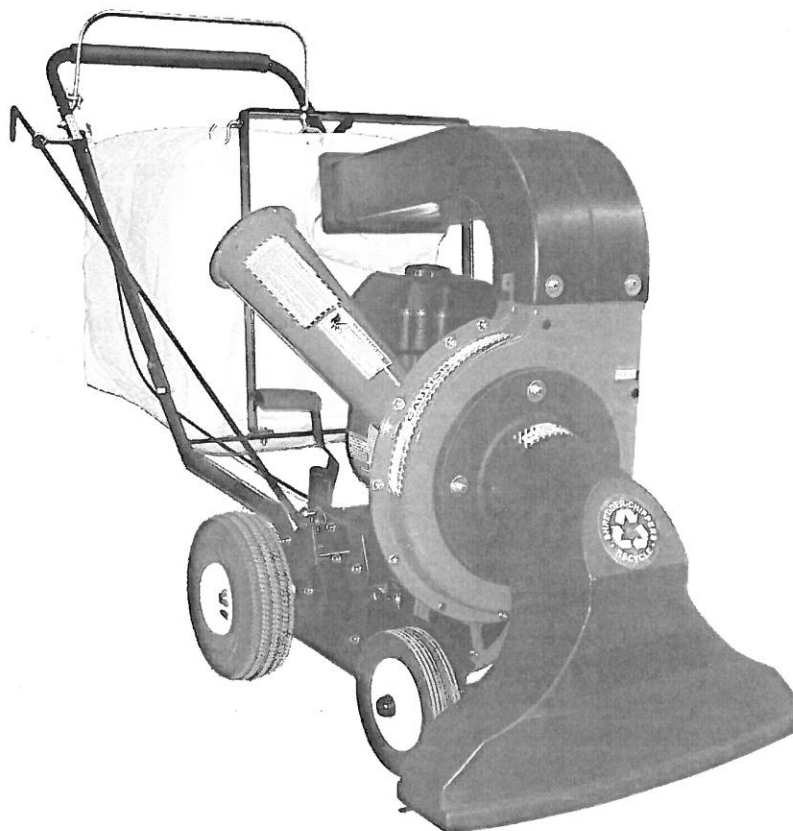


VACUUM-CHIPPER-BAGGER

SAFETY AND OPERATING INSTRUCTION MANUAL

MODEL:

**VCB1102
VCB1102E**



This manual contains information concerning proper and improper operation procedures, warnings, maintenance, troubleshooting, and assembly tips. Everyone who operates this machine should read these instructions and be thoroughly familiar with them.

MacKissic, Inc.
Phone: 1-800-348-1117

P.O. Box 111, Parker Ford, PA
e-mail: info@mackissic.com
www.mackissic.com

19457-0111
FAX: (610) 495-5951

Part # 805-0307
04/25/2019

SECTION I - SAFETY



This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate your Vacuum-Chipper-Bagger. Failure to comply with these instructions may result in personal injury. When you see this symbol - **heed its warning.**

THIS MACHINE IS CAPABLE OF INFLICTING SERIOUS INJURY IF OPERATED IMPROPERLY -- READ WARNINGS & CAUTION LABELS.

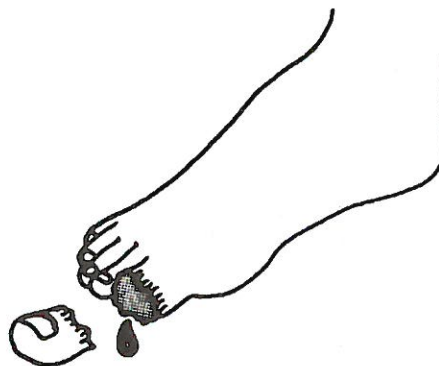
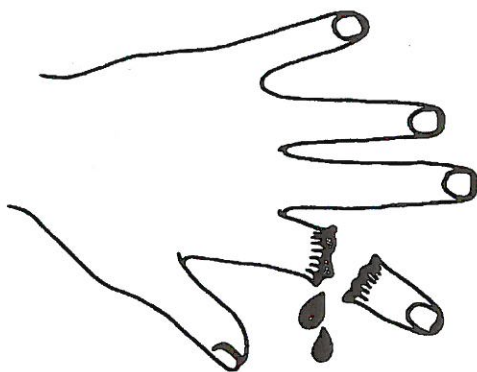
INTENDED USE

Never use your Vacuum-Chipper-Bagger for any other purpose than vacuuming, chipping small branches in the chipper tube, and shredding leaves. It is designed for this use and any other use may cause serious injury.



DANGER: *Rotating cutting blade.*

Keep hands and feet out of inlet and discharge opening while machine is running.



DANGER: This machine can **CRUSH, GRIND, CUT**, and **SEVER** parts of your body if they enter the inlet or discharge area of your Vacuum-Chipper-Bagger.

CAUTION

(1) READ OPERATING INSTRUCTIONS THOROUGHLY BEFORE USING.

(2) Floating parts: keep hands, feet, and clothing out of openings at all times and especially while machine is running.

(3) NEVER operate with the protective cover removed.

(4) Do not remove protective cover while machine is running. Severe injury will result.

(5) NEVER direct the discharge towards any persons, children, or animals.

(6) Stop engine and disconnect spark plug wire before attempting to clean intake or discharge.

(7) Do not use this machine for any purpose other than that for which intended.

091-0083

CAUTION

DO NOT REMOVE IMPELLER COVER WHILE MACHINE IS RUNNING. SEVERE INJURY WILL RESULT.

091-0059

ROTATING CUTTING BLADES- KEEP HANDS AND FEET OUT OF DISCHARGE AND INLET OPENING WHILE MACHINE IS RUNNING.

091-0055

NEVER OPERATE THIS MACHINE WITHOUT COLLECTION BAG IN PLACE AND ZIPPED.

091-0156

WARNING: Check Oil Before Starting Engine

091-0043

DANGER

ROTATING KNIFE WILL CAUSE
SERIOUS INJURY!
KEEP HANDS OUT OF CHIPPER
CHUTE INLET.

811051-0088

091-0088

R
N
1
2
3

CAUTION

(1) READ INSTRUCTIONS AND OPERATOR'S MANUAL THOROUGHLY BEFORE STARTING MACHINE.

(2) REMOVE SPARK PLUG WIRE BEFORE ATTEMPTING ANY SERVICE OR REPAIRS ON MACHINE.

(3) KEEP HANDS, FACE, LOOSE CLOTHING, CHILDREN AND PETS AWAY FROM DISCHARGE AREA, INTAKE HOPPER AND MOVING PARTS OF SHREDDER.

(4) USE GLOVES, HEARING PROTECTORS, AND SAFETY GLASSES WHEN OPERATING.

(5) DO NOT ALLOW CHILDREN TO OPERATE THIS MACHINE. KEEP BYSTANDERS AWAY WHILE MACHINE IS RUNNING.

(6) NEVER RUN THIS MACHINE IN AN ENCLOSED AREA. CARBON MONOXIDE FUMES ARE DEADLY.

(7) DO NOT INSERT HANDS OR METAL OBJECTS INTO THE FEED HOPPER OR DISCHARGE CHUTE WHEN THE MACHINE IS RUNNING. IF JAMMED, TURN ENGINE OFF AND REMOVE SPARK PLUG WIRE BEFORE CLEANING THE OBSTRUCTION WITH A WOODEN STICK.

(8) DO NOT USE HANDS TO CLEAR MATERIAL FROM THE DISCHARGE AREA.

091-0157

805-0343

CAUTION

**SHUT DOWN ENGINE.
REMOVE SPARK PLUG WIRE
BEFORE OPENING.**

080-0970



DANGER: Your Vacuum-Chipper-Bagger was built to be operated according to the rules for safe operation in this manual. **As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury.** If you violate any of these rules, you may cause serious injury to yourself or others.



BEFORE STARTING ENGINE, ALWAYS CHECK OIL LEVEL

WARNING: The Engine Exhaust from this product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

GENERAL OPERATION

- Read this owner's manual carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine before operation. Be completely familiar with the controls and the proper use of the machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
 - Your Vacuum-Chipper-Bagger is a powerful tool, not a plaything. Therefore, exercise extreme caution at all times. Your unit has been designed to vacuum, chip, and shred. Do not use it for any other purpose.
 - Never allow children under the age 16 to operate the unit. Children 16 years or older should only operate the unit under close parental supervision. Only responsible individuals who are familiar with these rules of safe operation should be allowed to use your unit.
 - Always wear safety glasses or safety goggles, during operation and while performing an adjustment or repair to protect eyes from foreign objects that may be thrown from the machine. Be sure your glasses fit properly.
 - Wear sturdy, rough-soled work shoes and close fitting slacks and shirt. Shirt and slacks that cover the arms and legs and steel-toed shoes are recommended. Secure hair above shoulders and do not wear loose clothes or jewelry that can be caught in moving parts. Never operate a unit in bare feet, sandals or sneakers.
 - Do not operate while under the use of alcohol, drugs, or medication. A clear mind is essential for safety.
 - Do not allow anyone who is not alert to operate this machine.
 - Keep the area of operation clear of all persons, particularly small children and pets. Stop the engine when they are in the vicinity of the unit. Keep work area clean and clear of branches or obstacles which could cause you to stumble or fall.
 - Never place your hands, feet, or any part of your body in the vacuum snout, chipper tube, discharge, or near any moving part while the engine is running. Keep clear of the discharge opening at all times.
 - If it is necessary for any reason to unclog the feed intake or discharge openings or to inspect or repair the machine where a moving part can come in contact with your body or clothing, stop the machine and allow it to cool. Disconnect the spark plug before attempting to unclog, inspect or repair.
 - When feeding material into this equipment, be extremely careful that pieces of metal, rocks, or other foreign objects are not included. Personal injury or damage to the machine could result.
 - If your Vacuum-Chipper-Bagger should start making an unusual noise or vibration, immediately stop the engine and allow the machine to come to a complete stop. Disconnect the spark plug wire and move it away from the spark plug.
- Take the following steps:
- a. Inspect for damage.
 - b. Repair or replace any damaged parts.
 - c. Check for any loose parts and tighten to assure continued safe operation.
- Never attempt to attach or remove the collection bag when the engine is running. Shut the engine off and wait for the impeller to come to a complete stop. The impeller continues to rotate a few seconds after the engine is shut off. Never place any part of the body in the impeller area until you are sure the impeller has stopped rotating.
 - Muffler and engine become hot and can cause a severe burn. Do not touch.
 - Do not allow any part of the engine, especially around the cooling fans and muffler, to become clogged with leaves, oil, grease or any other combustible material.
 - Do not operate engine if air cleaner or cover over carburetor air-intake is removed, except for adjustment. Removal of such parts could create a fire hazard.

- Keep all other guards and safety devices in place and operating properly.

Only use accessories approved for this machine by the manufacturer. Read, understand, and follow all the instructions provided with the approved accessory.

- Before vacuuming, inspect the area where the equipment is to be used and remove all metal, bottles, cans, or other foreign objects. Do not vacuum any burning or smoldering materials such as cigars, cigarettes, ashes, or cinders. Do not vacuum areas that have been recently treated with fertilizer, pesticides, or herbicides. Follow chemical manufacturers' safety instruction regarding contact with treated areas. Do not vacuum flammable liquids such as gasoline, kerosene, diesel fuel, paint thinner, etc.

- Exercise extreme caution on slopes and avoid excessively steep slopes. Do not shift gears on slopes. Never operate this machine in third gear (high gear) on slippery surfaces. Look behind and use care when using reverse.
- Only operate unit in good daylight. Do not operate unit at night or in dark areas where your vision may be impaired.

- **If situations occur which are not covered by this manual, use care and good judgment.**

CHILDREN

- Tragic accidents can occur if the operator is not alert to the presence of small children.
 - * Keep children out of the work area and under the watchful eye of a responsible adult other than the operator.
 - * Be alert and turn the unit off if a child enters the area.
 - * Never allow children under the age of 16 to operate the vacuum-chipper-bagger.

REPAIR AND MAINTENANCE SAFETY

- Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
- Store fuel and oil in approved containers, away from heat and open flame, and out of the reach of children. Check and add fuel before starting the engine. Never remove gas cap or add fuel while the engine is running. Allow engine to cool at least two minutes before refueling.
- Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- Never refuel unit indoors because flammable vapors will accumulate in the area.
- Never store the machine or fuel container inside where there is an open flame or spark, such as a gas hot water heater, space heater, clothes dryer or furnace.
- To reduce fire hazard, keep engine and muffler free of leaves, grass, and other debris build-up. Clean up fuel and oil spillage. Allow unit to cool at least five minutes before storing.
- Before cleaning, repairing, or inspecting, make certain the impeller and all moving parts have stopped. Disconnect the spark plug wire and keep wire away from spark plug to prevent accidental starting. Do not use flammable solutions to clean air filter.
- Never tamper with safety devices. Check their proper operation regularly.
- Never run this machine in an enclosed area as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and deadly poisonous gas.
- Never operate your Vacuum-Chipper-Bagger in poor mechanical condition or when in need of repair. Periodically check and keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition. Be sure all safety guards and shields are in proper position. These safety devices are for your protection.
- Inspect the belt and collection bag each time you use the unit. Look for damage, worn areas, tears or holes. Do not use the unit if this condition exists.
- Empty the collection bag after each use. Decomposing debris could generate enough heat to catch fire. Before emptying the collection bag, shut off engine, disconnect spark plug wire from spark plug, and allow moving parts to come to a complete stop.
- Do not tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. See your authorized dealer for engine governor adjustments.

BEFORE STARTING ENGINE, ALWAYS CHECK OIL LEVEL!

YOUR RESPONSIBILITY

- Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

**SAVE THESE INSTRUCTIONS
FOR FUTURE REFERENCE.**



HAZARD: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California, the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your Briggs & Stratton servicing dealer.

SECTION II - ASSEMBLY INSTRUCTIONS

BEFORE STARTING ENGINE, ALWAYS CHECK OIL LEVEL

STEP I – Unpacking and checking contents

VCB BOX	POLYBAG	BOLT BAG	PART #
VCB MACHINE	OWNER'S MANUAL	2 EA – ¼-20 NYLOCK NUT	090-0470
BAG HANGER SIDES (2)	ENGINE MANUAL	1 EA – ¼-20 X 2-1/4" HHCS	090-0405
BAG HANGER TOP	WARRANTY CARD	8 EA – 5/16" FENDER WASHER	090-0233
UPPER HANDLE ASSEMBLY	SAFETY GLASSES	4 EA – 5/16-18 X ¾" HHCS	090-0066
VACUUM SNOOT	WORK GLOVES	10 EA – 5/16-18 X 1" HHCS	090-0088
DISCHARGE TUBE	HEARING PROTECTORS	4 EA – 5/16-18 WHIZNUT	090-0418
SHIFT ROD	BOLT BAG	14 EA – 5/16-18 NYLOCK NUT	090-0460
POLY BAG		1 EA – ¼-20 WHIZNUT	090-0453
COLLECTION BAG		3 EA – BAG HANGER HOOKS	805-0119
		1 EA – 5" EYEBOLT	090-0729
		1 EA – 10-32 X 3/8 SELF TAPPING SCREW	090-0162
		2 EA - CARABINERS	805-0326
		1 EA – 1/4" FLAT WASHER	090-0232
		HAIR SPRING COTTER PIN	100-0015



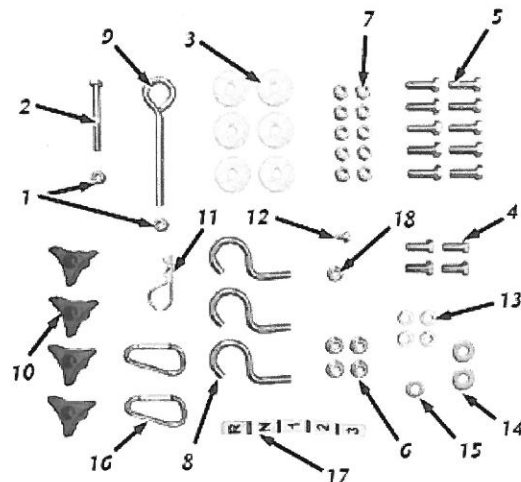
VCB Box



Parts located in VCB box

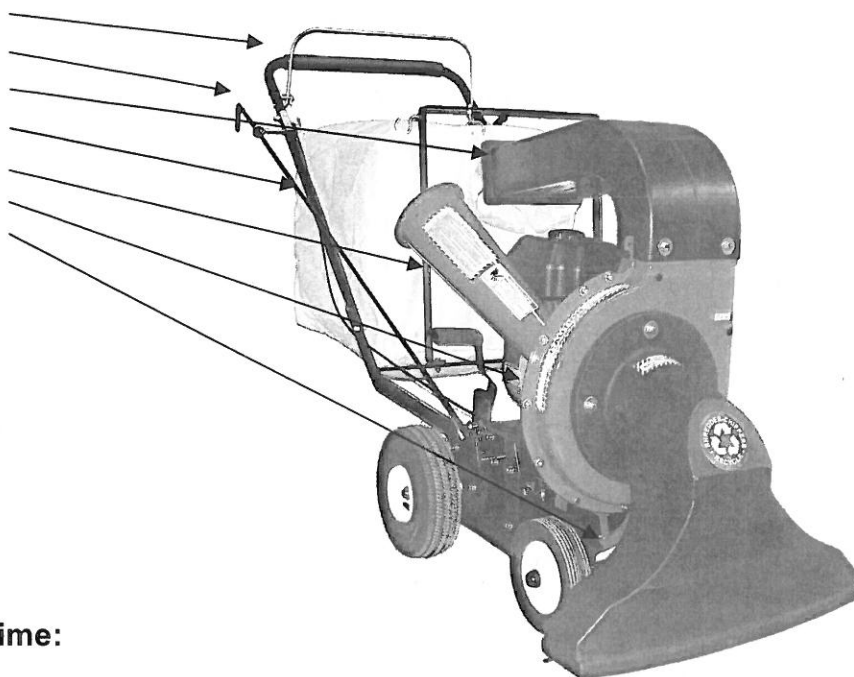


Poly Bag Contents



Bolt Bag Contents

<u>Key</u>	<u>Description</u>
A	Upper Handle Assembly
B	Shift Rod
C	Discharge Tube
D	Collection Bag
E	Bag Hanger Assembly
F	VCB Machine
G	Vacuum Snout
---	Hardware Bag



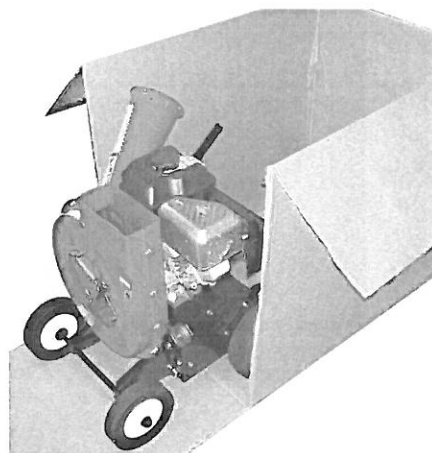
Tools required for assembly

- (2) 1/2" Wrench or Socket
- (2) 7/16" Wrench or Socket
- Utility Knife

Approximate Assembly Time:
1 hour 15 minutes

STEP II - Unpacking and removing the VCB from the Box

1. Open the top of the VCB Box and remove all parts and the poly bag.
2. After unpacking the shipping carton, use the parts lists and assembly drawings to compare and identify the contents with the parts shown.
3. If any parts are missing or damaged, contact your place of purchase immediately.
4. Assembly should be done on a clean, level surface.
5. Use a utility knife to cut out the front end of the VCB box, and then roll the machine out of the box.
6. DO NOT try to lift the machine out of the box, it is very heavy and may cause severe injury.



STEP III – Install the bag hanger and handle

1. Identify the bag hanger sides. Mount them loosely to the cross member of the lower handle with two 5/16-18 x 1" bolts and two 5/16-18 nylock nuts (fig. 1). Position the top bag hanger onto the sides so that the holes on top face the rear, and loosely install four 5/16-18 x 1" bolts and four 5/16-18 nylock nuts using the bottom holes on sides of the bag hanger top. Tighten all hardware.
2. Take the upper handle bar assembly with the bail on top and slide the flat ends of the upper handle inside the lower handle. Secure with four 5/16-18 x 1" bolts and four 5/16-18 nylock nuts.

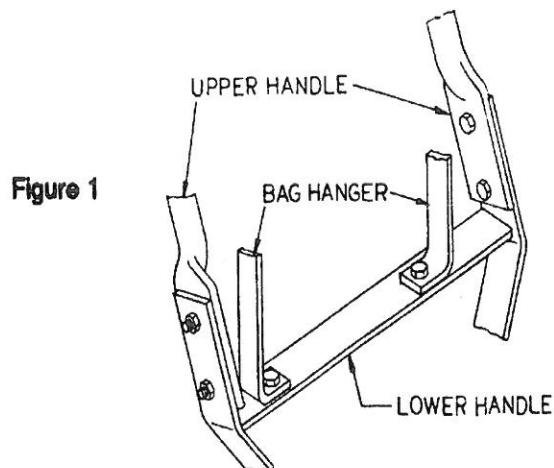
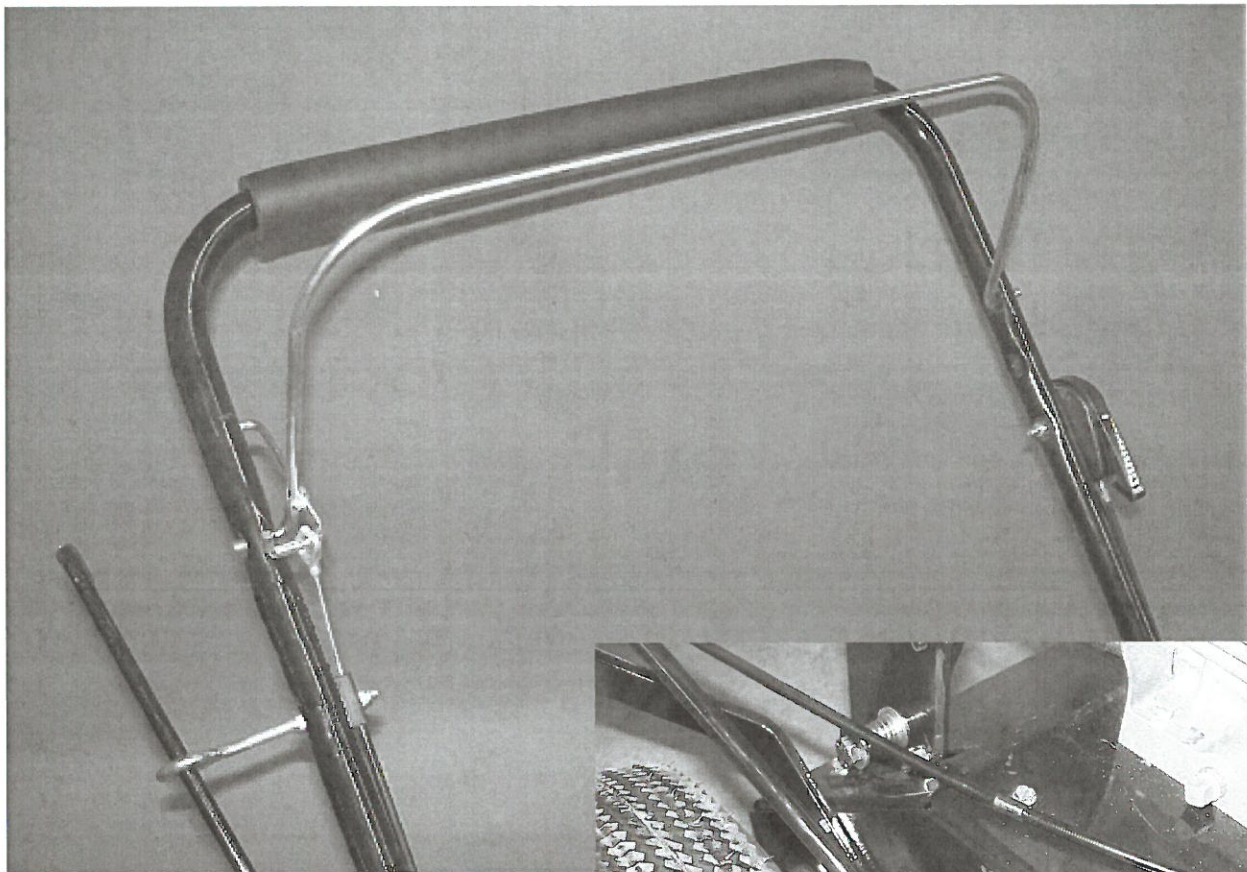


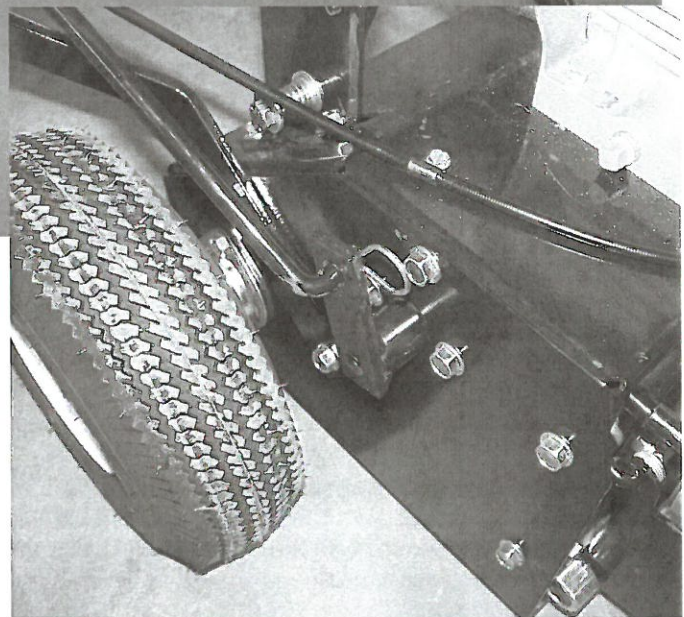
Figure 1

STEP IV – Install the clutch cable, shift rod and throttle cable

1. Locate the clutch cable, which is attached to the VCB machine on the right hand side. Slip the end on to the front bail hook. Secure the clutch cable to the handle bar through the attached cable clamp with the eyebolt provided in the bolt bag. The eyebolt goes through the lower hole. Tension on the cable is normal, when installed properly the bail should be “spring loaded” and will return to the up or disengaged position. Install a wiz nut and 1/4-20 nylock nut on the end of the eyebolt so about 3 threads come through the nylock nut, then tighten the wiz nut on the outside of the handle to secure the eyebolt to the handle. Make sure to keep the opening of the eyebolt approximately perpendicular to the angle of the handles.
2. Thread the shift rod through the eyebolt so that the handle with the rubber grip is at the top. Take the shift rod and insert the lower end through the shift linkage at the base of the machine. The shift rod is held in place with a hairspring cotter pin, which gets installed in the hole at the lower end of the shift rod behind the shift linkage.
3. Locate the throttle control, which is attached to the VCB machine’s engine on the left-hand side. Install the throttle cable to the handle by inserting a 1/4-20 x 2-1/4” bolt through the throttle control and the lower hole on the left-hand side of the handle. Tighten with a 1/4-20 nylock nut and 1/4” flatwasher. Be careful not to over tighten the nut. The bolt also acts as a pivot point for the throttle lever, which must be allowed to pivot freely inside the plastic housing.



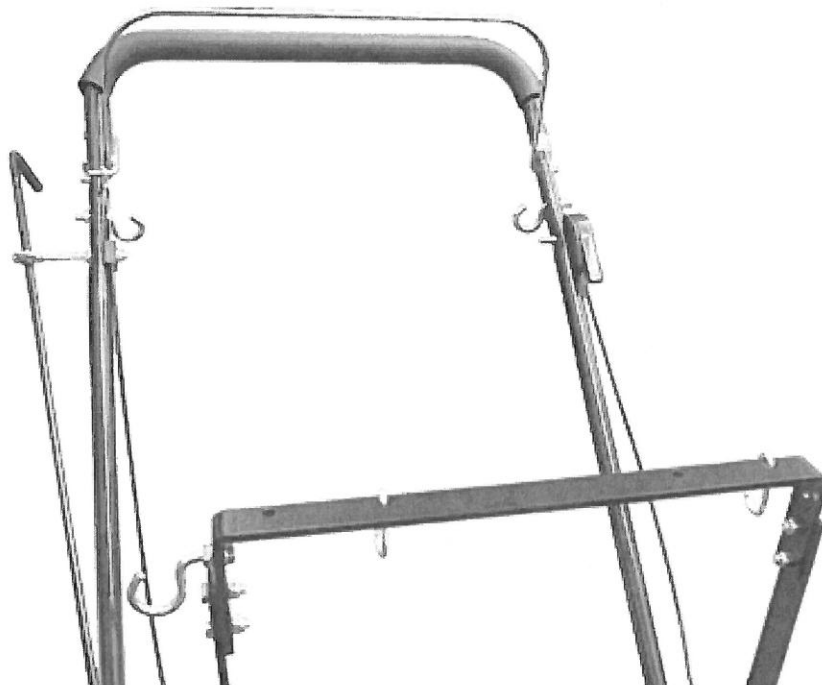
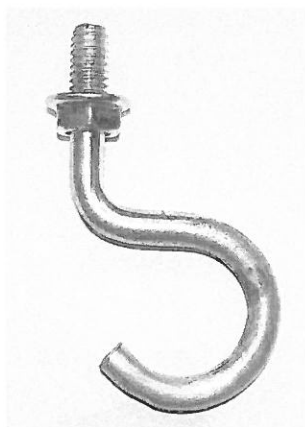
Above: Upper handle assembly



Right: Shift rod attachment point to the shift linkage

STEP V – Install the bag hangers

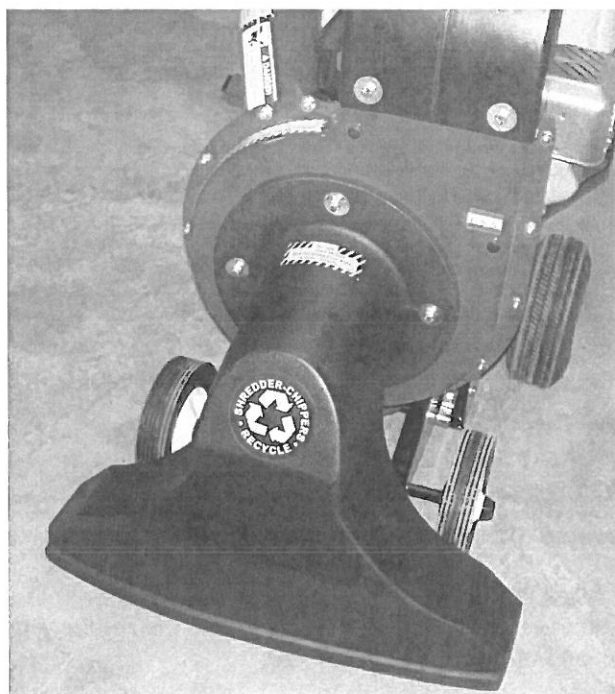
1. Locate the three bag hanger hooks and four 5/16-18 wiz nuts included in the bolt bag. Mount the two upper hooks through the upper holes in the handle assembly with the hooks on the inside. Tighten with a wiz nut on the outside of the handle.
2. Thread a wiz nut onto the remaining hook as far as it will go on the threads so that the flat side of the nut is facing out. (See the figure below)



3. Install the hook and Carabineers onto the bag hanger as shown in the picture to the left and secure with wiz nuts.

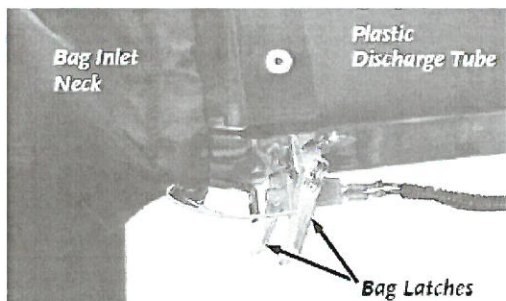
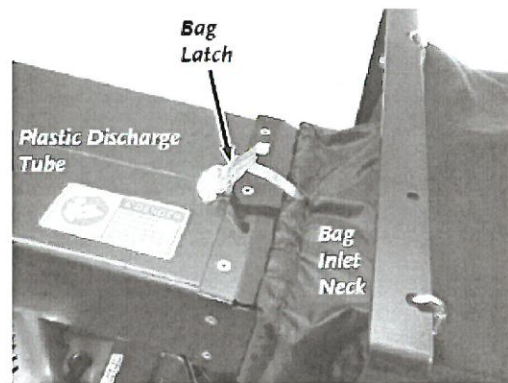
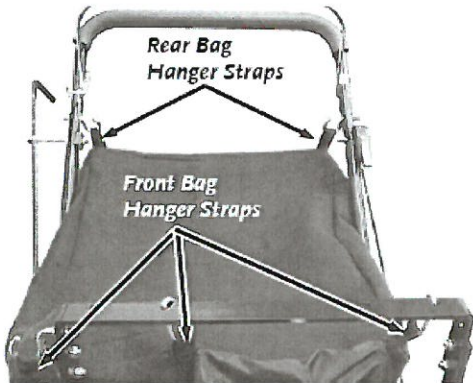
STEP VI – Install the discharge tube and vacuum snout

1. Place the metal discharge tube on top of the housing. Be sure the discharge opening is directed to the rear of the machine and between the handles. Secure the tube and safety wire harness cable clamps to the housing with four 5/16"-18 x 3/4" bolts and fender washers
2. Connect the safety harness onto the terminals of the bag safety switch and secure the cable clamp to the hole in the side of the discharge tube with the self-tapping screw using a 5/16" wrench.
3. Place the vacuum snout onto the front of the housing; make sure the snout is in the top left position of the "L" slot (if equipped) Secure with four 5/16-18 nylock nuts and fender washers.



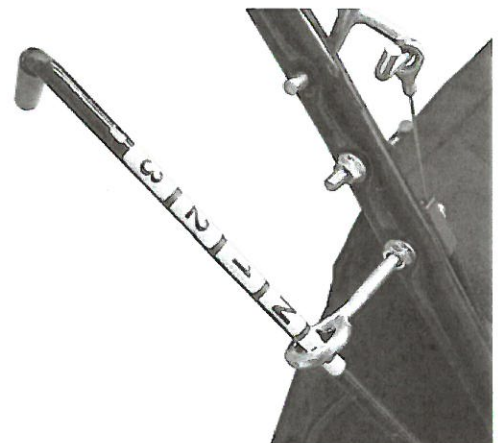
STEP VII - INSTALL THE COLLECTION BAG

1. Locate the two bag hanger straps on the rear (zipper end) of the bag. Attach the two straps to the hooks near the top of the handlebar.
2. Locate the three bag hanger straps on the front of the bag and hang them on the two carabineers and one hook on the front frame.
3. Slip the bag inlet neck over the discharge tube.
4. Hook the bottom two latch hooks over the metal ring installed within the bag inlet and latch them.
5. Hook the top latch over the metal ring installed within the bag inlet and close the latch.



STEP VI – APPLY THE SHIFT POSITION DECAL

1. Pull the Gear Shift Rod all the way towards you to lock it into the "Reverse" position.
2. Install the Shift Position Label onto the Rod with the "R" centered inside the Eyebolt and the "3" closest to the Rubber Handle at the top end of the Rod.



BEFORE STARTING ENGINE, ALWAYS CHECK OIL LEVEL

SECTION III - LUBRICATION & ENGINE START UP

<p>ALWAYS CHECK OIL LEVEL PRIOR TO STARTING THE MACHINE.</p>

ENGINE IS SHIPPED *WITHOUT* OIL !!

FILL CRANKCASE WITH OIL BEFORE STARTING ENGINE. Be very careful not to allow dirt to enter the engine when checking or adding oil or fuel.

REFER TO THE ENGINE OWNER'S MANUAL FOR DETAILED INFORMATION ABOUT:

- ☐ **OIL**
- ☐ **FUEL**
- ☐ **STARTING**
- ☐ **STOPPING**
- ☐ **RECOMMENDED MAINTENANCE**
- ☐ **SERVICE**
- ☐ **STORAGE**
- ☐ **ENGINE WARRANTY INFORMATION**

TO FILL OIL

- To check the oil level of a serviced engine or to initially fill the engine with oil, make sure the engine is off. Disconnect the spark plug wire from the spark plug. If the machine has been running, allow the engine and muffler to cool for at least three minutes.
- To check or fill the oil, the Vacuum Chipper Bagger must be in the upright position and the engine must be level.
- Clean around the yellow oil plug.
- Remove the yellow oil fill cap from either side of the engine, fill the engine with oil until the oil level is about a ¼ inch below the top of the yellow oil fill cap opening.
- Add oil slowly and wait several minutes for oil to settle before rechecking oil level.
- Replace and tighten the oil fill cap.

**BE SURE TO SERVICE THE ENGINE ACCORDING TO THE ENGINE
OWNER'S MANUAL PRIOR TO STARTING.**

**FAILURE TO DO SO CAN RESULT IN DAMAGE NOT WARRANTIED BY THE
ENGINE MANUFACTUROR.**

THE TRANSMISSION HAS BEEN FACTORY SERVICED WITH “00” GREASE. NO ADDITIONAL LUBRICATION IS NECESSARY OR RECOMMENDED.

TO ADD GASOLINE

- Shut off the engine and disconnect the spark plug wire from the spark plug. Allow the engine and muffler to cool for at least three minutes.
- Clean the area around the fuel cap and remove the cap from the fuel tank. Insert a clean funnel into the fuel tank.
- Fill the fuel tank with fresh, clean unleaded regular automotive gasoline.
- Do not mix oil with gasoline.
- Do not use gasoline left over from last season or that has been stored for more than 30 days.
- Fill the fuel tank to 1 inch below the bottom of the filler neck to provide space for any fuel expansion.
- Reinstall the fuel fill cap securely and wipe up any spilled gasoline.

WARNING: Do not fill closer than 1” from the top of the fuel tank to prevent spills and to allow for fuel expansion. If gasoline is accidentally spilled, move the mower away from the area of the spill. Avoid creating any source of ignition until gasoline vapors have disappeared.

CAUTION: Experience indicates that alcohol blended fuels (gasohol, ethanol, methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system or an entire engine while in storage. To avoid engine problems, the fuel system should be empty before storage for periods over 30 days. For more information, refer to the engine owner’s manual. Use fresh fuel each season. Never use engine or carburetor cleaner products in the fuel tank or permanent damage may result.

BEFORE STARTING ENGINE, ALWAYS CHECK OIL LEVEL

ENGINE STARTING INSTRUCTIONS

- A. Move choke lever to “FULL CHOKE POSITION”
NOTE: IF RESTARTING A WARM ENGINE AFTER A SHORT SHUTDOWN, MOVE CHOKE LEVER TO “NO CHOKE POSITION”.
- B. Move throttle control to “FULL SPEED” (rabbit) position. Make sure the rocker switch is in the “on” position.
- C. Grasp starter handle and pull rope out, slowly, until it pulls harder. Let rope rewind slowly. Then pull rope with a rapid full arm stroke. Let rope return to starter slowly.
- D. If the engine is cold wait until the engine starts, then move choke lever slowly to “1/2 CHOKE” until engine runs smoothly and then to “NO CHOKE POSITION”
If engine falters, move choke lever to “1/2 CHOKE” until engine runs smoothly and then to “NO CHOKE POSITION”.
NOTE: If engine fails to start after three (3) pulls, move choke lever to “NO CHOKE POSITION” and pull starter rope again.
NOTE: If engine fires, but does not continue to run, move choke lever to “FULL CHOKE” and repeat instructions B, C, and D until engine starts.

ENGINE STOPPING INSTRUCTIONS

- Move engine throttle lever down to "idle" position.
- Turn the rocker switch on the engine to the "off" position

Engine running speed is pre-set by the engine manufacturer.

DO NOT tamper with engine settings. This could damage engine and will void engine warranty.

SECTION IV - OPERATION

OPERATING THE DRIVE SYSTEM

There are three controls, the Shift Rod, Throttle Control, and the Wheel Drive Bail, that are used to engage and disengage the powered wheels. Familiarize yourself with these controls before you start the engine.

- The Shift Rod is used to select one of the following transmission settings:
R (Reverse), N (Neutral), and 1,2,3.
 - The number settings represent forward speeds ranging from
1 (.69 MPH), 2 (1.06 MPH), 3 (2.39 MPH)
 - Shift to N (Neutral) before starting the engine and whenever the machine is stopped.
 - Shift to R (Reverse) to move the machine in a reverse direction (.79 MPH).
 - Shift to N (Neutral) to move the machine when the engine is not running (free wheeling).
-
- 1st gear is the slowest speed and is used when vacuuming in difficult conditions such as heavy leaf drop, damp leaves.
 - 2nd gear is a medium speed and used for average conditions. This is the gear you should use most of the time.
 - 3rd gear is used for transporting the machine to and from your work site.



WHEEL DRIVE BAIL

- A. The WHEEL DRIVE BAIL is used to engage and disengage the wheels when the GEAR SHIFT LEVER is in a forward or reverse gear.
- B. Squeeze and hold the bail against the handlebar to ENGAGE the wheels.
- C. Release the bail to DISENGAGE the wheels. The engine will continue to run, but the forward and reverse motion will stop.

HOW TO USE THE GEAR SHIFT BAR

1. Release or let go of the WHEEL DRIVE BAIL.
2. Wait for wheels to stop moving. NEVER shift gears while the wheels are moving as damage to the transmission may result.
3. Shift the GEAR BAR by pushing or pulling to the desired setting.

THROTTLE CONTROL

When vacuuming and shredding, the throttle control should be set at full throttle or the fast position. For starting and stopping the engine refer to the start/stop engine sections

WHEEL DRIVE OPERATING TIPS

- Operate the machine in a large, level, open area until you are familiar with the unit's operation. Begin with 1st gear and gradually work up to 3rd gear.
- To avoid damaging the transmission, always release the WHEEL DRIVE BAIL and wait for the wheels to stop before shifting gears.
- Forward momentum may cause the machine to gradually coast to a stop after the WHEEL DRIVE BAIL is released.
- Engage the WHEEL DRIVE BAIL slowly when starting off in 3rd gear. The machine may hesitate briefly before the wheels begin turning.
- To make a turn, first raise the front wheels slightly off the ground by pushing down on the handle bar. Then, steer the machine to turn. The rear wheel on the inside of the turn will rotate more slowly while the outside rear wheel powers the machine through the turn.
- Shift to the 1st gear if the wheels lose traction when going up a slope (always avoid excessively steep slopes). Before shifting, turn the machine sideways on the slope to prevent rolling of the machine.
- Never go up or down a slope at an angle as the machine may become unstable and tip over. If the machine does tip immediately shut down the engine and move the machine to stable ground. Check for damage and any spilled fluid.
- Never force the shift bar as damage may result. If shifting is difficult, it may be necessary to manually move the machine a few inches forward or backward while moving the shift bar.

CLEARING THE MACHINE OF DEBRIS, CLOGS OR JAMS

A clog or jam in the machine can cause the vacuuming and shredding operations to decrease or even stop completely. If clogging occurs, take the following steps:

1. STOP THE ENGINE IMMEDIATELY and disconnect the spark plug wire from the spark plug. Wait for all moving parts to come to a complete stop.
2. Check (and clean, if necessary) the following areas in this order:
 - Check that the collection bag is not overfilled. Remove and empty it.
 - While the bag is removed, check the discharge chute and determine if it is clogged. Use a stick to clear this chute.
 - Next check the vacuum snout. Remove the vacuum snout by removing four 1/2" nuts. If clogged or jammed, use a stick to remove debris.
 - While the vacuum snout is removed, you can see if the shredding chamber is clogged. If clogged, remove the debris with a stick.
 - Check the chipper chute for debris.

INSTALLING OR EMPTYING THE COLLECTION BAG



USE THE BAG AT ALL TIMES - FAILURE TO DO THIS COULD CAUSE SERIOUS INJURY.

Empty the bag as soon as it is full (check by feeling sides of bag). Overfilling the bag will cause the vacuuming performance to decrease or stop completely and could lead to clogging of the discharge tube, snout, or both.

Empty the bag completely BEFORE storing the machine to prevent premature deterioration of the bag caused from rotting debris and the possibility of a fire occurring as a result of heat generated by decomposing debris.

BAG MAINTENANCE

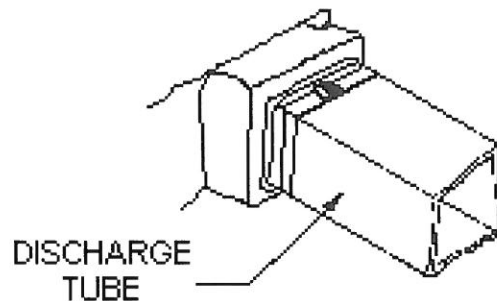
Keep the bag clean by occasionally washing it by hand with mild soap and water. A clean bag improves air flow and results in better vacuuming performance. Do not wash the bag in an automatic washer. Do not use a cleaner which contains bleach. Allow the bag to dry thoroughly before storing.

INSTALLATION OF THE BAG

1. Locate the two bag hanger straps on the rear (zipper end) of the bag. Attach the two straps to the hooks near the top of the handlebar.
2. Locate the three bag hanger straps on the front of the bag and hang them on the hook and two carabineers on the front frame.
3. Open the inlet neck and slip the neck over the discharge tube. Be sure that it is pulled onto the discharge tube about two to three inches.
4. Slide the nylon strap through the buckle and pull firmly on the strap until tight. Close the zipper on the bag.

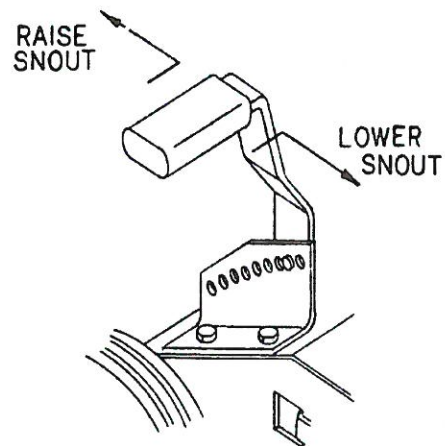
EMPTYING THE BAG

1. Shut off the engine, disconnect the spark plug wire from the spark plug, and make sure all moving parts have come to a complete stop.
2. Leave the bag in position between the handles. Unzip the back flap and let the debris fall out. You may have to scoop out the remaining debris with a stick.

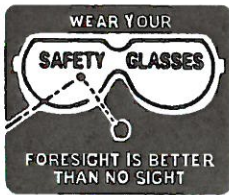


ADJUSTING THE VACUUM SNOOT HEIGHT

1. The height of the vacuum snout can be adjusted to allow you to vary the suction to meet the surface conditions. For short turf with light leaf fall, it can be lowered to 1-1/4" off the surface. For long turf and heavy leaf fall, it should be raised to the upper setting about 2 3/4 inches.
2. For moving the machine long distances, you will avoid damage to the snout by raising it to the highest setting.
3. **To raise the snout:**
 - Grasp the height adjuster handle, apply pressure away from the adjuster plate and **BACK** towards the operators position (Figure 7).
4. **To lower the snout:**
 - Grasp the height adjuster handle, apply pressure away from the adjuster plate and **FORWARD** away from the operator's position.



OPERATING SAFETY



The operation of any vacuum-chipper-bagger can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear the safety glasses provided with the vacuum-chipper-bagger or eye shields before chipping or while performing any adjustments or repairs.

Only operate your vacuum-chipper-bagger from the rear or from the chipper side. If it is necessary for any reason to inspect or repair any part of the machine where a moving part can come in contact with your body or clothing, stop the engine, allow it to cool, disconnect the spark plug wire from the spark plug and move it away from the spark plug before attempting any inspection or repairs.

Whenever you operate your vacuum-chipper-bagger, wearing gloves and safety glasses is required.

USING THE CHIPPER

When using the chipper, you can feed branches (up to 2" thick) into the chipper processing by the chipper blade.

Be sure that the collection bag is empty and in place before chipping.

Wear safety goggles, gloves, and hearing protection when chipping.

Start the engine on level ground. Leave the GEAR SHIFT LEVER in N (Neutral).

To feed materials into the chipper tube, stand a foot or two away from either side of chipper chute. Do not stand near the hot engine exhaust or muffler (see Figure 13).



Use common sense when using the chipper. Learn to recognize the change in sound when the engine is overloading. Pull back on whatever you are chipping if overloading should occur.

Green or dry branches chip easily and soft wood will chip easier than hard wood. Branches are fed into the chipper chute for chipping . . . one at a time if they are thicker than 1"; several smaller diameter twigs can go together. Since the throat opening is 2 inches in diameter, some side shoots or side branches may have to be trimmed from the main stalk before chipping. Short stubs of branches may be pushed through the chipper section with the next branch. **NEVER ALLOW YOUR HANDS TO ENTER THE CHIPPER TUBE.** If necessary, push the material further down with a long stick or branch. Be safe; keep your hands away from the chipping blade.

When chipping branches occasionally a "tail" will be left at the end of the branch (usually green wood), which increases in length as you chip and eventually wraps around the shaft. To avoid this, slowly turn the branch as you feed it into the chipper tube. This will also improve the chipping performance.

When chipping, frequently empty the bag because of the weight of the accumulative chips.

USING THE VACUUM

How to Vacuum Like a Pro

- Before leaves drop, mow you lawn to the shortest recommended height. Your VCB will vacuum better on short grass.
- A vacuum is designed to be used frequently during periods when leaves are dropping. Do not let leaves get 4" or more deep. The drier the leaves the better.
- The thicker the leaf layer the slower you should proceed. If leaves are wet or matted down use 1st gear, it may be necessary to fluff up leaves before using the vac. If snout clogs try a slower speed.
- Snout height is critical. The snout should ride above the leaf layer to allow proper vacuuming... closer is not always better. The snout flap should scrape the top of the grass.
- You should avoid vacuuming twigs and branches into the snout. This will cause clogging. Process them through the chipper tube.
- Avoid overfilling the vacuum snout. This will cause clogging. Wet and soggy material will also cause clogging. A steady, smaller flow of materials provides the most effective results.
- The bag should not be removed for emptying, simply unzip and dump leaves out. If you wish to move or bag leaves, dump onto a tarp.
- Avoid clogging when vacuuming loose, stringy material such as hay or pine straw, by picking up a small amount at a time. Check and empty the collection bag frequently.
- Use care when vacuuming near plantings, ornamentals, mulches, especially stone and gravel.

IMPORTANT: If the machine clogs or jams, immediately shut off the engine, wait for all moving parts to come to a complete stop, and disconnect the spark plug wire from the spark plug before machine inspection.

SECTION V - MAINTENANCE

BEFORE STARTING ENGINE, ALWAYS CHECK OIL LEVEL

If the cutting mechanism strikes any foreign object or if your machine should start making an unusual noise or vibrates excessively, stop the engine, disconnect the spark plug wire from the spark plug. Allow the engine to cool before:

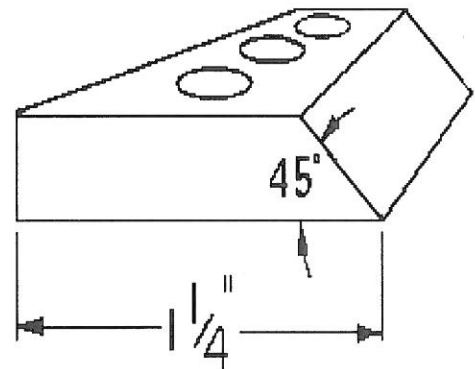
- a) Inspect for obvious damage.
 - b) Check for loose parts and tighten to assure continued safe operation.
 - c) Replace or repair any damaged parts.
1. Do not operate engine if air cleaner or cover directly over carburetor air intake is removed. Removal of such parts could create a fire hazard.
 2. Do not use flammable solutions to clean the air filter.

LUBRICATION OF THE ENGINE

Check engine oil level regularly - WHILE THE UNIT IS IN A LEVEL POSITION. Check the oil every five hours of operation and before each usage. Stop engine and wait several minutes before checking oil level. With engine level, the oil must be even with the oil fill. Change oil after the first five hours of operation and every 25 hours thereafter. Refer to the engine manual enclosed with this unit for additional information on your engine.

SHARPENING CHIPPER BLADE

- Over a period of time, the cutting edge on the chipper cutting knife will dull. The cutting knife must be sharpened or replaced in order to restore performance.
- Discard a cracked or severely nicked knife because it could break apart and cause personal injury.
- Sharpen a chipper knife that is dull or that has only small minor nicks. The knife is made from tempered tool steel and is extremely hard - do not attempt to sharpen with a hand file. We recommend that you take the knife to a professional sharpening service or machine shop for proper sharpening. All grinding must be done flat and uniform along the edge. Care must be taken to maintain the same angle on the cutting edge
- Do not reuse a knife that has been sharpened more than 1/8 inch. The removal of this material could affect the balance of the rotor assembly. The rotor assembly will vibrate excessively if it becomes unbalanced.



REPLACING CHIPPER BLADE

Caution: the chipper knife and impeller fins are very sharp, use extreme caution when working on the components inside the impeller housing. Use heavy duty work gloves while handling the chipper knife.

- Disconnect spark plug wire and move it away from spark plug.
- Remove the chipper chute by removing three 5/16-18 nuts.
- Rotate the impeller assembly with a wood stick or very slowly pull on the engine's recoil starter rope until you locate the chipper knife in the chipper chute opening. Remove the knife using a 3/16" Allen wrench on the outside of the blade and 1/2" wrench on the impeller assembly (inside the housing). See Figure 16.
- Replace or sharpen knife. If sharpening, care must be taken to maintain a straight cutting edge and the same cutting angle degree.
- Make certain knife is reassembled with the sharp edge toward the slotted opening in the impeller assembly.

BAG MAINTENANCE

Keep the bag clean by occasionally washing it by hand with mild soap and water. A clean bag improves air flow and results in better vacuuming performance. Do not wash the bag in an automatic washer. Do not use a cleaner which contains bleach. Allow the bag to dry thoroughly before storing.

SERVICE RECOMMENDATIONS

Check engine oil level regularly - WHILE THE UNIT IS IN A LEVEL POSITION. Check the oil every five hours of operation and before each usage. Stop engine and wait several minutes before checking oil level. With engine level, the oil must be even with the oil fill. Change oil after the first five hours of operation and every 25 hours thereafter. Refer to the engine manual enclosed with this unit for additional information on your engine.

USE THIS CHART TO KEEP UP WITH PROPER MAINTENANCE

The Service Recommendations Chart is supplied to assist the operator in proper maintenance of the vacuum-chipper-bagger.

SERVICE RECORD Fill in dates as you complete regular service	SCHEDULE						SERVICE DATES				
	First 5 Hours	Before Each Use	Every 25 Hours	Every 50 Hours	Begin- ning Each Season	Before Storage					
Check Fuel		✓									
Drain Fuel						✓					
Check Engine Oil Level		✓			✓						
Change Engine Oil	✓		✓								
Service Air Cleaner			✓								
Clean Engine Cylinder Fins			✓		✓						
Replace or Clean Spark Plug				✓		✓					
Spark Arrestor Muffler				✓							

STORAGE

Never store your vacuum-chipper-bagger indoors or in an enclosed, poorly ventilated area if gasoline remains in the tank. Fumes may reach an open flame, spark or pilot light from a furnace, water heater, clothes dryer, cigarette, etc.

When not in use your machine should be stored out of reach of children with the spark plug wire removed. For long periods of storage (over winter), refer to the engine manufacturer owner's manual for proper storage.

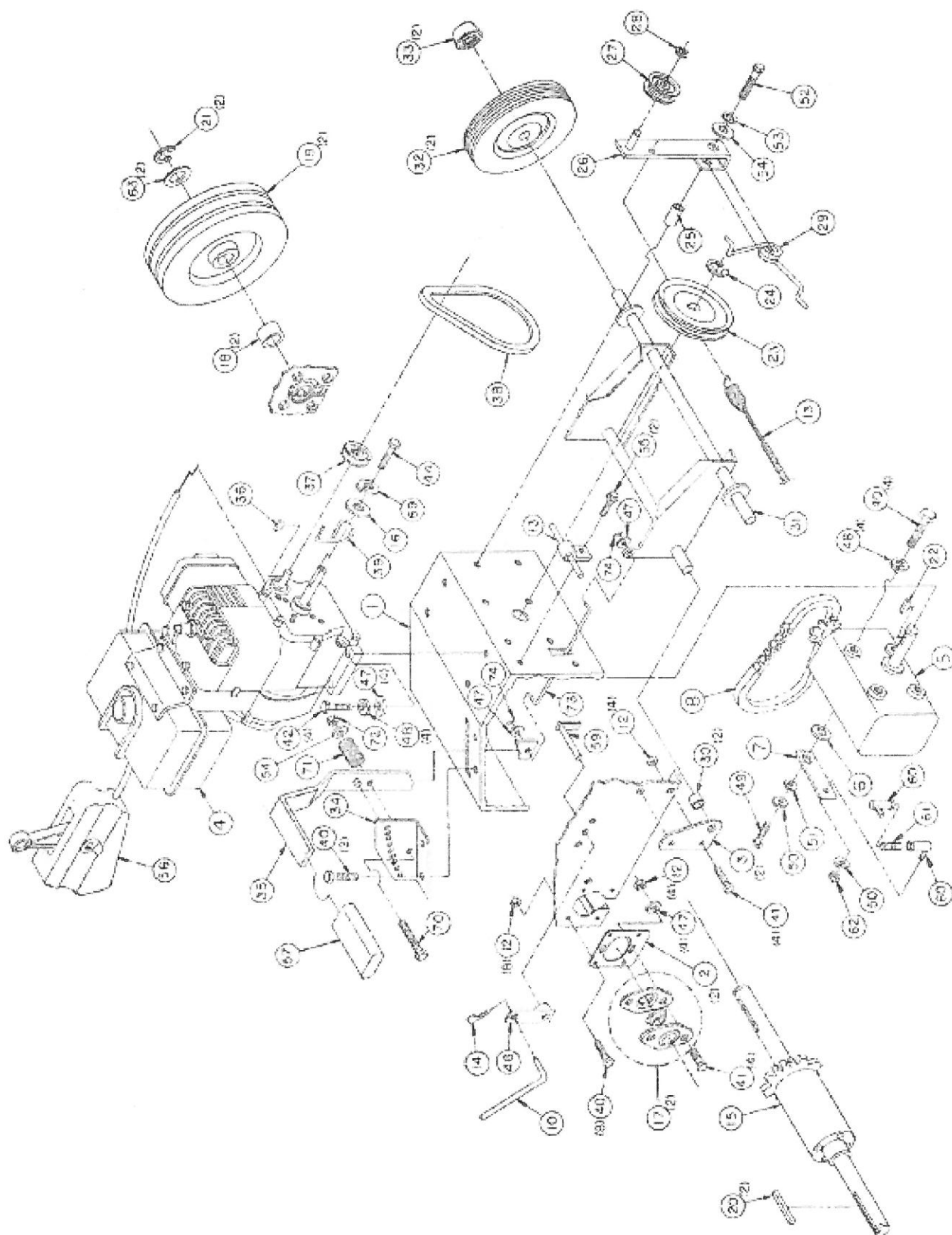
SECTION VI - TROUBLE SHOOTING

Problem	Possible Cause(s)	Corrective Action
Engine fails to start	<ul style="list-style-type: none"> Fuel tank empty. Spark plug wire disconnected. Faulty spark plug. 	<ul style="list-style-type: none"> Fill tank with clean, fresh fuel. Connect wire to spark plug. Clean, adjust gap or replace the spark plug.
Loss of power, operation erratic	<ul style="list-style-type: none"> Spark plug wire loose. Unit running on CHOKE. Blocked fuel line or stale fuel. Water or dirt in fuel system. Carburetor out of adjustment. Dirty air cleaner. 	<ul style="list-style-type: none"> Connect & tighten spark plug wire. Move choke lever to OFF position. Clean fuel line; fill tank with clean, fresh gasoline. Disconnect fuel line at carburetor to drain fuel tank. Adjust carburetor or contact your Servicing Dealer. Clean or replace air filter.
Engine overheats	<ul style="list-style-type: none"> Carburetor not adjusted properly. Engine oil level low. 	<ul style="list-style-type: none"> Adjust carburetor or contact your Servicing Dealer. Fill crankcase with proper oil.
Unit does not discharge	<ul style="list-style-type: none"> Discharge chute clogged. Foreign object lodged in impeller. 	<ul style="list-style-type: none"> Stop engine immediately and disconnect spark plug wire. Clean inside of blower housing. See MAINTENANCE section of this manual. Stop engine immediately and disconnect spark plug wire. Remove lodged object.
Too much vibration	<ul style="list-style-type: none"> Loose parts or damaged impeller assembly. 	<ul style="list-style-type: none"> Stop engine immediately and disconnect spark plug wire. Tighten all bolts & nuts. Make all necessary repairs. If vibration continues, have unit serviced by Servicing Dealer.
Chipper does not chip	<ul style="list-style-type: none"> Solid object jammed in unit Broken or missing chipper blade. Broken or missing key in rotor assembly. 	<ul style="list-style-type: none"> Check & remove any obstruction. Replace blade Replace key.
Poor chipping performance	<ul style="list-style-type: none"> Dull chipper blade. Engine not reaching full RPM. Excessively worn engine shaft bearings. Loose bolt on rotor assembly. Loose chipper blade. 	<ul style="list-style-type: none"> Sharpen or replace blade. See Engine Servicing Dealer. See Engine Servicing Dealer. Tighten bolt. Tighten mounting hardware.
Loss of vacuum	<ul style="list-style-type: none"> Vacuum snout clogged. Collection bag full. Discharge tube clogged. Processing chamber clogged. Engine not reaching full RPM. Fan blades bent or broken. 	<ul style="list-style-type: none"> Remove & clean. Remove & empty bag. Remove collection bag & clean tube. Remove vacuum snout to clean chamber. See Engine Servicing Dealer. Replace rotor.
Loss of traction	<ul style="list-style-type: none"> Drive belt loose. Stretched or broken drive belt. Wheel drive bail cable tension spring broken. Malfuction in transaxle. 	<ul style="list-style-type: none"> Adjust wheel drive bail cable. Replace belt. Reconnect spring or replace cable. See Servicing Dealer.
Gear shift lever does not shift	<ul style="list-style-type: none"> Loose gear shift lever. Broken gear shift linkage Loose transaxle shifting arm. 	<ul style="list-style-type: none"> Check connections for loose nuts and bolts. Replace linkage. Tighten screw on shifting arm.
Wheels do not stop when Wheel Drive Bail Cable is released	<ul style="list-style-type: none"> Wheel Drive Bail Cable tension spring broken, stretched, or disconnected. Drive belt mis-aligned. Wheel Drive Cable out of adjustment. Unit just "creeps". 	<ul style="list-style-type: none"> Reconnect spring or cable. Check that belt is properly aligned on pulleys. Adjust cable. Shake talcum powder on drive belt.
Product build-up in shredding chamber.	<ul style="list-style-type: none"> Vacuuming too fast. 	<ul style="list-style-type: none"> Clean out shredder housing.

VCB Main Assembly

Item No.	Part No.	Description	Qty.
2	805-0280	Engine Housing Weldment (for VCB1102E)	1
2	805-0315	Housing Spacer Weldment (for VCB1102E)	1
2	805-0353	Engine Housing Weldment	1
3	805-0270	Chipper Tube Weldment (for VCB1102E)	1
3	805-0216	Chipper Tube Weldment	1
4	804-0033	Chipper Chute Cover	1
5	804-0031	Chipper Tube Flange	1
6	090-0512	3/16 x 13/32 Rivet	4
7	090-0505	5/16-24 x 2-1/4" HHCS	3
***	805-0305	Complete Impeller Kit (Includes 8A,B,C,D)	
8A	805-0145	Shredder Plate Weldment	1
8A	805-0337	Impeller Spacer (for VCB1102E)	1
8B	030-0351	Chipper Knife	1
8C	090-0413	5/16-18 x 1" FHSCS	3
8D	090-0460	5/16-18 Nylock Nut	3
9	703-0424	1/4" x 1/4" x 2" Key	1
10	090-0228	3/8" Split Lockwasher	1
11	090-0538	3/8-24 x 2-1/2" HHCS GR8	1
12	804-0218	Inlet Housing Weldment	1
16	805-0139	Vacuum Inlet Snout Assembly	1
17	805-0213	Discharge Chute with Baffle	1
18	805-0303	Lower Housing Mounting Spacer	2
18	805-0336	Lower Spacer Tube (for VCB1102E)	2
19	090-0708	5/16-18 x 5" HHCS	2
20	805-0114	Lower Handle Weldment	1
21	805-0339	Bag Hanger Side	2
21	805-0367	Bag Hanger Top	1
22	805-0098	Upper Handle	1
23	860-0045	Handle Grip	1
24	805-0119	Bag Hanger Hook	3
25	805-0035	Bail Weldment	1
26	805-0101	Clutch Cable Assembly	1
27	805-0153-1	Shift Rod	1
28	030-0385	Throttle Control	1
29	805-0189	Collection Bag	1
30	090-0502	5/16 Fender Washer	8
31	090-0233	5/16" USS Flatwasher	4
32	090-0394	5/16" Split Lockwasher	4
33	090-0418	5/16-18 Whiz Locknut	17
34	090-0460	5/16-18 Nylock Nut	15
35	090-0067	5/16-18 x 5/8" HHCS	14
36	090-0088	5/16-18 x 1 HHCS	6
38	090-0470	1/4-20 Nylock Nut	2
40	090-0729	1/4-20 x 5" Eyebolt	1
41	090-0066	5/16-18 x 3/4" HHCS	4
42	090-0405	1/4-20 x 2-1/4" HHCS	1
43	090-0503	5/16-18 x 3/4 Self Tapping Screw	4
44	090-0453	1/4-20 Whiz Locknut	1
--	805-0326	Carabineer	2
--	805-0328	Battery Bracket (for VCB1102E)	1
--	805-0329	Positive Battery Cable (RED) (for VCB1102E)	1
--	805-0330	Negative Battery Cable (Black) (for VCB1102E)	1
--	020-0084	Ring Terminal PC16/14-1/4R (for VCB1102E)	1
--	108-0414	Battery Hold Down (for VCB1102E)	1
--	030-0244	Battery 12V 7.2 Amp (for VCB1102E)	1
--	090-0708	5/16-18 x 5" HHCS (for VCB1102E, VCB1102EM)	2

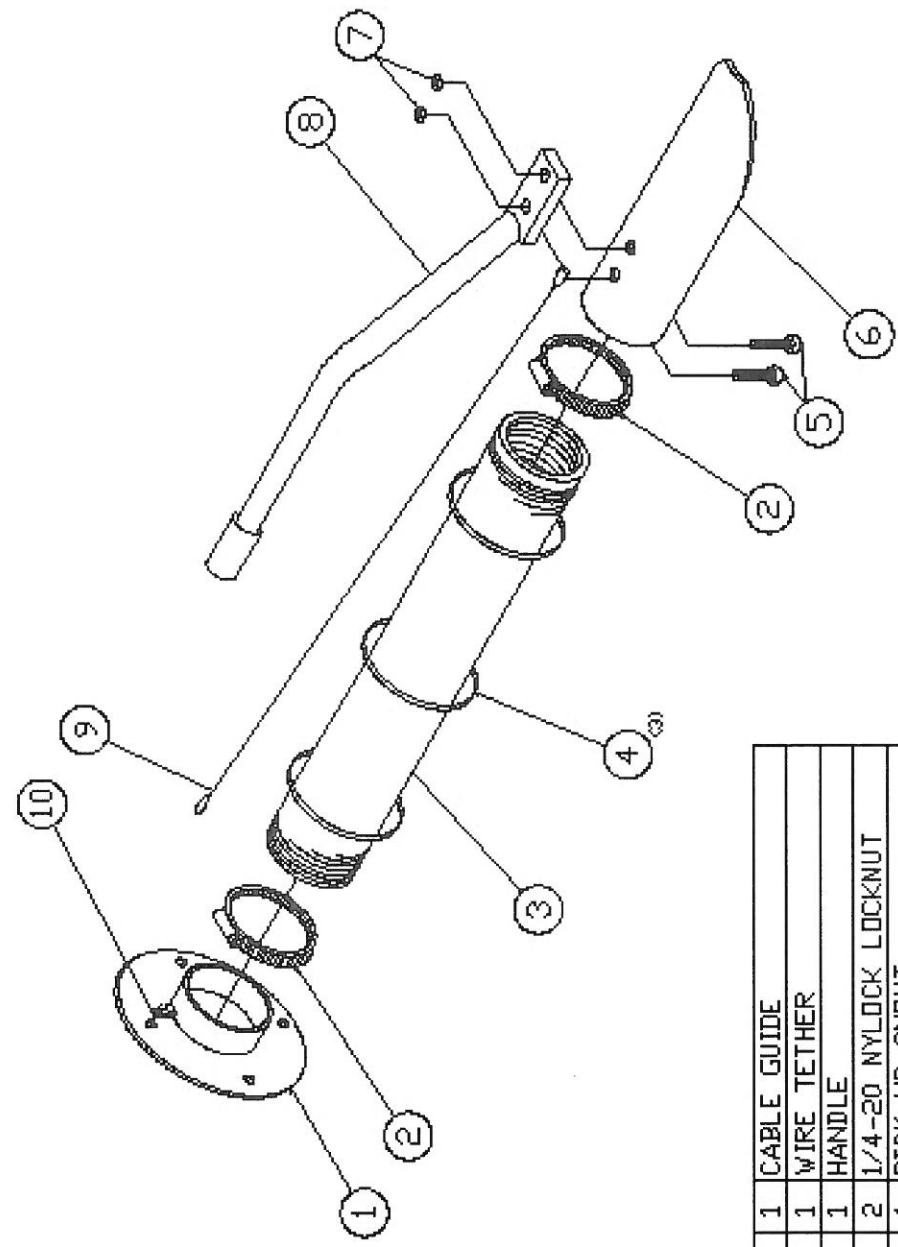
Schematic – DRIVE TRAIN ASSEMBLY



VCB Drive Train Assembly

Item No.	Part No.	Description	Qty.
1	805-0382	Engine Base Weldment	1
2	805-0383	Bearing Plate	2
3	805-0384	Pivot Mount	2
4	030-0594	B&S Electric Start Engine	1
4	030-0595	B&S Engine	1
5	805-0003	Transmission	1
6	805-0065	Shift Lever Washer	1
7	805-0154	Transmission Shift Lever	1
8	805-0061	#40 Chain .5 Pitch x 24" LG	1
10	805-0153-1	Shift Rod	1
12	090-0460	5/16-18 Nylock Nut	4
13	805-0101	Clutch Cable Assembly	1
14	100-0015	Hair Spring Cotter Pin	1
15	805-0042	Differential	1
16	090-0244	Washer - 7/16"	1
17	030-0174	3/4" Bearing - 2 Hole Flange	2
18	805-0052	Wheel Spacer	2
19	805-0006	Pneumatic Wheel (4.10/3.50-4)	2
20	703-0505	3/16" x 3/16" x 1-1/2" Shaft Key	2
21	090-0495	3/4" Dia. E-Ring Pltd	2
22	090-0493	#606 Woodruff Key (3/16" x 3/4")	1
23	030-0175	Transmission Pulley	1
24	090-0494	5/8" Dia. E-Ring Pltd	1
25	805-0023	Spacer Tube	1
26	860-0041	Idler Arm Weldment	1
27	030-0191	Idler Pulley	1
28	090-0497	3/8" Dia. E-Ring Pltd	1
29	030-0401	Torsion Spring	1
30	500-0012	Spacer	2
31	805-0391	Front Wheel Frame Weldment	1
32	701-0052	8" x 1.75" Wheel	2
33	090-0457	Push Nut Cap	2
34	805-0250	Height Adjuster Base	1
35	805-0387	Height Adjuster Handle Weldment	1
36	090-0496	#405 Woodruff Key (1/8" x 5/8")	1
37	030-0292	Engine Pulley with set screw	1
38	030-0293	V-Belt 3H330	1
39	805-0219	Belt Guide	1
40	090-0066	5/16-18 x 3/4" HHCS GR 5 Pltd.	6
41	090-0088	5/16-18 x 1" HHCS GR 5 Pltd.	6
42	090-0089	5/16-18 x 1-1/4" HHCS GR 5 Pltd.	4
44	090-0682	1/2-20 X 3/4" HHCS	1
	090-0460	5/16-18 Nylock Nut	22
46	805-0317	Long Shift Arm	1
47	090-0233	5/16" USS Flatwasher Pltd.	6
48	090-0394	5/16" Med. Split Lockwasher Pltd.	6
49	090-0427	1/4-28 x 3/4" HHCS GR 5 Pltd.	1
50	090-0378	1/4" Med. Split Lockwasher Pltd.	1
51	090-0232	1/4" USS Flatwasher Pltd.	1
52	090-0113	3/8-16 x 1 3/4" HHCS GR 5 Pltd.	1
53	090-0228	3/8" Med. Split Lockwasher Pltd.	1
54	090-0234	3/8" Flatwasher Pltd.	2
55	090-0504	#10-24 x 1/2" LG Hex Washer Head	2
56	030-0385	Throttle Control	1
57	500-0045	Height Adjuster Grip	1
59	805-0160	Inner Shift Weldment	1
60	090-0264	Ball Joint	2
61	805-0182	Linkage Arm	1
62	090-0265	1/4"-28 Hex Nut	2
63	090-0517	Shim - Rear Axle	2
69	090-0351	1/2" Split Lockwasher	1
70	090-0115	3/8-16 x 2-1/2" HHCS	1
71	712-0069	Spring	1
72	090-0461	3/8-16 Nylock Nut	1
73	805-0385	Height Adjust Linkage	1
74	090-0656	Hair Pin	2
---	805-0121	Bottom Cover	1

OPTIONAL VAC KIT



NO.	PART #	QTY	DESCRIPTION
10	706-2243	1	CABLE GUIDE
9	704-0197	1	WIRE TETHER
8	804-0078	1	HANDLE
7	090-0470	2	1/4-20 NYLOCK LOCKNUT
6	704-0117	1	PICK-UP SNOUT
5	090-0179	2	1/4-20x3/4" RD HD MACH SCW
4	900-0074A	3	32" CABLE TIE
3	32027	1	6" DIA HOSE X 8"
2	32412	2	6-1/8" HOSE CLAMP
1	704-0165	1	VAC ADAPTER

MacKISSIC, Inc. Parker Ford, PA			
VACUUM KIT			
REV	1/28	1/4	02/03
1	2	3	4

NOTES

LIMITED WARRANTY

Any product manufactured by MacKissic, Inc. and found, in the judgment of MacKissic, Inc. to be defective in material or workmanship, will be repaired or replaced by an Authorized MacKissic Service Dealer without charge for parts and labor to the original owner of the MacKissic product.

The MacKissic product including any defective part must be returned to an Authorized MacKissic Service Dealer within the warranty period. The expense of delivering the product to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be borne by the owner. MacKissic's responsibility is limited to making the required repairs or replacements only. No claim of breach of warranty shall be cause for cancellation or rescission of the sales contract of any MacKissic product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an Authorized MacKissic Service Dealer.

This warranty is limited to two years from the date of original retail purchase for any MacKissic product that is used for consumer purposes or 90 days for commercial and rental use.

This warranty does not cover any product that has been subject to misuse, abuse, neglect, negligence, or accident, or that has been operated in any way contrary to or inconsistent with the operating instructions as specified in the owner's manual. The warranty does not apply to any damage to the product that is the result of improper maintenance or to any product or parts that have not been assembled or installed as specified in the owner's manual.

The warranty does not cover any product that has been altered or modified. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the judgment of MacKissic, Inc. are either incompatible with the MacKissic product or adversely affect its operation, performance or durability. This warranty does not cover engines, electric starters, batteries, tires, and debris bags which are warranted separately by their manufacturer and for a different period of time.

MacKissic, Inc. reserves the right to change the design of any product without assuming any obligation to modify any product previously manufactured.

THE DURATION OF THE LIMITED WARRANTY IS TWO YEARS CONSUMER, 90 DAYS COMMERCIAL AND RENTAL USE. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. MACKISSIC, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EXCEPT THE LIMITED WARRANTY DESCRIBED ABOVE, ALL IMPLIED WARRANTIES (MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE SPECIFICALLY DISCLAIMED.

MACKISSIC, INC. ASSUMES NO RESPONSIBILITY FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, EXPENSE FOR GASOLINE, OIL, EXPENSE OF DELIVERING THE PRODUCT TO AN AUTHORIZED MACKISSIC SERVICE DEALER AND EXPENSE OF RETURNING IT BACK TO THE OWNER, MECHANIC'S TRAVEL TIME, TELEPHONE OR TELEGRAM CHARGES, RENTAL OF A LIKE PRODUCT DURING THE TIME WARRANTY REPAIRS ARE BEING PERFORMED, TRAVEL, LOSS OR DAMAGE TO PERSONAL PROPERTY, LOSS OF REVENUE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME OR INCONVENIENCE.

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

04/25/2019