

**Operator's Manual**  
**Scarifying Machine**  
**CSC200 Series**  
**CSC250 Series**



## **Foreword**

This manual contains important instructions for this machine. These instructions must be followed during installation, operation, and maintenance of the machines.

This manual provides information and procedures to safely operate. For your own safety and to reduce the risk of injury, carefully read, understand, and observe all instructions described in this manual.

We reserves the right to change any of the contents in this manual without notice.

## **Warranty**

Our products are covered by warranty for a period of twelve (12) months from the date of purchase against defects in material or workmanship provided that:

- The product concerned has been operated and maintained in accordance with the operating instructions.
- Has not been damaged by accident, misuse or abuse.
- Has not been tampered with or repaired by any unauthorized person.

Any evidence of failure to meet these conditions may result in a denial of the warranty claim.

The owner is responsible for the cost of transportation to and from the authorized repairer and the unit is at the owners risk while in transit to and from the repairer.

Impact damage is not covered under warranty. Clutches are not covered under any warranty.

Engines are officially guaranteed by engine manufacturer. Please refer to the annex for engine warranty.

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# 1. SAFETY INFORMATION

## 1.1 Operating Safety

- Only trained personnel are permitted to start, operate, and shut down the machine. They have received instruction on how to properly use the machine and are familiar with required safety devices.
- Read, understand, and follow procedures in the Operator's Manual before attempting to operate the machine.
- The machine must not be accessed or operated by children and people impaired by alcohol or drugs.
- NEVER operate this machine in application for which it is not intended.
- NEVER operate the machine with the belt guard missing. Exposed drive belt and pulleys create potentially dangerous hazards that can cause serious injuries.
- NEVER allow anyone to operate this equipment without proper training. People operating this equipment must be familiar with the risks and hazards associated with it.
- Do not operate the machine with unapproved accessories or attachments.
- Do not allow anyone to stand or lean on the unit during operation.
- Do not run the machine indoors or in an enclosed area such as a deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Engine exhaust contains carbon monoxide. This is a poison you cannot see or smell. Exposure to carbon monoxide can cause loss of consciousness and CAN KILL YOU IN MINUTES.
- Do not touch the engine or muffler while the engine is on or immediately after it has been turned off. These areas get hot and may cause burns.
- ALWAYS Keep the safety stop switch system in adjustment and good operating condition at all times. Do not operate the trowel if it does not work properly. Out of control Trowels can cause serious personal injury and damage to fresh concrete surfaces. This system will automatically stop the unit if the operator loses control of it during operation.
- ALWAYS make sure the safety stop switch is disengaged (lever in the down position) before starting the unit. Keep one hand firmly on the handle while starting and do not let go of the handle during operation.
- ALWAYS wear protective clothing, safety glasses, hearing protection, safety-toed footwear to the job site while operating the machine.
- ALWAYS close fuel valve on engines equipped with one when machine is not being operated.
- ALWAYS store the machine properly when it is not being used. The machine should be stored in a clean, dry location out of the reach of children.

## 1.2 Operator Safety while using Internal Combustion Engines

- Do not smoke when refueling the engine or during any other fuel handling operation.
- Do not run the engine near sparks or open flames.
- Do not start the engine if fuel has spilled or a fuel odor is present. Move the machine away from the spill and wipe the machine dry before starting.
- Do not refuel a hot or running engine.
- Do not refuel the engine near sparks or open flames.
- Do not spill fuel when refueling the engine.
- Do not touch the engine or muffler while the engine is on or immediately after it has been turned off. These areas get hot and may cause burns.
- If fuel is spilled during refueling, wipe it off from the engine immediately and discard the rag in a safe place. Do not operate the unit if fuel or oil leaks exist-repair immediately.
- NEVER operate this equipment in an explosive atmosphere.
- NEVER operate any gas powered equipment in a poorly ventilated or enclosed area.
- NEVER perform any work on the unit while it is running. Before working on it, stop the engine and disconnect the spark plug wire to prevent accidental starting.
- Avoid prolonged breathing of exhaust gases. You may be hurt by harmful exhausted gases.
- Avoid contact with hot exhaust systems and engine parts.
- Allow engine to cool before performing any repairs or service.
- ALWAYS transport and handle fuel only when contained in approved safety containers.
- ALWAYS keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.

## 1.3 Service Safety

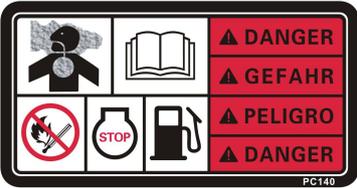
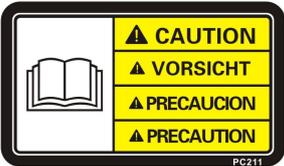
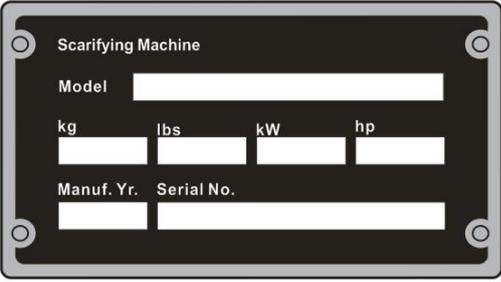
- Read and understand the instructions contained in the manual delivered with the machine before servicing or maintaining
- Familiarize yourself with the location and proper use of all controls and safety devices before servicing or maintaining.
- Contact local dealer for additional training if necessary.
- Do not allow improperly trained people to service or maintain the machine. Personnel servicing or maintaining the machine must be familiar with the associated potential risks and hazards.
- Do not attempt to clean or service the machine while it is running. Rotating parts can cause severe injury.
- Do not remove blades while the machine is hanging overhead.
- Disconnect the spark plug on machines equipped with gasoline engines, before servicing, to avoid accidental start-up.
- When replacement parts are required for this machine, use only our replacement parts or those parts equivalent to the original in all types of specifications, such as physical dimensions, type, strength, and material.

## 1.4 Label Location



## 1.5 Label Meanings

Our machines use international pictorial labels where needed. These labels are described below:

Label	Meaning
	<p><b>DANGER!</b> Engines emit carbon monoxide; operate only in well-ventilated area. Read the Operator's Manual for machine information. No sparks, flames, or burning objects near the machine. Shut off the engine before refueling. Use only clean, filtered unleaded gasoline.</p>
	<p><b>CAUTION!</b> Read and understand the supplied Operator's Manual before operating the machine. Failure to do so increase the risk of injury to yourself or others.</p>
	<p><b>WARNING!</b> Always wear hearing and eye protection when operating this machine.</p>
	<p><b>WARNING!</b> Hand injury if caught in moving belt. Always replace belt guard.</p>
	<p><b>WARNING!</b> Hot surface!</p>
	<p>A nameplate listing the model number and serial number is attached to each unit. Please record the information found on this plate so it will be available if the nameplate is lost or damaged. When requesting service information, the serial number should be specified of the unit.</p>

## 2. OPERATION

### 2.1 Cutter Cage Removal and Cutter Change

#### A. To remove the cutter cage from the machine:

1. Make sure that the power source is disconnected. With gas models turn off fuel supply to engine and disconnect spark plug.
2. Tilt machine onto the handle. (If your unit is equipped with a Honda GX engine, unit must be tilted forward to change cutter or cylinders will be flooded with oil. This will prevent starting).
3. Facing the underside of the machine housing place a bar between the cutter rods to jam cage.
4. Insert a drift pin into the hole on the main shaft and pull towards you until loose (if equipped with a Honda GX engine, drift pin will be pushed away from you to loosen main shaft). Remove drift pin and turn shaft out by hand. Remove shaft.

#### B. Changing Cutters/Shafts

Once the cage has been removed use Allen Key and open end wrench, remove screws from cover plate and remove from cage. With drift pin, tap rods (or, if changing cutters on edger cage) from the drive side until free of cage. Replace cutters or shafts as required. Replace cover plate. To re-install cutter cage in machine, reverse procedure for removal. Ensure that shaft is tight.

#### C. Removing cage for Hand Held Models

Remove thumbscrews from cover plate, remove cover. Using chuck wrench insert in slot of matching spline of drive unit to hold cage assembly. Insert pin wrench in matching holes of cage assembly. Holding both wrenches at the same time, turn pin wrench counter clockwise until cage is free.

#### D. Changing Cutters-Hand-Held Unit

Remove cage shaft plate by removing screws. Using drift pin, tap out rods until free of cage. Replace cutters or shafts as required. Reposition rods and cover plate and re-install cage in unit by reversing procedure for removal.

### 2.2 Starting Procedure

#### Gas Operated

**Important:** Set the machine in an upright position and adjust the cutter cage to maximum height by turning the height adjustment knob to its farthest position. (This will ensure clearance for the rotating cage).

Open the fuel valve on gas tank. Place throttle lever at fast idle position. Set the choke to closed position. Start engine, open choke to prevent flooding. Move throttle control to open or run position when engine is warmed up. Increase throttle control to maximum operating position (3600r.p.m.), close choke. Stop engine after two (2) minutes. Re-start engine.

### 2.3 To Stop Engines

With machine in upright position, adjust the cutter cage to maximum height by turning the height adjustment knob to its farthest position. (This ensures clearance for the rotating cage).

GAS UNIT- Stop engine by depressing kill switch button located at top of handle.

### 3 MAINTENANCE

#### 3.1 Periodic Maintenance Schedule

The machine is generally run in very dusty conditions. Engine life will be extended by maintaining a clean engine and using a DUST CONTROL UNIT. Keep the air filter clean at all times. Wash the element in a non-oil based solvent. Squeeze out any residue and allow filter to dry before re-installing in the air cleaner.

Lubrication: Use proper engine oil as recommended by manufacturer. Deep engine oil clean, change as required. Maintain crankcase levels as recommended in engine manual.

Spark plug: Check and clean spark plugs regularly. A fouled, dirty or carboned spark plug causes difficulty in starting and poor engine performance; set spark plug gap to recommended clearance in engine manual.

Drive Shaft: Keep a coating of grease on the drive shaft and threads for easy installation or removal and longer bushing life.

Spot Checks: Perform as required. Machine should be inspected with ignition in "off" position or power cord disconnected. Do not perform inspections while machine is running.

- Check all fasteners for tightness- machine is subject to vibration.
- Check "V" belt for wear; adjust or replace as required.
- Check that wheels are clean and rotating freely.
- Check that inside of housing is clean; remove any build-up as required.
- Check that pulleys are aligned properly to ensure that "V" belt is running true (i.e. not at an angle).

#### 3.2 Bearing Replacement Procedures

Important: disengage power supply. Do not attempt replacement while machine is operable.

Sealed Bearing Replacement – Outboard Side: Remove drive shaft and cutter cage assembly as per cutter change procedure. Remove snap ring and bearing shield from inside housing. Loosen and remove bearing block flange by removing screws and lockwashers. Using a soft drift, drive out bearing sleeve. Remove old bearing and clean parts which will be re-used. Carefully press new bearings into flange. Clean and install bearing cover plate taking care to seat the plate flush. Re-install bearing sleeve. Take extreme care to maintain aligned installation. Do not press sleeve into position if misaligned. Mount bearing block to side of housing but do not tighten. From inside housing install bearing shield and snap ring. Center block on the housing taking care that shield does not bind on bearing sleeve. Tighten bolts when bearing block is in a free spin position.

Bearing Replacement – Drive or "V" Belt side: Remove belt guard and "V" belt. Loosen set screws, remove key and remove pulley. Remove bearing block assembly by removing screws and lockwashers. Remove snap ring and slip ring. Using a soft drift, drive out spindle. Take care not to burr or flare spindle. Remove cover plate and bearing. Carefully press new bearing into block, clean and install bearing cover plate being certain the plate fits flush. Press drive spindle into block. Install slip ring and snap ring. Center and install spindle assembly to housing. Re-install pulley and key. Ensure pulley butts flush against shoulder or spindle. Note: When removing spindle or sleeve, care must be taken not to damage or distort these parts a soft drift is recommended to prevent damage.

### 3.3 Storage

The following steps should be taken to prepare your gas unit for extended storage:

- a. Close shutoff valve.
- b. Siphon excess fuel from storage tank.
- c. Start engine and run until it stalls due to lack of fuel. This will consume all the fuel in the carburetor and prevent formation of deposits due to evaporating fuel.
- d. Remove spark plug and pour two ounces of SAE 30 or SAE 40 motor oil into cylinder. Slowly crank the engine two or three times to distribute the oil throughout the cylinder. This will prevent rust during storage. Replace spark plug. Store the unit in an upright position in a cool, dry, and well ventilated area.

To start your engine after prolonged storage

- a. Refuel
- b. Open shutoff valve
- c. Start engine. Any excess oil residue will quickly burn off without harming operation

### 3.4 Transportation

1. Always shut off engine when transporting machine.
2. Built-in wheel is used for short distance transportation.

### 3.5 Trouble Shooting

PROBLEM	CAUSE	SOLUTION
Engine won't start	<ul style="list-style-type: none"> <li>● no fuel</li> <li>● engine switch off</li> <li>● kill switch grounded</li> <li>● gas in air filter or carburetor</li> </ul>	<ul style="list-style-type: none"> <li>● refuel</li> <li>● remove air filter cover, crank engine</li> <li>● refer to engine manual</li> </ul>
Cutters wearing unevenly	<ul style="list-style-type: none"> <li>● cage too low</li> <li>● wrong setup</li> <li>● material buildup</li> <li>● cutters too tight</li> </ul>	<ul style="list-style-type: none"> <li>● raise cage</li> <li>● see applications guide</li> <li>● clean or change cutters</li> <li>● remove one or more cutters</li> </ul>
Drive shaft backs out while running	<ul style="list-style-type: none"> <li>● no grease on threads</li> </ul>	<ul style="list-style-type: none"> <li>● grease threads</li> <li>● not tightened properly</li> </ul>
Machine jumps on floor	<ul style="list-style-type: none"> <li>● cage lowered too far</li> <li>● R.P.M. too low</li> </ul>	<ul style="list-style-type: none"> <li>● adjust height knob</li> <li>● reset throttle</li> </ul>
"V" belt wearing rapidly	<ul style="list-style-type: none"> <li>● pulley misaligned</li> <li>● wrong belt</li> <li>● belt rubbing on surface</li> </ul>	<ul style="list-style-type: none"> <li>● adjust pulley</li> <li>● replace</li> <li>● adjust height of machine</li> </ul>
Uneven cut	<ul style="list-style-type: none"> <li>● wear on I.D. of front wheels</li> <li>● wear on front axle</li> </ul>	<ul style="list-style-type: none"> <li>● replace wheels</li> <li>● replace axle</li> </ul>

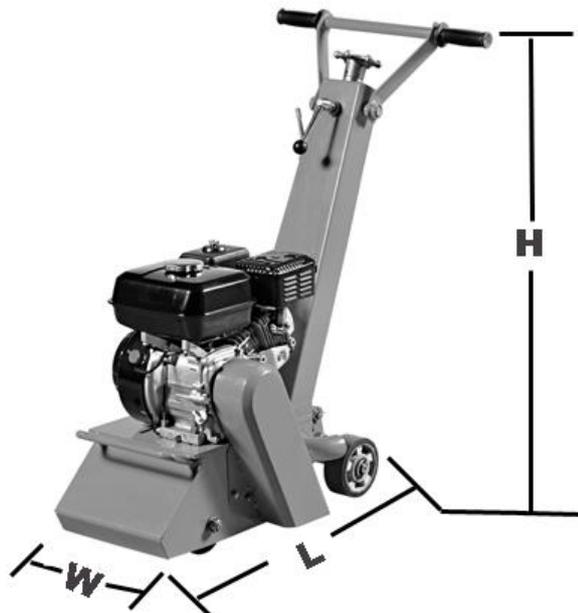
## 4. TECHNICAL DATA

### 4.1 Technical Specification

Model		CSC200-2	CSC200-3	CSC200-4
Engine type		Chinese Petrol Engine	Robin EX17	Honda GX160
Power	kw(hp)	4.0(5.5)	4.2(5.7)	4.0(5.5)
Operating weight	kg(lb)	109(240)	109(240)	109(240)
Working Width	mm(in)	200(8)		

Model		CSC250-2	CSC250-3	CSC250-4
Engine type		Chinese Petrol Engine	Robin EX27	Honda GX270
Power	kw(hp)	6.6(9.0)	6.6(9.0)	6.6(9.0)
Operating weight	kg(lb)	136(299)	132(290)	132(290)
Working Width	mm(in)	250(10)		

### 4.2 Dimension



Model	L (mm)	W(mm)	H(mm)
CSC200 Series	820	490	810
CSC250 Series	910	470	880

Version: 201602-02