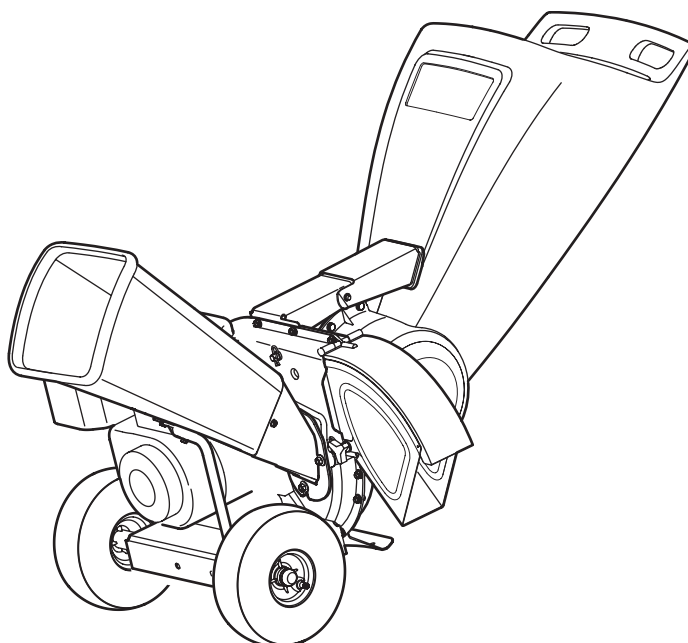




# OPERATOR'S MANUAL



## Chipper Shredder — Model Series CS454R / CS464Q

### **⚠ WARNING**

**READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL  
BEFORE ATTEMPTING TO OPERATE THIS MACHINE.  
FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.**

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MTD LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019

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## Thank You

Thank you for purchasing an MTD Chipper/Shredder. It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the equipment. It instructs you how to safely and easily set up, operate and maintain your machine. Please be sure that you, and any other persons who will operate the machine, carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarize yourself with the machine, its features and operation. Please be aware that this Operator's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

If applicable, the power testing information used to establish the power rating of the engine equipped on this machine can be found at [www.opei.org](http://www.opei.org) or the engine manufacturer's web site.

If you have any problems or questions concerning the machine, phone your local authorized MTD service dealer or contact us directly. MTD's Customer Support telephone numbers, website address and mailing address can be found on this page. We want to ensure your complete satisfaction at all times.

Throughout this manual, all references to *right* and *left* side of the machine are observed from the operating position

The engine manufacturer is responsible for all engine-related issues with regards to performance, power-rating, specifications, warranty and service. Please refer to the engine manufacturer's Owner's/Operator's Manual, packed separately with your machine, for more information.

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## Record Product Information

Before setting up and operating your new equipment, please locate the model plate on the equipment and record the information in the provided area to the right. You can locate the model plate by standing at the operator's position and looking down at the rear of the frame. This information will be necessary, should you seek technical support via our web site, Customer Support Department, or with a local authorized service dealer.

### MODEL NUMBER

□	□	□	□	□	□	□	□	□	□	□
---	---	---	---	---	---	---	---	---	---	---

### SERIAL NUMBER

□	□	□	□	□	□	□	□	□	□	□
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## Customer Support

**Please do NOT return the machine to the retailer or dealer without first contacting the Customer Support Department.**

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this machine, you can seek help from the experts. Choose from the options below:

- ◇ Visit us on the web at [www.mtdproducts.com](http://www.mtdproducts.com)



See How-to Maintenance and Parts Installation Videos at [www.mtdparts.com/KnowledgeCenter](http://www.mtdparts.com/KnowledgeCenter)

- ◇ Call a Customer Support Representative at 1300 951 594
- ◇ Write to MTD Products Australia Pty Ltd. • P.O. Box 376 • Dandenong. Vic. • 3175



**WARNING:** 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 this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol. **HEED ITS WARNING!**

## CALIFORNIA PROPOSITION 65



**WARNING:** Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.



**DANGER:** This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating fingers, hands, toes and feet and throwing debris. Failure to observe the following safety instructions could result in serious injury or death.

### Training

1. Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
3. Never allow children under 16 years of age to operate this machine. Children 16 and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.
4. Never allow adults to operate this machine without proper instruction.
5. Keep bystanders, pets, and children at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.
6. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
7. Do not put hands and feet near rotating parts or in the feeding chambers and discharge opening. Contact with the rotating impeller can amputate fingers, hands, and feet.

8. Never attempt to unclog either the feed intake or discharge opening, remove or empty bag, or inspect and repair the machine while the engine is running. Shut the engine off and wait until all moving parts have come to a complete stop. Disconnect the spark plug wire and ground it against the engine.

### Preparation

1. Thoroughly inspect the area where the equipment is to be used. Remove all rocks, bottles, cans, or other foreign objects which could be picked up or thrown and cause personal injury or damage to the machine.
2. Always wear safety glasses or safety goggles during operation and while performing an adjustment or repair, to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
3. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Loose fitting clothes or jewelry can be caught in movable parts. Never operate this machine in bare feet or sandals. Wear leather work gloves when feeding material in the chipper chute.
4. Before starting, check all bolts and screws for proper tightness to be sure the machine is in safe working condition. Also, visually inspect machine for any damage at frequent intervals.
5. Maintain or replace safety and instructions labels, as necessary.

## Safe Handling of Gasoline:

To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite. Wash your skin and change clothes immediately.

- a. Use only an approved gasoline container.
- b. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
- c. When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
- d. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- e. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- f. Never fuel machine indoors.
- g. Never remove gas cap or add fuel while the engine is hot or running. Allow engine to cool at least two minutes before refueling.
- h. Never over fill fuel tank. Fill tank to no more than  $\frac{1}{2}$  inch below bottom of filler neck to allow space for fuel expansion.
- i. Replace gasoline cap and tighten securely.
- j. If gasoline is spilled, wipe it off the engine and equipment. Move unit to another area. Wait 5 minutes before starting the engine.
- k. To reduce fire hazards, keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel soaked debris.
- l. Never store the machine or fuel container inside where there is an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.

## Operation

1. Do not put hands and feet near rotating parts or in the feeding chambers and discharge opening. Contact with the rotating impeller can amputate fingers, hands, and feet.
2. Before starting the machine, make sure the chipper chute, feed intake, and cutting chamber are empty and free of all debris.
3. Thoroughly inspect all material to be shredded and remove any metal, rocks, bottles, cans, or other foreign objects which could cause personal injury or damage to the machine.

4. If it becomes necessary to push material through the shredder hopper, use a small diameter stick. Do not use your hands or feet.
5. If the impeller strikes a foreign object or if your machine should start making an unusual noise or vibration, immediately shut the engine off. Allow the impeller to come to a complete stop. Disconnect the spark plug wire, ground it against the engine and perform 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.
6. Do not allow an accumulation of processed material to build up in the discharge area. This can prevent proper discharge and result in kickback of material through the feed opening.
7. Do not attempt to shred or chip material larger than specified on the machine or in this manual. Personal injury or machine damage could result.
8. Never attempt to unclog either the feed intake or discharge opening while the engine is running. Shut the engine off, wait until all moving parts have stopped, disconnect the spark plug wire and ground it against the engine before clearing debris.
9. Never operate without the shredder hopper, chipper chute, or chute deflector properly attached to the machine. Never empty or change discharge bag while the engine is running.
10. Keep all guards, deflectors and safety devices in place and operating properly.
11. Keep your face and body back and to the side of the chipper chute while feeding material into the machine to avoid accidental kickback injuries.
12. Never operate this machine without good visibility or light.
13. Do not operate this machine on a paved, gravel or non-level surface.
14. Do not operate this machine while under the influence of alcohol or drugs.
15. Muffler and engine become hot and can cause a burn. Do not touch.
16. Never pick up or carry machine while the engine is running.
17. If situations occur which are not covered in this manual, use care and good judgement. Contact Customer Support for assistance and the name of the nearest service dealer.

## Maintenance & Storage

1. Never tamper with safety devices. Check their proper operation regularly.
2. Check bolts and screws for proper tightness at frequent intervals to keep the machine in safe working condition. Also, visually inspect machine for any damage and repair, if needed.

3. Before cleaning, repairing, or inspecting, stop the engine and make certain the impeller and all moving parts have stopped. Disconnect the spark plug wire and ground it against the engine to prevent unintended starting.
4. Do not change the engine governor settings or overspeed the engine. The governor controls the maximum safe operating speed of the engine.
5. Maintain or replace safety and instruction labels, as necessary.
6. Follow this manual for safe loading, unloading, transporting, and storage of this machine.
7. Never store the machine or fuel container inside where there is an open flame, spark or pilot light such as a water heater, furnace, clothes dryer, etc.
8. Allow machine to cool at least 5 minutes before storing.
9. Always refer to the operator's manual for proper instructions on off-season storage.
10. If the fuel tank has to be drained, do this outdoors.
11. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.
12. According to the Consumer Products Safety Commission (CPSC) and the U.S. Environmental Protection Agency (EPA), this product has an *Average Useful Life* of seven (7) years, or 60 hours of operation. At the end of the *Average Useful Life* have the machine inspected annually by an authorized service dealer to ensure that all mechanical and safety systems are working properly and not worn excessively. Failure to do so can result in accidents, injuries or death.

## Do not modify engine

To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.

## Notice Regarding Emissions

Engines which are certified to comply with California and federal EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline, and may include the following emission control systems: Engine Modification (EM), Oxidizing Catalyst (OC), Secondary Air Injection (SAI) and Three Way Catalyst (TWC) if so equipped.

## Spark Arrestor






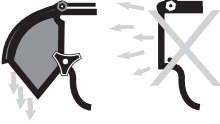

**WARNING:** This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brushcovered or grass-covered land unless the engine's exhaust system is equipped with a spark arrestor meeting applicable local or state laws (if any).

If a spark arrestor 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 arrestor for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 361131 Cleveland, Ohio 44136-0019.

## Safety Symbols

This page depicts and describes safety symbols that may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	<b>READ THE OPERATOR'S MANUAL(S)</b> Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate
	<b>WARNING— ROTATING BLADES</b> Keep hands out of inlet and discharge openings while machine is running. There are rotating blades inside
	<b>BYSTANDERS</b> Keep bystanders, pets, and children at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.
	<b>WARNING— THROWN DEBRIS</b> Never operate without the chute deflector properly attached to the machine.
	<b>EYE PROTECTION</b> Always wear safety glasses or safety goggles when operating this machine.



**WARNING:** 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!**

## Contents of Carton

- One Chipper Shredder
- One Hopper Assembly
- One Chute Deflector
- One Operator's Manual
- One Bag
- One Safety Glasses
- One Engine Operator's Manual
- One Chipper Chute
- One Bottle of Oil

## Assembly

**NOTE:** This unit is shipped without gasoline or oil in the engine. Fill up gasoline and oil as instructed in the accompanying engine manual BEFORE operating your chipper shredder.

### Hopper Assembly

1. Remove six hex nuts and washers from the weld studs on the impeller housing. Do not remove the support plate. See Figure 3-1A.

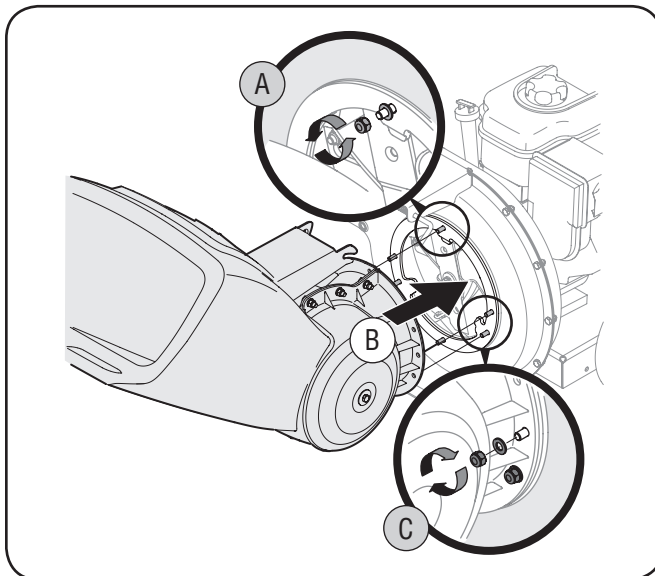


Figure 3-1

2. Place hopper assembly into position in front of impeller housing, aligning holes in hopper assembly collar with weld studs. See Figure 3-1B.
3. Slide hopper assembly onto weld studs and replace washers and hex nuts. See Figure 3-1C. Do not tighten completely.
4. Lift hopper assembly up to impeller bracket assembly. See Figure 3-2A.
5. Slide the release rod out slightly to hook the hopper bracket onto the rod. See Figure 3-2B.
6. Tighten the six hex nuts that secure hopper assembly to impeller housing and also tighten the hex nuts that secure hopper bracket to hopper assembly.

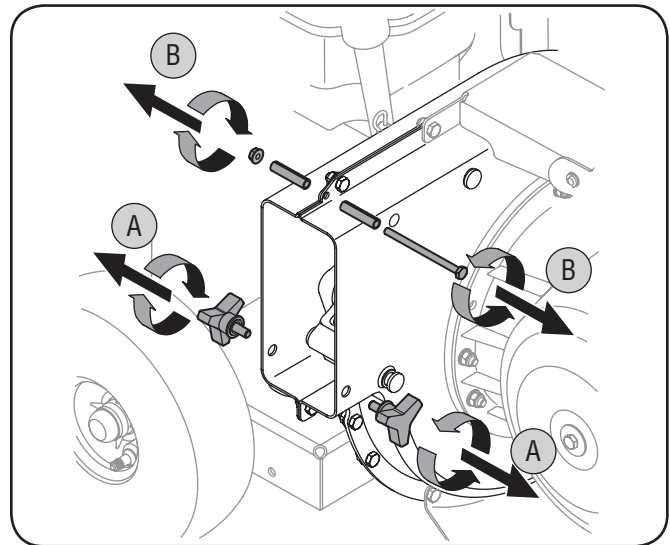


Figure 3-2

### Chute Deflector

1. Remove the wing knobs from each side of the lower impeller housing. See Figure 3-3A.
2. Remove the hex lock nut, spacers, and hex bolt from the top of the impeller housing. See Figure 3-3B.

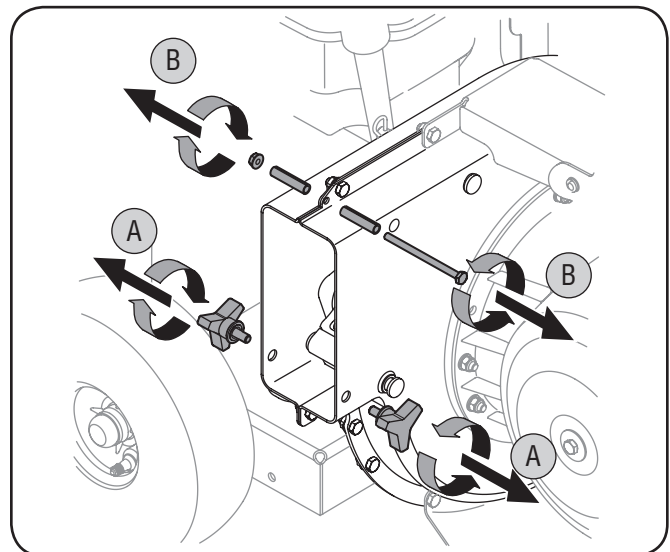


Figure 3-3

- Align the chute deflector in position on the discharge opening and insert hex bolt with spacer through hinge on chute deflector (spacers fit inside of hinges). See Figure 3-4A.
- Place second spacer over hex bolt inside other hinge and secure with hex lock nut. See Figure 3-4B.
- Secure both sides of chute deflector to impeller housing using wing knobs previously removed. See Figure 3-4C.

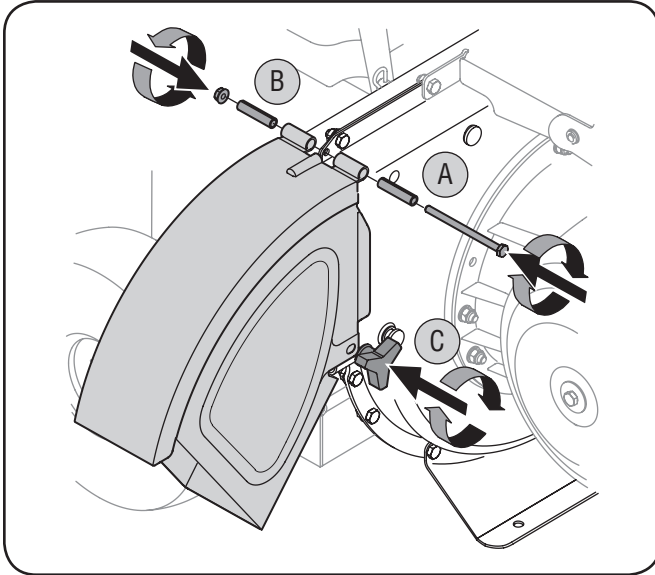


Figure 3-4

### Chipper Chute (Model Series 460)

- Remove the three cupped washers and hex nuts from weld studs around the opening on the side of the impeller housing. See Figure 3-5A.
- Remove the hex bolts, flat washers, and lock nuts from the two holes on the upper end of the support brace. See Figure 3-5B.

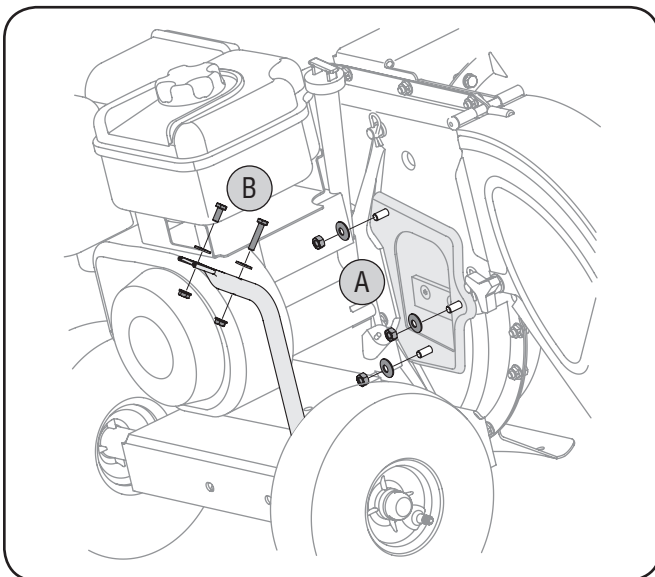


Figure 3-5

- Align the chipper chute over the weld studs, so the slot in the bottom of the chute is facing down. See Figure 3-6A.

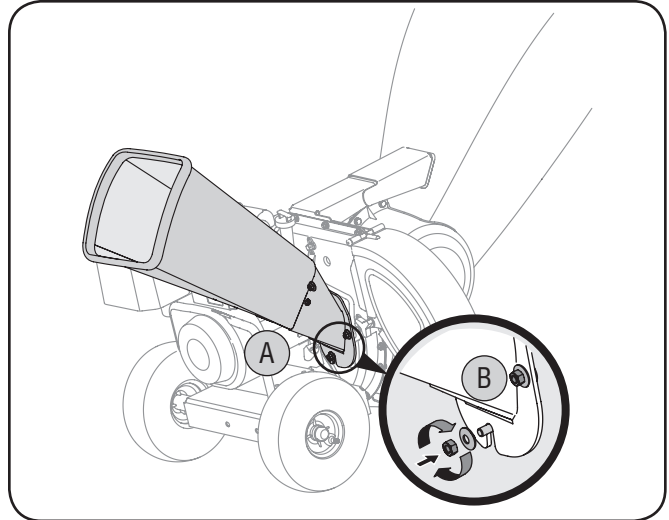


Figure 3-6

- Secure chipper chute with the three cupped washers (cupped side against the chipper chute) and hex nuts previously removed. See Figure 3-6B. Do not tighten the nuts at this time.

The chipper shredder was shipped with one end of the support brace already secured to the lower frame. Loosen but do not remove the bolts securing the brace to the frame.

- Align the holes in the chute with the holes in the top of the brace and attach brace to chipper chute with hardware previously removed. The flat washers should be placed under the bolt heads and against the inside surface of the plastic chipper chute. See Figure 3-7A. Tighten securely.
- Tighten the bolts securing the support brace to the frame. See Figure 3-7B.
- Tighten the three nuts on the weld studs holding the chipper chute to the impeller housing. See Figure 3-7C.

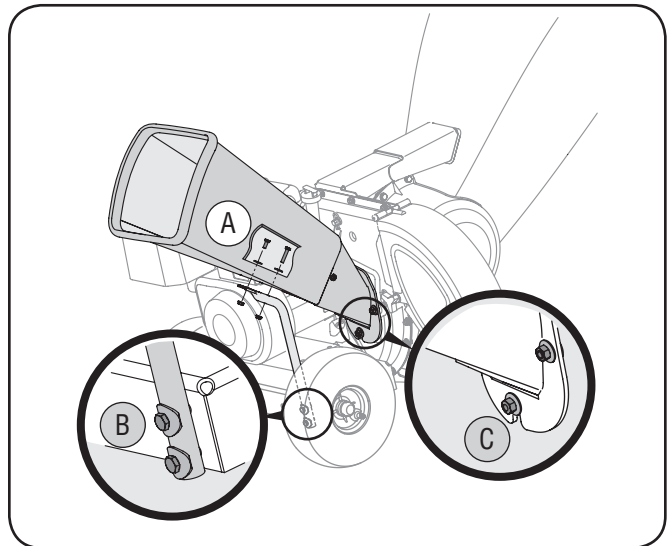


Figure 3-7



## Bag

1. Place the opening of the bag completely over the chute deflector. See Figure 3-8A.
2. Pull on the drawstring until the bag is tight around chute deflector opening. See Figure 3-8B.
3. Clip drawstring back on itself, tight against chute deflector to secure into position. See Figure 3-8C.

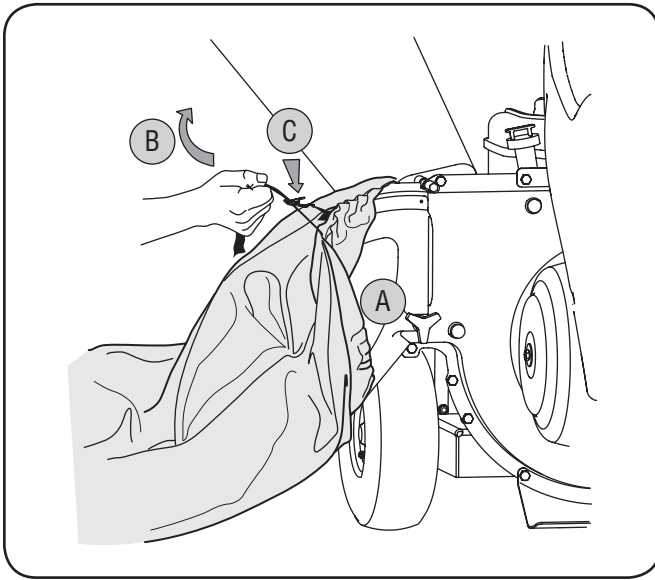


Figure 3-8

## Set-Up

### Gas and Oil Fill-Up

Refer to the separate engine owner's manual for additional engine information.

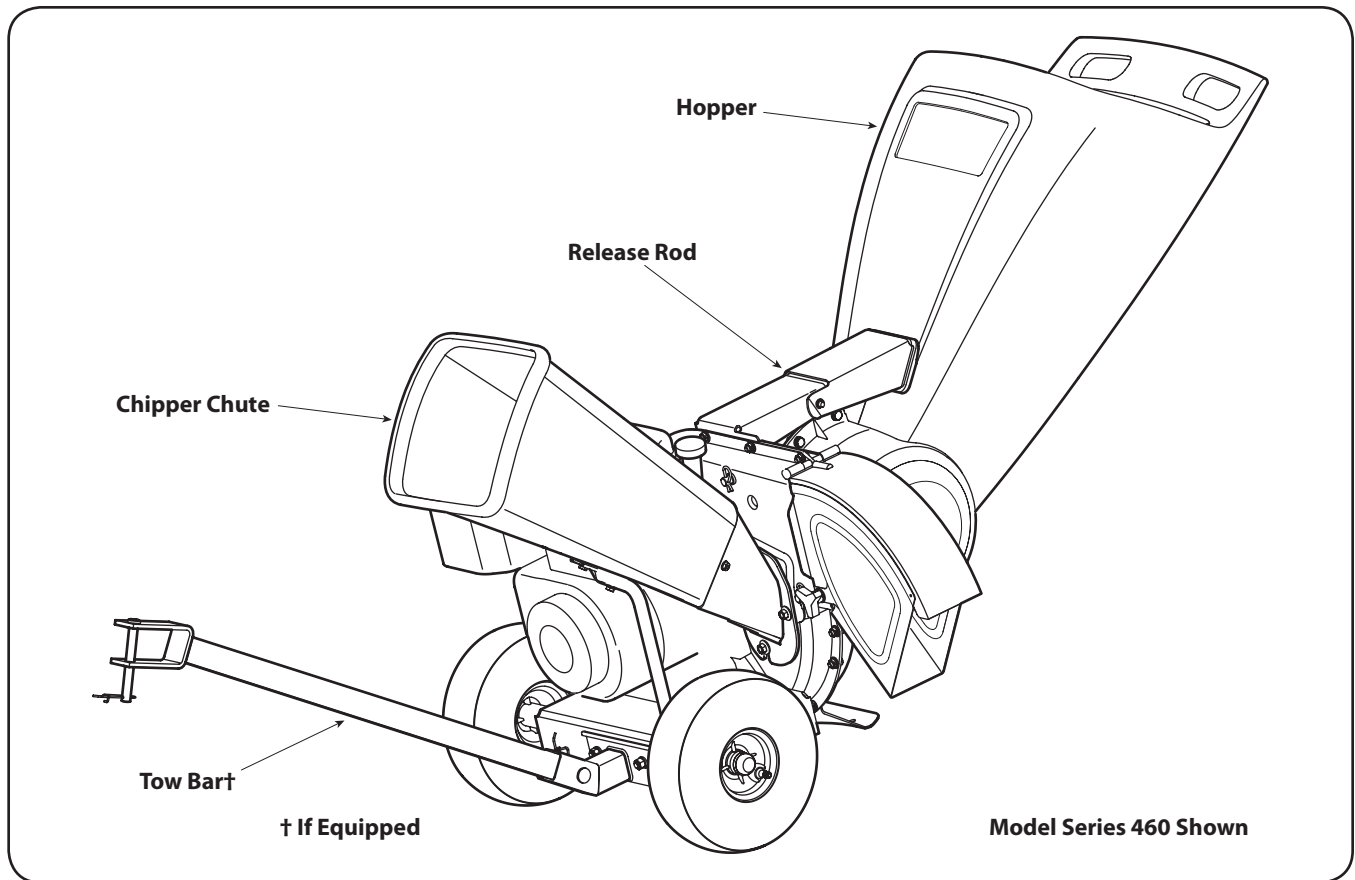
1. Add oil provided before starting unit for the first time out of the box.
2. Service the engine with gasoline as instructed in the separate engine owner's manual.



**WARNING:** Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and other sources of ignition.



**WARNING:** Never fill fuel tank indoors with engine running or until the engine has been allowed to cool for at least two minutes after running.



## Chipper Chute

Allows twigs and small branches up to 2" in diameter to be fed into the impeller for chipping.

## Hopper

Allow leaves and small branches up to 1/2 diameter to be fed into the impeller for chipping and shredding. Material can be raked into the hopper by lowering it down to the ground.

## Release Rod

The release rod is located on the impeller bracket assembly and it is used to release or lock the hopper when raising or lowering.

## Discharge Chute

Debris exits the machine's reduction chamber through the discharge chute.

## Engine Controls

See the engine Owner/Operator manual packed with your unit for the location and function of the controls on the engine.



**WARNING:** The operation of any chipper shredder can result in foreign objects being thrown into the eyes, which can damage your eyes severely. Always wear the safety glasses provided with this unit or eye shields before chipping or shredding and while performing any adjustments or repairs.

## Starting Engine

**IMPORTANT:** Because this manual covers several different model units, different starting instructions may apply to your particular engine. Some engines may have a fuel petcock, some may not. Some engines may have On/Off switches, other may not. Some units will utilize a choke system, while others will require priming. These factors depend on what make and model engine comes with your particular unit. For these reasons, please refer to the engine operator's manual for the correct starting procedure.

### Basic Starting Procedure:

1. Attach spark plug wire to spark plug. Make certain the metal cap on the end of the spark plug is fastened securely over metal tip on the spark plug.
2. Open fuel shut-off valve (if equipped) and make sure the On/Off switch is in the On position (if equipped).
3. Move choke control lever to CHOKE position, if equipped. See Figure 5-1. If the unit has a primer, prime the motor as instructed in the engine operator's manual.  
**NOTE:** A warm engine may not require choking or priming.
4. Move throttle control lever to FAST position (if equipped). See Figure 5-1.

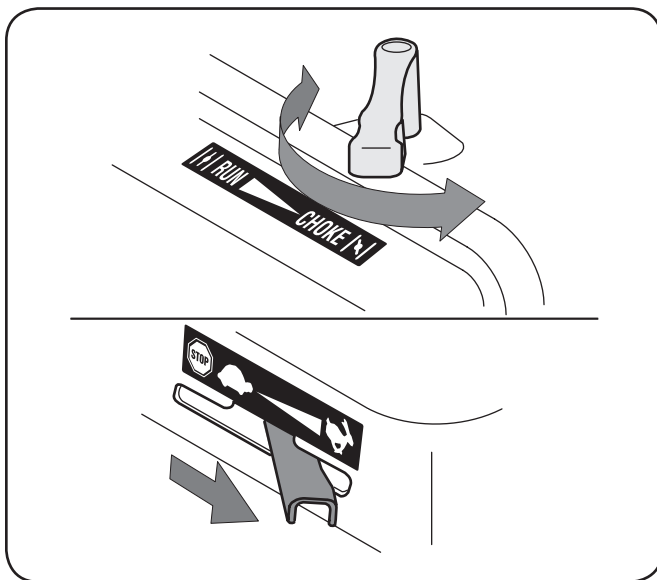


Figure 5-1

5. Grasp starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point).

**NOTE:** A noise will be heard when finding the start of the compression cycle. This noise is caused by the flails and fingers, which are part of the shredding mechanism, and it should be expected until the impeller reaches full speed.

6. Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on starter handle. Let rope rewind slowly.
7. Repeat the previous steps until engine starts. When engine starts, move choke control gradually to RUN position until the engine is running smoothly.



**WARNING:** Never run the engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.

## Stopping Engine

1. Move throttle control lever to STOP position (if equipped) or push rocker switch to OFF. See Figure 5-2.

**NOTE:** See your engine manual packed with your unit for more detailed instructions.



**CAUTION:** Never stop the engine by moving the choke lever into the CHOKE position. Backfire, fire or engine damage could result.

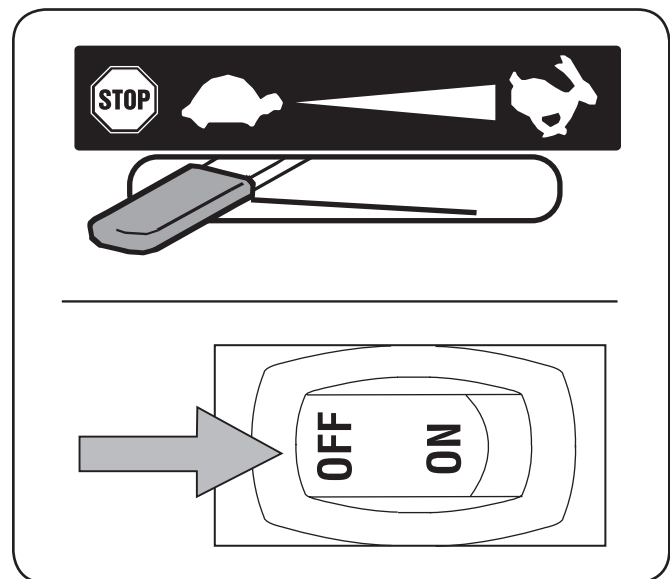


Figure 5-2

## Lowering the Hopper

1. With one hand grasp the handle at the top of the hopper and lift slightly.
2. With the other hand pull out on the release rod and lower the hopper to the ground.

## Shredding

Yard waste such as leaves and pine needles can be raked up in the hopper for shredding. After material has been processed by the shredder blade and flails, it will be forced out of the chute deflector, and, if attached, into a debris collection bag.

Observe the following guidelines when shredding yard debris:

- Never attempt to shred material other than normal yard debris (leaves, twigs, pine cones, etc.).
- Avoid shredding fibrous plants such as tomato vines until they are thoroughly dried out. Fresh vines do not shred well and tend to wrap themselves around the impeller and flails.
- Place reasonable amounts of debris into the hopper at a time. Do not overload the hopper.
- Allow the material in the hopper to be drawn into the blades and shredded before adding additional debris to the hopper. Failure to do so may result in a clogged hopper, clogged chute deflector or a stalled engine.

**IMPORTANT:** The flail screen is located inside the housing in the discharge area. If the flail screen becomes clogged, remove and clean as instructed in the Maintenance & Adjustments section. For best performance, it is also important to keep the chipper blade sharp.

## Chipping

Branches up to two inches (model series 450) or three inches (model series 460) in diameter can be fed into the chipper chute. Observe the following guidelines when chipping branches:

- Keep both hands firmly on the branch as you feed it into the chipper chute.
- Never feed more than one branch into the chipper chute at a time.
- Never feed anything other than branches (or wood) into the chipper chute.
- Apply intermittent pressure (force, in short pulses) while feeding larger branches into the chipper chute, to avoid bogging or stalling the engine.

**IMPORTANT:** Never feed branches with a diameter greater than two (2) inches (Model Series 450) or three (3) inches (model series 460) into the chipper chute. Doing so can result in serious damage to your unit's chipper blades, flails or impeller.

**NOTE:** For best performance, always operate the unit with sharp chipper blades. If a noticeable loss in performance is encountered while chipping branches, the chipper blades should be replaced.

## Emptying the Bag

1. Stop engine.
2. Un-clip drawstring and loosen bag from chute deflector opening. See Figure 5-3.
3. Empty bag and reattach to the discharge chute opening. Pull on the drawstring until the bag is tight around the chute opening and clip the drawstring tight against the chute deflector.

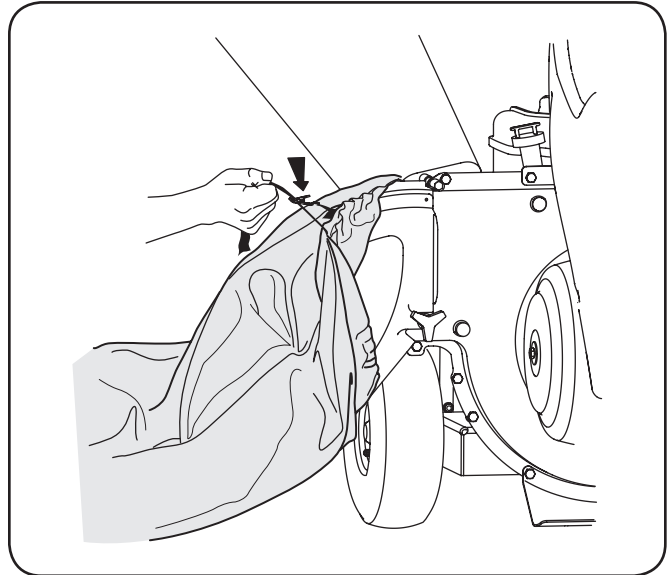


Figure 5-3

## Maintenance

### General Recommendations

- Always observe safety rules when performing any maintenance.
- The warranty on this chipper shredder does not cover items that have been subjected to operator abuse or negligence. To receive full value from warranty, operator must maintain the equipment as instructed here.
- Changing of engine-governed speed will void engine warranty.
- All adjustments should be checked at least once each season.
- Periodically check all fasteners and make sure these are tight.



**WARNING:** Always stop engine, disconnect spark plug, and ground against engine before, cleaning, lubricating, or performing any type of maintenance on your machine.

### Lubrication

1. Lubricate the release rod and spring with light oil once a season. See Figure 6-1.
2. Lubricate the pivot points on the hopper with light oil once a season.
3. Lubricate the pivot points on the chute deflector with light oil once a season.
4. Follow the separate engine manual packed with your unit for engine lubrication instructions.

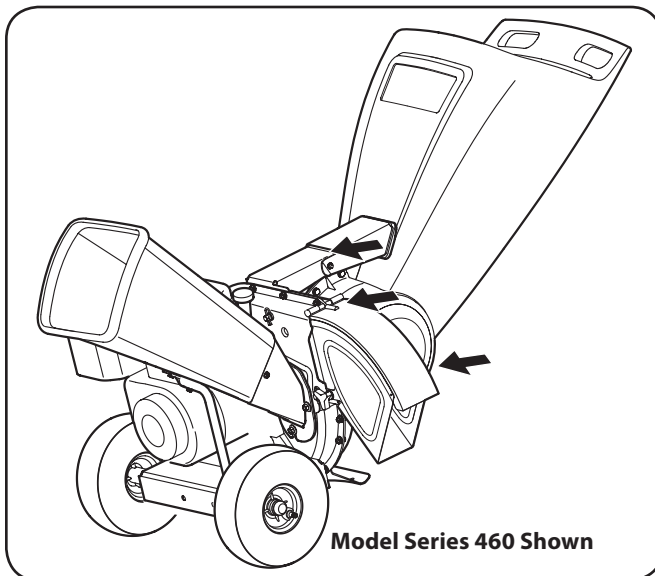


Figure 6-1

### Equipment Care

- Clean the chipper shredder thoroughly after each use.
- Wash bag periodically with water. Allow to dry thoroughly in shade.
- If the discharge area becomes clogged, remove flail screen and clean as instructed below.

**NOTE:** Cleaning with a forceful spray of water is not recommended as it could contaminate the fuel system.

### Engine Care

Refer to the Maintenance section of the Engine Owner/ Operator manual packed with your unit. Read and follow instructions carefully.

- Check engine oil level before each use as instructed in the separate engine manual.
- Clean or replace air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. To service the air cleaner, refer to the engine manual.
- The spark plug should be cleaned and the gap reset once a season. Check engine manual for correct plug type and gap specifications.
- Clean engine regularly with a cloth or brush. Keep the top of the engine clean to permit proper air circulation. Remove all grass, dirt, and combustible debris from muffler area.

## Removing the Flail Screen



**WARNING:** The impeller's shredder blade and chipper blades are sharp. Wear leather work gloves to protect your hands when cleaning out the reduction chamber.

If the discharge area becomes clogged, remove the flail screen and clean area as follows:

1. Stop engine and make certain the chipper shredder has come to a complete stop.



**WARNING:** The muffler and surrounding area will be hot if the engine has been running. Use caution and protect your hands if working near the muffler.

2. Disconnect spark plug wire from spark plug and ground against the engine.
3. Remove the bag and two wing knobs on each side of the chute deflector. See Figure 6-2A.
4. Lift the chute deflector up to keep it out of the way. See Figure 6-2B.
5. Remove the two hairpin clips from each clevis pin which extend through the housing and remove pins. See Figure 6-2C.
6. Remove the flail screen from inside the housing and clean the screen by scraping or washing with water. See Figure 6-2D.
7. Reinstall the screen, making certain to reassemble the flail screen with the curve side down.
8. Reattach the chute deflector with the hardware previously removed and connect the bag to unit.

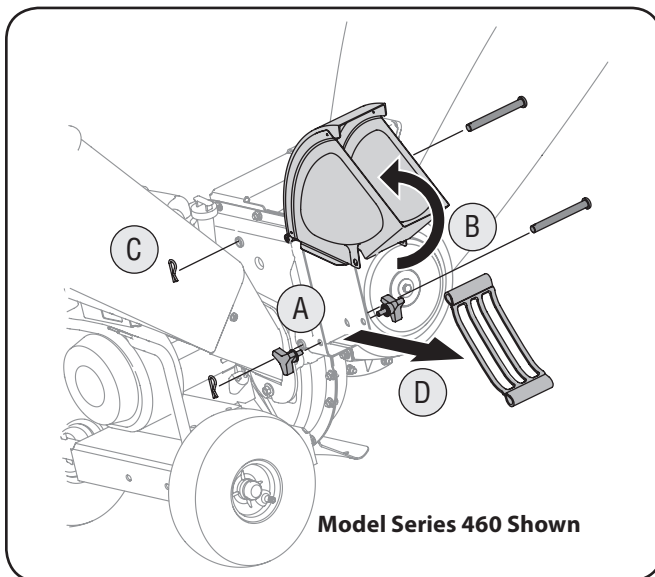


Figure 6-2

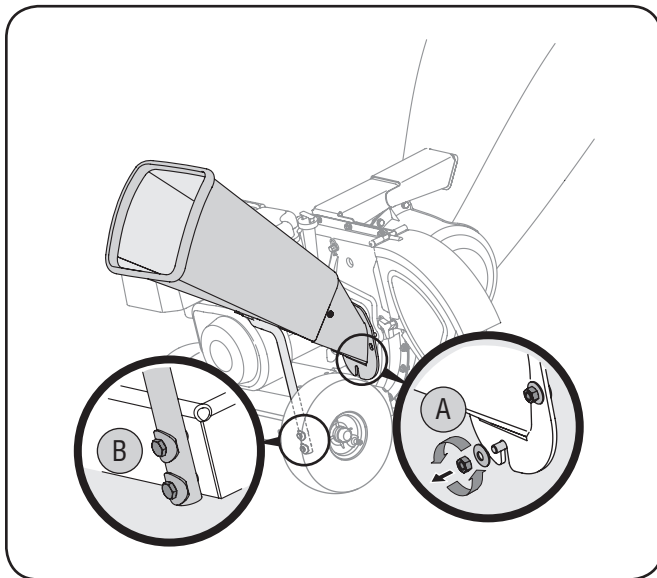
## Blade Care

### Chipper Blades



**WARNING:** Always stop engine, disconnect spark plug, and ground against engine before cleaning, lubricating or doing any kind of maintenance on your machine.

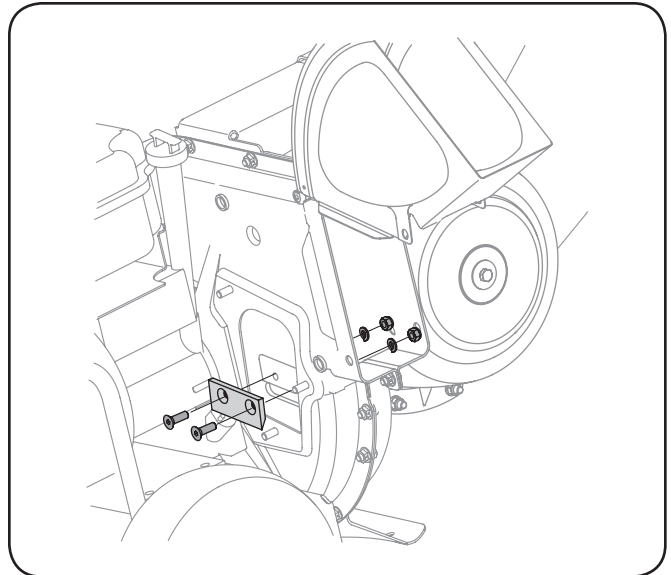
1. Disconnect the spark plug wire and ground against the engine.
2. Remove the flail screen as instructed in the previous section.
3. Remove the chipper chute by removing three hex nuts and washers. See Fig. 7-1A.



**Figure 7-1**

4. Remove the chipper chute support brace (Model Series 460) from the frame by removing the hex bolts. See Fig. 7-1B.
5. Rotate impeller assembly by hand until you locate one of two chipper blades in the chipper chute opening.
6. Remove the blade by removing the internal hex screws, lock washers, and hex nuts which secure it to the impeller. See Fig. 7-2. Retain the hardware.

**NOTE:** Use a 3/16" hex key (Allen) wrench on the outside of the blade and a 1/2" box (or socket) wrench on the inside of the impeller. Hold the Allen wrench stationary and rotate the box (or socket) wrench to loosen the nut.



**Figure 7-2**

7. Install a replacement blade (Part No. 781-0490) with the hardware removed earlier or sharpen.
8. To replace the other blade, rotate the impeller to expose the second blade and repeat the steps above.

**IMPORTANT:** When sharpening the blade, protect hands by using gloves. Follow the original angle of grind and make sure to remove an equal amount from each blade.

**NOTE:** Make certain blades are reassembled with the sharp edge facing upward. Torque hardware to 250 - 300 in. lbs.



**WARNING:** The impeller's chipper blades and shredder blade are sharp. Wear leather work gloves to protect your hands.

## Shredder Blade

1. Stop the engine and make certain that all moving parts have come to a complete stop.
2. Disconnect the spark plug wire and ground against the engine.
3. Lower the hopper assembly and block up the housing.
4. Remove the six hex lock nuts and flat washers from the weld studs on the flail housing. See Figure 7-3A. Retain the hardware.
5. Carefully separate the hopper assembly from the impeller assembly and remove the support plate. See Figure 7-3B.

**NOTE:** When reassembling the support plate, make certain the embossed tab faces inward towards the impeller.

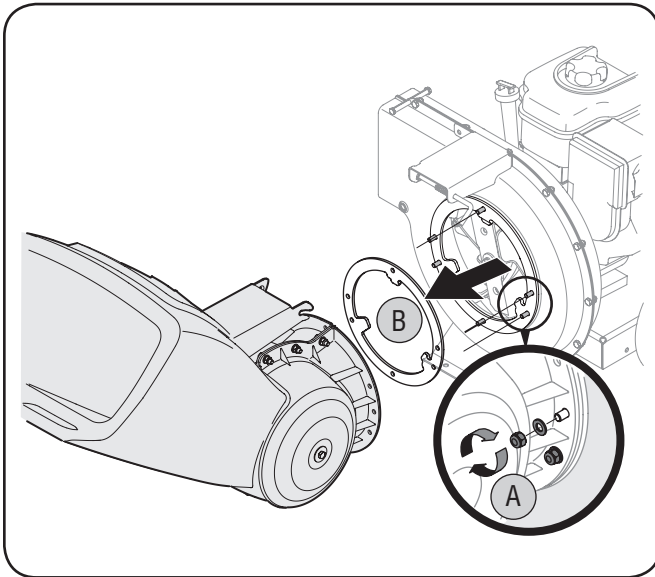


Figure 7-3

6. Remove the two wing knobs and cupped washers that secure the chute deflector and raise the chute.
7. Insert a 1/2" or 3/4" diameter pipe through the flail screen into the impeller to keep it from turning or remove the flail screen and insert a piece of wood into the chute opening.

8. Remove the two internal hex screws, lock washers, and hex lock nuts which secure the shredder blade to the impeller. See Figure 7-4A.

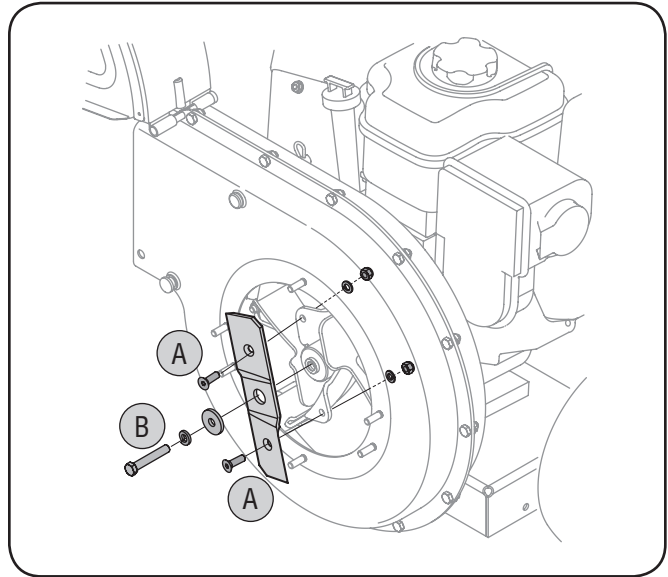


Figure 7-4

9. Remove the hex bolt, lock washer, and flat washer to completely free shredder blade. See Figure 7-4B.

**IMPORTANT:** When reassembling the shredder blade, tighten center bolt to between 550 and 700 in.-lbs. and the two outside bolts to between 250 and 350 in.-lbs.

**NOTE:** Use a 3/16" hex key (Allen) wrench on the outside of the shredder blade and a 1/2" box (or socket) wrench on the inside of the shredder blade. Hold the Allen wrench stationary and rotate the box (or socket) wrench to loosen the nut. Use caution when removing the blade to avoid contacting the weld studs on housing.

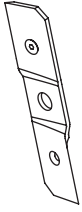
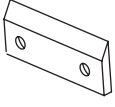
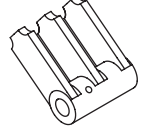
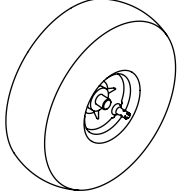
**IMPORTANT:** When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds and may cause damage to the unit. The blade can be tested by balancing it on a screwdriver or nail. Remove metal from the heavy side until it is balanced evenly.

## Off-Season Storage

- When storing the chipper shredder in an unventilated or metal storage shed, care should be taken to rustproof the non-painted surfaces. Using a light oil or silicone, coat the equipment, especially any springs, bearings, and cables.
- Remove all dirt from exterior of engine and equipment.
- Follow lubrication recommendations.
- Refer to engine manual for correct engine storage instructions.
- Store equipment in a clean, dry area. Do not store in an area where equipment is present that may use a pilot light or has a component that can create a spark.



Problem	Cause	Remedy
Engine Fails to start	<ol style="list-style-type: none"> <li>1. Throttle lever not in correct starting position.</li> <li>2. Spark plug wire disconnected.</li> <li>3. Choke not in CHOKE position (if equipped).</li> <li>4. Fuel tank empty or stale fuel.</li> <li>5. Engine not primed (if equipped).</li> <li>6. Faulty spark plug.</li> <li>7. Blocked fuel line.</li> <li>8. Engine flooded.</li> </ol>	<ol style="list-style-type: none"> <li>1. Move throttle lever to FAST or START position.</li> <li>2. Connect wire to spark plug.</li> <li>3. Move choke lever to CHOKE position.</li> <li>4. Fill tank with clean, fresh gasoline.</li> <li>5. Prime engine as instructed in Engine Manual.</li> <li>6. Clean, adjust gap, or replace.</li> <li>7. Clean fuel line.</li> <li>8. Wait a few minutes to restart, but do not prime.</li> </ol>
Engine runs erratic	<ol style="list-style-type: none"> <li>1. Spark plug boot loose.</li> <li>2. Unit running on CHOKE (if equipped).</li> <li>3. Blocked fuel line or stale fuel.</li> <li>4. Low engine RPM.</li> <li>5. Water or dirt in fuel system.</li> <li>6. Dirty air cleaner.</li> <li>7. Carburetor out of adjustment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect and tighten spark plug boot.</li> <li>2. Move choke lever to OFF position.</li> <li>3. Clean fuel line; fill tank with clean, fresh gasoline.</li> <li>4. Always run engine at full throttle.</li> <li>5. Drain fuel tank. Refill with fresh fuel.</li> <li>6. Refer to engine manual.</li> <li>7. See authorized service dealer.</li> </ol>
Engine overheats	<ol style="list-style-type: none"> <li>1. Engine oil level low.</li> <li>2. Dirty air cleaner.</li> <li>3. Carburetor not adjusted properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill crankcase with proper oil.</li> <li>2. Refer to engine manual.</li> <li>3. See authorized service dealer.</li> </ol>
Occasional skips (hesitates) at high speed	<ol style="list-style-type: none"> <li>1. Spark plug gap too close.</li> <li>2. Carburetor idle mixture adjustment improperly set.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove spark plug and adjust gap to .030".</li> <li>2. See authorized service dealer.</li> </ol>
Excessive Vibration	<ol style="list-style-type: none"> <li>1. Loose parts or damaged impeller.</li> </ol>	<ol style="list-style-type: none"> <li>2. See authorized service dealer.</li> </ol>
Unit does not discharge	<ol style="list-style-type: none"> <li>1. Discharge area clogged.</li> <li>2. Foreign object lodged in impeller.</li> <li>3. Low engine RPM.</li> </ol>	<ol style="list-style-type: none"> <li>1. Stop engine immediately and disconnect spark plug wire. Clean flail screen and inside of discharge opening.</li> <li>2. Stop engine and disconnect spark plug wire. Remove lodged object.</li> <li>3. Always run engine at full throttle.</li> </ol>
Rate of discharge slows considerably or composition of discharged material changes	<ol style="list-style-type: none"> <li>1. Low engine RPM.</li> <li>2. Chipper blade dull.</li> </ol>	<ol style="list-style-type: none"> <li>1. Always run engine at full throttle.</li> <li>2. Replace chipper blade or see your authorized service dealer.</li> </ol>

Component	Part Number and Description
	942-0571      Shredder Blade
	981-0490      Chipper Blade
	719-04308      Flail Blade (3 total)
	934-04009      Wheel Asm Comp 10X4 Oyster-Carlise

Phone 1300 951 594 to order replacement parts or a complete Parts Manual (have your full model number and serial number ready).  
 Parts Manual downloads are also available free of charge at [www.mtdproducts.com](http://www.mtdproducts.com).



### Warranty Conditions — Australia (Not applicable to other Regions)

The benefits given to you under this warranty are in addition to other rights and remedies that you have under Australian law in relation to the goods.

MTD Products Australia Pty Ltd warrants that this machine is free from defects in material and workmanship. This warranty is limited to repairing or replacing any part which appears upon inspection by MTD Products Australia Pty Ltd or its agent to be defective in material or workmanship.

A separate warranty is provided in respect of the engine for this machine. Refer to the engine warranty statement in the Engine Owner's Manual which has been included with this machine.

For domestic use, this warranty will apply for a period of 2 years from date of purchase. Warranty for commercial or industrial use is 90days from the date of purchase. In the event of dispute, MTD Products Australia Pty Ltd will determine whether the machine was used for domestic, or commercial or industrial use.

All costs associated with claiming under this warranty must be borne by you, including transport costs incurred in the repair or replacement of any defective part.

This warranty excludes fair wear and tear and any damage caused by misuse or abuse. Parts such as Blades, Bump Knobs, Outer Spools, Cutting Line, Inner Reels, Starter Pulley, Starter Ropes, Drive Belts, Saw Blades, Guide Bars, Cultivator Tines, Spark Plugs, Carburettor Adjustments and Filters which can be subjected to use beyond their normal intended working capacity are also excluded.

This warranty is void if alterations are made to the machine without MTD Products Australia Pty Ltd prior written authority.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

**IN ORDER TO MAKE A CLAIM UNDER THIS WARRANTY YOU WILL NEED TO TAKE YOUR PRODUCT AND YOUR PROOF OF PURCHASE TO AN AUTHORISED MTD DEALER. YOUR NEAREST MTD DEALER CAN BE FOUND at [www.mtd.com.au](http://www.mtd.com.au). All SERVICING AND REPAIRS MUST USE GENUINE SPARE PARTS OR YOUR WARRANTY WILL BE VOID.**

**For your Record:**

Retailers Name: ..... Address: .....  
Phone No: ..... Model No: .....  
Serial No: ..... Date of Purchase: .....

MTD Products Australia Pty Ltd.

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