

OWNER'S MANUAL Model Number 700448-3



Berco Rotary Broom 60'For **ALL TERRAIN VEHICLES**

- * ASSEMBLY
- * REPAIR PARTS
- * OPERATION
- * 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 preestablished 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.

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.

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.

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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.

- 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.
- 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.
 - 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 lockopen device.
 - g) Replace fuel cap securely and wipe up spilled
 - 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.
- 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:

- Do not put hands or feet near, under or inside rotating parts.
- Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for hidden hazards or traffic. Do not carry passengers.
- 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.
- 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.
- 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.

Keep the accessory away from heat sources or flames.

MAINTENANCE AND STORAGE

- 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.
- 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.
- 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

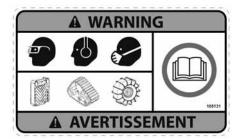


REPLACE IF DECALS ARE DAMAGED SEE PARTS BREAKDOWN FOR DECAL LOCATION

DECAL #105128



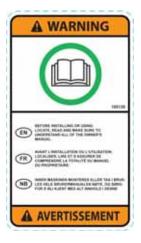
To avoid injury from drive belt: Keep hands, feet & clothing away. Do not attempt to install or remove drive belt without reading owner's manual. DECAL #105131



Refer to owner's manual about wearing safety glasses, ear muffs and mask.

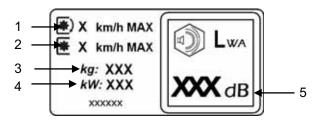
Refer to owner's manual for use of counter weights, cat tracks and tire chains.

DECAL #105130



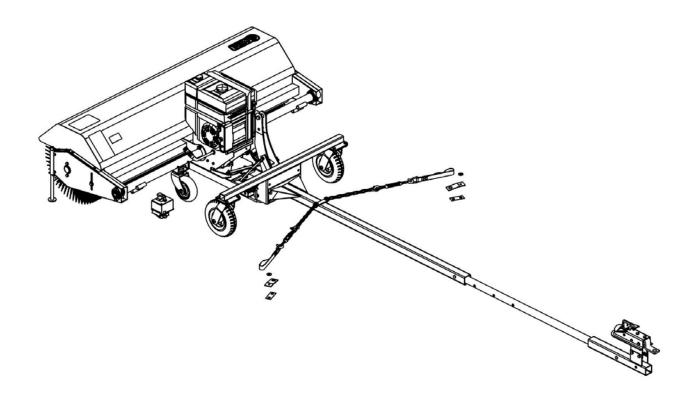
Before installing or using:

Locate, read and make sure to understand all of the owner's manual.



- 1-Do not drive faster than 3 KM/H when the rotary broom is in operation.
- 2-Do not drive faster than 10 KM/H when the rotary broom is in the raised position.
- 3-The head of the rotary broom weighs 128 kg.
- 4-The engine wattage is 4,7kW.
- 5-The sound pressure level (105dBA) is measured at 1 meter from the engine (full charge at 3600 RPM).

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

TOOLS REQUIRED

Wrenches: 9/16", 10mm, 1 1/16", 7/16", 1/2", 3/4"

Ratchet

Sockets 9/16", 1 1/16", 7/16", 1/2", 3/4"

Drill 1/4" bit

Cutting pliers

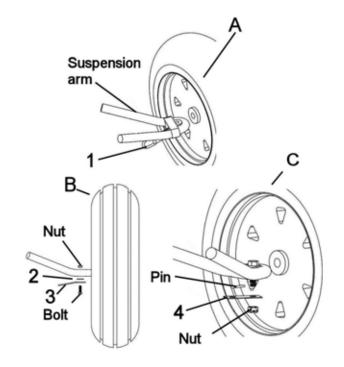
Wrench (for the nuts on the vehicle's battery posts)

STEP 1 <u>VEHICLE PREPARATION:</u>

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

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

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

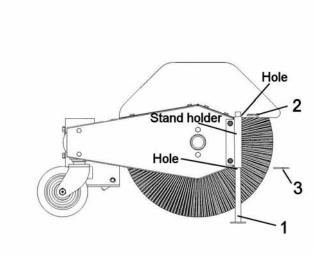


Install the lift strap or the brackets.

STEP 2
ROTARY BROOM PREPARATION:

Install a parking stand on each side of broom.		
# Item	Description	Action
1	Parking stand (qty 2)	Insert in stand holder.
2	Cotter pin 5/32 x 1" (qty 2)	Secure in top hole as shown.
3 Hair pin 2.5mm Secure in bottom (Qty 2) hole as shown.		

This will allow the broom to rest on the parking stands.



Install parking stands



DANGER



NEVER OPERATE THE ROTARY BROOM WITHOUT:

Brush hood Belt guard Gear box guard

Extension guard and any other safety protection devices in place.

Install the push frame (item 1).			
# Item	Description	Action	
1	Push frame	Insert under the motor frame.	
2	Cone bearing (qty 2)	Insert as shown.	
Fill the space between the bearings with grease.			
3	Seal washer	Secure with hollow portion towards the top.	
4	Nylon insert lock nut	Secure from the bottom as shown.	

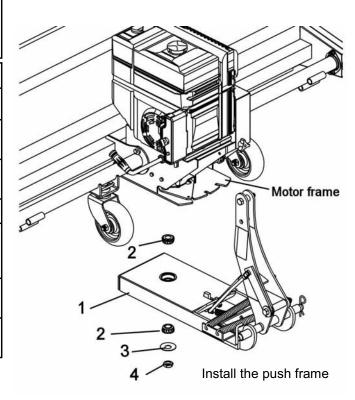
Tighten loosely enough to permit the push frame to move freely.



CAUTION



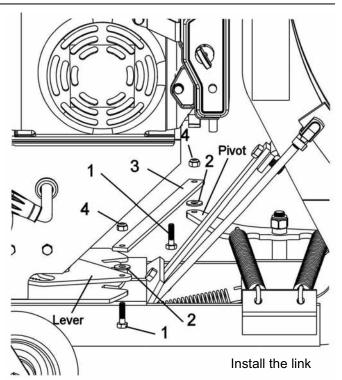
Never use the Rotary Broom without the belt guard.



Install the link (item 3)			
# Item	Description Action		
1	Hex bolt 1/4 X 1" (qty 2)	Insert under the lever as shown.	
2	Flat washer (qty 2)	Install on lever as shown.	
3	Link	Install one end of link on the bolt as shown.	
4	Nylon insert lock nut (qty 2)	Secure link as shown.	

Install the other end of the link on the pivot following the same steps as shown.

Tighten loosely enough to permit the parts to move freely.

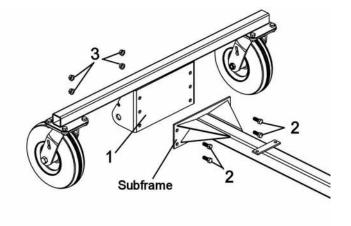


STEP 3 SUBFRAME PREPARATION:

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* (See below).

Install the wheel support (item 1).			
# Item	Description Action		
1	Wheel support	Install to the subframe.	
2	Hex bolt 3/8" x 1"(qty 4)	Insert as shown.	
3	3 Flange nut 3/8" Tighten fi		

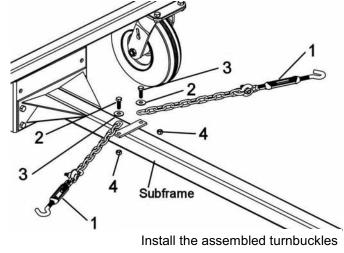
^{*}The subframe must be parallel with the ground when the subframe is installed under the vehicle.



Install the wheel support

Install the assembled turnbuckles (item 1).		
# Item	Description Action	
1	Assembled turnbuckle (qty 2)	Install on subframe as shown.
2	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 firmly.

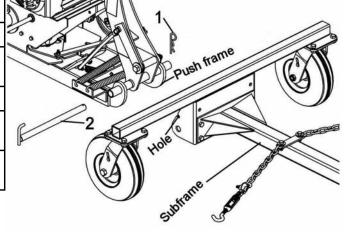
NOTE: Position the chains as shown and tighten firmly.



Install the broom to the subframe.				
# Item	Description Action			
1	Hair pin 4mm	Remove from pin (item 2).		
2	Pin	Remove as shown.		

Install the broom's push frame to the subframe. Secure with the pin and hair pin previously removed.

NOTE: The hooked end of the pin must be inserted into the hole to lock it in place.



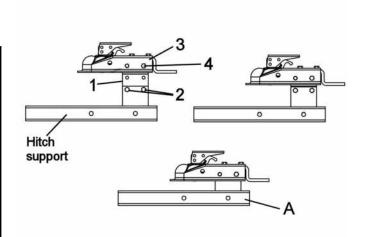
Install broom to subframe

Choose between the three positions (see figure), the height of the hitch support.

There must be a maximum of ground clearance according to your vehicle.

Figure A does not have the hitch support plate (item 1).

Assemble the hitch support plates (item 1) and the hitch (item 3).			
# Item	Description	Action	
1	Hitch support plate (qty 2)	Install the hitch support plates on the hitch support.	
2	Hex bolt 3/8" x 3/4" (qty 4)	Insert in 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"	Insert in hole as shown and secure with nylon insert lock nut 3/8".	



Assemble the hitch support

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

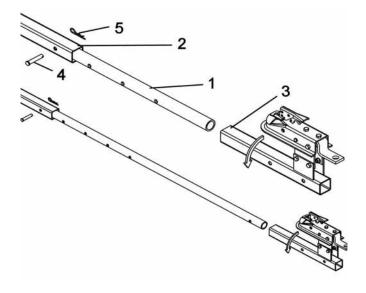
To choose the right adjustment, insert the adjustment tube (item 1) into the subframe (item 2) and insert the hitch support (item 3) on the adjustment tube. Do not secure.

Turn the hitch support to the side to facilitate installation.

Drive the vehicle over the subframe, <u>make sure the caster wheels do not touch the front wheels of the vehicle.</u>

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

IMPORTANT: Make sure the adjustment tube is inserted to its maximum in the subframe in order to prevent premature damage to the subfame.



Adjust length of subframe

Install the assembled hitch support (item1) on the **vehicle**'s tow hitch ball.

# Item	Description	Action
1	Assembled hitch support	Insert onto the adjustment tube.
2-3	Pin and 3mm hair pin	Secure in place.

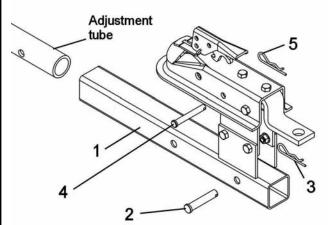
NOTE: The hitch support has two sets of holes to increase the length of the subframe if necessary.

1	Assembled hitch support	Attach vehicle's ball.	on tow	the hitch
4-5	Pin and 3mm hair pin	Sed	cure.	

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.

WARNING: Always check that ball is completely inserted into hitch coupler socket and that the underjaw is securely closed around the bottom of ball. Always check tightness before using the tow hitch. If necessary, tighten locknut against tension spring. Be sure hitch coupler handle is in locked position.

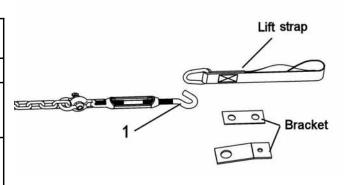


Secure the hitch support on the tow hitch ball

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

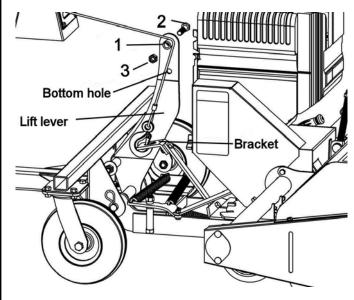
IMPORTANT: After adjusting the turnbuckles, tighten the nuts on the vehicle's suspension arms firmly. Make sure to lock the nuts with the original locks.



Install the turnbuckles

Attach the vehicle 's winch's hook on the bracket.							
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.							
If the vehicle's winch is lower than 20" (510mm) from the ground.							
Sleeve	Install in the bottom hole of the lever.						
Hex bolt 1/2" x 2 1/4"	Insert in the sleeve.						
Nylon insert lock nut 1/2"	Tigten firmly.						
Vehicle's winch's hook	Install on bracket as shown.						
	Description If the vehicle's ver than 20" (510mm) Sleeve If the vehicle's ver than 20" (510mm) Sleeve Hex bolt 1/2" x 2 1/4" Nylon insert lock nut 1/2" Vehicle's winch's						

Tip: Thread the winch's hook behind the lever as shown and then thread the cable over the sleeve.



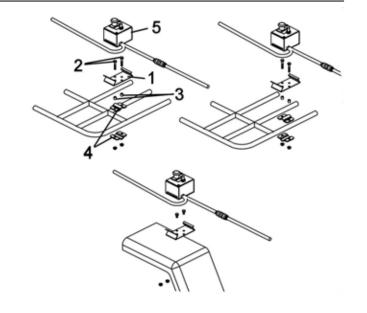
Install the winch hook

STEP 4 INSTALLATION OF THE CONTROL BOX

As shown, choose from the three different ways to secure the control box support (item 1).

Use two hex bolts 1/4" x 1 1/2" (item 2), the support brackets (item 4), spacers (item 3) and the flange nuts.

Insert the control box (item 5) into the support.



Install the control box

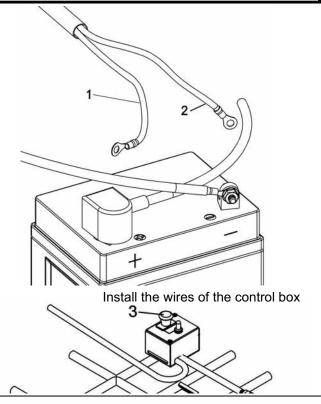
Wires for the control box:

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 (item 3) in case you need to stop the engine quickly.

NOTE: The emergency kill switch must be pulled out to start the engine for the broom.



STEP 5 INSTALLATION OF THE WIRES FOR THE ELECTRIC STARTER:

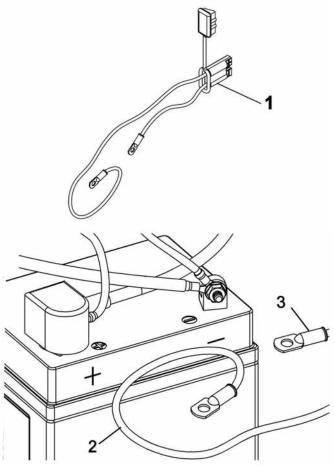
Wires for the electric starter:

Connect the wire assembly (item 1) on the ATV's battery, the longest red wire (positive) (item 2) on the positive post as shown.

Connect the black wire (negative) (item 3) on a bolt that is on the A.T.V's. frame (scrape away any paint to make sure the contact is good) and retighten the bolt.

Connect the electric starter wire assembly to the wire assembly on the battery.

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



Install the wires for the electric starter

OPERATION



WARNING



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



WARNING



TO PREVENT INJURIES AND FOR MORE TRACTION WITH ROTARY BROOM:

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

FAMILIARISATION OF THE CONTROLS:

Familiarize yourself with the controls before using.

- a) Raise the broom.
- b) Start the engine (full throttle).
- c) Engage the broom (item 3).
- d) Lower to the ground.
- e) Adjust the pressure on the brush (item 1).

RAISING AND LOWERING THE ROTARY BROOM:

Use the winch switch control to raise and lower the rotary broom.

IMPORTANT: To prolong the subframe's life, release the switch immediately when the attachment hits the stopper in the highest position.

IMPORTANT:

Always keep the winch cable taut when the broom is in operation to keep the wheel support on the ground.

ANGLE ADJUSTMENT:

In order to be able to change the angle of the broom follow these instructions.

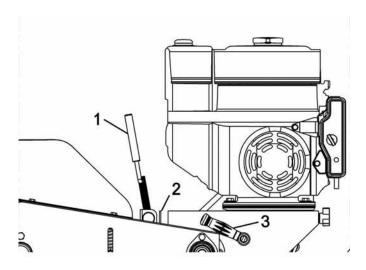
- a) Raise the broom to its maximum (the lock mechanism will disengage).
- b) Activate the control to turn the broom to the angle desired.
- c) Lower the broom to the ground (the locking mechanism will reengage).

NOTE: It is not necessary to perfectly align the latch with the slots. When the broom will be lowered to the ground the springs will allow the latch to engage itself into the slot.

PRESSURE ON THE BRUSH ADJUSTMENT

By turning the adjustment screw (item 1) counter clockwise, the gauge (item 2) moves higher and the pressure of the brush on the ground increases. By turning the adjusting screw clockwise, the gauge (item 2) moves lower on the gear box frame and the pressure of the brush on the ground decreases.

IMPORTANT: Adjust frequently to compensate for brush wear. Remember to sweep with the tips of the bristles like a broom and not with the sides of the bristles like a mop. Too much pressure can decrease the brush life up to 95%.



Adjust the pressure on the brush

OPERATION

GENERAL SWEEPING

Minimize dust by reducing brush speed and by sweeping after rain or on a day with high moisture.

SNOW SWEEPING

Adjust the gauge (item 2) to be even with the top of gear box frame. The broom works well for light snow removal.

Sweep with the wind blowing in the direction of broom discharge (wind in your back).

NOTE: Foreign objects in the snow may be thrown faster than the snow itself.

Frequently clean the snow and ice accumulation from the top and bottom of the broom hood.

LAWN DETHATCHING AND LEAF RAKING:

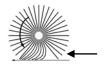
Lower the broom on a hard surface and lift the brush 1" from the ground by turning the adjusting screw clockwise. The brush is supported by dolly wheels. This adjustment is normally satisfactory but you may raise or lower depending upon grass height.

Low brush speed and ground speed is best for lawn dethatching and leaf raking.

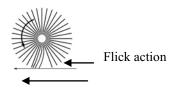
Never sweep with the sides of bristles!

Sweep with the tips! Do not mop!

Road surface



Too much pressure= Shortens brush life!



MAINTENANCE & DISMOUNTING

BEFORE DOING ANY MAINTENANCE OR DISMOUNTING AN ACCESSORY, REFER TO THE SAFETY PRECAUTIONS.

MAINTENANCE

- a) Check oil level in gear box every fifty hours and fill to plug level with SAE-90-EP oil when necessary.
- b) Grease the wheel axles after every eight hours of use.
- c) Chain: do not lubricate when used in dusty conditions. After use, wash clean and lubricate.
- d) Adjust the chain frequently by moving the idler sprocket to give 1/2" deflection.
- e) Frequently clean the interior and exterior of hood, dirt, mud, ice, etc, accumulation adds weight on the brush and could result in premature wear of brush.
- f) Check mounting bolts at frequent intervals for proper tightness to be sure equipment is in safe working conditions.
- g) Apply oil at all pivot points.
- h) Inspect the air filter on the vehicle and accessory every day. Clean it or replace it when necessary. Change the oil more often when working in dusty conditions. See the owner's manual for the vehicle or for the accessory.



CAUTION



Never use the Rotary Broom without the belt quard.

BELT REPLACEMENT:

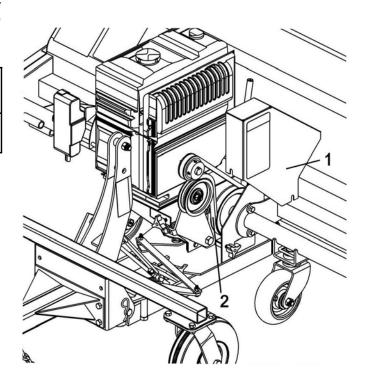
For belt part numbers, refer to parts breakdown section for parts identification.

- a) Remove the belt guard (item 1).
- b) Replace the belt (item 2).
- c) Engage the accessory.
- d) Make sure the pulleys are well aligned.
- e) Engage and reinstall the belt guard.

BRUSH REPLACEMENT:

See parts breakdown section for parts identification.

- a) Remove the hood.
- b) Loosen the chain idler sprocket.
- Remove the bolts from both flangettes that holds the brush hollow shaft.
- d) Remove the brush hollow shaft from the broom frame.
- e) Loosen the set screw and remove the right bearing from the brush hollow shaft
- Remove the bolt which retains the brush to the brush hollow shaft.
- g) Remove the brush tube from axle.
- h) Install the new brush by reversing the procedure.
- Adjust the tension on the chain by moving the idler sprocket to give a 1/2" deflection on the length of the chain.



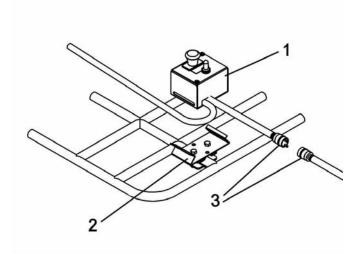
MAINTENANCE & DISMOUNTING

DISMOUNTING

- a) Select a level surface, set parking brake, stop the engine, and remove the ignition key to prevent accidental starting.
- b) Straighten the broom perpendicular with the vehicle.
- c) Set the parking stands in their most extended position Make sure the brush bristles never touch the ground.
- d) Lower the broom to the ground.
- e) Unhook the turnbuckles from the front of the vehicle, the hook from the winch and the hitch from the rear of the vehicle.
- f) Remove the control box (item 1) from the support (item 2). Disconnect the wires (item 3) and place the box on the accessory.
- g) Remove the vehicle.

END OF SEASON STORAGE

- a) Clean the broom and inside of the hood and paint all the parts where the paint has worn off.
- b) Take note of the replacement parts needed for next season.
- c) Lubricate all grease fittings and all moving parts.
- d) Store broom on parking stands. <u>Make sure the</u> brush bristles never touch the ground.
- e) If brush bristles are exposed to direct sunlight, protect the bristles with a tarp.
- f) Store the broom in a dry place.



TROUBLESHOOTING

* Please refer to parts breakdown section for parts identification.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Brush wears out prematurely or does not wear out evenly. The brush turns jerkily.	The pressure on the brush is not well adjusted. Too much pressure on the brush, it will wear out up to 5 times faster.	Reduce the pressure on the brush when on the ground. Adjust when needed to compensate for the wearing out of the brush. Always sweep with the tips of the bristles like a broom and not with the sides of the bristles like a mop.
		Maintain the gauge even with the top of the gear box frame or lower when sweeping hard surfaces.
The brush does not sweep well.	Debris accumulation.	Clean the inside and outside of the hood frequently during operation. Dirt, mud, ice, etc accumulation adds weight on the brush and could result in premature wear of the brush.
The brush is too aggressive when lawn dethatching or leaf raking. The brush does not turn on the grass.	Too much pressure on the brush.	Lower the broom on a hard surface and lift brush 1" from the ground by turning the adjusting screw clockwise. Adjust from time to time if necessary.
The chain wears out prematurely.	Inappropriate lubrication.	Do not lubricate the chain during operation. Wait until the job is finished. Wash the rotary broom and lubricate the chain. Let the broom turn a few moments so the oil penetrates in the chain.
The sprocket wears out prematurely.	Chain is not adjusted.	Check the chain adjustment frequently (too tight, too loose).
Loss of steering.	Too much pressure on the brush.	Reduce pressure on the brush. If problem persists, contact your dealer for more information.
The bristles take a bad form or shape.	The broom was not stored on the parking stands.	Wash the broom with warm water or warm steam. Leave in raised position and let it turn a few turns. The brush should take its original shape.
Electric motor does not work	Motor overheating.	These motors are equipped with an internal protector. Wait 10 minutes before using.

TORQUE SPECIFICATION TABLE

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

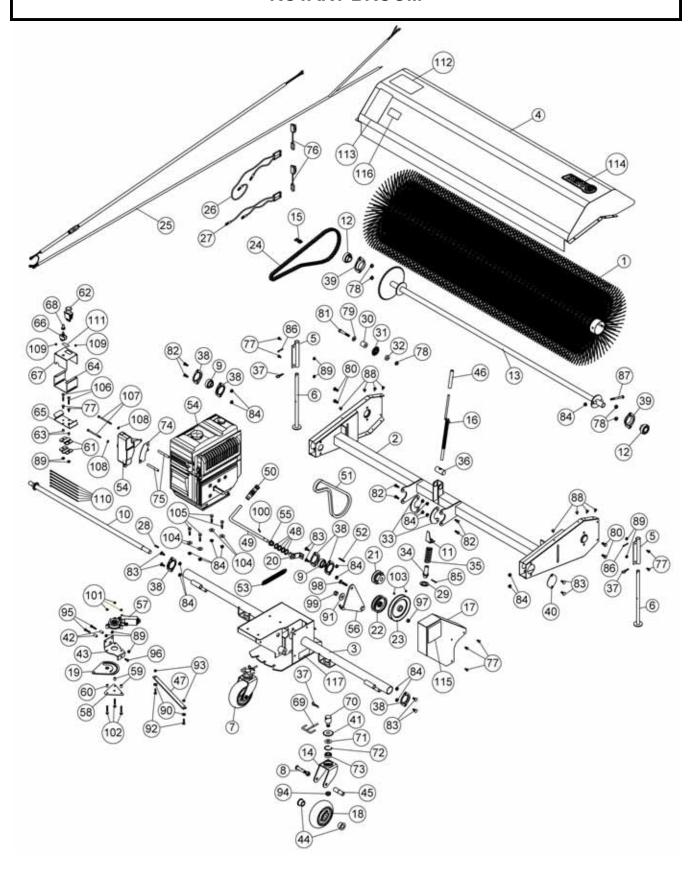
NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

* 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		TOI		QUE		TORQUE			TORQUE				
ВС	OLT SIZE	FOOT	POUNDS	NEW TON-N	IETERS	FOOT	POUNDS	NEW TON-N	IETERS	FOOT P	OUNDS	NEW TON-M	ETERS
Inches	Millimetre	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Мах.	Min. Max.	Max.	Min. Max.	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 THRE	AD		FINE THREA	D	
Size Screw	Grade No.	Pitch (mm)	Foot Pounds	Newton-Meters	Pitch (mm)	Foot Pounds	Newton-Meters	
М6	4T	1.00	3.6 - 5.8	4.9 - 7.9	-	-	-	
	7T	1	5.8 - 9.4	7.9 - 12.7	1 i	-	-	
	8T		7.2 - 10	9.8 - 13.6	1 i	-	-	
М8	4T	1.25	7.2 - 14	9.8 - 19	1.00	12 - 17	16.3 - 23	
	7T]	17 - 22	23 - 29.8	1 i	19 - 27	25.7 - 36.6	
	8T		20 - 26	27.1 - 35.2	1 1	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	1 i	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] i	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	
M 20	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	<u> </u>	246 - 289	333.3 - 391.6	

PARTS BREAKDOWN ROTARY BROOM



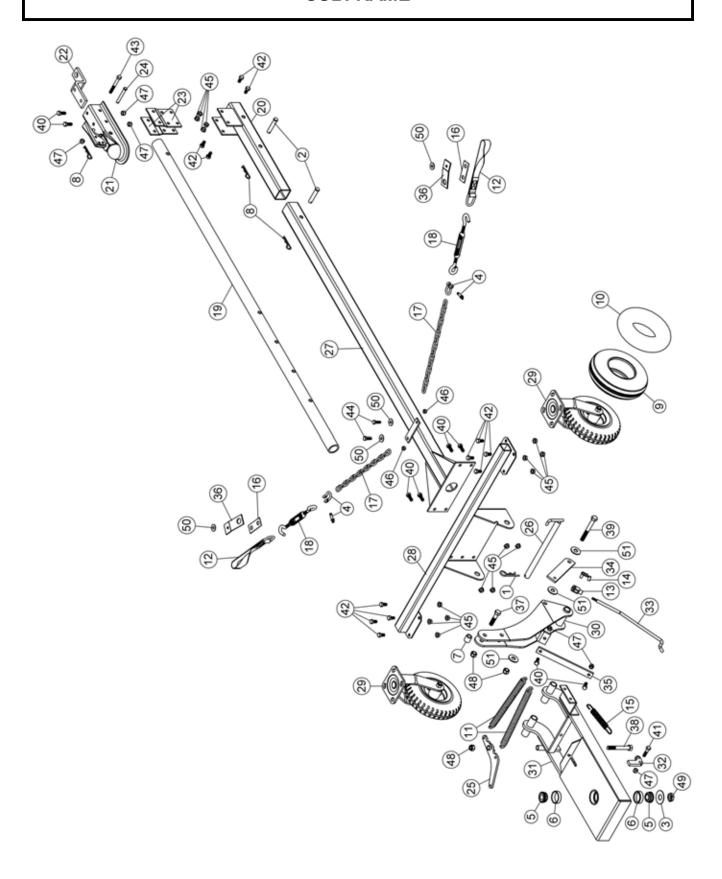
Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Polypropylene brush	Brosse de polypropylène	1	104459
2	Broom frame	Châssis du balai	1	104455
3	Motor frame	Châssis du moteur	1	105259
4	Hood	Capot	1	104457
5	Stand holder	Support de pied	2	102392
6	Parking stand	Pied de stationnement	2	102394
7	Caster wheel assembly	Roue pivotante assemblée	2	105108
8	Axle and nut	Essieu et écrou	1	102372
9	Bearing with set screw	Roulement à billes avec vis à pression	2	102864
10	Drive shaft	Arbre de commande	1	104650
11	Gauge	Jauge	1	102367
12	Bearing with set screw	Roulement à billes avec vis à pression	2	102755
13	Brush hollow shaft	Arbre de brosse	1	104456
14	Wheel fork	Fourche de roue	1	104676
15	Connecting Link #40	Maille d'accouplement #40	1	102040
16	Adjustment screw	Vis d'ajustement	1	104651
17	Belt gard	Garde-courroie	1	105258
18	Wheel 6" included 103482	Roue 6" inclue 103482	1	103484
19	Lever	Levier	1	104707
20	Tension arm	Bras de tension	1	104656
21	Pulley 2.7" with set screw	Poulie 2.7" avec vis à pression	1	104629
22	Flat pulley	Poulie plate	1	102839
23	V pulley	Poulie en V	1	103288
24	Roller chain #40 x 90 links/conn.link	Chaîne #40 x 90 mailles/maille acc.	1	104449
25	Wire assembly	Fil assemblé	1	104662
26	Wire assembly	Fil assemblé	1	104017
27	Wire assembly	Fil assemblé	1	104018
28	Key 3/16" x 3/16" x 1"	Clé 3/16" x 3/16" x 1"	1	102026
29	Special washer	Rondelle spéciale	1	102429
30	Spacer	Douille	1	102286

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
31	Idler sprocket	Pignon tendeur	1	102027
32	Spacer	Espaceur	1	102241
33	Collar	Collet	2	102402
34	Spring holder	Support de ressort	1	102197
35	Spring	Ressort	1	105118
36	Special nut	Écrou spécial	1	102288
37	Hair pin 2.5mm	Goupille à ressort 2.5mm	3	102013
38	Flangette	Flangette	6	102212
39	Flangette	Flangette	2	102680
40	Сар	Capuchon	1	104517
41	Сар	Capuchon	1	102586
42	Sleeve	Douille	2	104186
43	Bracket	Support	1	104653
44	Delrin bushing	Coussinet Delrin	2	103482
45	Wheel bushing	Douille de roue	1	103483
46	Foam grip	Poignée de mousse	1	104630
47	Link	Lien	1	104655
48	Washer	Rondelle	4	104113
49	Latch rod	Tige de loquet	1	104657
50	Handgrip	Poignée	1	102062
51	V-Belt , B-31	Courroie en V , B-31	1	104658
52	Key 3/16 x 3/16 x 1 1/2"	Clé 3/16 x 3/16 x 1 1/2"	1	104536
53	Spring	Ressort	1	102592
54	Engine 6.5 hp	Moteur 6.5 cv	1	105112
55	Plastic grommet	Oeillet de plastique	1	102063
56	Idler arm	Bras de tension	1	104654
57	Electric motor	Moteur électrique	1	103378
58	Plate	Plaque	1	103363
59	Spacer	Espaceur	2	103361
60	Oil lite bushing	Coussinet imprégné d'huile	1	103362

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
61	Support bracket	Fixation du support	2	103068
62	Emergency switch	Interrupteur d'urgence	1	104807
63	Spacer	Espaceur	2	103368
64	Вох	Boîte	1	104660
65	Box support	Support de la boîte	1	104661
66	Switch	Commutateur	1	103381
67	Box cover	Couvercle de la boîte	1	104659
68	Rubber boot	Capuchon de caoutchouc	1	103379
69	Lock pin	Goupille de barrure	1	104677
70	Adaptor pin	Goupille adapteur	1	104678
71	Spacer	Douille d'espacement	1	104679
72	Retaining ring	Bague de retenue	1	102600
73	Bearing	Roulement à billes	1	102599
74	Support	Support	1	105119
75	Spacer	Espaceur	2	105120
76	Сар	Capuchon	2	105407
77	Hex. bolt 1/4" n.c. x 1/2"	Boulon hex. 1/4" n.c. x 1/2"	9	O/L
78	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	5	O/L
79	Flat washer 7/16" hole	Rondelle plate 7/16" trou	1	O/L
80	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	4	O/L
81	Hex. bolt 3/8" n.c. x 2 1/2"	Boulon hex 3/8" n.c. x 2 1/2"	1	O/L
82	Hex. bolt 5/16" n.c. x 3/4"	Boulon hex. 5/16" n.c. x 3/4"	6	O/L
83	Carriage bolt 5/16" n.c. x 3/4"	Boulon à carrosserie 5/16" n.c. x 3/4"	8	O/L
84	Flange nut 5/16" n.c.	Écrou à bride 5/16" n.c.	19	O/L
85	Cotter pin 5/32" x 1 1/4"	Goupille fendue 5/32" x 1 1/4"	1	O/L
86	Cotter pin 5/32" x 1"	Goupille fendue 5/32" x 1"	2	O/L
87	Hex. bolt 5/16" n.c. x 3 1/2"	Boulon hex. 5/16" n.c. x 3 1/2"	1	O/L
88	Tapping screw 1/4"-14 x 1/2"	Vis taraudeuse 1/4"-14 x 1/2"	8	O/L
89	Flange nut 1/4" n.c.	Écrou à bride 1/4" n.c.	9	O/L
90	Flat washer 5/16" hole	Rondelle plate 5/16" trou	2	O/L

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
91	Flat washer 9/16" hole	Rondelle plate 9/16" trou	1	O/L
92	Hex. bolt 1/4" n.c. x 1"	Boulon hex. 1/4" n.c. x 1"	2	O/L
93	Nylon insert lock nut 1/4" n.c.	Écrou a garniture de nylon 1/4" n.c.	2	O/L
94	Nylon insert lock nut 5/8" n.c. (thin)	Écrou à garniture de nylon 5/8" n.c. (mince)	1	O/L
95	Hex. bolt 1/4" n.c. x 1 1/4"	Boulon hex. 1/4" n.c. x 1 1/4"	2	O/L
96	Hex. bolt 1/4" n.c. x 3/4"	Boulon hex. 1/4" n.c. x 3/4"	1	O/L
97	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	1	O/L
98	Carriage bolt 3/8" n.c. x 1 3/4"	Boulon à carrosserie 3/8" n.c. x 1 3/4"	1	O/L
99	Nylon Insert lock Nut 1/2" n.c.	Écrou à garniture de nylon 1/2" n.c.	1	O/L
100	Roll pin 3/16" x 1"	Goupille roulée 3/16" x 1"	1	O/L
101	Nylon insert lock nut 1/4" n.c. (thin)	Écrou à garniture de nylon 1/4" n.c.(mince)	3	O/L
102	Hex. bolt 1/4" n.c. x 1 3/4"	Boulon hex. 1/4" n.c. x 1 3/4"	3	O/L
103	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
104	Flat washer 3/8" hole	Rondelle plate 3/8" trou	4	O/L
105	Hex. bolt 5/16" n.c. x 1 1/2"	Boulon hex. 5/16" n.c. x 1 1/2"	4	O/L
106	Hex. bolt 1/4" n.c. x 1 1/2"	Boulon hex. 1/4" n.c. x 1 1/2"	2	O/L
107	Hex. bolt M6 x 1.00 x 90	Boulon hex. M6 x 1.00 x 90	2	O/L
108	Lock washer 1/4"	Rondelle de blocage 1/4"	2	O/L
109	Metal screw pan head #8 x 1/4"	Vis à métal tête pan #8 x 1/4"	2	O/L
110	Tie wrap 8"	Attache de nylon 8"	6	O/L
111	Lift decal	Décalque de relevage	1	104229
112	Decal warning safety	Decalque avertissement sécurité	1	105131
113	Decal read instructions	Decalque lire instructions	1	105130
114	Berco decal	Décalque Berco	1	102471
115	Decal danger belts	Decalque danger courroies	1	105128
116	Specifications decal	Décalque spécifications	1	REF
117	Serial number	Numéro de série	1	REF

PARTS BREAKDOWN SUBFRAME



PARTS LIST SUBFRAME

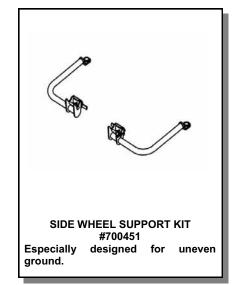
Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Hair pin 4mm	Goupille à ressort 4mm	1	102054
2	Pin	Goupille	2	102189
3	Seal washer	Rondelle d'étanchéité	1	102289
4	Shackle Ptd Z	Clevis Pqé Z	2	102343
5	Cone bearing	Roulement conique	2	102369
6	Cup bearing	Cuvette	2	102370
7	Sleeve	Douille	1	102480
8	Hair pin 3mm	Goupille à ressort 3mm	3	102617
9	Tire 280/250-4	Pneu 280/250-4	1	102674
10	Inner tube 250-4	Chambre à air 250-4	1	102675
11	Spring	Ressort	2	103073
12	Lift strap	Sangle de relevage	2	103613
13	Fork	Fourche	1	104173
14	Pin	Goupille	1	104174
15	Spring	Ressort	1	104194
16	Bracket	Fixation	2	104632
17	Chain	Chaîne	2	104633
18	Turnbuckle	Tendeur	2	104634
19	Adjustment tube	Tube d'ajustement	1	104637
20	Hitch support	Support d'attache	1	104638
21	Hitch	Attache	1	104639
22	Hitch ball support	Support de boule d'attelage	1	104640
23	Hitch support plate	Plaque de support d'attache	2	104641
24	Pin	Goupille	1	104642
25	Pivot	Pivot	1	104644
26	Pin	Goupille	1	104759
27	Subframe	Sous-châssis	1	104769
28	Wheel support	Support de roue	1	104770

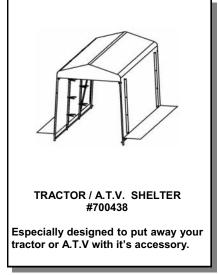
PARTS LIST SUBFRAME

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
29	Caster wheel assembly	Roue pivotante assemblée	2	104779
30	Lift lever	Levier de relevage	1	104914
31	Push frame	Châssis de poussée	1	104915
32	Latch	Loquet	1	104916
33	Push rod	Tige de poussée	1	104917
34	Lock lever	Levier de barrure	1	104918
35	Link	Lien	1	104919
36	Bracket	Fixation	2	105194
37	Hex. bolt 1/2" n.c. x 2 1/4"	Boulon hex. 1/2" n.c. x 2 1/4"	1	O/L
38	Hex. bolt 1/2" n.c. x 3 3/4"	Boulon hex. 1/2" n.c. x 3 3/4"	1	O/L
39	Hex. bolt 1/2" n.c. x 4 1/4"	Boulon hex. 1/2" n.c. x 4 1/4"	1	O/L
40	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	8	O/L
41	Hex. bolt 3/8" n.c. x 1 1/2"	Boulon hex. 3/8" n.c. x 1 1/2"	1	O/L
42	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	12	O/L
43	Hex. bolt 3/8" n.c. x 3"	Boulon hex. 3/8" n.c. x 3"	1	O/L
44	Hex. bolt 5/16" n.c. x 1"	Boulon hex. 5/16" n.c. x 1"	2	O/L
45	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	16	O/L
46	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	2	O/L
47	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	6	O/L
48	Nylon Insert lock Nut 1/2" n.c.	Écrou à garniture de nylon 1/2" n.c.	3	O/L
49	Nylon insert lock nut 3/4" n.c. (thin)	Écrou à garniture de nylon 3/4" n.c.(mince)	1	O/L
50	Flat washer 3/8" hole	Rondelle plate 3/8" trou	4	O/L
51	Flat washer 9/16" hole	Rondelle plate 9/16" trou	3	O/L

ATTACHMENTS







NOTES



WHEN PERFORMANCE & DEPENDABILITY ARE NON NEGOTIABLE!

Bercomac Limitée 92, Fortin North, Adstock, Quebec, Canada, GON 180

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