

Earthquake[®]

OPERATING INSTRUCTIONS CHIPPER/SHREDDERS

**Model No.**

9060300	8.50 Torque Rated Briggs Earthquake Chipper / Shredder
9060140	8.25 Torque Rated Briggs Earthquake Chipper / Shredder (CE)
9070300	11.50 Torque Rated Briggs Earthquake Chipper / Shredder
9010400	14.50 Torque Rated Briggs Earthquake Chipper / Shredder
9010140	14.50 Torque Rated Briggs Earthquake Chipper / Shredder (CE)
1692327	Tow Bar Kit
1692210	Vacuum Kit

Description

earthquake.com



Manual No. 1713250

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NOTE: In this manual, “left” and “right” are referred to as seen from the operating position.

Safety Rules & Information



Operating Safety

Congratulations on purchasing a superior-quality piece of lawn and garden equipment. Our products are designed and manufactured to meet or exceed all industry standards for safety.

Power equipment is only as safe as the operator. If it is misused, or not properly maintained, it can be dangerous! Remember, you are responsible for your safety and that of those around you.

Use common sense, and think through what you are doing. If you are not sure that the task you are about to perform can be safely done with the equipment you have chosen, ask a professional: contact your local authorized dealer.

Read the Manual

The operator's manual contains important safety information you need to be aware of **BEFORE** you operate your unit as well as **DURING** operation.

Safe operating techniques, an explanation of the product's features and controls, and maintenance information is included to help you get the most out of your equipment investment.

Be sure to completely read the Safety Rules and Information found on the following pages. Also completely read the Operation section.



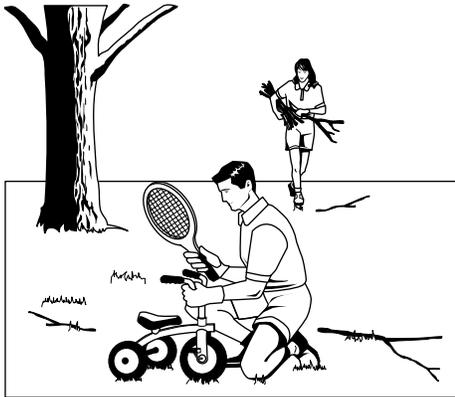
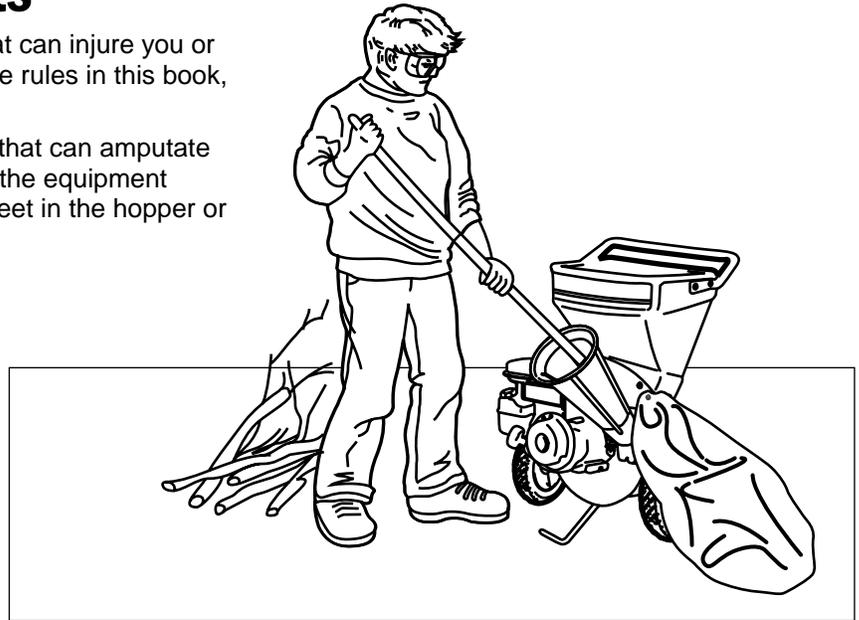
Children

Tragic accidents can occur with children. Do not allow them anywhere near the area of operation. Children are often attracted to the unit and usage activity. Never assume that children will remain where you last saw them. If there is a risk that children may enter the area where you are operating, have another responsible adult watch them.

Moving Parts

This equipment has many moving parts that can injure you or someone else. However, if you follow all the rules in this book, the unit is safe to operate.

The chipper/shredder has spinning blades that can amputate hands and feet. Do not allow anyone near the equipment while it is running! Do not place hands or feet in the hopper or chipper cone, or discharge chute.



Thrown Objects

This unit discharges debris at high speeds. Always wear protective goggles and do not operate without the debris bag in place. Also, do not allow anyone in the area while the unit is running! If someone does enter the area, shut the unit off immediately until they leave. Organize the work area prior to starting work.

Fuel and Maintenance

Gasoline is extremely flammable. Its vapors are also extremely flammable and can travel to distant ignition sources. Gasoline must only be used as a fuel, not as a solvent or cleaner. It should never be stored any place where its vapors can build up or travel to an ignition source like a pilot light. Fuel belongs in an approved, plastic, sealed gas can, or in the fuel tank with the cap securely closed. Spilled fuel needs to be cleaned up immediately.

Proper maintenance is critical to the safety and performance of your unit. Be sure to perform the maintenance procedures listed in this manual, especially periodically testing the safety system.



Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of unit, severe personal injury or death to you, or bystanders, or damage to property or equipment.

This unit is capable of amputating hands and feet and throwing objects. The triangle  in text signifies important cautions or warnings which must be followed.

PREPARATION

1. Do not operate the equipment without wearing adequate outer garments and safety goggles. Avoid loose-fitting clothes and use protective footwear that will improve footing on slippery surfaces.

TRAINING

1. Read the operating and service instructions carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the control quickly.
2. Keep the area of operation clear of all persons, particularly small children, and pets.

GENERAL OPERATION

1. Read, understand, and follow all instructions in the manual and on the unit before starting.
2. Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
3. Only allow responsible adults, who are familiar with the instructions, to operate the unit (local regulations can restrict operator age).
4. Be sure the area is clear of other people before operating. Stop the unit if anyone enters the area.
5. Never direct discharge material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator.
6. Operate the machine only in daylight or good artificial light.
7. Do not operate the unit while under the influence of alcohol or drugs.
8. Always wear eye and hearing protection when operating this unit.
9. Keep in mind the operator is responsible for accidents occurring to other people or property.
10. It is a violation of California Public Resource Code Section 4442 to use or operate the engine on or near any forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrester meeting any applicable local or state laws. Other states or federal areas may have similar laws.
11. Always operate the chipper/shredder outdoors, on a firm, level, earthen or grassy surface where the unit will be stable and stay in position. Never attempt to operate the unit on a slope, or on a wet or slippery surface where you could slip and fall toward the chipper cone or hopper openings.
12. Never operate the chipper/shredder on asphalt, concrete, or other hard surfaces as material being ejected out of the discharge chute could ricochet, causing injury to you or bystanders.
13. Always obey the size limitations for tree limbs and branches stated in the Waste Materials Guide portion of this manual.
14. Never leave the machine running unattended. Always turn off the engine, wait for the rotor to come to a complete stop, and disconnect the spark plug before leaving the area. Always move the unit to a safe storage area when not in use.
15. Always maintain secure footing and solid balance while starting or operating the chipper/shredder. Never lean directly over the machine.
16. Always stand to the side of the chipper cone when feeding tree limbs and branches into the unit, as tree limbs, branches, and harder woods may kick back while being chipped.
17. Always keep hands out of the chipper cone and shredder hopper when feeding materials. Never wrap fingers tightly around branches as you are feeding them into the unit, as a sudden inward surge could pull your hands and arms into the unit.
18. Never allow material to build up in the discharge area or shredding chamber, as this may cause new material being fed into the machine to kickback with sufficient force to injure you or other bystanders.
19. Never allow material to build up around the engine during chipper/shredder operation. This could result in a fire, or overheating of the engine.
20. Never attempt to reposition or move the chipper/shredder unit while it is running. Doing so could cause the machine to tip over, and reaching to steady the unit could result in accidental insertion of your hands into the chipper cone or shredder hopper areas.
21. Never continue to operate the machine if it starts making unusual noise or vibration. Shut the engine off immediately, allow the rotor to stop, disconnect the spark plug wire and secure the wire away from the spark plug. Inspect the unit for any signs of damage or foreign material in the chipping or shredding areas. Remove any solid material that may be preventing the unit from operating properly.
22. Never attempt to clear clogs from the chipper cone, shredder hopper or discharge chute while the unit is running. Always shut the engine off, allow the rotor to come to a complete stop, and remove the spark plug wire from the spark plug before removing excess materials.
23. Never attempt to perform any maintenance, repairs, or attachment of accessories while the unit is running. Always shut the unit off, allow the rotor to come to a complete stop, and remove the spark plug wire from the spark plug before beginning these activities.
24. Always make sure that the shredding chamber, shredder hopper, and chipper cone are empty before starting the unit after it has been idle. Attempting to start the unit with material in these areas could cause the engine starting cord to stop suddenly, injuring your hand and fingers, or toppling the unit over. Vibration is generally a warning sign of trouble.

25. Before cleaning, repairing, or inspecting, shut off the engine and make certain that all moving parts have come to a complete stop. Disconnect the spark plug wire and secure the wire away from the spark plug to prevent accidental starting.
26. Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
27. Never operate the machine without proper guards, plates, or other safety protective devices in place.
28. Use only attachments and accessories approved of by the manufacturer or the machine.
4. Never fuel the machine indoors.
5. Never store the machine or fuel container where there is an open flame, spark, or pilot light such as near a water heater or other appliance.
6. Never fill containers inside a vehicle or on a truck bed with a plastic bed liner. Always place containers on the ground away from your vehicle before filling.
7. 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.

TRANSPORTING AND STORAGE

1. Always observe safe refueling and fuel handling practices when refueling the unit after transportation or storage.
2. Never store the unit (with fuel) in an enclosed poorly ventilated structure. Fuel vapors can travel to an ignition source (such as a furnace, water heater, etc.) and cause an explosion. Fuel vapor is also toxic to humans and animals.
3. Always use the hopper handle and built-in wheels to move the chipper/shredder. Never lift the unit using the fuel tank for support. If the unit must be lifted, always use at least two people, and always grip the unit securely using the front leg and hopper handle.
4. Always follow the engine manual instructions for storage preparations before storing the unit for both short and long term periods.
5. Always follow the engine manual instructions for proper start-up procedures when returning the unit to service.
6. Never store the unit or fuel container inside where there is an open flame or pilot light, such as in a water heater. Allow unit to cool before storing.

CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the unit and the operating activity. Never assume that children will remain where you last saw them.

1. Keep children out of the work area and under the watchful care of another responsible adult.
2. Be alert and turn unit off if children enter the area.
3. Never allow children to operate the unit.

EMISSIONS

1. Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects, or other reproductive harm.
2. Look for the relevant Emissions Durability Period and Air Index information on the engine emissions label.

IGNITION SYSTEM

1. This spark ignition system complies with Canadian ICES-002.

SERVICE AND MAINTENANCE

Safe Handling of Gasoline

1. Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
2. Use only approved gasoline containers.
3. Never remove the gas cap or add fuel with the engine running. Allow the engine to cool before refueling.

Safety Decals

This unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your unit.

All DANGER, WARNING, CAUTION and instructional messages on your unit should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important! The safety decals below are on your unit.

If any of these decals are lost or damaged, replace them at once. See your local dealer for replacements.

These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.

Decal - Operating Instructions, North American Models



Decal - Operating Instructions, CE Models



Decal - Danger, Rotating Cutting Blades, North American Models

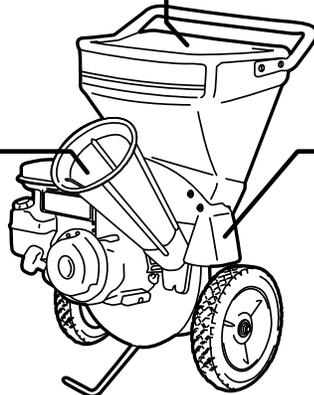


Decal - Danger, Rotating Cutting Blades, CE Models

Decal - Danger, Rotating Cutting Blades, Warning, Debris, North American Models



Decal - Danger, Thrown Objects, Do Not Operate Without Collection Bag, CE Models



Safety Icons

Warning: Read Operator's Manual.

Read and understand the Operator's Manual before using this machine.



Danger: Thrown Objects.

This machine is capable of throwing objects and debris. Keep bystanders away.



Danger: Amputation Hazard.

To avoid serious personal injury from rotating cutting blades, keep hands out of inlet while machine is running.



Danger: Thrown Objects.

This machine is capable of throwing objects and debris. Keep bystanders and children away when engine is running.



Danger: Wear Appropriate Safety Equipment.

This machine is capable of throwing objects and debris. Always wear safety goggles while operating.

This machine's operating sound power level is 109 dB(A) or more. Wear hearing protection while operating.



Danger: Do Not Place Hands in the Machine.

To avoid serious personal injury from rotating cutting blades, keep hands out of inlet while machine is running. Do not place hands in areas where this symbol is present.



Warning: Disconnect the Spark Plug Wire Before Servicing.

Disconnect the spark plug wire, and secure it away from the spark plug before servicing the unit.



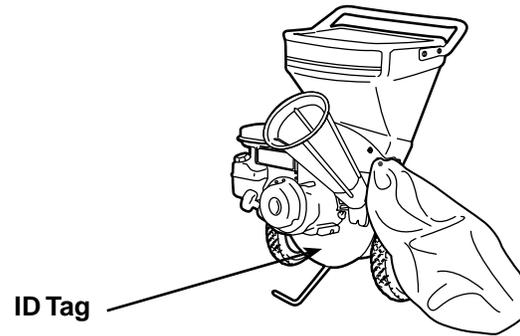
Identification Numbers

When contacting your authorized dealer for replacement parts, service, or information you **MUST** have these numbers.

Record your model name/number, manufacturer's identification numbers, and engine serial numbers in the space provided for easy access. These numbers can be found in the locations shown.

NOTE: For location of engine identification numbers, refer to the engine owner's manual.

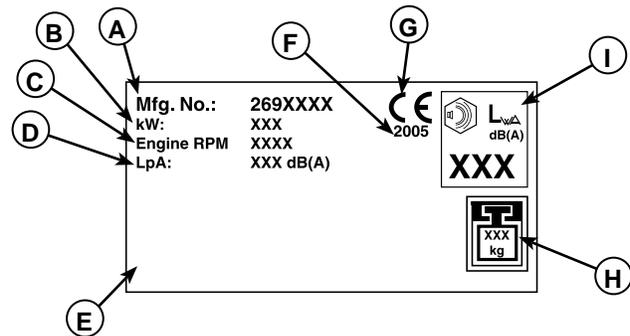
CE Models: Place the extra copy of the identification tag in the manual.



PRODUCT REFERENCE DATA	
Model Description Name/Number	
Unit PART Number	Unit SERIAL Number
Dealer Name	Date Purchased
ENGINE REFERENCE DATA	
Engine Make	Engine Model
Engine Type/Spec	Engine Code/Serial Number

CE Identification Tag Markings

- A. Manufacturer's Identification Number
- B. Power Rating in Kilowatts
- C. Maximum Engine Speed in Rotations per Minute
- D. Sound Pressure at Operator's Position in Decibels *
- E. Manufacturer's Address
- F. Year of Manufacture
- G. CE Compliance Logo
- H. Mass of Unit in Kilograms
- I. Sound Power in Decibels **



This unit complies with European Harmonized Lawn Mower Standard EN 836, European Machinery Directive 98/37/EC, and European EMC Directive 89/336/EC

* Tested according to EN836:1997/A2:2001

** Tested according to 2000/14/EC

CE Specifications

Model Number: 9060140 / 9010140

Engine Maximum RPMs: 3700

Power Rating: 4 kW

Mass: 52kg

Noise Guaranteed Sound Power (LwA): 109 dB(A)

Noise Sound Pressure Level (LpA): 96 dB(A)

Initial Assembly

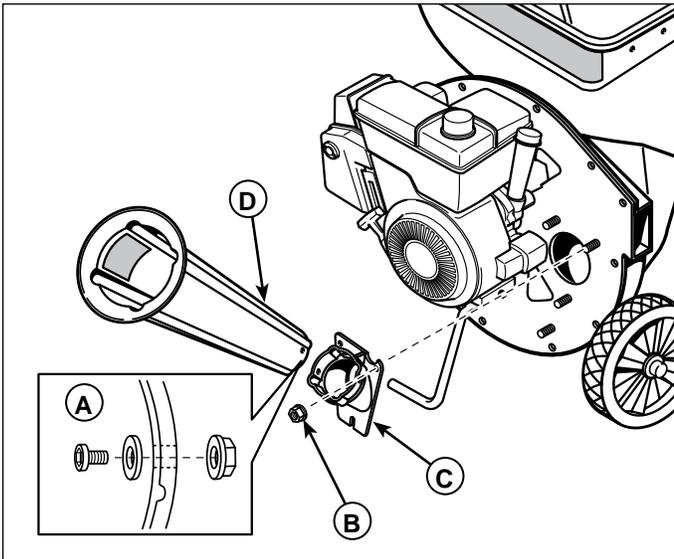


Figure 18. Installing the Chipper Cone

- A. 1/4-20 x 3/4 Screw, Washer, & Nut
- B. 5/16-18 Flange Nut
- C. Cone Base
- D. Chipper Cone

Initial Assembly

Install Chipper Cone - All Models

1. Secure the chipper cone (D, Figure 18) to the chipper cone base (C) using 1/4-20 x 3/4 screws, washers, and nuts (A).
2. Position the chipper cone base (C) over the three 5/16-18 threaded studs protruding from the engine plate, and attach using three 5/16-18 flange nuts (B).
3. Rotate cone and cone base away from engine so cone does not contact engine.
4. Tighten the flange nuts securely.

Install the Hopper - All Models

1. Remove two 1/4 locknuts and flat washers from hopper liner and set aside. Attach the hopper to the rotor housing. Make sure to engage the metal lip of the hopper liner inside the housing.
2. Secure the hopper to the rotor housing using two 5/16 x 1/2 hex head bolts, two 5/16 flat washers and hardware removed from step 1 (Figure 19). Do not tighten hardware at this time.
3. See Figure 20. From the inside of the hopper install one 5/16-18 x 3/4 hex head bolt, 5/16 lockwasher, and 5/16 flat washer into each of the upper and lower holes of the metal hopper liner. Finger tighten only at this time.

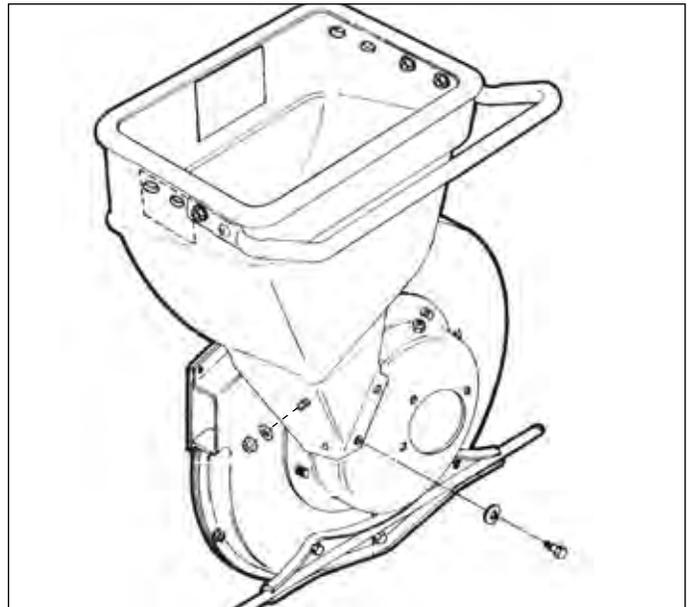


Figure 19. Attaching the Hopper

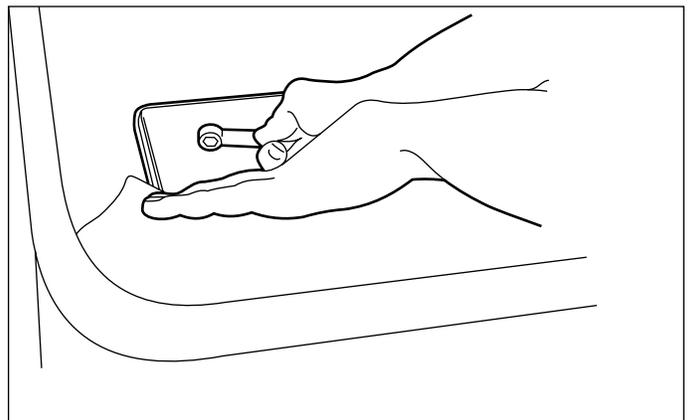


Figure 20. Installing Hardware Inside the Hopper

4. Check that the hopper is seated correctly and tighten all hardware.

Install the Handle - All Models

1. Lift the hopper handle up until the outer holes in the handle align with the holes in the shredder hopper and secure with 1/4-20 x 3/4 screws, washers, and nuts (A, Figure 21). Insert the screws from the outside of the shredder hopper.

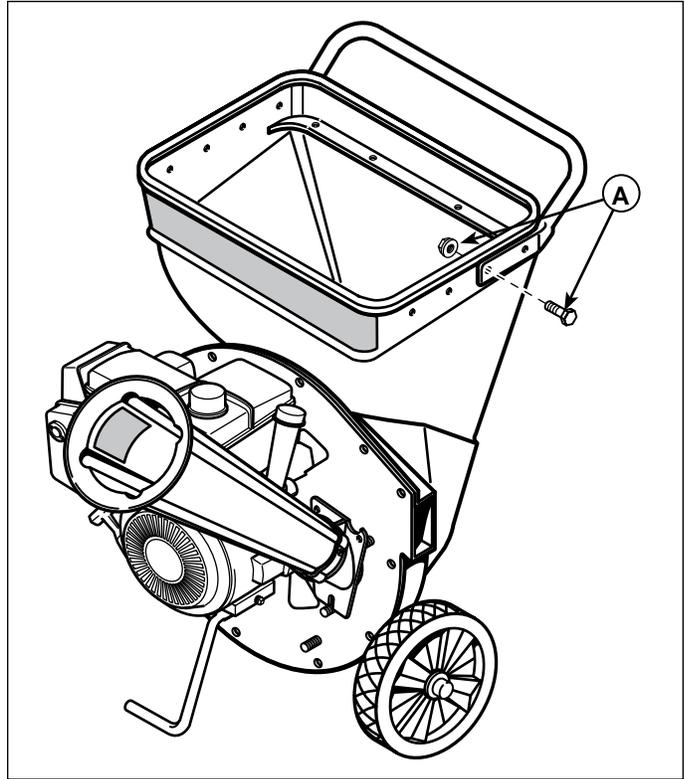


Figure 21. Installing the Hopper Handle
A. 1/4-20 x 3/4 Screw & Nut

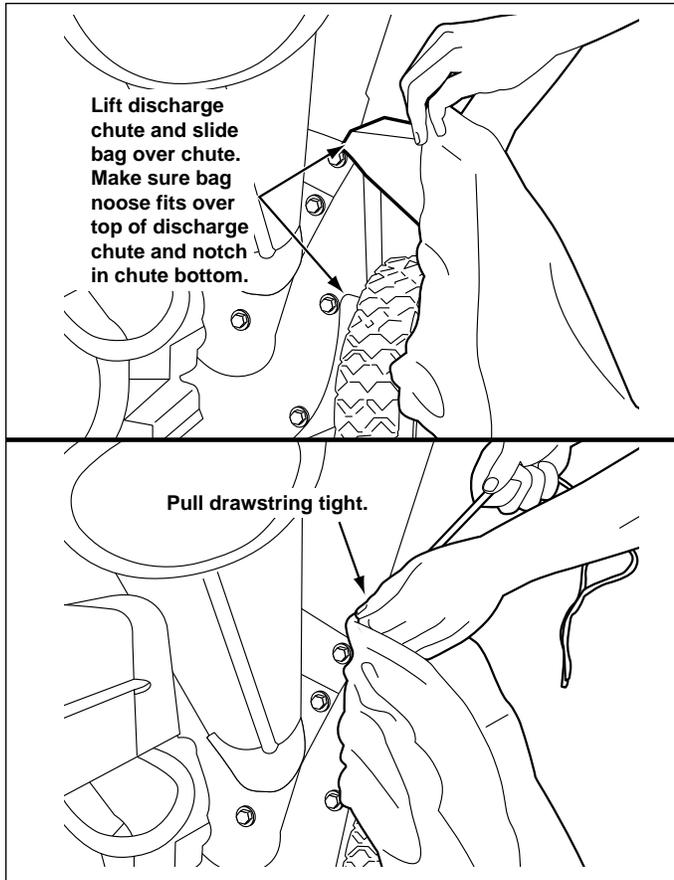


Figure 22. Discharge Bag - North American Models

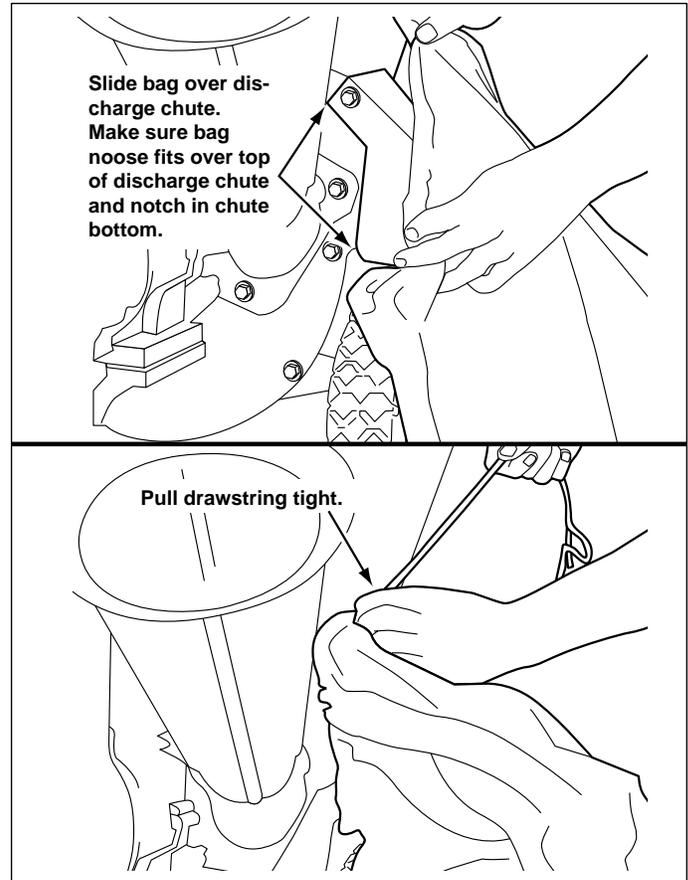


Figure 23. Discharge Bag - CE Models

Install Discharge Bag

This product comes with a discharge bag for collection of debris as it exits the discharge chute. Install the bag as shown in Figure 22 or 23.

Add Engine Oil

Refer to “Engine Oil Type and Capacity” in the Regular Maintenance section for oil type and fill procedures.

Add Fuel

Refer to “Adding Fuel” in the Operation section for fuel specifications and filling procedures.

Features and Controls

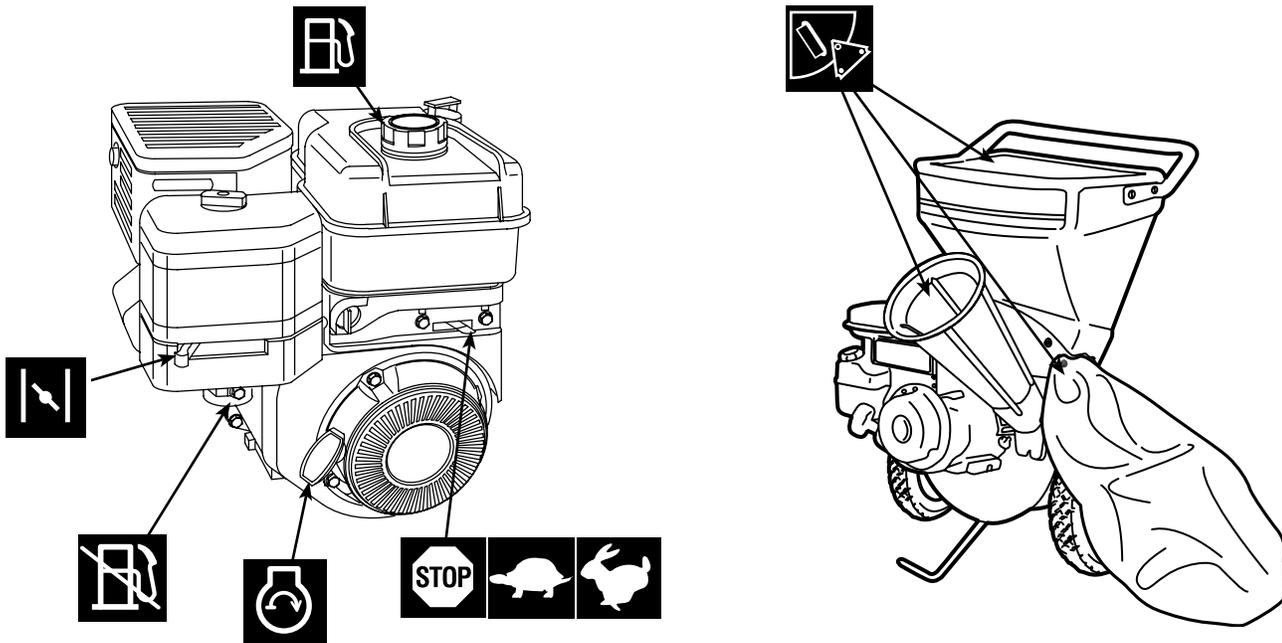


Figure 1. Controls

Control Functions

The information below briefly describes the function of individual controls. Operating requires the combined use of several controls applied in specific sequences. To learn what combination and sequence of controls to use for various tasks see the OPERATION section.

Engine Stop / Throttle Control

The engine stop / throttle control lever controls turn the engine off and controls the engine speed. Move the throttle right to increase engine speed and left to decrease engine speed. Moving the lever all the way to the left stops the engine. Always operate at FULL throttle (lever fully right).

Recoil Starter

The recoil starter is used to turn the engine over for starting.

Fuel Shut-Off Valve

The fuel shut-off valve is located below the air cleaner housing. Always close the valve when the unit is not in use.

Choke

Close the choke for cold starting. Open the choke once

the engine starts. A warm engine may not require choking. Move the lever right to close the choke.

Fuel Tank

To remove the cap, turn counterclockwise.

Chipper Cone / Shredder Hopper

Chipper Cone: The chipper cone is located on the front of the unit next to the engine. Insert branches and tree limbs up to approximately 3" (7.6 cm) in diameter into the chipper cone. NEVER insert hands past the mouth of the cone.

Shredder Hopper: The shredder hopper is on top of the unit. Leaves and other light waste can be loaded into the shredder hopper. NEVER insert hands into the hopper.

Debris Bag: Use the debris bag to collect the material discharged from the unit. Do not operate the unit without the debris bag in place.

Operation

General Operating Safety

Be sure to read all information in the Safety and Operation sections before attempting to operate this unit. Become familiar with all of the controls and how to stop the unit.

Upon start-up and shut-down, you may hear the metal-to-metal sound of the triangular hammers and J-hammers positioning themselves on the rotor. This is normal. If this sound continues after the machine has reached full speed, contact your dealer for an inspection of the unit. Overloading the equipment will shorten its life, and can cause mechanical failures.

Chipper Operation

The chipper is designed to handle tree limbs and branches up to approximately 3" (7,6 cm) in diameter. The chipping knives also permit the processing of course organic matter like corn stalks. Tree branches must be inserted large-end first into the chipper cone. Since occasional kick-backs may occur, always stand off to the side of the unit. Allow the self-feeding action of the unit to draw the sticks in.

Shredder Operation

The shredder is designed to shred light brush, leaves, and other soft but bulky organic waste. As material is loaded into the shredder hopper it is pulled into the path of the triangular and J-hammers by air flow.

Vacuum Attachment (Optional)

WARNING

To avoid serious personal injury from rotating cutting blades, keep hands out of inlet while machine is running.

In addition to the chipper cone and hopper, loose debris may be processed by the Vacuum hose adapter kit. Leaves may be raked directly into the leaf tray where vacuum action will draw them into the shredder. For hard-to-reach areas, the nozzle and hose assembly may be used. The strength of the Vacuum may be changed using the rotating sleeve on the nozzle. (See Vacuum Kit parts explosion on page 28.)

Operating Location

Select an area with firm, level ground, covered by dirt or grass. Do not operate on wet or slick surfaces, or near bystanders. Locate and organize the materials to be processed so that you don't have to walk in front of the inlet or discharge openings, and so you have adequate room to work safely.

DANGER

The exhaust from this product contains carbon monoxide gas. Carbon monoxide is a colorless, orderless, and tasteless gas that can cause dizziness, nausea, unconsciousness, or even brain damage and death if inhaled for prolonged periods.

Operate the unit outdoors in a well ventilated location only. Keep children, pets, and bystanders away.

Failure to follow these instructions may result in serious injury or death.

Adding Fuel



Do not use gasoline containing METHANOL, gasohol containing more than 10% ETHANOL, gasoline additives, or white gas because engine/fuel system damage could result.

WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid over-filling and wipe up any spills.

To add fuel:

1. Remove the fuel cap (see Figure 1).
2. Fill the tank. Do not overfill. Leave room in the tank for fuel expansion. Refer to your engine manual for specific fuel recommendations.
3. Install and hand tighten the fuel cap.

Starting the Engine

1. Set the throttle to FULL.
2. Close the choke.

NOTE: A warm engine may not require choking.

3. Place one foot on the front support leg to hold the unit firmly in place.
4. Pull the starting rope out to begin turning the engine over. Pull slowly at first and increase speed with each successive pull.
5. After the engine starts, open the choke and move the engine throttle control to SLOW. Warm up the engine

by running it for at least a minute.

- Set throttle to FULL and begin chipping/shredding.

Stopping the Engine

NOTE: In the event of an emergency the engine can be stopped by setting the throttle control to STOP.

- Slide the throttle control fully left to the STOP position.

NOTE: Upon start-up and shut-down, you may hear the metal-to-metal sound of the triangular hammers and J-hammers positioning themselves on the rotor. This is normal.

- After the engine has stopped moving, remove the spark plug wire and remove any debris from the unit and engine.

Processing Materials

Most materials to be processed can be handled more efficiently by following these tips.

Chipping Tips:

- Prune branches down close to the main branch to make feeding them into the chipper cone easier.
- Large, hard, dried tree branches that resist chipping can be processed by rotating them as you alternately insert and retract them.
- If the material to be chipped is extremely hard, kicks back forcefully when being fed into the chipper cone, or cannot be easily controlled, remove the material immediately and set it aside.
- If additional force is required to insert materials into the chipper, the blades probably need to be sharpened. Consult the Troubleshooting and Repair section of this manual, or see your authorized dealer.
- Maintain control of the materials you are feeding to prevent them from whipping around.
- Do not insert short pieces of material into the chipper cone by hand. Use a larger piece of material to force them into the chipper cone.

Shedding Tips

- Don't overload the shredder by dumping large volumes of material into the hopper opening.
- Alternate loads of wet and dry material to prevent the discharge from becoming plugged.
- Never use any object to force material into the shredding chamber. It could get caught in the shredding hammers and damage the unit.



Figure 2. Chipping.

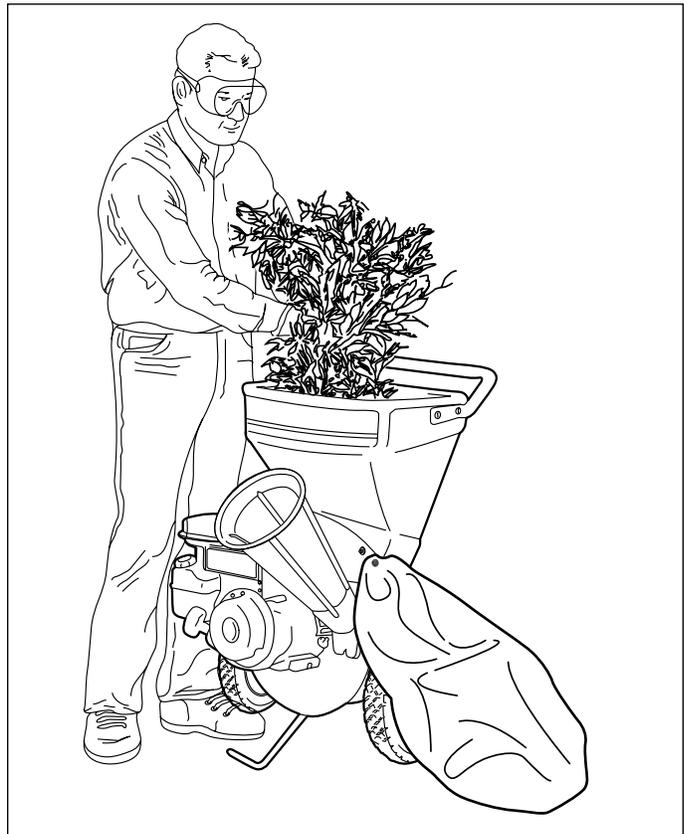


Figure 3. Shredding.

Chipping & Shredding Recommendations

Operation	Type of Waste Permitted	Size Limitations	Notes
Shredding	Dry or moist organic material including leaves, plants, flowers, fruits, or vegetables.	Branches and twigs up to 1/2" diameter and 18" long.	Alternately chip or shred moist green waste with dry waste to avoid plugging of the discharge chute. Process at a feeding rate that allows the rotor to keep up and maintain a high rate of speed.
Chipping	Long, thicker tree limbs or small bunches of smaller sticks grouped together for ease of handling.	Tree limbs and branches, or bundles of small sticks grouped for easier handling. Maximum diameter of approximately 3" (7,6 cm).	Bulky tree limbs should be pruned close to the main stem. Always use a shorter piece of wood to push end pieces into the chipper cone. Never place hands in the chipper cone. Never chip very hard or dry materials such as kiln dried dimensional lumber (2x4's etc.) or other building materials. Never use the chipper to process pressure-treated wood products.
Vacuum Attachment	Light, loose, dry waste such as leaves, grass clippings, or sawdust.	Small materials that will not obstruct the vacuum hose.	The vacuum is engineered for small, loose waste and for cleaning around decorative landscaping and flower beds. Twigs, wet leaves, and other bulky materials will clog the hose or obstruct the shredding chamber.

Storage

Before you store your unit for the off-season, read the Maintenance and Storage instructions in the Safety Rules section, then perform the following steps:

- Perform engine maintenance and storage measures listed in the engine owner's manual. This includes draining the fuel system, or adding stabilizer to the fuel (do not store a fueled unit in an enclosed structure - see warning).

Before starting the unit after it has been stored:

- Check all fluid levels. Check all maintenance items.
- Perform all recommended checks and procedures found in the engine owner's manual.
- Allow the engine to warm up for several minutes before use.

Regular Maintenance

Maintenance Schedule & Procedures

The following schedule should be followed for normal care of your unit.

SAFETY ITEMS	Before Each Use	Every 5 Hours	Every 25 Hours	Every 100 Hours	Every 250 Hours	Spring & Fall
Check for loose hardware		•				•
Check all safety labels						•
Inspect cone, hopper, and guards.						•
CHIPPER MAINTENANCE ITEMS	Before Each Use	Every 5 Hours	Every 25 Hours	Every 100 Hours	Every 250 Hours	Spring & Fall
Clean debris from engine and chipper. **	•			•		
Inspect/Rotate Shredding Hammers			•			
Inspect/Rotate Chipping Knives			•			
ENGINE MAINTENANCE ITEMS	Before Each Use	Every 8 Hours	Every 25 Hours	Every 50 Hours	Every 100 Hours	Spring & Fall
Check Engine Oil Level *	•	•				
Change Engine Oil * **				•		
Check / Change Engine Air Filter * **			•			
Replace Spark Plug *					•	

* Refer to engine owner's manual. Change original engine oil after initial break-in period of 5-8 hours.

** More often in hot (over 85° F: 30° C) weather or dusty operating conditions.

Check for Loose Hardware

Service Interval: Every 5 hours; every spring and fall.

Inspect the unit, checking for loose hardware or components. Pay special attention to the hardware attaching the chipper cone, hopper, axle, and front leg.

Inspect Cone, Hopper, & Guards

Service Interval: Every spring and fall.

Check that the chipper cone, shredder hopper, and discharge guards are in place, undamaged, and secure. Replace any damaged or missing parts.

Check Safety Labels

Service Interval: Every spring and fall.

Check that the safety labels are in place and undamaged. Sample illustrations and part numbers of the decals can be found on page 6. Replace any damaged or missing decals.

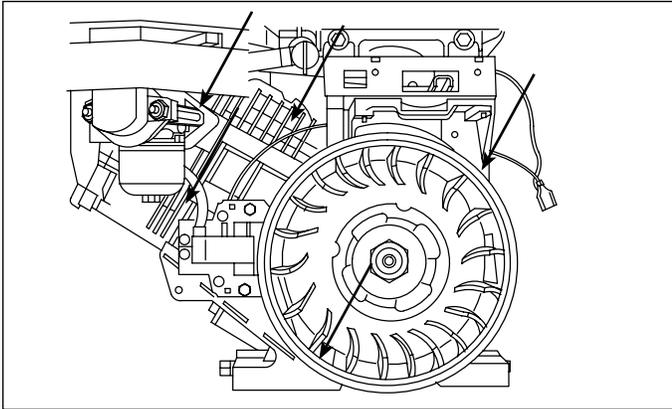


Figure 4. Clean Debris from Engine Cooling Fins

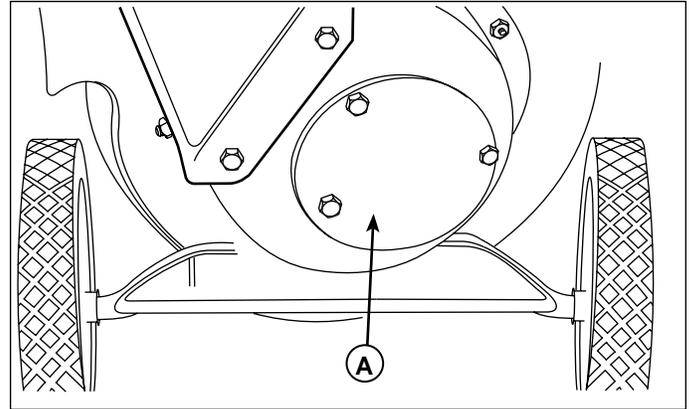


Figure 5. Inspect Shredder Hammers
A. Access Panel

Clean Debris from Engine & Chipper

Service Interval: Before each use and every 100 hours.

The engine requires air flow to cool itself and for combustion. Before each use, clean any debris from the unit especially from around the air shroud intake, air filter, and muffler. Every 100 hours, remove the engine air shroud and clean out any debris from the engine cooling fins at the locations shown in Figure 4. We recommend having this service performed by an authorized dealer.

Inspect / Rotate Shredding Hammers

Service Interval: Every 25 Hours, or As Necessary

The shredding hammers of this unit can be rotated to provide a new cutting surface as required. The triangular hammers can be rotated twice, then flipped over for a total of 6 sharp cutting surfaces. The J-hammers can be flipped over once. To inspect the shredding hammers:

WARNING

Amputation hazard. To avoid serious injury from accidental starting, always disconnect the spark plug wire and secure it away from the spark plug when servicing the unit.

1. Disconnect the spark plug wire and secure it away from the spark plug.
2. Remove the small circular access panel (A, Figure 5) from the back of the shredder housing.
3. Inspect the cutting edges of the triangular hammers (Figure 6) and J-hammers (Figure 7).

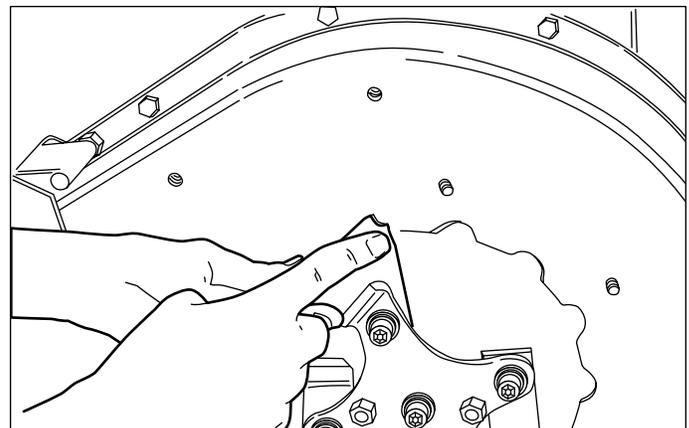


Figure 6. Triangular Hammer Wear Area

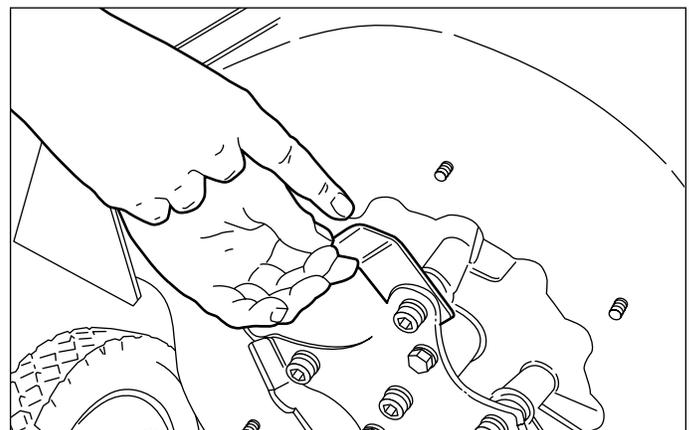


Figure 7. J-Hammer Wear Area

To rotate or replace the shredding hammers, see the Troubleshooting and Repair section.

Inspect Chipping Knives

Service Interval: Every 25 Hours, or As Necessary

The chipping knives of this unit can be rotated or sharpened to provide a new cutting surface as required. When inspecting the knives be careful to avoid touching the sharpened edges. To inspect the chipping knives:

1. Disconnect the spark plug wire and secure it away from the spark plug.

! WARNING

To avoid serious injury from accidental starting, always disconnect the spark plug wire and secure it away from the spark plug when servicing the unit.

2. See Figure 8. Remove the nuts securing the chipper cone to the front of the chipper. Remove the chipper cone (A) to access the knives.
3. Using the recoil starter, slowly pull the starter rope to rotate the rotor into position so the blades can be seen.

To sharpen or replace the chipper knives, see the Troubleshooting and Repair section.

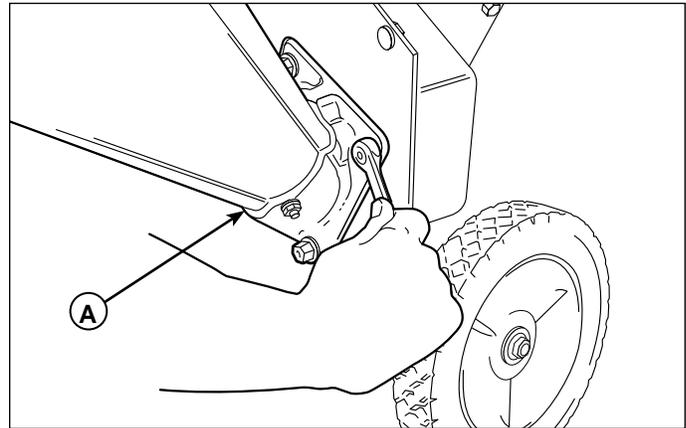


Figure 8. Inspect Chipper Knives
A. Chipper Cone

Check / Change Engine Air Cleaner

Service Interval: Every 25 Hours

The engine air cleaner assembly should be opened, inspected, and the filter element replaced every 25 hours, or as required if debris has built up in the assembly.

To replace the air filter and pre-cleaner assembly:

1. Loosen the screw (A, Figure 9) and remove the filter cover (B).
2. Inspect the pre-cleaner (C) and air filter element (D). If either are soiled, then replace.
3. Insert the new pre-cleaner (C) and air filter element (D) inside the filter cover (B). Make sure the arrows on the filter element are pointed up, and the lip of the pre-cleaner covers the bottom filter pleats.
4. Insert the cover tabs (F) into the filter base slots.
5. Tilt the cover up into place and tighten the screw (A).

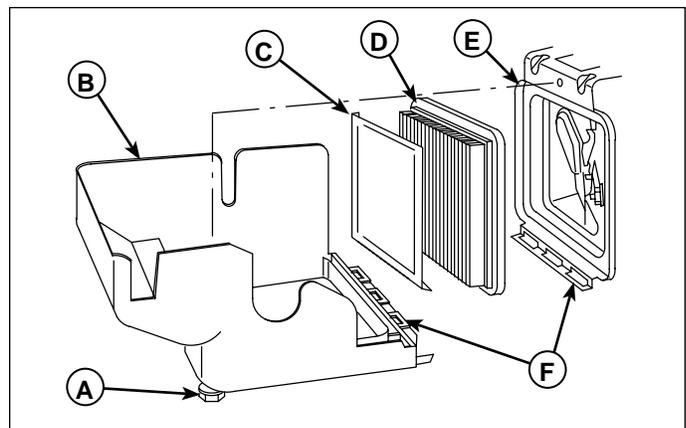


Figure 9. Change Air Filter. NOTE: This illustration is for general reference only. Some engine models may appear different. Refer to the engine manual for more detailed instruction.

- A. Screw
- B. Filter Cover
- C. Pre-Cleaner (Not included in some engine models)
- D. Air Filter Element
- E. Air Filter Base
- F. Slots and Tabs

Replace Spark Plug

Please contact your authorized dealer to perform this service.

Troubleshooting & Repair

Troubleshooting Chart

While normal care and regular maintenance will extend the life of your equipment, prolonged or constant use may eventually require that service be performed to allow it to continue operating properly.

The troubleshooting guide below lists the most common problems, their causes, and remedies.

See the information on the following pages for instructions on how to perform most of these minor adjustments and service repairs yourself. If you prefer, all of these procedures can be performed for you by your local authorized dealer.

WARNING

To avoid serious injury, perform maintenance on the unit only when the engine is stopped.

Always disconnect the spark plug wire and fasten it away from the plug before beginning the maintenance, to prevent accidental starting of the engine.

PROBLEM	CAUSE	REMEDY
Engine will not start.	<ol style="list-style-type: none"> 1. Out of fuel. 2. Spark plug wire disconnected. 3. Engine controls not set correctly. 4. Spark plug fouled. 5. No compression. Recoil starter pulls with no resistance. 6. No spark. Ignition problem. 7. Old or stale fuel. 	<p>Add fuel. Reconnect spark plug wire. Refer to Starting in the Operation section. Remove the spark plug, clean or replace. See your authorized dealer.</p> <p>See your authorized dealer. See your authorized dealer.</p>
Engine exhaust is black.	<ol style="list-style-type: none"> 1. Dirty air filter. 2. Choke closed. 	<p>Replace air filter. See engine manual. Open choke.</p>
Engine runs but no material is discharged.	<ol style="list-style-type: none"> 1. Discharge chute clogged. 2. Engine not running at full speed. 	<p>Clean out debris. Set throttle control to FAST.</p>
Excessive branch vibration when chipping materials.	<ol style="list-style-type: none"> 1. Chipper knives dull. 2. Tree limbs are extremely hard or dried out. 	<p>Sharpen or replace chipper knives. Material is not suitable for chipping.</p>
Unusual noise or vibration when processing material.	<ol style="list-style-type: none"> 1. Rotor overloaded with material. 2. Hammers are broken, bent, or loose. 3. Hammers frozen in place. 	<p>Allow unit to clear itself before adding more material to the hopper. Check assembly. Tighten or replace as required. Check for obstructions and debris. Repair as necessary.</p>
Vacuum not working.	<ol style="list-style-type: none"> 1. Hopper lid not in place. 2. Material too wet. 3. Hose not attached properly. 4. Hose obstructed or damaged. 5. Engine not running at full RPM. 	<p>Install lid. Allow material to dry. Attach hose per instructions (see hose kit). Clear blockage or replace. Set throttle control to FAST.</p>

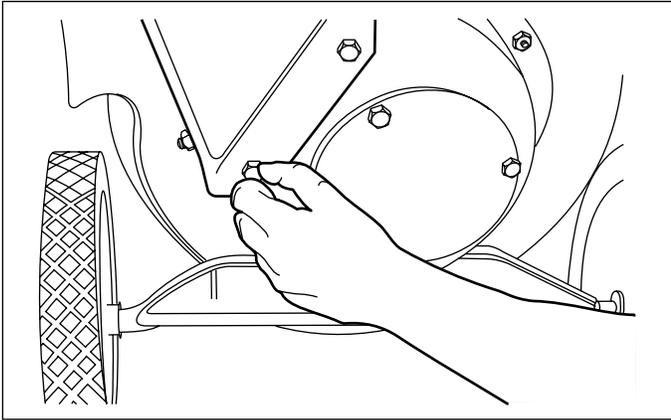


Figure 12. Removing the Shredder Hopper

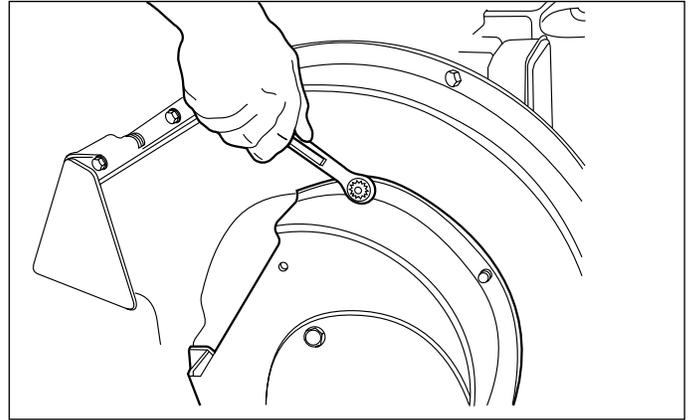


Figure 13. Removing the Rotor Housing

Repair

Shredding Hammer Rotation and Replacement

The cutting edges of the shredding hammers may eventually wear out requiring rotation of the hammer or replacement if all cutting edges have been dulled.

Triangular hammers can be rotated twice after the first edge dulls, then flipped over once and rotated again for a total of 6 edges. J-hammers can be flipped over once for a total of two cutting edges.

To rotate the shredding hammers:

1. Turn the engine off and wait for all moving parts to stop.
2. Disconnect the spark plug wire and secure it away from the spark plug.

⚠️ WARNING

To avoid serious injury from accidental starting, always disconnect the spark plug wire and secure it away from the spark plug when servicing the unit.

3. Detach the shredder hopper from the rotor housing (Figure 12).
4. Remove the rotor cover by removing the hardware that secures it to the main housing (Figure 13).
5. Note the assembly sequence of the hardware used to secure the hammers (Figure 14). Using a 5/16" allen wrench remove the socket head capscrew (A) and related hardware.
6. Inspect the hammers (G, H), spacer tubes (D, F), and hardware. If the spacer tube (D, F) shows signs of wear, replace it. Inspect and flip, or replace the hammers (G, H).
7. Reassemble the hammers, spacers, washers, and

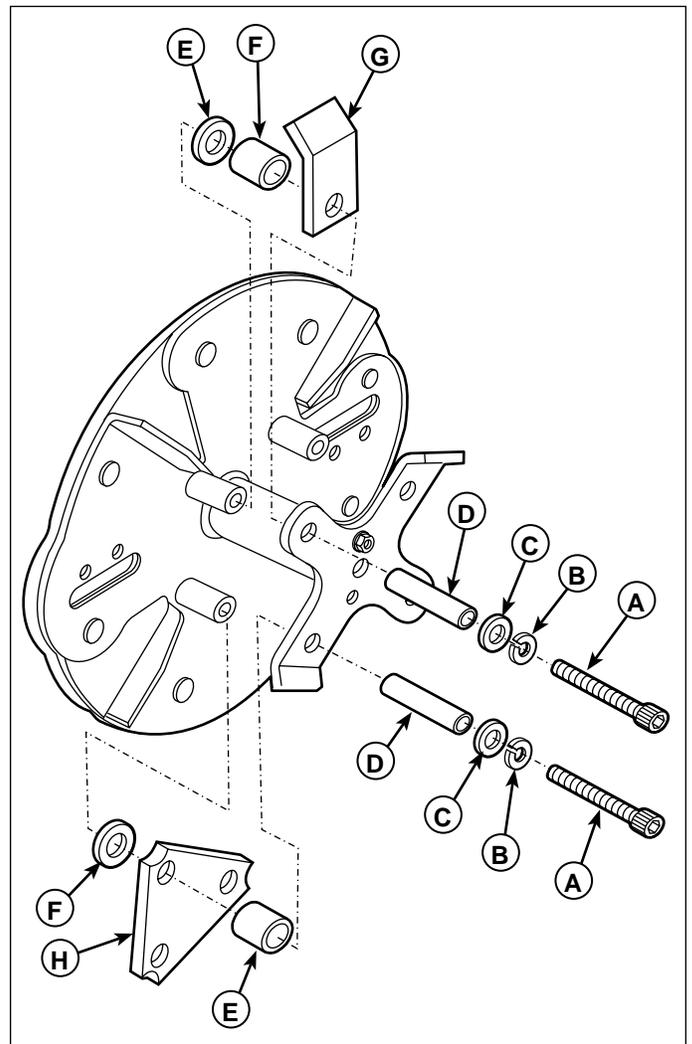


Figure 14. Removing the Rotor Housing

- | | |
|------------------------|---------------------------|
| A. Socket Hd. Capscrew | E. Spacer, Short |
| B. Lockwasher, 3/8 | F. Washer, 3/8 (8HP Only) |
| C. Washer, 7/8 | G. J-Hammer |
| D. Spacer, Long | H. Triangular Hammer |

capscrews. Torque the socket head capscrews (A) to 30-35 ft. lbs. (41-47 N.m.) Refer to Figure 14 for assembly. The J-hammer (G) on the opposite side of the rotor faces outward for balanced rotation.

Repeat for all the hammers.

Chipping Knives Sharpening and Replacement

The chipping knives should be sharpened or replaced when tree limbs require extra force to feed into the chipper cone.

The chipping knives may be resharpened at a 30 degree angle until the distance between the edge of the blade bevel and the mounting hole is less than 1/16" (1.6mm) (see Figure 17).

⚠ WARNING

Amputation hazard. To avoid serious injury from accidental starting, always disconnect the spark plug wire and secure it away from the spark plug when servicing the unit.

To inspect, sharpen, or replace the chipping knives:

1. Turn the engine off and wait for all moving parts to stop.
2. Disconnect the spark plug wire and secure it away from the spark plug.
3. Detach the shredder hopper from the rotor housing (see Figure 12).
4. Remove the rotor cover by removing the hardware that secures it to the main housing (see Figure 13).

⚠ WARNING

Cutting hazard. To avoid serious injury, avoid contacting the sharp cutting edges of the chipping knives.

5. Remove the chipper cone base (Figure 15).
6. Rotate the rotor assembly so that the socket head capscrews that secure one of the chipper knives can be accessed through the rotor cover and access hole (Figure 16).
7. Using a 1/4" hex wrench, loosen and remove the two socket head capscrews and chipper knife.
8. Inspect, rotate, sharpen, or replace the chipper knife.
9. Reinstall the chipper knife and tighten the socket head capscrews to 18-20 ft. lbs (24-27 N.m.).
10. Rotate the rotor 180 degrees and repeat with the other chipper knife. Reinstall the rotor cover and shredder hopper when completed.

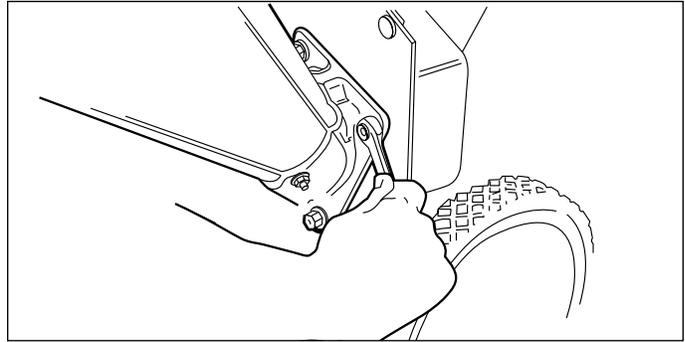


Figure 15. Installing the Chipper Cone

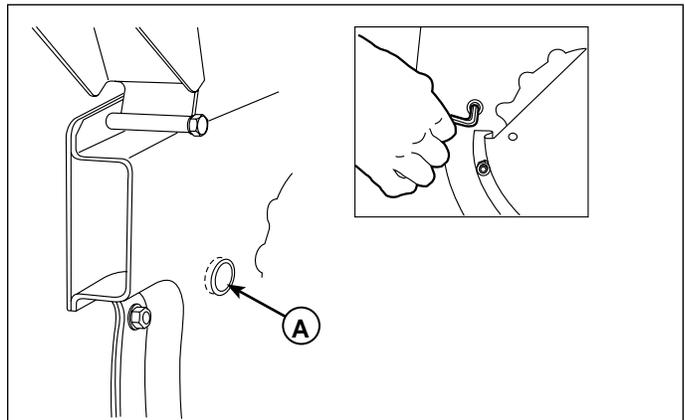


Figure 16. Access Hole
A. Access Hole

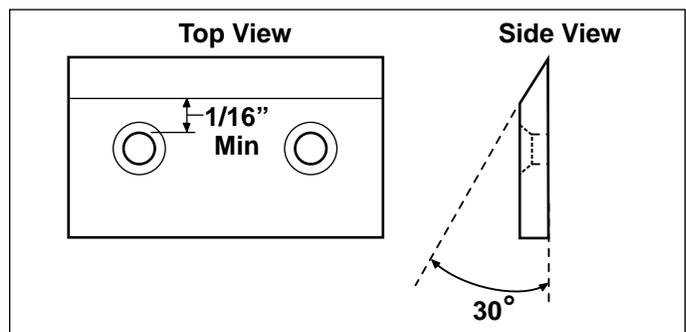


Figure 17. Chipper Knife Minimum Cutting Edge

Specifications

NOTE: Specifications are correct at time of printing and are subject to change without notice.
* Actual sustained equipment horsepower will likely be lower due to operating limitations and environmental factors.

CHASSIS:

All Models

Chipping Capacity	Approximately 3" (7.6 cm)
Shredding Capacity	1/2" x 18" Long
Chipping Knives	2
Shredding Hammers	2 J-hammers, 2 triangular hammers
Waste Reduction Ratio	Approximately 20:1
Weight	Model 9060300 8.50 Torque Rating 130 lbs. Model 9060140 8.25 Torque Rating 120 lbs. Model 9070300 11.50 Torque Rating 120 lbs. Model 9010400 14.50 Torque Rating 130 lbs. Model 9010140 14.50 Torque Rating 130 lbs.

Parts & Accessories

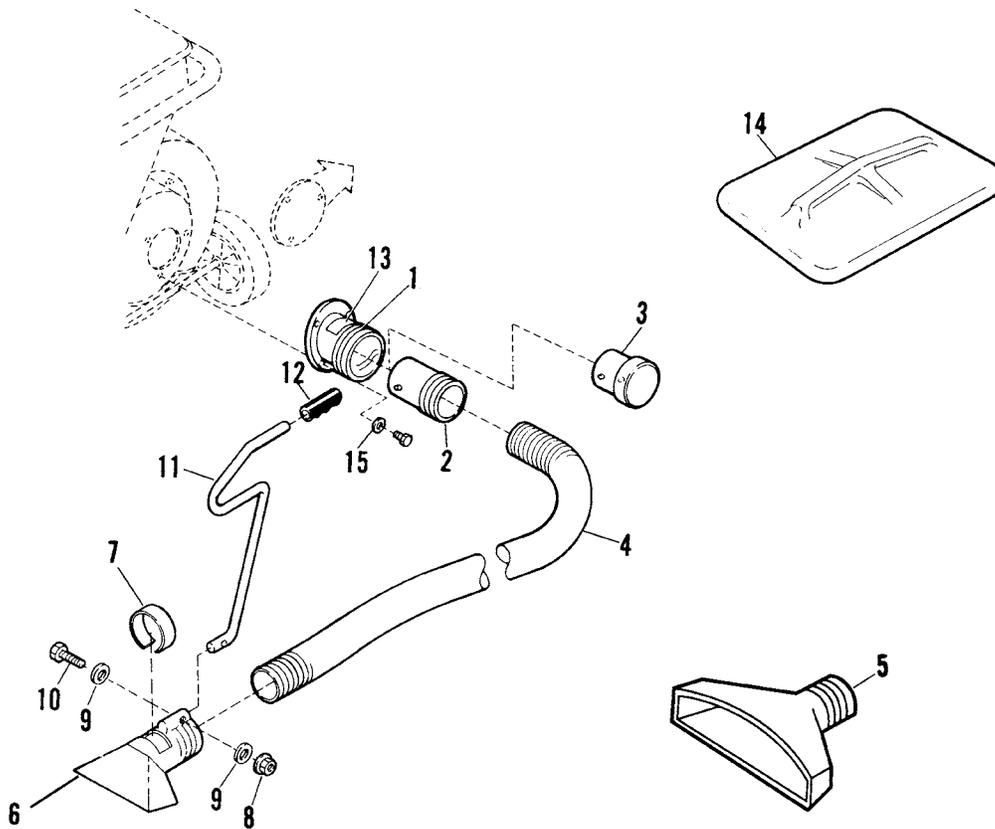
Replacement Parts

Replacement parts are available from your authorized dealer. Always use genuine Earthquake Service Parts.

Optional Accessories

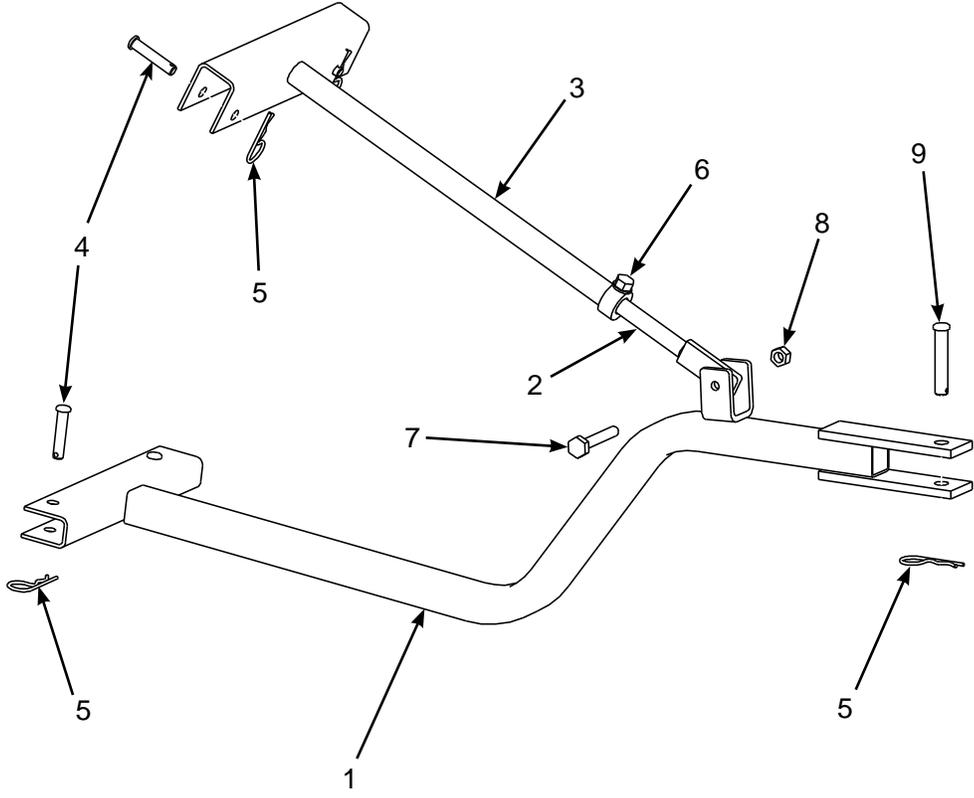
- Vacuum Kit Model No. 1692327
- Tow Bar Kit Model No. 1692210

1692210 VACUUM KIT (OPTIONAL ACCESSORY)



KEY #	PART #	DESCRIPTION	QTY.
1	1021100	ADAPTER	1
2	1023100	COUPLER	1
3	1025100	PLUG, CAP	1
4	1035100	HOSE, 4" DIA. X 10' LONG	1
5	1027100	LEAF TRAY	1
6	1030100	NOZZLE	1
7	1024100	RING, NOTCHED, 5" DIA. X 3" LONG	1
8	1960294	NUT, HEX FLANGE, 1/4-20	1
9	1921319	WASHER, 1/4	2
10	6041612	BOLT, PHILLIPS TRUSS HD, 1/4-20 X 1-1/2	1
11	1026100	HANDLE	1
12	1028100	GRIP, HANDLE	1
13	5001612	DECAL, DANGER	1
14	1709467	HOPPER LID, RED	1
15	1919326	WASHER, FLAT, 5/16	3
-	1732039	DECAL, DANGER	1

1692327 TOW BAR KIT (OPTIONAL ACCESSORY)



KEY #	PART #	DESCRIPTION	QTY.
1	1713352	BENT ARM ASSEMBLY	1
2	1713414	ROD ASSEMBLY	1
3	1713357	ROD HOLDER ASSEMBLY	1
4	1710726	PIN, CLEVIS, 5/16 X 1-1/2	4
5	1918196	PIN, QUICK, 3/32 X 1-7/8	5
6	1925205	BOLT, HEX HD CAPSCREW, 5/16-18 X 5/8 GR5	1
7	1423B	BOLT, HEX HD CAPSCREW, 5/16-18 X 2 GR5	1
8	1919438	NUT, HEX LOCK, 5/16-18	1
9	118053	PIN, ROUND HD, 3/8 X 2	1

DECLARATION OF CONFORMITY **DECLARATION DE CONFORMITE** **ÜBEREINSTIMMUNGSKLÄRUNG**
KONFORMITETSERKLÆRING **DECLARATION DE CONFORMIDAD** **VERKLARING VAN OVEREENKOMST**
DICHIAZIONE DI CONFORMITÀ

Ardisam Manufacturing, Inc. • 1690 Elm Street • Cumberland, WI U.S.A. 54829

Declares that products listed below comply to 98/37/EC + 89/336/EEC
 Déclare que les produits énumérés ci-dessous sont conformes à: 98/37/EC + 89/336/EC
 Erklärt, dass die unten aufgeführten Produkte mit den Vorschriften übereinstimmen 98/37/EC + 89/336/EC
 Erklærer, at nedensstående produkter opfylder ... 98/37/EC + 89/336/EC
 Declara que los productos relacionados mas abajo cumplen con: 98/37/EC + 89/336/EC
 Verklaart dat onderstaande produkten overeenkomen met: 98/37/EC + 89/336/EC
 Si dichiara che i prodotti sotto elencati sono conformi a: 98/37/EC + 89/336/EC

PRODUCT NO. N° DE FABRICATION PRODUKT-NR. PRODUKTIONS-NR. N° DE PRODUCTO PRODUKTNR. MODELLO NR.	GUARANTEED SOUND-POWER LEVEL NIVEAU DE PUISSANCE ACOUSTIQUE GARANTI: GARANTERTER SCHALLLEISTUNGSPEGEL: GARANTERET STØJNIVEAU: GARANTIZA UN NIVEL DE SONORIDAD: GEGARANDEERD GELUIDSNIVO: LIVELLO DI EMISSIONI ACUSTICHE GARANTITO A:	MEASURED SOUND-POWER LEVEL MESURER NIVEAU DE PUISSANCE ACOUSTIQUE TAILLE : GEMESSENER SCHALLLEISTUNGSPEGEL MÅLE LYDSTYRKE BELOBE : AFGEMETEN GESEVENS GELVDSSTERKTE AARTAL : MISURATO EMISSIONI SONORA IMPORTO :
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9060140 EARTHQUAKE CHIPPER EARTHQUAKE 8.25 TORQUE RATED BRIGGS EUJO 109

106

Signed 
 Kirk Hyatt

Product Manager Date June 2, 2006
 Ardisam, Inc.
 Cumberland, WI USA

FORM NO. 1714848-14

DOCCS6



ARDISAM Inc.

1360 First Avenue, P.O. Box 666, Cumberland, Wisconsin, 54829 USA
Phone: - 001 (715) 822 2415 Fax: - 001 (715) 822 4180

Declaration of Conformity

Ardisam Inc. hereby certify that the machinery stipulated below complies with all the relevant provisions of the:

Machinery Directive 98/37/EC Noise Directive 2000/14/EC annex V

As amended, and the National Laws and Regulations adopting these directives.

Machine description	:	Chipper Shredder 10.0hp
Make	:	Ardisam
Type	:	9010140
Serial No.	:	10000 – 99999

And Is in conformity with the provisions of the following other EEC Directives:

*The Electromagnetic Compatibility Directive 89/336/EC (as implemented by the
Electromagnetic (Amendment) Regulations 1994 – (SI 1994/3060)*

Applicable standard: BS EN 13684:2004

The Technical File is held at the offices of Ardisam, Inc. for review by authorized parties.

Authorised Person empowered to sign: -  Mr. Kirk Hyatt
Position in Company: - **Product Development Manager**

Date: - 02-20-2008

DOCCS10

Earthquake®

CHIPPER/SHREDDERS

1-YEAR LIMITED WARRANTY

Terms and Conditions

Ardisam, Inc., a manufacturing company, warrants this **EARTHQUAKE® CHIPPER/SHREDDER** to be free from defects in the material or workmanship for a period of one year from the date of purchase. During the one year warranty of this product, Ardisam will furnish 100% parts and labor to correct any defect caused by faulty material or workmanship. Any unit used in a commercial application is covered for a period of 90 days after purchase.

If warranty work needs to be done, contact your place of purchase or Ardisam, Inc. for an authorized service center in your area. Ardisam will make the necessary repairs if a service center is not available. **To obtain warranty service and/or replacement instructions, you must have prior approval from Ardisam before shipping your package to us by calling our customer service department at 1-800-345-6007 Monday through Friday from 8 a.m. to 5 p.m. for a return material authorization number (RMA#).** All items must be shipped prepaid. Ardisam, Inc. will at no charge, repair or replace, at their discretion, any defective part which falls under the conditions stated above.

Ardisam retains the right to change models, specifications and price without notice. This product if used as intended, will give you years of trouble free service. We hope you will enjoy the quality of our products for years to come.

For replacement parts, phone 1-800-345-6007 or go online to www.GetEarthquake.com.

This warranty applies to the original owner with a proof of purchase and is not transferable. It supersedes all other warranties either expressed or implied and all other obligations to liabilities on our part. Ardisam, Inc. does not assume, and does not authorize any other person to assume for us, any liability in connection with the sale of our products.

The warranty applies only to products which have not been subjected to negligent use, misuse, alteration, accident or repairs made by anyone not certified by Ardisam, Inc. This guarantee is void unless the warranty card is properly filled out and received by Ardisam, Inc., within 30 days of purchase or go to www.GetEarthquake.com for online registration.



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