

OWNER'S MANUAL

DWC-22 WOOD CHIPPER



MADE IN CHINA

1 .SAFETY

Section

1.1 SAFETY ALERT SYMBOL



The Owner/Operator's manual uses this symbol to alert you of potential hazards. Whenever you see this symbol , read and obey message that follows it. Failure to obey the safety message could result in personal injury, death or property damage.

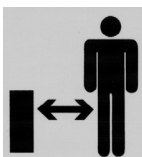
BEFORE OPERATING



1. Read and understand this Owner/Operator's manual. Be completely familiar with the controls and the proper use of this equipment.
2. Familiarize yourself with all of the safety and operating decals on this equipment and on any of its attachments or accessories.
3. Keep safety decals clean and legible. Replace missing or illegible safety decals.
4. Obtain and wear safety glasses and use hearing protection at all times when operating this machine.
5. Avoid wearing loose fitted clothing. Never operate this machine wearing clothing with drawstrings that could wrap around or get caught in the machine.■



6. Do not operate this machine if you are under the influence of alcohol, medications, or substances that can affect your vision, balance or judgement. Do not operate if tired or ill. You must be in good health to operate this machine safely.
7. Do not operate this equipment in the vicinity of bystanders. Keep the area of operation clear of all persons, particularly small children. It is recommended that bystanders keep at least 50 feet (15 meters) away from the area of operation.



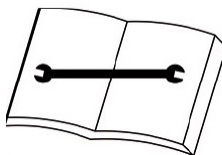
8. Do not allow children to operate this equipment.
9. Use only in daylight or good artificial light.
10. Do not run this equipment in an enclosed area. Engine exhaust contains carbon monoxide gas, a deadly position that is odorless, colorless tasteless. Do not operate this equipment in or near buildings, windows or air conditioners.
11. Do not operate machine without shields in place. Failure to do so may cause serious injury or death.



12. Keep all guards, deflectors, and shields in good working condition.
13. Before inspecting or servicing any part of this machine, shut off the engine of tractor, remove the ignition key and make sure all moving parts have come to a complete stop.



14. Check that all screws, nuts, bolts, and other fasteners are secured, tightened and in proper working condition before starting the machine and once every 8 hours of operation.



15. Do not transport or move machine while the machine is operating or running.

OPERATION SAFETY



1. Always stand clear of discharge area when operating this machine. Keep face and body away from feed and discharge openings.
2. Keep hands and feet out of feed and discharge openings while machine is operating to avoid serious personal injury. Stop and allow machine to come to a complete stop before clearing obstructions.
3. Set up your work site so you are not endangering traffic and the public. Take great care to provide adequate warnings.
4. Do not climb on machine when operating .Keep proper balance and footing

at all times.

5. Check cutting chamber to verify it is empty before starting the machine.
6. The disk will continue to rotate when clutch is disengaged. Shut off the engine of tractor, remove the ignition key and make sure all moving parts have come to a complete stop.
7. Do not insert branches large than 8 inches in diameter into chipper or machine damage may occur.



≅ 8 inch or 200 mm

8. When feeding material into machine, do not allow metal, bottle, cans or any other foreign material to be fed into the machine.
9. Ensure debris does not blow into traffic, parked cars, or pedestrians.
10. Keep the machine clear of debris and other accumulations.
11. Do not allow processed material to build up in the discharge area. This may prevent proper discharge and can result in kickback of material through the feed opening.
12. Shut off the engine of tractor immediately if the machine becomes clogged, the cutting mechanism strikes any foreign object, or the machine starts vibrating or making an unusual noise. Shut off the engine of tractor, remove the ignition key and make sure all moving parts have come to a complete stop. After machine stops:
 - A. Inspect for damage.
 - B. Replace or repair any damage parts.
 - C. Check for and tighten any loose parts.
13. Check blade bolts for proper torque after every 8 hours of operation. Check blades and rotate or sharpen daily or as required to keep blades sharp. Failure to do so may cause poor performance, damage or personal injury and will void the machine warranty.

1.4 FEED ROLLER SAFETY



1. The feed roller can cause serious injury or death. Keep hands, feet and clothing away from the feed roller and chipper disk blades.
2. Never climb onto the feed chute when the unit is operating or running.
3. Do not overreach. Keep proper balance and footing at all times.
4. Never allow passengers to ride on the feed chute.
5. When feeding material into the feed roller.
 - A. Wear eye, face and hearing protection.

- B. Release material and stand to side of feed chute.

1.5 MAINTENANCE AND STORAGE SAFETY

1. Before inspecting, servicing, storing, or changing an accessory, shut off the engine of tractor,
remove the ignition key and make sure all moving parts have come to a complete stop.
2. Allow machine to cool before storing in an enclosure.
3. Store the machine out of reach of children.

1.6 TOWING SAFETY

1. Rotate the discharge tube to face the opposite direction of the towing vehicle before towing.
2. Insert transport safety pin and clip, and set turntable brake handle to locked position.
3. Connect hitch safety chains. Tighten and secure trailer hitch bolts.
4. Optimum towing performance can be achieved by maintaining a horizontal trailer hitch.
5. Make sure the jack stand and the rear stabilizer on trailer are in the UP position during towing.
6. Never allow passengers to ride on the chipper.
7. Adjust the height of hitch, make sure they are horizontal before moving the machine.

1.7 SAFETY DECALS

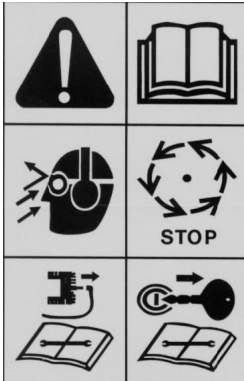


See section 1.8 for decals locations. Familiarize yourself with all of the safety and operating decals on the machine and the associated hazards. See the engine owners manual or contact the engine manufacturer for engine safety instructions and decals. Make certain that all safety and operational decals on this machine are kept clean and in good condition. The decals are shown below at reduced sizes. Refer to the parts catalog if you need a replacement decal. Decals that need replacement must be applied to their original locations.

1. KEEP HANDS AND FEET OUT OF INLET AND DISCHARGE
OPENINGS WHILE MACHINE IS OPERATING TO AVOID SERIOUS
PERSONAL INJURY. STOP AND ALLOW MACHINE TO COME
TO A COMPLETE STOP BEFORE CLEARING OBSTRUCTIONS.



2. READ AND UNDERSTAND THIS OWNER/OPERATORS MANUAL. BE COMPLETELY FAMILIAR WITH THE CONTROLS AND THE PROPER USE OF THIS EQUIPMENT. OBTAIN AND WEAR SAFETY GLASSES AND USE HEARING PROTECTION AT ALL TIMES WHEN OPERATING THIS MACHINE. BEFORE INSPECTING OR SERVICING ANY PART OF THIS MACHINE, SHUT OFF POWER SOURCE, DISCONNECT SPARK PLUG WIRE FROM SPARK PLUG AND MAKE SURE ALL MOVING PARTS HAVE COME TO A COMPLETE STOP.



3. DO NOT USE OPERATE THIS EQUIPMENT IN THE VICINITY OF BYSTANDERS. DO NOT ALLOW CHILDREN TO OPERATE THIS EQUIPMENT. ALWAYS STAND CLEAR OF DISCHARGE AREA WHEN OPERATING THIS MACHINE. KEEP FACE AND BODY AWAY FROM DISCHARGE AREAS.



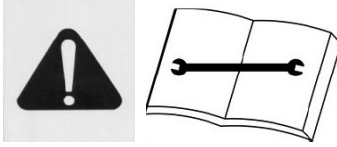
4. DO NOT OPERATE MACHINE WITHOUT SHIELDS IN PLACE. FAILURE TO DO SO MAY CAUSE SERIOUS INJURY OR DEATH.



5. KEEP HANDS AND FEET OUT OF INLET AND DISCHARGE OPENINGS WHILE MACHINE IS OPERATING TO AVOID SERIOUS PERSONAL INJURY. STOP AND ALLOW MACHINE TO COME TO A COMPLETE STOP BEFORE CLEARING OBSTRUCTIONS.



6. CHECK BLADE BOLTS FOR PROPER TORQUE AFTER EVERY 8 HOURS OF OPERATION. CHECK BLADES AND ROTATE OR RESHARPEN DAILY OR AS REQUIRED TO KEEP BLADES SHARP. REFER TO OWNERS MANUAL FOR INSTRUCTIONS. FAILURE TO DO SO MAY CAUSE POOR PERFORMANCE, DAMAGE OR PERSONAL INJURY AND WILL VOID THE MACHINE WARRANTY.



7. READ AND UNDERSTAND THIS OWNER/OPERATORS MANUAL. BE COMPLETELY FAMILIAR WITH THE CONTROLS AND THE PROPER USE OF THIS EQUIPMENT.



8. DO NOT OPERATE CHIPPER WITHOUT TURNABLE BASE LOCKED IN PLACE. FAILURE TO DO SO MAY RESULT IN DAMAGE TO MACHINE AND/OR SERIOUS BODILY INJURY.



1.8 SAFETY DECAL LOCATIONS

The numbers below correspond to the decals in Section 1.7. Familiarize yourself with all of the safety and operational decals on the machine and the associated hazards. See the engine owners manual or contact the engine manufacturer for engine safety instructions and decals. Make certain that all safety and operating decals on this machine are kept clean and in good condition. The decals are shown below at reduced sizes. Refer to the parts catalog if you need a replacement decal. Decals that need replacement must be applied to their original locations.

2 .ASSEMBLY

Section

2.1 TRAILER HITCH

1. Connect the machine with tractor by its PTO shaft and 3 point suspension.
2. Check the bolt and nut which are available in this connection and make them steady and under good condition.

2.2CHUTE EXTENSION TRAY

The CHUTE EXTENSION TRAY is an optional item for you:

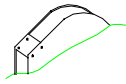
1. Align the four bolt holes in the chute extension tray with the bolt holes on the

chipper chute.

2. Insert four bolts respectively (included in owner's kit) through the four outside holes on the chipper chute. Secure the bolts with washers and nuts.

2.3 DISCHARGE TUBE

1. Attach the discharge tube to the mounting flange on the chipper frame. Slide the tube onto the flange and tighten the bolts to secure it.
2. Align the four bolt holes in the disk cover with the bolt holes in the discharge tube.
3. Insert four bolts respectively (included in owner's kit) through the four sides holes



3 .FEATURES AND CONTROLS

Section

Understanding how your machine works will help you achieve the best results when using your chipper. The following descriptions define the features and controls of your machine.

TURNTABLE BRAKE

Locks the turntable to the frame for any chipping position. The chipper base must always be locked in place. Failure to do so may result in machine vibration, serious bodily injury or death.

DISCHARGE TUBE

Directs the discharge of chipped material horizontally. The discharge tube can be rotated 360 degree horizontally by moving the bolts on it.

FEED CHUTE

Materials to be chipped are fed into the feed chute, through the feed roller, to the chipper blades. Around the edge of the chute is a feed roller control bar. The chipper will not feed material until the feed roller control bar is pressed. The feed roller will resume rotation once the feed roller control bar has been restored.

CHUTE EXTENSION TRAY

The feed chute has an extension tray that folds down.

FEED ROLLER CONTROL BAR

To engage the feed roller move the control bar.

4 .OPERATION

Section

As with any other outdoor piece of outdoor power equipment, getting the feel for how your machine operates and getting to know the best techniques for particular jobs are important to overall good performance.

CHIPPING OPERATION

The chipping operation takes place on the front of machine, where hardened steel chipper blades are mounted on a rotating disk assembly. Material fed into the chipper chute is sliced into small chips and propelled out through a discharge tube.

4.1 STARTING THE MACHINE

1. Start the engine of tractor. (see tractor owner's manual).
2. Once engine is running and no choke is needed, set engine to 1/4 throttle and slowly release the engagement handle. This will engage the drive belt and the disk will turn.
3. If the engine stalls when engaging the drive belt, either use more choke or increase engine RPM.
4. Bring engine to full RPM.

NOTE: It is important to bring the engine to full RPM before operating the chipper. The chipper feed controller requires the chipper disk to turn at full RPM in order to operate.

4.2 STOPPING THE MACHINE

1. Move throttle to SLOW position.
2. Shut off engine (see tractor owner's manual).
4. Allow machine to come to a complete stop.

NOTE: The disk will continue to turn for some time after the engine has been shut off . Make sure disk has stopped completely before inspecting or servicing machine.

WARNING: The chipper base must always be locked in place. Failure to do so may result in machine vibration, serious bodily injury or death.

4.3 FEED ROLLER CONTROL BAR

The feed roller control is used to control the speed of the feed roller allowing the

operator to have better control of material being fed into the chipper. For optimum chipping, it is recommended that the feed roller operate at a faster rate for smaller branches and at a slower rate for large branches.

4.4 CHIPPING GUIDE

The chipper chips a variety of materials into a more readily decomposed or handled condition. The following guidelines can help you get started.

1. Run unit at full operating speed before starting to chip material.
2. These machines are most effective when chipping material 0-6" in diameter. Although this machines will accept material up to 8" , you may see a reduction in performance when feeding material larger than 6" .
3. Trim side branches that cannot be bent enough to feed into the chipper chute. Hold small diameter branches together in a bundle and feed in simultaneously.
4. Exclude pieces of metal, rocks, bottles, cans, and other foreign objects when feeding chipable material into the machine.
5. Do not lean over the chipper chute to push objects into the cutting device. Use a push stick or brush paddle.
6. Place limb, butt end first, into the chipper chute until it contacts the chipper blades. The actual feed rate of the limb into the chipper will depend on the type of material fed and sharpness of the cutting blades.
7. Stop the material feeding and allow the engine to recover if the engine slows to where it may stall.
8. Remove the branch and rotate it before reinserting it into the chute if the chipper jams.
9. Alternately insert and retract the limb or insert continuously at a rate that will not kill the engine.
10. Chipping dead, dry material will create heat and dull the chipping blades quickly.
11. Alternate green material with dry material to lubricate the chipping blades for longer life and better performance.
12. The chipping blades will become dull and will require periodic sharpening. Refer to the Service and Maintenance section for sharpening instructions.

5 .SERVICE & MAINTENANCE

Section

5.1 MAINTENANCE SCHEDULE

The items listed in the service and maintenance schedule are to be checked, and if necessary, corrective action taken. This schedule is designed for units operating under normal conditions. If the unit is operating in advance or severe usage conditions it may be necessary for the items to be checked and serviced

more frequently.

SERVICE AND MAINTENANCE SCHEDULE									
		FREQUENCY							
Components	Maintenance	Before Each Use	Every 8 Hrs	Every 25 Hrs	Every 50 Hrs	Every 100 Hrs	Every 250 Hrs	Every 500 Hrs	Every 1 Year
Nuts & Bolts	Check		•						
Chipper Blades	Check, Sharpen If needed(3)		•						
Belt/Pulley Alignment	Check			•					
Drive Belt	Check			•					
Entire Machine	Clean				•				
Pre-cleaner Element	Clean(1)						•		
Starter Drive	Service(2)							•	
1.Perform more frequently in dusty, dirty or severe usage conditions.									
2.Have a your engine service dealer perform this service.									
3.It is a good sign that your chipper blades need sharpening when material stops self feeding.									
4.Perform after the first 50 hours of operation.									
5.Refer to engine owners manual for additional maintenance schedules.									

CHIPPER BLADES



The chipping blades will eventually become dull, making chipping difficult and adding extra strain on the machine. Poor chipping performance is usually a result of dull chipping blades. It is recommended that the blades be sharpened every 5-15 hours or if your chipper's performance has decreased. Check for the following symptoms and sharpen the blades if needed.

1. Severe vibration when feeding material into the chipper.
2. Small diameter branches do not self-feed.

3. Chips discharge unevenly or have stringy tails, especially when chipping green branches.

ATTENTIONN: Before you sharpen the chipping blades, check for permanent damage. Replace the blade if:

1. There are cracks, broken corners or nicks.
2. The base of the cutting edge is worn or has been re-sharpened

5.3 REMOVING THE BLADES

1. Remove the two bolts on the back side access of disk cover.
2. Rotate the disk so that the bolts holding the chipper blades are accessible.
3. Install the chipper blades and cover carefully.

5.4 PLUGGED DISK

Feeding too large or too much material at once may plug the chipper. To clear a plugged disk, proceed as follows:

1. Push the feed roller control bar and turn off engine key switch.
2. Remove the two bolts on the back side access of disk cover.
3. Clean the debris away from the chipper disk. Turn the disk by hand to be sure it is free to rotate. Be careful to avoid the chipper blades when cleaning out the debris.
4. Close the access cover and replace bolts.

5.5 DISK BEARINGS

Replacing disk bearings should be only performed by a qualified service technician.

1. Remove the coupling between gear box and blade disk.
2. Remove the two retaining bolts holding the access cover to the main frame assembly.
3. Remove bearing cap and loosen both bearing set screws.
4. Remove four bearing mounting bolts.
5. Remove bearing and install new bearing with grease zerk facing away from engine towards hinge side of rotor cover.
6. Install the two bearings with washers and bolts.

6 .TROUBLESHOOTING

Section

Before performing any of the corrections in this troubleshooting chart, refer to the appropriate information contained in this manual for the correct safety precautions and operating or maintenance procedures. Contact your nearest dealer or the factory for service problems with the machine.

PROBLEM	POSSIBLE CAUSE	REMEDY
Engine or disk stalls or stops.	<ol style="list-style-type: none"> 1. Obstructed discharge. 2. Plugged disk. 	<ol style="list-style-type: none"> 1. Use branch or similar object to clean discharge. 2. Clear disk. Feed material more evenly.
Hard to feed chipper, requires excessive power to chip.	<ol style="list-style-type: none"> 1. Dull chipper blades. 2. Obstructed discharge. 3. Improper blade clearance. 	<ol style="list-style-type: none"> 1. Rotate or sharpen blades. 2. Use branch or similar object to clear discharge. 3. Adjust clearance between the chipper blades and anvil
Material from chipper wraps around disk shaft.	<ol style="list-style-type: none"> 1. Stringy, green material bypasses chipper blades. 2. Dull chipper blades. 3. Improper blade clearance. 	<ol style="list-style-type: none"> 1. Rotate branch or material when feeding to cut completely. 2. Sharpen blades. 3. Adjust clearance between the chipper blades and anvil.
Excessive vibration while running.	<ol style="list-style-type: none"> 1. Drive system vibration. 2. Disk out of balance. 3. Chipper blade/anvil clearance is incorrect. 	<ol style="list-style-type: none"> 1. Check for dull chipper blades. 2. Inspect disk for broken or missing chipper blades, replace if needed. Check disk to see if it wobbles. Check to see if disk is assembled correctly. 3. Set chipper blade/anvil clearance to recommended distance.
Disk will not turn.	<ol style="list-style-type: none"> 1. Obstructed discharge. 2. Plugged disk. 	<ol style="list-style-type: none"> 1. Use branch or similar object to clear discharge. 2. Clear disk. Feed material more evenly.

6 .SPECIFICATIONS

Section

SIZE SPECIFICATIONS

DESCRIPTION	ENGLISH	METRIC
OVERALL SIZE		220cm x 180cm x 175cm
OVERALL WEIGHT		805kg
MAX CHIPPER CAPACITY		20cm dia.
FEED CHUTE OPENING		61cm x 49cm
CHIPPER BLADES		2 reversible heat treated
DISC SPEED		1080R.P.M
DISC SIZE		64cm dia. x 2.75cm thick
DISC WEIGHT		85kg
DISCHARGE BLOWER SIZE		10 x 12 cm
DISCHARGE BLOWER HEIGHT		1.80 m