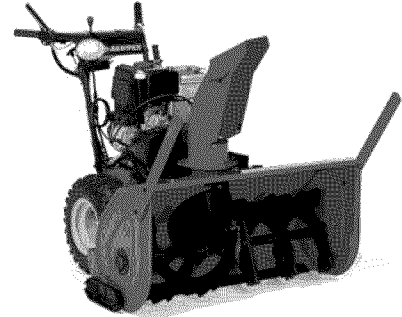
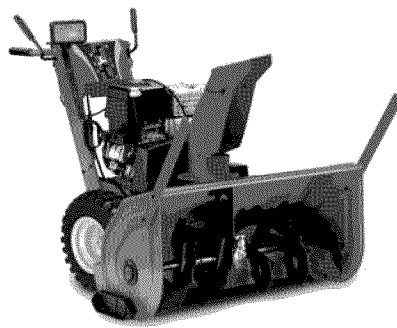




OPERATOR'S MANUAL



Signature Professional Series Snowthrowers

1524 Models

Mfg. No.	Description
1695303	P1524E, Snowthrower
1695304	P1524EX, Snowthrower (CE)

1628 Models

Mfg. No.	Description
1695305	P1628E, Snowthrower
1695306	P1628EX, Snowthrower (CE)

1732 Models

Mfg. No.	Description
1695307	P1732E, Snowthrower
1695308	P1732EX, Snowthrower (CE)

1738 Models

Mfg. No.	Description
1695309	P1738E, Snowthrower
1695310	P1738EX, Snowthrower (CE)
1695358	P1738E, Snowthrower
1695359	P1738EX, Snowthrower (CE)

Table of Contents

CONTENTS:

Safety Rules & Information

General	2
Training	4
Preparation	4
Operation	4
Children	5
Clearing a Clogged Discharge Chute	5
Service, Maintenance and Storage	5
Emissions	5
Decals	7
Safety Icons	8

Identification Numbers.....9

Features, Controls & Operation

Control Locations.....	10
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General Operation

Checks Before Each Start-Up	12
Starting Controls.....	13
Starting the Engine.....	14
Stopping the Engine	15
Operating The Snowthrower.....	16
Clearing a Clogged Discharge Chute.....	16
Ground Speed Selector.....	16
Engine Speed.....	16
Deflector	17
Scraper Bar & Skid Shoes.....	17
Easy-Turn and Traction Drive Lock.....	18
After Each Use	19
Storage	19

Regular Maintenance

Maintenance Schedule	20
Checking Tire Pressure	20
Auger Gear Case Lubrication	20
Lubrication	21
Check / Lubricate Free-Hand Linkage	22
Lubricate Auger Shaft Assembly	22

Troubleshooting, Adjustments & Service

Troubleshooting	23
Speed Selector Adjustment	25
Auger Drive Tension	25
Traction Drive Tension	26
Manual Discharge Chute Adjustment	27
Electric Discharge Chute Adjustment.....	27
Easy Turn Cable Adjustment	28
Shear Pin Replacement.....	28
Belt Replacement	29

Specifications31

Parts & Accessories..... 32

WARNING

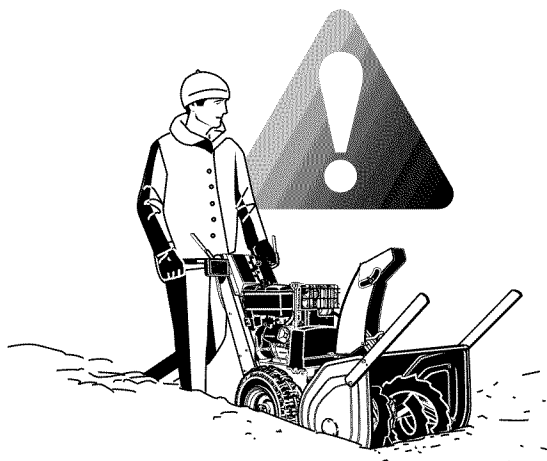
You must read, understand and comply with all safety and operating instructions in this manual before attempting to set-up and operate your snowthrower.

Failure to comply with all safety and operating instructions can result in loss of machine control, serious personal injury to you and /or bystanders, and risk of equipment and property damage. The triangle in the text signifies important cautions or warnings which must be followed.

WARNING

Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects, or other reproductive harm.

Safety Rules & Information



Operating Safety

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

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

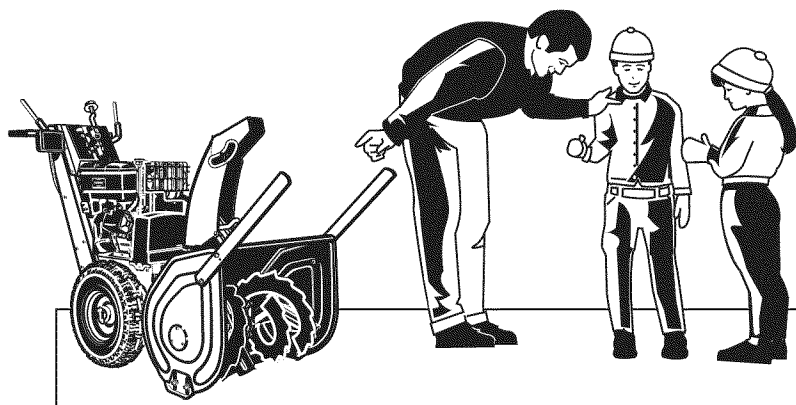
Use common sense, and think through what you are doing. If you are not sure that the task you are about to perform can be safely done with the equipment you have chosen, ask a professional: contact your local authorized dealer.

Read the Manual

The operator's manual contains important safety information you need to be aware of BEFORE you operate your unit as well as DURING operation.

Safe operating techniques, an explanation of the product's features and controls, and maintenance information is included to help you get the most out of your equipment investment.

Be sure to completely read the Safety Rules and Information found on the following pages. Also completely read the Operation section.



Children

Tragic accidents can occur with children. Do not allow them anywhere near the area of operation. Children are often attracted to the unit and snowthrowing activity. Never assume that children will remain where you last saw them. If there is a risk that children may enter the area where you are operating the unit, have another responsible adult watch them.

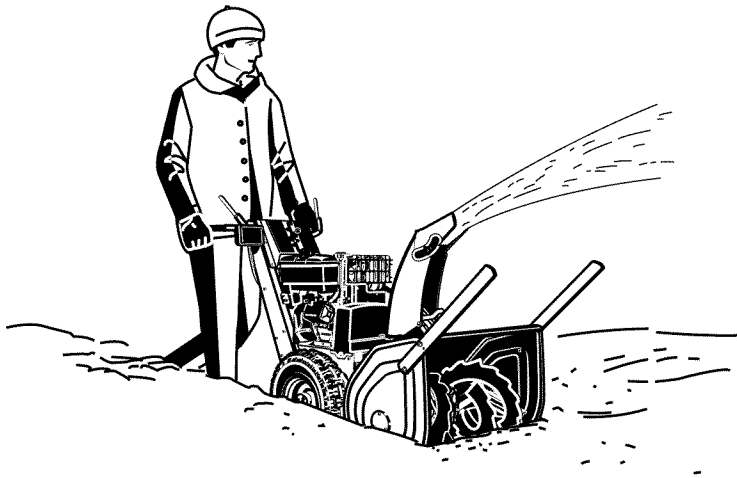
DO NOT ALLOW CHILDREN TO OPERATE THIS UNIT! This encourages them to come near the unit in the future while it is running, and they could be seriously hurt. They may then approach the unit when you are not expecting it, and you may run over them.

Moving Parts

This equipment has many moving parts that can injure you or someone else. However, if you are standing in the operator's position, and follow all the rules in this book, the unit is safe to operate.

The auger and impeller have spinning parts that can amputate hands and feet. Do not allow anyone near the equipment while it is running! DO NOT clear the discharge chute by hand. If the chute becomes plugged, stop the engine, wait for all moving parts to stop, and clear the blockage with a clean-out tool or piece of wood.

To help you, the operator, use this equipment safely, it is equipped with an operator-present safety system. Do NOT attempt to alter or bypass the system. See your dealer immediately if the system does not pass all the safety interlock system tests found in this manual.



Thrown Objects

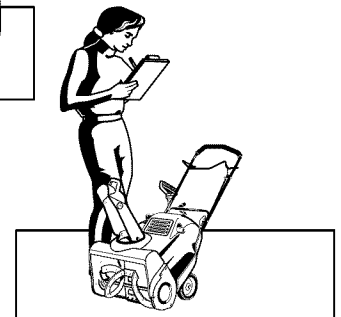
This unit has a spinning auger and impeller. They pick up and throw snow and ice. Thrown debris could seriously injure a bystander. ALWAYS direct the discharge chute away from bystanders and property that could be damaged by flying debris. Be sure to clean up the area to be cleared BEFORE you start.

Do not allow anyone in the area while the unit is running! If someone does enter the area, shut the unit off immediately until they leave.

Fuel and Maintenance


Gasoline is extremely flammable. Its vapors are also extremely flammable and can travel to distant ignition sources. Gasoline must only be used as a fuel, not as a solvent or cleaner. It should never be stored any place where its vapors can build up or travel to an ignition source like a pilot light. Fuel belongs in an approved, plastic, sealed gas can, or in the snowthrower fuel tank with the cap securely closed. Spilled fuel needs to be cleaned up immediately.

Proper maintenance is critical to the safety and performance of your unit. Be sure to perform the maintenance procedures listed in this manual, especially periodically testing the safety system.



Safety Rules & Information



This machine is capable to amputating hands and feet and throwing objects. Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of unit, severe personal injury or death to you, or bystanders, or damage to property or equipment. The triangle  in text signifies important cautions or warnings which must be followed.

TRAINING

1. Read, understand, and follow all instructions on the machine and in the manuals before operating this unit. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly.
2. Never allow children to operate the equipment. Never allow adults to operate the equipment without proper instruction.
3. Keep the area of operation clear of all persons, particularly small children and pets.
4. Exercise caution to avoid slipping or falling especially when operating in reverse.

PREPARATION

1. Thoroughly inspect the area where the equipment is to be used and remove all doormat, sleds, boards, wires, and other foreign objects.
2. Disengage all clutches and shift into neutral before starting engine (motor).
3. Do not operate the equipment without wearing adequate winter outer garments. Wear footwear that will improve footing on slippery surfaces. Avoid loose fitting clothing that can get caught in moving parts.
4. Handle fuel with care; it is highly flammable.
 - (a) Use an approved fuel container.
 - (b) Never add fuel to a running engine or hot engine.
 - (c) Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors. Replace fuel cap securely and wipe up spilled fuel.
 - (d) 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.
 - (e) When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
 - (f) Keep nozzle in contact with the rim of the fuel tank or container opening at all times, until refueling is complete. Do not use a nozzle lock-open device.
 - (g) Replace gasoline cap securely and wipe up spilled fuel.
 - (h) If fuel is spilled on clothing, change clothing immediately.
5. Use extension cords and receptacles as specified by the manufacturer for all units with electric drive motors or electric starting motors.
6. Adjust the collector housing height to clear gravel or crushed rock surfaces.
7. Never attempt to make any adjustments while the engine (motor) is running (except when specifically recommended by the manufacturer).
8. Let engine (motor) and machine adjust to outdoor temperatures before starting to clear snow.
9. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair to protect eye from foreign objects that may be thrown from the machine.

OPERATION

1. Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
2. Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
3. After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, disconnect the cord on electric motors, thoroughly inspect the snowthrower for any damage, and repair the damage before restarting and operating the snowthrower.
4. If the unit should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble.
5. Stop the engine (motor) whenever you leave the operating position, before unclogging the collector/impeller housing or discharge guide, and when making any repairs, adjustments, or inspections.
6. When cleaning, repairing, or inspecting make certain the collector/impeller and all moving parts have stopped. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.
7. Do not run the engine indoors except for starting the engine or for transporting the snowthrower in or out of the building. Open the outside doors; exhaust fumes are dangerous.
8. Exercise extreme caution when operating on slopes. Do not attempt to clear steep slopes.
9. Never operate the snowthrower without proper guards plates, or other safety protective devices in place and working.
10. Never direct the discharge toward people or areas where property damage can occur. Keep children and others away.
11. Do not overload the machine capacity by attempting to clear snow at too fast a rate.
12. Never operate the machine at high transport speeds on slippery surfaces. Look behind and use care when operating in reverse.
13. Disengage power to the collector/impeller when snowthrower is transported or not in use.
14. Use only attachments and accessories approved by the manufacturer of the snowthrower (such as wheel weights, counterweights, or cabs).
15. Never operate the snowthrower without good visibility or light. Always be sure of your footing, and keep a firm hold on the handles. Walk, never run.
16. Never touch a hot engine or muffler.
17. Never operate the snowthrower near glass enclosures, automobiles, window wells, drop-offs, and the like without proper adjustment of the discharge angle.
18. Never direct discharge at bystanders or allow anyone in front of the unit.
19. Never leave a running unit unattended. Always disengage the auger and traction controls, stop engine, and remove keys.
20. Do not operate the unit while under the influence of alcohol or drugs.

21. Keep in mind the operator is responsible for accidents occurring to other people or property.
22. Data indicates that operators, age 60 years and above, are involved in a large percentage of power equipment-related injuries. These operators should evaluate their ability to operate the unit safely enough to protect themselves and others from injury.
23. DO NOT wear long scarves or loose clothing that could become entangled in moving parts.
24. Snow can hide obstacles. Make sure to remove all obstacles from the area to be cleared.

CHILDREN

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

1. Keep children out of the area and under the watchful care of another responsible adult.
2. Be alert and turn unit off if children enter the area.
3. Never allow children to operate the unit.
4. Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

CLEARING A CLOGGED DISCHARGE CHUTE

Hand contact with the rotating impeller inside the discharge chute is the most common cause of injury associated with snowthrowers. Never use your hand to clean out the discharge chute.

To clear the chute:

1. SHUT OFF THE ENGINE.
2. Wait 10 seconds to be sure the impeller blades have stopped rotating.
3. Always use a clean out tool, not your hands.

SERVICE, MAINTENANCE, AND STORAGE

1. Check shear bolts and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.
2. Never store the machine with fuel in the fuel tank inside a building where ignition sources are present such as hot water and space heaters, or clothes dryers. Allow the engine to cool before storing in any enclosure.
3. Always refer to the operator's manual for important details if the snowthrower is to be stored for an extended period.
4. Maintain or replace safety and instruction labels as necessary.
5. Run the machine a few minutes after throwing snow to prevent freeze-up of the collector/impeller.
6. If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.
7. Always observe safe refueling and fuel handling practices when refueling the unit after transportation or storage.

8. Always follow the engine manual instructions for storage preparations before storing the unit for both short and long term periods.
9. Always follow the engine manual instructions for proper start-up procedures when returning the unit to service.
10. Maintain or replace safety and instruction labels as necessary.
11. Keep nuts and bolts tight and keep equipment in good condition.
12. Never tamper with safety devices. Check their proper operation regularly and make necessary repairs if they are not functioning properly.
13. Components are subject to wear, damage, and deterioration. Frequently check components and replace with manufacturer's recommended parts, when necessary.
14. Check control operation frequently. Adjust and service as required.
15. Use only factory authorized replacement parts when making repairs.
16. Always comply with factory specifications on all settings and adjustments.
17. Only authorized service locations should be utilized for major service and repair requirements.
18. Never attempt to make major repairs on this unit unless you have been properly trained. Improper service procedures can result in hazardous operation, equipment damage and voiding of manufacturer's warranty.
19. Check shear bolts and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.

EMISSIONS

1. Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects, or other reproductive harm.
2. If available, look for the relevant Emissions Durability Period and Air Index information on the engine emissions label.

IGNITION SYSTEM

1. This spark ignition system complies with Canadian ICES-002.

DECALS

This unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment.

Although reading this manual and safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

All WARNING, CAUTION, and instructional messages on your unit should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important.

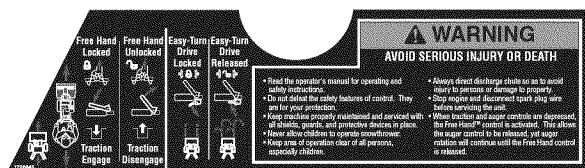
The safety decals below are on your unit.

If any of these decals are lost or damaged, replace them at once. See your local dealer for replacements.

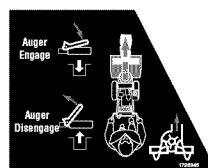
These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective, operation.

NOTE: Engine operation and safety decals are supplied by the engine manufacturer.

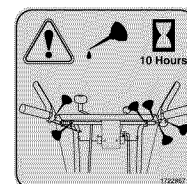
NORTH AMERICAN MODEL DECALS



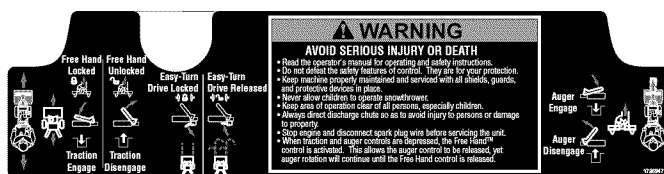
Part No. 1726945 - WARNING / Main Dash Decal, North American Tube Handle Models



Part No. 1726946 Auger Control Decal Tube Handle Models



Part No. 1722867 Lubrication Decal (Tube Handle Models)



Part No. 1726947 - WARNING / Main Dash Decal, North American Channel Handle Models

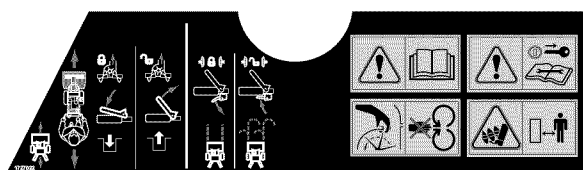


Part No. 1716532 Auger Danger Decal

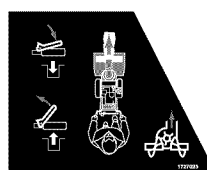


Part No. 1733057 Discharge Chute Danger Decal

CE MODEL DECALS



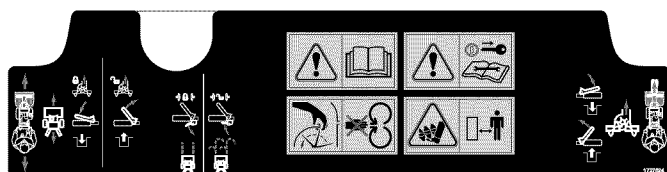
Part No. 1727022 - WARNING / Main Dash Decal, CE Tube Handle Models



Part No. 1727023 Auger Control Decal Tube Handle Models



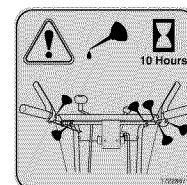
Part No. 1727208 Auger Danger Decal



Part No. 1727024 - WARNING / Main Dash Decal, CE Channel Handle Models



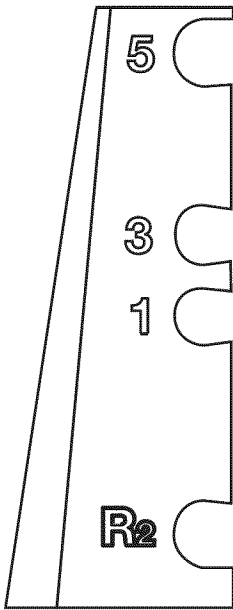
Part No. 1727207 Discharge Chute Danger Decal



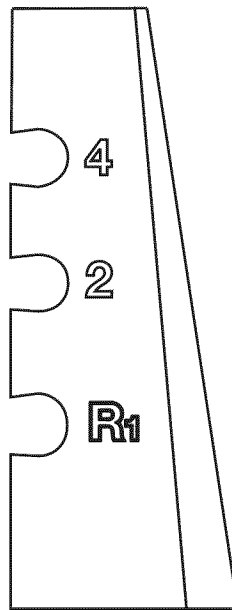
Part No. 1722867 Lubrication Decal (Tube Handle Models)

Decals and Safety Icons

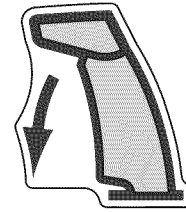
ALL MODEL DECALS



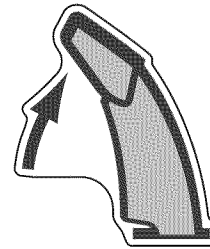
Part No. 1734786
Shift Decal - left



Part No. 1734787
Shift Decal - right



Part No. 1734789
Deflector Decal - down

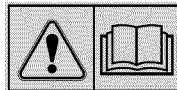


Part No. 1734788
Deflector Decal - up

SAFETY ICONS

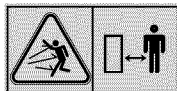
WARNING: READ OPERATOR'S MANUAL.

Read and understand the Operator's Manual before using this machine.



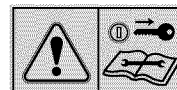
DANGER: THROWN OBJECTS.

This machine is capable of throwing objects and debris. Keep bystanders away.



WARNING: REMOVE KEY BEFORE SERVICING.

Remove the key, disconnect spark plug wire, and consult technical literature before performing repairs or maintenance.



WARNING: DISMEMBERMENT.

This machine can amputate limbs. Keep bystanders and children away when engine is running.



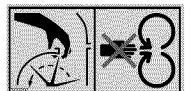
DANGER: DISMEMBERMENT.

The auger can amputate limbs. Keep hands and feet away from auger and rotating parts.



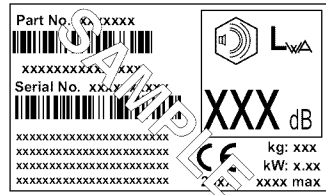
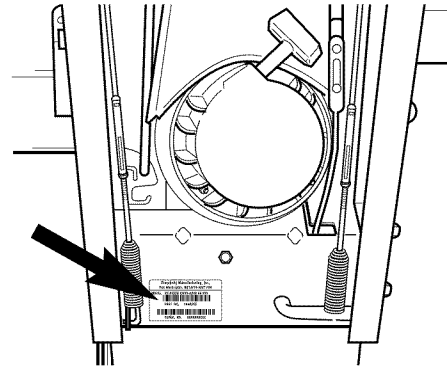
DANGER: DISMEMBERMENT.

The impeller can amputate limbs. Stop the engine, remove the key, and disconnect spark plug wire before clearing the discharge chute or performing service work. Keep hands and feet away from impeller and rotating parts.





North American /
CE Models



CE Models
(Only)

Identification Numbers

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

Record your model name/number, manufacturer's identification numbers, and engine serial numbers in the space provided for easy access. These numbers can be found in the locations shown.

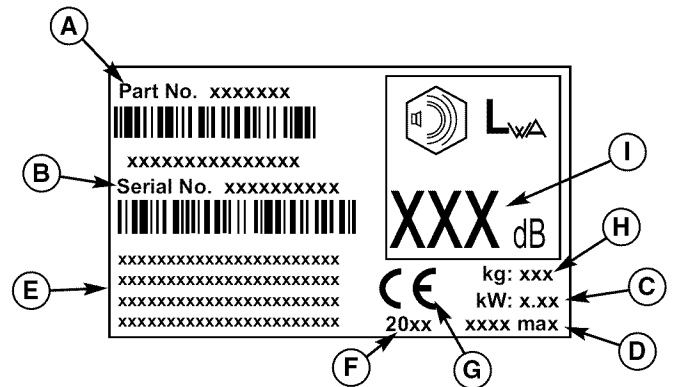
NOTE: For location of engine identification numbers, refer to the engine owner's manual.

CE Models: Place the extra copy of the identification tag in the manual

PRODUCT REFERENCE DATA	
Model Description Name/Number	
Unit MFG Number	Unit SERIAL Number
Mower Deck MFG Number	Mower Deck SERIAL Number
Dealer Name	Date Purchased
ENGINE REFERENCE DATA	
Engine Make	Engine Model
Engine Type/Spec	Engine Code/Serial Number

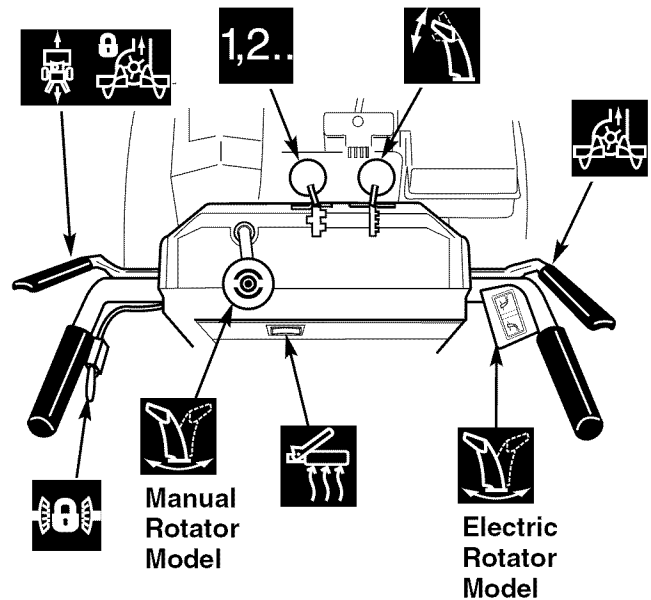
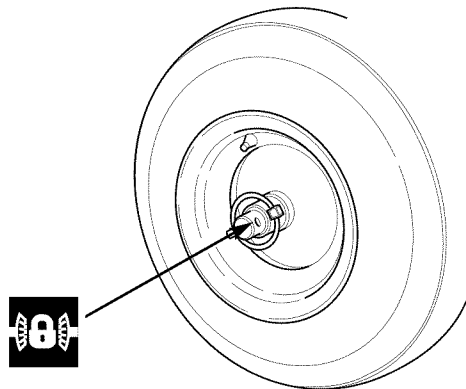
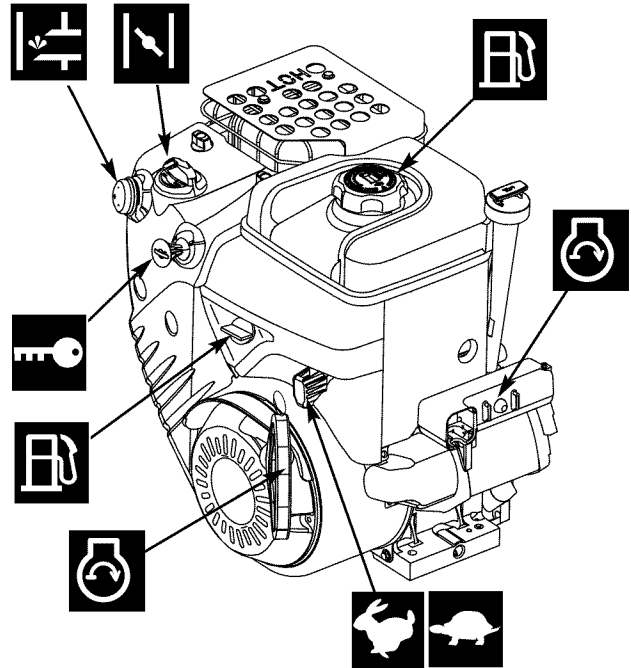
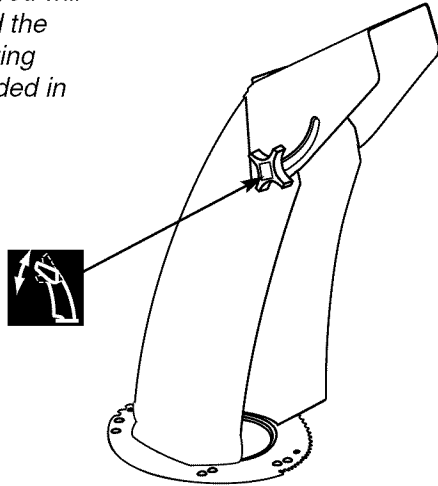
CE IDENTIFICATION TAG MARKINGS

- A. Manufacturer's Identification Number
- B. Manufacturer's Serial Number
- C. Power Rating in Kilowatts
- D. Maximum Engine Speed in Rotations per Minute
- E. Manufacturer's Name and Address
- F. Year of Manufacture
- G. CE Compliance Logo
- H. Mass of Unit in Kilograms
- I. Guaranteed Sound Power in Decibels



Features, Controls & Operation

Please take a moment and familiarize yourself with the name, location, and function of these controls so that you will better understand the safety and operating instructions provided in this manual.



CONTROL LOCATIONS

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

1,2.. Speed Selector

Selects forward speeds 1-5 and reverse speeds 1-2. No neutral position or gate is required, since the traction drive design automatically provides "neutral" (no forward or reverse movement), whenever the Drive Control is released.

Traction Control / Free Hand™ Lock

Engages traction drive to wheels when depressed. Also locks auger control when depressed simultaneously. Releasing the traction control lever releases the Free Hand™ auger control lock and stops the drive wheels.



Auger Control

Engages the auger/impeller when depressed. Releasing the control stops the auger/impeller.



Chute Direction Control

Models with Electric Chute Rotator: Depressing the chute rotator switch rotates the chute left or right.

Models with Manual Chute Rotator: Turning the crank rotates the discharge chute to desired position.



Remote/Regular Deflector Control

Regular (Knob) Chute Deflector: Locks chute deflector in desired position. Tilting the chute deflector UP provides a higher stream and greater distance, while tilting the deflector DOWN provides a lower stream and less distance.

Remote Chute Deflector: Twist the knob to unlock the chute deflector. Pull or push the knob to change the deflector angle. UP provides a higher stream and greater distance, while tilting the deflector DOWN provides a lower stream and less distance.



Easy Turn™ Control

Easy Turn Control: Engaging the Easy Turn™ lever releases the right wheel to allow easy turning in tight areas. Releasing the control automatically engages both drive wheels for full traction.

Traction Lock Pins: The right traction wheel can be completely released using the locking pin (see Figure 9). This allows the unit to be easily moved with the engine off.



Starter

Electric Start (If Equipped): Depressing the starter button activates the electric starter. The electric start button operates on 120 Volts AC, which is provided by connection to the extension cord provided with units equipped with this feature. Connect this extension cord ONLY to a properly grounded 3 prong electrical outlet.

Recoil Starter (All Models): Pulling the recoil handle cranks the engine.



Fuel

Fuel tank filler cap (see illustration). Note: The fuel shut off valve is located under the fuel tank or on the front of the engine. Close the valve when the snowthrower is not in use. Open the valve before starting.



Primer Button

When pressed, the primer button provides initial fuel to help start a cold engine. Normally, pressing the primer button twice will provide enough fuel to start a cold engine.



Throttle Lever

Controls engine speed. Move toward the hare icon for faster engine speed, move toward the turtle icon for slower engine speed. Move the throttle all the way to STOP to stop the engine. Set throttle to FULL/FAST (hare icon) for operation.



Engine Key

The engine key prevents the engine from being started. The key must be fully inserted into the key slot for the unit to start. The key can also be used to stop the engine by pulling the key out of the key slot.



Choke Knob

The choke knob adjusts the air/fuel mixture, and is used to help start a cold engine by providing a richer mixture. Once the engine is warm and running smoothly, the choke knob should be set to the off position to provide a normal air/fuel mix.



Grip Warmers (Select Models)

The optional grip warmers are powered when the engine is running and have three settings: low, off, and high.



Headlight (Select Models, Not Pictured)

For use in low sunlight - early morning and evening. The headlight is on at all times when the engine is running.

GENERAL OPERATION

CHECKS BEFORE EACH START-UP

1. Make sure all safety guards are in place and all nuts, bolts and clips are secure.
2. Check to make sure that the clean-out is attached to the machine. Do not operate the machine without the clean-out tool properly stored on the machine.
3. Check the engine oil level. See your engine owner's manual for procedure and specifications.
4. Check to make sure spark plug wire is attached and spark plug is tightened securely. If necessary, torque spark plug to 15 ft. lbs.
5. Check the fuel supply. Fill the tank no closer than 1/4 to 1/2 inch of top of tank to provide space for expansion. See your engine owner's manual for fuel recommendations.
6. Check the scraper bar to make sure it is set at the desired height. Adjust the skid shoes if necessary.
7. Check the drive control (B, Figure 4), and auger control (C) for proper operation. If adjustment is required, see the service section for procedures.
8. Check the chute direction control (D or E Figure 4) for proper operation. The discharge chute should rotate freely in both directions. See the service section for adjustment procedures and troubleshooting.
9. Check the chute deflector (F, Figure 4) for proper operation. The deflector should pivot freely up and down when the chute deflector knob is loosened.
10. Position the chute at the desired starting direction and set the deflector at the desired angle.
11. Check the speed selector (A, Figure 4) for smooth operation. The control must move freely into each speed position gate and remain in position when released. If the speed selector does not move freely into all forward and reverse speed positions, contact your local authorized dealer for assistance.

WARNING

This unit is a “two-stage” snowthrower.

The first stage is the auger, which feeds the snow back into the impeller housing. The second stage is the impeller, which throws the snow out the discharge chute. If bodily contact is made with the auger or impeller when they are rotating, severe personal injury will occur.

To avoid injury, keep others and yourself away from the auger and the discharge chute whenever the engine is running. Read and follow all of the safety rules and warnings in this manual.

DANGER

Do not clean out discharge chute with hands. Contact with moving parts inside chute will cause serious injury. Use clean out tool provided with machine. Use the following procedure to remove objects or clear the chute:

1. Stop the engine. Remove the key.
2. Wait 10 seconds to be sure the auger/impeller blades have stopped rotating.
3. Always use the clean-out tool. DO NOT use your hands.

WARNING

For your safety, operation on slopes should be in an up and down direction only. If it becomes necessary to move across the face of a slope, use caution and do not blow snow. Be very careful when changing direction on a slope.

Proper winter footwear is recommended for the operator to help prevent slipping. Never attempt to clean snow from excessively steep slopes. The maximum slope for any operation is 17.7% (10°).

WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is hot or running. Always move outdoors to fill the tank. Keep snowthrower and gasoline away from open flame or spark.

STARTING CONTROLS

See Figure 1 for the following instructions.

Electric Start

- A. Electric Start Button** - The Electric Start Button (A) activates an electric starter mounted to the engine, eliminating the need to pull the starter handle. The Electric Start Button operates on 120 Volts AC, which is provided by connection to the extension cord provided with units equipped with this feature. **Connect this extension cord ONLY to a properly grounded 3 prong electrical outlet.**

Manual Start

- B. Fuel Valve** - The fuel valve (B) is located under the fuel tank. It is used to turn the fuel supply off for out-of-season storage.
- C. Starter Handle** - The starter handle (C) connects to a starter cord to manually start the engine. Pulling starter handle rapidly spins the engine crankshaft, cycles the engine, and generates the spark necessary for starting the engine.
- D. Primer Button** - When pressed, the primer button (D) provides initial fuel to help start a cold engine. Normally, pressing the primer button twice will provide enough fuel to start a cold engine.
- E. Throttle Lever** - The throttle lever (E) controls the engine speed. For best overall performance, the throttle lever should be set to the FAST position. Use the SLOW position only for warming the engine, or to help prevent snow/ice freeze-up when shutting the unit down for the day.
- F. Engine Key** - The engine key (F) prevents the engine from being started by unauthorized individuals. The key must be fully inserted into the key slot for the unit to start. The key is also used to stop the engine by pulling the key out of the key slot.

- G. Choke Knob** - The choke knob (G) adjusts the air/fuel mixture, and is used to help start a cold engine by providing a richer mixture. Once the engine is warm and running smoothly, the choke knob should be set to the off position to provide a normal air/fuel mix.

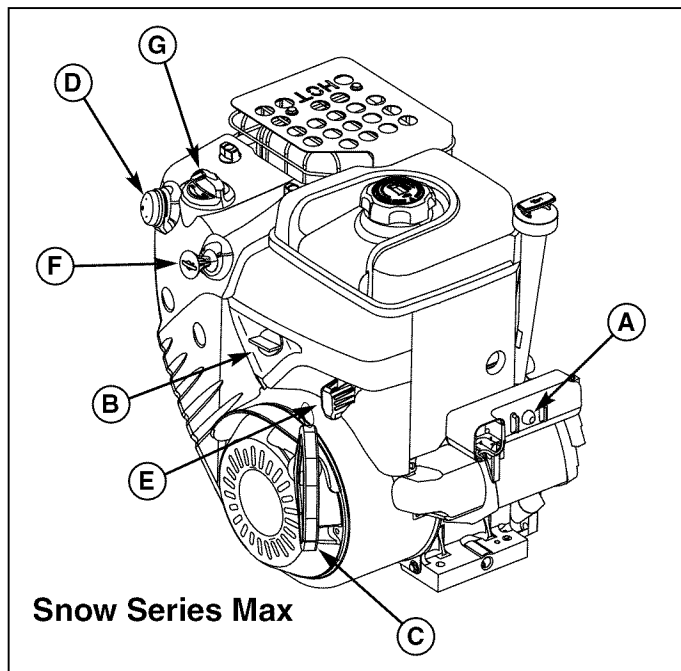


Figure 1. Engine Controls

- A. Electric Start Button**
- B. Fuel Valve**
- C. Starter Handle**
- D. Primer Button**
- E. Throttle Lever**
- F. Engine Key**
- G. Choke Knob**

Operation

STARTING THE ENGINE

! WARNING

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. When starting engine, pull the starter cord slowly until resistance is felt and then pull rapidly to avoid kickback.

! WARNING

Gasoline and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death. When starting the engine, ensure that spark plug, muffler, fuel cap and air cleaner are in place and secured. Do not crank engine with spark plug removed. If engine floods, set choke (if equipped) to open/run position.

! WARNING

Engines give off carbon monoxide, an odorless, colorless, poison gas. Breathing carbon monoxide can cause nausea, fainting or death. When starting the engine, start and run engine outdoors. Do not start or run engine in enclosed area, even if doors or windows are open.

! WARNING

Unintentional sparking can result in fire or electric shock.

Unintentional start-up can result in entanglement, traumatic amputation, or laceration.

- Use a 3-wire extension cord.
- First attach extension cord to electric starter connector and then into a wall receptacle. If additional extension cord is required, use a 3-wire.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

! CAUTION

This engine was shipped from Briggs & Stratton without oil. Before you start the engine, make sure you add oil according to the instructions in the Engine Owner's Manual. If you start the engine without oil, it will be damaged beyond repair and will not be covered under warranty.

1. Check the oil level. See "How To Check/Add Oil" section in Engine Owner's Manual.
2. Make sure equipment drive controls, if equipped, are disengaged. See the equipment manual for location and operation of these controls.
3. Move the throttle control lever (A, Figure 2) to the FAST position. Operate the engine with the throttle control lever in the FAST position.

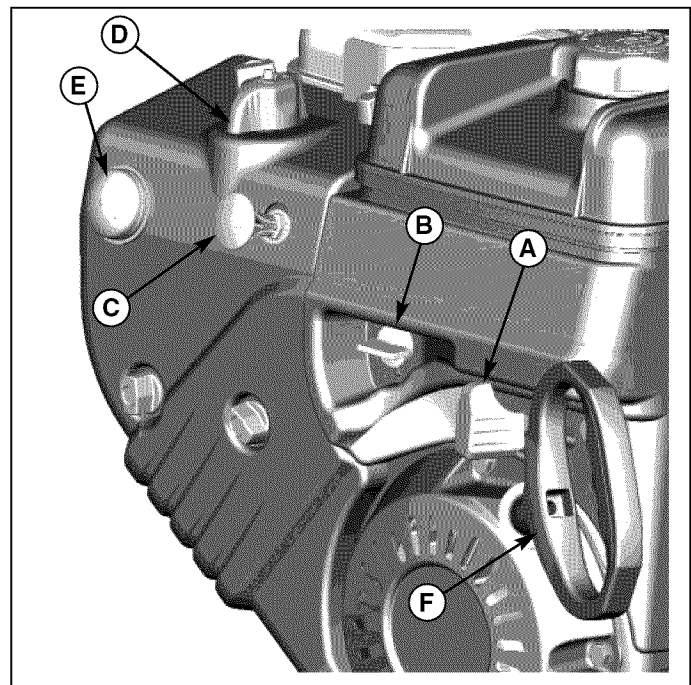


Figure 2. Start/Stop Engine - Manual

- A. Throttle Control Lever
- B. Fuel Shut-Off Valve
- C. Safety Key
- D. Choke Control Knob
- E. Primer Button
- F. Starter Cord Handle

- Turn the fuel shut-off valve (B, Figure 2), if equipped, to the ON position.
- Push in the safety key (C).
- Turn the choke control knob (D) to the choke position.

NOTE: Do not use the choke to start a warm engine.

- Push the primer button (E) two times.

NOTE: Do not use the primer to start a warm engine.

- Rewind Start:** Firmly hold the starter cord handle (F). Pull the starter cord slowly until resistance is felt, then pull rapidly.

NOTE: If the engine does not start after three attempts, see the "Troubleshooting" section in the Engine Owner's Manual.

- Electric Start:** First connect the extension cord to the power cord receptacle (A, Figure 3) and then into a wall receptacle. If an additional extension cord is required, make sure it is a 3-wire.

WARNING

If the extension cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.

CAUTION

To extend the life of the starter, use short starting cycles (five seconds maximum). Wait one minute between starting cycles.

- Electric Start:** Depress the push button (B). After you start the engine, first disconnect the extension cord from the wall receptacle and then from the power cord receptacle (A).

NOTE: If the engine does not start after three attempts, see the "Troubleshooting" section in the Engine Owner's Manual.

- Allow the engine to warm up for several minutes. Then slowly move the choke control knob to the run position.

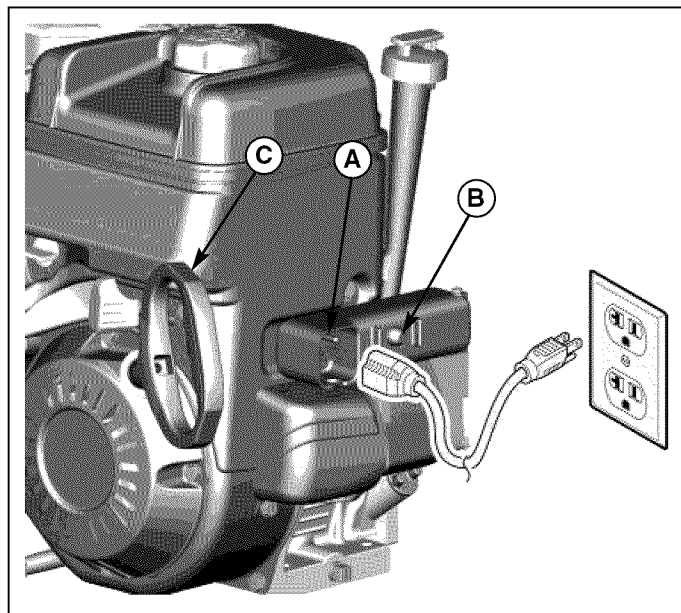


Figure 3. Start Engine - Electric

- A. Power Cord Receptacle**
- B. Push Button**
- C. Starter Cord Handle**

STOPPING THE ENGINE

WARNING

Gasoline and its vapors are extremely flammable and explosive. Fire or explosion can cause severe burns or death. Do not choke the carburetor to stop the engine.

- Move the throttle control lever (A, Figure 2) to SLOW and then to the STOP position.
- Remove the safety key (C). Keep the safety key out of the reach of children.
- After the engine stops, turn the fuel shut-off valve (B) to the CLOSED position.

Operation

OPERATING THE SNOWTHROWER

1. Rotate the discharge chute to the desired direction.
2. Set the speed selector to the desired forward speed.
3. Fully press and hold the auger engage control (C, Figure 4) on the right-hand grip to begin auger rotation. Releasing the auger engage control will disengage the auger — **unless the Free-Hand™ Control has been activated (See step 5 below).**
4. Fully press and hold the traction & Free-Hand™ Control lever (B, Figure 4) on the left-hand grip to engage the traction drive and begin moving the snowthrower. To disengage the traction drive, completely release the lever.
5. When BOTH levers are depressed, the Free-Hand™ Control is activated. This allows Auger Engage Control to be released — **YET AUGER ROTATION WILL CONTINUE — until the Free-Hand™ Control is released.**
6. Select forward or reverse speeds as needed using the Speed Selector (A, Figure 4). Release both control levers before changing drive speeds.

CLEARING A CLOGGED DISCHARGE CHUTE

IMPORTANT NOTE

Hand contact with the rotating auger/impeller inside the discharge chute is the most common cause of injury associated with snowthrowers. **DO NOT use your hand to clean out the discharge chute.**

To clear the chute:

1. Stop the engine. Remove the key.
2. Wait 10 seconds to be sure the auger/impeller blades have stopped rotating.
3. Always use the clean-out tool. **DO NOT use your hands.**

GROUND SPEED SELECTOR

Use the speed selector (A, Figure 4) to control the drive speed of the snowthrower. There are five forward speeds and two reverse speeds.

Use the lower speeds to blow deep or wet snow. Use the higher speeds to blow light snow or to drive the snowthrower without blowing snow.

To change speeds, release both control levers (B, Figure 4), then move the speed selector to the desired setting. Fully depress the control levers to resume.

ENGINE SPEED

Always run the snowthrower at full throttle.

WARNING

When BOTH levers are depressed, the Free-Hand™ Control is activated. This allows Auger Engage Control to be released — **YET AUGER ROTATION WILL CONTINUE — until the Free-Hand™ Control is released.**

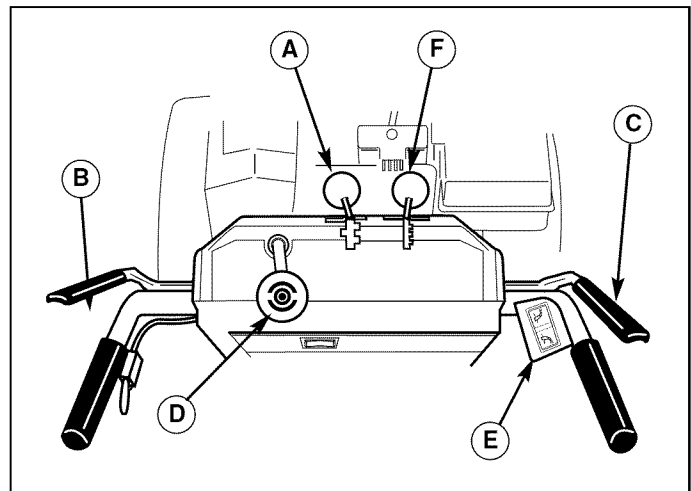


Figure 4. Controls (From Operator's Position)

- A. Speed Selector
- B. Traction & Free-Hand™ Control
- C. Auger Engage Control
- D. Chute Direction Control Knob
- E. Chute Direction Control Remote
- F. Remote Deflector Control

DEFLECTOR

The distance of the discharged snow is mainly controlled by the position of the deflector. (Engine speed also affects distance of discharge.) The more the deflector is tilted UP, the farther snow will be thrown.

Models with Chute Deflector Knob

See Figure 5.

1. Loosen the deflector knob, tilt the deflector UP or DOWN.
2. Retighten the knob when desired angle has been chosen.

Models with Remote Deflector Control

See Figure 6.

1. Turn the remote deflector control (C) counterclockwise to UNLOCK, and the spring (B) will pull the deflector to the maximum throwing position (A). Pull the knob UP to decrease the throwing distance.
2. Turn the remote deflector control knob clockwise to LOCK in place when the desired angle has been chosen.

SCRAPER BAR & SKID SHOES

On smooth surfaces such as concrete or asphalt, the scraper bar (A, Figure 7) should scrape the surface. On surfaces such as gravel, the scraper bar should be high enough so that it will not pick up gravel or debris.

The height of the scraper bar (A) is controlled by raising or lowering the skid shoes (B).

1. To raise the scraper bar height, rest the scraper bar (A) on a strip of wood equal in thickness to the desired height.
2. Make sure the scraper bar is parallel to the ground surface.
3. Loosen the skid shoe nuts (C) and let the skid shoes (B) drop to the surface.
4. Tighten the nuts (C), making sure the skid shoes are adjusted equally and are parallel to the surface.
5. To lower the height of the scraper bar, raise the skid shoes. Or adjust scraper bar by loosening the attachment bolts and sliding scraper bar down.
6. If the scraper bar becomes worn, it can be replaced by removing the hardware attaching it to the snowthrower.

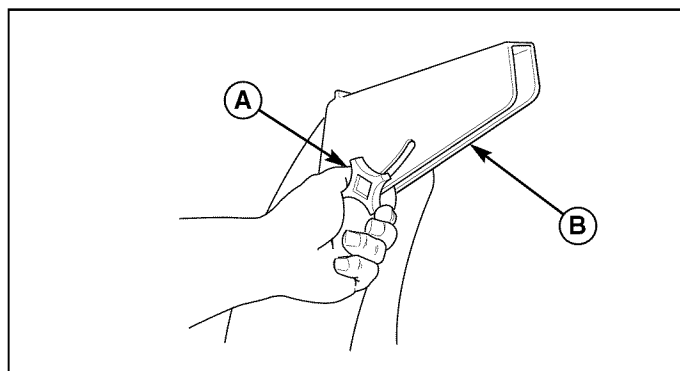


Figure 5. Chute Deflector Adjustment (Some Models)
A. Chute Deflector Knob
B. Chute Deflector

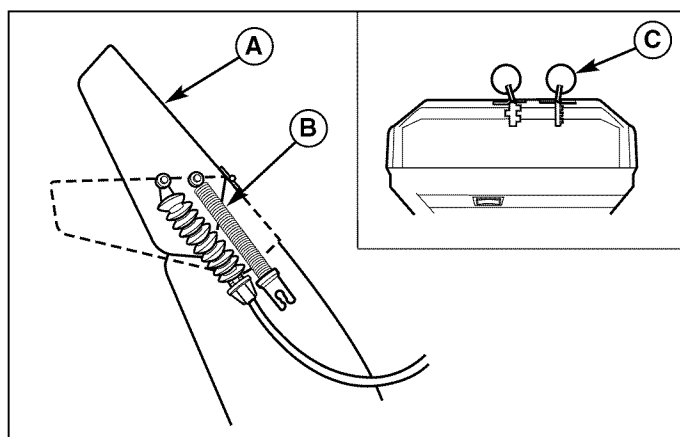


Figure 6. Remote Deflector Control (Some Models)
A. Maximum Throwing Position
B. Spring
C. Control Handle

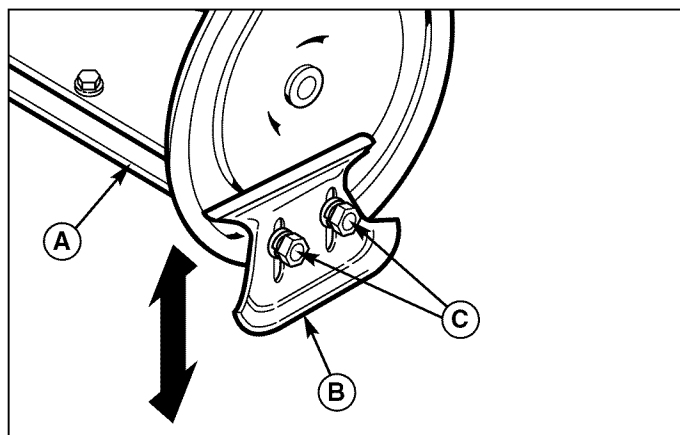


Figure 7. Skid Shoe Adjustment
A. Scraper Bar
B. Skid Shoe
C. Nuts

Operation

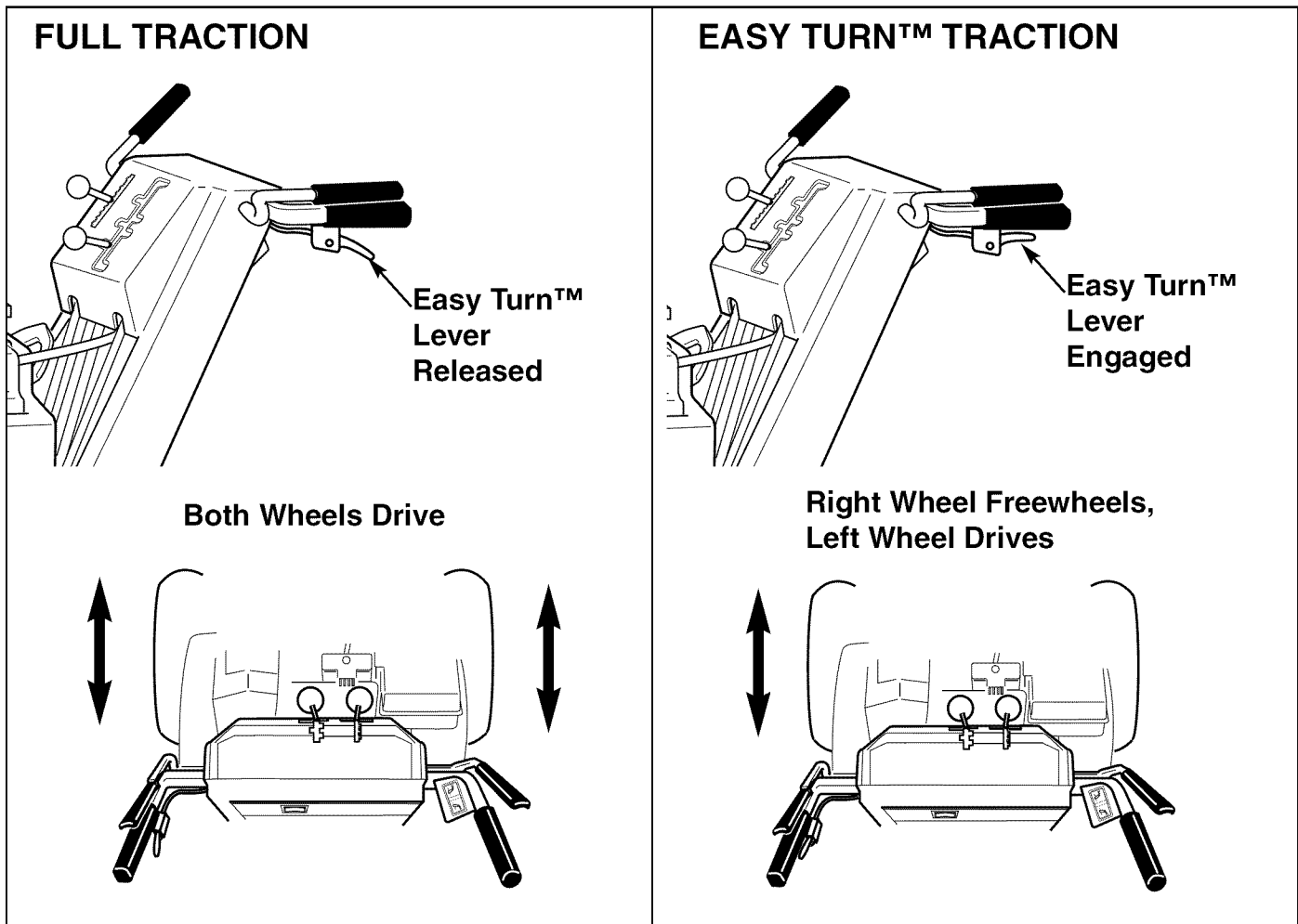


Figure 8. Easy Turn Control

EASY TURN™ FREEWHEELING AND TRACTION DRIVE LOCK

While Clearing Snow:

For easy turning when using the snowthrower, squeeze the Easy Turn™ lever (Figure 8). Engaging the Easy Turn™ lever releases the right traction wheel but allows the left wheel to continue driving (Figure 8). Releasing the Easy Turn™ lever automatically engages both drive wheels for full traction.

NOTE: The Easy Turn™ lever will be more difficult to activate under a heavy load. Activate the lever before beginning a turn.

When Pushing the Snowthrower:

For easy turning when pushing the snowthrower, disengage the right wheel using the traction lock pin (See Figure 9).

1. Turn the unit off, remove the engine key, and disconnect the spark plug wire.

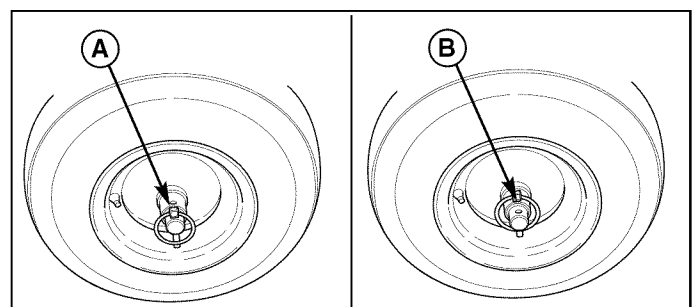


Figure 9. Traction Drive Lock

- A. Pin in Outer Hole (Freewheel)
- B. Pin in Inner Hole (Drive)

2. To DISENGAGE the traction drive lock, insert the Traction Lock Pin through the outer hole in the right axle. The unit can now be pushed with minimal resistance.
3. To ENGAGE the traction drive lock, align the hole in the hub with the inner hole in the axle, and install the Traction Lock Pin.

NOTE: Be sure both wheels are locked (locking pin in inner hole) when clearing snow.

AFTER EACH USE

Normal use of the snowthrower may result in a build-up of packed snow in and around the starter cord housing and around engine controls. Heat from the engine will usually prevent the snow from freezing solid while the unit is running, but after the engine is shut down, some snow may continue melting from engine heat, and later freeze around some moving parts as the unit cools.

After each period of use, follow these steps to prevent freeze-up caused by ice formation in and around the engine controls and external parts.

1. Before shutting off the engine, pull the starter rope out 2 - 3 times, and allow it to rewind slowly. This will help clear packed snow from the starter cord area. Allow the engine to run for several minutes.
2. Stop the engine by moving the throttle lever (See Figure 1) down, or by pulling out the engine key.
3. Brush snow and ice from the snowthrower. Be sure to clear engine and snowthrower controls, discharge chute, worm and chute rod gears, clutch cable areas, and anywhere else snow has accumulated.
4. Always remove the engine key and store in a safe place to prevent unauthorized use.
5. If the snowthrower is kept in a cold shelter, fill the fuel tank to prevent condensation. Do not store near sparks or flame.

NOTE: The Engine Owner's Manual contains further information on preventing ice formation and freeze-up.

WARNING

Never store the unit, with gasoline in engine or fuel tank, in a heated shelter or in enclosed, poorly ventilated enclosures. Gasoline fumes may reach an open flame, spark or pilot light (such as a furnace, water heater, clothes dryer, etc.) and cause an explosion.

Handle gasoline carefully. It is highly flammable and careless use could result in serious fire damage to your person or property.

Drain fuel into an approved container outdoors away from open flame or sparks.

STORAGE

WARNING

Never store the unit (with fuel) in an enclosed, poorly ventilated structure. Fuel vapors can travel to an ignition source (such as a furnace, water heater, etc.) and cause an explosion.

Fuel vapor is also toxic to humans and animals.

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

- Disengage the PTO, set the parking brake, and remove the key.
- Perform engine maintenance and storage measures listed in the engine owner's manual. This includes draining the fuel system, or adding stabilizer to the fuel (do not store a fueled unit in an enclosed structure - see Warning).

Before starting the unit after it has been stored:

- Check all fluid levels. Check all maintenance items.
- Perform all recommended checks and procedures found in the engine owner's manual.
- Allow the engine to warm up for several minutes before use.

Regular Maintenance

MAINTENANCE SCHEDULE

Maintenance Required	Frequency	Notes
Check auger gear case lubrication.**	25 Hours	Benalene 900 Grease
Lubricate snowthrower.	10 Hours	10W Oil and Grease
Check tire pressure.	Monthly	20 psi (1,37 bar)
Change engine oil.*+	50 Hours / Yearly	See Engine Manual
Clean or replace spark plug.+	Yearly	See Engine Manual
Check drive linkage / belt tension.	4-6 Hours	N/A
Lubricate axle shafts.	Yearly	Lithium Grease
Check / lubricate free-hand linkage.	10 Hours	10W Oil
Lubricate auger shaft.***	10 Hours	Lithium Grease
<p>* Change original oil after two hours of operation. ** Check oil level each fall and spring. + See your engine Owner's Manual. ***Lubricate each fall and spring.</p>		

CHECKING TIRE PRESSURE

The air pressure in each tire (Figure 10) should be equal for both tires for best performance. Be sure to keep caps on valves to prevent entry of debris into the valve stem when tires are filled.

Size	PSI	bar
15 x 5.0-6	20	1,38
4.80-8	20	1,38
16 x 6.5-8	14	,96

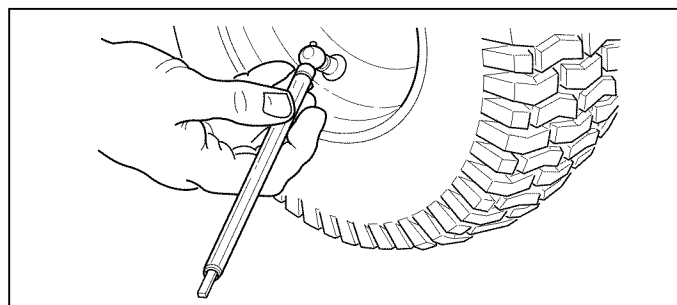


Figure 10. Checking Tire Pressure

AUGER GEAR CASE LUBRICATION

1. Place the snowthrower on a level surface.
2. Remove the pipe plug (A, Figure 11).
3. Check the lubricant level. It should be level with the lower edge of the plug opening. If not, add the Benalene 900 grease (available from your dealer).
4. Re-install pipe plug, and tighten securely.

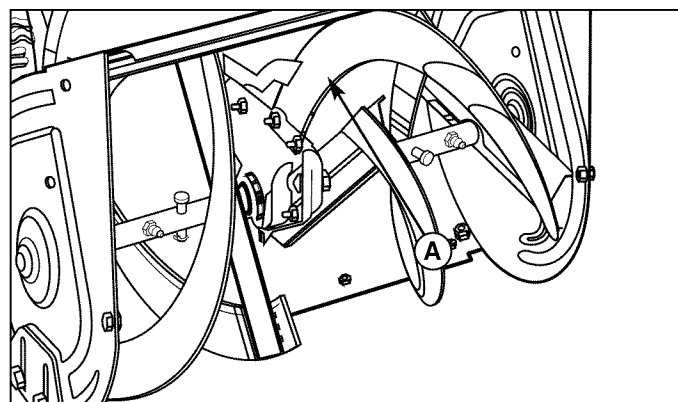


Figure 11. Auger Lubrication
A. Pipe Plug

LUBRICATION

IMPORTANT NOTE

It is very important that grease fittings on the auger shaft are lubricated regularly. If auger rusts to shaft, damage to worm gear may occur if shear pins do not break.

To prevent wheels rusting to axles, it is also necessary to remove the wheels and grease the axles regularly.

Remove wheels and grease axles once each year.

Apply medium weight (10W) oil to points shown (See Figures 12-15).

Apply 5W-50 synthetic motor oil to the friction disk drive hex shaft (A, Figure 13).

Generally, all moving metal parts should be oiled where contact is made with other parts. Keep oil and grease off belts, pulley grooves, drive disc, and friction disc.

LUBRICATION NOTES:



Grease locations indicated by grease gun symbol. Use grease fittings when present. Disassemble parts to apply grease to moving parts when grease fittings are not installed.



Oil locations indicated by oil can symbol. Do not allow oil to drip onto traction drive or friction disc.

Do not lubricate remote deflector control.

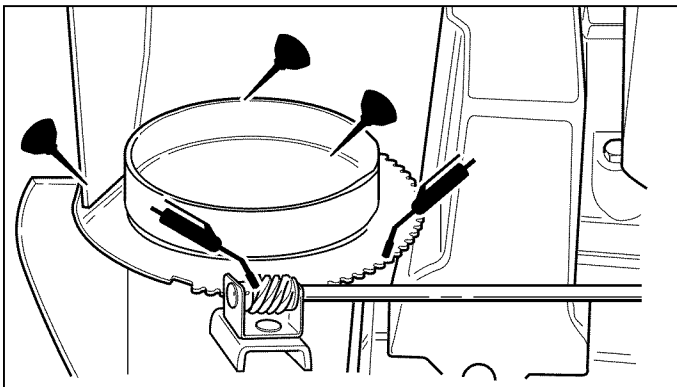


Figure 12. Chute Lubrication

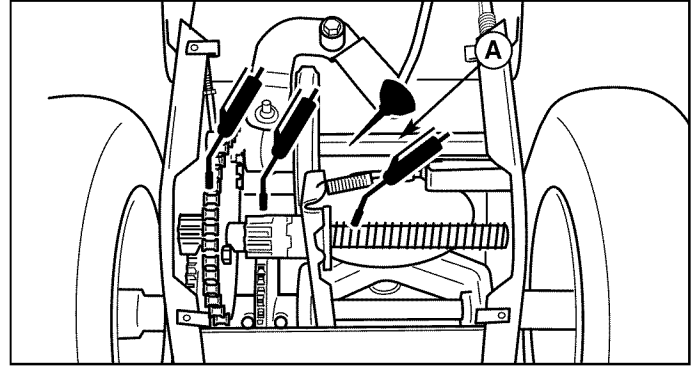


Figure 13. Drive Lubration
A. Hex Shaft

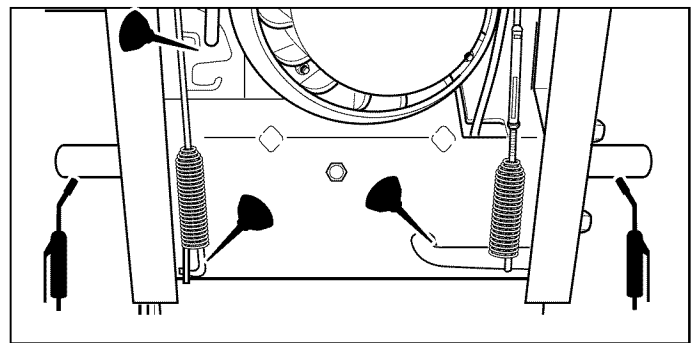


Figure 14. Grease Axles & Lubricate Control Levers
(Channel Handle Model Shown)

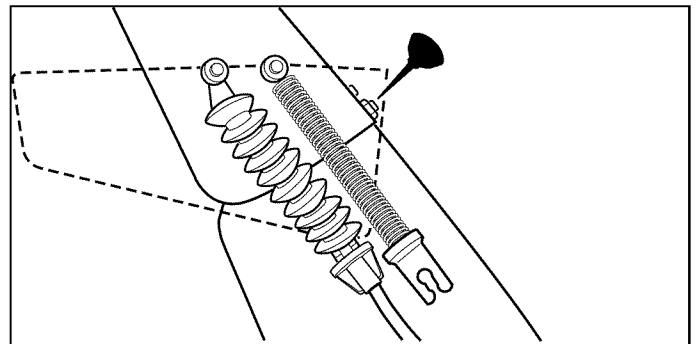


Figure 15. Lubricate Deflector Hinges

Regular Maintenance

CHECK / LUBRICATE FREE-HAND LINKAGE

Check the function of the Free-Hand controls: the controls should function as described in the CONTROLS section. **It is critical for the safe operation of the unit that the controls disengage when released.**

Lubricate as shown in Figures 16-17.

IMPORTANT NOTE

If the controls do not function properly, lubricate them. If lubrication does not rectify the problem, see your dealer. Under no circumstances should the unit be used if the controls are not functioning properly.

IMPORTANT NOTE

It is very important that grease fittings on the auger shaft are lubricated regularly. If auger rusts to shaft, damage to worm gear may occur if shear pins do not break.

LUBRICATE AUGER SHAFT ASSEMBLY

1. Remove cotter pin (C, Figure 18) and shear pin (B).
2. Use a grease gun and squirt several shots of grease into grease fitting (A).
3. Rotate auger assembly (D) several times to distribute the grease evenly. Repeat step 2.
4. Reinstall shear pin (B) and cotter pin (C).
5. Repeat procedure for other side.

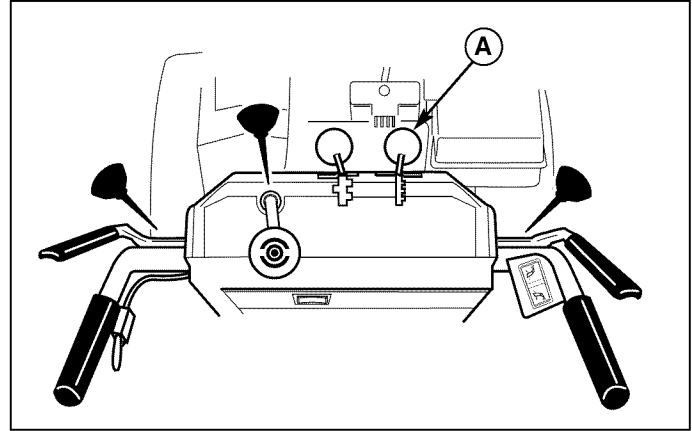


Figure 16. Lubricate Free-Hand™ Control Linkage
A. DO NOT Lubricate Deflector Control

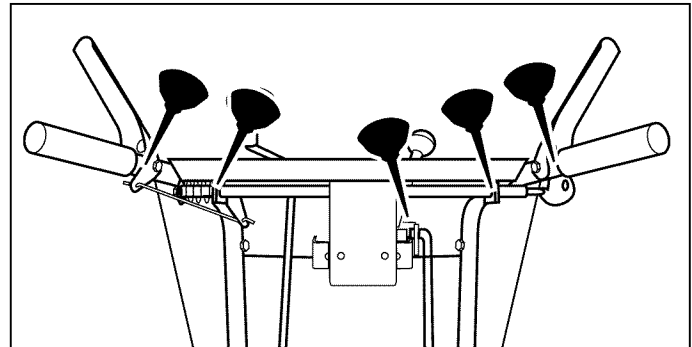


Figure 17. Lubricate Free Hand Control

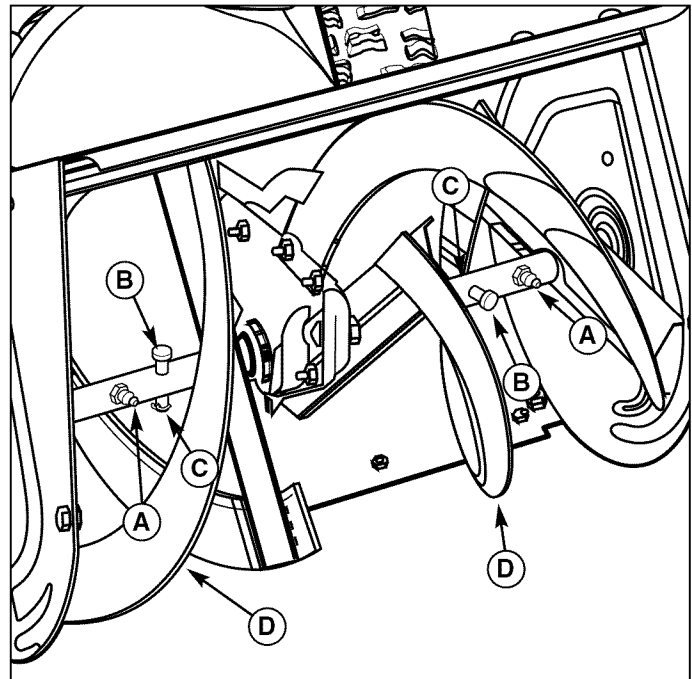


Figure 18. Lubricate Auger Shaft Assembly
A. Grease Fittings C. Cotter Pins
B. Shear Pins D. Auger Assembly

Troubleshooting, Adjustments & Service

TROUBLESHOOTING

This section provides troubleshooting and service instructions. Locate the problem and check the possible cause/remedy in the order listed.

Also, refer to the Engine Owner's Manual for additional information.

For problems not covered here, contact your local dealer.

WARNING

Before performing any adjustment or service to snowthrower, stop the engine and wait for moving parts to stop. Remove the key. To prevent accidental starting, disconnect the spark plug wire and fasten away from the plug.

Problem	Possible Cause	Remedy
Engine fails to start.	Key is OFF.	Push key in to the ON position.
	Failure to prime cold engine	Press primer button twice and restart.
	Fuel valve is in CLOSED position.	Turn valve to OPEN position.
	Out of fuel.	Fill fuel tank.
	Choke OFF - cold engine.	Turn choke to ON, set throttle to FAST.
	Engine flooded.	Turn choke to OFF; try starting.
	No spark.	Check gap. Gap plug, clean electrode, or replace plug as necessary.
	Water in fuel, or old fuel.	Drain tank. (Dispose of fuel at an authorized hazardous waste facility.) Fill with fresh fuel.
Engine starts hard or runs poorly.	Fuel mixture too rich.	Move choke to OFF position.
	Carburetor adjusted incorrectly.	See your dealer for adjustments.
	Spark plug faulty, fouled, or gapped improperly.	Clean and gap, or replace.
	Fuel cap vent is blocked.	Clear vent.
Scraper bar does not cleanhard surface.	Skid shoes improperly adjusted.	RAISE skid shoes (this lowers the scraper bar).
	Skid shoes improperly adjusted.	LOWER skid shoes (this raises the scraper bar.)
Auger does not rotate.	Auger control not engaged.	Engage auger control.
	Foreign matter blocking auger.	STOP engine and REMOVE the key. DISCONNECT the spark plug wire. Clear auger using clean-out tool. See warning in SAFETY RULES.
	Auger drive clutch rod slack.	Tighten to remove slack. See auger clutch rod adjustment.
	Auger drive belt slipping.	Check auger drive belt adjustment.
	Broken belt.	Replace belt.
	Shear pin broken.	Replace shear pin.

Troubleshooting

Problem	Possible Cause	Remedy
Auger rotates, but snow is not-thrown far enough.	Chute deflector too low.	Adjust deflector as necessary.
	Engine speed too slow.	Set speed to full throttle.
	Ground speed too fast.	Use slower speed selector setting.
	Snowthrower discharge chute clogged.	STOP engine and REMOVE the key DISCONNECT the spark plug wire. Clear auger using clean-out tool. See warning in SAFETY RULES.
	Auger belt loose or worn.	Check auger drive belt adjustment
Poor traction.	Tires slipping.	Check tire pressure and tread.
Auger does not stop when auger lever is released.	Free-Hand™ control is ACTIVE.	Release both auger engage control and Free-Hand™ control to stop auger.
	Auger clutch rod too tight or bent.	Loosen or straighten clutch rod.
	Auger drive belt out of adjustment.	Adjust auger belt.
	Auger belt guide out of adjustment.	Adjust auger belt guide.
Snowthrower does not stop-when drive lever is released.	Traction drive clutch rod bent or too tight.	Loosen rod to remove slack or replace. See adjustment procedure.
	Traction drive clutch rod loose.	Tighten to remove slack. See adjustment procedure.
	Drive belt loose, broken, or stretched.	Replace drive belt.
	Drive roller chain damaged.	Replace chain.
	Traction lock pins in free-wheeling position (OUTER hole).	Change traction lock pins to INNER hole to engage traction drive.
	Friction disc worn.	Replace disc (see your dealer).
Discharge control is difficult to operate.	Gearing needs lubrication	Oil or grease as required.
	Worm gear not adjusted properly.	Adjust worm gear. See adjustment procedure.
	Control rod gears misaligned.	Adjust gear bracket. See adjustment procedure.
Snowthrower veers to one side.	Tire pressure not equal.	Check tire pressure.
	One wheel is set in free-wheeling mode. (Traction Lock Pin is in the OUTER hole).	Make certain the left traction lock pin is in the INNER holes (to engage traction drive).
Excessive vibration.	Loose parts or damaged auger.	STOP engine and REMOVE the key. DISCONNECT the spark plug wire. Tighten all hardware. Replace auger if necessary. If vibration continues, see your dealer.
Drive fails to move snowthrower at slow speeds.	Traction drive out of adjustment.	Readjust drive, or shift speed selector setting up one speed faster.
Speed selector difficult to move or frozen in place.	Hex shaft needs lubrication.	Lubricate hex shaft with 5W-50 synthetic motor oil (see Maintenance).

SPEED SELECTOR ADJUSTMENT

1. Loosen the two nuts (C, Figure 19).
2. Place the shift lever in 5th gear.
3. Push the lower rod into the housing and tighten the two nuts (C). Do not lift up or down on rods while tightening. Make sure the shoulders of the carriage bolts (B) are in the slots.
4. Always check traction drive tension and auger drive tension after adjusting speed selector.

AUGER DRIVE TENSION

WARNING

Do not over-tighten, as this may lift the lever and cause auger drive to be engaged without depressing the Auger Control.

1. With the drive lever released, the hook (B, Figure 20) should barely touch the lever (C) without raising it. There can be a maximum 1/32" clearance as shown.
2. To adjust, loosen nut (D, Figure 22) by holding the adjusting flats (A) and turning nut (D). Turn adjustment flats and hold screw. The adjustment screw is a phillips screw and the head can be held or turned by inserting a screwdriver through the spring.
3. Hold adjusting flats (A) and tighten nut (D).
4. Start unit and check auger. auger must not be engaged unless auger control is depressed.
5. With engine running, fully depress auger control, the auger should engage and run normally.
6. Release auger control. **Auger must stop within 5 seconds.**
7. If auger does not operate properly, stop engine and recheck drive linkage adjustments.
8. If drive linkage is properly adjusted, auger drive belt tension may require adjustment. See "Belt Adjustment" in this section of the manual.

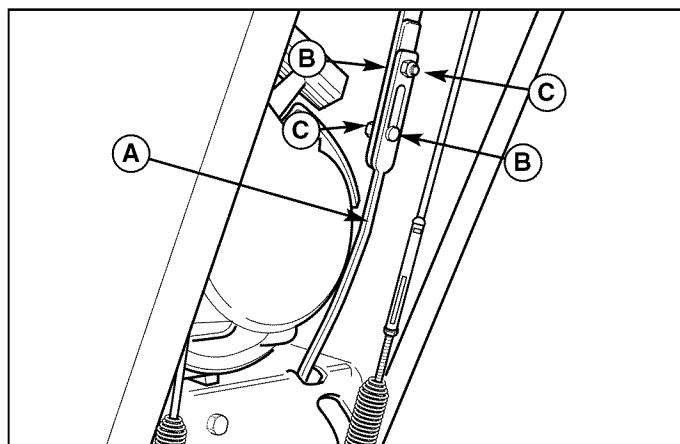


Figure 19. Speed Selector Linkage

- A. Shift Rod
- B. Carriage Bolts
- C. Nuts

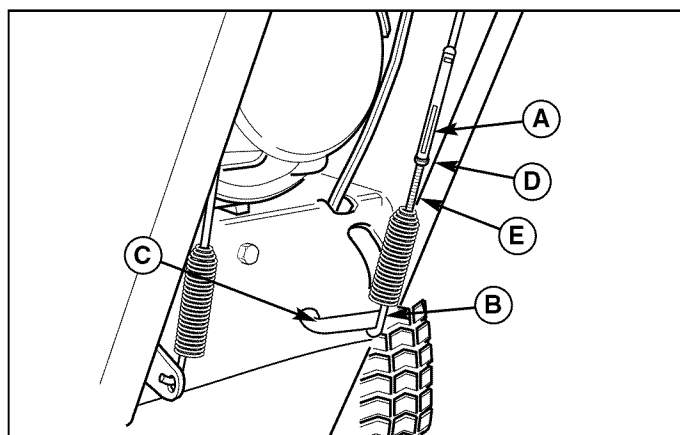


Figure 20. Auger Drive Adjustment

- A. Adjusting Flats
- B. Spring Hook
- C. Lever
- D. Nut
- E. Adjustment Screw

Adjustments

TRACTION DRIVE TENSION

Initial Adjustment

1. Lift the bellcrank arm (C, Figure 21) up as far as it will go.
2. While holding the bell crank arm (C) up, adjust the cable until all the slack is removed.
3. Back the adjustment screw (E) out 7-8 turns. Tighten nut (D).
4. Start engine and check that the system disengages when the control is released.

WARNING

Do not over-tighten, as this may cause traction drive to engage without depressing the traction drive control (bellcrank arm must remain in down position).

Verify that the cables are not over-tightened: With speed selector in position 1 and traction drive control fully released, push snowthrower forward. The unit should move forward freely.

If unit does not move forward freely, the cable has been over-tightened. To remedy, loosen tension on clutch cable slightly, and recheck.

Run-In Adjustment

ALL MODELS

1. After 5 hours of use, check for proper adjustment. Readjust clutch cable if necessary by increasing tension on cable. A small amount of bellcrank arm movement is permissible if unit passes operating checks described in the Caution above.

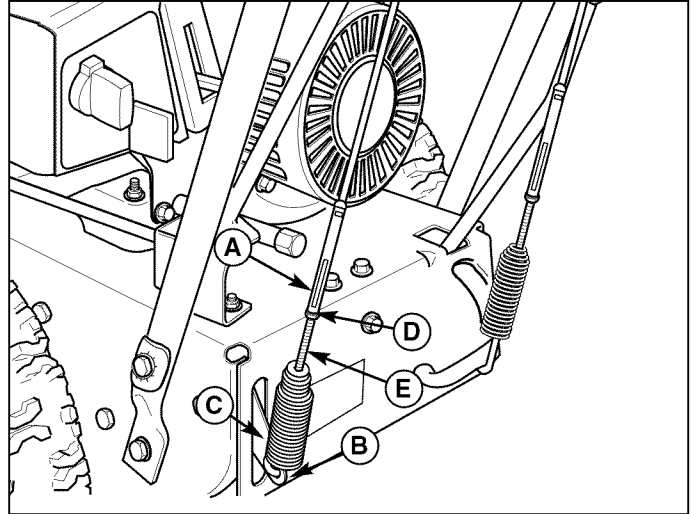


Figure 21. Traction Drive Adjustment

- A. Adjusting Flats
- B. Spring Hook
- C. Bellcrank Arm
- D. Nut
- E. Adjustment Screw

MANUAL DISCHARGE CHUTE CONTROL LINKAGE ADJUSTMENT

Pinion Gear Adjustment

If the discharge chute is difficult to operate, first lubricate the pinion gear (A, Figure 22) and ring gear (F). If it is still difficult to operate, adjust as follows:

NOTE: If the discharge chute will not stay in position, adjust the pinion gear (A) closer to the ring gear (F).

1. Loosen the nut (G, Figure 22) which holds the pinion gear bracket in the slotted hole.
2. If the pinion gear is too tight against the ring gear, move it away slightly and then retighten the nut.
3. Check the operation again.

Gear Bracket Adjustment

If the discharge chute becomes difficult to rotate or begins to operate erratically, the chute direction control rod gears may require adjustment:

1. Loosen the gear bracket mounting nuts (Figure 23).
2. Slide the gear bracket into the position that provides the best engagement between the gears.
3. Tighten the bracket mounting hardware, and check for smooth operation.
4. Readjust if necessary.
5. Lubricate the chute direction control rod gears with a medium weight (10W) oil.

ELECTRIC DISCHARGE CHUTE ROTATOR MOTOR ADJUSTMENT

If the electric chute rotator does not function properly, check the electrical connections and then perform the procedure below.

1. Remove the rotator motor cover.
2. Lubricate the chute ring gear.
3. Loosen the screws (A, Figure 24) securing the rotator motor and adjust so that the motor gear and chute ring gear mesh. Tighten the capscrews.
4. Reinstall the rotator motor cover.

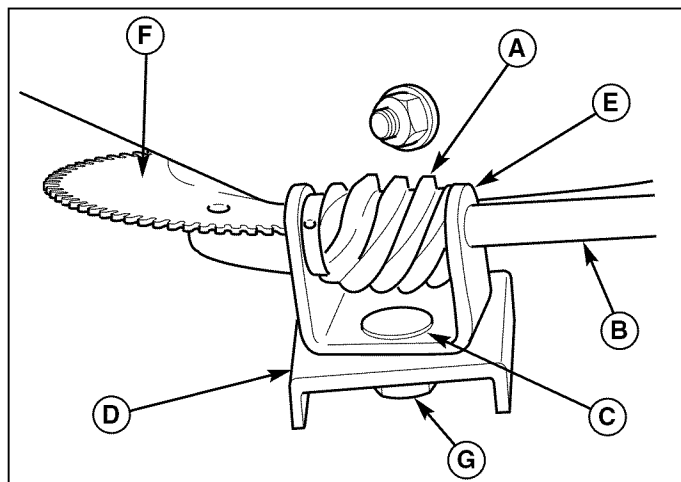


Figure 22. Discharge Control

- A. Pinion Gear
- B. Control Rod
- C. Carriage Bolt
- D. Slotted Bracket
- E. U-shaped Bracket
- F. Ring Gear
- G. Nut

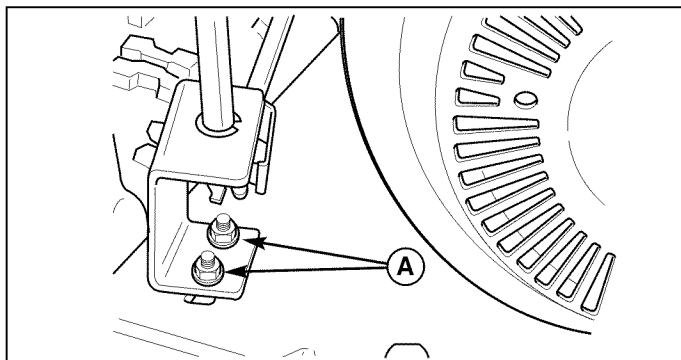


Figure 23. Gear Bracket Adjustment
A. Mounting Hardware

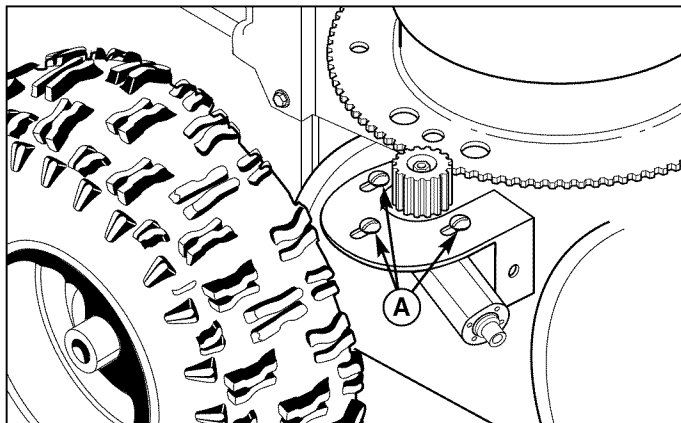


Figure 24. Chute Rotator Motor Adjustment
A. Screws

Adjustments & Service

EASY TURN™ CABLE ADJUSTMENT

If the Easy Turn™ cable has stretched, the gears will not disengage when the control lever is activated. Adjust the cable using the following procedure.

1. Turn the engine off and disconnect the spark plug wire.
2. Loosen the jam nut (B, Figure 25).
3. Turn the adjustment nut (A) to lengthen or shorten the cable. The cable should be tightened just until all slack is removed from the lever, however it must not engage the Easy Turn™ release without depressing the control lever.
4. Tighten the jam nut.

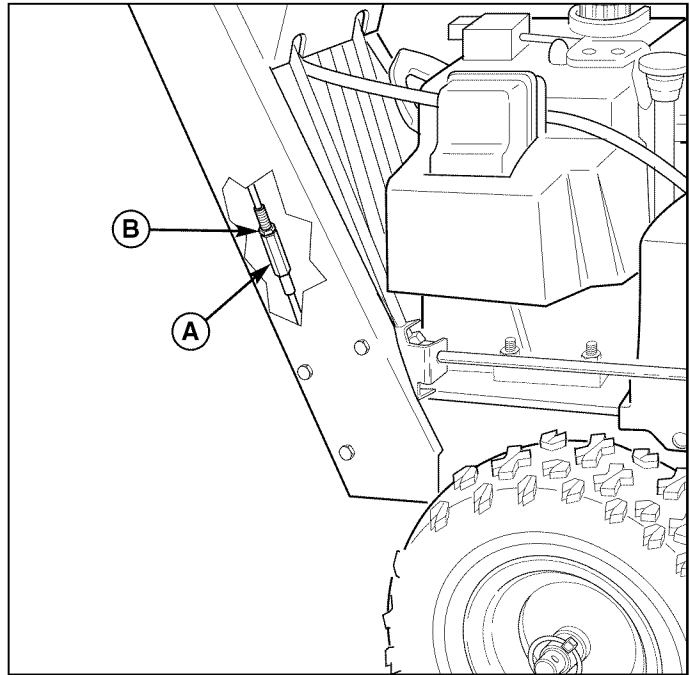


Figure 25. Cable Adjustment
A. Adjustment Nut
B. Jam Nut

SHEAR PIN REPLACEMENT

⚠ WARNING

Do not go near the discharge chute or auger when the engine is running. Do not run the engine with any cover or guard removed.

Under most circumstances, if the auger strikes an object which could cause damage to the unit, the shear pin will break. (This protects the gear box and other parts from damage.)

The shear pins are located on the auger shaft as shown in Figure 26. To replace the shear pins, tap out the broken pin with a pin punch, and install a new shear pin and cotter pin. Spread the legs of the new cotter pin fully. **Do NOT replace shear pins with anything other than the correct grade replacement shear pin.** (Use of bolts, screws or a harder shear pin will lead to damaged equipment.)

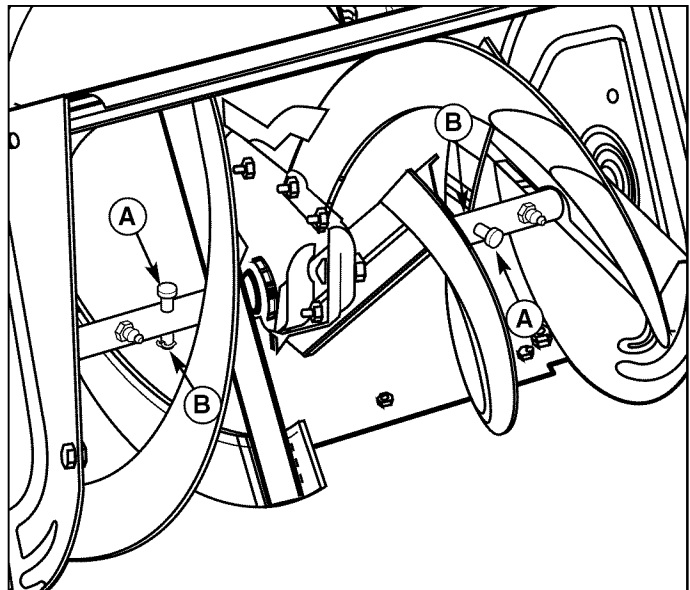


Figure 26. Shear Pins
A. Shear Pins
B. Cotter Pins

BELT REPLACEMENT

1. Turn off the engine, remove the spark plug wire, and wait for all moving parts to stop. Rotate the spout full right. Loosen the two screws (B, Figure 27) securing the belt cover.
2. Tilt the cover forward and work it off the snowthrower.
3. Move the belt guides (B, Figure 28) by loosening the two capscrews (A).
4. Remove the auger drive belt as follows:
 - a. Slip the auger drive belt (D, Figure 28) from the idler pulley by pushing it away from the pulley and then toward the rear.
 - b. Remove the belt from the engine pulley. Slip the belt from under the brake pad.
 - c. Remove two capscrews from bottom cover to snowthrower frame. Loosen nuts (A, Figure 29) on each side to release auger pulley belt stops (B). Move belt stops and remove belt from pulley (C).
 - d. Remove the two bolts (D, Figure 29) from the gear assembly.
 - e. Loosen the set collar and slide the axle shaft right.
 - f. Belt can be removed from top or bottom. For more clearance to remove the belt, engage the traction drive lever.
5. Remove the traction drive belt as follows:
 - a. Pull the idler pulley (I, Figure 28) away from the belt and slip the belt from the pulley.
 - b. Slip the belt off the traction pulley and then the engine pulley. The arm for the front idler pulley (G, Figure 28) may have to be pivoted to provide clearance for removing the belt from the traction pulley.
 - c. Pull the belt out between the auger pulley (F, Figure 28) and traction pulley.

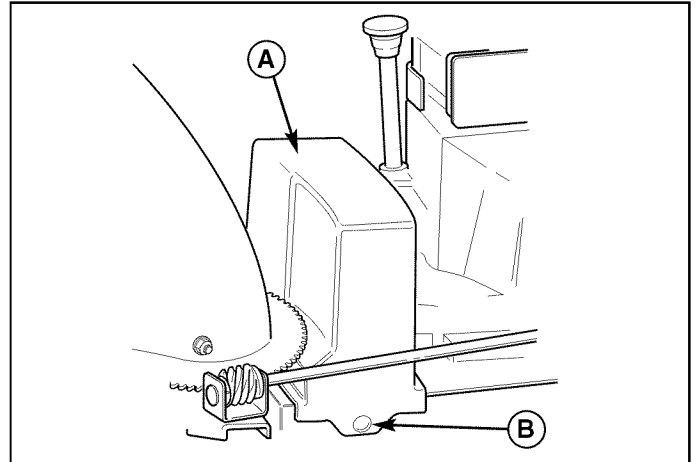


Figure 27. Belt Cover

- A. Belt Cover
- B. Screws

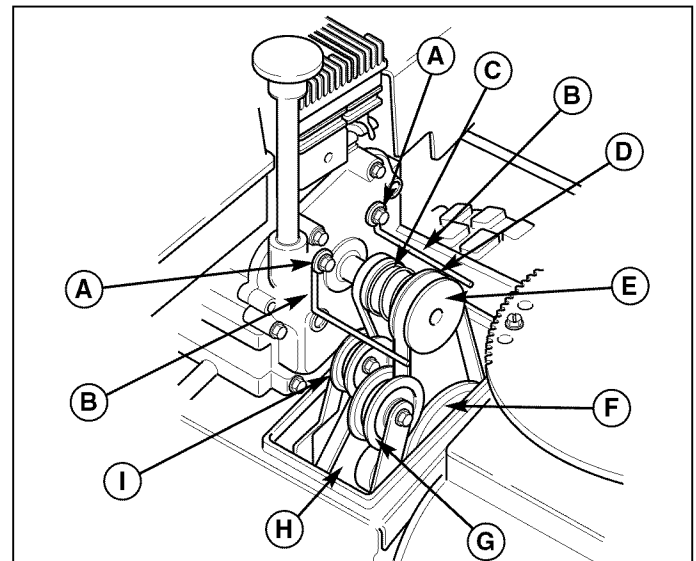


Figure 28. Belts and Pulleys

- A. Capscrews
- B. Belt Guides
- C. Traction Drive Belt
- D. Auger Drive Belt
- E. Engine Pulley
- F. Auger Pulley
- G. Idler Pulley, Auger
- H. Traction Pulley
- I. Idler Pulley, Traction

Service

6. Reverse the procedure to install the belts. Be sure there are no twists and the belts are properly seated in the grooves. Adjust the belt stops so there is 1/8" (3mm) clearance between belt and stop. The pattern for both belts is shown in Figure 30. Slide the right axle left fully before tightening the set collar (E, Figure 29).
7. Check the traction drive tension and auger drive tension. Follow the procedures under AUGER/TRACTION DRIVE TENSION.
8. Make sure the auger stops when the auger drive lever is released. Make sure traction drive stops when the traction drive lever is released. If not, check the drive tension. If a problem exists, see your dealer.

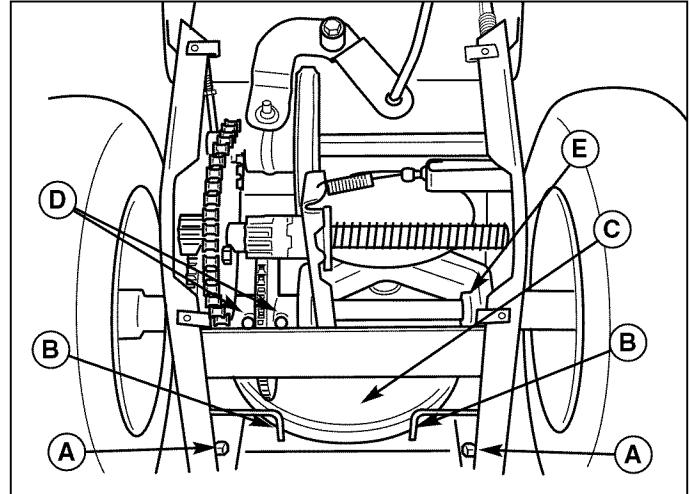


Figure 29. Auger Pulley Belt Stops (shown with bottom cover removed)

- A. Nuts
- B. Belt Stops
- C. Auger Pulley
- D. Gear Assembly Bolts
- E. Set Collar

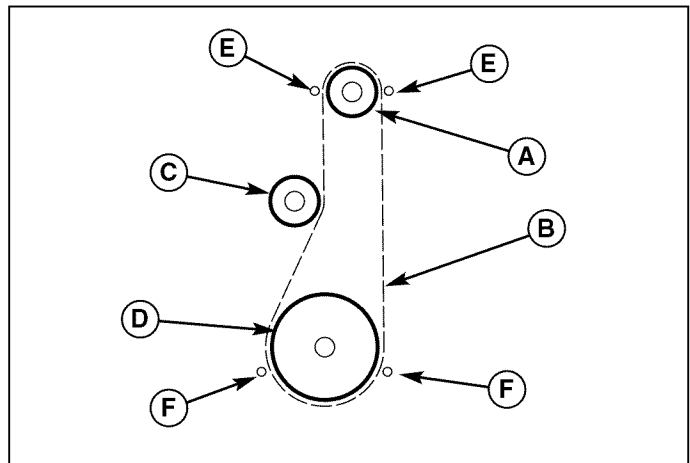


Figure 30. Belt Pattern (viewed from front)

- A. Engine Pulley
- B. Drive Belt
- C. Idler Pulley
- D. Driven Pulley
- E. Engine Belt Stops
- F. Auger Pulley Belt Stops (Power Boost Units Only)

Specifications

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

* The gross power rating for individual gas engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 (Small Engine Power & Torque Rating Procedure), and rating performance has been obtained and corrected in accordance with SAE J1995 (Revision 2002-05). Torque values are derived at 3060 RPM; horsepower values are derived at 3600 RPM. Actual gross engine power will be lower and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given both the wide array of products on which engines are placed and the variety of environmental issues applicable to operating the equipment, the gas engine will not develop the rated gross power when used in a given piece of power equipment (actual "on-site" or net power). This difference is due to a variety of factors including, but not limited to, accessories (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this Series engine.

ENGINE:

1450 Series Briggs & Stratton

Make	Briggs & Stratton
Model	Snow Series Max, M20H
Gross Torque*	14.50 ft-lbs (19.7 Nm) @ 3060 rpm
Displacement	18.6 cu. in. (305 cc)
Oil Capacity	28 oz. (.84 l)

1550 Series Briggs & Stratton

Make	Briggs & Stratton
Model	Snow Series Max, M21H
Gross Torque*	15.50 ft-lbs (21.0 Nm) @ 3060 rpm
Displacement	20.87 cu. in. (342 cc)
Oil Capacity	28 oz. (.84 l)

1650 Series Briggs & Stratton

Make	Briggs & Stratton
Model	Snow Series Max, M21H
Gross Torque*	16.50 ft-lbs (22.4 Nm) @ 3060 rpm
Displacement	20.87 cu. in. (342 cc)
Oil Capacity	28 oz. (.84 l)

CHASSIS:

Wheels

- 1524, 1628

Tire Size: 16 x 4.8

Inflation Pressure: 20 psi (1,37 bar)

- 1732, 1738

Tire Size: 16 x 6.5

Inflation Pressure: 14 psi (.96 bar)

Spout Rotation

210 Degrees

Impeller

12 in. (30 cm) 4 Blade Ribbon Flighted Steel

Auger Opening Height

19 in. (47.5 cm)

Drive System

Friction Disc, 5 Forward Speeds, 2 Reverse

DIMENSIONS:

Effective Clearing Width

-1524 24 in. (60 cm)

-1628 28 in. (70 cm)

-1732 32 in. (80 cm)

-1738 38 in. (97 cm)

Length

-1524 57 in. (142 cm)

-1628 57 in. (142 cm)

-1732 57 in. (142 cm)

-1738 57 in. (142 cm)

Height

-1524 38 in. (93 cm)

-1628 38 in. (93 cm)

-1732 38 in. (93 cm)

-1738 38 in. (93 cm)

Weight

-1524 245 lbs (111 kg)

-1628 265 lbs (120 kg)

-1732 275 lbs (125 kg)

-1738 300 lbs (136 kg)

Parts & Accessories

REPLACEMENT PARTS

Replacement parts are available from your authorized dealer. Always use genuine Simplicity / Snapper Service Parts.

MAINTENANCE ITEMS

Many convenient and helpful service and maintenance items are available from you authorized dealer. Some of these items include:

- | | |
|-------------------|--------------------|
| Engine Oil | Tire Sealant |
| Touch-Up Paint | Degrimer/Degreaser |
| Grease Gun Kit | Gas Stabilizer |
| 8 oz. Grease Tube | |

TECHNICAL MANUALS

Additional copies of this manual are available, as well as fully illustrated parts lists. These manuals show all of the product's components in exploded views (3D illustrations which show the relationship of parts and how they go together) as well as part numbers and quantities used. Important assembly notes and torque values are also included.

For applicable manuals currently available for your model, contact our Customer Publications Department at +1-877-249-6647. Have the information listed in the box below available when phoning in your request. Technical manuals can be downloaded from:

www.simplicitymfg.com

www.snapper.com

Model:	_____
Mfg. No.:	_____
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Address:	_____
City, State, Zip:	_____
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