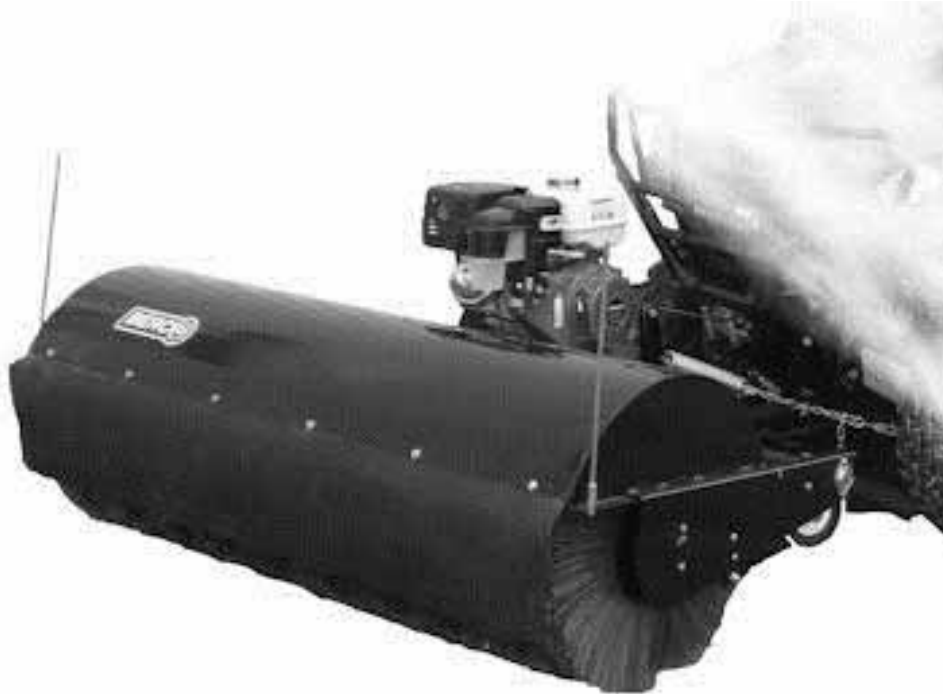




OWNER'S MANUAL
Model Number

700516



BERCO
66" Rotary Broom
For
UTILITY VEHICLE

- * ASSEMBLY
- * OPERATION

- * REPAIR PARTS
- * MAINTENANCE

CAUTION:

**READ & FOLLOW ALL SAFETY RULES & INSTRUCTIONS BEFORE
OPERATING YOUR EQUIPMENT**



LIMITED WARRANTY

Conditions and Products Covered:

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

Warranty Period

(from date of the original retail purchase):

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

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

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

Items and Conditions NOT Covered:

This warranty does not cover the following:

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

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

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

Instructions for Obtaining Warranty Services:

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

Owner's Responsibilities:

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

General Conditions:

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

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

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

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

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

TABLE OF CONTENTS

	PAGE
INTRODUCTION	2
SAFETY PRECAUTIONS	3
SAFETY DECALS	5
ASSEMBLY	
Tools required	6
Step 1: Vehicle preparation	7
Step 2: Broom preparation	7
Step 3: Subframe preparation	8
Step 4: Installation of the control box	12
Step 5: Connecting the limit switch for the winch:	12
OPERATION	
Familiarisation of the controls	14
Raising and lowering the rotary broom	14
Angle adjustment	14
Pressure on the brush adjustment	14
General sweeping	15
Snow sweeping	15
Lawn dethatching and leaf raking	15
MAINTENANCE & DISMOUNTING	
Maintenance	16
Belt replacement	16
Brush replacement	16
Dismounting	17
End of season storage	17
TROUBLESHOOTING	18
TORQUE SPECIFICATION TABLE	19
PARTS BREAKDOWN AND PARTS LIST	
Rotary broom	20
Subframe.....	26
ATTACHMENTS	28

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. **Never modify the accessory or any part without the written consent from the manufacturer.**



SAFETY PRECAUTIONS



OPERATION:

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

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

MAINTENANCE AND STORAGE

1. When cleaning, repairing or inspecting the vehicle and accessory, make certain that all moving parts have stopped. 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



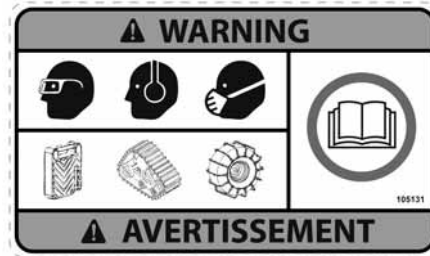
**REPLACE IF DECALS ARE DAMAGED
SEE PARTS BREAKDOWN FOR DECAL LOCATION**

DECAL #105128



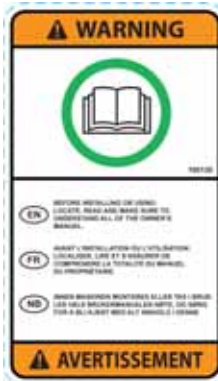
To avoid serious injuries :
Keep hands, feet & clothing away.
Do not attempt to install or remove drive belt without reading owner's manual.

DECAL #105131

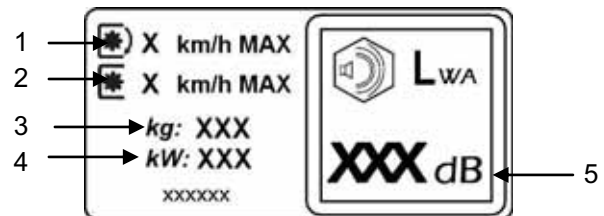


Refer to owner's manual about wearing safety glasses, ear muffs and mask.
Refer to owner's manual for use of counter weights, cat tracks and tire chains.

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 180 kg.
- 4-The engine wattage is 7,1 kW.
- 5-The sound pressure level (105dBA) is measured at 1 meter from the engine (full charge at 3600 RPM).

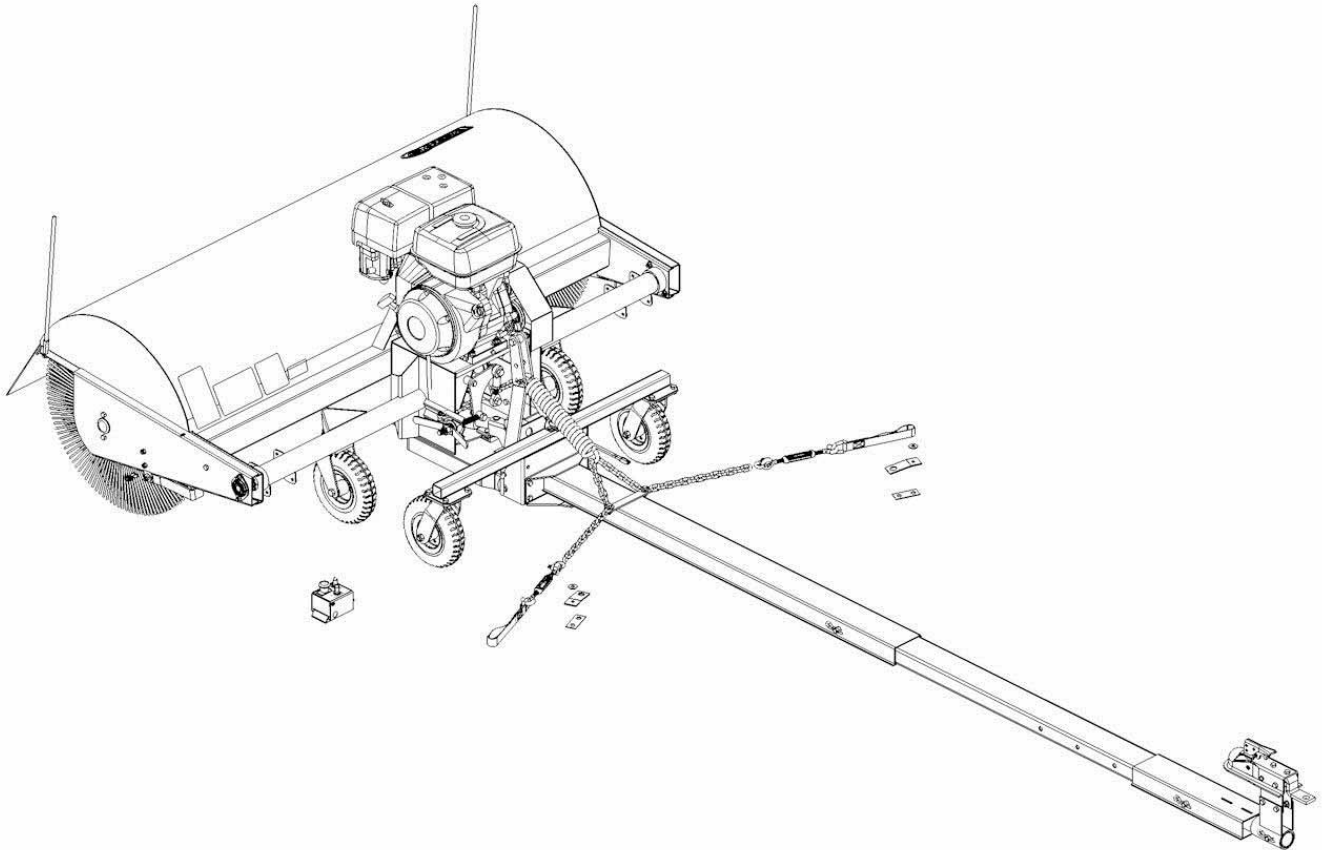
DECAL #105396



To avoid serious injuries:
Disengage the broom before starting the engine.

ASSEMBLY

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



Overall view

TOOLS REQUIRED

Drill
Ratchet
Sockets
Pliers
Wrench (for the nuts on the vehicle's battery posts)

ASSEMBLY

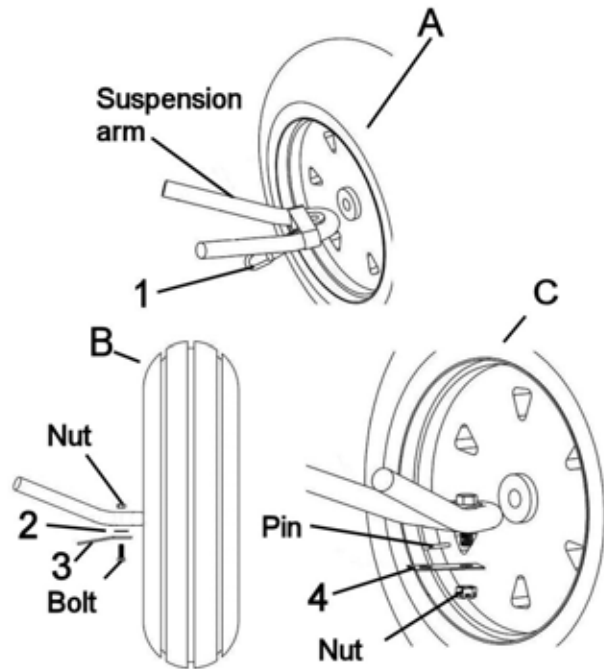
STEP 1

VEHICLE PREPARATION:

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

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

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

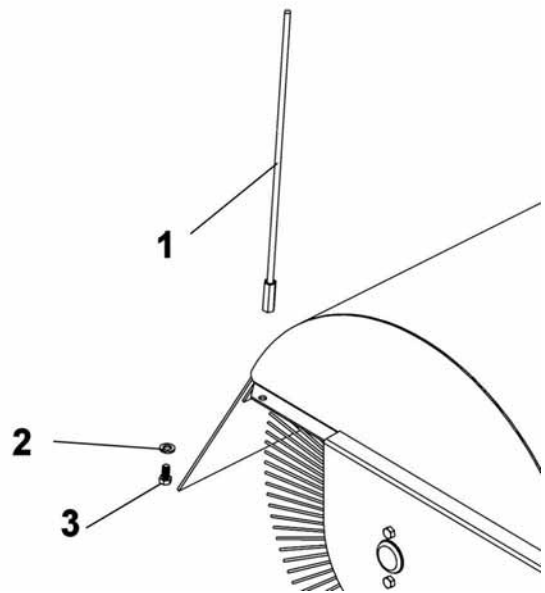


Install the lift strap or the brackets.

STEP 2

BROOM PREPARATION:

Install the side markers.		
# Item	Description	Action
1	Side marker (qty 2)	Install as shown.
2	Lock washer 7/16"	Insert as shown.
3	Hex nut 3/8" x 3/4" (qty 2)	Insert as shown and tighten firmly.



Install the side markers

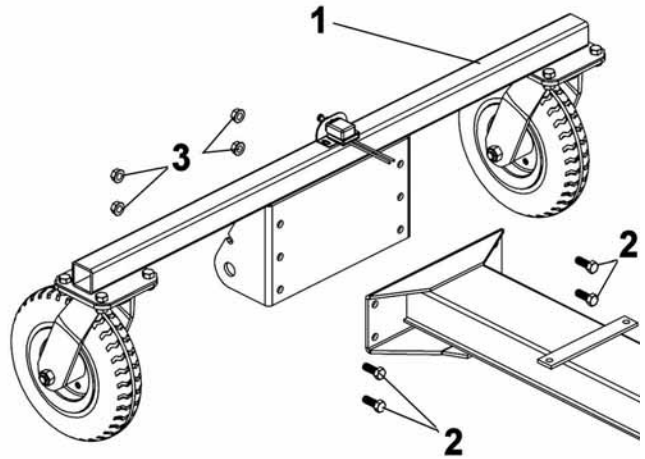
ASSEMBLY

STEP 3

SUBFRAME PREPARATION:

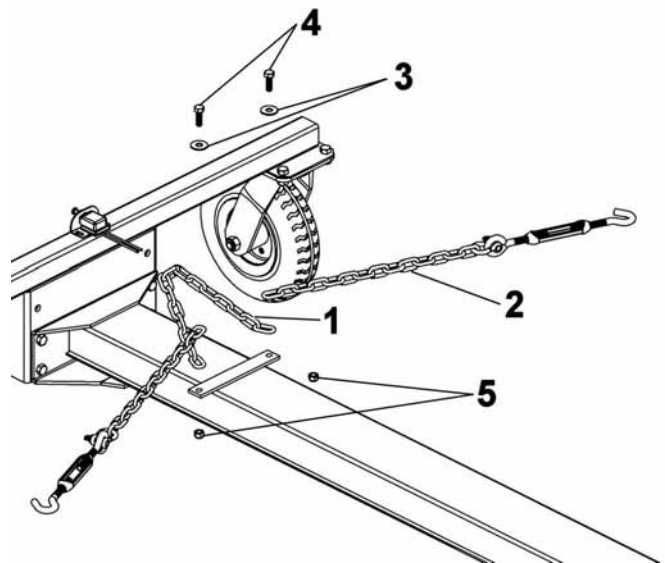
NOTE: Determine according to the height of the vehicle which set of holes to use to assemble the wheel support (item 1) to the subframe* (See below).

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



Install the wheel support

Install the assembled turnbuckles (item 2).		
# Item	Description	Action
1	Chain	Install on subframe as shown.
2	Assembled turnbuckle (qty 2)	Install on chain & subframe as shown.
3	Flat washer 3/8" (qty 2)	Install on the assembled turnbuckles as shown.
4	Hex bolt 5/16" x 1" (qty 2)	Insert as shown.
5	Nylon insert lock nut 5/16" (qty 2)	Install and tighten firmly.



Install the chain & assembled turnbuckles

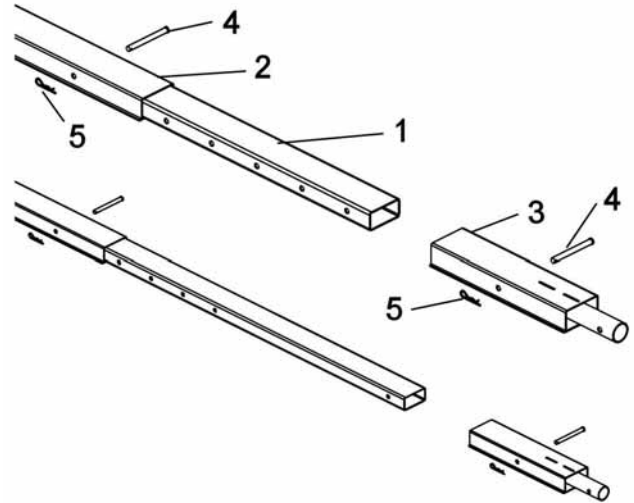
ASSEMBLY

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

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

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

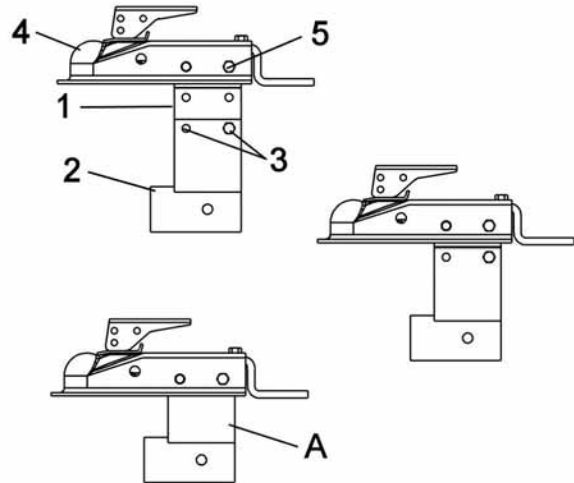
Identify the right length and secure in place with the pins (item 4) and 3mm hair pins (item 5).



Adjust the length of the subframe

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. Position A does not have the hitch supports (item 1).

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



Assemble the hitch support

ASSEMBLY

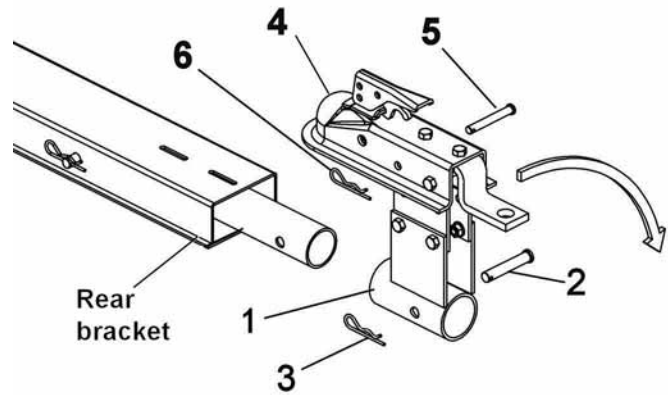
Install the assembled hitch support (item 1) on the **vehicle's** tow hitch ball.

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

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

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

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.



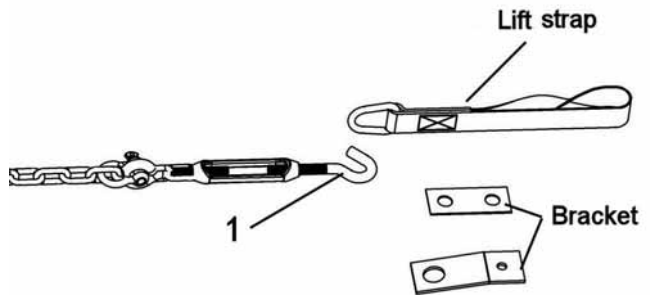
Secure the hitch support on the tow hitch ball

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

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

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

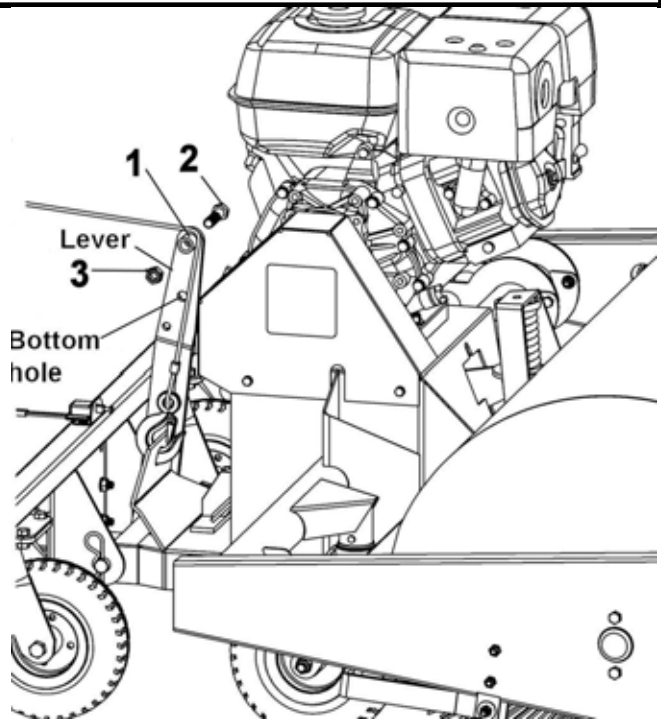
IMPORTANT: After adjusting the turnbuckles, tighten the nuts on the vehicle's suspension arms firmly. Make sure to lock the nuts with the original locks.



Hook the turnbuckles

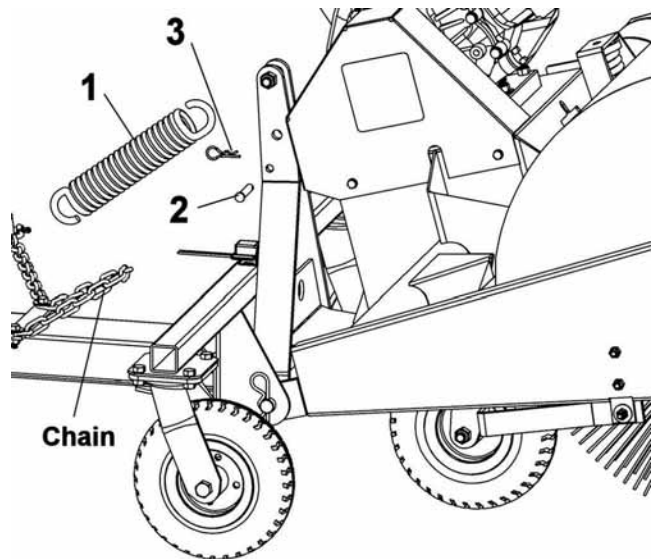
ASSEMBLY

Attach the vehicle's winch's hook on the lever rod		
# Item	Description	Action
If the vehicle's winch is higher than 20" (510mm) from the ground,		
1	Sleeve	Install in the top hole of the lever.
If the vehicle's winch is lower than 20" (510mm) from the ground,		
1	Sleeve	Install in the bottom hole of the lever.
2	Hex bolt 1/2" x 2 1/4"	Insert in the sleeve.
3	Nylon insert lock nut 1/2"	Tighten firmly.
	Vehicle's winch's hook .	Install on the bracket as shown.
Tip: Thread the winch's hook in front of the lever as shown and then thread the cable over the sleeve.		



Install the winch hook

NOTE: Lift the broom to its maximum height (the broom will rest against the subframe). Install the spring (item 1).		
# Item	Description	Action
1	Spring	Install as shown, start by inserting it around the chain.
2	Pin	Holding the spring, insert the pin through the hole of the lever and spring as shown.
3	Hair pin 3mm	Secure the pin as shown.



Install the spring

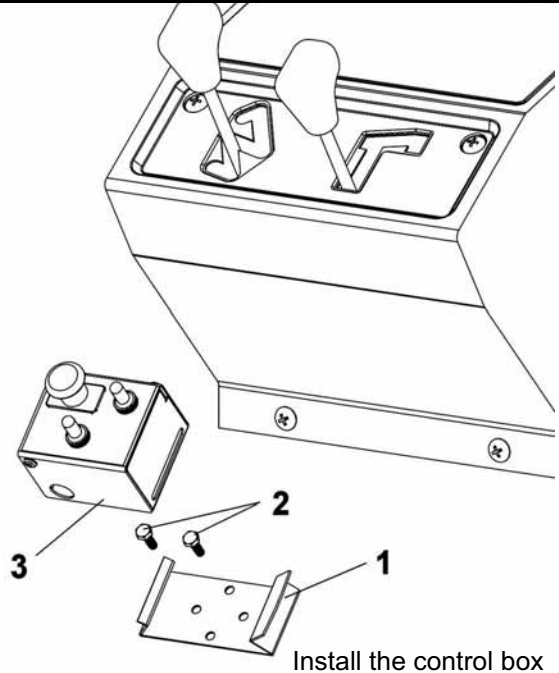
ASSEMBLY

STEP 4 **INSTALLATION OF THE CONTROL BOX:**

Disconnect the connectors that unite the control box to the broom.

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

Thread the wires from the control box under the hood to the front of the vehicle (except the one with the black and red wires which will be connected to the battery) in order to connect the control box to the broom.



STEP 5 **CONNECTING THE LIMIT SWITCH FOR THE WINCH:**

NOTE: The connectors on the wires of the limit switch are the most common ones on the market. These connectors can be different from the ones on your vehicle. If necessary, you may change the connectors that are supplied with the limit switch.

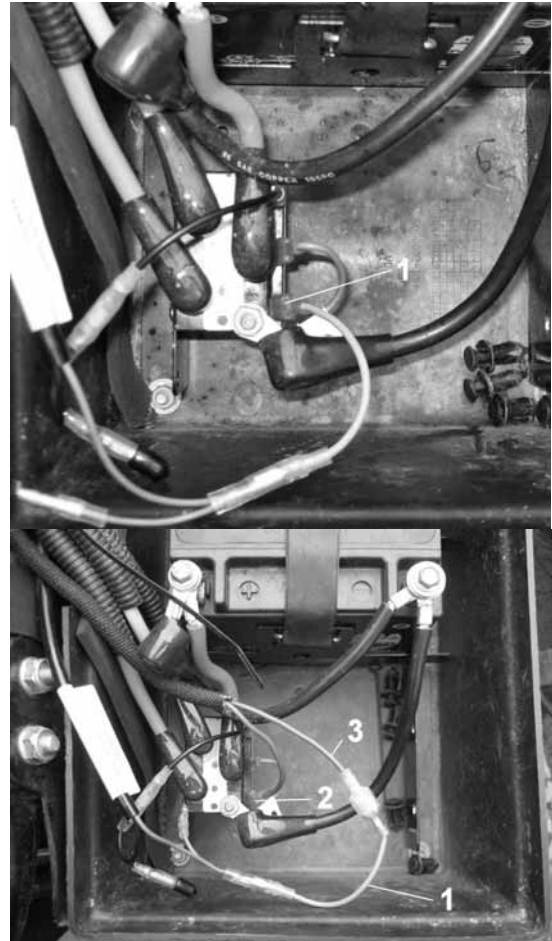
The connection of the limit switch is done directly on the relay of the winch.

Identify the wire (the one utilised to lift) that comes from the switch for the winch with a hi / low voltage tester.

Disconnect the wire.

Connect this wire to the wire with a male connector from the limit switch.

Connect the other connector from the limit switch in the original place on the relay.



Connect the limit switch

NOTE: Pictures are a reference only.

ASSEMBLY

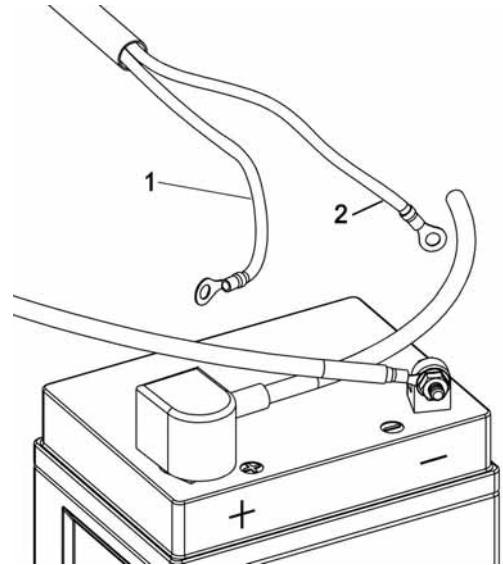
Wires for the control box:

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 1, picture below) in case you need to stop the engine quickly.

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



Install the wires of the control box

IMPORTANT:

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

Pay particular attention to the switch for the belt tensioner (item 2). This switch must be held in position for a few seconds in order to activate or deactivate the lever of the belt tensioner.

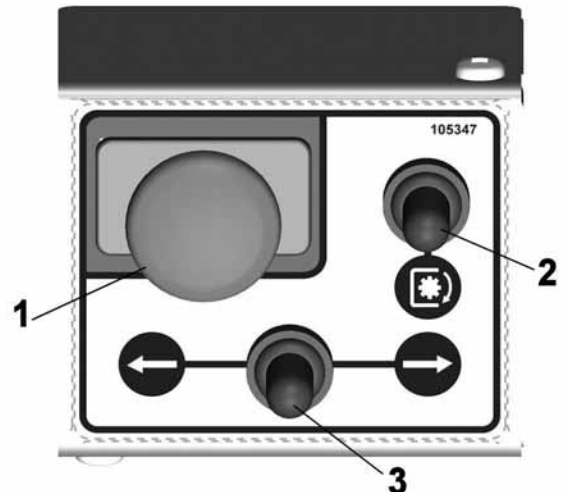
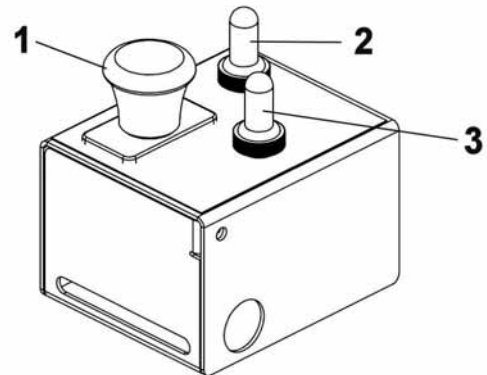
Make sure that the action is complete when you engage or disengage the broom.

DANGER:

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

Identification of the switches:

1. Emergency switch. (**Pull out to start**)
2. Switch for the belt tensioner.
(Push towards the top to disengage the belt).
(Push towards the bottom to engage the belt).
3. Switch for the angling.



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 WHEN USING AN ACCESSORY ON A VEHICLE:

- 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°.
- Manufacturer approved tire chains are required (winter or slippery surfaces).

ANGLE ADJUSTMENT:

In order to avoid causing damage to the mechanism:

- a) Raise the broom.
- b) Activate the control to turn the broom to the angle desired.
- c) Lower the broom to the ground.

PRESSURE ON THE BRUSH ADJUSTMENT

By turning the adjustment handle (item 1) counter clockwise, the pressure of the brush on the ground increases. By turning the adjusting handle clockwise, 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%.

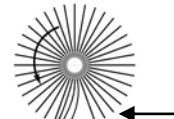
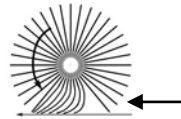
FAMILIARISATION OF THE CONTROLS:

Familiarize yourself with the controls before using.

- a) Raise the broom.
- b) Disengage the broom (if applicable).
- c) Pull the emergency switch.
- d) Start the engine (full throttle).
- e) Engage the broom.
- f) Lower to the ground.
- g) Adjust the pressure on the brush (item 1).

Never sweep with the sides of bristles!

Sweep with the tips!
Do not mop!



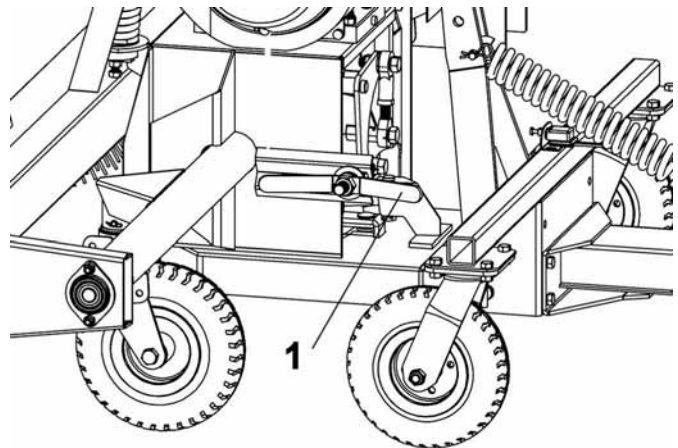
Flick action

Too much pressure=
Shortens brush life!

Road surface

RAISING AND LOWERING THE ROTARY BROOM:

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



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

The broom works well for light snow removal. Decrease the pressure (light pressure) on the brush for 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 adjust the height of the brush 1" from the ground by turning the adjusting handle clockwise. The brush is supported by dolly wheels. (The ground must be able to support the weight of the broom).

This adjustment is normally satisfactory but you may raise or lower depending upon height of the grass.

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

OPTION: The side wheel kit is recommended (for uneven lawn) to follow the ground's irregularities.

MAINTENANCE & DISMOUNTING

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

MAINTENANCE

- Grease the wheel axles after every eight hours of use.
- Chain: do not lubricate when used in dusty conditions. After use, wash clean and lubricate.
- 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.
- Check mounting bolts at frequent intervals for proper tightness to be sure equipment is in safe working conditions.
- Apply oil at all pivot points.
- 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

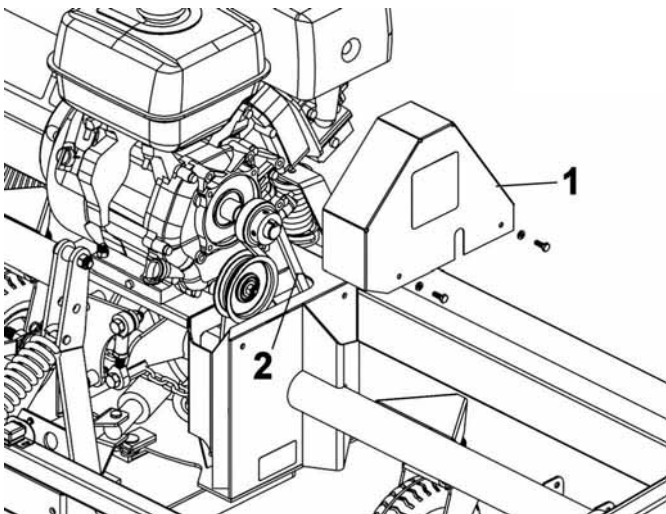


Never use the Rotary Broom without the belt guard.

BELT REPLACEMENT:

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

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



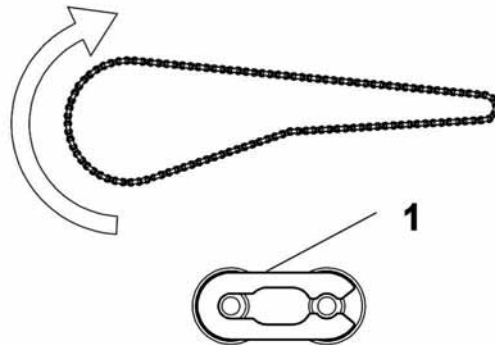
BRUSH REPLACEMENT:

See parts breakdown section for parts identification.

- Lower the chain idler sprocket.
- Remove the chain by removing the connection link.
- Remove the bolts from both flangettes that holds the brush shaft.
- Remove the brush shaft from the broom frame.
- Remove the push plate that holds the brushes.
- Remove all the brushes that are worn out.
- Reinstall the brushes (a flat brush at each end) one at a time by rotating each section 1/4 turn from the other (always rotate in the same direction).
- Install the new brushes by reversing the procedure.

VERY IMPORTANT:

Reinstall the connecting link (item 1) in the same way as shown in the drawing.



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) Activate the parking stands toward the ground. 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) Disconnect the wires.
- 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. Make sure the 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.
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.	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.
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 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 (Tension system)	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

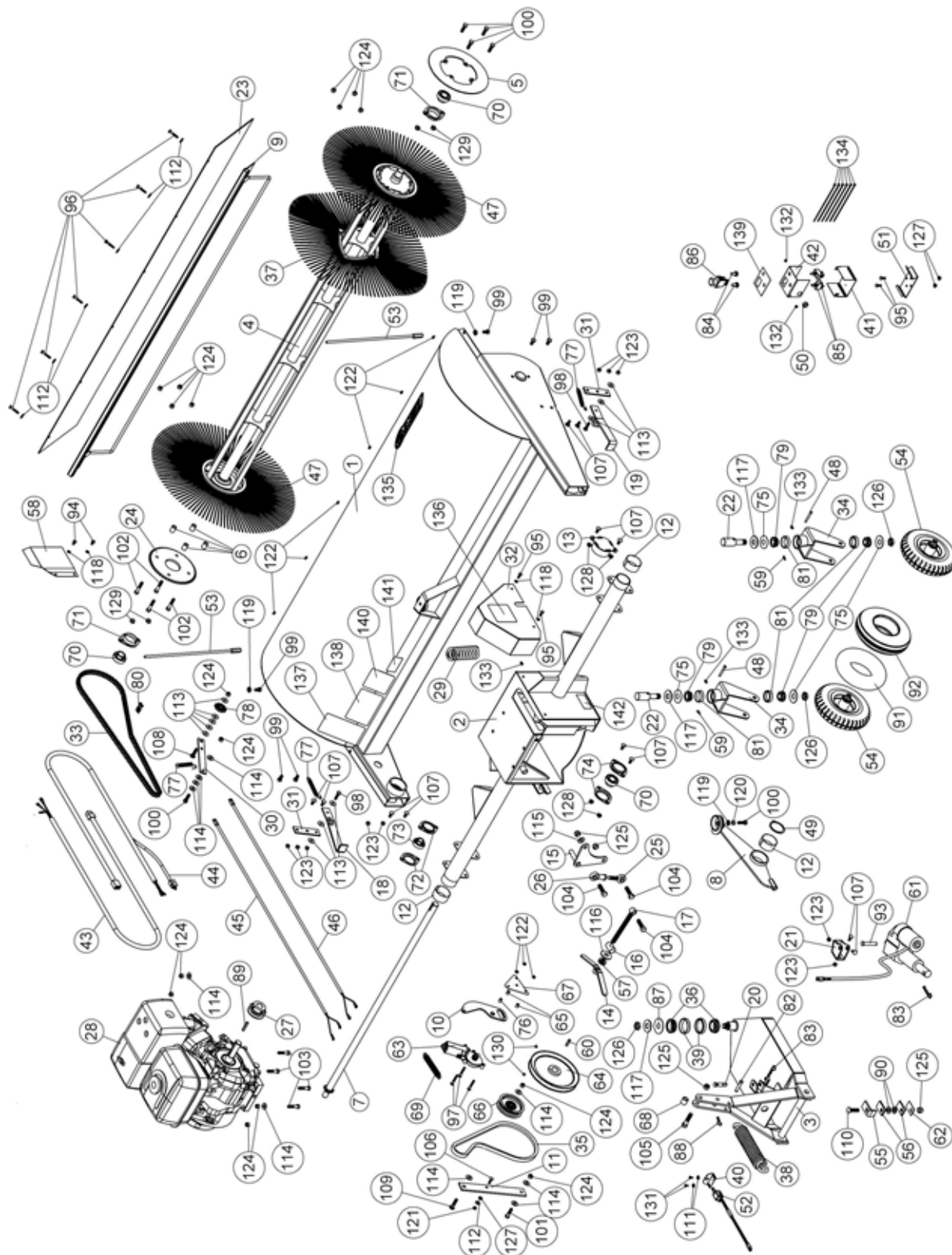
NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

* 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		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 ROTARY BROOM



PARTS LIST ROTARY BROOM

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Broom frame	Châssis du balai	1	105312
2	Motor frame	Châssis du moteur	1	105313
3	Push frame	Châssis de poussée	1	105314
4	Brush shaft	Arbre de brosse	1	105315
5	Push plate	Plaque poussoir	1	105316
6	Sleeve	Douille	4	105317
7	Drive shaft	Arbre de commande	1	105318
8	Lever	Levier	1	105319
9	Dust guard support	Support garde poussière	1	105320
10	Lever	Levier	1	105321
11	Binder	Tendeur	1	105322
12	Nylon bushing	Coussinet de nylon	3	105323
13	Shoulder support	Support d'épaule	1	105324
14	Adjustment handle	Poignée d'ajustement	1	105327
15	Adjustment lever	Levier d'ajustement	1	105328
16	Spacer	Espaceur	1	105329
17	Adjustment rod	Tige d'ajustement	1	105330
18	Left parking stand	Pied de stationnement gauche	1	105331
19	Right parking stand	Pied de stationnement droit	1	105332
20	Pin	Goupille	1	105333
21	Actuator support	Support d'actuateur	1	105334
22	Adaptor pin	Goupille d'adaptateur	2	105335
23	Rubber flap	Rabat de caoutchouc	1	105339
24	Sprocket	Pignon	1	105340
25	Male rod end	Embout mâle	1	105341
26	Female rod end	Embout Femelle	1	105342
27	Pulley 2.7" with set screw	Poulie 2.7" avec vis à pression	1	105343
28	Honda engine 11 hp with key	Moteur Honda 11 cv avec clé	1	105344
29	Spring	Ressort	1	105345
30	Binder	Tendeur	1	105348

O/L = Obtain Locally

PARTS LIST ROTARY BROOM

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
31	Stand holder	Support de pied	2	105349
32	Belt guard	Garde-courroie	1	105350
33	Roller chain #40 x 118 links/conn.link	Chaîne #40 x 118 mailles/maille acc.	1	105351
34	Wheel fork	Fourche de roue	2	105352
35	V-Belt , BX-38	Courroie en V , BX-38	1	105353
36	Cone bearing	Roulement conique	2	105354
37	Waved section brush	Section de brosse ondulée	38	105355
38	Spring	Ressort	1	105356
39	Cup bearing	Cuvette	2	105357
40	Bracket	Fixation	1	105360
41	Box	Boîte	1	105361
42	Box cover	Couvercle de la boîte	1	105362
43	Wire control box	Fil de la boîte de contrôle	1	105363
44	Wire control box extension	Extension du fil de la boîte de contrôle	1	105386
45	Battery wire	Fil de la batterie	1	105387
46	Limit switch extension	Extension du commutateur de fin de course	1	105388
47	Flat section brush	Section de brosse plate	2	105364
48	Pin	Goupille	2	105365
49	Retaining ring	Bague de retenue	1	105366
50	Plastic grommet	Oeillet de plastique	1	105371
51	Box support	Support de la boîte	1	104661
52	Limit switch	Commutateur de fin de course	1	105397
53	Side marker	Repère latéral	2	105376
54	Wheel assembly	Roue assemblée	2	105377
55	Bracket	Fixation	1	105378
56	Spacer	Espaceur	2	105379
57	Thrust bearing	Roulement de butée	1	105380
58	Chain guard	Garde chaîne	1	105383
59	Wrap around locking pin	Goupille à fermeture enroulante	2	105393
60	Key 1/4" x 1/4" x 1 1/4"	Clé 1/4" x 1/4" x 1 1/4"	1	105399

O/L = Obtain Locally

PARTS LIST ROTARY BROOM

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
61	Actuator assembly	Actuateur assemblé	1	105398
62	Spacer	Espaceur	1	105422
63	Electric motor	Moteur électrique	1	103378
64	V pulley	Poulie en V	1	103740
65	Spacer	Espaceur	2	103361
66	Flat pulley	Poulie plate	1	102765
67	Plate	Plaque	1	103363
68	Sleeve	Douille	1	102480
69	Spring	Ressort	1	102592
70	Bearing with set screw	Roulement à billes avec vis à pression	3	102755
71	Flangette	Flangette	2	102680
72	Flangette	Flangette	2	102212
73	Bearing with set screw	Roulement à billes avec vis à pression	1	102864
74	Flangette	Flangette	2	102213
75	Seal washer	Rondelle d'étanchéité	4	102289
76	Oil lite bushing	Coussinet imprégné d'huile	1	103362
77	Spring 1/2"	Ressort 1/2"	3	102003
78	Idler sprocket	Pignon tendeur	1	102027
79	Cone bearing	Roulement conique	4	102369
80	Connecting Link #40	Maille d'accouplement #40	1	102040
81	Cup bearing	Cuvette	4	102370
82	Pin	Goupille	1	103580
83	Hair pin 3mm	Goupille à ressort 3mm	2	102617
84	Rubber boot	Capuchon de caoutchouc	2	103379
85	Switch	Commutateur	2	103381
86	Emergency switch	Interrupteur d'urgence	1	104807
87	Washer	Rondelle	1	105346
88	Hair pin 2.5mm	Goupille à ressort 2.5mm	1	102013
89	Key 1/4" x 1/4" x 1 3/4"	Clé 1/4" x 1/4" x 1 3/4"	1	102327
90	Washer	Rondelle	2	104122

O/L = Obtain Locally

PARTS LIST ROTARY BROOM

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
91	Inner tube 250-4	Chambre à air 250-4	1	102675
92	Tire 280/250-4	Pneu 280/250-4	1	102674
93	Pin	Goupille	1	102189
94	Hex. bolt 1/4" n.c. x 1/2"	Boulon hex. 1/4" n.c. x 1/2"	2	O/L
95	Hex. bolt 1/4" n.c. x 3/4"	Boulon hex. 1/4" n.c. x 3/4"	4	O/L
96	Hex. bolt 1/4" n.c. x 1 1/2"	Boulon hex. 1/4" n.c. x 1 1/2"	6	O/L
97	Hex. bolt 1/4" n.c. x 1 3/4"	Boulon hex. 1/4" n.c. x 1 3/4"	3	O/L
98	Hex. bolt 5/16" n.c. x 1 1/4"	Boulon hex. 5/16" n.c. x 1 1/4"	2	O/L
99	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	6	O/L
100	Hex. bolt 3/8" n.c. x 1 1/4"	Boulon hex. 3/8" n.c. x 1 1/4"	6	O/L
101	Hex. bolt 3/8" n.c. x 1 1/2"	Boulon hex. 3/8" n.c. x 1 1/2"	1	O/L
102	Hex. bolt 3/8" n.c. x 2"	Boulon hex. 3/8" n.c. x 2"	4	O/L
103	Hex. bolt 3/8" n.c. x 1 3/4"	Boulon hex. 3/8" n.c. x 1 3/4"	4	O/L
104	Hex. bolt 1/2" n.c. x 1 3/4"	Boulon hex. 1/2" n.c. x 1 3/4"	3	O/L
105	Hex. bolt 1/2" n.c. x 2 1/4"	Boulon hex. 1/2" n.c. x 2 1/4"	1	O/L
106	Carriage bolt 1/4" n.c. x 1"	Boulon à carrosserie 1/4" n.c. x 1"	1	O/L
107	Carriage bolt 5/16" n.c. x 3/4"	Boulon à carrosserie 5/16" n.c. x 3/4"	12	O/L
108	Carriage bolt 3/8" n.c. x 1-1/2"	Boulon à carrosserie 3/8" n.c. x 1 1/2"	1	O/L
109	Carriage bolt 3/8" n.c. x 1 3/4"	Boulon à carrosserie 3/8" n.c. x 1 3/4"	1	O/L
110	Carriage bolt 1/2" n.c. x 1 3/4"	Boulon à carrosserie 1/2" n.c. x 1 3/4"	1	O/L
111	Flat washer 1/4" hole	Rondelle plate 1/4" trou	2	O/L
112	Flat washer 5/16" hole	Rondelle plate 5/16" trou	7	O/L
113	Flat washer 3/8" hole	Rondelle plate 3/8" trou	11	O/L
114	Flat washer 7/16" hole	Rondelle plate 7/16" trou	10	O/L
115	Flat washer 1/2" hole	Rondelle plate 1/2" trou	1	O/L
116	Flat washer 11/16" hole	Rondelle plate 11/16" trou	1	O/L
117	Flat washer 13/16" hole	Rondelle plate 13/16" trou	3	O/L
118	Lock washer 1/4"	Rondelle de blocage 1/4"	4	O/L
119	Lock washer 7/16"	Rondelle de blocage 7/16"	3	O/L
120	Hex. nut 3/8" n.c.	Écrou hex. 3/8" n.c.	1	O/L

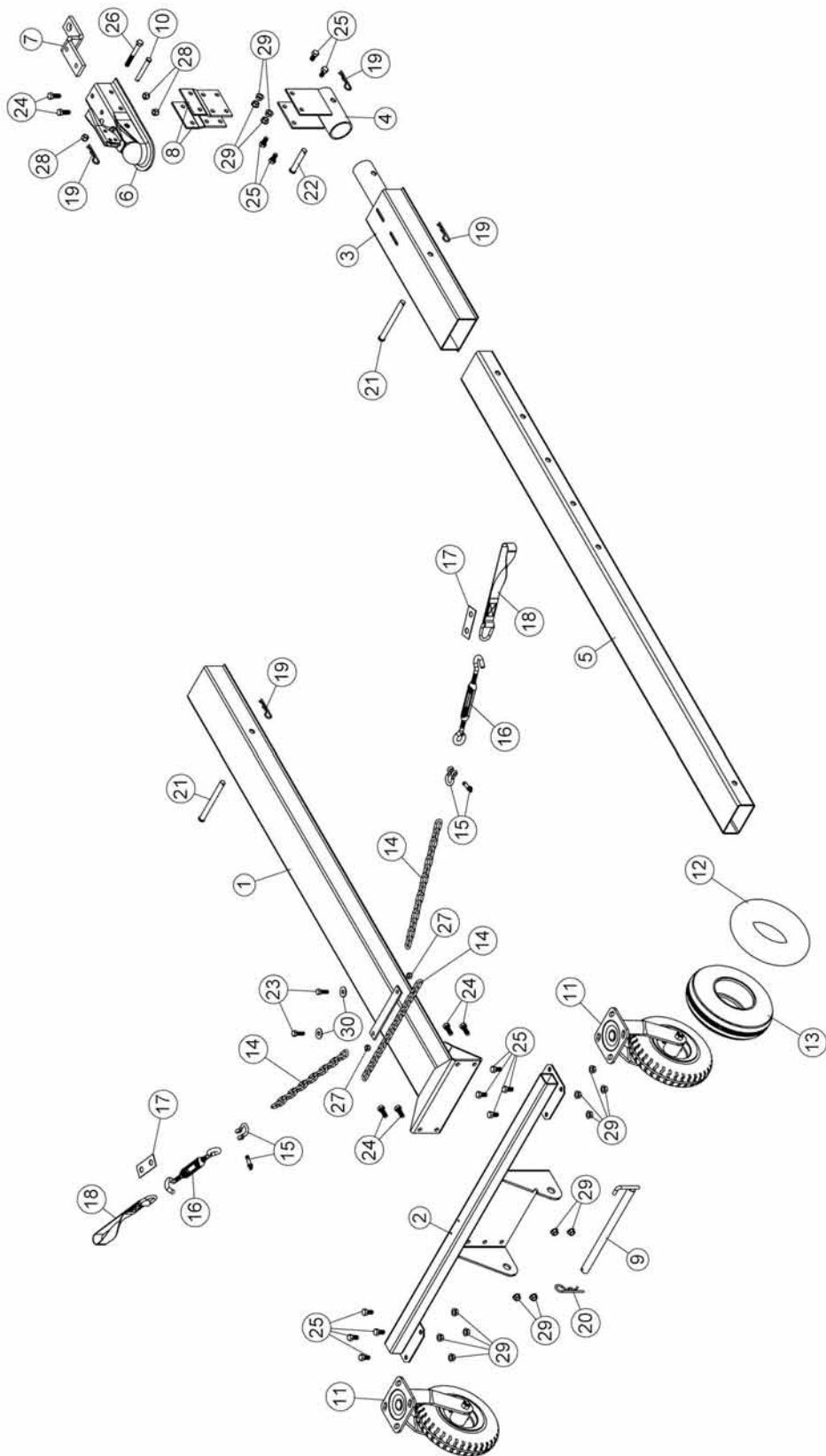
O/L = Obtain Locally

PARTS LIST ROTARY BROOM

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
121	Nylon insert lock nut 1/4" n.c.	Écrou à garniture de nylon 1/4" n.c.	1	O/L
122	Nylon insert lock nut 1/4" n.c. (thin)	Écrou à garniture de nylon 1/4" n.c.(mince)	9	O/L
123	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	10	O/L
124	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	16	O/L
125	Nylon Insert lock Nut 1/2" n.c.	Écrou à garniture de nylon 1/2" n.c.	4	O/L
126	Nylon insert lock nut 3/4" n.c. (thin)	Écrou à garniture de nylon 3/4" n.c.(mince)	3	O/L
127	Flange nut 1/4" n.c.	Écrou à bride 1/4" n.c.	3	O/L
128	Flange nut 5/16" n.c.	Écrou à bride 5/16" n.c.	4	O/L
129	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	4	O/L
130	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
131	Metal screw pan head #8 x 1/2"	Vis à métal tête pan #8 x 1/2"	2	O/L
132	Metal screw pan head #8 x 1/4"	Vis à métal tête pan #8 x 1/4"	2	O/L
133	Grease fitting 1/4" n.f.	Graisser 1/4" n.f.	3	O/L
134	Tie wrap 8"	Attache de nylon 8"	6	O/L
135	Berco decal	Décalque Berco	1	103785
136	Decal danger belts	Decalque danger courroies	1	105128
137	Decal read instructions	Decalque lire instructions	1	105130
138	Decal warning safety	Decalque avertissement sécurité	1	105131
139	Control decal	Décalque contrôle	1	105347
140	Decal danger start/clutch	Décalque danger démarrage/embrayage	1	105396
141	Specifications decal	Décalque spécifications	1	REF
142	Serial number	Numéro de série	1	REF

O/L = Obtain Locally

PARTS BREAKDOWN SUBFRAME

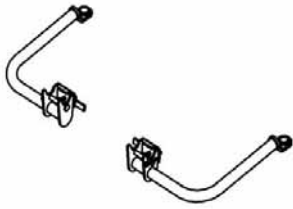


PARTS LIST SUBFRAME

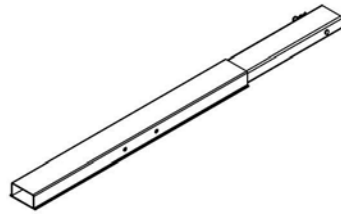
Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Subframe	Sous-châssis	1	104957
2	Wheel support	Support de roue	1	105406
3	Rear bracket	Fixation arrière	1	104956
4	Hitch support	Support d'attache	1	104958
5	Adjustment tube	Tube d'ajustement	1	104959
6	Hitch	Attache	1	104639
7	Hitch ball support	Support de boule d'attelage	1	104640
8	Hitch support	Support d'attache	2	104641
9	Pin	Goupille	1	104759
10	Pin	Goupille	1	104642
11	Caster wheel assembly	Roue pivotante assemblée	2	104779
12	Inner tube 250-4	Chambre à air 250-4	1	102675
13	Tire 280/250-4	Pneu 280/250-4	1	102674
14	Chain	Chaîne	3	104633
15	Shackle Ptd Z	Clevis Pqé Z	2	102343
16	Turnbuckle	Tendeur	2	104634
17	Bracket	Fixation	2	104632
18	Lift strap	Sangle de relevage	2	103613
19	Hair pin 3mm	Goupille à ressort 3mm	4	102617
20	Hair pin 4mm	Goupille à ressort 4mm	1	102054
21	Pin	Goupille	2	104961
22	Pin	Goupille	1	104999
23	Hex. bolt 5/16" n.c. x 1"	Boulon hex. 5/16" n.c. x 1"	2	O/L
24	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	6	O/L
25	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	12	O/L
26	Hex. bolt 3/8" n.c. x 3"	Boulon hex. 3/8" n.c. x 3"	1	O/L
27	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	2	O/L
28	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	3	O/L
29	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	16	O/L
30	Flat washer 3/8" hole	Rondelle plate 3/8" trou	2	O/L

O/L = Obtain Locally

ATTACHMENTS



SIDE WHEEL SUPPORT KIT
#700451
Especially designed for uneven ground.



SUBFRAME EXTENSION
#700485
For bigger vehicle

NOTES



***WHEN PERFORMANCE
& DEPENDABILITY
ARE NON NEGOTIABLE!***

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