



OWNER'S MANUAL
Model Number

700510 Rotary Tiller



BERCO
Rotary Tiller
For
ALL TERRAIN VEHICLES

- * ASSEMBLY
- * OPERATION

- * REPAIR PARTS
- * MAINTENANCE

CAUTION:

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



LIMITED WARRANTY

Conditions and Products Covered:

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

Warranty Period

(from date of the original retail purchase):

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

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

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

Items and Conditions NOT Covered:

This warranty does not cover the following:

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

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

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

Instructions for Obtaining Warranty Services:

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

Owner's Responsibilities:

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

General Conditions:

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

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

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

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

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

TABLE OF CONTENTS

	PAGE
INTRODUCTION	2
SAFETY PRECAUTIONS	3
SAFETY DECALS	5
ASSEMBLY	
Tools Required	6
Step 1: Vehicle Preparation	7
Step 2: Subframe Preparation	7
Step 3: Installation of the Control Box.	10
OPERATION	
Before Tilling	12
Electrical Controls	12
Operation the Rotary Tiller	12
Transporting the Rotary Tiller:	12
MAINTENANCE	
Inspecting, Cleaning or Parking the Rotary Tiller	13
Belt Replacement	13
Replacing the Tines	14
DISMOUNTING	15
TROUBLESHOOTING	16
TORQUE SPECIFICATION TABLE	17
PARTS BREAKDOWN AND PARTS LIST	
Subframe	18
Rotary Tiller	20
OPTIONS & ACCESSORIES	24

INTRODUCTION

TO THE PURCHASER

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

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

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



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

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

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

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

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

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

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

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



SAFETY PRECAUTIONS



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

GLOSSARY:

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

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

TRAINING:



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

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

PREPARATION:

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

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

- a) Use approved fuel container.
 - b) Never add fuel to a running engine or hot engine.
 - c) Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
 - d) Never fill containers inside a vehicle, or on a truck or a trailer bed with a plastic liner. Always place containers on the ground, away from your vehicle, before filling.
 - e) When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
 - f) Keep the nozzle in contact with the rim of the fuel tank or container opening at all times, until refueling is complete. Do not use a nozzle lock-open device.
 - g) Replace fuel cap securely and wipe up spilled fuel.
 - h) If fuel is spilled on clothing, change clothing immediately.
5. Never attempt to make any adjustments while the engine (motor) is running (except when specifically recommended by manufacturer).
 6. Let the vehicle and accessory adjust to outdoor temperatures before using.
 7. Never use an accessory without proper guards, plates, or other safety protective devices in place
 8. Always make sure to wear the appropriate safety equipment required (glasses, muffs, mask...) for each type of product. See operation section.
 9. Always make sure of having safe traction on the vehicle by using the recommended accessories (chains, A.T.V. tracks, counterweights...). See operation section.
 10. **Never modify the accessory or any part without the written consent from the manufacturer.**



SAFETY PRECAUTIONS



OPERATION:

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

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

MAINTENANCE AND STORAGE

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



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



SAFETY DECALS



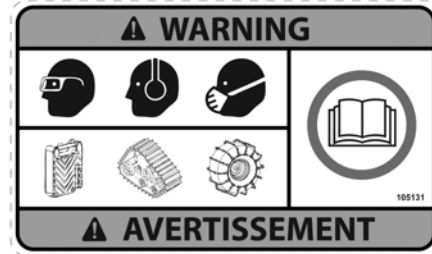
REPLACE IF DECALS ARE DAMAGED
SEE PARTS BREAKDOWN FOR DECAL LOCATION

DECAL #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

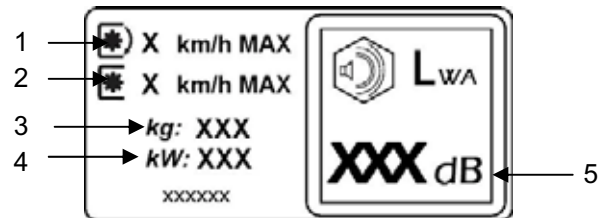


Refer to owner's manual about wearing safety glasses, ear muffs and mask.
Refer to owner's manual for use of counter weights, cat tracks and tire chains.

DECAL #105129

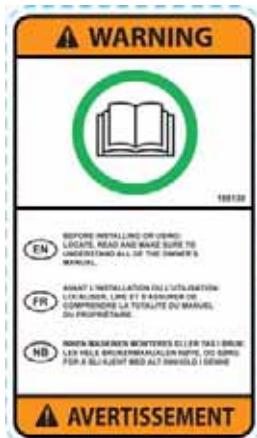


To avoid serious injury:
Keep hands, feet & clothing away from rotating blades.



- 1-Do not drive faster than 3 KM/H when the rotary tiller is in operation.
- 2-Do not drive faster than 10 KM/H when the rotary tiller is in the raised position.
- 3-The head of the rotary tiller weighs 113kg.
- 4-The engine wattage is 6kW.
- 5-The sound pressure level (105dBA) is measured at 1 meter from the engine (full charge at 3600 RPM).

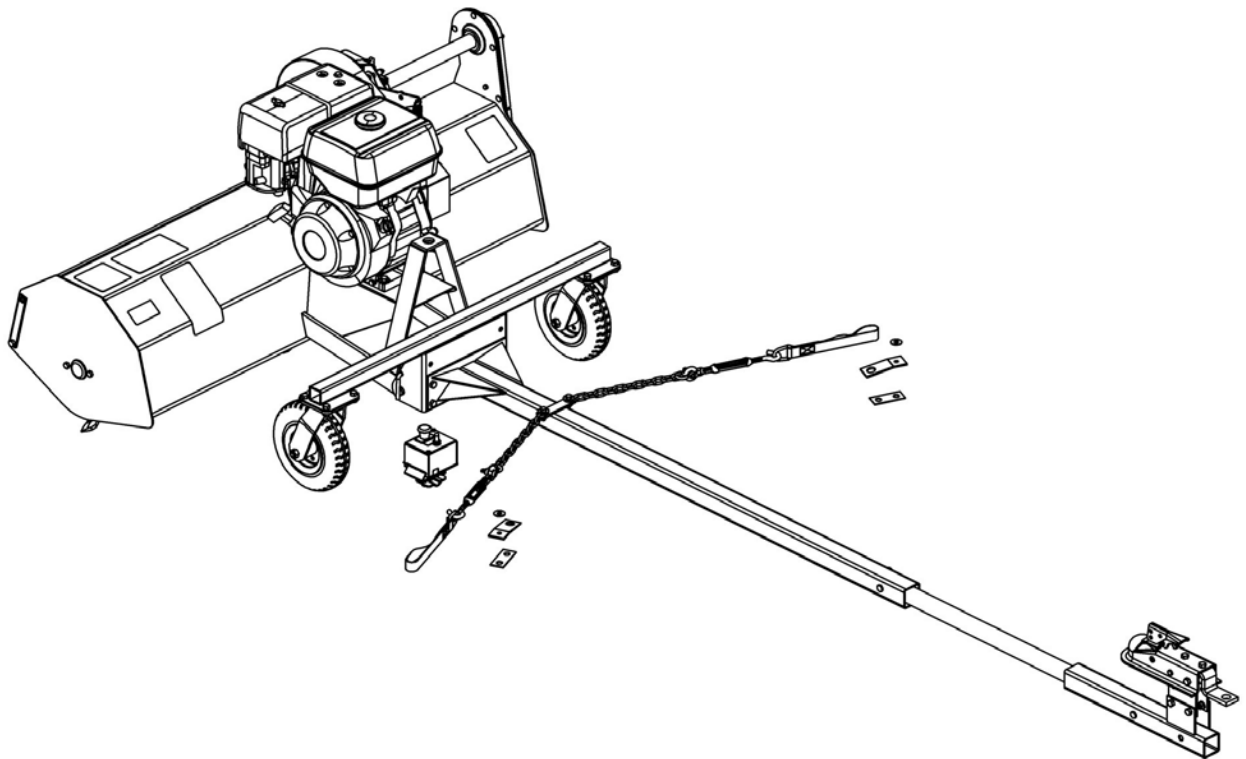
DECAL #105130



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

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

Wrenches: 9/16", 7/16", 1/2", 3/4"
Ratchet
Sockets 9/16", 7/16", 1/2", 3/4"
Pliers
Wrench (for the nuts on the vehicle's battery posts)

ASSEMBLY

STEP 1

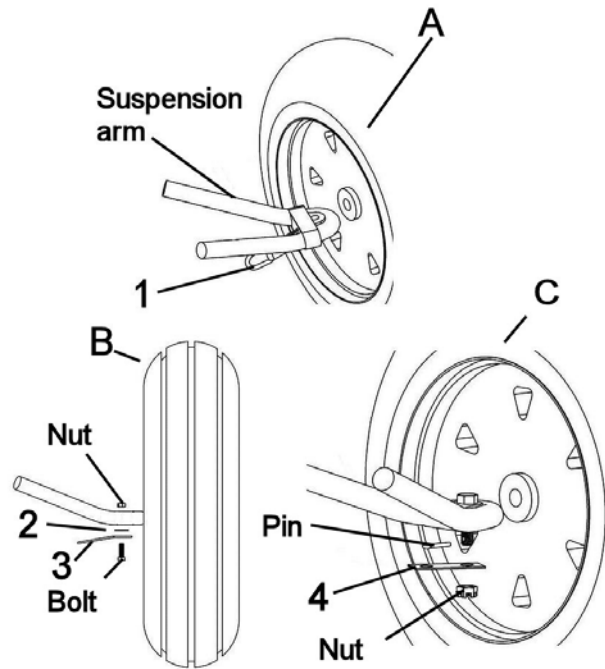
VEHICLE PREPARATION:

NOTE: A 1 7/8" 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 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.

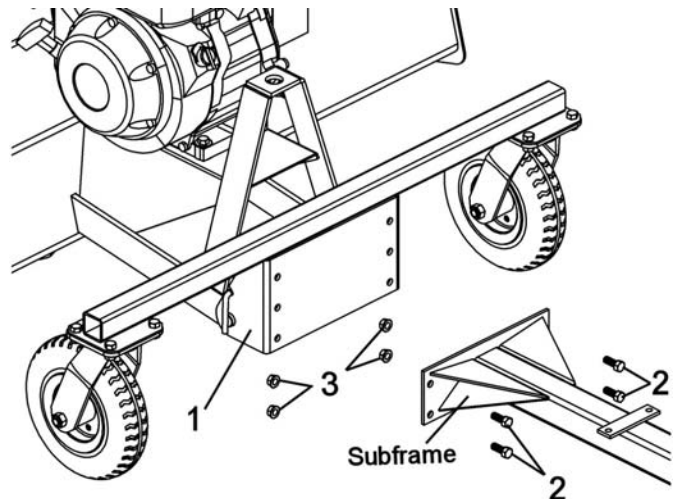
STEP 2

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	Flange nut 3/8" (qty 4)	Tighten firmly.

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

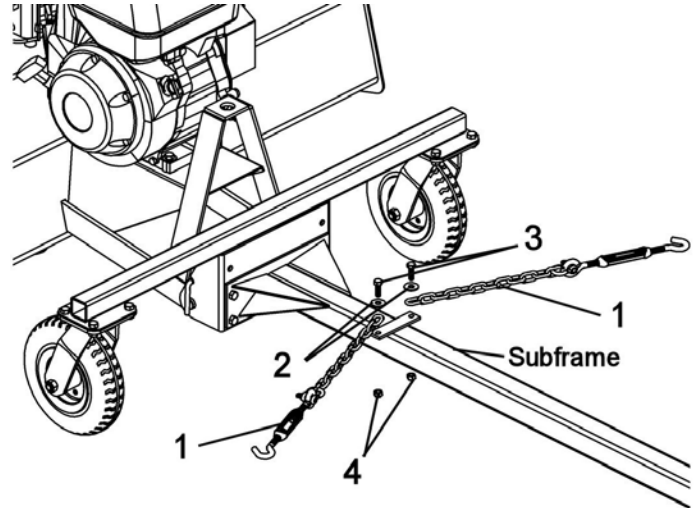


Install the wheel support

ASSEMBLY

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 loosely.



NOTE: Position the chains as shown and tighten loosely enough so the parts move freely.

Install the assembled turnbuckles

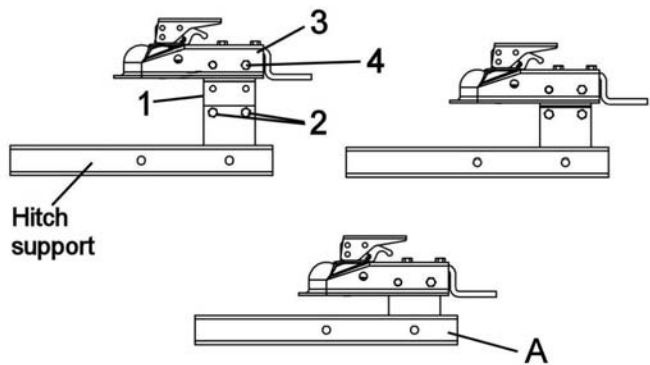
Choose between the three positions (see figure), the height of the hitch support.

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

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

Assemble the hitch supports (item 1) and the hitch (item 3).

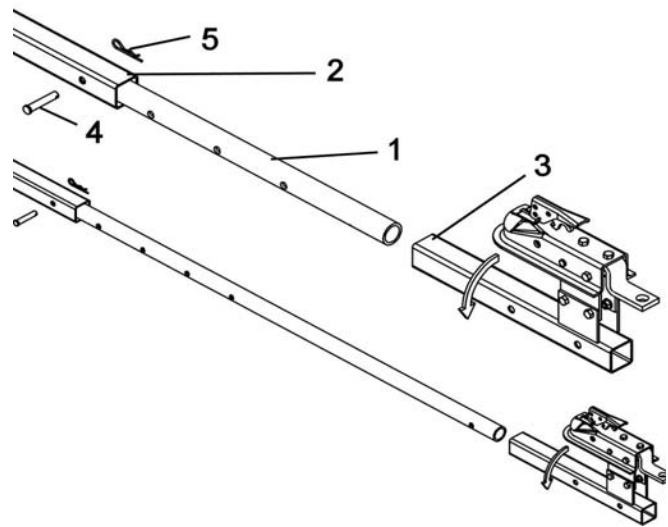
# Item	Description	Action
1	Hitch support (qty 2)	Install the supports on the hitch support.
2	Hex bolt 3/8" x 3/4" (qty 4)	Insert in chosen holes (two on each side) and secure with the flange nuts 3/8". Tighten firmly.
3	Hitch	Insert on the two hitch supports (if applicable).
4	Hex bolt 3/8" x 3"	Insert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



Assemble the hitch support

ASSEMBLY

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.



Adjust length of subframe

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

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 subframe.

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

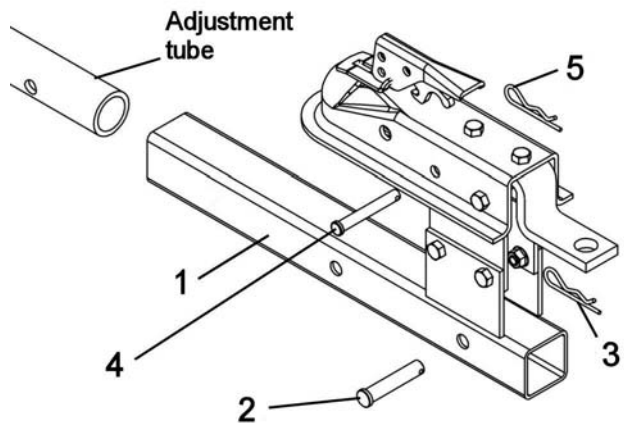
# Item	Description	Action
1	Assembled hitch support	Insert onto the adjustment tube.
2-3	Pin and 3mm hair pin	Secure in place.

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

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

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

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



Secure the hitch support on the tow hitch ball

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.

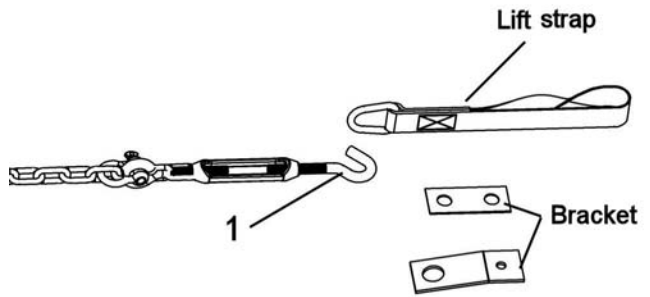
ASSEMBLY

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

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

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

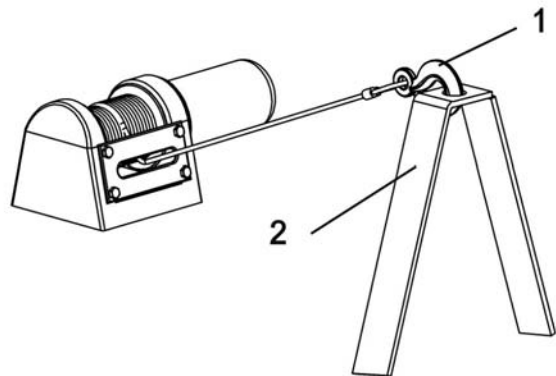
IMPORTANT: After adjusting the turnbuckles, tighten the nuts on the vehicle's suspension arms firmly. Make sure to lock the nuts with the original locks.



Hook the turnbuckles

Insert the hook of the winch (item 1) into the bracket (item 2) that is welded at the back of the rotary tiller's frame.

NOTE: Optional kit #700269 Lift connection kit reduces the and the speed required by the winch to lift the accessory.



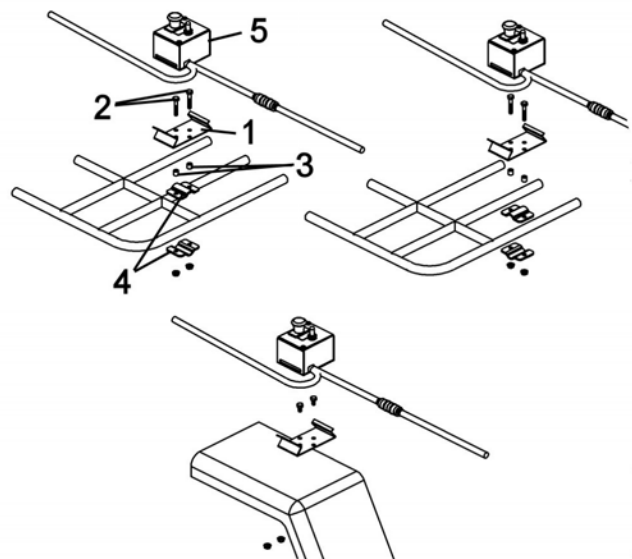
Install the winch cable

STEP 3 **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

ASSEMBLY

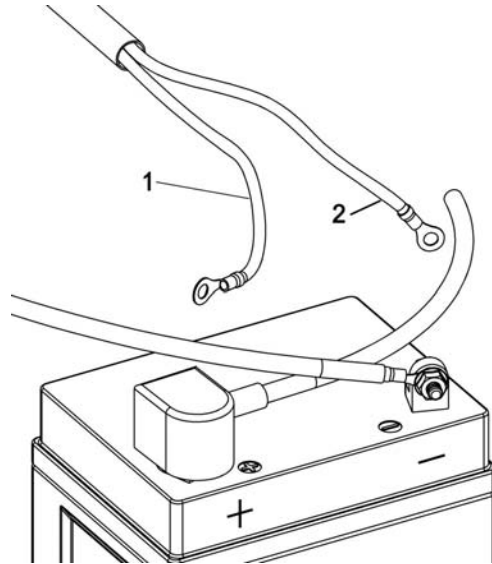
Wires for the control box:

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.

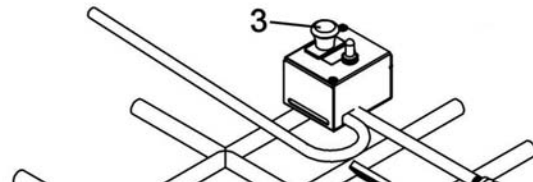
NOTE: Secure the wires to the vehicle with the nylon tie wraps. These wires will stay on the vehicle.

IMPORTANT: The control box is equipped with a red emergency kill switch (item 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 rotary tiller.



Install the wires of the control box

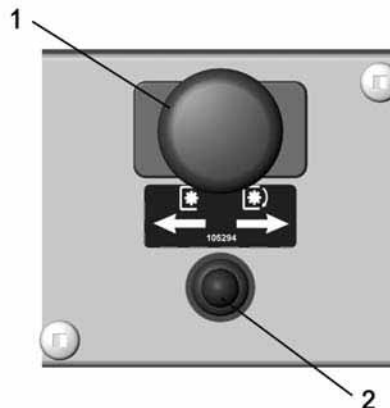
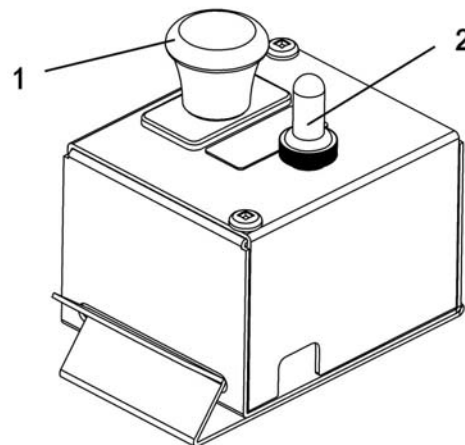


Identification of the switches:

1. Emergency switch. **(Pull out to start)**
2. Switch for the belt tensioner.

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 rotary tiller.



Identify the controls

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 ACCESSORY:

- Do not drive faster than 3 km/hr (2 m/hr) with the accessory on the ground.
- Do not drive faster than 10 km/hr (6 m/hr) with the accessory in raised position.
- Do not operate on a slope greater than 10°.



CAUTION



TO PREVENT INJURIES:

- Remove all objects and keep people away from the working area.
- Never let children operate the rotary tiller or the vehicle.
- Never let children ride on the vehicle or rotary tiller.
- Never operate the rotary tiller without the guards and shields in place.



IMPORTANT



AVOID DAMAGE TO THE ROTARY TILLER
Never make sharp turns with the rotary tiller in the ground.
Frequently check if the assembled turnbuckles are tightened.

ELECTRICAL CONTROLS

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

RAISING AND LOWERING THE ACCESSORY:

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

IMPORTANT: There is no lift stopper. Make sure there is no interference between the accessory's engine and the vehicle when lifting the accessory.

EMERGENCY SWITCH:

Push down on the emergency button to stop the engine.

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

OPERATING THE ROTARY TILLER

When breaking ground, it is recommended to till in two to four stages. The first pass should be tilled at a shallow depth then progressively deeper with each pass.

When only a small area is to be tilled, make a pass through the middle, then circle the pass going towards the outside.

Whenever possible, till straight ahead, tilling in circles will leave ridges.

- Drive up to the desired position with the rotary tiller in the raised position and disengaged.
- Engage the rotary tiller by pushing and holding the switch for the belt tensioner a few seconds.
- Delicately lower the rotary tiller onto the ground using the winch control.
- Till the ground at a shallow depth and at slow traveling speed while backing up.
- Redo the operations for each pass.



CAUTION



TO PREVENT INJURIES

The Rotary tiller may push vehicle backward when tilling in firm soil.

BEFORE TILLING:

- Mow the grass and weeds before tilling, these can wrap around the tines or tine shaft.
- Remove all objects that can damage the rotary tiller such as rocks, branches, etc...
- Check the tines before tilling. Repair or replace any loose, bent or broken tines.
- Do not till when the ground is too wet (if the soil forms a ball in your hand when squeezed). The wet soil will stick to the tines and tine shaft.

TRANSPORTING THE ROTARY TILLER:

Always lift the rotary tiller off the ground using the winch when moving from one tilling area to another. Drive at a safe traveling speed when the tiller is off the ground. Drive slowly on slopes and rough ground. Never work across the face of a slope.

MAINTENANCE

INSPECTING, CLEANING OR PARKING THE ROTARY TILLER



CAUTION



TO PREVENT INJURIES

Always stop the engine and wait for all moving parts to stop before leaving the driver's seat to avoid injuries from the tines.



WARNING



TO PREVENT INJURIES:

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



CAUTION

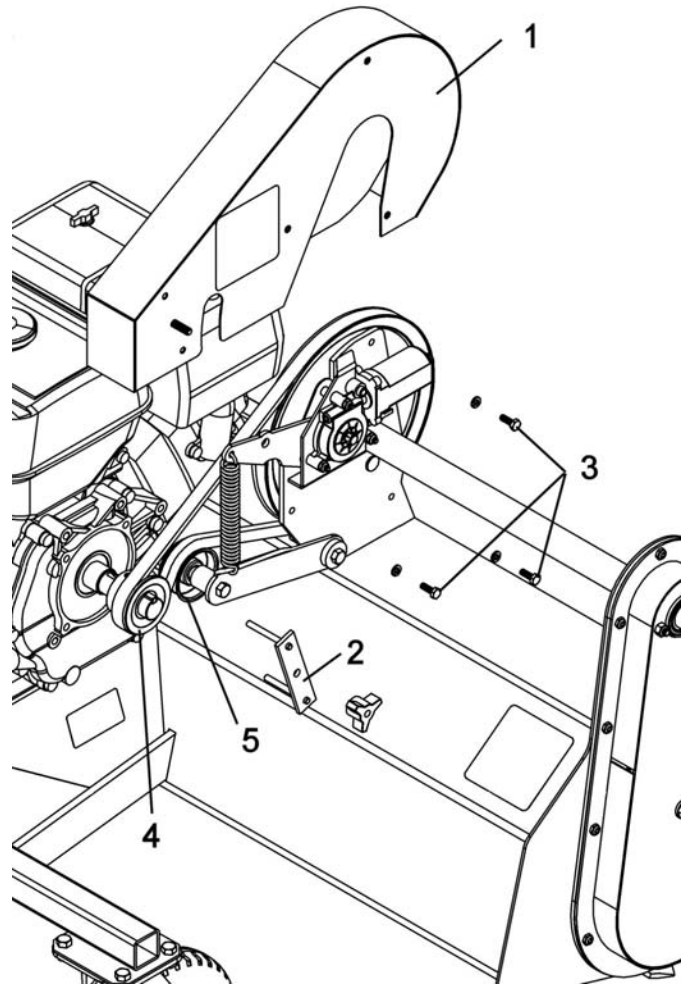


Never use the rotary tiller without the belt guard.

BELT REPLACEMENT:

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

- Remove the belt guard (item 1), the belt guide stopper (item 2) and the three hex bolts 1/4" x 1/2" (item 3).
- Remove the tension from the belt by pushing on the switch for the belt tensioner (item 5).
- Remove the old belt from the engine pulley (item 4).
- Install the new belt.
- Reinstall the belt guard.
- Apply tension on the belt by pushing the switch for the belt tensioner.
- Reinstall the belt guide stopper.



Belt replacement

IMPORTANT: make sure the belt does not rub on the belt guide (item 2) when the belt is engaged.

MAINTENANCE

REPLACING THE TINES



WARNING



TO PREVENT INJURIES:

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

-Park the vehicle safely.
-Raise the rotary tiller as high as it will go and put some blocks under the rotary tiller.

Note: Each group of tines must have two left tines and two right tines.

For reference purposes:

- Alternate left and right tines in each group.
- A bolt with **no spacer** is 3/8 x 1 1/4" long.
- A bolt with **one spacer** is 3/8 x 1 3/4" long.
- A bolt with **two spacers** is 3/8 x 2 1/4" long.

LEFT GROUP OF TINES:

Remove the nuts (item 1), bolts (item 2) spacers (item 3), two left tines (4) and two right tines (item 5).
Install the new tines with same hardware in exactly the same position as the old ones were installed.

MIDDLE GROUP OF TINES:

Remove the nuts (item 6), bolts (item 7), spacers (item 8), two left tines (item 9) and two right tines (item 10).
Install the new tines with same hardware in exactly the same position as the old ones were installed.

RIGHT GROUP OF TINES:

Remove the nuts (item 11), bolts (item 12) spacers (item 13), two left tines (item 14) and two right tines (item 15).
Install the new tines with same hardware in exactly the same position as the old ones were installed.

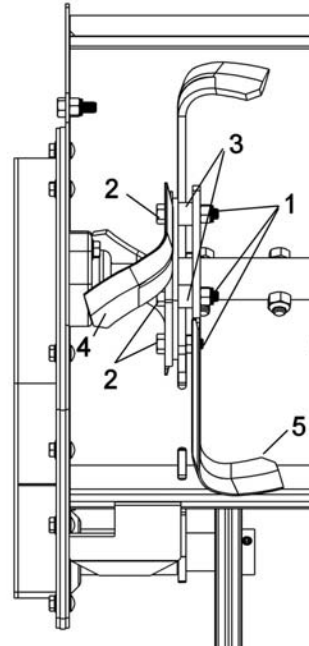


CAUTION

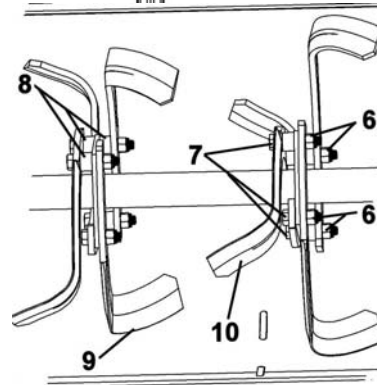


TO PREVENT INJURIES:

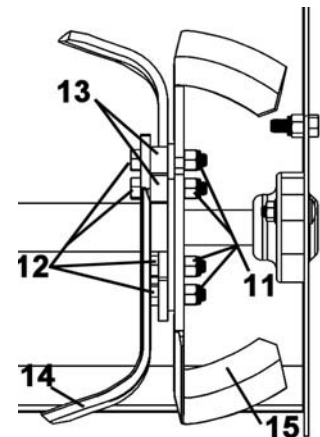
Always safely block the tiller if you have to work under it. It is not recommended to work under the tiller because it could fall on you and cause very serious injuries.



Left group of tines



Middle group of tines



Right group of tines

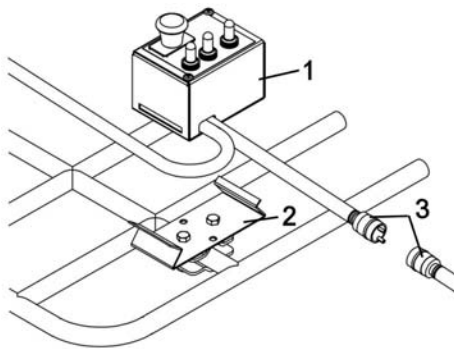
DISMOUNTING

DISMOUNTING

- a. Select a level surface, set parking brake, stop the engine, and remove the ignition key to prevent accidental starting.
- b. Lower the accessory to the ground.
- c. Unhook the turnbuckles from the front of the vehicle, (Tip: slacken one of the turnbuckles in order to keep the adjustment), the hook from the winch and the hitch from the rear of the vehicle.
- d. Remove the control box (item 1) from the support (item 2). Disconnect the wires (item 3) and place the box on the accessory.
- e. Remove the vehicle.

STORAGE

- a) Clean rotary tiller and inside the frame thoroughly. Repaint all parts from which paint has worn.
- b) List the replacement parts that will be needed to be replaced before the next season.
- c) Follow the instructions in the Lubrication section.
- d) Store the rotary tiller in a dry place.



TROUBLESHOOTING

* Please refer to parts breakdown section for parts identification.

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
Rotary tiller will not turn.	Belt is damaged.	Replace the belt.
	Chain is broken.	Replace the chain.
Rotary tiller operates irregularly.	Belts are damaged.	Replace belts.
	A group of tines may be packed up.	Remove any debris from the tines.
		Till at a slow steady speed.
		Make more than one pass. Start by shallow pass then gradually deeper.
Rotary tiller is noisy or bouncing at the front of the vehicle.		Replace damaged or bent tines.
	Tines are damaged or too many rocks.	Replace bent or damaged tines. Remove any rocks from tilling area.
Belt is worn at a specific point.	Turnbuckles are loose.	Tighten the turn buckles.
	Rotary tiller was engaged when the tines were blocked with debris.	Make sure the tines are not blocked with debris before engaging rotary tiller.
Belt showing premature wear.	Lack of tension on the belt.	Replace the tension spring if it has lost its efficiency.
	Spring stretched.	Check spring. Replace if stretched.
The engine does not start.	The emergency button is pushed down.	The emergency button must be pulled up to start the engine of the rotary tiller.
	Other reasons.	See the engine's owner's manual.
Electric motor does not work.	Overheating of the motor.	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

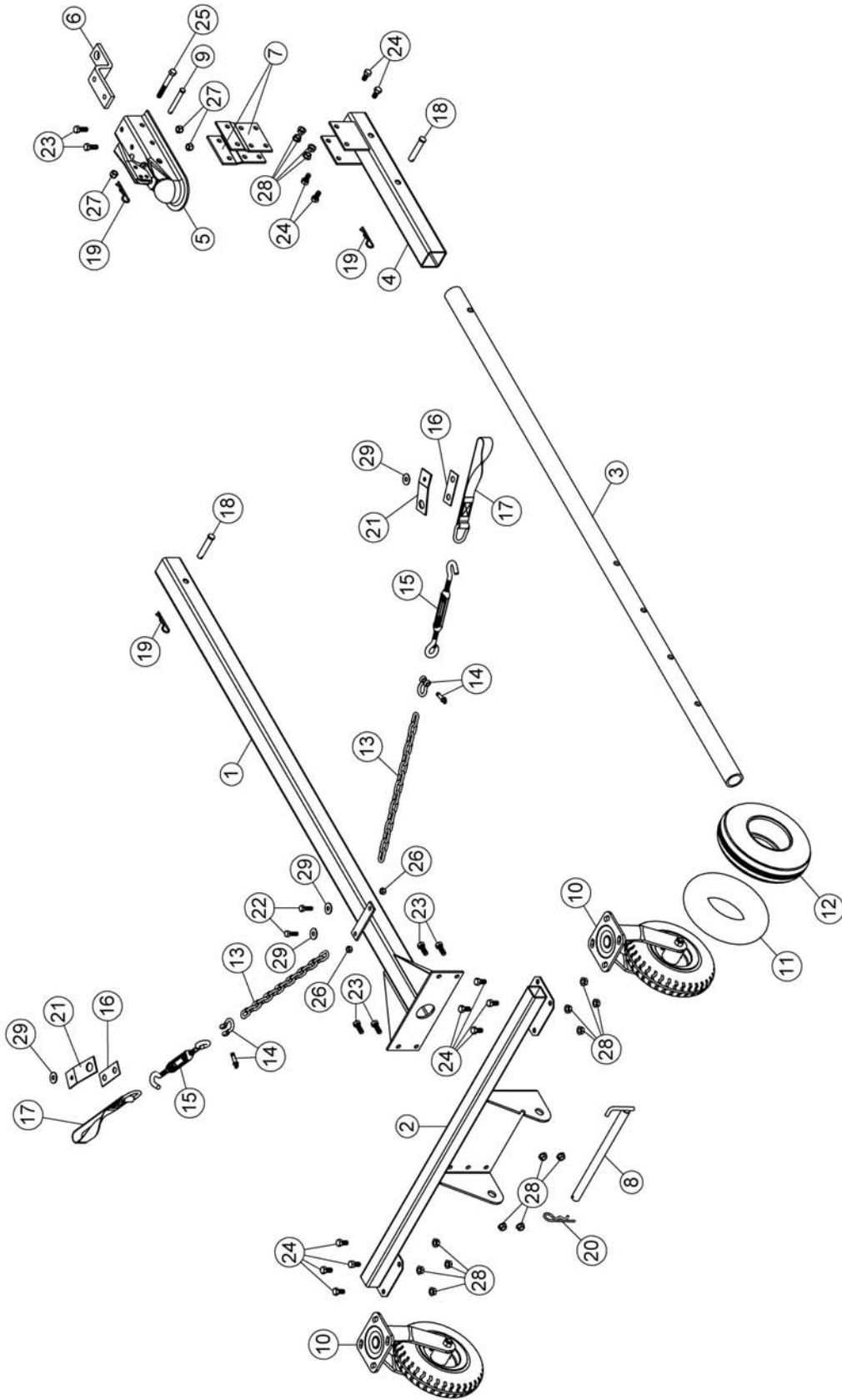
NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal oil. They do not apply if special graphited or moly disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

* 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 SUBFRAME 700510

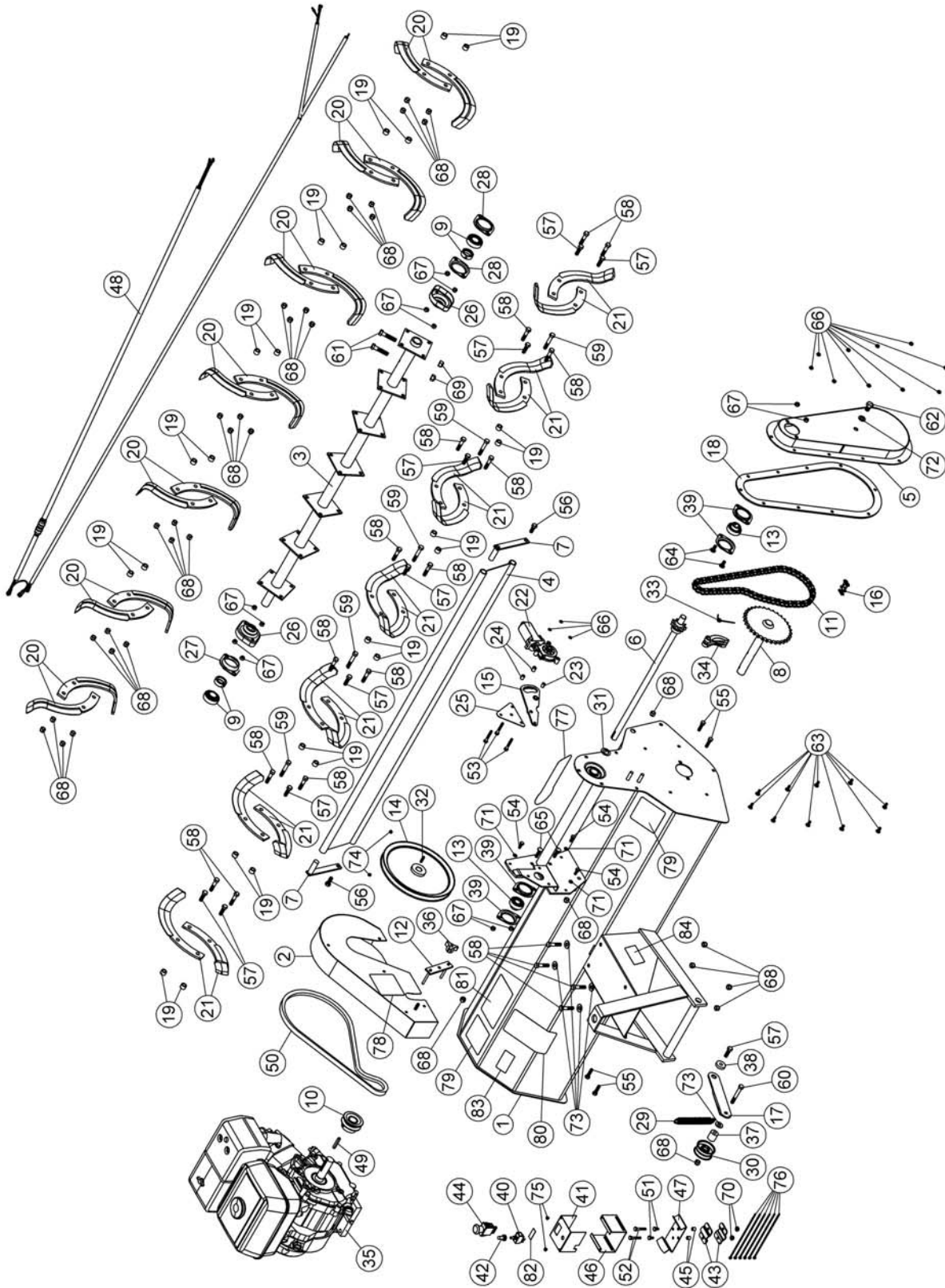


PARTS LIST SUBFRAME 700510

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Subframe	Sous-châssis	1	104769
2	Wheel support	Support de roue	1	104770
3	Adjustment tube	Tube d'ajustement	1	104637
4	Hitch support	Support d'attache	1	104638
5	Hitch	Attache	1	104639
6	Hitch ball support	Support de boule d'attelage	1	104640
7	Hitch support	Support d'attache	2	104641
8	Pin	Goupille	1	104759
9	Pin	Goupille	1	104642
10	Caster wheel assembly	Roue pivotante assemblée	2	104779
11	Inner tube 250-4	Chambre à air 250-4	1	102675
12	Tire 280/250-4	Pneu 280/250-4	1	102674
13	Chain	Chaîne	2	104633
14	Shackle Ptd Z	Clevis Pqé Z	2	102343
15	Turnbuckle	Tendeur	2	104634
16	Bracket	Fixation	2	104632
17	Lift strap	Sangle de relevage	2	103613
18	Pin	Goupille	2	102189
19	Hair pin 3mm	Goupille à ressort 3mm	3	102617
20	Hair pin 4mm	Goupille à ressort 4mm	1	102054
21	Bracket	Fixation	2	105194
22	Hex. bolt 5/16" n.c. x 1"	Boulon hex. 5/16" n.c. x 1"	2	O/L
23	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	6	O/L
24	Hex. bolt 3/8" n.c. x 3/4"	Boulon hex. 3/8" n.c. x 3/4"	12	O/L
25	Hex. bolt 3/8" n.c. x 3"	Boulon hex. 3/8" n.c. x 3"	1	O/L
26	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	2	O/L
27	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	3	O/L
28	Flange nut 3/8" n.c.	Écrou à bride 3/8" n.c.	16	O/L
29	Flat washer 3/8" hole	Rondelle plate 3/8" trou	4	O/L

O/L = Obtain Locally

PARTS BREAKDOWN ROTARY TILLER 700510



PARTS LIST ROTARY TILLER 700510

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
1	Frame	Châssis	1	105277
2	Belt guard	Garde-courroie	1	105278
3	Tine shaft	Arbre des dents	1	105279
4	Deflector	Défecteur	1	105280
5	Chain guard	Garde-chaîne	1	105281
6	Drive shaft	Arbre d'entraînement	1	105282
7	Pivot	Pivot	2	105283
8	Sprocket assembly	Pignon assemblé	1	103423
9	Bearing with collar and set screw	Roulement à billes avec collet & vis à pres.	2	103466
10	Pulley 2.7" with set screw	Poulie 2.7" avec vis à pression	1	105268
11	Roller chain #50 x 66 links/conn. link	Chaîne #50 x 66 mailles/maille acc.	1	103427
12	Belt guide stopper	Guide de freinage de courroie	1	102328
13	Bearing with set screw	Roulement à billes avec vis à pression	2	102864
14	V pulley	Poulie en V	1	105269
15	Lever	Levier	1	104783
16	Connecting link #50	Maille d'accouplement #50	1	104324
17	Bender	Tendeur	1	105284
18	Seal	Joint d'étanchéité	1	105285
19	Spacer	Douille	24	103421
20	Right tine	Dent droite	14	103420
21	Left tine	Dent gauche	14	103419
22	Electric motor	Moteur électrique	1	103378
23	Oil lite bushing	Coussinet imprégné d'huile	1	103362
24	Spacer	Espaceur	2	103361
25	Plate	Plaque	1	103363
26	Dust cover	Protège poussière	2	103428
27	Flangette	Flangette	1	102680

O/L = Obtain Locally

PARTS LIST ROTARY TILLER 700510

Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
28	Flangette	Flangette	2	102213
29	Spring	Ressort	1	102592
30	Flat pulley	Poulie plate	1	102057
31	Shim washer	Rondelle d'espacement	1	103430
32	Key 3/16" x 3/16" x 1"	Clé 3/16" x 3/16" x 1"	1	102026
33	Spring	Ressort	1	103291
34	Tensioner	Tensionneur	1	103289
35	Honda engine 9 hp with key	Moteur Honda 9 cv avec clé	1	105287
36	Knob	Bouton	1	103027
37	Spacer	Douille	1	102286
38	Flange washer	Rondelle à bride	1	102081
39	Flangette	Flangette	4	102212
40	Switch	Commutateur	1	103381
41	Box cover	Couvercle de la boîte	1	104659
42	Rubber boot	Capuchon de caoutchouc	1	103379
43	Support bracket	Fixation du support	2	103068
44	Emergency switch	Interrupteur d'urgence	1	104807
45	Spacer	Espaceur	2	103368
46	Box	Boîte	1	104660
47	Box support	Support de la boîte	1	104661
48	Wire assembly	Fil assemblé	1	104662
49	Key 1/4" x 1/4" x 1 3/4"	Clé 1/4" x 1/4" x 1 3/4"	1	102327
50	V-belt, B-45	Courroie en V, B-45	1	105271
51	Hex. bolt 1/4" n.c. x 1/2"	Boulon hex. 1/4" n.c. x 1/2"	2	O/L
52	Hex. bolt 1/4" n.c. x 1 1/2"	Boulon hex. 1/4" n.c. x 1 1/2"	2	O/L
53	Hex. bolt 1/4" n.c. x 1 3/4"	Boulon hex. 1/4" n.c. x 1 3/4"	3	O/L
54	Hex. bolt 1/4" n.c. x 3/4"	Boulon hex. 1/4" n.c. x 3/4"	3	O/L
55	Hex. bolt 5/16" n.c. x 1 1/4"	Boulon hex. 5/16" n.c. x 1 1/4"	4	O/L
56	Hex. bolt 3/8" n.c. x 1"	Boulon hex. 3/8" n.c. x 1"	2	O/L
57	Hex. bolt 3/8" n.c. x 1 1/4"	Boulon hex. 3/8" n.c. x 1 1/4"	10	O/L

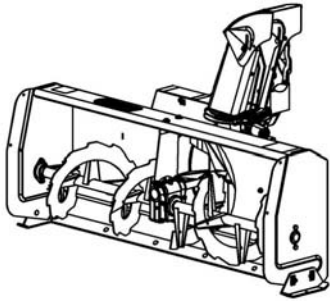
O/L = Obtain Locally

PARTS LIST ROTARY TILLER 700510

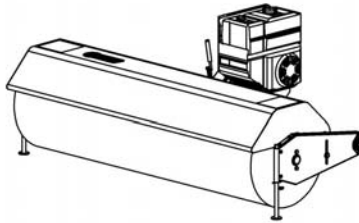
Ref. Réf.	English description	Description française	Qty. Qté.	Part # Pièce #
58	Hex. bolt 3/8" n.c. x 1 3/4"	Boulon hex. 3/8" n.c. x 1 3/4"	18	O/L
59	Hex. bolt 3/8" n.c. x 2 1/4"	Boulon hex. 3/8" n.c. x 2 1/4"	5	O/L
60	Hex. bolt 3/8" n.c. x 2 3/4"	Boulon hex. 3/8" n.c. x 2 3/4"	1	O/L
61	Hex. bolt 7/16" n.c. x 2" GR8	Boulon hex. 7/16" n.c. x 2" GR8	2	O/L
62	Hex. bolt 1/2" n.c. x 3/4"	Boulon hex. 1/2" n.c. x 3/4"	1	O/L
63	Carriage bolt 1/4" n.c. x 5/8"	Boulon à carrosserie 1/4" n.c. x 5/8"	10	O/L
64	Carriage bolt 5/16" n.c. x 3/4"	Boulon à carrosserie 5/16" n.c. x 3/4"	2	O/L
65	Carriage bolt 5/16" n.c. x 1 1/4"	Boulon à carrosserie 5/16" n.c. x 1 1/4"	2	O/L
66	Nylon insert lock nut 1/4" n.c. (thin)	Écrou à garniture de nylon 1/4" n.c.(mince)	13	O/L
67	Nylon insert lock nut 5/16" n.c.	Écrou à garniture de nylon 5/16" n.c.	12	O/L
68	Nylon insert lock nut 3/8" n.c.	Écrou à garniture de nylon 3/8" n.c.	36	O/L
69	Nylon insert lock nut 7/16" n.c.	Écrou à garniture de nylon 7/16" n.c.	2	O/L
70	Flange nut 1/4" n.c.	Écrou à bride 1/4" n.c.	2	O/L
71	Lock washer 1/4"	Rondelle de blocage 1/4"	3	O/L
72	Lock washer 1/2"	Rondelle de blocage 1/2"	1	O/L
73	Flat washer 7/16" hole	Rondelle plate 7/16" trou	5	O/L
74	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
75	Metal screw pan head #8 x 1/4"	Vis à métal tête pan #8 x 1/4"	2	O/L
76	Tie wrap 8"	Attache de nylon 8"	6	O/L
77	Berco decal	Décalque Berco	1	102471
78	Decal danger belts	Decalque danger courroies	1	105128
79	Decal danger tines	Decalque danger dents	2	105129
80	Decal read instructions	Decalque lire instructions	1	105130
81	Decal warning safety	Decalque avertissement sécurité	1	105131
82	Engagement decal	Décalque d'embrayage	1	105294
83	Specifications decal	Décalque spécifications	1	REF
84	Serial number	Numéro de série	1	REF

O/L = Obtain Locally

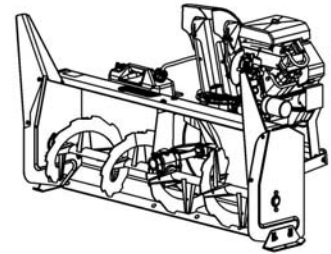
OPTIONS & ACCESSORIES



#700480 #700460
48" & 54" VERSATILE
SNOWBLOWER
For ATV or UV



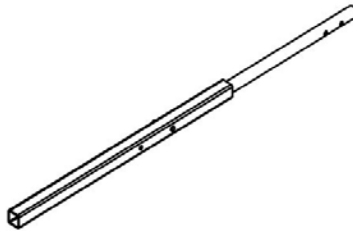
#700448
60" ROTARY BROOM
For ATV or UV



#700360
54" PRESTIGE SNOWBLOWER
For ATV



#700269
LIFT CONNECTION KIT
Reduces the effort and the speed
required by the winch to lift the
accessory .



#700475
EXTENSION FOR SUBFRAME
For the longer vehicles



*WHEN PERFORMANCE
& DEPENDABILITY
ARE NON NEGOTIABLE!*

Bercomac Limitée
92, Fortin North, Adstock, Quebec, Canada, G0N 1S0

WWW.BERCOMAC.COM

PRINTED IN CANADA