



CH2500 CHOPPER COMBINE 2001 REPAIR MANUAL

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CAMECO® CH2500 CHOPPER COMBINE

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CAMECO

CH2500 Chopper Harvester



INTRODUCTION

Read this manual carefully to learn how to correctly operate and service your harvester. Failure to do so could result in personal injury or equipment damage.

This manual should be considered a permanent part of your machine and should remain with the harvester.

Measurements in this manual are given in both customary US units and metric equivalents. Use only specified replacement parts and fasteners. Inch and metric fasteners require a specific inch or metric wrench or socket.

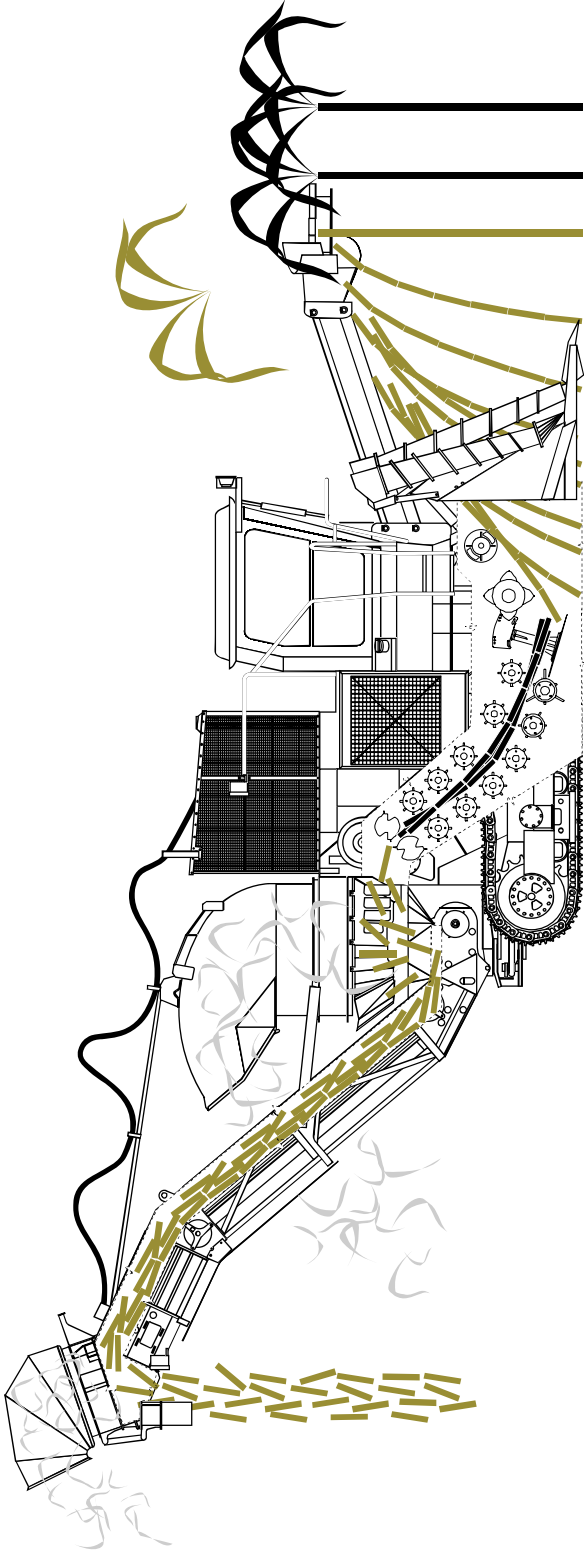
Right-hand and left-hand sides are determined by facing in the direction of forward travel.

All information, illustrations, specifications, and recommendations in this manual are based on the latest information available at the time of publication. CAMECO reserves the right to make changes at any time without notice or obligation.

Write the product serial number in a secure place away from the harvester. An appropriate place would be in the parts manual since it is recommended to have your serial number available when ordering parts. This number will also aid in tracing the harvester in the event that it is stolen.

Carefully read all safety messages in this manual and on your harvester. Precautionary statements like CAUTION and IMPORTANT are followed by specific instructions for personal and machine safety. Please take time to read them.

INTRODUCING THE HARVESTER



Sugar Cane Flow

The gathering discs, located on each side of the topper, gather the cane tops and feed them to the topper severing disc, located in the center of the topper. The crop dividers then separate the rows of down or tangled cane. The knockdown roller pushes the cane forward and down into the fin roller which separates and feeds the cane to the basecutter. The basecutter cuts the bottom of the stalk. The buttlifter roller then sends the cane up into the feed rollers, which regulate the cane's speed and gives the size (billet length) that is cut next by the choppers. The choppers cut clean, even billets by pinching the cane between two opposing blades and drops them into the elevator basket. From there, the billets are delivered to the elevator. Meanwhile, the primary extractor fan draws trash, leaves and dirt from the cane and directs it onto the ground behind the harvester. The elevator system delivers the cane to a container system either to the rear, left or right sides of the harvester. As the cane falls from the end of the elevator into the transport, the remaining loose material is removed by the secondary extractor fan in the final stage of the process. This trash is directed away from the transport and harvester by the rotating secondary extractor hood.



INTRODUCING THE HARVESTER

Topper

Severs the top leaves from the cane.



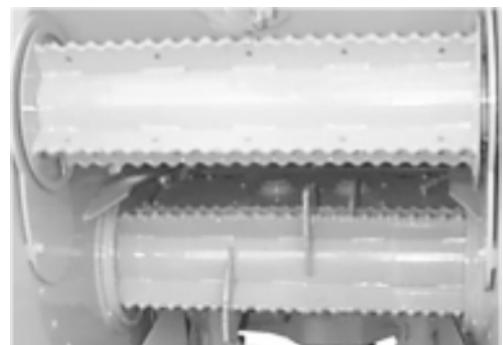
Crop Divider

Separates rows of down or tangled cane. It uses dual croplift scrolls that turn in a screwing motion to pick-up the down cane and separates it from the next row.



Power Knockdown Roller

Pushes cane into optimal position for feeding. Also helps in feeding heavily lodged cane into the throat and to prevent the cane from getting hung-up on the front of the harvester.

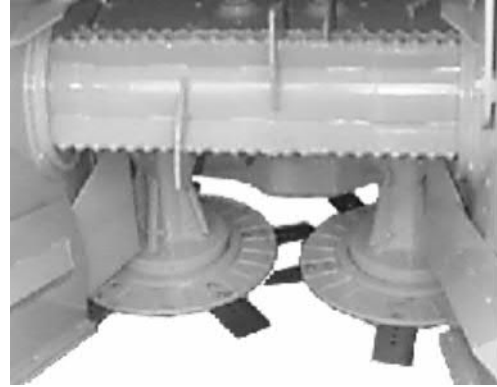




INTRODUCING THE HARVESTER

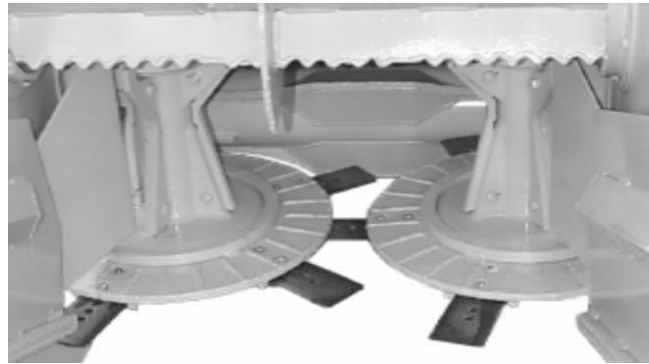
Fin Roller

Feeds cane into the basecutter.



Basecutter

Cuts the cane at ground level. Directs the cane flow upward into the feedrollers with the help of the buttlifter.



Feed Roller

Carry the cane from the basecutter to the chopper.





INTRODUCING THE HARVESTER

Basket

Collects cane from chopper and transports it to the elevator system



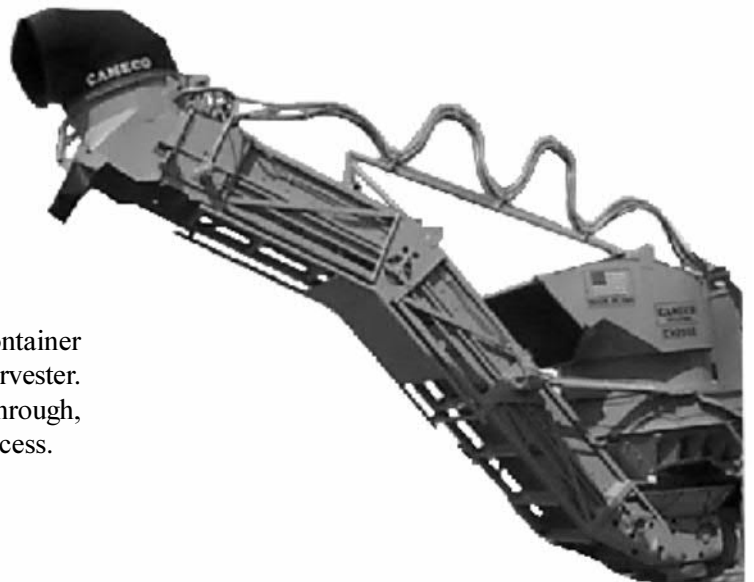
Primary Extractor

Separates leaves, trash and dirt from cane.



Elevator

The elevator system delivers cane to a container system either to the rear, left or right sides of the harvester. The perforated floor allows loose material to fall through, which is an additional feature of the cleaning process.





INTRODUCING THE HARVESTER

Secondary Extractor

Removes any leftover debris.





SECTION 1

SAFETY RECOMMENDATIONS

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Safety and You

We at CAMECO are very concerned for your safety when you are operating or servicing your combine. With this in mind, the following section should be read and studied by you. Hopefully you will take every precaution seriously and use good “old-fashioned” common sense before attempting to use or service your combine.

Of course, CAMECO cannot anticipate every possible circumstance that might involve a potential hazard. The warnings that we provide are, therefore, not all-inclusive. If a procedure, tool, or work method not specifically recommended by CAMECO is used, you must satisfy yourself that it is safe for you and others and also that the machine will not be damaged or made unsafe by the procedures that you choose.

Operation Safety

The following is a list of safe operation procedures that you should practice at all times:

1. Be sure to read the operator’s manual and all safety precautions before starting the combine.
2. Dress for the job. Any loose clothing, jewelry (especially rings), belts, or scarves will present a definite safety hazard.
3. When either stopping or starting the machine, make sure the area is clear of personnel.
4. Before leaving the machine unattended, lower all implements to the lowest position.
5. *Do Not* allow riders or any passenger on the machine when it is in operation.
6. Keep a fully charged fire extinguisher on or near the operator’s station. It must be easily accessible when needed. Know how to operate it.
7. Keep a fully stocked first aid kit on the operator’s station. Know basic first aid.
8. Keep the operation area free of all loose objects such as tools, lunch kits, soft drink cans, etc.
9. Never allow an open flame within 3.05 M (10 feet) of the combine.
10. Be sure that all shields, guards, and safety equipment are in their proper place and in good condition.

11. The symbol below identifies all important safety messages on your combine. When you see this symbol, be alert to the possibility of personal injury. Carefully read any message following this symbol.



12. Use step and grab handles when mounting or dismounting the combine. Clean all mud or debris from steps, walkways, and work areas. Always face the equipment when using its steps or ladder.
13. Maintain your CAMECO equipment as if your life depends on it—It does. Improper lubrication and maintenance can be dangerous and could result in injury or death.
14. Before climbing on machine, ensure that no one else is working in or on machine.
15. Ensure that all operators are taught to blow the horn several times and wait a few seconds before starting the machine.
16. Ensure that any reasons (family members or workers) know that when the horn blows, the machine is about to be started and to move away as soon possible.

SAFETY RECOMMENDATIONS



Service Safety

When a service person or mechanic is unfamiliar with all systems on this combine, extra caution should be used when performing service work. A good working knowledge of the system and its components is important for removal or disassembly. The following is a list of basic precautions that should always be observed.

1. Make sure that you read and understand all warning plates and decals before lubricating or performing other maintenance.
2. Always wear protective glasses and footwear when working. In particular, wear safety glasses when pounding on any part of the machine or attachments with a hammer. Use protective clothing when welding. *Do Not* wear any loose fitting or torn clothing. Remove all rings from fingers before working on equipment.
3. Before starting work on the machine, disconnect battery and hang this *DO NOT START* sign in the operator's station.



IMPORTANT:

- Before climbing on machine, ensure that no one is working in or on it.
- Ensure that all operators blow the horn several times before starting the machine.
- Ensure that any persons near the machine know that when the horn blows, the machine is about to be started, and to move away as soon as possible.

Use the following Lock-Out Tag-Out Procedure:

- A. Parking Procedure
 - a. Lower topper.
 - b. Lower crop dividers.
 - c. Lower elevator.
 - d. Before stopping engine that has been operating at working load, idle at least one minute to cool turbocharger.
 - B. Install safety stops on basecutter. Note: In the event the engine cannot run, block the basecutter lift cylinder with 2" x 2" x 1/4" x by the length of the angle-iron required.
 - C. In the event you cannot lower the topper, crop divider or elevator, block cylinders to stop all movement with 2" x 2" x 1/4" x by the length of the angle-iron required.
 - D. Stop engine, remove ignition key, remove battery disconnect key, remove negative battery cables from battery and install lock out device lock and tag. Also install tag on steering wheel or track control.
 - E. Before beginning any hydraulic repairs you must first relieve pressure from main hydraulic tank then close the 1 1/2 vertical block valve located on the right tank on the left side of the combine.
 - F. In the event repairs need to be made to the basecutter lift or topper lift, the hydraulic pressure should be bled off of the accumulator by lowering the basecutter or topper.
4. If at all possible, make all repairs with the machine parked on level ground. Block the machine so it cannot roll. *Do Not* work on any machine that is supported only by lift jacks or a hoist.
 5. Relieve all pressure in air, oil, or water systems before any lines, fittings, or related parts are disconnected or removed. Always make sure that all raised components and implements are correctly blocked. Be alert for possible pressure when disconnecting any device from a system that utilizes pressure.
 6. Lower all implements to the ground prior to working on the machine. If this cannot be done, make sure the implement is properly blocked to prevent it from dropping unexpectedly.

SAFETY RECOMMENDATIONS



7. To avoid back injuries, use a hoist when lifting components that weigh over 23 kg (50 lb). When using a hoist, make sure all hooks are correctly positioned.
8. To avoid burns, be alert for hot parts located on the machine after it has stopped. Be particularly careful of hot fluids in lines, tubes, and components.
9. Be careful when removing cover plates. Gradually loosen the last two bolts or nuts located at the opposite ends of the cover or device. Carefully pry the cover loose to relieve any spring or other tension before removing it completely.
10. Be careful when removing filler caps, breathers, or plugs on the machine. Hold a rag over the cap or plug to prevent being sprayed or splashed by fluids under pressure.
11. Always use tools that are in good condition. Before performing any service, make sure you know how to use the proper tools.
12. Replace all fasteners with the same SAE or metric grade. Never substitute a softer part where a hardened part is used, conversely never substitute a harder part where a softer part is used.
13. Take precautions to prevent damage to wiring during removal. After reinstalling the wiring, double check to make sure it is was not damaged during removal or installation. Ensure that the wiring does not touch any hot, sharp, or moving parts after it is installed.
14. Ensure that all protective devices and guards are properly installed and are functioning correctly before starting any repairs. If a guard or shield must be removed to perform repair work, use extra caution while working.
15. Escaping fluid under pressure can have sufficient force to penetrate the skin. Therefore, before disconnecting any lines, be sure all pressure in the system is relieved. Before applying pressure, make sure all lines, fittings, and connections are tight and undamaged.

▲ CAUTION ▲

Liquid escaping from a very small hole can be almost invisible. Use wood or cardboard, instead of your hand, when searching for suspected leaks.

16. If you are injured by escaping fluid under pressure, see a doctor at once. A serious infection or reaction may result if proper medical attention is not received immediately.
17. *Do Not* operate the combine if any rotating part is damaged or contacts any other part during operation. Any high-speed rotating component that has been damaged or altered must be checked for balance before operation.
18. Avoid working on equipment with the engine running. If it is absolutely necessary to make checks with the engine running, always use two men: one to operate the controls and the other to work where the operator can see him. The hydrostatic transmission must be in neutral, the braking system set, and all pertinent safety locks set.

Safety in Your Service Area

To maintain proper safety procedure in the service area, the following should be observed:

1. Keep the service area clean and dry. Wet or oily floors are slippery and wet spots can be dangerous when working.
2. Make sure the service area is adequately ventilated. Periodically check the shop exhaust system for leakage.
3. Be sure that all electrical outlets and tools are properly grounded.
4. Use adequate lighting for the job.
5. Be prepared if an accident or fire should occur. Know where the first aid kit and fire extinguishers are located. Know how to use both of them.