



OWNER'S MANUAL
Model Number

700512-1 66" Snowblower
700513-1 72" Snowblower



BERCO
VANTAGE 66" & 72" Snowblower
For
OFF ROAD UTILITY VEHICLE

* ASSEMBLY
* OPERATION

* REPAIR PARTS
* MAINTENANCE

CAUTION:
READ & FOLLOW ALL SAFETY RULES & INSTRUCTIONS BEFORE
OPERATING YOUR EQUIPMENT

LIMITED WARRANTY

Conditions and Products Covered:

BERCOMAC guarantees any part of the product or accessory manufactured by BERCOMAC and found in the reasonable judgment of BERCOMAC to be defective in material and or workmanship will be repaired or replaced by an authorized dealer without charge up to our maximum labor rates and pre-established times. For replacement parts only standard ground freight services are covered. This warranty extends to the original retail purchaser only and is not transferable to any subsequent purchasers.

Warranty Period

(from date of the original retail purchase):

- Semi-commercial use: 1 year
- Commercial, professional or rental use: 90 days

Exceptions Noted Below; the following items are guaranteed by the original manufacturer and have their own warranty, conditions and limited time:

- Tire Chains: 90 days
- Engines: Will vary as per the manufacturer
Please refer to the engine manufacturer's warranty statement included with the unit. BERCOMAC is not authorized to handle warranty adjustments on engines.

Items and Conditions NOT Covered:

This warranty does not cover the following:

- Pick-up or delivery charges or in-home services fees.
- Any damage or deterioration of the unit, parts and or finish of these due to normal use, wear and tear, or exposure.
- Cost of regular use or maintenance service or parts, such as gas, oil, lubricants, tune-up parts, and adjustments.
- Any part or accessory which has been altered, modified, misused, neglected, accidentally damaged or not properly installed, maintained, stored or repaired not in accordance with the instructions in the owner's manual.
- Repair due to normal wear and or any wear items such as shear pins, bolts, belts, etc.
- Expedited freight fee services for replacement parts.
- Shear bolts and shear pins are to be considered as a preventive measure not as an assured protection, any damages resulting from the lack of shear bolts breakage are not covered.

NOTE: All warranty work must be performed by an authorized dealer using original (manufacturer) replacement parts.

NOTE: Bercomac reserves the right to change or improve the design of any part or accessory without assuming any obligation to modify any product previously manufactured.

Instructions for Obtaining Warranty Services:

Contact dealer where equipment was purchased or any other authorized service dealer to arrange service at their dealership. Requests for warranty claims must be carried out through the same distribution network used to purchase the product. Don't forget to bring the product and your proof of purchase (sales receipt) to the dealer.

Owner's Responsibilities:

Any defective equipment or part must be returned to an authorized dealer within the warranty period for repairs. In the event that defective merchandise must be returned to manufacturer for repairs, the dealer must first obtain a written authorization from either KIMPEX or BERCOMAC, freight fees are prepaid prior to the shipment. This warranty extends only to equipment operated under normal conditions. To validate a warranty claim, it is the user's responsibility to maintain and service the unit as specified in the owner's manual or to have the unit serviced at their dealer at their expense.

General Conditions:

The sole liability of BERCOMAC with respect to this warranty shall be strictly and exclusively repair and replacement as mentioned herein. BERCOMAC shall not have any liability for any other costs, loss or damage, including but not limited to, any incidental or consequential loss or damage.

In particular, without being limited to, BERCOMAC shall have no liability or responsibility for:

- Travel time, overtime, after hours time or other extraordinary repair charges or relating to repairs and or replacements outside of normal business hours.
- Rental of like or similar replacement equipment during the period of any, repair or replacement work.
- Any communicating or travel charges.
- Loss or damage to person or property other than that covered by the terms of this warranty.
- Any claims for lost revenue, lost profit or any similar costs as a result of damage or repair.
- Attorney's fees.

BERCOMAC's responsibility in respect to claims is limited to making the required repairs or replacement without charge up to our maximum labor rates and pre-established times and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any product or accessory.

This warranty gives you specific legal rights. You may also have other rights, which vary from state to state.

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INTRODUCTION

TO THE PURCHASER

This new accessory was carefully designed to give years of dependable service. This manual has been provided to assist in the safe operation and servicing of your attachment.

NOTE: All photographs and illustrations in the manual may not necessarily depict the actual models or attachment, but are intended for reference only and are based on the latest product information available at the time of publication.

Familiarize yourself fully with the safety recommendations and operating procedures before putting the machine to use. Carefully read, understand and follow these recommendations and insist that they be followed by those who will use this attachment.



THIS SAFETY ALERT SYMBOL IDENTIFIES AN IMPORTANT SAFETY MESSAGE IN THIS MANUAL THAT HELPS YOU AND OTHERS AVOID PERSONAL INJURY OR EVEN DEATH. DANGER, WARNING, AND CAUTION ARE SIGNAL WORDS USED TO IDENTIFY THE LEVEL OF HAZARD. HOWEVER, REGARDLESS OF THE HAZARD, BE EXTREMELY CAREFUL.

DANGER: Signals an extreme hazard that will cause serious injury or death if recommended precautions are not followed.

WARNING: Signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

CAUTION: Signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed.

Record your attachment serial number and purchase date in the section reserved below (there is no serial number on the subframe). Your dealer requires this information to give you prompt, efficient service when ordering replacement parts. Use only genuine parts when replacements are required.

If warranty repairs are required please present this registration booklet and original sales invoice to your selling dealer for warranty service.

**This manual should be kept for future reference.
Please check if you have received all the parts for your kit with the list of the bag and the list of the box.**

SERIAL NUMBER : (IF APPLICABLE)	
MODEL NUMBER:	
PURCHASE DATE :	



SAFETY PRECAUTIONS



Careful operation is your best insurance against an accident. Read this section carefully before operating the vehicle and accessory. This accessory is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury. All operators, no matter how experienced they may be, should read this and other manuals related to the vehicle and accessory before operating. It is the owner's legal obligation to instruct all operators in safe operation of the accessory.

GLOSSARY:

In this manual, right and left sides are determined by sitting on the seat of the vehicle facing forward.

In this manual, "accessories" means attachments (snowblower, rotary broom, blade etc.) that you install on the vehicle (lawn tractors, A.T.V. s etc).

TRAINING:



This symbol, "Safety Alert Symbol", is used throughout this manual and on the accessory's safety labels to warn of the possibility of serious injury. Please take special care in reading and understanding the safety precautions before operating the vehicle and accessory.

1. Read this owner's manual carefully. Be thoroughly familiar with the controls and proper use of the vehicle and accessory. Know how to stop the unit and disengage the controls quickly.
2. Never allow children to operate the vehicle nor the accessory. Never allow adults to operate the vehicle nor the accessory without proper instructions.
3. No one should operate the vehicle nor the accessory while intoxicated or while taking medication that impairs the senses or reactions.
4. Keep the area of operation clear of all people, particularly small children and pets.

PREPARATION:

1. Thoroughly inspect the area where the accessory is to be used and remove door mats, all foreign objects and the like.
2. For motorized accessories, disengage all clutches and shift into neutral before starting engine.
3. Do not operate the accessory without wearing adequate winter outer garments. Avoid loose fitting clothing that can get caught in moving parts. Wear footwear that will improve footing on slippery surfaces.

4. Handle fuel with care, it is highly flammable.

- a) Use 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.
 - d) Never fill containers inside a vehicle, or on a truck or a 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 equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
 - f) Keep the 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 fuel cap securely and wipe up spilled fuel.
 - h) If fuel is spilled on clothing, change clothing immediately.
5. Never attempt to make any adjustments while the engine (motor) is running (except when specifically recommended by manufacturer).
 6. Let the vehicle and accessory adjust to outdoor temperatures before using.
 7. Never use an accessory without proper guards, plates, or other safety protective devices in place
 8. Always make sure to wear the appropriate safety equipment required (glasses, muffs, mask...) for each type of product. See operation section.
 9. Always make sure of having safe traction on the vehicle by using the recommended accessories (chains, A.T.V. tracks, counterweights...). See operation section.
 10. **Never modify the accessory or any part without the written consent from the manufacturer.**



SAFETY PRECAUTIONS



OPERATION:

1. Do not put hands or feet near, under or inside rotating parts.
2. Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
3. After striking a foreign object, stop the engine (motor), disconnect the wire from the spark plug(s) and keep wire away to prevent accidental starting. Thoroughly inspect the accessory for any damage and repair damage before restarting and using the accessory.
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. Take all possible precautions when leaving the vehicle unattended. Disengage the power take-off, lower the attachment, place the transmission into neutral, set the parking brake, stop the engine and remove the contact key.
6. Do not run the engine indoors, except when starting the engine and for transporting in or out of the building. Do not operate or let motor run in a storage area without ventilation because gas contains carbon monoxide which is odorless, colorless and can cause death.
7. Never use the accessories across the face of slopes, go from top to bottom. Exercise extreme caution when using equipment on slopes. Do not attempt to clear a steep slope.
8. Never tolerate bystanders in the working zone. Never use an accessory in the direction of bystanders, it might throw gravel or debris that can hurt people or damage property.
9. Never operate the accessory at high transport speeds on slippery surfaces. Use care when backing up.
10. Do not carry passengers.
11. Disengage power to the accessory when it is transported or not in use.
12. Never operate the accessory without good visibility or light.

13. Keep the accessory away from heat sources or flames.

MAINTENANCE AND STORAGE

1. When cleaning, repairing or inspecting the vehicle and accessory, make certain that all moving parts have stopped. Disconnect wire from the spark plug(s) and keep wire away to prevent accidental starting.
2. Check all the bolts and components at frequent intervals to make sure that they are properly tightened.
3. Never store a motorized accessory with fuel in the fuel tank inside a building where ignition sources are present such as hot water and space heaters, clothes dryers, and the like. Allow the engine to cool before storing in any enclosure.
4. Always refer to the owner's manual when you store the accessory and vehicle for a prolonged or an unspecified length of time.
5. Maintain or replace safety and instruction labels, as necessary.
6. For winter accessories, (if applicable), let the engine run for a few minutes after clean snow in order to prevent the rotary parts from freezing.
7. Inspect the vehicle's and accessory's air filter every day. Clean it or replace it as necessary. Change the oil more often when working in dusty conditions. See the vehicle's and accessory's owner's manual.



THIS SYMBOL MEANS
DANGER !
BECOME ALERT !
YOUR SAFETY IS INVOLVED !



SAFETY DECALS



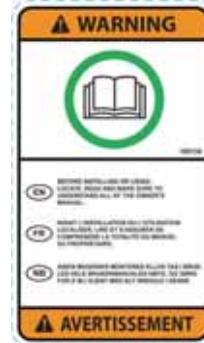
**REPLACE IF DECALS ARE DAMAGED
SEE PARTS BREAKDOWN FOR DECAL LOCATION**

DECAL #105126



To avoid serious injury:
Keep hands, feet & clothing away from rotating auger while engine is running.

DECAL #105130



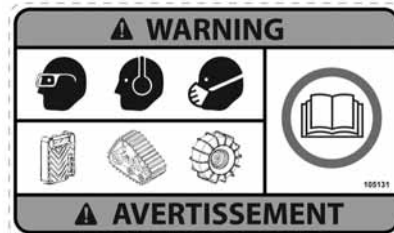
Before installing or using:
Locate, read and make sure to understand all of the owner's manual.

DECAL #105127



To avoid serious injury:
Keep hands out of this discharge chute while engine is running.

DECAL #105131

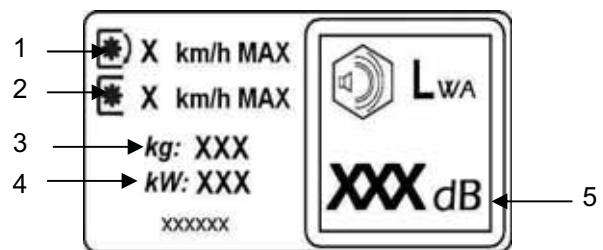


Refer to owner's manual about wearing safety glasses, ear muffs and mask.
Refer to owner's manual for use of counter weights, cat tracks and tire chains.

DECAL #105128



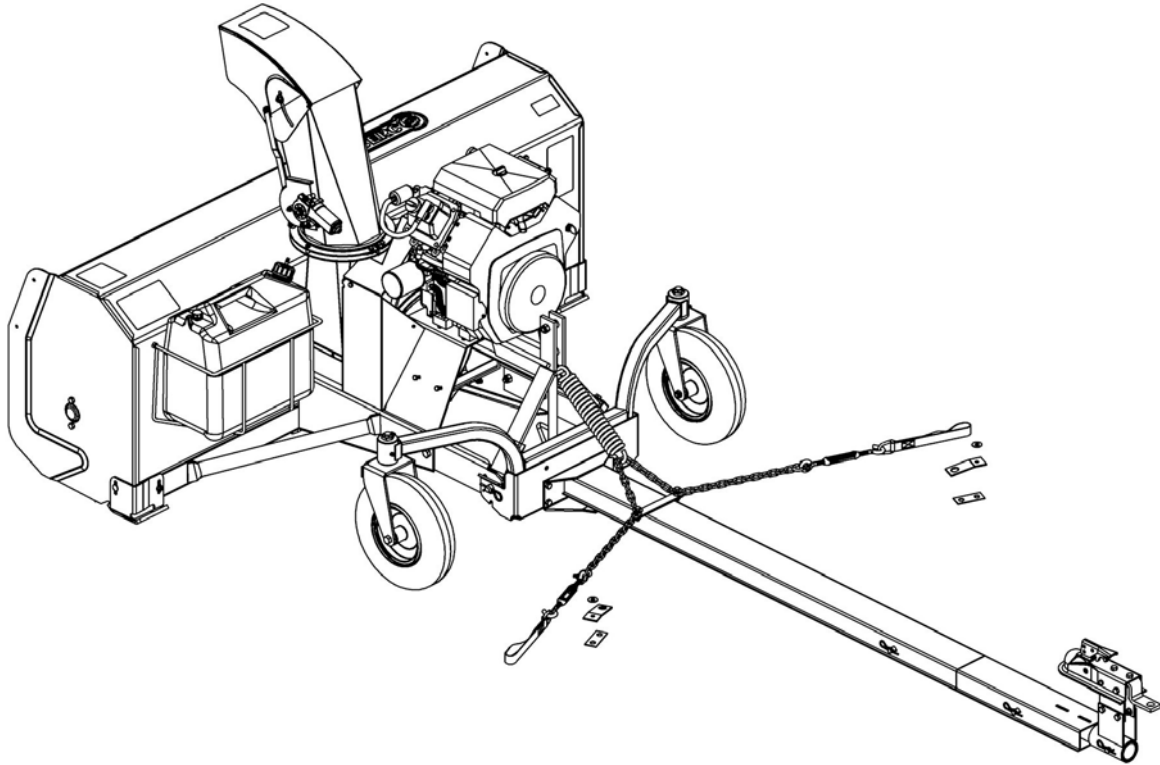
To avoid injury from drive belt:
Keep hands, feet & clothing away.
Do not attempt to install or remove drive belt without reading owner's manual.



- 1-Do not drive faster than 3 KM/H when the snowblower is in operation.
- 2-Do not drive faster than 10 KM/H when the snowblower is in the raised position.
- 3-The head of the snowblower weighs 220kg. (without engine).
- 4-The engine wattage is 17.2kW. (depends on what engine is installed).
- 5-The sound pressure level (107dBA) is measured at the engine (full charge at 3600 RPM) and depends on the engine that is installed. The value indicated is a reference only.

ASSEMBLY

IMPORTANT: TORQUE ALL BOLTS ACCORDING TO TORQUE SPECIFICATION TABLE (SEE TABLE OF CONTENTS) WHEN STATED: TIGHTEN FIRMLY. REFER TO PARTS BREAKDOWN SECTION FOR PART IDENTIFICATION.



Overall view of snowblower

TOOLS REQUIRED:

- 1 Ratchet
- 3 Sockets 7/16", 1/2", 9/16"
- 3 Wrenches, 7/16", 1/2", 9/16"
- 1 Hexagonal wrench 5/32"
- 1 Wrench (for the nuts on the vehicle's battery posts)

ASSEMBLY

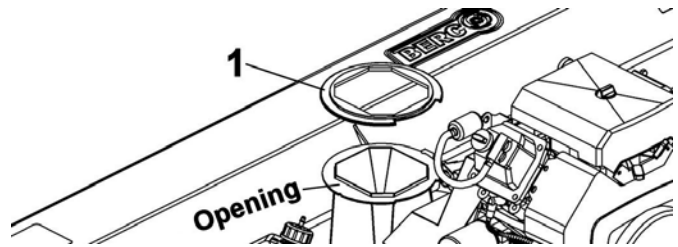
STEP 1

SNOWBLOWER PREPARATION:

Refer to parts breakdown section for parts identification.

Install the nylon rotation ring (item 1).

# Item	Description	Action
1	Rotation ring (nylon)	Install over the opening as shown and align the notches.

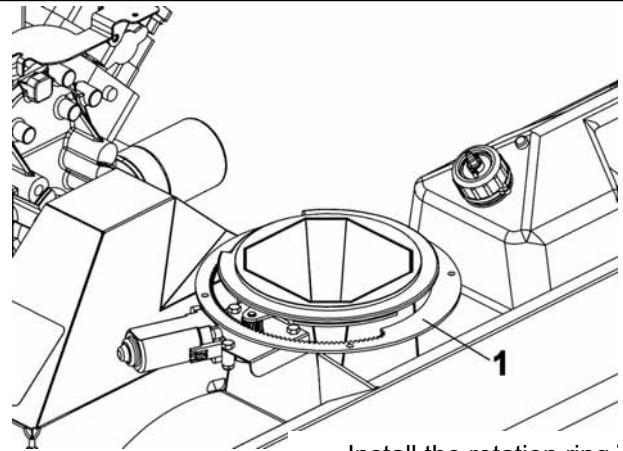


Install the nylon rotation ring

Install the rotation ring (item 1).

# Item	Description	Action
1	Rotation ring	Install over the opening as shown.

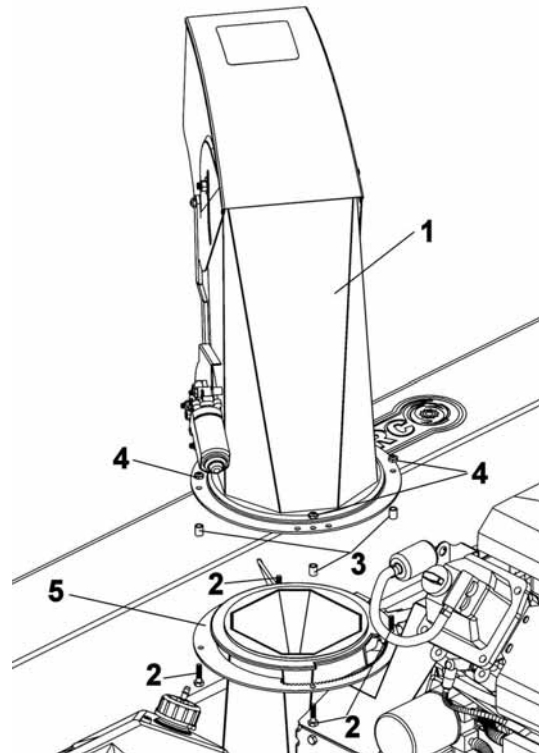
NOTE: Place the rotation ring (item 1) approximately as shown in the drawing, the groves of the rotation ring on the teeth of the rotation motor.



Install the rotation ring

Install the chute (item 1).

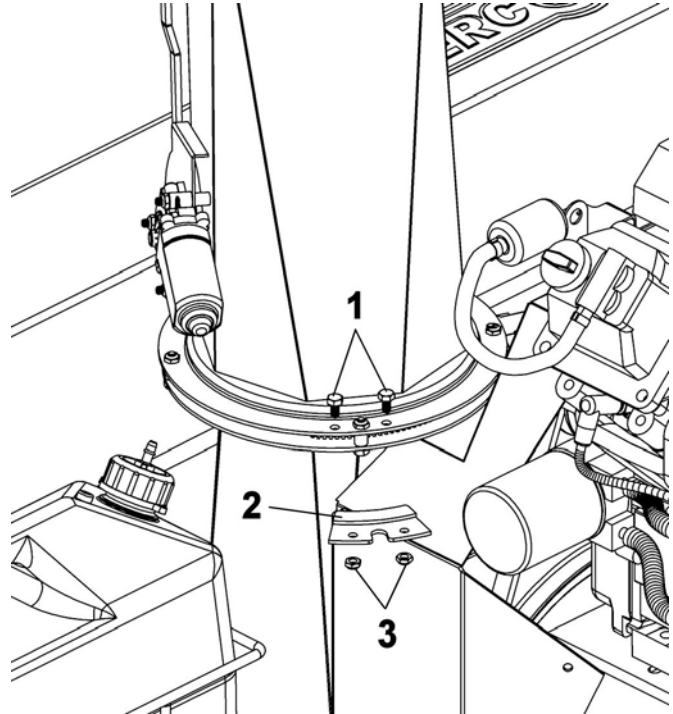
# Item	Description	Action
1	Chute	Place the chute on the nylon rotation ring. Turn the chute to make sure it turns freely. Place the chute at 45° angle as shown.
2	Hex bolt 1/4" n.c x 1" (qty 4)	Insert under the rotation ring (item 5) as shown.
3	Spacers (qty 4)	Install on the bolts between the rotation ring and the chute.
4	Nylon insert lock nuts 1/4" (qty 4)	Secure everything in place.



Install the chute

ASSEMBLY

Install the retaining plate (item 2) under the chute .		
# Item	Description	Action
1	Hex. bolt 1/4" n.c. x 1/2" (qty 2)	Insert as shown.
2	Retaining plate	Install as shown under the chute
3	Nylon insert lock nut 1/4" thin (qty 2)	Secure in place.



Install the retaining plate

ASSEMBLY

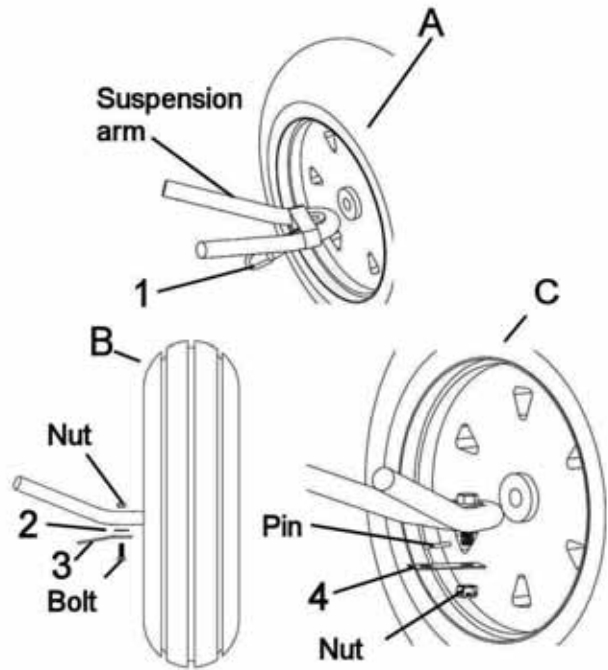
STEP 2

VEHICLE PREPARATION:

NOTE: A 1 7/8" or 50mm tow hitch ball is required.

Choose among the three different options to prepare your vehicle (A, B, C).

# Item	Description	Action
A) Install the lift strap (item 1) by looping it around the suspension arm on each side of the vehicle. Tighten the loop firmly.		
B) Install the brackets (item 3) on both sides of vehicle.		
	Bolt and nut from suspension arm	Remove.
2-3	Flat washer and bracket	Install and lightly secure with the original bolt and nut.
C) Install the brackets (item 4) on both sides of vehicle.		
	Nut from suspension arm	Remove.
4	Bracket	Install and lightly secure with the original nut.



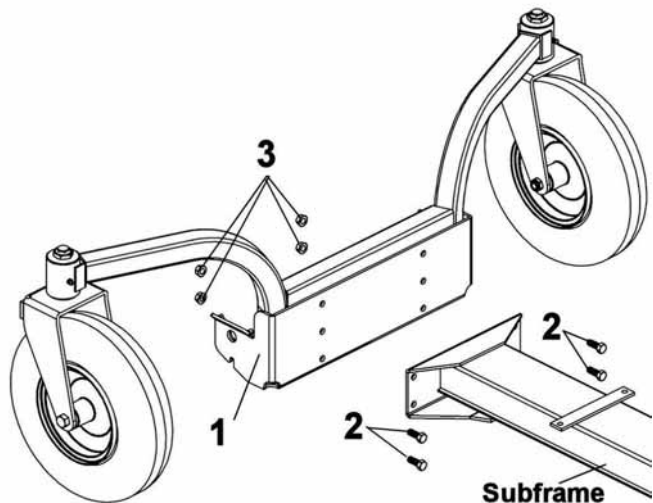
Install the lift strap or the brackets.

STEP 3

SUBFRAME PREPARATION:

NOTE: Determine according to the height of the vehicle which set of holes to use to assemble the wheel support (item 1) to the subframe.*

Install the wheel support (item 1).		
# Item	Description	Action
1	Wheel support	Install to the subframe.
2	Hex bolts 3/8" x 1"(qty 4)	Insert as shown
3	Flange nuts 3/8" (qty 4)	Tighten firmly
*The subframe must be parallel with the ground when the subframe is installed under the vehicle.		



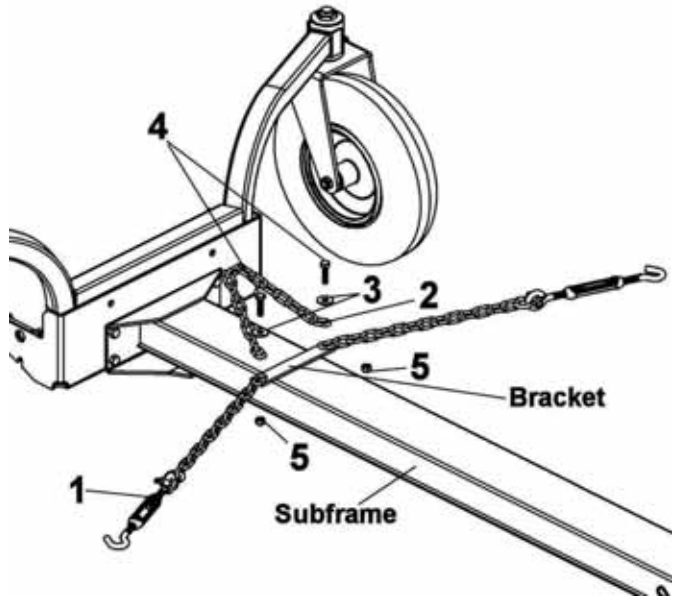
Install the wheel support to the subframe

ASSEMBLY

Install the assembled turnbuckles (item 1).

# Item	Description	Action
1	Assembled turnbuckle (qty 2)	Install on the bracket of the subframe as shown.
2	Chain	Install on the chains as shown.
3	Flat washer 3/8" (qty 2)	Install on the assembled turnbuckles as shown.
3	Hex bolt 5/16" x 1" (qty 2)	Insert as shown.
4	Nylon insert lock nut 5/16" (qty 2)	Install and tighten loosely enough to allow the parts to move freely.

NOTE: Position the chains as shown and tighten firmly.

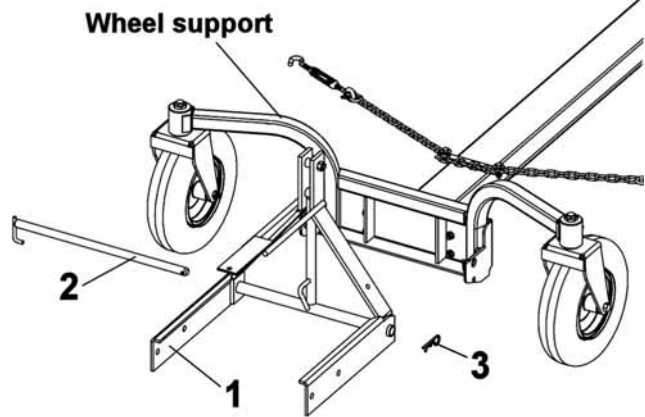


Install the assembled turnbuckles

Install snowblower (item 1).

# Item	Description	Action
1	Snowblower	Install to wheel support.
2	Pin	Slide pin through the assembly to hold everything together.
3	Hair pin 4mm	Secure the pin as shown.

NOTE: Make sure the pin is in the locked position.



Install snowblower

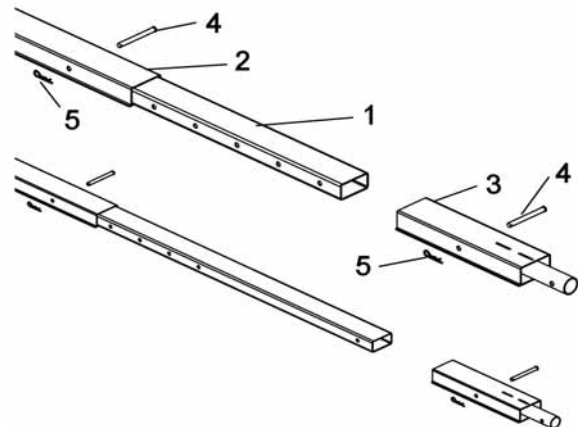
You have seven different positions on the adjustment tube (item 1) (the adjustment tube can be inverted) to adjust the length of the subframe.

To choose the right length, insert the adjustment tube (item 1) into the subframe (item 2) and insert the rear bracket (item 3) on the adjustment tube.

Do not secure.

Drive the vehicle over the subframe, make sure the caster wheels do not touch the front wheels on the vehicle.

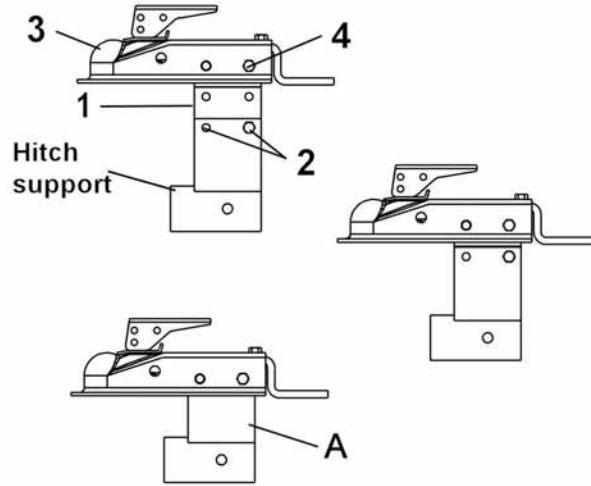
Identify the right length and secure in place with the pins (item 4) and 3mm hair pins (item 5).



Adjust the length of the subframe

ASSEMBLY

Choose between the three positions (see figure), the height of the hitch support.
 The hitch support is preassembled in one position at the factory.
 There must be a maximum of ground clearance according to your vehicle.
 Position A does not have the hitch support plates (item 1).



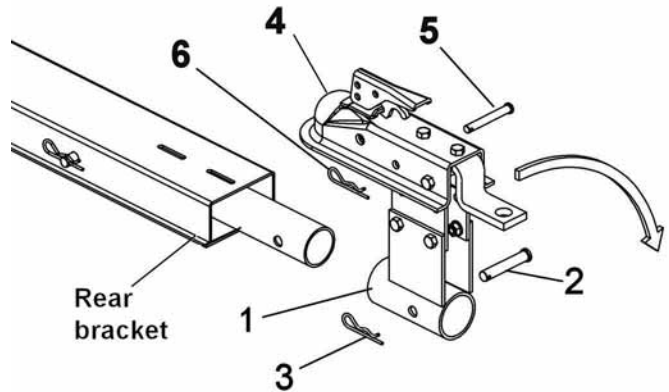
Assemble the hitch support plates

Assemble the hitch support plates (item 1).		
# Item	Description	Action
1	Hitch support plate (qty 2)	Assemble the hitch support plates on the hitch support.
2	Hex bolt 3/8" x 3/4" (qty 4)	Insert in the chosen holes, (two on each side) and secure with the flange nuts 3/8". Tighten firmly.
3	Hitch	Insert on the two hitch supports plates (if applicable).
4	Hex bolt 3/8 x 3" (qty 1)	Insert in the hole as shown and secure with a 3/8" nylon lock nut. Tighten firmly.

Install the assembled hitch support (item 1) on the vehicle's tow hitch ball.		
# Item	Description	Action
1	Assembled hitch support	Insert onto the rear bracket.
2-3	Pin and 3mm hair pin	Secure in place.
4	Assembled hitch support	Attach on the vehicle's tow hitch ball.
5-6	Pin and 3mm hair pin	Secure in place.

Make sure the subframe does not come into contact with vehicle at any time.

NOTE: You can turn the hitch assembly (item 1) by removing the pin (item 2) to facilitate driving the vehicle over the subframe.



Secure the assembled hitch support on the tow hitch ball

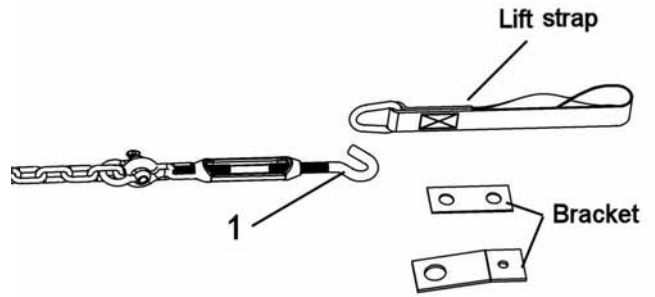
ASSEMBLY

Install the turnbuckles (item 1) into the brackets or into the lift straps.

# Item	Description	Action
1	Turnbuckle (qty 2)	Adjust them so that the subframe is centered under the vehicle .*

*Tighten the turnbuckles firmly in order to tighten the vehicle's suspension.

IMPORTANT: After adjusting the turnbuckles, tighten the nuts on the vehicle's suspension arms firmly. Make sure to lock the nuts with the original locks.

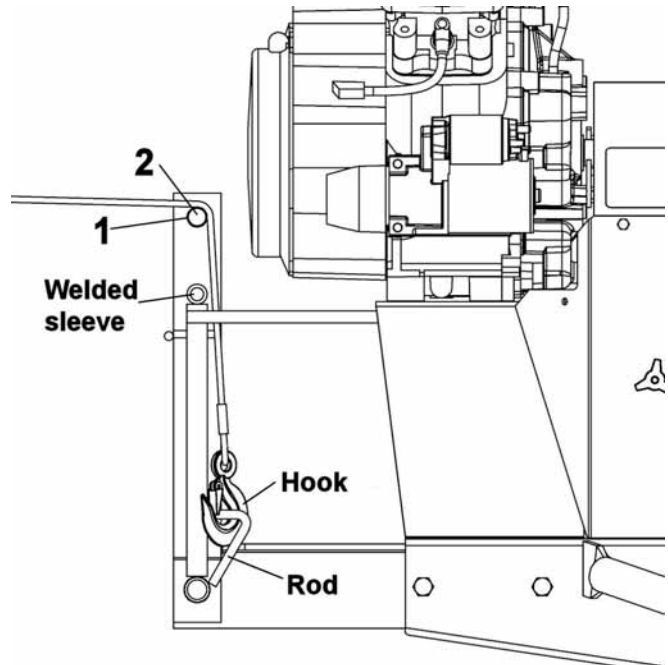


Hook the turnbuckles

Attach the **vehicle's** winch's hook on the rod on the hitch.

# Item	Description	Action
If the vehicle's winch is higher than 20" (510mm) from the ground.		
1	Sleeve	Install in the top hole of the lever.
2	Hex bolt 1/2" x 2 1/4" and nylon insert lock nut	Insert in the top sleeve. Tighten firmly.
	Vehicle's winch's hook	Install on the rod as shown.
If the vehicle's winch is lower than 20" (510mm) from the ground use the sleeve welded on the hitch.		
	Vehicle's winch's hook	Install on the rod as shown.

Tip: Thread the winch's hook in front of the hitch as shown and then thread the cable over the sleeve.



Install the winch hook

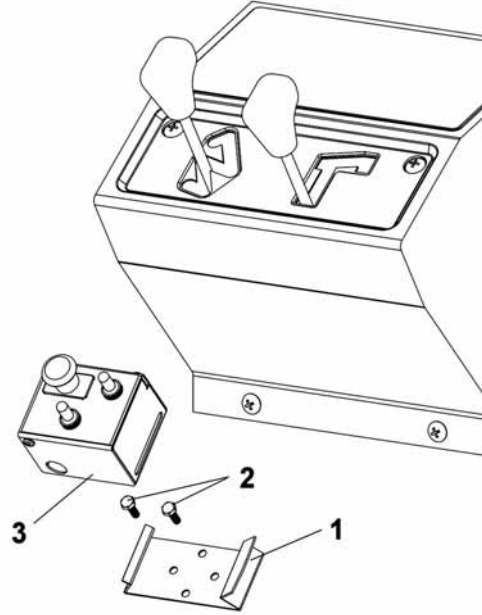
ASSEMBLY

STEP 4 CONTROL BOX INSTALLATION:

Disconnect the wires that are connected to the control box.

# Item	Description	Action
1	Box support	Install in an appropriate place. Drill holes if necessary.
2	Hex bolt 1/4" x 1/2" (qty 2)	Secure box support in place with two flange nuts. Tighten firmly.
3	Control box	Install on the box support.

Thread the wires that unite the accessory under the hood to the front of the vehicle.



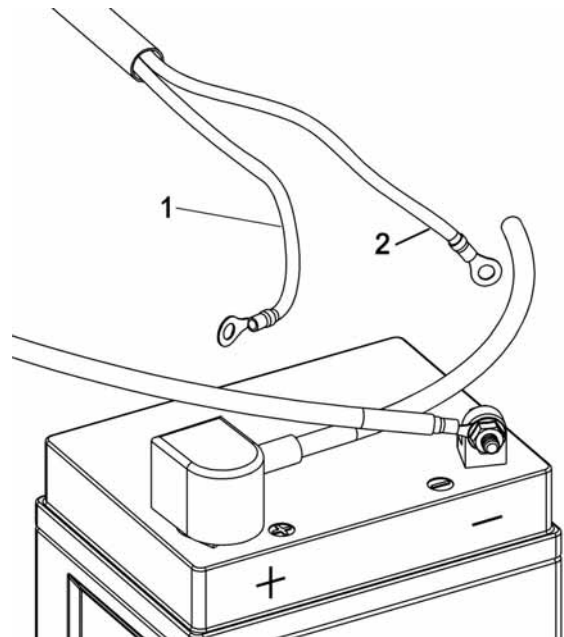
Install the control box

Thread the other wire by an appropriate route to the battery.
Connect the red wire (item 1) to the positive post and the black wire (item 2) to the negative post on the vehicle's battery.

NOTE: Secure the wires to the vehicle with the nylon tie wraps. These wires will stay on the vehicle.

IMPORTANT: The control box is equipped with a red emergency kill switch in case you need to stop the engine quickly.

NOTE: The emergency kill switch must be pulled out to start the engine of the accessory.



Connect the wires on the battery

ASSEMBLY

Connect the wire connector on the motor for the chute deflector (A).

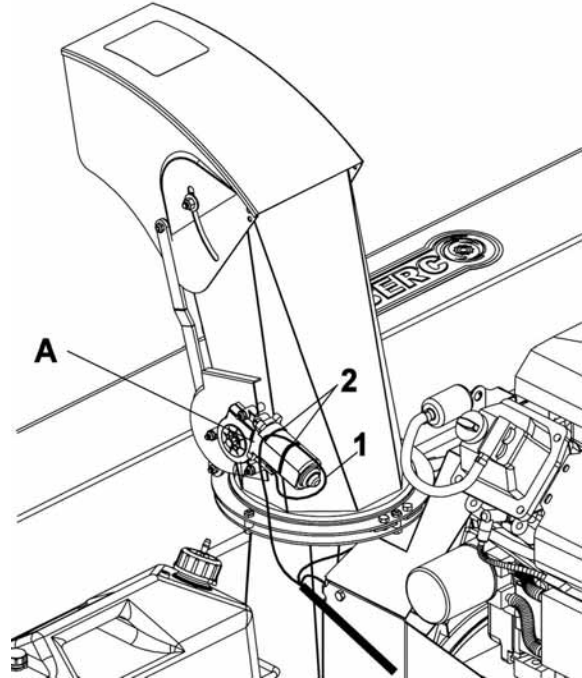
There will be one black connector that will not be connected. This is to connect the optional snowblower light.

Make sure the connectors are well connected together and tie the wire that is connected to the motor of the deflector (item A) with a nylon tie wrap on the motor in a way that the wire does not come into interference with the chute's rotation.

Turn the chute to its maximum towards the right.

Secure the wire of the motor for the deflector with a couple of tie wraps (item 1 & 2) as shown.

Be sure to leave enough wire length to be able to turn the chute freely.



Secure the wires as shown

IMPORTANT:

Take the time to familiarize yourself with the location of the switches and with their use.

NOTE: If the switches don't match the right controls, reconnect the connectors with the right motors.

Pay particular attention to the switch for the belt tensioner (item 3). This switch must be held in position for a few seconds in order to activate or deactivate the lever of the belt tensioner.

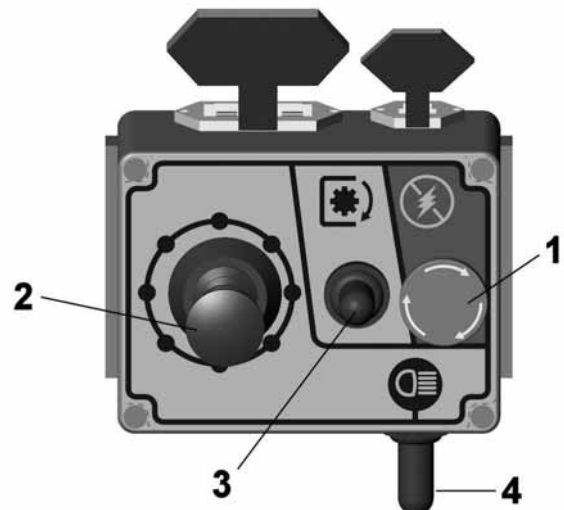
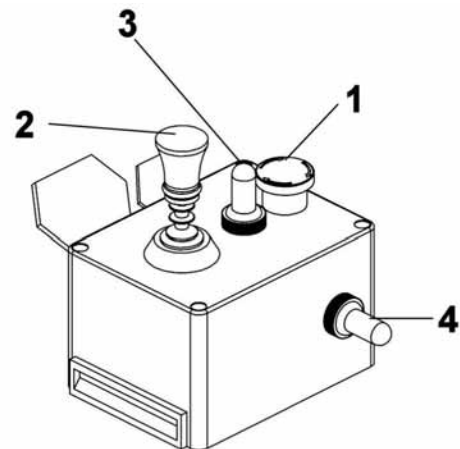
Make sure that the action is complete when you engage or disengage the snowblower.

DANGER:

It is the responsibility of the person who installs the accessory to make sure the engaging system works well and that the snowblower disengages effectively at all times. It is imperative to make the necessary adjustments if applicable.

Identification of the switches:

1. Emergency switch. (Pull out to start).
2. Joystick to move the chute and the deflector.
3. Switch for the belt tensioner.
4. Switch for optional light kit.



Identify the controls.

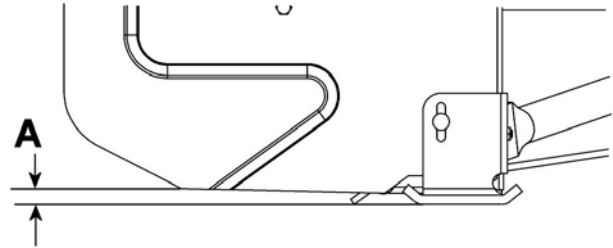
ASSEMBLY

STEP 5

VERIFY SKID SHOE ADJUSTMENT:

LEVEL PAVED SURFACE: Adjust skid shoes to allow 3/16" to 1/4" clearance (A) between cutting edge and surface.

UNEVEN OR GRAVEL SURFACE: Adjust skid shoes to allow 1/2" to 5/8" clearance (A) between cutting edge and surface.



Adjust skid shoes as shown

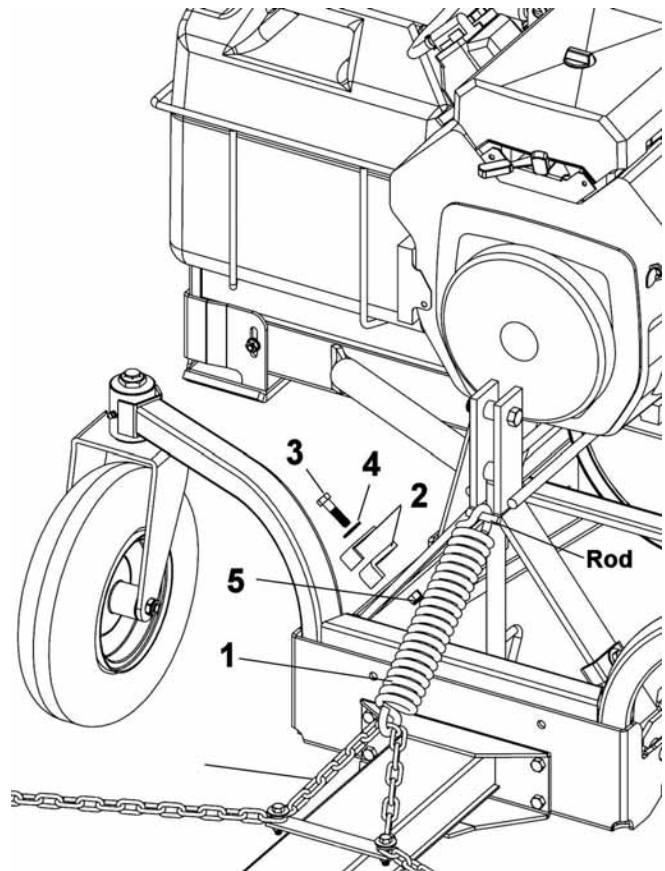
INSTALLATION OF THE SPRING AND VERIFICATION OF THE LIFTING HEIGHT OF THE SNOWBLOWER.

IMPORTANT:

It is very important the snowblower engine does not come into contact with the vehicle. If necessary, use on each side one or two shims (item 2) supplied with the kit to limit the lifting height.

Install in place with a hex bolt 3/8" x 1 1/2" (item 3), a flat washer 7/16" (item 4) and a nylon insert lock nut (item 5) as shown.

Lift the snowblower to its maximum height, insert the spring (item 1) in the chain and on the welded rod as shown.



Install the spring

OPERATION



WARNING



Read the vehicle's owner's manual carefully. Be thoroughly familiar with the controls & proper use of the attachment. Know how to stop the unit & disengage the controls quickly.



WARNING



TO PREVENT INJURIES AND FOR MORE TRACTION WHEN USING SNOWBLOWER:

- Do not drive faster than 3 km/hr (2 m/hr) with snowblower on the ground.
- Do not drive faster than 10 km/hr (6 m/hr) with the snowblower in raised position.
- Do not operate on a slope greater than 10°.
- Vehicle manufacturer approved tire chains are required.



WARNING



- Do not attempt to clear plugged chute, auger or fan of snow while the snowblower's engine is running.
- Disengage snowblower.
- Lower snowblower onto ground.
- Set the parking brake.
- Stop engine, remove the ignition key, disconnect the wire from spark plug(s) and keep away from spark plug(s) to prevent accidental starting.
- Make sure all moving parts have stopped.
- Do not use hand to unplug chute.
- Use a 36" (924 mm.) minimum length stick or board.

EMERGENCY SWITCH:

Push down on the emergency button to stop the engine.

IMPORTANT: The emergency button has to be pulled out in order to start the snowblower engine.

OPERATING THE SNOWBLOWER

- Make sure the snowblower is clear of snow before engaging the clutch.
- Make sure that the auger and impeller operate freely.
- Start the snowblower engine.
- Before engaging the snowblower drive, always have the engine running at max R.P.M.
- Operate the snowblower at maximum engine R.P.M.

IMPORTANT: USE FULL ENGINE R.P.M. WHEN REMOVING WET, STICKY SNOW. LOW R.P.M. POWER WILL TEND TO PLUG THE CHUTE.

ELECTRICAL CONTROLS

See installation of the control box in order to identify the controls.

RAISING AND LOWERING THE SNOWBLOWER:

Use the winch switch control to raise and lower the snowblower.

REMOVING SNOW

When removing snow, do not use the snowblower as a dozer blade to push snow. Allow snowblower to ingest snow at its own speed. If the speed of your vehicle is too fast, the snowblower may become overloaded and plug. .

CLEARING A CLOGGED DISCHARGE CHUTE:

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

To clear the chute:

- Lower snowblower to the ground and set parking brake.
- SHUT THE ENGINE OFF & REMOVE KEY!
- Wait 10 seconds to be sure the **all moving parts** such as the impeller blades have stopped moving.
- Disconnect wire from the spark plug(s) and keep wire away to prevent accidental starting.
- Always use a clean-out tool of at least 36" in length, NEVER YOUR HANDS.

MAINTENANCE & DISMOUNTING



WARNING



TO PREVENT INJURIES:

- Stop the snowblower motor.
- Apply parking brakes.
- Remove the ignition key.
- Disconnect the wire from the spark plug(s) and keep away from spark plug(s) to prevent accidental starting.

MAINTENANCE

- Check mounting bolts at frequent intervals for proper tightness in order to prevent costly repairs. Make sure your snowblower is in safe working condition.
- Provide adequate blocking before working under the snowblower when in raised position.

ADJUSTMENTS

SKID SHOE ADJUSTMENT:

Level Paved Surface: Adjust skid shoes to allow 3/16" to 1/4" clearance between cutting edge and surface.

Uneven or Gravel Surface: Adjust skid shoes to allow 1/2" to 5/8" clearance between cutting edge and surface.

LUBRICATION

Grease the fork pivots and the hub on the wheels after every 8 hours of use.

Apply oil at all pivot points.

Drive Chains: Lubricate with chain saw chain lubricant every four hours of operation and at the end of each operation.

Chute Rotation System: Oil chute base, rotation worm every eight hours of operation.

CUTTING EDGE MAINTENANCE

Verify from time to time the wearing on the cutting edge to make sure you do not wear out the base of the snowblower's chassis. This cutting edge is reversible. Unscrew the bolts and turn the cutting edge, reinstall and tighten the bolts securely.

AUGER AND FAN SHEAR BOLT REPLACEMENT

The shear bolts are to be considered a preventive measure and not an assured protection. Operator vigilance is required. Thoroughly inspect the areas where the snowblower is to be used and remove all foreign objects.

SNOWBLOWER PULLEY REPLACEMENT or ALIGNMENT:

Clean the parts before aligning or replacing the pulley. Apply some "Lock Tite" 2760 on the key and the set screws. Tighten firmly.

To avoid damage to the snowblower:

Use only the original shear bolts.

#104000 in bags of 10 for the augers.

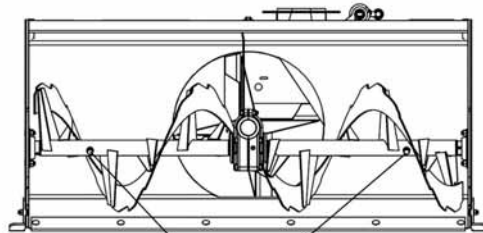
The use of any other shear bolt will not insure any protection and may void the warranty.

Use a 1/4" x 1 1/2" hex bolt grade 5 and nylon insert lock nut for the fan.

NOTE: The use of a higher grade of steel hex bolt may cause damage to the snowblower and may void the warranty.

IMPORTANT: It is very important to replace the augers in the same position as shown in the drawing before installing the shear bolts.

Hex bolt 1/4" x 1 1/2" grade 5



104000

DISMOUNTING

- Select a level surface, set parking brake, stop the engine, and remove the ignition key to prevent accidental starting.
- Lower the accessory to the ground.
- Disconnect the wires that unite the accessory to the vehicle.
- Unhook the turnbuckles from the front of the vehicle, (Tip: slacken one of the turnbuckles in order to keep the adjustment), the hook from the winch.
- Remove the assembled hitch support from the vehicle's tow hitch ball.
- Remove the vehicle.

STORAGE

- Clean snowblower and subframe thoroughly and repaint all parts from which paint has worn.
- List the replacement parts that will be needed to be replaced before the next season.
- Follow the instructions in the Lubrication section.
- Concerning the snowblower engine, follow the instructions in the engine owner's manual.
- Store the snowblower and the subframe in a dry place.

BELT REPLACEMENT



CAUTION

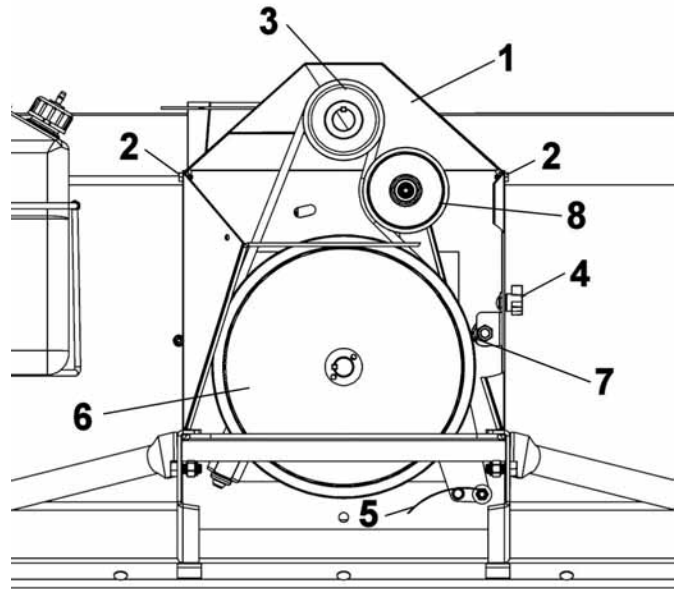


Never use the snowblower without the belt guard.

BELT REPLACEMENT:

For belt part number, refer to parts breakdown section for parts identification.

- a) Remove the belt guard (item 1) by removing the two hex bolts $1/4" \times 1/2"$ (item 2).
- b) Remove the tension from the belt by pushing on the switch for the belt tensioner.
- c) Remove the belt from the engine pulley (item 3).
- d) Loosen the knob (item 4) in order to free the belt from the pulley.
- e) Activate the switch for the electric motor for the belt tensioner to release the brake (item 5).
NOTE: This step is necessary to free the belt from the snowblower pulley.
- f) Remove and install the new belt.
- g) Replace the bearing on the (item 7) on the back of the belt to keep it in the pulley (item 6) and tighten the knob (item 4).
- h) After installing the belt, you may run the engine without the belt guard but only to verify the belt alignment. Do not leave the snowblower without supervision. Neither you or anyone else must approach the moving parts. Engage and disengage the snowblower to verify if the belt is well aligned, especially on the idler pulley (item 8).
Make sure to hold the switch long enough so that there is enough tension on the spring.
If necessary, you can add or remove a flat washer on the idler pulley for final adjustments.
- i) Reinstall the belt guard.



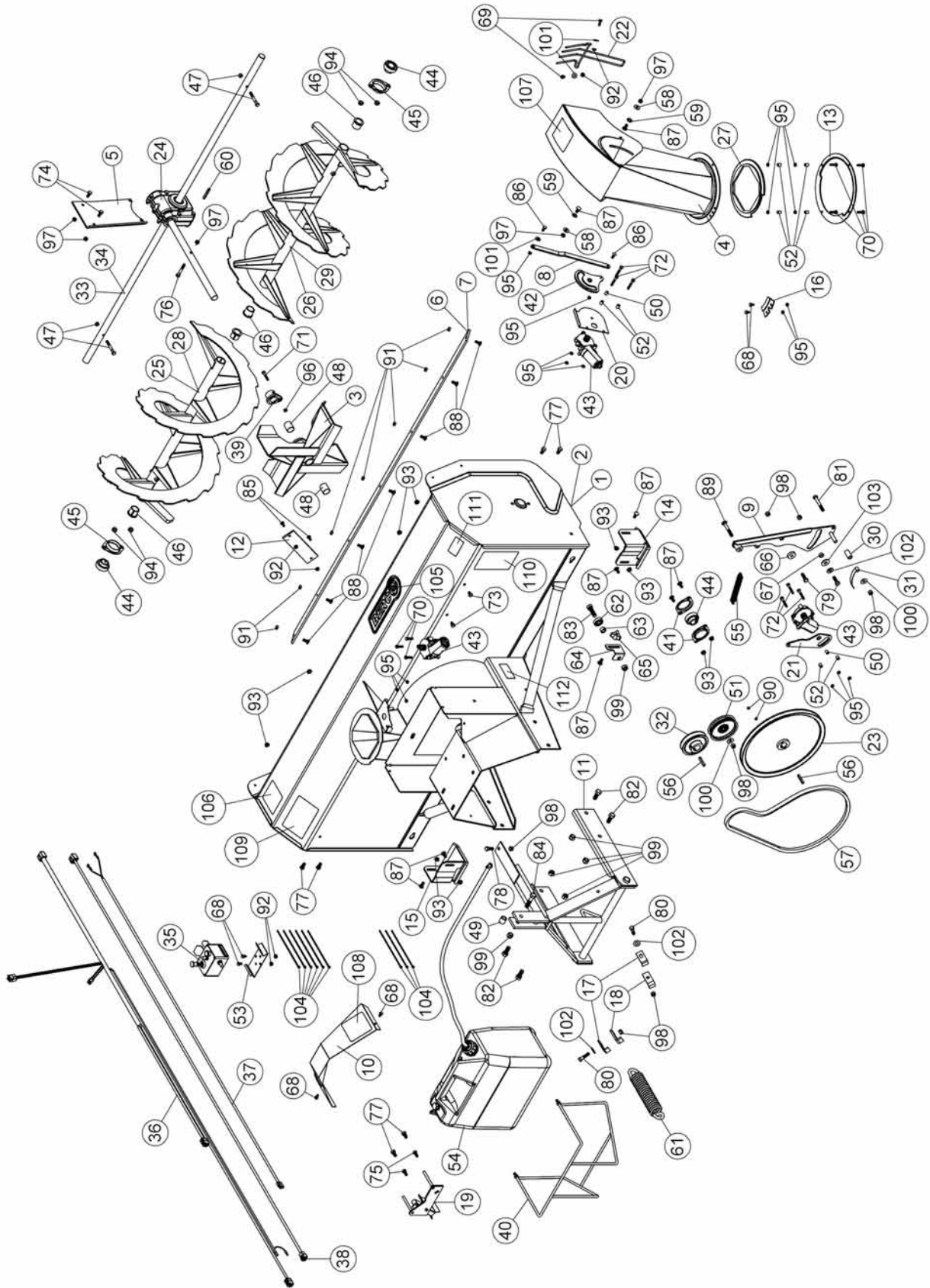
Belt replacement

TROUBLESHOOTING

(For identification, see the parts breakdown)

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Snowblower vibrates or is abnormally noisy.	Damaged pulley.	Replace pulley.
	Damaged bearing.	Replace bearing.
	Damaged fan or sections of auger.	Dismount & repair or replace fan.
Auger stopped turning.	Shear bolt broken.	Replace shear bolt. Also see "Maintenance" section.
Fan stopped turning.	Shear bolt broken.	Replace shear bolt. Also see "Maintenance" section.
Snowblower stopped running.	The belt may be slipping, damaged or snapped.	Check & replace damaged belt.
Belt is worn at a specific point.	Snowblower was engaged when already plugged.	Make sure auger & fan are not plugged or frozen before engaging snowblower.
	Lack of tension on the belt.	Replace the tension spring if it has lost its efficiency.
	Spring stretched.	Check spring. Replace if stretched.
Belt showing premature wear.	Engine and pulleys are misaligned	Realign the engine and pulleys.
Chute rotation is difficult.	Dirt or ice may have accumulated underneath chute.	Clean the base of chute & the rotation ring. Lubricate inside & outside the chute and the rotation worm.
The chute plugs easily.	Snowblower engine is turning too slowly.	Always have engine at full R.P.M. when using the snowblower.
	Advancing too quickly with vehicle.	Reduce speed. Allow snowblower to ingest snow at its own speed.
Snowblower digs into ground.	Ground is not frozen or too soft.	Adjust skid shoes lower so they may better support the snowblower.
The engine does not start.	The emergency button is pushed down.	The emergency button must be pulled up to start the engine of the snowblower.
	Other reasons.	See the engine's owner's manual or see an authorized engine dealer.
Electric motor does not work.	Motor overheating.	These motors are equipped with an internal protector. Wait 10 minutes before using.

PARTS BREAKDOWN VANTAGE SNOWBLOWER



PARTS LIST VANTAGE SNOWBLOWER

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Frame 66"	Châssis 66"	1	105563
2	Frame 72"	Châssis 72"	1	105564
3	Fan	Éventail	1	105475
4	Chute	Goulotte	1	105476
5	Gear box support	Support de boîte d'engrenage	1	105477
6	Cutting edge 66"	Racloir 66"	1	105478
7	Cutting edge 72"	Racloir 72"	1	105479
8	Arm	Bras	1	105480
9	Bender	Tendeur	1	105565
10	Belt guard	Garde-courroie	1	105482
11	Hitch	Attache	1	105483
12	Reinforcement	Renfort	1	105484
13	Rotation ring	Anneau de rotation	1	105485
14	Skid shoe	Patin	1	105486
15	Skid shoe	Patin	1	105487
16	Retaining plate	Plaque de retenue	1	105488
17	Shim	Cale	2	105489
18	Shim	Cale	2	105490
19	Belt guide stopper	Guide de freinage de courroie	1	105491
20	Bracket	Support	1	105492
21	Lever	Levier	1	105493
22	Hand guard	Fourche protectrice	1	105494
23	V pulley with set screw	Poulie en V avec vis pression	1	105423
24	Gear box left rotation	Boîte d'engrenage rotation gauche	1	105424
25	Auger 66" left	Vis 66" gauche	1	105427
26	Auger 66" right	Vis 66" droite	1	105428
27	Rotation ring	Anneau de rotation	1	105429
28	Auger 72" left	Vis 72" gauche	1	105431

PARTS LIST VANTAGE SNOWBLOWER

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
29	Auger 72" right	Vis 72" droite	1	105432
30	Sleeve	Douille	1	105501
31	Flat spring	Ressort plat	1	105402
32	Pulley 4.25" with set screw	Poulie 4.25" avec vis pression	1	105434
33	Shaft 66"	Arbre 66"	1	105436
34	Shaft 72"	Arbre 72"	1	105442
35	Control box	Boitier de contrôle	1	105295
36	Wire control box	Fil de la boîte de contrôle	1	105296
37	Battery wire	Fil de la batterie	1	105390
38	Wire control box extension	Extension du fil de la boîte de contrôle	1	105400
39	Shear plate	Plaque de cisaillement	1	103933
40	Tank support	Support de réservoir	1	105528
41	Flangette	Flangette	2	102213
42	Lever	Levier	1	103365
43	Electric motor	Moteur électrique	3	103378
44	Bearing with set screw	Roulement à billes avec vis à pression	3	102755
45	Flangette	Flangette	2	102680
46	Rotation bushing	Coussinet de rotation	4	103946
47	Shear bolt / N.I.L.N. (auger) pkg-10	Boulon de séc. / É.G.N. (vis) pqt-10	2	104000
48	Oil lite bushing	Coussinet imprégné d'huile	2	102784
49	Sleeve	Douille	1	102480
50	Oil lite bushing	Coussinet imprégné d'huile	2	103362
51	Flat pulley	Poulie plate	1	102300
52	Spacer	Espaceur	8	103361
53	Box support	Support de la boîte	1	104756
54	Gasoline tank assembly	Réservoir d'essence assemblé	1	105524
55	Spring	Ressort	1	102592
56	Key 1/4" x 1/4" x 1 3/4"	Clé 1/4" x 1/4" x 1 3/4"	2	102327

PARTS LIST VANTAGE SNOWBLOWER

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
57	V-belt, BX-54	Courroie en V, BX-54	1	105446
58	Nylon flat washer 11/32"	Rondelle plate de nylon 11/32"	2	102009
59	Nylon flat washer 7/16"	Rondelle plate de nylon 7/16"	2	102011
60	Key 1/4" x 1/4" x 2"	Clé 1/4" x 1/4" x 2"	1	102922
61	Spring	Ressort	1	105356
62	Bearing	Roulement à billes	1	104624
63	Bushing	Coussinet	1	102225
64	Bracket	Fixation	1	104734
65	Knob	Bouton	1	103027
66	Flange washer	Rondelle à bride	1	102081
67	Sleeve	Douille	1	102322
68	Hex. bolt 1/4" n.c. x 1/2"	Boulon hex. 1/4" n.c. x 1/2"	6	O/L
69	Hex. bolt 1/4" n.c. x 3/4"	Boulon hex. 1/4" n.c. x 3/4"	2	O/L
70	Hex. bolt 1/4" n.c. x 1"	Boulon hex. 1/4" n.c. x 1"	7	O/L
71	Hex. bolt 1/4" n.c. x 1 1/2"	Boulon hex. 1/4" n.c. x 1 1/2"	1	O/L
72	Hex. bolt 1/4" n.c. x 1 3/4"	Boulon hex. 1/4" n.c. x 1 3/4"	6	O/L
73	Hex. bolt 5/16" n.c. x 1/2"	Boulon hex. 5/16" n.c. x 1/2"	2	O/L
74	Hex. bolt 5/16" n.c. x 3/4"	Boulon hex. 5/16" n.c. x 3/4"	2	O/L
75	Hex. bolt 5/16" n.f. x 3/4"	Boulon hex. 5/16" n.f. x 3/4"	2	O/L
76	Hex. bolt 5/16" n.c. x 2 1/4" GR8	Boulon hex. 5/16" n.c. x 2 1/4" GR8	1	O/L
77	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	6	O/L
78	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	1	O/L
79	Hex. bolt 3/8" n.c. x 1 1/4"	Boulon hex. 3/8" n.c. x 1 1/4"	2	O/L
80	Hex. bolt 3/8" n.c. x 1 1/2"	Boulon hex. 3/8" n.c. x 1 1/2"	2	O/L
81	Hex. bolt 3/8" n.c. x 2 3/4"	Boulon hex. 3/8" n.c. x 2 3/4"	1	O/L
82	Hex. bolt 1/2" n.c. x 1 1/4"	Boulon hex. 1/2" n.c. x 1 1/4"	4	O/L
83	Hex. bolt 1/2" n.c. x 1 3/4"	Boulon hex. 1/2" n.c. x 1 3/4"	1	O/L
84	Hex. bolt 1/2" n.c. x 2 1/4"	Boulon hex. 1/2" n.c. x 2 1/4"	1	O/L

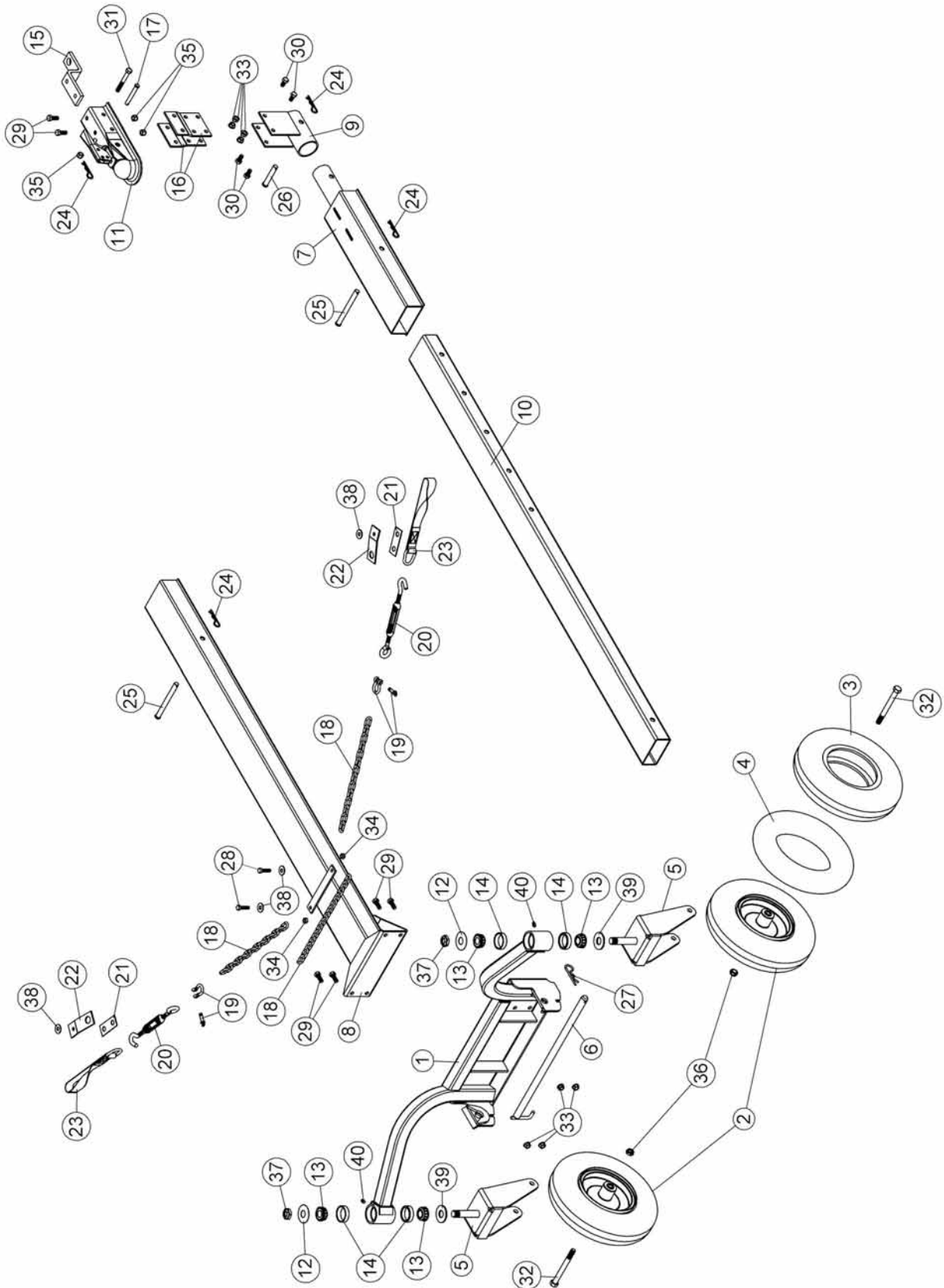
O/L = Obtain Locally

PARTS LIST VANTAGE SNOWBLOWER

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
85	Carriage bolt 1/4" n.c. x 5/8"	Boulon à carrosserie 1/4" n.c. x 5/8"	2	O/L
86	Carriage bolt 1/4" n.c. x 3/4"	Boulon à carrosserie 1/4" n.c. x 3/4"	2	O/L
87	Carriage bolt 5/16" n.c. x 3/4"	Boulon à carrosserie 5/16" n.c. x 3/4"	9	O/L
88	Carriage bolt 5/16" n.c. x 3/4"(Black)	Boulon à carrosserie 5/16" n.c. x 3/4"(Noir)	7	O/L
89	Carriage bolt 3/8" n.c. x 2 3/4"	Boulon à carrosserie 3/8" n.c. x 2 3/4"	1	O/L
90	Hex. socket set screw 5/16" n.c. x 5/16"	Vis à pression hex. 5/16" n.c. x 5/16"	2	O/L
91	Stover lock nut 5/16" n.c.	Écrou de blocage 5/16" n.c.	7	O/L
92	Flange nut 1/4" n.c.	Écrou à bride 1/4" n.c.	6	O/L
93	Flange nut 5/16" n.c.	Écrou à bride 5/16" n.c.	10	O/L
94	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	4	O/L
95	Nylon insert lock nut 1/4" n.c. (thin)	Écrou à garniture de nylon 1/4" n.c.(mince)	17	O/L
96	Nylon insert lock nut 1/4" n.c.	Écrou a garniture de nylon 1/4" n.c.	1	O/L
97	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	5	O/L
98	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	7	O/L
99	Nylon Insert lock Nut 1/2" n.c.	Écrou à garniture de nylon 1/2" n.c.	6	O/L
100	Flat washer 3/8" hole	Rondelle plate 3/8" trou	2	O/L
101	Flat washer 5/16" hole	Rondelle plate 5/16" trou	3	O/L
102	Flat washer 7/16" hole	Rondelle plate 7/16" trou	3	O/L
103	Flat washer 1/2" hole	Rondelle plate 1/2" trou	1	O/L
104	Tie wrap 8"	Attache de nylon 8"	9	O/L
105	Berco decal	Décalque Berco	1	103785
106	Decal danger auger	Decalque danger vis	1	105126
107	Danger decal chute	Décalque danger goulotte	1	105127
108	Decal danger belts	Decalque danger courroies	1	105128
109	Decal warning safety	Decalque avertissement sécurité	1	105131
110	Decal read instructions	Decalque lire instructions	1	105130
111	Specifications decal	Décalque spécifications	1	REF
112	Serial number	Numéro de série	1	REF

O/L = Obtain Locally

PARTS BREAKDOWN SUBFRAME



PARTS LIST SUBFRAME

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Wheel support	Support de roue	1	105495
2	Wheel	Roue	2	105496
3	Tire 410/350-6	Pneu 410/350-6	1	105497
4	Inner tube 350-6	Chambre à air 350-6	1	105498
5	Wheel fork	Fourche de roue	2	105499
6	Pin	Goupille	1	105500
7	Rear bracket	Fixation arrière	1	104956
8	Subframe	Sous-châssis	1	104957
9	Hitch support	Support d'attache	1	104958
10	Adjustment tube	Tube d'ajustement	1	104959
11	Hitch	Attache	1	104639
12	Seal washer	Rondelle d'étanchéité	2	102289
13	Cone bearing	Roulement conique	4	102369
14	Cup bearing	Cuvette	4	102370
15	Hitch ball support	Support de boule d'attelage	1	104640
16	Hitch support plate	Plaque de support d'attache	2	104641
17	Pin	Goupille	1	104642
18	Chain	Chaîne	3	104633
19	Shackle Ptd Z	Clevis Pqé Z	2	102343
20	Turnbuckle	Tendeur	2	104634

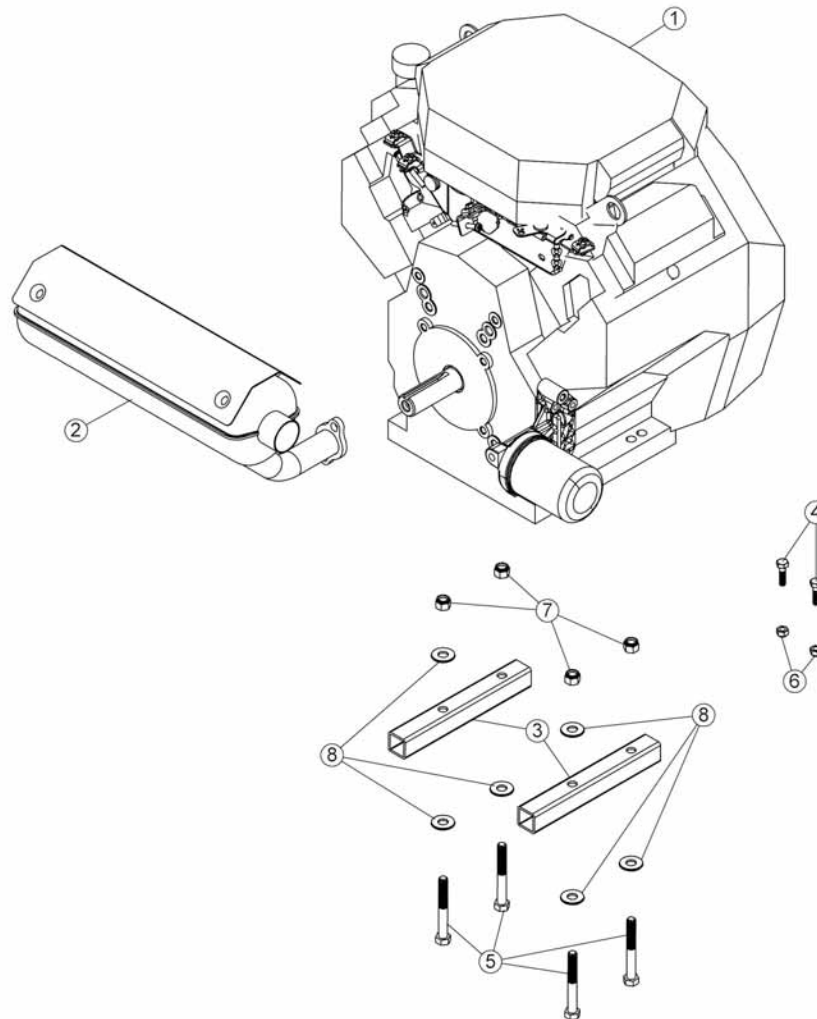
O/L = Obtain Locally

PARTS LIST SUBFRAME

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
21	Bracket	Fixation	2	104632
22	Bracket	Fixation	2	105194
23	Lift strap	Sangle de relevage	2	103613
24	Hair pin 3mm	Goupille à ressort 3mm	4	102617
25	Pin	Goupille	2	104961
26	Pin	Goupille	1	104999
27	Hair pin 4mm	Goupille à ressort 4mm	1	102054
28	Hex. bolt 5/16" n.c. x 1 1/4"	Boulon hex. 5/16" n.c. x 1 1/4"	2	O/L
29	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	6	O/L
30	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	4	O/L
31	Hex. bolt 3/8" n.c. x 3"	Boulon hex. 3/8" n.c. x 3"	1	O/L
32	Hex. bolt 1/2" n.c. x 5"	Boulon hex. 1/2" n.c. x 5"	2	O/L
33	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	8	O/L
34	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	2	O/L
35	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	3	O/L
36	Nylon insert lock nut 1/2" n.c. (thin)	Écrou à garniture de nylon 1/2" n.c. (mince)	2	O/L
37	Nylon insert lock nut 3/4" n.c. (thin)	Écrou à garniture de nylon 3/4" n.c.(mince)	2	O/L
38	Flat washer 3/8" hole	Rondelle plate 3/8" trou	4	O/L
39	Flat washer 13/16" hole	Rondelle plate 13/16" trou	2	O/L
40	Grease fitting 1/4" n.f.	Graisser 1/4" n.f.	2	O/L

O/L = Obtain Locally

PARTS BREAKDOWN HONDA 24 HP ENGINE

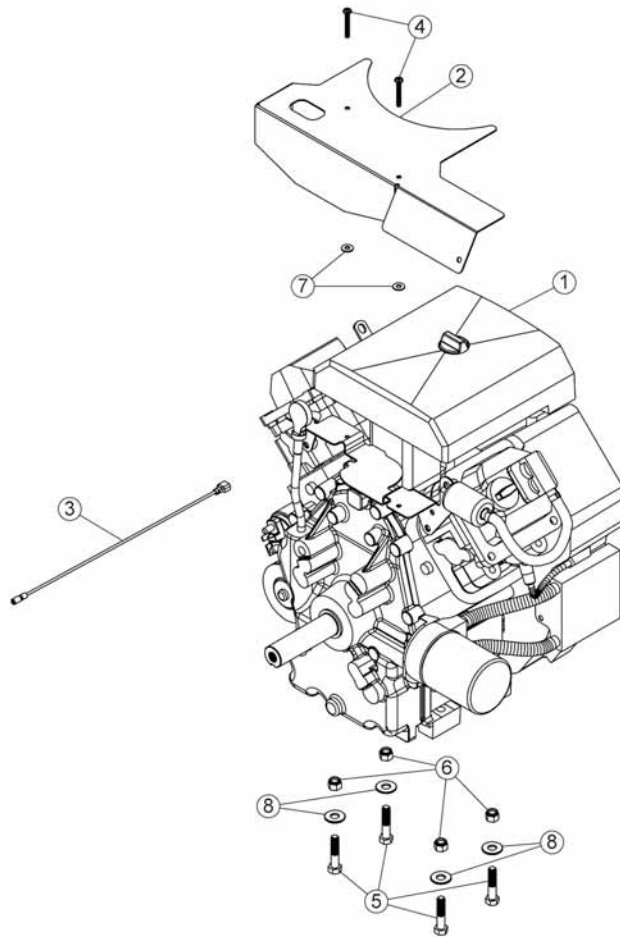


PARTS LIST HONDA 24 HP ENGINE

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Honda engine 24 hp with key	Moteur Honda 24 CV avec clé	1	105520
2	Honda muffler	Silencieux Honda	1	105448
3	Shim	Cale	2	105519
4	Hex. bolt 1/4" n.c. x 1"	Boulon hex. 1/4" n.c. x 1"	2	O/L
5	Hex. bolt 3/8" n.c. x 3"	Boulon hex. 3/8" n.c. x 3"	4	O/L
6	Nylon insert lock nut 1/4" n.c.	Écrou a garniture de nylon 1/4" n.c.	2	O/L
7	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	4	O/L
8	Flat washer 7/16" hole	Rondelle plate 7/16" trou	6	O/L

O/L = Obtain Locally

PARTS BREAKDOWN KOHLER 23 HP ENGINE

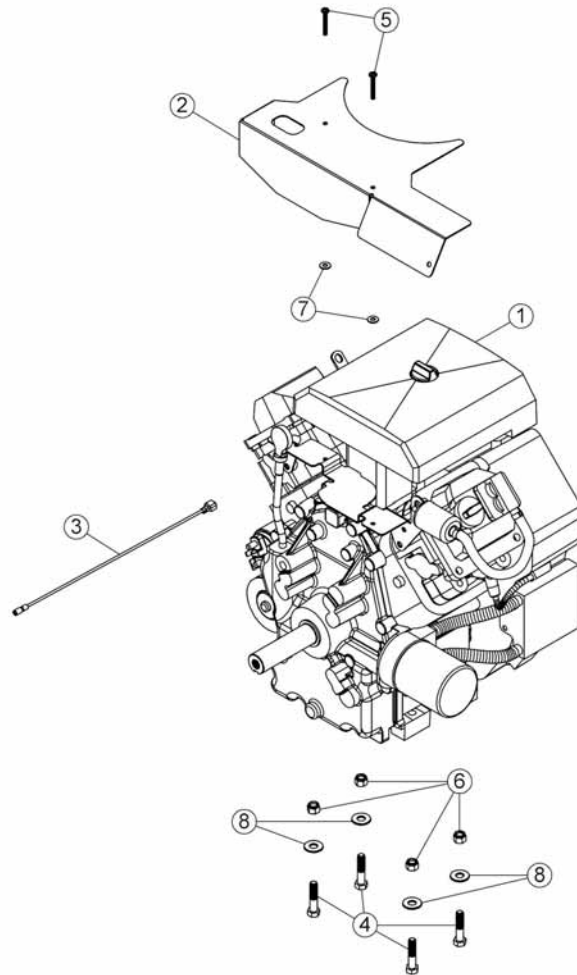


PARTS LIST KOHLER 23 HP ENGINE

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Engine CH-23 (Kohler)	Moteur CH-23 (Kohler)	1	Ref
2	Heat shield	Pare-chaleur	1	104621
3	Wire assembly	Fil assemblé	1	105218
4	Machine screw P.H. #10 x 32 x 1 1/2"	Vis mécanique P.H. #10 x 32 x 1 1/2"	2	O/L
5	Hex. bolt 3/8" n.c. x 1 3/4"	Boulon hex. 3/8" n.c. x 1 3/4"	4	O/L
6	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	4	O/L
7	Flat washer 1/4" hole	Rondelle plate 1/4" trou	2	O/L
8	Flat washer 7/16" hole	Rondelle plate 7/16" trou	4	O/L

O/L = Obtain Locally

PARTS BREAKDOWN KOHLER 27 HP ENGINE



PARTS LIST KOHLER 27 HP ENGINE

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Engine CH-27 (Kohler) with key	Moteur CH-27 (Kohler) avec clé	1	105521
2	Heat shield	Pare-chaleur	1	104621
3	Wire assembly	Fil assemblé	1	105218
4	Hex. bolt 3/8" n.c. x 1 3/4"	Boulon hex. 3/8" n.c. x 1 3/4"	4	O/L
5	Machine screw P.H. #10 x 32 x 1 1/2"	Vis mécanique P.H. #10 x 32 x 1 1/2"	2	O/L
6	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	4	O/L
7	Flat washer 1/4" hole	Rondelle plate 1/4" trou	2	O/L
8	Flat washer 7/16" hole	Rondelle plate 7/16" trou	4	O/L

O/L = Obtain Locally

TORQUE SPECIFICATION TABLE

GENERAL TORQUE SPECIFICATION TABLE USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

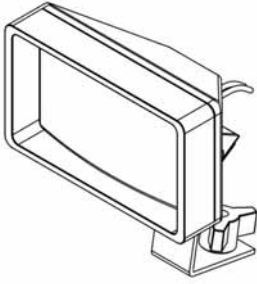
NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

* Thick nuts must be used with grade 8 bolts

SEE Grade No.		2				5				8 *			
BOLT HEAD IDENTIFICATION MARKS AS PER GRADE NOTE MANUFACTURING MARKS WILL VARY		TORQUE				TORQUE				TORQUE			
BOLT SIZE		FOOT POUNDS		NEWTON-METERS		FOOT POUNDS		NEWTON-METERS		FOOT POUNDS		NEWTON-METERS	
Inches	Millimetre	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4"	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	30.3
5/16"	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8"	9.53	20	23	27.1	31.2	35	42	47.5	57	45	54	61	73.2
7/16"	11.11	30	35	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2"	12.7	45	52	61	70.5	80	96	108.5	130.2	110	132	149.2	179
9/16"	14.29	65	75	88.1	101.6	110	132	149.2	179	160	192	217	260.4
5/8"	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358
3/4"	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8"	22.23	160	200	216.8	271	400	480	542.4	650.9	600	720	813.6	976.3
1"	25.4	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5

METRIC BOLT TORQUE SPECIFICATIONS							
		COARSE THREAD			FINE THREAD		
Size Screw	Grade No.	Pitch (mm)	Foot Pounds	Newton-Meters	Pitch (mm)	Foot Pounds	Newton-Meters
M6	4T	1.00	3.6 - 5.8	4.9 - 7.9	-	-	-
	7T		5.8 - 9.4	7.9 - 12.7		-	-
	8T		7.2 - 10	9.8 - 13.6		-	-
M8	4T	1.25	7.2 - 14	9.8 - 19	1.00	12 - 17	16.3 - 23
	7T		17 - 22	23 - 29.8		19 - 27	25.7 - 36.6
	8T		20 - 26	27.1 - 35.2		22 - 31	29.8 - 42
M10	4T	1.50	20 - 25	27.1 - 33.9	1.25	20 - 29	27.1 - 39.3
	7T		34 - 40	46.1 - 54.2		35 - 47	47.4 - 63.7
	8T		38 - 46	51.5 - 62.3		40 - 52	54.2 - 70.5
M12	4T	1.75	28 - 34	37.9 - 46.1	1.25	31 - 41	42 - 55.6
	7T		51 - 59	69.1 - 79.9		56 - 68	75.9 - 92.1
	8T		57 - 66	77.2 - 89.4		62 - 75	84 - 101.6
M14	4T	2.00	49 - 56	66.4 - 75.9	1.50	52 - 64	70.5 - 86.7
	7T		81 - 93	109.8 - 126		90 - 106	122 - 143.6
	8T		96 - 109	130.1 - 147.7		107 - 124	145 - 168
M16	4T	2.00	67 - 77	90.8 - 104.3	1.50	69 - 83	93.5 - 112.5
	7T		116 - 130	157.2 - 176.2		120 - 138	162.6 - 187
	8T		129 - 145	174.8 - 196.5		140 - 158	189.7 - 214.1
M18	4T	2.00	88 - 100	119.2 - 136	1.50	100 - 117	136 - 158.5
	7T		150 - 168	203.3 - 227.6		177 - 199	239.8 - 269.6
	8T		175 - 194	237.1 - 262.9		202 - 231	273.7 - 313
M20	4T	2.50	108 - 130	146.3 - 176.2	1.50	132 - 150	178.9 - 203.3
	7T		186 - 205	252 - 277.8		206 - 242	279.1 - 327.9
	8T		213 - 249	288.6 - 337.4		246 - 289	333.3 - 391.6

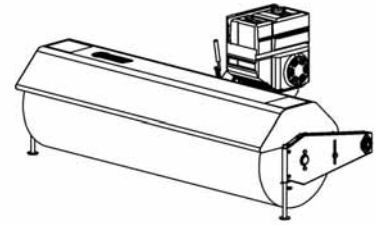
OPTIONS & ACCESSORIES



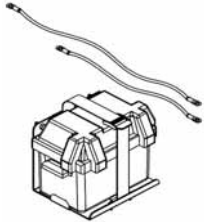
**#700456
LIGHT KIT**
Better visibility for night time use



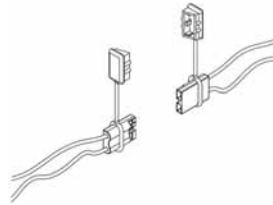
**#700535
SNOW DRIFT CUTTER**
Slices through high snow drifts to facilitate and increase snow intake. Package of 2.



**#700448
60" ROTARY BROOM**
For ATV or UV



**#700524
SUPPORT FOR BATTERY
(BATTERY NOT INCLUDED)**
For ATV or UV



**#700476-1
ELECTRIC STARTING**
Wiring required for engine with electric starter.



***WHEN PERFORMANCE
& DEPENDABILITY
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