

# POWERSMART<sup>®</sup>

## INSTRUCTION MANUAL

24 inch Two Stage Gas Snow Thrower

Model # DB7124



**Have product questions or need technical support? Please feel free to contact us!**

**Website: [www.Amerisuninc.com](http://www.Amerisuninc.com)**

**Toll free: 1-800-791-9458 Mon-Fri 9-5 EST**

**Email: [support@amerisuninc.com](mailto:support@amerisuninc.com)**



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## **TECHNICAL DATA**

### **24 inch Two Stage Electric Start Snow Thrower**

Model #:	DB7124
Engine:	212cc Snow Engine
Engine oil Capacity:	20 fl.oz
Fuel Tank Capacity:	0.66 Gallon
Start System:	120V Electric / Recoil
Clearing Width:	24 in
Clearing Height:	21 in
Chute Rotation Angle:	180°
Speed:	6 Forward, 2 Reverse
Tire Size:	13 in
Overall Dimensions (L x W x H):	55 x 24 x 36.5 in
Weight:	181 lbs

Thank you for purchasing Power Smart products. Please register online at **www. Amerisuninc.com**.

The information will allow us to track your warranty and update on your unit.

Important: Our company does not provide email or personal information to any third party for any reason. For any questions check our website or call customer service at (800)791 9458.

# INTRODUCTION

Thank You for Purchasing a PowerSmart® Product. This manual provides information regarding the safe operation and maintenance of this product. Every effort has been made to ensure the accuracy of the information in this manual. PowerSmart® reserves the right to change this product and specifications at any time without prior notice.

Please keep this manual available to all users during the entire life of the generator.



This manual contains special messages to bring attention to potential safety concerns, generator damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

## **QUESTIONS? PROBLEMS?**

In order to answer questions and solve problems in the most efficient and speedy manner, contact Customer Service at (800) 791-9458, Mon-Fri 9am-5pm EST or email: [support@amerisuninc.com](mailto:support@amerisuninc.com).

## **NOTICE REGARDING EMISSIONS**

Engines that are certified to comply with U.S. EPA emission regulations for SORE (Small Off Road Equipment), are certified to operate on regular unleaded gasoline, and may include the following emission control systems: (EM) Engine Modifications and (TWC) Three-Way Catalyst (if so equipped).

# SAFETY INFORMATION



This symbol points out important safety instructions which, if not followed, could endanger the personal safety and or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury.



**WARNING!** This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating fingers, hands, toes and feet and throwing foreign objects. Failure to observe the following safety instructions could result in serious injury or death.

It is your responsibility to restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.



**ROTATING PARTS!** Only use clean-out tool to clear blockages. NEVER use your hands.



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.

## **TRAINING**

Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference.

- Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
- Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.
- Never allow adults to operate this machine without proper instruction.
- Thrown objects can cause serious personal injury. Plan your snow-throwing pattern to avoid discharge of material toward roads, bystanders and the like.
- Keep bystanders, pets and children at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.
- Exercise caution to avoid slipping or falling, especially when operating in reverse.

## **PREPARATION**

Thoroughly inspect the area where the equipment is to be used. Remove all doormats, newspapers, sleds, boards, wires, branches and other foreign object, which could be tripped over or thrown by the auger /impeller.

- Always wear safety glasses or eye shields during operation and while performing an adjustment or repair to protect your eyes, thrown objects which ricochet can cause serious injury to the eyes.
- Do not operate without wearing adequate winter outer garments. Do not wear jewelry, long scarves or other loose clothing, which could become entangled in moving parts, wear footwear which will improve footing on slippery surfaces.
- Use a grounded three-wire extension cord and receptacle for all machines with electric start engines.
- Adjust housing height to clear gravel or crushed rock surfaces.
- Disengage all control levers before starting the engine.
- Never attempt to make any adjustments while engine is running, except where specifically recommended in the operator's manual.
- Let engine and machine adjust to outdoor temperature before starting to clear snow.

## **PERSONAL SAFETY**

- Engine exhaust, and certain vehicle components contain or emit chemicals known to cause cancer, birth defects or other reproductive harm.

- Read, understand and follow all instructions on your Snow Thrower and in this Operator's Manual before attempting to assemble and operate your machine.
- Keep this manual in a safe place for future and regular reference. If replacement parts are needed, refer to the manual.
- Stay alert, watch what you are doing and use common sense when operating your Snow Thrower.
- Do not use your Snow Thrower while you are tired or under the influence of drugs, alcohol, medication. A moment of inattention while operating the Snow Thrower may result in severe bodily injury.
- NEVER LEAVE YOUR RUNNING SNOW THROWER UNATTENDED. Stop the engine.
- Do not leave your Snow Thrower until it has come to a complete stop.
- When stepping backwards, be cautious about any obstacles beneath your feet or behind you avoid falling.

## **SERVICE**

- Stop the engine before making any adjustments. Check for misalignment, breakage of or binding of moving parts, and any other conditions that may affect operation.
- If damaged, have the Snow Thrower serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the Snow Thrower is maintained.

## **SAFE HANDLING OF GASOLINE**

To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite, wash your skin and change clothes immediately.

- Use only an approved gasoline container.
- Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- Never fuel machine indoors.
- Never remove gas cap or add fuel while the engine is hot or running.
- Allow engine to cool at least two minutes before refueling.
- Never over fill fuel tank.
- Replace gasoline cap and tighten securely.
- If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting the engine.

- Never store the machine or fuel container inside where there is an open flame, spark or pilot light (e.g. furnace, water heats, space heater, clothes dryer etc.).
- Allow machine to cool at least 5 minutes before storing.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
- If possible, remove gas-powered equipment from the truck or trailer and refuel it on the ground.
- If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock open device.

## **OPERATION**

- Do not put hands or feet near rotating parts, in the auger impeller housing or chute assembly. Contact with the rotating parts can amputate hands and feet.
- The auger impeller control lever is a safety device. Never bypass its operation. Doing so makes the machine unsafe and may cause personal injury.
- The control levers must operate easily in both directions and automatically return to the disengaged position when released.
- Never operate with a missing or damaged chute assembly. Keep all safety devices in place and working.
- Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
- Do not operate machine while under the influence of alcohol or drugs.
- Muffler and engine become hot and can cause a burn. Do not touch. Keep children away.
- Exercise extreme caution when operating on or crossing gravel surfaces. Stay alert for hidden hazards or traffic.
- Exercise caution when changing direction and while operating on slopes.
- Plan your snow-throwing pattern to avoid discharge towards windows, walls, cars etc. Thus, avoiding possible property damage or personal injury caused by a ricochet.
- Never direct discharge at children, bystanders and pets or allow anyone in front of the machine.
- Do not overload machine capacity by attempting to clear snow at too fast of a rate.
- Never operate this machine without good visibility or light. Always be sure of your footing and keep a firm hold on the handles. Walk, never run.

- Disengage power to the auger impeller when transporting or not in use.
- Never operate machine at high transport speeds on slippery surfaces. Look down and behind and use care when backing up.
- If the machine should start to vibrate abnormally, stop the engine, disconnect the spark plug wire and ground it against the engine. Inspect thoroughly for damage. Repair any damage before starting and operating.
- Disengage all control levers and stop engine before you leave the operating (behind the handles).
- Wait until the auger /impeller comes to a complete stop before unclogging the chute assembly, making any adjustments, or inspections.
- Never put your hand in the discharge or collector openings. Always use the clean-out tool provided to unclog the discharge opening. Do not unclog chute assembly while engine is running. Shut off engine and remain behind handles until all moving parts have stopped before unclogging.
- Use only attachments and accessories approved by the manufacturer (e.g. wheel weights, tire chains, cabs etc.).
- When starting engine, pull cord slowly until resistance is felt, then pull rapidly, Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go. Broken bones, fractures, bruises or sprains could result.
- If situations occur which are not covered in this manual, use care and good judgment contact customer support for assistance.

## **MAINTENANCE & STORAGE**

- Never tamper with safety devices. Check their proper operation regularly. Refer to the maintenance and adjustment sections of manual.
- Before cleaning, repairing, or inspecting machine disengage all control levers and stop the engine.
- Wait until the auger impeller comes to a complete stop. Disconnect the spark plug wire to prevent unintended starting.
- Check bolts and screws for proper tightness at frequent intervals to keep the machine in safe working condition. Also, visually inspect machine for any damage.
- Do not change the engine governor setting or overspeed the engine. The governor controls the maximum safe operating speed of the engine.
- Snow thrower shave plates and skid shoes are subject to wear and damage. For your safety protection, frequently check all components and replace with original equipment manufacturers (OEM) parts only. Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety.



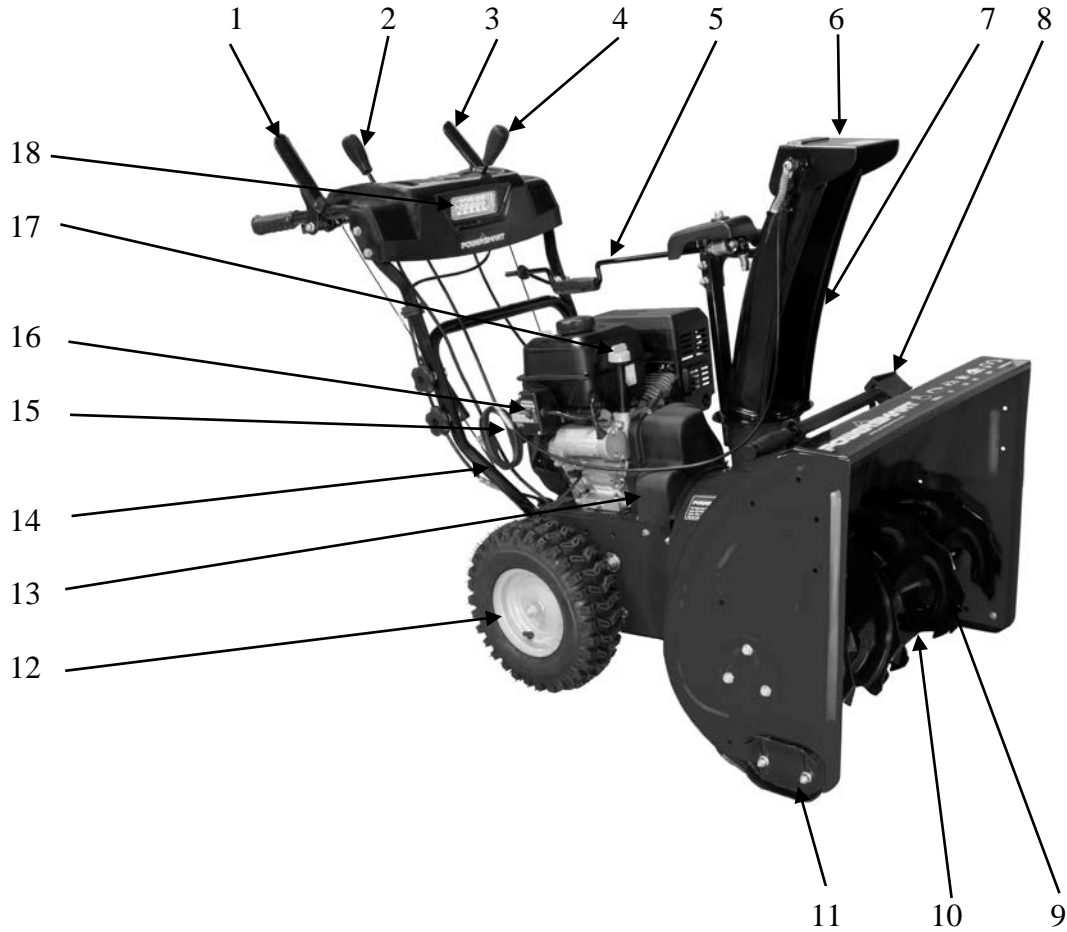
- Check control levels periodically to verify they engage and disengage properly and adjust, if necessary. Refer to the adjustment section in this operator's manual for instructions.
- Maintain or replace safety and instruction labels, as necessary.
- Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.
- Prior to storing, run machine a few minutes to clear snow from machine and prevent freeze up of auger impeller.
- Never store the machine or fuel container inside where there is an open flame, spark or pilot light such as water heater, furnace, clothes dryer etc.
- Always refer to the operator's manual for proper instructions on off-season storage.
- Check fuel line, tank, cap and fittings frequently for cracks or leaks. Replace if necessary.
- Do not crank engine with spark plug removed.
- Have the machine inspected annually by an authorized service dealer to ensure that all mechanical and safety systems are working properly and do not worn excessively. Failure to do so can result in accidents, injuries or death

### **DO NOT MODIFY THE ENGINE**

To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.

# KNOWING YOUR SNOW THROWER

Use the illustrations below to become familiar with the locations and functions of the various components and controls of this snow thrower.



- |   |                           |    |                       |
|---|---------------------------|----|-----------------------|
| 1 | Drive Control Handle      | 10 | Shave Plate           |
| 2 | Chute Deflector Lever     | 11 | Skid Shoe             |
| 3 | Auger Control Handle      | 12 | Tire                  |
| 4 | Speed Control Handle      | 13 | Belt Cover            |
| 5 | Chute Rotation Handle     | 14 | Lower Handle          |
| 6 | Discharge Chute Deflector | 15 | Recoil Starter Handle |
| 7 | Discharge Chute           | 16 | Electric Start Button |
| 8 | Clean-out Tool            | 17 | Oil Dipstick          |
| 9 | Auger                     | 18 | Headlight             |

### **Drive Control Handle**

Located on the right side of the upper handle, the Drive Control Handle is used to engage and disengage the drive wheels. Squeeze the Drive Control Handle against the upper handle to engage the wheels; release to disengage.

### **Speed Control Lever**

The Speed Control Lever is located in the center of the panel and is used to set the drive speed and direction of travel. It can be moved into any of six positions.

### **Auger Control Handle**

Located on the left side of the upper handle, the Auger Control Handle is used to engage and disengage the augers. Squeeze the Auger Control Handle to engage the augers; release to disengage the augers.

### **Chute Rotation Handle**

To adjust snow discharge direction, rotate the handle clockwise or counter-clockwise.

### **Skid Shoe**

Position the shoes based on the surface conditions. Adjust upward for hard-packed snow. Adjust downward when operating on gravel or crushed rock surfaces.

### **Augers and Impeller**

When engaged, the augers rotate to cut snow and direct it into the impeller housing to be discharged out the chute.

### **Clean-out Tool**

The chute Clean-out Tool is conveniently fastened to the rear of the auger housing with a mounting clip. It is used to clean the chute assembly and chute opening when snow and ice become lodged.

**WARNING!** Never use your hands to clear a clogged chute assembly. Shut off engine and remain behind handles until all moving parts have stopped before unclogging.

### **Discharge Chute**

The chute provides a discharge path for snow being thrown. The chute is adjustable.

### **Shave Plate**

The Shave Plate maintains contact with pavement as the snow thrower is propelled, allowing snow close to pavement's surface to be discharged.

# **ASSEMBLY AND ADJUSTMENTS**

The following section describes steps necessary to prepare the snow thrower for use. If after reading this section, you are unsure about how to perform any of the steps please call (800) 791-9458 Mon-Fri 9-5 EST for customer service. Failure to perform these steps properly can damage the snow thrower or shorten its life.

## **Unpacking**

Unpack the snow thrower and all its parts, and compare against the list below.

1. Snow Thrower
2. Discharge Chute Assembly
3. Lower Handle
4. Chute Rotation Handle
5. One Pair of Skid Shoes with hardware
6. 4 Extra Shear Pins and Locknuts

## **ASSEMBLY**

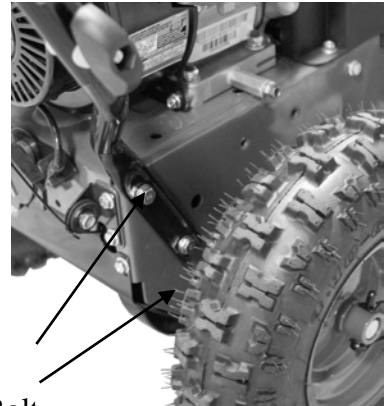
Your Snow Thrower will require some assembly. Please complete the following steps before using your Snow Thrower.



**WARNING:** This snow thrower is heavy. Assembly procedures may require lifting equipment or two people.

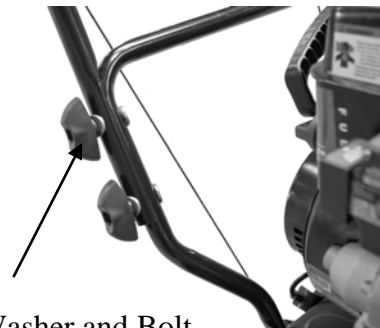
### **Step 1 – Handle assembly**

1. Attach the lower handle using four (4) bolts. Each side will require two (2) bolts. Make sure the “UP” label on the lower handle to face up.



Bolt

2. Attached the upper handle to the lower handle using (4) knobs, washers and bolts.

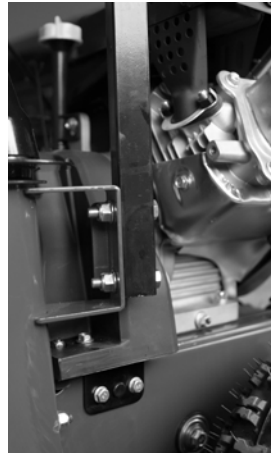


Knob, Washer and Bolt

**NOTICE:** Do not bend or kink the control cables. The cables should be routed under the handle assembly and not wrapped around the handle or knobs. The cables must move freely and not bind.

## Step 2 – Chute assembly

1. Install the discharge chute onto the chute flange on the auger housing. The chute only rests on the flange.
2. Slide the chute rod through the mounting hole on the left upper handle.
3. Attach the chute rotation bar to the mount bracket onto the chute housing using two screws, washers and locknuts. Tighten fasteners securely.



## Step 3 – Skid shoes installation and adjustments

1. Locate the pair of skid shoes from parts bag and remove the bolts.
2. Loosely install the skid shoes using the bolts and hex nuts as shown on each side of the auger housing. Make sure the skid shoe tip faces out.



Adjustment of the skid shoes sets the height above the ground at which the auger shave plate operates.

For clearing snow from concrete, asphalt, and other smooth surfaces, set the auger shave plate so that the bottom of the plate is just above the ground.

For clearing snow from gravel, dirt, and other rough surfaces set the auger shave plate slightly above the ground to avoid dirt and gravel from entering the auger.

The optimal height of the plate will vary depending on the type of surface being cleared. Surfaces with larger gravel or stones require a higher shave plate setting.

3. Move the Snow Thrower to a solid, smooth, and level surface.
4. Place a spacer board on the ground underneath the auger shave plate between the skid shoes. The thickness of the board should be the same as the height above the ground you wish to raise the auger shave plate. The skid shoes should not touch the board.
5. With the two (2) nuts loose allow the skid shoe to slide to the ground then tighten the nuts to secure the skid shoe.

# **SNOW THROWER PREPARATION**

## **PLEASE REFER TO ENGINE MANUAL (SEPARATE DOCUMENT) FOR ENGINE OPERATION INSTRUCTIONS.**

The following section describes steps to prepare your Snow Thrower for use. If after reading this section, you are unsure about how to perform any of the steps please call 1-800-791-9458 for customer service. Failure to perform these steps properly can damage your Snow Thrower or shorten its life.

Review the SAFETY section in this manual and the ENGINE manual before operating the engine and snow thrower.

**WARNING!** Keep the area of operation free from foreign objects that can be thrown by the auger and/or impeller blades. Perform a thorough inspection of the area since some objects may be hidden from view by surrounding snow. If the Snow Thrower hits an obstruction or picks up a foreign object during use, stop the Snow Thrower, remove the obstruction, and inspect it for damage. Repair or replace any damaged parts before restarting and operating you Snow Thrower.

- Keep children, pets, and bystanders away from the area of operation. Be aware that the normal noise of the Snow Thrower when turned on may make it difficult for you to hear approaching people.
- Start your clearing path by throwing snow in a back and forth motion. To clear in the opposite direction, stop your Snow Thrower and pivot it on its wheels to face the opposite direction. Make sure to overlap clearing paths.
- Determine the direction of the wind. If possible, move in the same direction as the wind so that the snow is not thrown against the wind, back into your face and on the just cleared path.

**WARNING! DO NOT USE YOUR HANDS TO UNCLOG CHUTE.** Stop the motor before removing debris. Use the supplied clean out tool to unclog the chute. Do not walk in front of your running Snow Thrower. Do not direct discharged snow towards bystanders.

- Do not apply additional man-made load to the engine since this may damage the engine.
- Some parts of your Snow Thrower may freeze under extreme temperature conditions. Do not attempt to operate your Snow Thrower with frozen parts. If the parts freeze while your Snow Thrower is in use, stop your Snow Thrower and inspect it for frozen parts. Thaw all parts before restarting and operating your Snow Thrower. Never force parts or controls that have frozen. Never use an open flame of any sort to thaw frozen parts.

### **Pre-Operation Inspection - IMPORTANT!!!**

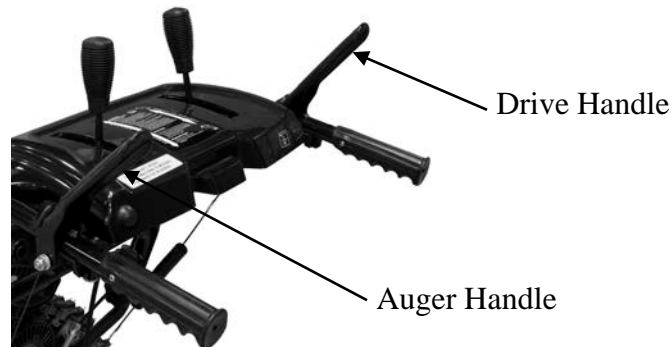
Before using your Snow Thrower for the first time, check the following:

- Have you read and followed all setup and operation procedures for the engine as outlined in the ENGINE manual?
- Has the engine been filled with oil and gasoline to the proper level?
- Are all snow thrower components properly attached and assembled?
- Are there any broken or damaged parts?
- Are all fasteners tight?
- Are the tires inflated to the proper pressure?

**NOTICE:** If you are unsure about the assembly or condition of any of your Snow Thrower parts, please call our customer service department at (800)791 9458.

## AUGER AND DRIVE CONTROLS

1. To engage the auger, press down on the auger control handle (left side handle).
2. To engage the drive, press down on the drive control handle (right side handle). The machine should start moving in the direction and speed that the speed control lever is set to.
3. When finished clearing a snow path, release the auger control handle and the drive control handle.



**Attention:** Release (disengage) the auger and drive control handles before adjusting the drive speed control lever. Never change the drive speed while your snow thrower is moving, it could damage the drive mechanism and void the warranty.

## DRIVE SPEED CONTROL LEVER

Move the drive speed control lever to the desired speed. There are six (8) settings: four (6) forward speeds and two (2) reverse speeds. 1 is the slowest forward speed and 6 is the fastest forward speed. R1 is the slowest reverse speed and R2 is the fastest reverse speed.

**Note:** There is no neutral drive setting since the drive control handle must be engaged for movement. Neutral is achieved when the drive control handle is disengaged.



## CHUTE DISCHARGE DIRECTION ADJUSTMENT



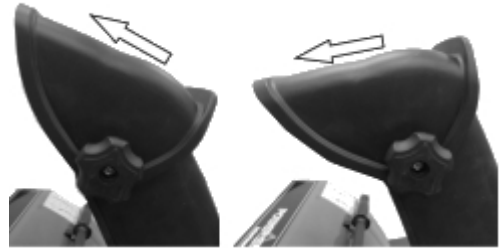
**WARNING** - Never direct the snow discharge chute at the operator, bystanders, vehicles or nearby windows. Discharged snow and foreign objects accidentally picked up by the Snow Thrower can cause serious damage and severe bodily injury. Always point the discharge chute in the opposite direction from potential hazards. The discharge chute can be adjusted 180° by rotating the chute rotation handle. Rotate the chute rotation handle clockwise to move the discharge chute to the left; counterclockwise to move the chute to the right.

## CHUTE DISCHARGE ANGLE ADJUSTMENT



**WARNING!** Always disengage the drive and auger control handles before making adjustments. Make sure the augers are stopped and the machine is not moving. The angle of the chute deflector controls the discharge distance of the snow. Raising the angle will increase the distance. Lowering the angle will decrease the distance.

1. Loosen the knobs on the chute deflector and adjust the chute deflector to the desired angle.
2. Retighten the knobs. Do not over-tighten.



## **OPERATING YOUR SNOW THROWER**

### **STARTING**

Please refer to ENGINE manual (separate document) for engine operation instructions.

### **CLEARING SNOW**

Start the engine (see ENGINE manual) once your Snow Thrower has been running outside for several minutes, it is now ready for use. Make sure the path in front of your Snow Thrower is free from people, animals, objects, and all other obstructions except for snow.

Adjust the chute outlet to the desired direction.

Turn the chute rotation handle clockwise or counter-clockwise until the desired position is reached.

**WARNING!** Never direct the chute outlet toward people or animals. While snow may seem harmless, it can contain rocks or other debris that can cause serious injury when projected through the chute.

1. Engage/depress the auger control handle to start the augers and impeller turning.
2. Set the desired direction and speed using the speed control lever.
3. Engage/depress the drive control handle and direct the snow thrower into the snow to be cleared.

**NOTICE:** Do not change speed positions while the drive is engaged. Disengage the drive control handle **BEFORE** changing speeds or directions. If the snow is deeper than the height of the auger, remove it in several steps taking narrower swaths. Make several passes with the auger overlapping the cleared areas and reduce forward speed.

For the best clearing efficiency, clear snow before it melts, refreezes and hardens. Hard packed and wet snow can be very difficult to clear.

Clearing wet heavy snow can be a challenge, depending on ambient temperature, humidity levels, and overall climate conditions including actual snow conditions, there may be no 100% solution as snow may be too wet or compacted to move or throw. Wet snow will tend to clog and stick more to the augers and chute. Keep the auger engaged as much as possible when clearing wet snow to help prevent clogging.

**WARNING!** If snow is filled with foreign material, damage to the snow thrower may result. Avoid snow with foreign materials.



## **STOPPING**

When finished using your Snow Thrower, perform the following steps to shut it down.

1. Engage the auger and impeller for 30 seconds to clear any remaining snow inside your Snow Thrower.
2. Stop the auger by releasing the left control handle.
3. Set the engine switch to the OFF position. See ENGINE manual for stopping procedures.
4. Remove snow from all Snow Thrower surfaces including the auger housing and chute areas.

## **CLEARING RESTRICTIONS**

If the snow discharge chute or auger housing becomes clogged STOP the engine, and make sure that all rotating parts have come to a complete stop.

Use the supplied snow clean out tool to clear the obstruction. After unclogging, wipe the tool clean, and place it in the holder on top of the auger housing.

## **MAINTENANCE**

**WARNING!** Never perform maintenance while your Snow Thrower is running. Turn OFF the engine before performing any maintenance tasks on your Snow Thrower.

Proper maintenance of your Snow Thrower will help prolong its life. Please perform the following maintenance procedures as required.

Please read the ENGINE manual for engine maintenance procedures.

Do not attempt to repair your Snow Thrower unless you have the proper tools and instructions for disassembly and repair.

Check the bolts at frequent intervals for proper tightness to ensure that the equipment is in safe working condition.

After each snow removal session, run the Snow Thrower for a few minutes to prevent the collector /impeller from freezing. Stop the engine, wait for all revolving parts to stop completely, and wipe residual ice and snow off the unit. Rotate the chute rotation handle several times to remove any excess snow.

## **MAINTENANCE PROCEDURES**

### **TIRE INFLATION**

Before each use of your Snow Thrower, check the tire pressure. The pressure in each tire should be in the range of 20-24 psi for the best performance. The pressure can be checked using an ordinary tire pressure gauge. Fill the tires using a small or pressure regulated air compressor.

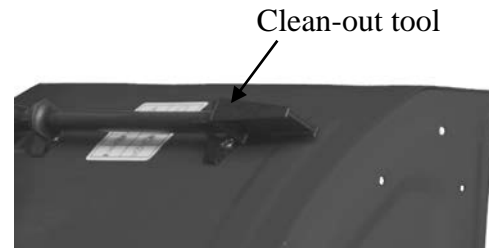
**WARNING! DO NOT OVER-INFLATE THE TIRES.** Over-inflating could cause a tire to burst and cause severe bodily injury.

## SHAVE PLATE REPLACEMENT

Remove both skid shoes and hardware including carriage bolts and nuts which attach shave plate to snow thrower housing. Reassemble new shave plate, making sure heads of the carriage bolts are to the inside of the auger housing.

## AUGER OR IMPELLER JAMS

**WARNING!** The auger and impeller rotate at fast speeds which can cause harm or even amputation to a person's body parts. Even if you do not see the auger or impeller rotating, it may start at any time if the engine is running. The chute clean-out tool is fastened to the top of the auger housing with a mounting clips.



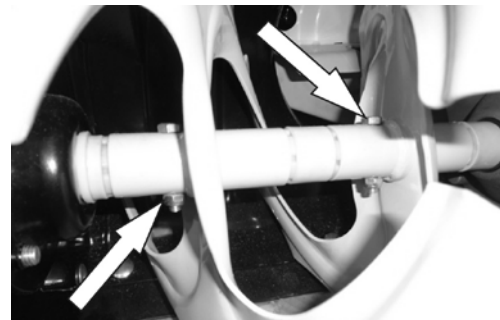
1. Always turn OFF the engine before attempting to clear any clogs or jams.
2. Keep hands and feet away from rotating parts while the engine is running.
3. Do not wear loose fitting clothing that can become entangled in rotating parts.
4. Wait until the auger and impeller have come to a full stop.
5. Clear any visible jams using the clean out tool attached to your machine.

**WARNING!** DO NOT try to clear jams with your hands or feet.

## AUGER SHEAR PINS REPLACEMENT

Shear pins are used to attach the auger shaft to the auger blades. A clog or jam in the augers may cause one or multiple shear pins to break. The shear pins are a safety mechanism and designed to break under high load or impact to protect the auger drive system from damage.

Replacement shear pins and nylon locknuts are provided with your snow thrower.



For additional replacement shear pins, please call the customer service department at (800)791 9458.

1. Turn off the engine and wait for all moving parts to come to a complete stop. Remove any remnants of the broken shear pin. It may be necessary to unscrew the nut from the broken shear pin and drive out the broken pin.
2. Insert a new shear pin through the hole in the auger shaft and tighten using the shear pin nylon locknut. Do not over-tighten the nylon locknut.

**NOTICE:** Never replace the shear pins with standard pins or fasteners. Damage may occur to the snow blower and drive systems.

## DRIVE SPEED CONTROL CABLE ADJUSTMENT

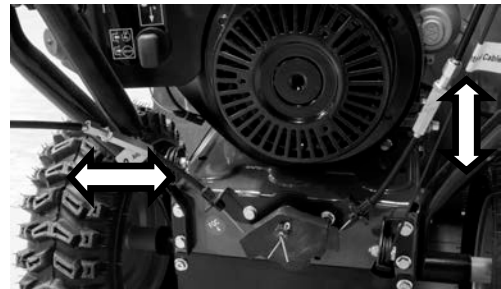
**WARNING!** Entanglement Hazard – Use caution when performing the speed control cable adjustment.

The speed control lever is connected to two cables that work in tandem to control machine speed and direction. As the speed control lever is moved from forward to reverse gears (right to left) one cable is pulled and one is pushed.

Depending on if the cable setting towards forward or reverse, adjustment of the cables will vary.

To adjust the cables, one cable should be moved up and the other down equally in their respective brackets until there is a positive direction change when the lever is shifted between F1 and R1. The middle position between these two settings is neutral (there is no actual neutral "notched" position on the control panel).

1. With the engine running engage the drive control handle and move the speed control lever between F1 and R1 to determine which way the cables need to be adjusted. Release the drive control handle when shifting between gears.
2. Loosen the jam nuts on each cable (only one or two threads) and move each cable up and down as required until a positive direction change is achieved when the lever is shifted between F1 and R1. This may take multiple attempts to find the exact setting.
3. Tighten the cable jam nuts once the proper setting has been achieved.

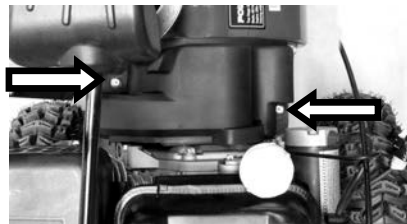


## AUGER BELT REMOVAL

**WARNING!** Entanglement Hazard – Before performing any service procedures, make sure the engine is off and remove the spark plug wire from the spark plug to ensure the engine cannot accidentally start.

**Note:** Record component position before disassembly, to assist in reassembly.

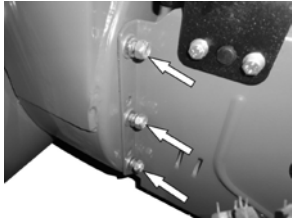
1. Disconnect the upper cable from the auger control handle (Left side of panel).
2. Remove 2 hex head screws and remove belt cover.
3. Loosen the belt guide pin hex head screw (installed on engine crankcase) and rotate the pin away from the pulley.



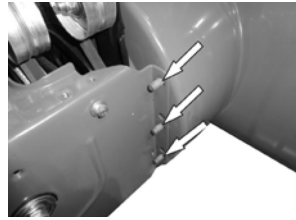
Step 2

Step 3

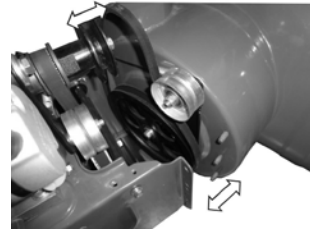
4. Left Side - Loosen the hex nuts attaching the auger housing to the main frame.
5. Right Side - Remove the hex nuts, lock washers and flat washers attaching the auger housing to the main frame.
6. Remove the belt from the drive pulley while pulling the right side of the auger housing away from the main frame just enough to access the belt and auger pulley.
7. Push the auger tension pulley arm to move the auger brake, away from the belt to allow removal of the belt.
8. Remove the auger belt.



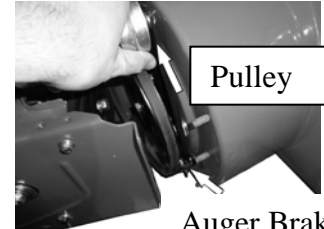
Step 4



Step 5



Step 6



Step 7

Auger Brake

## AUGER BELT INSTALLATION

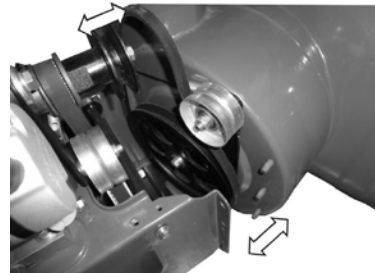
**WARNING!** Entanglement Hazard – Before performing any service procedures, make sure the engine is off and remove the spark plug wire from the spark plug to ensure the engine cannot accidentally start.

1. Inspect the new belt to ensure it is the correct size and type.
  - Gates Truflex G 4LXP880
2. Push the auger tension pulley arm to move the auger brake to allow access for installation of the belt into the auger pulley.
3. Route the belt to the inside of the tension pulley, auger brake and install the auger belt onto the drive pulley while pulling the auger housing into position with the main frame.
4. Install and/or tighten the hex nuts attaching the auger housing to the main frame. Tighten all fasteners securely, do not over tighten.
5. With the belt installed on both pulleys and tension pulley in position, move the belt guide pin to within 3/16 to 3/8 in. from the belt seated in the pulley and tighten the pin in position.

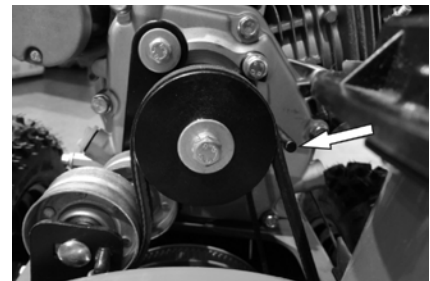


Auger Brake

Step 2



Step 3



Step 5

**Note:** The belt guide pin helps keep the belt in the pulley when the belt is disengaged. The pin should not be tight to the belt. The pin should be loose enough to allow the belt to spin freely but not allow the belt to jump off the pulley.

6. Connect the upper cable to the auger control handle.
7. Install belt cover using 2 hex head screws.

**WARNING!** Ensure the belt cover is installed and all safety guards are in place before the engine is started and at all times when the engine or machine are operating.

## **AUGER BELT AND RELATED COMPONENT INSPECTION**

When replacing your snow blower auger belt it is important to determine the cause of the failure (if applicable) and take corrective action to avoid repeated failure.

### **Inspect the belt:**

- Correct size and type
- Missing pieces
- Burning
- General damage
- Fraying or peeling apart
- Cracks and tears
- Uneven wear patterns
- Foreign material on belt, oil, grease, dirt etc.

### **Inspect the auger pulleys:**

- Broken sheave or hub
- Loose or missing mounting bolts
- Bent or "out-of-round" condition (pulley doesn't spin true)
- Misaligned pulleys
- Foreign material on pulleys, oil, grease, dirt, etc.
- Misaligned tension pulley
- Tension pulley loose or damaged
- Tension pulley and arm assembly operation
- Does the tension arm move freely both engaged and disengaged directions without binding?
- Misaligned tension pulley, the pulley should move parallel to the belt centered to the belt
- Check return spring operation and tension

### **Inspect the auger engagement handle and cable:**

- Cable and connection damage
- Free movement (from engage to disengaged positions)
- Binding or improperly routed cable
- Cable pulley(s) damage, misalignment and binding
- Cable adjustment plate damaged or improper installation
- Handle damaged or binding at pivot

## **STORAGE & CLEANING**

### **PROPER STORAGE PROCEDURES**

**WARNING!** Never store your Snow Thrower for extended periods of time with fuel in the tank or carburetor. Fuel stabilizer can be added to the fuel in can to extend its shelf life for storage.

Store the unit in a locked, dry place out of the reach of children to prevent unauthorized use or damage. Cover loosely with a tarp for added protection.

### **CLEANING**

1. To clean your Snow Thrower, use a damp cloth and mild detergent on the surfaces only. Never get soap or water inside the working mechanisms of your Snow Thrower.

**Note:** Do not clean with water. Water will freeze due to low temperature and damage the machine.

2. Clean the Snow Thrower of snow and ice buildup before storing or transporting. Be sure to secure the unit while transporting.
3. Inspect the Snow Thrower carefully for worn, loose, or damaged parts. Check connections and screws and tighten if necessary.

# TROUBLESHOOTING

Problem	Causes	Remedy
<p><b>WARNING</b> - Before attempting to make any inspections, repairs or adjustments, stop the engine, wait for all moving parts to stop moving and carefully disconnect the engine spark plug wire. If tipping or turning the snow blower is required for any inspection or repair, first wait until the engine is cool to the touch and then drain the engine of all fuel and oil into suitable containers and store or dispose of in a proper manner.</p>		
<p><b>Engine Systems</b> - Note: For all engine problems, see the Engine Operator's manual for additional troubleshooting information and engine manufacturer contact information.</p>		
Engine Fails to Start (Engine cranks over)	Engine ignition switch in OFF position	Position engine ignition switch to ON
	Spark plug wire disconnected	Connect wire to spark plug
	Faulty spark plug	Clean, adjust gap, or replace spark plug, see Engine Operator's manual
	Engine flooded with fuel	Discontinue choke or primer use, clean or replace spark plug.
	Safety key not inserted in engine ignition	Insert key fully into the switch
	Choke not in START position	Move choke to START position, after engine starts slowly move to RUN position as engine speed and operation stabilizes at the set rpm. If engine still does not start move to half choke and crank engine.
	Engine not primed with fuel	Prime engine, see Engine Operator's manual
	Fuel incorrect, old or stale, will not ignite	Empty and clean fuel tank & carburetor, refill with fresh, clean gasoline. (Note: Fuel may become stale after 30 days in some cases)
	Blocked or clogged fuel system or line	Clean fuel system or line
	Fuel shut-off valve in OFF position	Turn fuel shut-off valve to ON position
Engine electric starter will not crank engine	Extension cord is not properly attached to electric starter terminal	Re-insert extension cord into electric starter terminal.
	No power from power supply, tripped breaker	Check power supply extension cord is attached to.
	Extension cord wire gauge is too small or cord is too long	Use proper rated and length extension cord, see Engine Operator's manual
Engine runs erratic, stalls or seems low on power	CHOKE in ON or partial ON position	Move CHOKE lever to RUN
	Fuel incorrect, old or stale	Empty and clean fuel tank & carburetor, refill with fresh, clean gasoline. (Note: Fuel may become stale after 30 days in some cases)
	Blocked or clogged fuel system or line	Clean fuel system or line
	Carburetor is in need of cleaning	Clean fuel system and carburetor
	Spark plug wire loose	Connect and tighten spark plug wire
	Faulty spark plug	Clean, adjust gap, or replace spark plug, see Engine Operator's manual
	Engine oil over filled	Drain oil to proper level. Oil should not be above the top 2 threads of LOWER fill plug.
	Engine oil level low or empty	Add oil

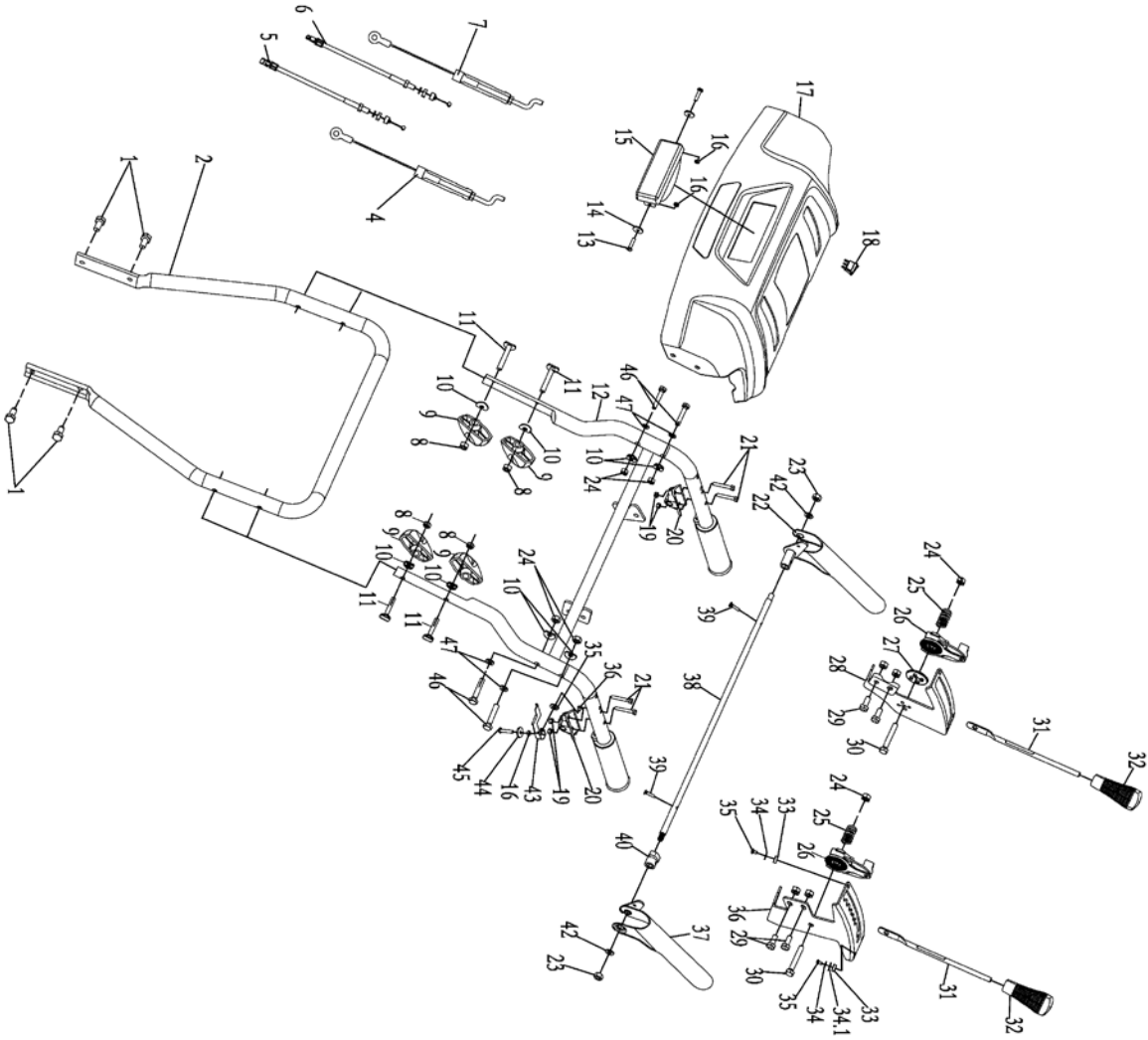
<b>Problem</b>	<b>Causes</b>	<b>Remedy</b>
<b>Drive system</b>		
No forward or reverse drive movement when drive handle engaged	Drive belt loose or damaged	Check drive belt tension pulley for damage or incorrect tension, repair as necessary. Replace drive belt.
	Friction drive wheel is worn or damaged	Replace friction drive wheel
	Friction drive wheel wet or slipping	Allow snow blower to dry and or warm up or adjust drive cable tension as necessary
	Wheel to axle pins broken or missing	Replace pins attaching wheels to axle
Drive speed control stuck in gear or won't change gears	Speed control lever loose or damaged, not moving speed control cables	Check speed control lever and cables for damage or loose or missing parts. Repair or replace parts as needed, ensure pivot stud spring tension is correct, adjust pivot nut spring tension as needed.
	Speed control cables loose, damaged or binding	Repair, adjust or replace as necessary
Drive speed control allows only 1 direction	Speed control cables misadjusted, loose, damaged or binding	Check speed control lever and cables for damage or loose or missing parts. Repair or replace parts as needed. Adjust drive speed control cables, see Drive Speed Control Cables Adjustment
Drive engaged when drive control handle released	Drive control cable binding, won't release	Repair, replace cable as necessary
	Friction drive wheel return spring broke or missing	Replace spring, adjust cable as necessary
<b>Auger System</b>		
Auger not rotating when auger control handle engaged or Not blowing snow or Poor snow blowing performance	Chute assembly clogged	Clean chute and inside of auger housing with clean-out tool
	Auger shear pins broken	Replace shear pins. Check each auger blade shear pin.
	Foreign object in auger or impeller causing auger to stop without shearing pins	Remove object from auger or impeller areas
	Auger belt loose, slipping, worn or damaged	Replace auger belt
	Auger belt tension cable loose, damaged or binding	Repair, adjust or replace as necessary
	Auger blade(s) damaged or bent	Replace auger blade(s)
	Auger gearbox mechanical damage, auger drive system not rotating freely (binding)	Check bearings, bushings and all system parts for damage or mechanical binding. Repair or replace as necessary using proper lubrication
	Impeller damaged	Replace impeller
	Impeller not connected to impeller shaft, impeller or shear pins broken	Replace shear pins or impeller as necessary
	Forward speed too fast while blowing snow, overload	Allow engine to maintain its speed.



Problem	Causes	Remedy
<b>Auger System</b>		
Auger belt broken, or repeated failure	Auger tension pulley arm return spring broken or missing	Replace tension arm return spring
	Auger tension pulley arm stuck or binding	Repair or replace tension arm as necessary
	Auger tension pulley arm or pulley misaligned or damaged	Repair, replace or align tension arm and or pulley as necessary
	Foreign material on pulleys and belt, oil, grease, dirt etc.	Clean belt and pulleys as necessary, replace belt if necessary
	Auger pulleys misaligned, loose, damaged or bent	Replace or align pulleys as necessary
	Incorrect or damaged auger belt	Replace with correct size and type belt
	Auger belt guide pin not adjusted	Adjust belt guide pin to within 1/8 to 3/16 in. from pulley. (Guide pin keeps belt in pulley when disengaged)
Auger rotating when auger control handle released	Auger tension pulley arm return spring broken or missing	Replace tension arm return spring

# EXPLODED VIEW AND PARTS LIST

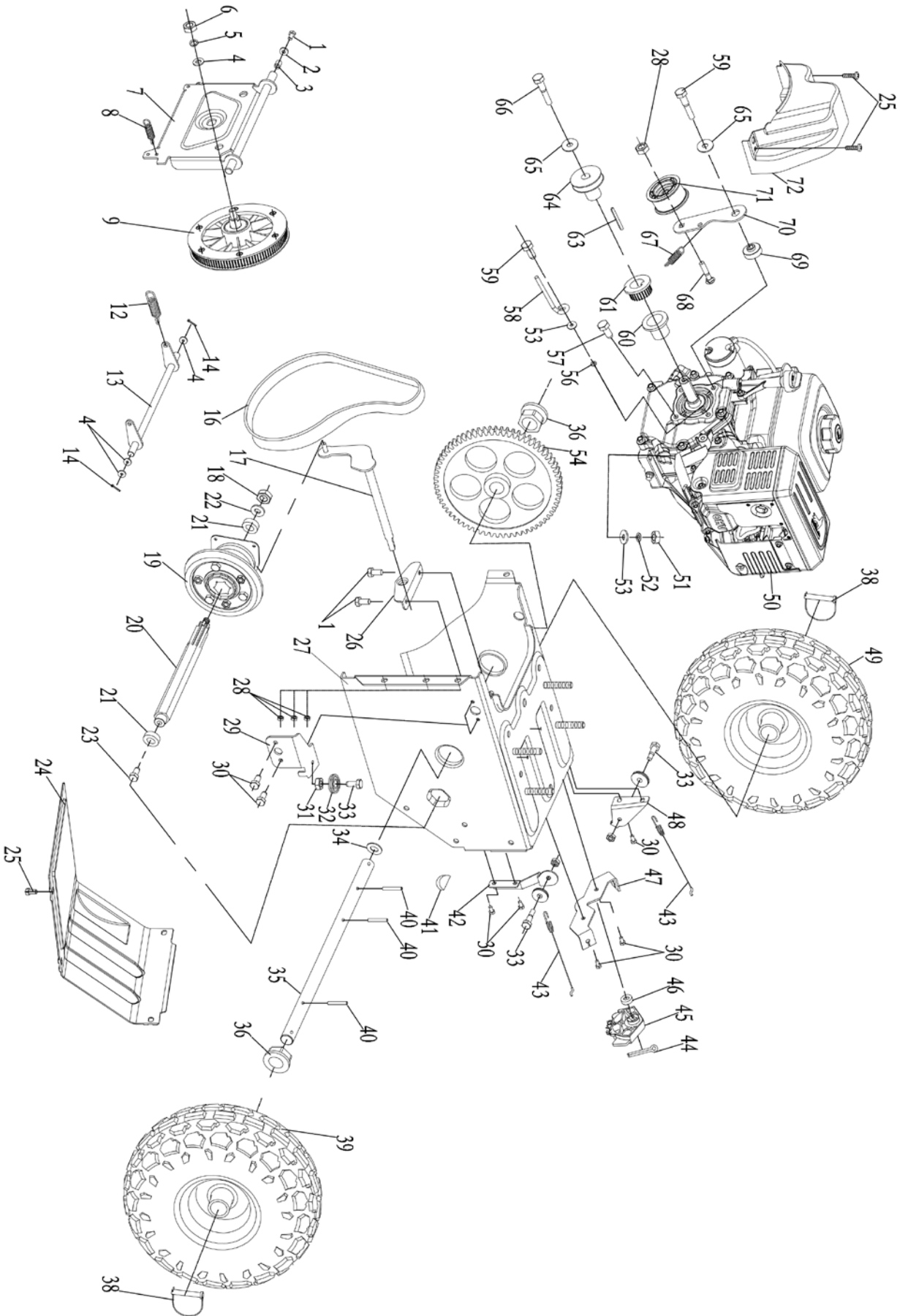
Panel Assembly (All Parts Number Begin with P)



Item	Stock #	Description	Qty
P01	303020106	Screw M8x20	4
P02	303080306	Lower Handle	1
P04	303200060A	Upper Auger Cable	1
P05	303200018	Shift Cable Left	1
P06	303200019	Shift Cable Right	1
P07	303200061A	Upper Drive Cable	1
P08	303030026	Nut M8	4
P09	203020865A	Knob	4
P10	303043010	washer 8	8
P11	303020140	T-bolt M8x50	4
P12	303180697	Upper Handle	1
P13	303020201	Screw M5x22	2
P14	303042035	Flat Washer 5	2
P15	301120006	Lamp	1
P16	303030048	Nut M5	2
P17	203010651	Operation Panel	1
P18	301100037	Switch	2
P19	303030030	Locknut M5	4
P20	203020637	lock Seat	2
P21	303020301	Screw M5x35	4
P22	303180699	Drive Control Handle	1
P23	303030036	Locknut M8	2
P24	303030077	Locknut M8	2

Item	Stock #	Description	Qty
P25	303130074	Press Spring	1
P26	203050053	Cable Holder	1
P27	203020380	Washer	1
P28	303070753	Bracket	1
P29	303020281	Screw M8x16	4
P30	303020067	Bolt M8x55	2
P31	303160512	Control Lever	2
P32	203070063	Knob	2
P33	303160513	Spacer	4
P34	303042019	Flat Washer	5
P35	303010092	Screw	5
P36	303070754	Shift Control Bracket	1
P37	303180698	Auger Control Handle	1
P38	303160514	Axle	1
P39	303020091	Bolt M4x16	2
P40	303060100	Self-locking Cam	1
P42	303042013	Flat Washer 8	2
P43	303070755	Self-locking Spring	1
P44	303042104	Flat Washer 5	1
P45	303020228	Bolt M5x25	1
P46	303020274	Screw M8x45	4
P47	303042023	Flat Washer 8	4

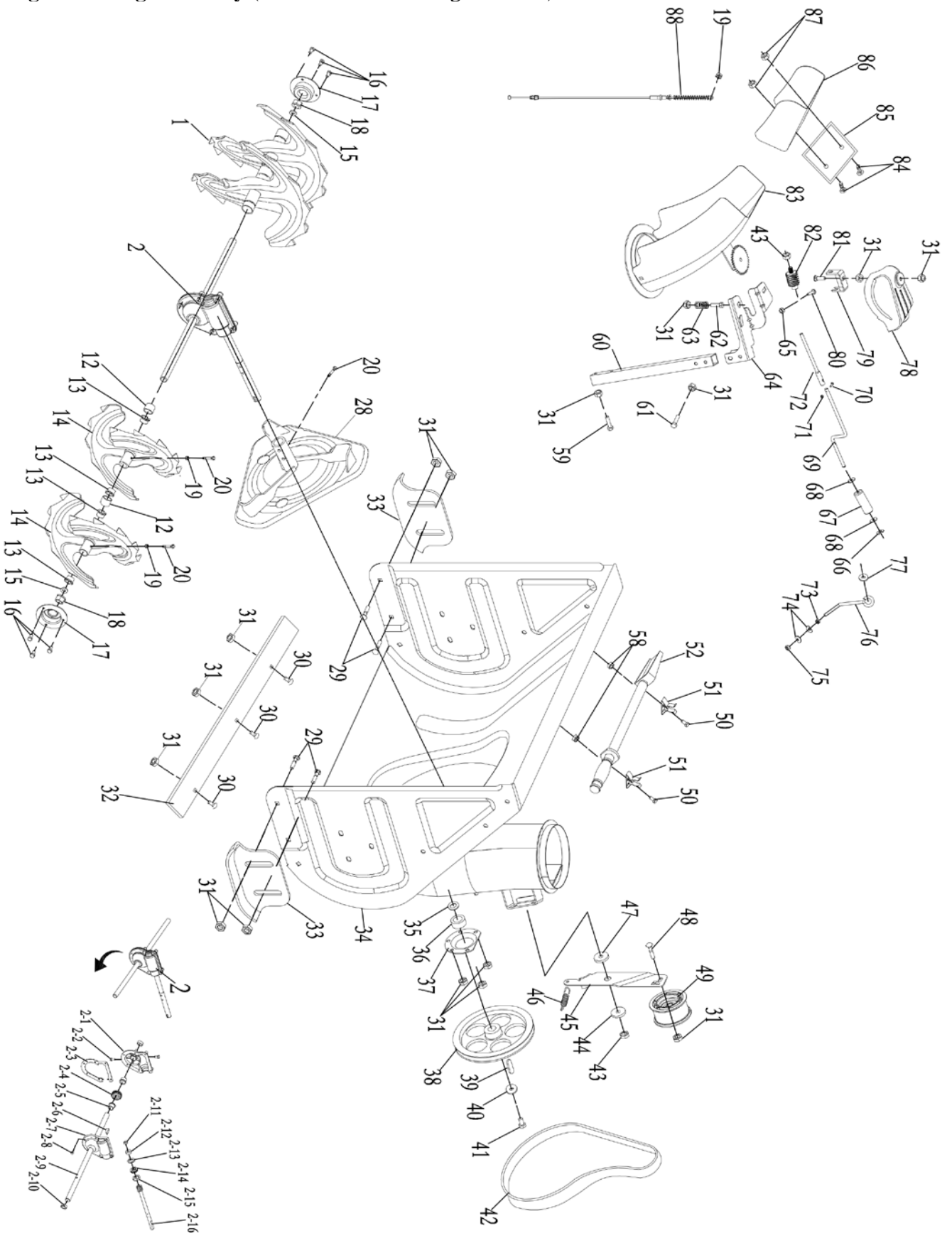
**Frame Assembly (All Parts Number Begin with F)**



Item	Stock #	Description	Qty
F01	303020492	Screw M6x10	3
F02	303042001	Flat Washer 6	1
F03	303160308	Spacer	1
F04	303042039	Flat Washer 10	4
F05	303041015	Spring Washer10	1
F06	303030068	Nut M10x1	1
F07	303180274A	Friction Disk Bracket	1
F08	303130072	Extension Spring	1
F09	202160002	Synchronizing Wheel	1
F12	303130073	Extension Spring	2
F13	303180037	Drive Bracket	1
F14	303121011	Cotter Pin	2
F16	302040026	Synchronous Belt	1
F17	303180027	Track Shift Rod Assembly	1
F18	303030059	Locknut M10	1
F19	202170002	Friction Wheel Assembly	1
F20	303160182	Hex Wheel Drive Shaft	1
F21	303100051	Ball Bearing 6203ZN	2
F22	303042004	Flat Washer 10	1
F23	303020494	Flange Screw M10x16	1
F24	303180463	Big Frame Cover	1
F25	303020248	Screw M6x12	8
F26	303180028	Shift Frame Bracket	1
F27	303180049	Frame	1
F28	303030077	Locknut M8	11
F29	303070133A	Guide Roller Bracket	1
F30	303020246	Screw M6x16	8
F31	303030032	Locknut M6	3
F32	203020364	Guide Roller	3
F33	303160177	Screw	3
F34	303043018	Washer 20	1
F35	303160222A	Wheel Axle	1
F36	303060030	Turning Assist Shaft Hex Pipe	2
F38	303122002	Dowel Pin	2

Item	Stock #	Description	Qty
F39	302090220	Left Wheel Assembly	1
F40	303123008	Bow Tie Cotter Pin	3
F41	303110022	Semicircular Key	1
F42	303070134A	Guide Roller Bracket	1
F43	303200012	Lower Auger Cable	2
F44	303121004	Cotter Pin	1
F45	203020362A	Lower Shift Cable Control	1
F46	303160385	Spacer	1
F47	303070206	Cable Bracket	1
F48	303070418A	Guide Roller Bracket	1
F49	302090221	Right Wheel Assembly	1
F50	303190249	Engine Assembly	1
F51	303030066	Nut M8	4
F52	303041022	Spring Washer 8	5
F53	303042023	Flat Washer 8	4
F54	303160140	big Gear	1
F55	303050028	Circlip	1
F56	303043016	Lock Washer 8	1
F57	303160432	Screw	1
F58	303080144	Belt Keeper	1
F59	303020265	Screw M8x30	2
F60	303060060	Spacer	1
F61	303060041	Small Synchronous Pulley	1
F63	303110015	Key	1
F64	303160151	Big Pulley	1
F65	303042005	Flat Washer 8	1
F66	303020124	Screw M8x35	1
F67	303130094	Extension Spring	1
F68	303020154	Square Neck Bolt M8x40	1
F69	303160191	Spacer	1
F70	303070202	Small Flat Idler	1
F71	303210045	Tension Pulley	1
F72	203050051	Belt Cover	1

**Auger Housing Assembly (All Parts Number Begin with H)**



Item	Stock #	Description	Qty
H01	303180424	Single Auger Assembly R	2
H02	202450076	Gear Housing Assembly	1
H02-1	303090031	Worm Gear Case R	1
H02-2	303020142	Bolt M8x10	2
H02-3	303070260	Gasket	1
H02-4	303090033	Worm Gear	1
H02-5	303060055	Axle Sleeve	2
H02-6	303110022	Woodruff Key	1
H02-7	303090032	worm Gear Case L	1
H02-8	303020489	Bolt M6x18	6
H02-9	303160447	Auger Axle	1
H02-10	302130005	Seal	2
H02-11	303100030	Bearing 6001Z	1
H02-12	303100035	Bearing 6904Z	1
H02-13	303070179	Washer	1
H02-14	303100039	Bearing 51104	1
H02-15	302130002	Seal	1
H02-16	303160204	Worm Shaft	1
H12	203050108	Spacer	6
H13	203060012	Flange Bushing	8
H14	303180425	Single Auger Assembly L	2
H15	203050109	Spacer	2
H16	303020493	Flange Screw M8x16	6
H17	303070234	Bearing Housing	2
H18	203060013	Plastic Flange Bearing	2
H19	303030032	Locknut M6	6
H20	303160355	Shear Pin	5
H28	303180080	Impeller	1
H29	303020166	Square Neck Bolt M8x18	4
H30	303020332	Square Neck Bolt M8x16	6
H31	303030077	Locknut M8	17
H32	303070929	Shave Plate	1
H33	303070197	Skid Shoe	2
H34	303180677	Auger Housing	1
H35	303043018	Washer	2
H36	303100040	Ball Bearing UC204	1
H37	303070233	Keeper	1
H38	303160143	Big Pulley	1
H39	303110014	Machine Key	1
H40	303042005	Flat Washer 8	1
H41	303020279	Screw M8x25	1
H42	302040011	Auger Belt	1

Item	Stock #	Description	Qty
H43	303030708	Locknut M10	2
H44	303043019	Butterfly Washer	1
H45	303070126	Idler Arm	1
H46	303160175	Extension Spring	1
H47	303160172	Bushing	1
H48	303020154	Square Neck Bolt M8x40	1
H49	303210045	Big Tension Pulley	1
H50	303020213	Screw M6x12	2
H51	303070170	Clean-out Tool Bracket	2
H52	203050057	Clean-out Tool	1
H58	303030087	Locknut M6	2
H59	303020275	Screw M8x40	2
H60	303080241	Chute Direction Support Column	1
H61	303020274	Screw M8x45	2
H62	303020312	Screw M8x55	1
H63	303130074	Spring	1
H64	303070517	Chute Direction Seat	1
H65	303030030	Locknut M5	1
H66	303050029	Circlip	1
H67	203020371	Chute Direction Knob	1
H68	303042039	Flat Washer 10	2
H69	303080444	Crank Handle	1
H70	303020254	Screw M5x20	1
H71	303030057	Nut M5	1
H72	303080314B	Crank handle Rod	1
H73	303030066	Nut M8	1
H74	303043010	Saddle Washer	2
H75	303030036	Locknut M8	1
H76	303160515	Holder	1
H77	302080018	Rubber Washer	1
H78	203050110	Gear Cover	1
H79	303070518A	Turbine Stent	1
H80	303020228	Bolt M5x25	1
H81	303020152	Bolt M8x30	1
H82	303160368A	Worm Shaft	1
H83	303180701	Discharge Chute Assembly	1
H84	303020191	Screw M4x14	2
H85	302080021	Rubber Liner	1
H86	303180700	Chute Deflector	1
H87	303030029	Locknut M4	2
H88	303200058	Chute Pull Cable	1

## **TWO (2) YEARS LIMITED WARRANTY**

PowerSmart is committed to building tools that are dependable for years. Our warranties are consistent with our commitment and dedication to quality.

### **TWO (2) YEARS LIMITED WARRANTY OF POWER SMART PRODUCTS FOR HOME USE.**

PowerSmart ("Seller") warrants to the original purchaser only, that all PowerSmart consumer power tools will be free from defects in material or workmanship for a period of two (2) years from date of purchase. Ninety (90) days for all PowerSmart Products, if the tool is used for professional or commercial use.

**SELLER'S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY** under this Two (2) Years Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the repair or replacement of parts, without charge, which are defective in material or workmanship and which have not been misused, carelessly handled, or misrepaired by persons other than Seller or Authorized Service Center. To make a claim under this Limited Warranty, you must return the entire power tool product; transportation prepaid, to PowerSmart Include a legible copy of the original receipt, which lists the date of purchase (month and year) and the name of the company purchased from.

**THIS LIMITED WARRANTY DOES NOT APPLY TO ANY ACCESSORY ITEMS INCLUDED WITH THE TOOL SUCH AS CIRCULAR SAW BLADES OTHER RELATED ITEMS OR TO ANY REPLACEMENT PARTS LISTED UNDER MAINTENANCE.**

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Please call toll free at: 1-800-791-9458 (M-F 9am – 5pm CST)  
Email: support@amerisuninc.com

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