



OWNER'S MANUAL
Model Number

700210-2

700211-2



Berco
Deluxe Two Stage 40" & 44" Snowblower
for
LAWN, YARD & GARDEN TRACTORS

- * 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)

- Residential use: 1 year
- Semi-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 BERCO service dealer to arrange service at their dealership. To locate a dealer convenient to you, access our website at www.bercomac.com. Don't forget to bring your proof of purchase (sales receipt) to the BERCOMAC dealer.

Owner's Responsibilities:

BERCOMAC's 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, freight fees are prepaid and a written authorization from BERCOMAC must be obtained by dealer 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. Always make sure the all components are correctly installed. (driveline securely attached and locked at both ends, belts properly installed...)
 11. Always handle the winch cable with thick leather gloves.
 12. **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.
14. Never handle the winch cable or hook while in tension.

MAINTENANCE AND STORAGE

1. When cleaning, repairing or inspecting the vehicle and accessory, make certain that all moving parts have stopped. For gasoline engine, 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 (if applicable) 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



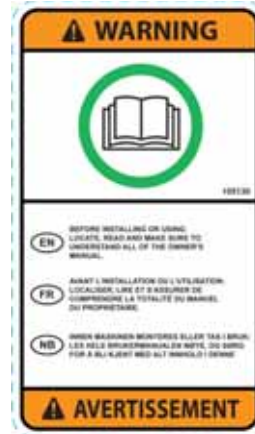
REPLACE IF DECALS ARE DAMAGED
SEE PARTS BREAKDOWN FOR DECAL LOCATION

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.

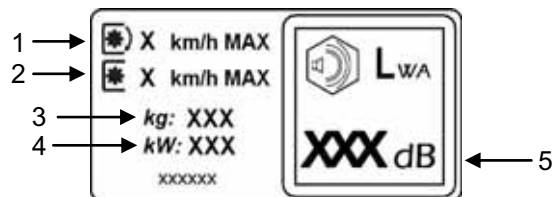
DECAL #102129



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-Maximum speed when the accessory is in operation.
- 2-Maximum speed when the accessory is not in operation.
- 3-The weight of the accessory.
- 4-The engine wattage (if applicable).
- 5-The sound pressure level (measured in dBA) from the driver's position and with the accessory on the ground at full engine speed.

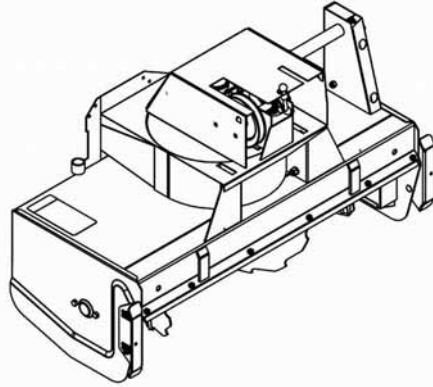
ASSEMBLY

STEP 1

SNOWBLOWER PREPARATION:

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

Place snowblower face down.



Place snowblower face down

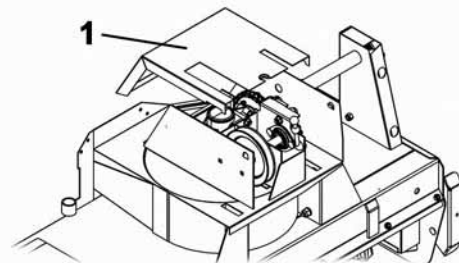
IMPORTANT:

Tractors with a vertical engine and with the drive pulley underneath:

No modifications are needed (go to next page).

Tractors with a horizontal engine and with the drive pulley in front:

Remove the belt guard (item 1).



Remove belt guard

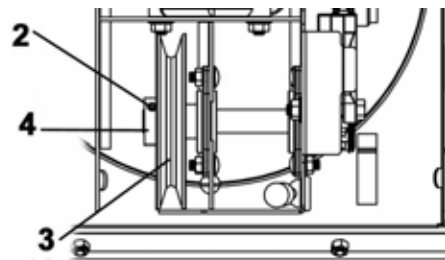
Remove the set screws (item 2) and pulley (item 3). If the screws are difficult to unscrew, slightly heat the hub with a blowtorch around the screws.

Turn the pulley, the hub (item 4) towards the bolts (item 5) and slide it back on the shaft.

Align the holes and apply three drops of "loctite" in each hole.

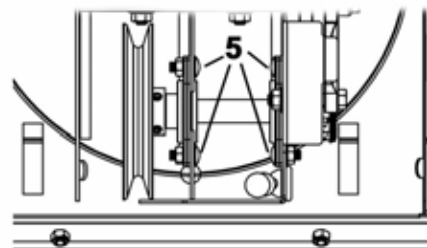
Tighten the set screws firmly.

Reinstall the belt guard (item 1).



Pulley before modification

Note: If the pulley is difficult to remove, unscrew the four bolts (item 5) and remove the shaft assembly.



Pulley after modification

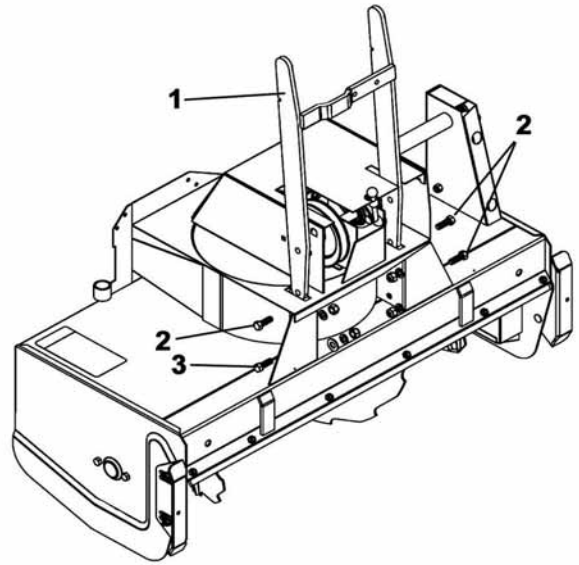


ASSEMBLY

Install the male hitch (item 1) as shown with three 7/16 x 1 1/4" bolts (item 2), lock washers, nylon insert locknuts and a 7/16 x 1 1/4" bolt (item 3) with a flatwasher over the slot, lockwasher and a nylon insert locknut as shown.

Tighten the bolts firmly.

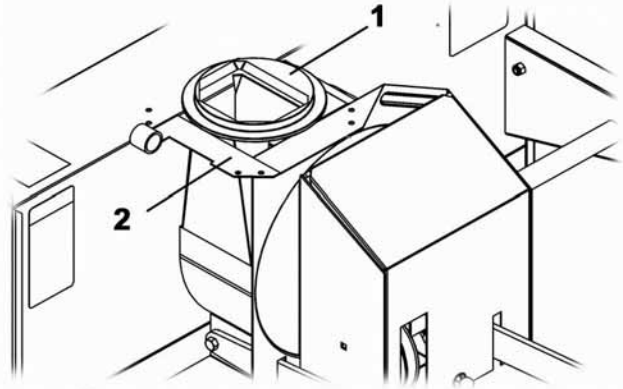
Turn the snowblower upright.



Install male hitch

Place the rotation ring (item 1) on top of the snowblower (item 2) as shown.

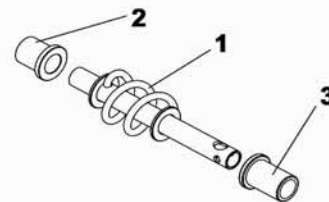
Only one position provides a perfect fit.



Install rotation ring

Grease both ends of the rotation worm (item 1).

Insert the short rotation bushing (item 2) and the long rotation bushing (item 3) on the rotation worm as shown.

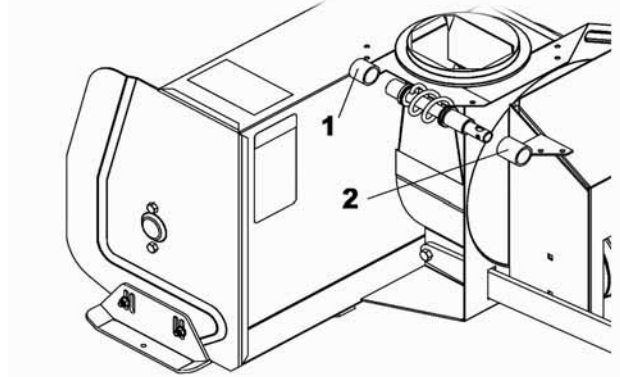


Insert bushings on rotation worm

ASSEMBLY

Insert the rotation worm with the short bushing in the sleeve (item 1).

Insert the worm support (item 2) on the long bushing as shown.



Install rotation worm

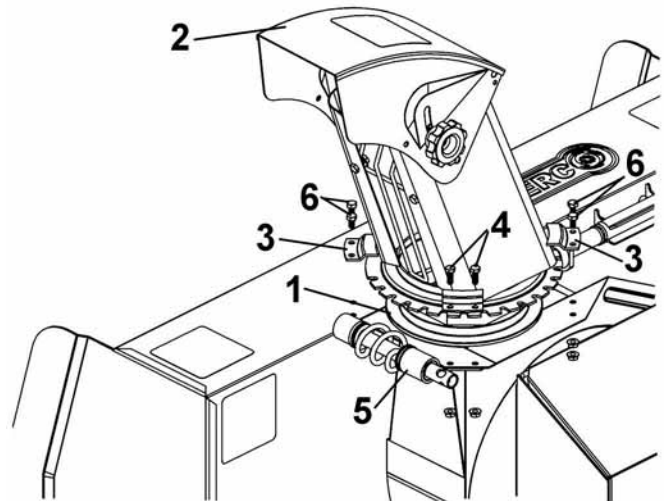
Apply grease on the rotation ring (item 1).

Install the chute (item 2) with the four retaining plates (item 3) as shown.

At the rear left hand corner, secure a retaining plate (item 3) on top and the rotation worm support (item 5) underneath with two 1/4 x 3/4" bolts (item 4) and flange nuts as shown.

Secure the other three retaining plates (item 3) with six 1/4 x 1/2" bolts (item 6) and flange nuts.

Tighten the bolts firmly.



Install chute

Install the handgrip (item 1) as shown.

Insert the hook (item 2) in the handle and secure with a 2.5 mm hair pin (item 3).



Install handgrip and hook

Note: Store these parts until snowblower installation.

ASSEMBLY

STEP 2

SNOWBLOWER INSTALLATION:

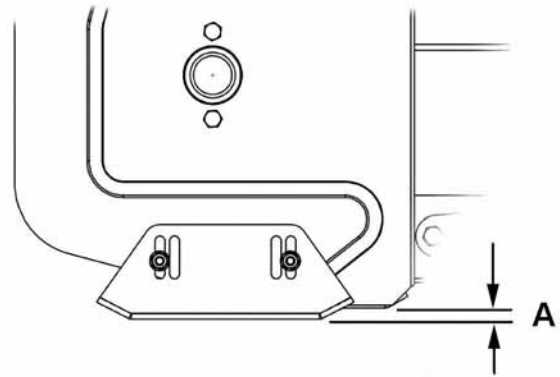
See the subframe's owner's manual for snowblower installation instructions.

	WARNING	
FOR YOUR SECURITY: Read the subframe owner's manual for safety precautions and rules. Follow the assembly and operation instructions.		

VERIFY SKID SHOE ADJUSTMENT:

LEVEL PAVED SURFACE: Adjust skid shoes to allow 3/16" to 1/4" or 5mm to 7mm clearance (A) between cutting edge and surface.

UNEVEN OR GRAVEL SURFACE: Adjust skid shoes to allow 1/2" to 5/8" or 13mm to 16mm clearance (A) between cutting edge and surface.



Adjust skid shoes

VERIFY TIRE PRESSURE:

Snowblower should raise 3" to 4" above ground, (no more, no less) if not, check and adjust tractor tire pressure.

See subframe owner's manual for proper tire pressure.

Tire pressure must be even on both sides of tractor.

OPERATION

SNOWBLOWER OPERATION

- a) Make sure the snowblower is clear of snow before engaging the snowblower.
- b) Make sure that the auger and impeller operate freely.
- c) Start the tractor engine.
- d) Before engaging the snowblower drive, always have the engine running at medium R.P.M.
- e) 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 tractor is too fast, the snowblower may become overloaded and plug.

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

CONTROLS

CHUTE ROTATION

The chute rotation handle is located to the left of steering wheel. Turning the handle in a clockwise direction, the discharge chute will turn in a clockwise direction or vice versa.

CHUTE DEFLECTOR

Set the angle of the deflector according to the distance the snow must be thrown and to prevent property damage. To change the deflector angle, loosen the two deflector knobs & adjust the deflector to the appropriate angle and retighten the two knobs securely.

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 tractor is too fast, the snowblower may become overloaded and plug. For best results, raise the snowblower and remove a top layer of snow. A second pass with the snowblower will remove the remaining snow.

CLEARING A CLOGGED DISCHARGE CHUTE:



WARNING



- Do not attempt to clear plugged chute, auger or fan of snow while tractor 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.
- Always use the clean-out tool (chute shovel) supplied with this snowblower.



WARNING



Read the tractor Owner's Manual carefully. Be thoroughly familiar with the controls & proper use of the attachment. Know how to stop the attachment & disengage the controls quickly.



WARNING



- TO PREVENT INJURIES AND FOR MORE TRACTION WHEN USING AN ATTACHMENT:**
- Rear counterweights of 100 lbs. minimum are required to counter-balance attachment's weight.
 - Tractor manufacturer approved tire chains are required.
 - Do not operate on slopes greater than 10°.
 - When dismantling an attachment remove rear counterweights.

MAINTENANCE



WARNING



TO PREVENT INJURIES:

Stop the motor.
Apply parking brake.
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 attachment is in safe working condition.
- Provide adequate blocking before working under the attachment when in raised position.

ADJUSTMENTS

VERIFY SKID SHOE ADJUSTMENT:

LEVEL PAVED SURFACE: Adjust skid shoes to allow 3/16" to 1/4" or 5mm to 7mm clearance (A) between cutting edge and surface.

UNEVEN OR GRAVEL SURFACE: Adjust skid shoes to allow 1/2" to 5/8" or 13mm to 16mm clearance (A) between cutting edge and surface.

LUBRICATION

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.

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 the clean-out tool (chute shovel) supplied with this snowblower, NOT YOUR HANDS.

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. All you have to do is unscrew the bolts and turn the cutting edge, reinstall and tighten the bolts securely.

SHEAR BOLT REPLACEMENT

***The shear bolts are to be considered a preventive 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.**

Fan Shear Bolt Replacement:

The fan is protected by a special shear bolt with one groove. If you hit a foreign object or ice, the shear bolt is designed to break upon absorbing impact. The fan will stop turning. This is to avoid damage to the fan or the snowblower. Replace only with original part (for identification, see parts list: "Snowblower Head"). Accessible by removing belt guard. Hole designed for inserting screwdriver is located on the side of housing. The head of the bolt must be on the right side. The use of any other bolt may void the warranty.

Auger Shear Bolt Replacement:

The auger is protected by a special shear bolt with two grooves. If you hit a foreign object or ice, the shear bolt is designed to break upon absorbing impact. The auger will stop turning. This is to avoid damage to the auger or the snowblower. Replace only with original parts (for identification, see parts list: "Snowblower Head"). Accessible by removing the belt guard. The use of any other bolt may void the warranty.

BELT REPLACEMENT

NOTE: See subframe owner's manual for V-belt installation and adjustment.

END OF SEASON STORAGE

- Clean snowblower and subframe thoroughly and repaint all parts from which paint has worn.
- List the replacement parts that will be needed for the next season.
- Store the snowblower and the subframe in a dry place.

DISMOUNTING

SNOWBLOWER DISMOUNTING:

- a) Select a level surface, set parking brake, stop engine, remove the ignition key and remove spark plug wire from engine spark plug (s). Keep wire away from plug (s) to prevent accidental starting.
- b) Remove the hair pin from the rotation handle and remove handle.
- c) **Tractors with Manual P.T.O. Clutch:**
Disengage the clutch lever, loosen or remove the tractor belt guide, remove the belt from tractor drive pulley and subframe idlers.
- d) **Tractors with Electric P.T.O. Clutch:**
Release the tension on the belt by moving the tension arm forward. Remove the belt from tractor drive pulley and subframe idlers.
- e) Detach the snowblower by lifting the spring locks on quick hitch and pulling back the snowblower one side at a time .

SUBFRAME DISMOUNTING

NOTE: See Subframe owner's manual for dismounting instructions.

TROUBLESHOOTING

* Please refer to parts breakdown section for parts identification.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Snowblower is noisy. Note: Please note this snowblower may appear to be loud.	New chain and new sprocket.	Lubricate the roller chains. Note: When snowblower is new it is louder, the noise will decrease over time.
Snowblower vibrates or is abnormally noisy.	Damaged pulley.	Replace pulley.
	Damaged bearing.	Replace bearing.
	Damaged fan.	Dismount & repair or replace fan.
	Auger bent.	Replace auger.
Auger stopped turning.	Shear bolt broken.	Replace shear bolt. Also see "Maintenance" section.
	Chain broken or connecting link unlocked.	Remove chain guard. Inspect and repair if needed.
Fan stopped turning.	Shear bolt broken or sheared.	Replace bolt. The head of the bolt must be on the right side.
Snowblower stopped turning.	Drive belt is damaged or snapped.	Check & replace damaged belt. See Belt Replacement instructions in "Maintenance" section.
Belt snapping, shredding, burning or worn in a specific place.	Lack of tension on belt.	Adjust manual clutch cable or replace springs if stretched.
	Snowblower engaged when plugged.	Make sure the auger & the fan are not frozen or plugged before engaging.
	Not original belts.	Always use original belts.
	Worn belt. Belt may be worn causing a slack.	Inspect the belt. Replace if required.
	Not original shear bolts.	Use original shear bolts
	Imperfections in pulleys.	Verify if the pulleys are damaged. Verify that pulleys are smooth, without rust spots. Sand down the pulleys or replace them.
	Interference.	Make sure that belt does not come into contact with any other part, bolts, guides etc... when engaged.
	Belt has flipped on its side.	When installing new belt, have snowblower run between 20 to 40 seconds. Turn everything off and verify that belt has not turned on its side. If so, remove belt and re-install in opposite fashion to rectify the bad twist the belt has taken.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Chute rotation is difficult.	Dirt or ice may be underneath chute.	Clean the base of chute & the rotation ring. Lubricate chute inside & out and the rotation worm. Clean parts, lubricate & reinstall. Make sure the retaining plates are not too tight on the chute base, it may be a reason why the chute is not turning freely.
	The base of the chute may be damaged or bent.	Dismount the chute by removing the retaining plates. Verify that the base of the chute is very even and not bent in a corner, if it is, straighten.
The chute plugs easily.	Tractor engine R.P.M. is too slow.	Always have tractor engine at full R.P.M. when using the snowblower.
	Advancing too quickly with snowblower.	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. If problem persists, change skid shoes for "Heavy Duty Skid Shoes" (option model #700243) which cover more surface and prevents snowblower from digging.
Snowblower does not raise evenly.	Rear tire pressure uneven from one side to another.	Verify and adjust tire pressure: Front tires: 14 to 15 p.s.i. Rear tires: 7 to 8 p.s.i.
	Maladjustment of the snowblower.	Loosen male hitch on snowblower. Place a shim (ex.: piece of wood approx. 2" thick) under the lower side of snowblower which needs to be levelled. Re-tighten bolts.
Snowblower does not raise enough or raises too much.	Lift mechanism is not well adjusted.	Adjust the adjustment rod on the push arm to obtain a 3" to 3 1/2" lift height.
Auger turns the wrong way.	Belt is installed improperly.	See belt mounting instructions in specific attachment (snowblower or broom), installation section in subframe manual.

TORQUE SPECIFICATION TABLE

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

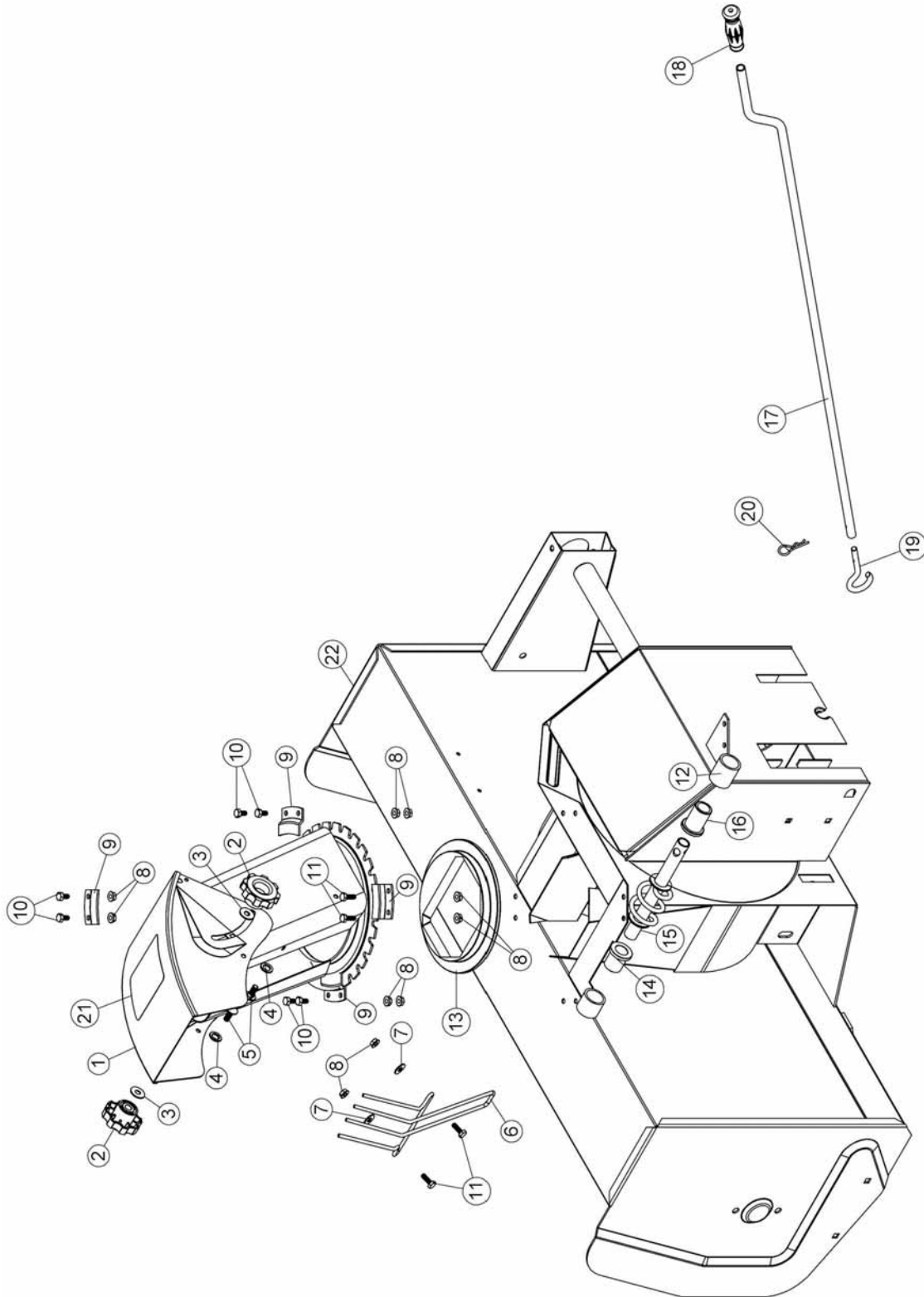
NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

* 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		NEW TON-METERS		FOOT POUNDS		NEW TON-METERS		FOOT POUNDS		NEW TON-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

PARTS BREAKDOWN CHUTE WITH ROTATION SYSTEM



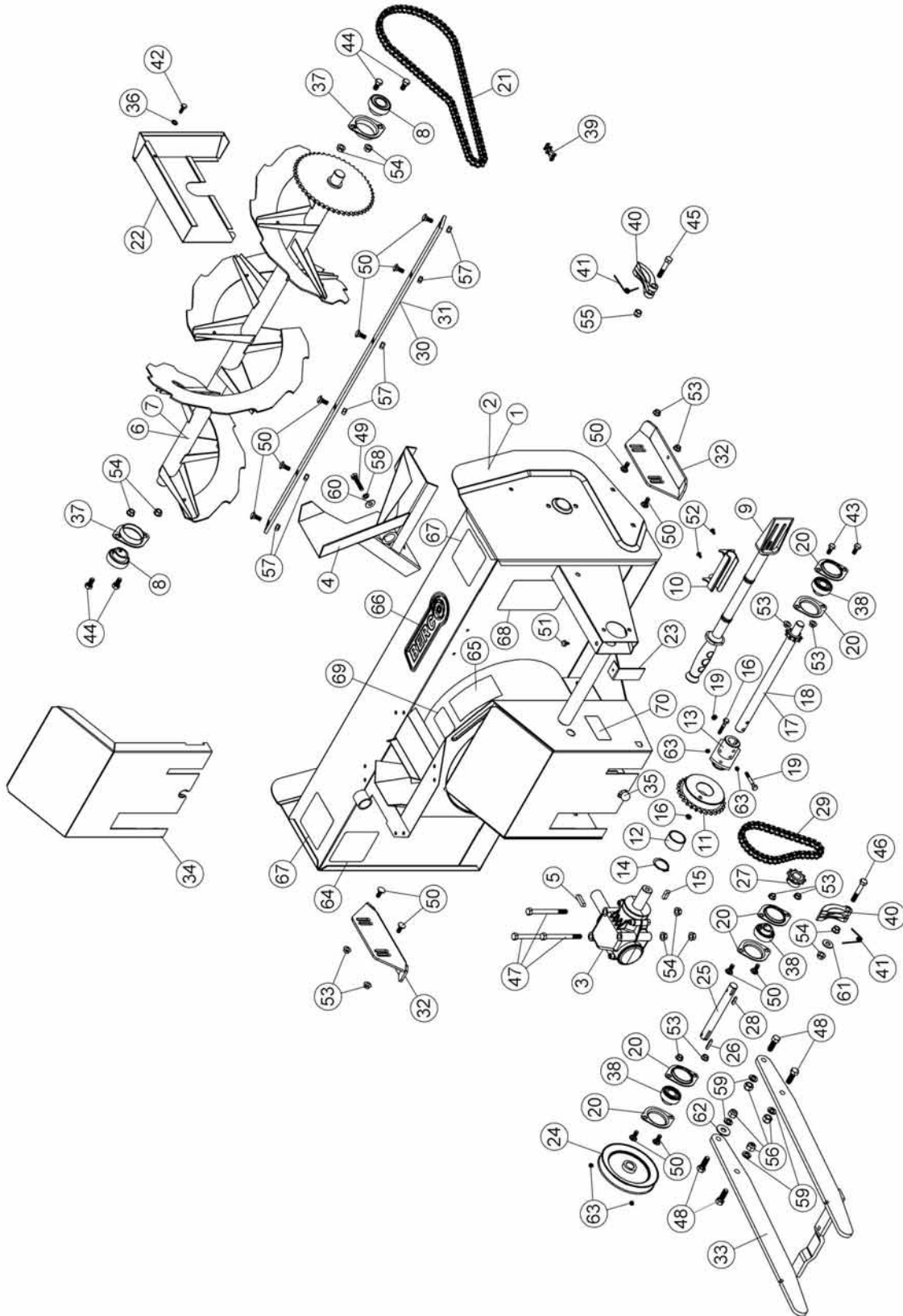
PARTS LIST

CHUTE WITH ROTATION SYSTEM

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Chute	Goulotte	1	102058
2	Knob	Bouton	2	102020
3	Nylon flat washer 11/32"	Rondelle plate de nylon 11/32"	2	102009
4	Nylon flat washer 7/16"	Rondelle plate de nylon 7/16"	2	102011
5	Carriage bolt 5/16" n.c. x 3/4"	Boulon à carrosserie 5/16" n.c. x 3/4"	2	O/L
6	Hand guard	Fourche protectrice	1	102012
7	Flat washer 5/16" hole	Rondelle plate 5/16" trou	2	O/L
8	Flange nut 1/4" n.c.	Écrou à bride 1/4" n.c.	10	O/L
9	Retaining plate	Plaque de retenue	4	102007
10	Hex. bolt 1/4" n.c. x 1/2"	Boulon hex. 1/4" n.c. x 1/2"	6	O/L
11	Hex. bolt 1/4" n.c. x 3/4"	Boulon hex. 1/4" n.c. x 3/4"	4	O/L
12	Worm support	Support de spirale	1	102014
13	Rotation ring	Anneau de rotation	1	102016
14	Rotation bushing	Coussinet de rotation	1	102060
15	Rotation worm	Spirale de rotation	1	102005
16	Rotation bushing	Coussinet de rotation	1	102059
17	Handle	Manivelle	1	102061
18	Handgrip	Poignée	1	102062
19	Handle hook	Crochet de manivelle	1	102006
20	Hair pin 2.5mm	Goupille à ressort 2.5mm	1	102013
21	Danger decal chute	Décalque danger goulotte	1	105127
22	Frame	Châssis	1	REF

O/L = Obtain Locally

PARTS BREAKDOWN SNOWBLOWER HEAD



PARTS LIST SNOWBLOWER HEAD

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Frame 40"	Châssis 40"	1	103300
2	Frame 44"	Châssis 44"	1	103344
3	Gear box	Boîte d'engrenage	1	102029
4	Fan	Éventail	1	102001
5	Key 8 x 7 x 35mm	Clé 8 x 7 x 35mm	1	102035
6	Auger 40"	Vis 40"	1	102000
7	Auger 44"	Vis 44"	1	102100
8	Bearing with set screw	Roulement à billes avec vis à pression	2	102755
9	Chute shovel	Pelle à goulotte	1	105700
10	Chute shovel support	Support de pelle à goulotte	1	105701
11	Sprocket	Pignon	1	103304
12	Bushing	Coussinet	1	102033
13	Shear plate	Plaque de cisaillement	1	103308
14	Snap ring	Anneau de retenue	1	102034
15	Key 8 x 7 x 25mm	Clé 8 x 7 x 25mm	1	102030
16	Shear bolt /N.I.L.N.T. (fan) pkg-10	Boulon séc. /É.G.N.M. (éven.) pqt-10	1	103305
17	Drive shaft 40"	Arbre de commande 40"	1	103307
18	Drive shaft 44"	Arbre de commande 44"	1	103316
19	Shear bolt /N.I.L.N.T. (auger) pkg-10	Boulon de séc. /É.G.N.M. (vis) pqt-10	1	103088
20	Flangette	Flangette	6	102212
21	Chain roller #40 x 92 links / connecting link	Chaîne #40 x 92 mailles/avec maille d'acc.	1	102022
22	Chain guard	Garde-chaîne	1	102698
23	Chain guard	Garde-chaîne	1	102041
24	V pulley	Poulie en V	1	103288
25	Drive shaft	Arbre de commande	1	103324
26	Key 3/16" x 3/16" x 1 3/32"	Clé 3/16" x 3/16" x 1 3/32"	1	103301
27	Sprocket with set screw	Pignon avec vis à pression	1	102045
28	Key 3/16 x 3/16 x 13/16	Clé 3/16 x 3/16 x 13/16	1	103309
29	Chain roller #40 x 40 links endless (O-ring)	Chaîne à roul. #40x40 mai. sans f./lon. vie	1	102297
30	Cutting edge 40"	Racloir 40"	1	102047
31	Cutting edge 44"	Racloir 44"	1	102101
32	Skid shoe	Patin	2	103188
33	Male hitch	Attache mâle	1	103329
34	Belt guard	Garde-courroie	1	102556
35	Rubber Latch	Attache en caoutchouc	1	102547

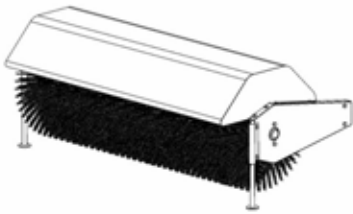
O/L = Obtain Locally

PARTS LIST SNOWBLOWER HEAD

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
36	Spring Washer	Rondelle à ressort	1	104352
37	Flangette	Flangette	2	102680
38	Bearing 3/4" w/set screw	Roulement 3/4" a/vis à pression	3	102864
39	Connecting Link #40	Maille d'accouplement #40	1	102040
40	Tensioner	Tensionneur	2	103289
41	Spring	Ressort	2	103291
42	Hex. bolt 1/4" n.c. x 3/4"	Boulon hex. 1/4" n.c. x 3/4"	1	O/L
43	Hex. bolt 5/16" n.c. x 3/4"	Boulon hex. 5/16" n.c. x 3/4"	2	O/L
44	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	4	O/L
45	Hex. bolt 3/8" n.c. x 2"	Boulon hex. 3/8" n.c. x 2"	1	O/L
46	Hex. bolt 3/8" n.c. x 2 1/4"	Boulon hex. 3/8" n.c. x 2 1/4"	1	O/L
47	Hex. bolt 3/8" n.c. x 4"	Boulon hex. 3/8" n.c. x 4"	3	O/L
48	Hex. bolt 7/16" n.c. x 1 1/4"	Boulon hex. 7/16" n.c. x 1 1/4"	4	O/L
49	Hex. bolt 8mm x 1.25 x 25mm	Boulon hex. 8mm x 1.25 x 25mm	1	O/L
50	Carriage bolt 5/16" n.c. x 3/4"	Boulon à carrosserie 5/16" n.c. x 3/4"	14	O/L
51	Tapping screw 1/4"-14 x 1/2"	Vis taraudeuse 1/4"-14 x 1/2"	1	O/L
52	Socket head cap screw M5 x 0.80 x 10	Vis à six pans creux tête ronde M5 x 0.80 x 10	2	O/L
53	Flange nut 5/16" n.c.	Écrou à bride 5/16" n.c.	10	O/L
54	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	9	O/L
55	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	1	O/L
56	Nylon insert lock nut 7/16" n.c.	Écrou à garniture de nylon 7/16" n.c.	4	O/L
57	Stover lock nut 5/16" n.c.	Écrou de blocage 5/16" n.c.	6	O/L
58	Lock washer 5/16"	Rondelle de blocage 5/16"	1	O/L
59	Lock washer 7/16"	Rondelle de blocage 7/16"	4	O/L
60	Flat washer 3/8" hole	Rondelle plate 3/8" trou	1	O/L
61	Flat washer 7/16" hole	Rondelle plate 7/16" trou	1	O/L
62	Flat washer 1/2" hole	Rondelle plate 1/2" trou	1	O/L
63	Hex. socket set screw 5/16" n.c. x 5/16"	Vis à pression hex. 5/16" n.c. x 5/16"	4	O/L
64	Decal danger belts	Décalque danger courroies	1	105128
65	Lubricate decal	Décalque lubrification	1	102129
66	Berco decal	Décalque Berco	1	102471
67	Decal danger auger	Décalque danger vis	2	105126
68	Decal read instructions	Décalque lire instructions	1	105130
69	Made in Canada decal	Décalque Fabriqué au Canada	1	REF
70	Serial number	Numéro de série	1	REF

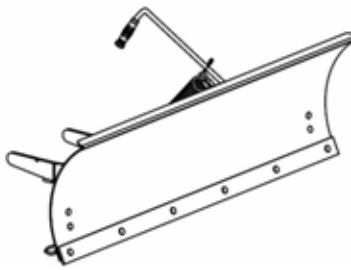
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OPTIONS & ATTACHMENTS



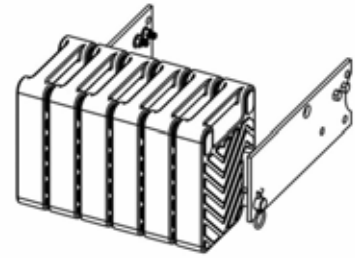
ROTARY BROOM #700316

Fits on same subframe as snowblower or utility blade. Requires an adaptor.



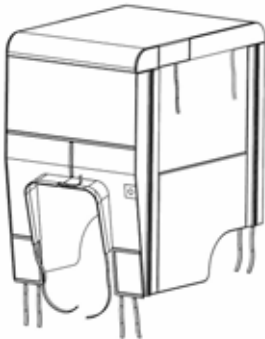
UTILITY BLADE #700266

Mounts on the same subframe as the snowblower & rotary broom.



COUNTERWEIGHT

ACCORDING TO MODEL OF TRACTOR
Required for safety and traction. Counter-balances weight of attachment.



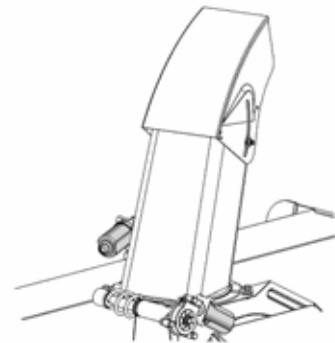
**TRACTOR WINTER CAB
#700271
#700423**

Universal type fits on a wide variety of lawn and garden tractors.



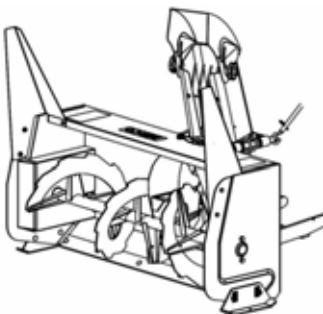
**DEFLECTOR ADJUSTMENT KIT
#700239
ELECTRIC DEFLECTOR
ADJUSTMENT KIT
#700526**

Adjusts height at which snow is thrown from the driver's seat.



**ELECTRIC CHUTE & DEFLECTOR
#700522**

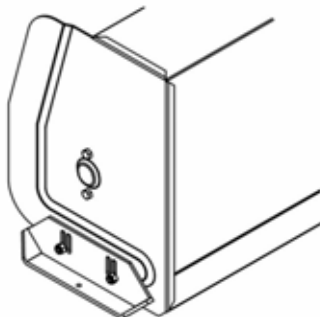
Allows to turn chute and adjust deflector electrically from driver's seat.



SNOW DRIFT CUTTER

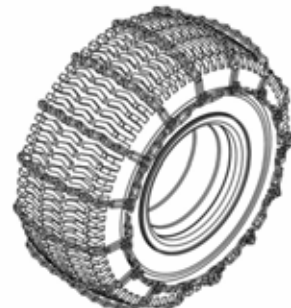
#700261 for deluxe snowblower. Facilitates and increases snow intake.

Pkg. of 2



**HEAVY DUTY SKID SHOES
#700243**

For gravel driveways.
Pkg. of 2



TIRE CHAINS

Two link spacing. Required for traction and safety.

Pkg. of 2



***WHEN PERFORMANCE
& DEPENDABILITY
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