTS



Look for these symbols to point out important safety precautions. They mean:

**Attention!**



**Personal Safety Is Involved!**

**Become Alert!**

**Obey The Message!**

The safety alert symbol is used in decals on the unit and with proper operation procedures in this manual. 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.

### 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 by the seller. 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 below for Safety Decal locations.

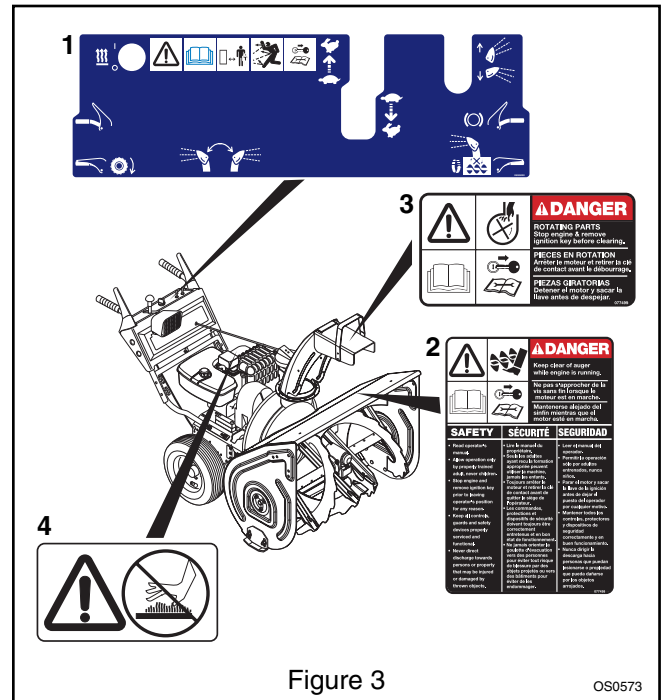


Figure 3

OS0573

#### 1 & 2. DANGER!



Keep clear of auger while engine is running



Read Owner/Operator Manual.

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



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

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



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



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



### 3. DANGER!



Rotating parts! Stop engine and remove key before clearing. **High speed impeller rotates below discharge opening. Wait for all moving parts to stop before removing clogs or servicing.**

### 4. HOT SURFACES!



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

## ASSEMBLY SAFETY RULES

Read, understand, and follow all safety practices in Owner/Operator Manual before beginning assembly. 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. Unintentional engine start up can cause death or serious injury.

## OPERATIONAL SAFETY RULES

### Walk Around Inspection

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

- Work area
- Your unit
- All safety decals

### Work Area

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.

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

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

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.

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

### Personal Safety

Only trained adults may operate unit.

Training includes actual operation.

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 winter outer garments. Wear adequate safety gear 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.

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 place your hands or any part of your body or clothing inside or near any moving part while unit is running.

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. Adjust Runners so Scraper Blade does not contact gravel.

DO NOT throw snow any higher than necessary.

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.

### Operation

Understand:

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

Rotating impeller can cause serious injury. DO NOT unclog unit while engine is running. When leaving operator's position for *any reason*, ALWAYS disengage auger, stop unit and engine, remove key and allow moving parts to stop.

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

Never leave a running unit unattended. ALWAYS shut off engine before leaving unit. ALWAYS remove key to prevent unauthorized use.

Never carry passengers.

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.

### **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.

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

### **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.

### **Cleaning**

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

### **Spark Arrester**

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 SAFETY RULES**

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.

## **BATTERY**

Avoid Electric Shock. Objects contacting both battery terminals at the same time may result in injury and unit damage. DO NOT reverse battery connections.

Explosive Gases from battery can cause death or serious injury. Poisonous battery fluid contains sulfuric acid and its contact with skin, eyes or clothing can cause severe chemical burns.

No flames, No sparks, No smoking near battery.

ALWAYS wear safety glasses and protective gear near battery.

DO NOT TIP battery beyond a 45° angle in any direction.

ALWAYS keep batteries out of reach of children.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

### **Battery Electrolyte First Aid**

Follow First Aid directions for contact with battery fluid.

- External Contact: Flush with water.
- Eyes: Flush with water for at least 15 minutes and get medical attention immediately!
- Internal Contact: Drink large quantities of water. Follow with Milk of Magnesia, beaten egg or vegetable oil. Get medical attention immediately!

In case of internal contact, DO NOT induce vomiting!

## **MAINTENANCE AND SERVICE SAFETY RULES**

Before tipping unit up onto housing, remove fuel so no spills will occur and remove battery (if equipped). 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.

**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.**



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. Check shear bolts frequently.

## STORAGE SAFETY RULES

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

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.

## ACCESSORY AND ATTACHMENT SAFETY RULES

Use only attachments or accessories designed for your unit.

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

# ASSEMBLY



**WARNING:** AVOID INJURY. Read and understand *Assembly, Fuel and Battery Safety Rules* before proceeding.

Tools Required:

- Pliers
- Open-End Wrenches: 3/8, 7/16, 1/2, 9/16 and/or Adjustable Wrench
- Tire Gauge

## UNPACKING UNIT



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

## PACKAGE CONTENTS

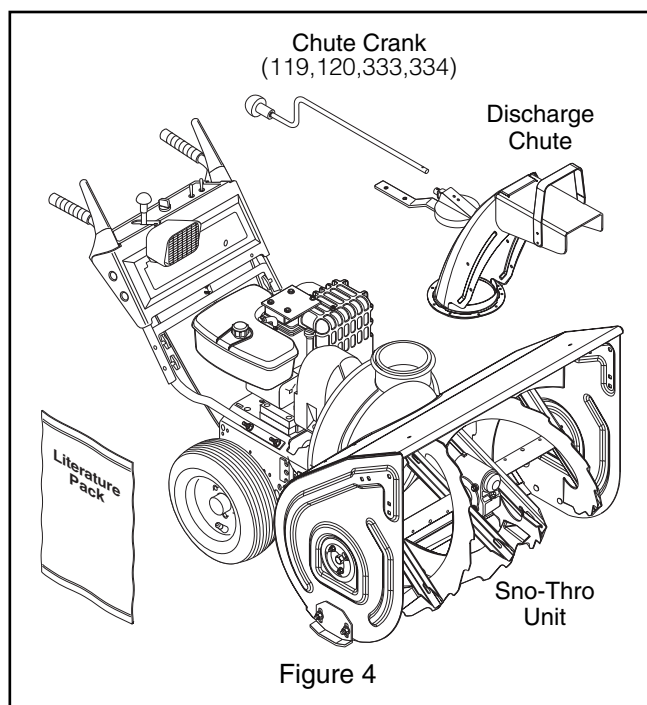
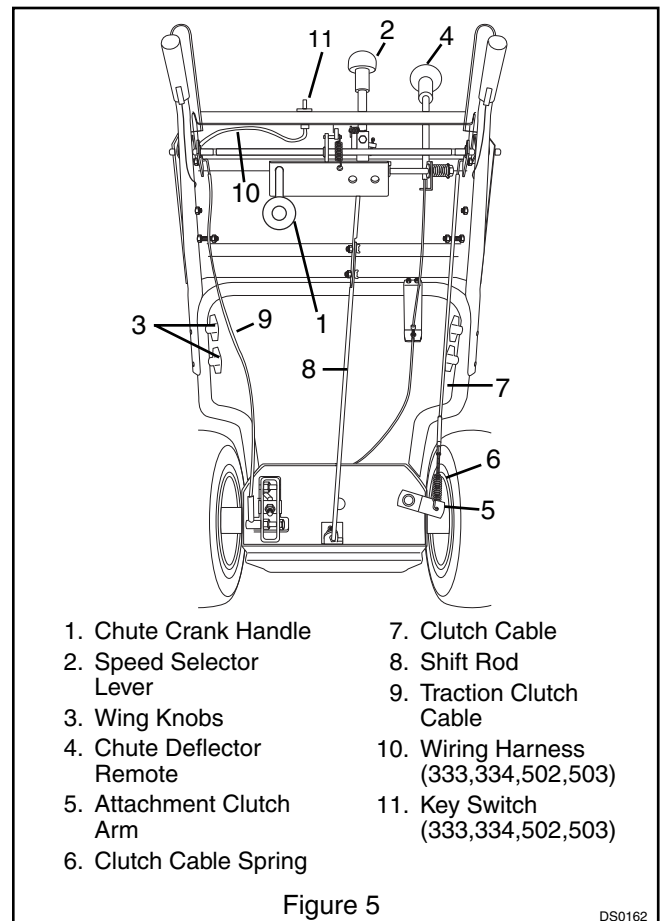


Figure 4

## ASSEMBLY



DS0162

### Handlebar and Shift Rod

1. Remove lower wing knobs on handlebar assembly (Figure 5).
2. Remove upper wing nut and bolt on shift rod.
3. Loosen upper wing knobs on handlebar.
4. Loosen lower wing nut and bolt on shift rod.
5. Make sure speed selector lever is in 2nd or 3rd position.
6. Rotate handlebar up so wing knob holes align. Install and tighten all wing knobs.

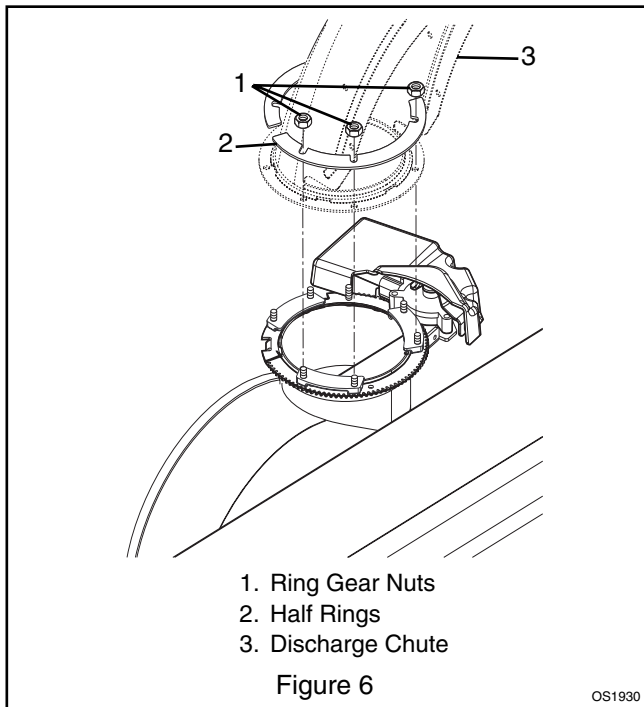
7. Install wing nut and bolt removed in step 2 onto shift rod and tighten hardware.

### Install Discharge Chute and Crank (119,120,333,334)

1. Grease discharge chute ring on blower housing (if not already greased).
2. Slide chute ring under front clip on blower housing and put chute on housing.
3. Remove mounting hardware from top of engine.
4. Secure chute by fastening chute strap to engine with hardware just removed.
5. Slide chute crank rod through bracket under handlebar and through hole in panel.
6. Align chute crank rod with the universal joint on chute and fasten with spring clip.

### Install Discharge Chute - Electric Rotation (502,503)

1. Remove chute motor cover.
2. Remove the six (6) nuts from ring gear (Figure 6).
3. Remove two (2) half rings.
4. Position Discharge Chute over threaded studs with the chute opening facing the electric motor.
5. Replace the half rings.
6. Replace the six (6) nuts and tighten to 120 in. lbs. torque.
7. Replace chute motor cover.

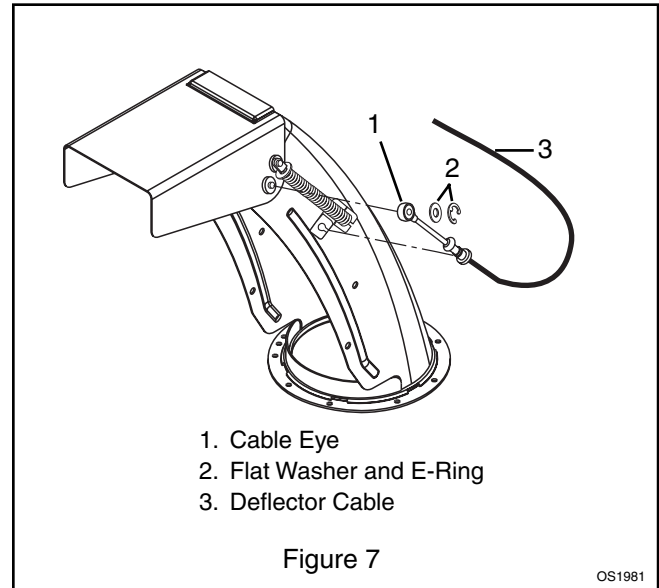


### Connect Battery (333,334,502,503)

1. Remove wing nuts from battery cover.
2. Install wire lead to battery terminal.
3. Install battery cover and tighten wing nuts.

### Deflector Remote (502,503,119)

1. Slide cable end through hole on bracket on left side of chute.
2. Attach cable eye to stud on deflector. Hold in place with flat washer and e-ring.
3. Check deflector travel. Adjust nut on cable end under handlebar to obtain full travel.



### Check Attachment Clutch

Clutch cable spring should expand approximately 3/8" (9mm) beyond free state when clutch is engaged.

1. When clutch is disengaged, lower end of clutch arm should return to its maximum down position, with slight amount of slack in control cable.
2. If proper spring extension is not obtained, adjust Attachment Idler per *Service and Adjustments*.

### 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.

### Check Tire Pressure

Check tire pressure and adjust to 14 PSI (96.5 kNm<sup>2</sup>).

### Check Auger Gearcase Oil

Check oil level in auger gearcase (see *Service and Adjustments*).

### Check Engine Crankcase Oil

**IMPORTANT:** Engines on all Sno-Thro models are shipped with 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.

## Check Function of all Controls

Ensure unit runs and performs properly. Refer to *Operation*.

# OPERATION



**WARNING:** AVOID INJURY. Read and understand *Operational, Fuel and Battery Safety Rules* before proceeding.

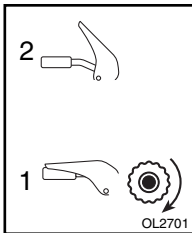
## STANDARD CONTROLS

See Figure on page 3 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

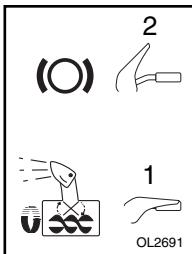


Squeeze the Traction Drive Clutch Lever against the Handlebar (1) to engage wheel drive for propelling unit. Forward speed will vary according to snow depth and moisture content.

Release lever to stop movement (2).

**NOTE:** When traveling to or from the 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 auger drive clutch.

### Attachment Clutch - Right Hand Lever



Squeeze Attachment Clutch Lever against Handlebar (1) to engage attachment. Release both clutch levers (2) to disengage power and apply brake 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.

### Ignition Key (120V start on engine)

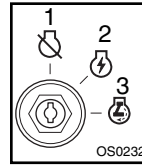


Key Switch has two positions:

1. "Stop"
2. "Run"

**NOTE:** DO NOT twist key after it is inserted.

### Ignition Key (12V start on dash panel)



The ignition switch is operated by a removable key. It has three positions:

1. "Stop"
2. "Run"
3. "Start"

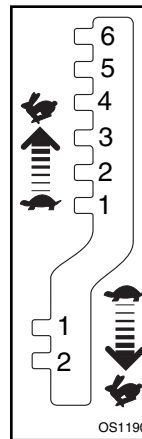
### Primer Bulb



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

### Speed Selector

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



Forward:

(6) "Fastest"

(1) "Slow" (Best used for removing deep or hard packed snow)

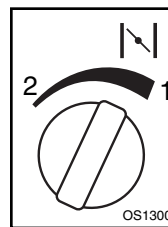
Reverse:

(1) "Slow"

(2) "Fast"

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

### Choke Control Knob

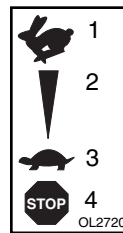


1. Choke Closed position: chokes off air to engine for easier start.

2. Choke Open position: allows for normal operation.

**IMPORTANT:** Gradually open choke after engine starts.

### Throttle



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

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

## Electric Starter

The Electric Starter will start a properly choked and cranked engine when the key is turned (12V) or start button (120V) is pushed. Refer to *Starting and Shut-Off*.

## Recoil Starter Handle

When pulled, handle will turn engine over.

## Discharge Chute Deflector

ALWAYS position Discharge Chute Deflector at safe angle before starting engine.

Push Deflector handle forward or down to throw snow lower. Pull Deflector Handle up or to the rear to throw snow higher.

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

## Deflector Remote (119,502,503)

Place Deflector into position before operation. DO NOT throw snow any higher than necessary.

Push Deflector Remote forward to throw snow lower. Pull Deflector Remote back to throw snow higher.

## Discharge Chute

Discharge Chute rotates 220°.

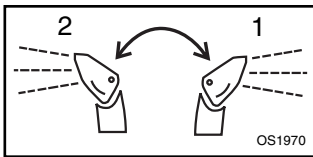
ALWAYS position discharge chute straight ahead while starting unit.

## Chute Crank Handle (119,120,330,334)

Rotate the Chute with Discharge Chute Crank Handle.

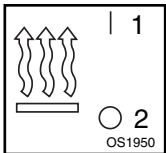
**IMPORTANT:** DO NOT force frozen Chute controls. Start engine and run for 3-5 minutes to thaw. If still frozen, take to warm place until controls are free.

## Chute Rotation Switch (502,503)



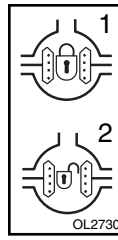
Press the chute rotation switch right (1) to rotate chute clockwise. Press the chute rotation switch left (2) to rotate chute counterclockwise.

## Heated Handles



Turn the heated handles switch to the ON (1) position to activate. Turn the switch to the OFF (2) position to deactivate.

## Differential Lock (120,333,334,502,503)



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 (119)

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.

## 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 too far 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.

## Headlight

**NOTE:** Lamp remains on at all times for longer lamp life. Lamp is more sensitive to fatigue when unlit.

## 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.
4. Remove Cap.

**IMPORTANT:** DO NOT use gasohol or gasoline containing alcohol. See Engine Manual for correct type and grade of fuel.

5. Fill fuel tank to within 1/2" (1,2 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.

## PRE-START

### 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.

### Differential Lock (120,333,334,502,503)

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

### Axle Lock (119)

Keep locking pin on the right wheel hub for best traction when throwing snow.

### Function of Clutches

**IMPORTANT:** Check Clutch/Brake function before each use. 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 *Service and Adjustments* Section, or repair before operation.

### Dual Handle Interlock

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

### Crankcase Oil

Check and add crankcase oil if required. Refer to Engine Manual.

### Fuel Tank

Check and add fuel to fuel tank if required. Refer to *Filling Fuel Tank* on page 12.

### Runners

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

## STARTING AND SHUT OFF

### Emergency Shut Off

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 operator's position.

### Manual Start

1. Turn discharge chute straight ahead.
2. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
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. If engine is cold, apply choke. A warm engine requires less choking than a cold engine. See Engine Manual for detailed instructions.
5. Set throttle to proper starting position.
6. Insert key into Ignition Switch.
7. Turn key into RUN position (12V). Push key on engine into RUN position (120V).
8. Grasp starter handle and pull rope out slowly until it pulls harder. Let rope rewind slowly.
9. Pull rope with a rapid continuous full arm stroke. Let rope rewind slowly.

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

10. Repeat until engine starts. (If engine does not start, refer to *Troubleshooting*.)
11. Adjust choke as needed.
12. Set throttle to "Part Throttle" or "Slow" position for adaptation to Ambient temperature or travel. Set throttle to "Fast" position for normal operation.

### Electric Start (120V)

1. Connect extension cord to prongs on starter. Plug cord into 120V 3-wire, grounded outlet.
2. Turn discharge chute straight ahead.
3. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
4. Push Primer Bulb 2 or 3 times for cold engine.

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

5. Insert key into ignition switch on engine and push into "Run" position. DO NOT twist key after it is inserted.
6. If engine is cold, apply choke. A warm engine requires less choking than a cold engine. See Engine Manual for detailed instructions.
7. Set throttle to proper starting position.
8. 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*.)

9. Adjust choke as needed.
10. Disconnect power cord from receptacle.
11. 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.

### Electric Start (12V)

1. Turn discharge chute straight ahead.
2. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
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. If engine is cold, apply choke. See Engine Manual for detailed instructions.

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

5. Set throttle to proper starting position.
6. Put ignition key into START position until engine starts and release into the RUN position.

**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*.)

7. Adjust choke as needed.
8. 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.

### Normal Shut Off

1. Release Traction Drive Clutch Lever and allow unit to come to a complete stop.
2. 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 to a complete stop.
4. Move Throttle to the "Slow" Position.
5. Move key into "Stop" position.
6. Remove key.

### THROWING SNOW

**IMPORTANT:** Allow unit and engine to adjust to the outdoor temperatures before clearing snow.

**NOTE:** Attachment clutch should be engaged before wheel drive clutch when throwing snow.

1. Select Speed Control position and direction.
2. Engage Attachment Clutch - Right Hand Lever.

3. Engage Traction Drive Clutch - Left Hand Lever.

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

### Tips for Operation

Snow is best removed as soon as possible after 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 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.



# 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:** AVOID INJURY. Read and understand *Maintenance and Service* and *Battery Safety Rules* in *Safety* section before attempting any maintenance.

## SERVICE POSITION



**WARNING:** Before tipping unit up onto housing, remove fuel so no spills will occur and remove battery (if equipped). Ensure unit is secure and will not tip over during maintenance.

Place unit in service position when required. 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.

## 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).

<b>MAINTENANCE SCHEDULE</b>				
Service Performed	Daily	Every 5 hrs.	Every 25 hrs.	Every 100 hrs.
Check Fasteners	•			
Check Engine Oil		•		
Change Engine Oil		*	•	
Check Auger Gearcase			•	
Check Tire Pressure			•	
General Lubrication			•	
Battery Maintenance			•	
Clean Engine				•

\* First Maintenance Only

## CHECK FASTENERS

Make sure all hardware is tightened properly.

## CHECK ENGINE OIL

The engine crankcase oil should be checked 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).

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

## CHANGE ENGINE OIL

Change oil after first 5 hours of operation, thereafter change oil every 25 hours (more often if required). Refer to Engine Manual for detailed instructions.

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

## CHECK AUGER GEARCASE

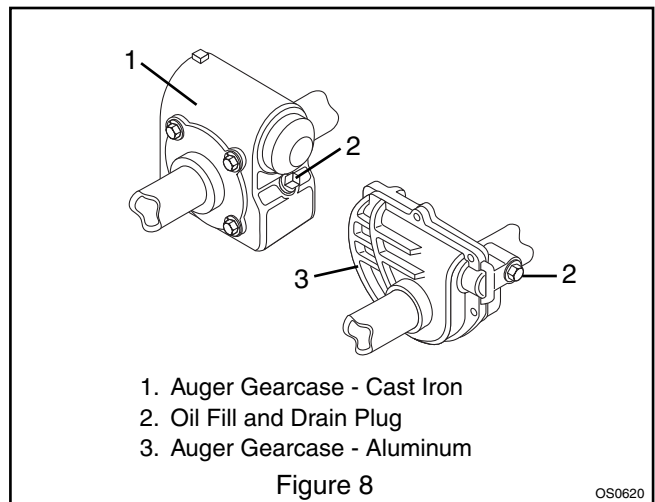
**IMPORTANT:** Proper oil level must be maintained.

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 (Figure 8). 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.

**IMPORTANT:** Use only Ariens special gear lubricant L-2 (Part Number 00008000).



## CHECK TIRE PRESSURE

Maintain the unit tire pressure at a maximum 14 PSI (97 kPa).

## GENERAL LUBRICATION

Sno-Thro should be lubricated (Figure 9) at beginning of season or every 25 operating hours.

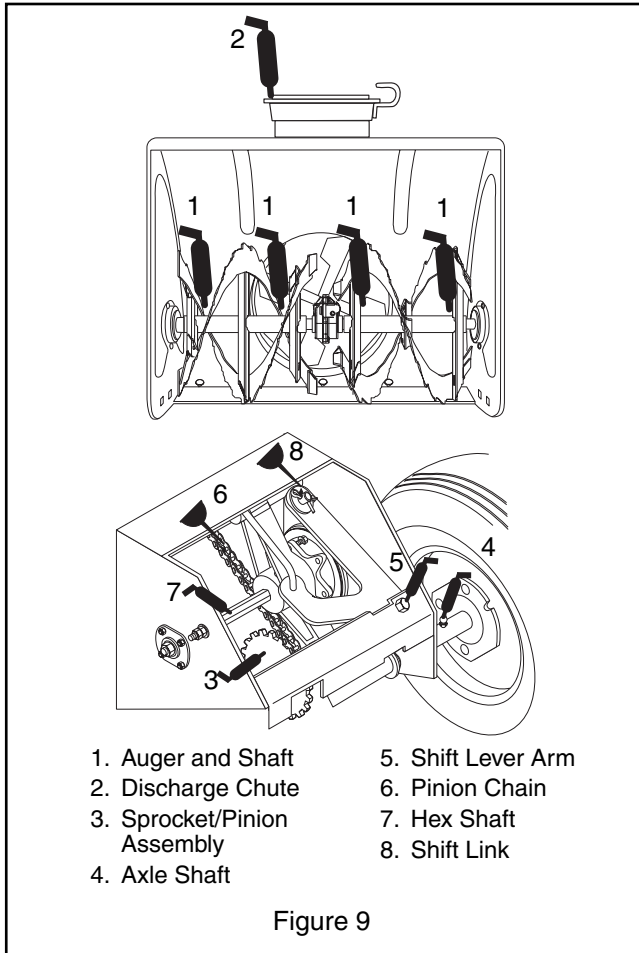
**IMPORTANT:** DO NOT allow grease or oil to get on friction wheel, drive disc or belts.

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

**NOTE:** Apply Stens Mix Hi-Temp Grease or equivalent to the lubrication fittings. See *Service Parts*.

### Auger Shaft

**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 *Service and Adjustments*.



## CLEAN BATTERY (Model 333,334,502,503)



**WARNING: AVOID INJURY.** Read and understand *Battery Safety Rules* in *Safety* section before attempting any maintenance.

**IMPORTANT:** Battery is maintenance free. Do not tamper with or attempt to open battery. See *Service and Adjustments* for charging procedures.

### Terminals

Keep battery and its terminals clean.

**IMPORTANT:** Remove battery from unit before cleaning.

Remove corrosion from battery terminals and cable connections with a wire brush, then wash with a weak baking soda solution.

After cleaning, apply a thin coat of grease or petroleum jelly to terminals and cable ends to retard corrosion.

## CLEAN ENGINE

Refer to Engine Manual for detailed instructions.

## SERVICE AND ADJUSTMENTS



**WARNING: AVOID INJURY.** Read and understand *Maintenance and Service* and *Battery Safety Rules* in *Safety* section before attempting any maintenance.

### MANUAL DEFLECTOR (120,333,334)

To adjust, loosen then retighten hardware to desired deflector drag force (Figure 5).

### DEFLECTOR REMOTE (119,502,503)

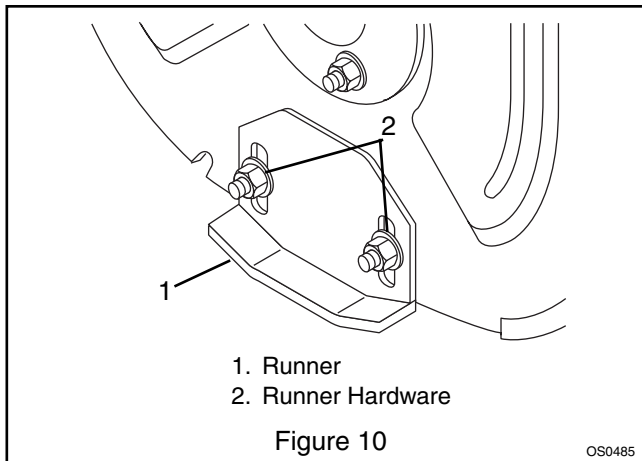
Adjust nuts as required at end of cable just beneath control panel (Figure 7).

### RUNNERS

Runners should be adjusted (Figure 10) 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 runner hardware, slide runners to flat surface. Allow 1/8" (3mm) between scraper blade and hard smooth surfaces. Allow 1-1/4" (30mm) between scraper blade and uneven surface(s). 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.

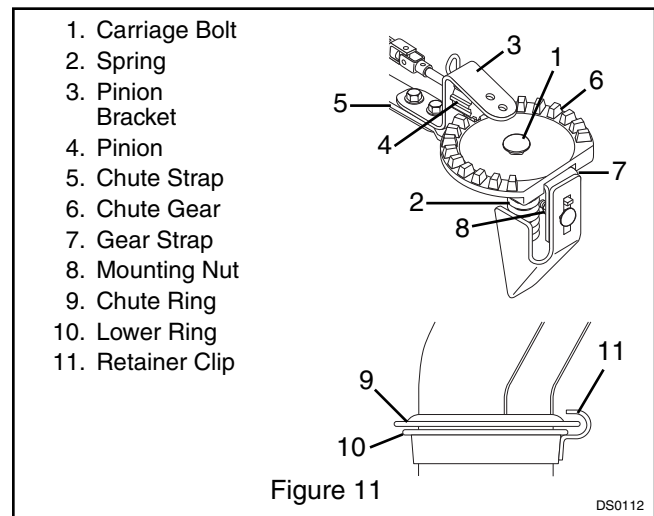
2. With runners adjusted to their full up position, reposition scraper blade down, flush with runners, and tighten lock nuts.

### 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 11).

Smooth and easy rotation of properly lubricated chute with crank is obtained by adjusting pinion and chute gear teeth so they mesh together.

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



### ATTACHMENT CLUTCH BRAKE

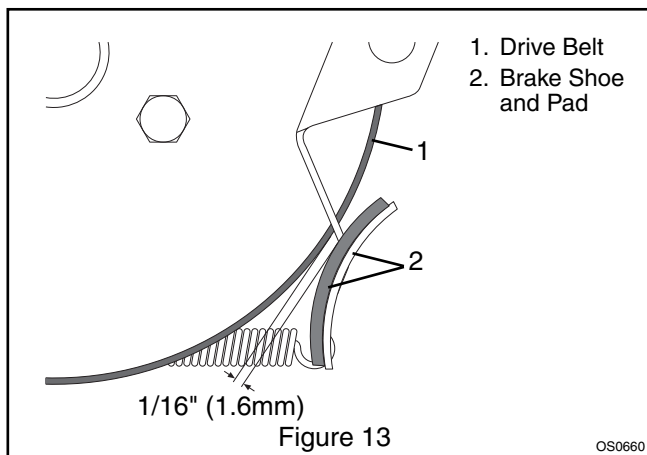
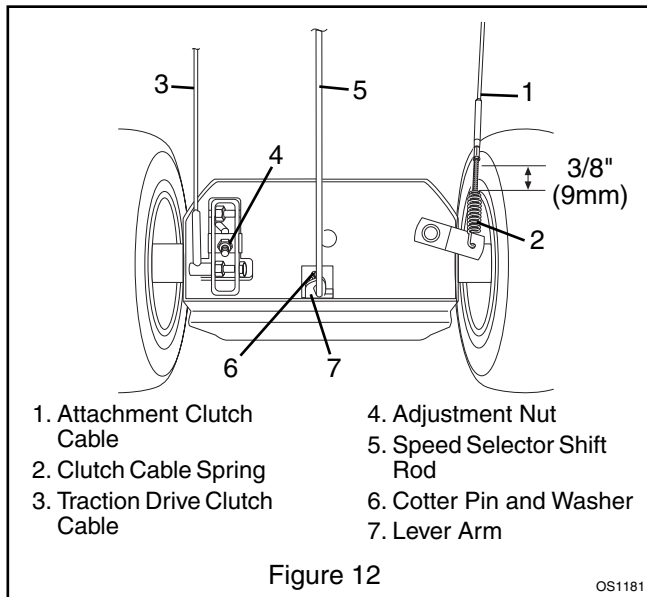


**WARNING: AUGER / IMPELLER MUST STOP** within 5 seconds when Attachment Clutch Lever is released or unit damage or serious injury may result.

To properly adjust attachment clutch:

1. Remove belt cover. When clutch is disengaged there should be a slight amount of slack in the auger cable to allow for brake wear.
2. Clutch cable spring should extend approximately 3/8" (9,5 mm) when clutch is engaged but allow clutch arm to return to it's maximum down position when clutch is disengaged. To increase spring extension, loosen adjustment hardware (Figure 14) and move the idler toward the belt . Approximately 1/8" (3,2 mm) movement of the idler will increase spring extension by 1/8" (3,2 mm).
3. To check impeller brake, place unit in service position. Remove bottom cover by removing four cap screws.

4. Measure distance between impeller brake shoe pad and belt with attachment clutch engaged (Figure 13). 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.



## TRACTION DRIVE CLUTCH

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

To adjust traction clutch:

1. Place speed selector in First (1) Forward.
2. Place unit in service position.
3. With traction clutch disengaged turn wheels while tightening adjustment nut (Figure 12), at clutch yoke, until wheels begin to drag.
4. Engage and release traction clutch.
5. Turn adjustment nut back three turns. Wheels will then turn freely.

## SPEED SELECTOR

1. Place unit into service position.
2. Remove cotter pin and washer (Figure 12) and pull shift rod out of lever arm until it stops.
3. Put speed selector lever into fastest reverse panel notch.
4. Adjust length of shift rod until rod end passes into hole on selector lever arm.
5. Install rod into arm hole and secure with washer and cotter pin.

## DRIVE CHAIN

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

1. Put unit into service position.
2. Remove bottom cover by removing four cap screws.
3. Loosen nuts on idler hex shaft (Figure 17). Adjust the idler hex shaft in slot as necessary. Torque the nut to 70-146 in. lbs. (7,9 - 16,5 Nm).

## ATTACHMENT DRIVE BELT

For Attachment Drive Belt Replacement:

1. Shut off engine and allow to cool completely.
2. Remove belt guard cover (Figure 15).
3. Remove spring clip from chute crank to remove chute crank.

**IMPORTANT:** Disconnect remote cap deflector and/or electric chute wire harness (if equipped) before proceeding.

4. Loosen cap screws and carefully rotate belt fingers out and away from belt and sheave (Figure 14).

**IMPORTANT:** Use care when rotating the belt fingers. DO NOT bend belt fingers out of shape.

5. Remove attachment drive belt from engine sheave (it may be necessary to turn engine sheave using recoil starter handle).

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

6. Remove cap screws securing housing to frame (one on each side). Tip housing and frame apart on pivot pins (Figure 15).
7. Remove auger drive belt from attachment sheave (hold brake away from belt).
8. Place new attachment belt onto attachment sheave.
9. Tip housing and frame back together and secure with cap screws.

10. Place belt onto engine sheave.
11. Make sure engine and attachment sheaves align. If alignment is necessary, loosen attachment sheave set screws, reposition sheave and retighten set screws.
12. Reposition and secure belt fingers.

**IMPORTANT:** Make sure belt fingers are 1/16" to 1/8" (2-3mm) from belt when attachment clutch is engaged.

13. Check adjustment. See *Attachment Clutch/Brake*.



**WARNING:** AUGER / IMPELLER MUST STOP within 5 seconds when Attachment Clutch Lever is released or unit damage or serious injury may result.

14. Reconnect chute crank and secure with spring clip. If equipped, reconnect remote cap deflector cable and/or electric chute wire harness.
15. Replace belt guard cover.

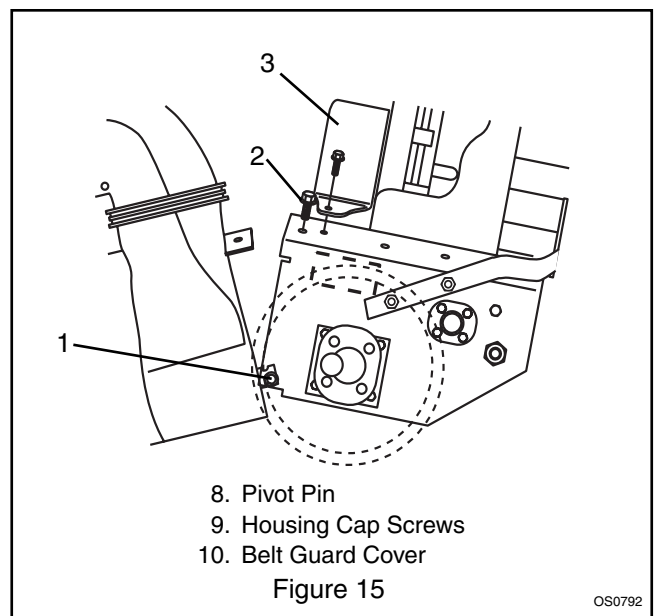
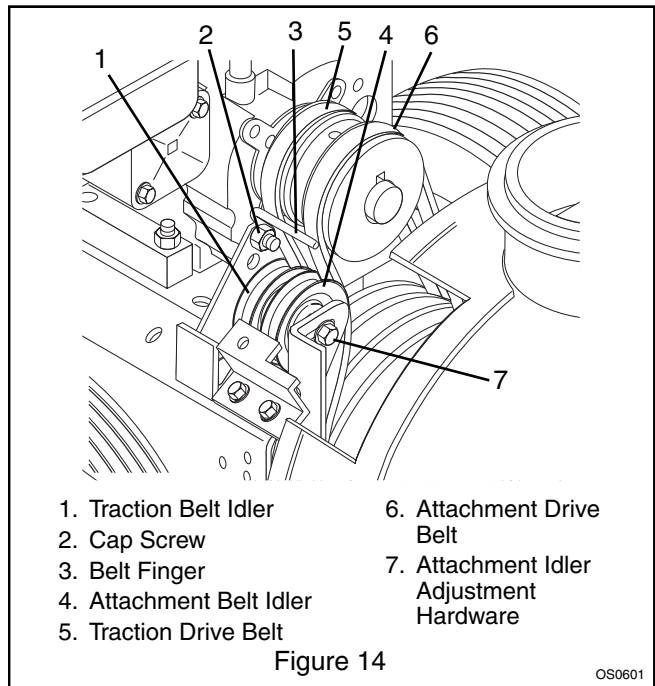
## TRACTION DRIVE BELT

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

1. Follow steps 1 through 7 under *Attachment Drive Belt*.
2. Pull idler away from belt and remove belt from idler pulley, engine and driven pulley (it may be necessary to turn engine pulley using recoil handle).

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

3. Install new traction drive belt onto attachment and engine sheaves.
4. Follow steps 8-15 under *Attachment Drive Belt*.



## SHEAR BOLTS

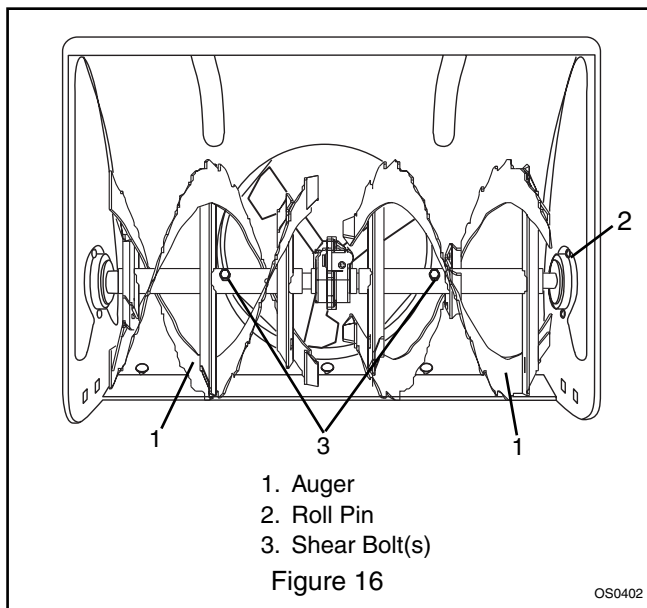
**IMPORTANT:** Use only Ariens Shear Bolts for replacement. Use of any other type of shear bolt may result in severe damage to unit.

Occasionally a foreign object may enter the auger/impeller housing and jam the auger, breaking Shear Bolts (Figure 16) which secure the auger to the shaft. 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.



## BATTERY

### Charging

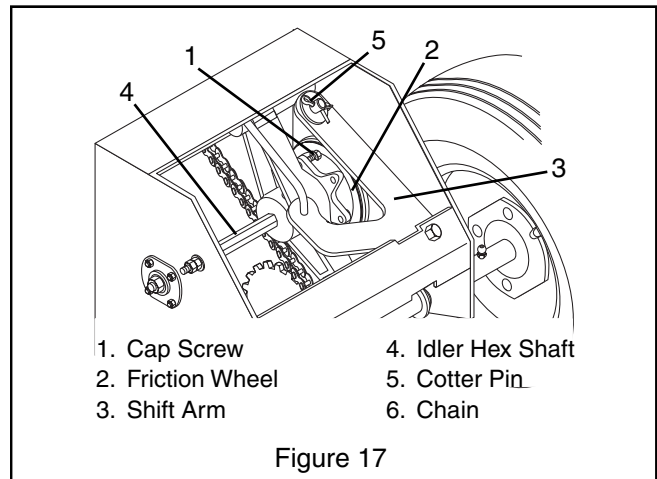
1. Place unit on a level surface and shut off engine.
2. Disconnect negative (-) cable first, then positive (+) cable.
3. Loosen wing nut and remove battery. Place Battery on bench or other well ventilated place.
4. Connect positive (+) lead of charger to positive (+) terminal, and negative (-) lead to negative (-) terminal.
5. Charge the battery at two and a half amps for ten hours.
6. Reinstall battery into unit and connect positive (+) cable first, then negative (-) cable.

## Replacing

Use U1R or U1L; 340 to 350 CCA @ 0°F type batteries.

## FRICION WHEEL

1. Place unit into service position.
2. Remove bottom cover by removing four cap screws.
3. Place Speed Selector in first (1) position and depress Traction Clutch Lever to hold friction wheel and hub into position.
4. Remove cap screws (Figure 17).
5. Release traction clutch lever, shift to third (3) position, and remove friction wheel.
6. Secure new friction wheel on hub with five cap screws and torque cap screws to 8-10 ft. lbs. (10,6-13,3 Nm).
7. Replace bottom cover.
8. Adjust Traction Drive Clutch (see *Traction Drive Clutch*).



## STORAGE



**WARNING:** AVOID INJURY. Read and understand *Storage Safety Rules* in *Safety* section before proceeding.

### SHORT TERM

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

**IMPORTANT:** The speed selector lever must be in 2nd or 3rd position to fold handlebars down for storage.

Run with Attachment 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.

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

Store unit in a cool, dry protected area.

### LONG TERM

Clean unit thoroughly and lubricate (see *Maintenance*). Touch up all scratched painted surfaces.

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

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



## ACCESSORIES

See your authorized Ariens dealer to add the additional accessories available to your Sno-Thro.

Part No.	Description
71099700	Slicer Bar
72406400	Remote Deflector Control

## SERVICE PARTS

Order the following parts through your Dealer:

Part No.	Description
00036800	Stens Mix Hi-Temp Grease (3, 3 oz. cartridges)
21526400	Spark Plug
07236200	Impeller Belt (503)
07238300	Impeller Belt (502)
07238400	Impeller Belt (334,120,333)
07238500	Impeller Belt (119)
07211200	Traction Belt (119,120,333,334)
07236100	Traction Belt (502,503)
51001500	Shear Bolt Kit

To obtain a complete parts manual, find your model and serial number. Then go to [www.ariens.com](http://www.ariens.com) or call 1-800-678-5443.

## 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. Key Switch not in run position.</li> <li>3. Ignition switch starter circuit not functioning.</li> <li>4. Battery discharged, wires loose.</li> <li>5. Engine ignition problems.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill fuel tank.</li> <li>2. Put Key Switch into run position.</li> <li>3. Check for a bad starter or connections.</li> <li>4. Check battery and connections.</li> <li>5. See Engine Manual.</li> </ol>
<b>Engine stops.</b>	<ol style="list-style-type: none"> <li>1. Out of fuel.</li> <li>2. Mechanical jam in blower rake or impeller.</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, remove key, 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>	
<b>Does not operate in Forward/Reverse.</b>	<ol style="list-style-type: none"> <li>1. Friction wheel not adjusted properly.</li> <li>2. Traction belt not functioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace friction wheel. See <i>Service and Adjustments</i>.</li> <li>2. Repair or replace traction drive belt. See <i>Service and Adjustments</i>.</li> </ol>
<b>Unable to fold handlebars.</b>	<ol style="list-style-type: none"> <li>1. Speed Selector Rod obstructing handlebars.</li> </ol>	<ol style="list-style-type: none"> <li>1. Place Speed Selector Rod into 2nd or 3rd position.</li> </ol>

## SPECIFICATIONS

Model Number	924119	924120	924333	924334	924502	924503
Description	1028	1024	1024	1128	1332	1336
<b>Engine</b> Tecumseh	HMSK100-159468W	OHSK100-221608B	OHSK100-221609B	OHSK110-221716B	OHSK130-223815C	
Power Max - HP (Kw/min <sup>-1</sup> )	10 (7.46)			11 (8.2)	13 (9.7)	
Fast Idle Speed - RPM (min <sup>-1</sup> )	3600 ± 150		3500 ± 150			
Displacement - in (cc)	21.82 (357.6)		19.43 (318.3)		21.82 (357.6)	
<b>Electric Start</b>	Yes, 120V		Yes, 12V			
<b>Fuel</b>	See Engine Manual					
Tank Capacity - qt (Liters)	4 (3.8)					
<b>Snow Clearing Width</b> - in (cm)	28 (71.2)	24 (61.0)		28 (71.2)	32 (81.3)	36 (91.4)
<b>Snow Throwing Distance</b> - ft (m)	5-45 (1.5-13.7)			5-50 (1.5-15.2)		
<b>Chute</b>						
Rotation Angle	220°					
Rotation Control at Handlebar	Yes				No	
Remote Deflector Control	Yes	No			Yes	
<b>Dual Handle Interlock</b>	Yes					
<b>Impeller</b>						
Speed - RPM - Max (min <sup>-1</sup> )	1280					
<b>Auger</b>						
Diameter - in (cm)	15 (38.1)	16 (40.6)				
Speed - RPM - Max (min <sup>-1</sup> )	110					
<b>Auger Brake</b>	Yes					
<b>Attachment Clutch</b>	Yes					
<b>Drive</b>	Disc-O-Matic					
Speeds	6 Forward and 2 Reverse					
<b>Lock Out Differential</b>	No	Yes				
<b>Pneumatic Tires</b> - in (cm)	16/6.50 x 8 (40.6/16.5x20.3)	4.80/4.00 x 8 (12.2/10.2x20.3)		16/6.50 x 8 (40.6/16.5x20.3)		
<b>Size and Weight</b>						
Length - in (cm)	60 (152)					
Height - in (cm)	40 (101.6)					
Width - in (cm)	30.5 (77.6)	26.3 (66.6)		30.5 (77.6)	34.5 (87.6)	38.5 (97.8)
Weight - lbs (Kg)	272 (123.5)	266 (120.8)	290 (131.7)	308 (139.8)	323 (146.5)	326 (147.9)
<b>CE Sound</b>						
Oper. Ear Sound Pressure (L <sub>pa</sub> ) in dB <sub>A</sub>	N/A		90			
Sound Power (L <sub>wa</sub> ) in dB <sub>A</sub>	N/A		102			103
Vibration Measure <b>X</b>	N/A		3.3	2.5	<2.5	2.6
@ Operator Hands <b>Y</b>	N/A		2.5	2.7	<2.5	3.3
<b>Z</b>	N/A		3.5	3	3.3	3.9



**Ariens Company**  
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 920-756-2141  
 Fax 920-756-2407  
 www.ariens.com

## 2 Year Limited Warranty

Ariens Company warrants to the original purchaser that consumer products manufactured by Ariens Company will be free from defects in material and workmanship for a period of two (2) years after the date of purchase, and 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.

The two year duration of this warranty applies only if the product is put to ordinary, reasonable, and usual personal, family, or 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, or agricultural or farmstead use, then the duration of this warranty is ninety (90) days after the date of purchase, or one (1) year after the date of purchase if the product is labeled as a Professional/Commercial Product. If any product is rented or leased, then the duration of this warranty is ninety (90) days after the date of purchase.

Genuine Ariens service parts and accessories not purchased with the product covered by this warranty, but which are later purchased and used with that product, are warranted to be free from defects in material and workmanship for a period of ninety (90) days after date of purchase, and Ariens Company will repair or replace any such part or accessory free of charge, except for labor, during that period.

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

#### **This warranty is valid only if the following conditions are met:**

- The warranty registration card must be completed and returned to Ariens Company.
- The purchaser must perform maintenance and minor adjustments explained in the owner's manual.
- The purchaser must promptly notify Ariens Company or an authorized Ariens service representative of the need for warranty service.

#### **This warranty is subject to the following limitations:**

- The purchaser must transport the product to and from the place of warranty service.
- Warranty service must be performed by an authorized Ariens service representative. (To find an authorized Ariens service representative, contact Ariens Company at the number or address above.)
- Batteries are warranted only for a period of twelve (12) months after date of purchase, on a prorated basis. For the first ninety (90) days of the warranty period, a defective battery will be replaced free of charge. If the applicable warranty period is more than 90 days, Ariens Company will cover the prorated cost of any defective battery, for up to twelve(12) months after the date of purchase.

#### **The following items 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.
- If the product is equipped with a Peerless gearbox and/or transmission, the gearbox and/or transmission are covered only by the warranty made by Peerless, and are not covered by this warranty.
- Parts that are not genuine Ariens service parts are not covered by this warranty.
- Shoes, runners, scraper blades, shear bolts, mower blades, mower vanes, trimmer line, headlights, light bulbs, are not covered by this warranty.
- Any defect which is the result of misuse, alteration, improper assembly, improper adjustment, neglect, or accident, is not covered by this warranty.
- Products which were not purchased in the United States, Puerto Rico, or Canada are not covered by this warranty. In all other countries, contact place of purchase.

### **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 state to state.**





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