



20HP E-start 150MM PETROL WOOD CHIPPER

User Manual

SAFETY AND OPERATION INSTRUCTIONS



BM11062

IMPORTANT: Read safety rules and instructions carefully before operating equipment.

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Conventions used in this manual

WARNING

This indicates a hazardous situation, which, if not avoided, could result in serious injury or death.

CAUTION

This indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

NOTICE

This information is important for the correct use of your machine. Failure to follow this instruction could result in damage to your machine or property.

Additional Information and Potential Changes

We reserve the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine.

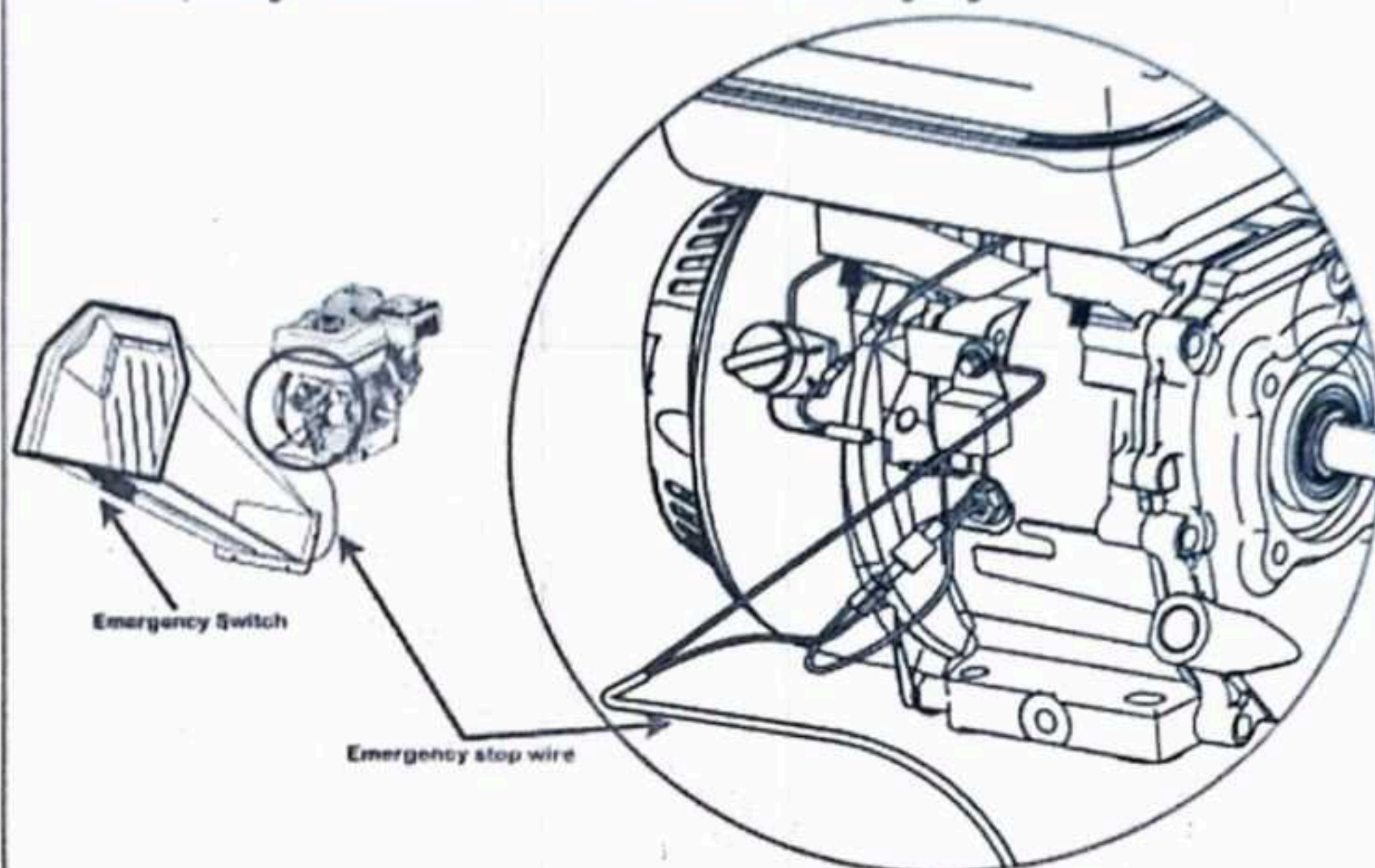
PART I: General Safety Rules

Safety Labels Found on Your Unit



! WARNING: EMERGENCY STOP

- Make sure the emergency stop wire is rightly connected. If not, may result in death or serious injury.



Should make sure the emergency stop switch is available before every use. Or may result in serious injury even death.

! WARNING

Read this Safety & Operating Instructions manual before you use the Wood Chipper. Become familiar with the operation and service recommendations to ensure the best performance of your machine.

! CAUTION

This machine is designed solely to chip wood and must not be used for any other purpose. It should only be used by trained operators who are familiar with the content of this manual. Only genuine replacement parts should be used. The company disclaims all liability for the consequences of such use, which in addition voids the machine warranty.

Before using the wood chipper

! NOTICE

- A. Operators must be fully trained before using this machine.
 - B. User Manual should be read and understood.
 - C. Machine should be positioned on level ground, with all guards fitted and in good condition.
 - D. Blades should be in good condition and secure. Blades should be sharpened or replaced in sets.
 - E. All fasteners should be checked for tightness.
 - F. Only WOODEN materials free of nails and other foreign objects should be fed into the machine.
 - G. Emergency stop wire should be rightly connected and the switch should be functional.
 - H. Fire extinguisher should be available on site.
-

When using the wood chipper

NOTICE

- A. Always feed from the side.
 - B. It is better to have a second trained operator within easy reach of the machine.
 - C. Maintain strict discipline at all times and service machine at specified periods.
 - D. Note direction of discharge chute and if necessary, note the wind direction to prevent debris from being blown where it could affect members of the public.
 - E. DO NOT put any part of your body into the in-feed chute while the machine is running.
 - F. DO NOT operate the machine whilst under the influence of alcohol or drugs.
 - G. DO NOT operate inside a building or confined space or climb on the in-feed chute.
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Protecting Yourself and Those Around You

WARNING

This is a high-powered machine, with moving parts operating with high energy. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area. Always take the following precautions when using this machine:

- A. Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
 - B. Always wear protective goggles or safety glasses with side shields while using the Wood Chipper to protect your eyes from possible thrown debris.
 - C. Avoid wearing loose clothing or jewelry, which can catch on moving parts.
 - D. We recommend wearing gloves while using the Wood Chipper. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
 - E. Wear shoes with non-slip treads when using your Wood Chipper. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing open sandals.
 - F. Wear long pants while operating the Wood Chipper.
 - G. Keep bystanders at least 15m away from your work area at all times. Stop the engine when another person or pet approaches.
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Safety for Children and Pets

WARNING

Tragic accidents can occur if the operator is not alert to the presence of children and pets. Children are often attracted to the machine and the chipping activity. Never assume that children will remain where you last saw them. Always follow these precautions:

- A. Keep children and pets at least 15 metres from the working area and ensure they are under the watchful care of a responsible adult.
 - B. Be alert and turn the machine off if children or pets enter the work area.
 - C. Never allow children to operate the Wood Chipper.
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Safety with Gasoline - Powered Machines

WARNING

Gasoline is a highly flammable liquid. Gasoline also gives off flammable vapor that can be easily ignited and cause a fire or explosion. Never overlook the hazards of gasoline. Always follow these precautions:

- A. Never run the engine in an enclosed area or without proper ventilation as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and a deadly poisonous gas.
 - B. Store all fuel and oil in containers specifically designed and approved for this purpose and keep away from heat and open flame, and out of the reach of children.
 - C. Replace rubber fuel lines and grommets when worn or damaged and after 5 years of use.
 - D. Fill the gasoline tank outdoors with the engine off and allow the engine to cool completely. Don't handle gasoline if you or anyone nearby is smoking, or if you're near anything that could cause it to ignite or explode. Reinstall the fuel tank cap and fuel container cap securely.
 - E. If you spill gasoline, do not attempt to start the engine. Move the machine away from the area of the spill and avoid creating any source of ignition until the gas vapors have dissipated. Wipe up any spilled fuel to prevent a fire hazard and properly dispose of the waste.
 - F. Allow the engine to cool completely before storing in any enclosure. Never store a machine that has gas in the tank, or a fuel container, near an open flame or spark such as a water heater, space heater, clothes dryer or furnace.
 - G. Never make adjustments or repairs with the engine running. Shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes before making adjustments or repairs.
 - H. Never tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. If
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required, see your authorized dealer for engine governor adjustments.

- I. Keep combustible substances away from the engine when it is hot.
 - J. Never cover the machine while the muffler is still hot.
 - K. Do not operate the engine with the air cleaner or the carburetor air intake cover removed. Removal of such parts could create a fire hazard. Do not use flammable solutions to clean the air filter.
 - L. The muffler and engine become very hot and can cause a severe burn; do not touch.
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General Safety

WARNING

Operating this Wood Chipper safely is necessary to prevent or minimize the risk of serious injury or death. Unsafe operation can create a number of hazards for you. Always take the following precautions when operating:

- A. Your Wood Chipper is a powerful tool. Exercise extreme caution at all times. The machine is designed to Chip Woods. Do not use it for any other purpose.
 - B. Know how to stop the Wood Chipper quickly.
 - C. Never operate your unit on a slippery, wet, muddy, or icy surface. Exercise caution to avoid slipping or falling.
 - D. See manufacturer's instructions for proper operation and installation of accessories.
 - E. Never use the machine without ensuring that all guards and shields are in place.
 - F. Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the Wood Chipper. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will invalidate your warranty.
 - G. If the machine start to make an unusual noise or vibrate, shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for engine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check damaged parts and clean, repair and/or replace as necessary.
 - H. Never tamper with safety devices. Check their proper operation regularly.
 - I. Before performing any maintenance or inspection procedure, shut down the engine, disconnect the spark plug wire keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for machine to cool down.
 - J. Never allow people who are unfamiliar with these instructions to use the Wood Chipper. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.
 - K. Never overload or attempt to chip woods beyond the manufacturer's recommendation. It could result in personal injury or damage to the machine.
 - L. While using, don't hurry or take things for granted. When in doubt about the equipment or your surroundings stop the machine and take time to look things over.
 - M. Never operate the machine when under the influence of alcohol, drugs, or medication.
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- N. Use the machine only in daylight.
 - O. Stay alert for hidden hazards or traffic.
 - P. Keep all nuts and bolts tight and keep the equipment in good operating condition.
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A Note to All Users

List of warnings and cautions cannot be all-inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this **WOOD CHIPPER** in a safe manner. Contact the dealers for assistance in your area.

PART II: Specifications of the Wood Chipper

It may be helpful to familiarize yourself with the controls and features of the Wood Chipper. If you have any question, please contact the dealers in your area.

TECHNICAL SPECIFICATIONS

	Electric Start
Engine	20HP Rato four strokes
Power	Petrol
Chipper Capacity	5CBM/hour to 7CBM/hour
Wood Diameter	Diameter 150mm
Permitted wood width	300mm
Chipper Blade	Twin reversible blades
Tire	16*6.5-8, 10*4.1-4
Overall Height	1480mm
Overall Length	2500mm
Overall Width	1080mm
Roller Max RPM	2000 rpm
Packing Size	1150*780*1230mm
Weight	260/290kgs

PART IV: Operating the Wood Chipper

It may be helpful to better familiarize yourself with the features of your Wood Chipper before beginning the steps outlined in this chapter.

WARNING

- A. Read and understand all instructions, safety precautions, and/or warnings listed in “PART I: General Safety Rules” before operating the WOOD CHIPPER. If any doubt or question arises about the correct or safe method of performing anything found in this manual, please contact the dealers in your area.
 - B. When operating the Wood Chipper, make sure you are standing in the safe operating area (OPERATOR ZONE). Never place any part of your body into a position that causes an unsafe operating condition.
 - C. Before loading and operating the Wood Chipper, always wear protective gear, including safety goggles, hearing protection, tight-fitting gloves without draw strings or loose cuffs, and safety boots.
 - D. Knowing the correct and incorrect methods of Chipping woods. Never using an incorrect or unsafe method.
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Starting

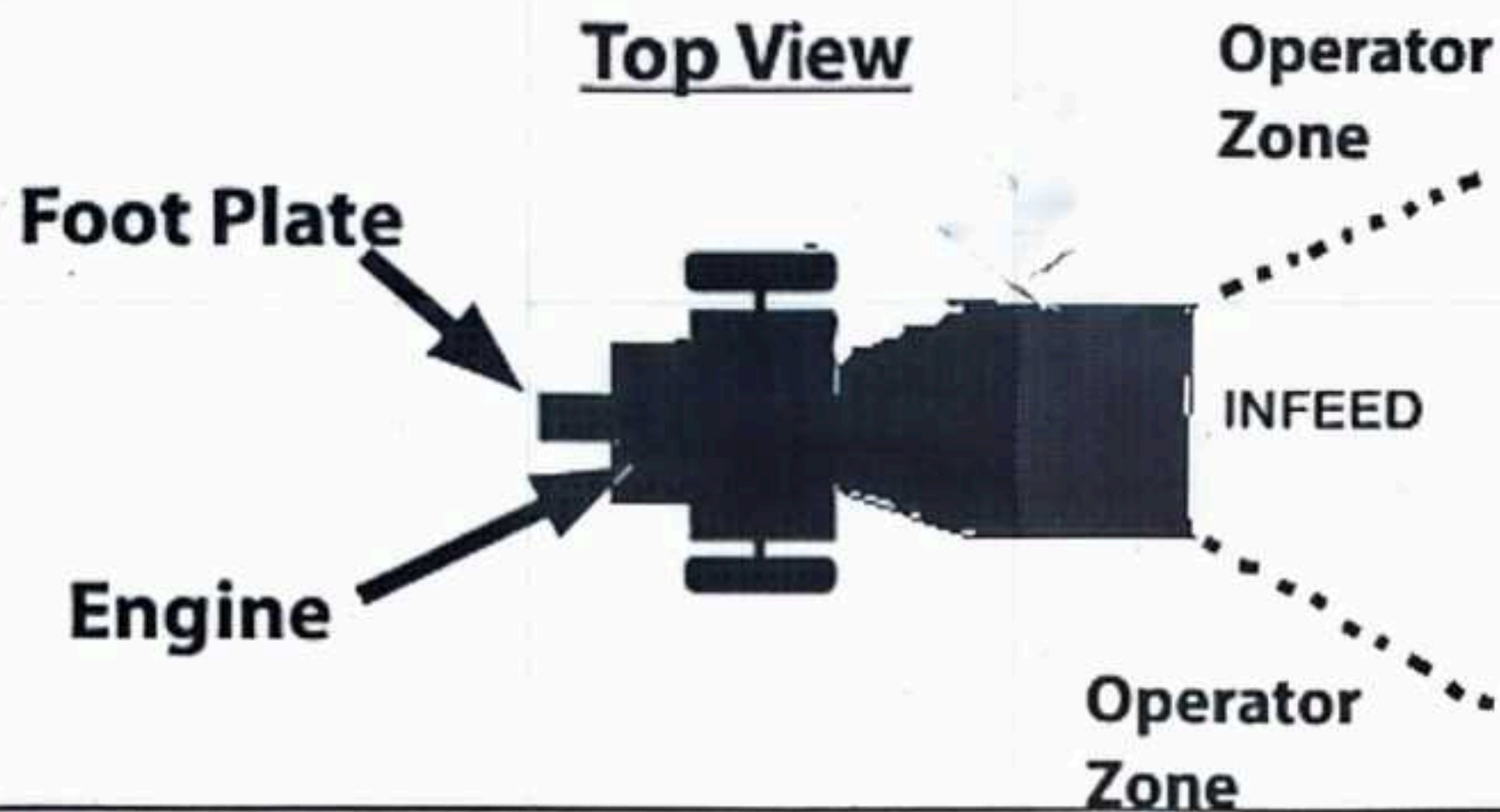
- 1. Position your Wood Chipper on flat, dry ground, make sure the machine cannot be moved.
- 2. Make sure the fuel shut-off valve is in the “ON” position.
- 3. Move the choke control lever to the “CHOKE” position (should only be needed if the engine is cold).
- 4. Move the throttle control lever to the “FAST” position.
- 5. ~~Recoil Start: Turn the Ignition Switch to the “On” position. Grasp the recoil starter handle and slowly pull until you feel resistance. Let the cord retract. Pull the cord rapidly to start the engine. One or two pulls usually starts the engine.~~
- 6. Electric Start: Turn and hold the Key in the start position until Engine starts then let the Key return to run position.
- 7. Move the choke control lever (if used for cold engine) slowly back to the “RUN” position when the engine is running well.
- 8. If the Wood Chipper has not been running (cold engine), warm up the engine by running the engine at half throttle for 3 to 4 minutes, then advance the engine throttle control to the maximum speed.

Stopping

- 1. Move the Throttle Lever to IDLE.

2. Recoil Start: Turn the Ignition Switch to the OFF position.
3. Electric Start: Turn the Key to the OFF position.

Operator Zone



Wood Chipping

! NOTICE

Branches should be less than 150mm diameter.

! WARNING

Do not place your hands into the chute when loading. This is a very UNSAFE method and could result in injury to your hands.

! When Blocked

If the Roller stops while chipping woods or branches, the motor should be stopped manually, and take out the woods which stuck the roller, and then restart the motor, and chip again.

PART V: Maintaining the Wood Chipper

Regular maintenance is the way to ensure the best performance and long life of your machine. Please refer to this manual and the engine manufacturer's user manual for maintenance procedures.

WARNING

Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug. Disconnect the Battery Terminals (Electric start only).

Regular Maintenance Checklist

Procedure	Before Each Use	Every 3 Hours	Every 25 Hours	Every 100 Hours
Check engine oil level	Δ			
Check general equipment condition	Δ			
Check wedge for sharpness	Δ			
Check belts	Δ			
Check tire pressure			Δ	
Clean engine exterior and cooling			Δ	
Change Engine Oil	First time 5hours		Δ	
Replace air filter			Δ	
Replace spark plug				Δ

Engine Service

Refer to the engine manufacturer's user manual for engine maintenance.

Lubrication

NOTICE

All Bearings of your Chipper are sealed units and should have sufficient lubricant to last the life of your machine with normal use.

PART VI: Troubleshooting and Parts List

Most problems are easy to fix. Consult the Troubleshooting Table below for common problems and their solutions. If you continue to experience problems, contact the dealers in your area.

WARNING

Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

Troubleshooting Table

SYMPTOM	POSSIBLE CAUSE
<i>The engine won't start.</i> <i>(Please refer to the engine user manual for engine-specific procedures.)</i>	➤ <i>Is the ignition switch in the "ON" position?</i> ➤ <i>Is the fuel shut-off valve on?</i> ➤ <i>Are you using fresh, clean gas? If the gas is old, change it. Use a fuel stabilizer if you keep gas longer than 30 days.</i> ➤ <i>Is the spark plug clean? If the spark plug is dirty or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull the recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.</i>
<i>The engine lacks power or is not running smoothly.</i> <i>(Please refer to the engine user manual for engine-specific procedures.)</i>	➤ <i>Check that the Throttle Lever is in the "Run" position.</i> ➤ <i>Is the air filter clean? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.</i> ➤ <i>Is the spark plug clean? If it's fouled or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull your recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.</i> ➤ <i>Are you using fresh, clean unleaded gas? If it's old, change it. Use a fuel stabilizer if you keep gas longer than 30 days.</i> ➤ <i>Does your engine have the right amount of clean oil? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.</i> ➤ <i>Check the oil level and adjust as needed.</i>
<i>Engine smokes.</i> <i>(Please refer to the engine user manual for engine-specific procedures.)</i>	➤ <i>Check the oil level and adjust as needed.</i> ➤ <i>Check the air filter and clean or replace if needed.</i> ➤ <i>You may be using the wrong oil—too light for the temperature. Refer to your Engine Owner's Manual for detailed information.</i> ➤ <i>Clean the cooling fins if they're dirty.</i>

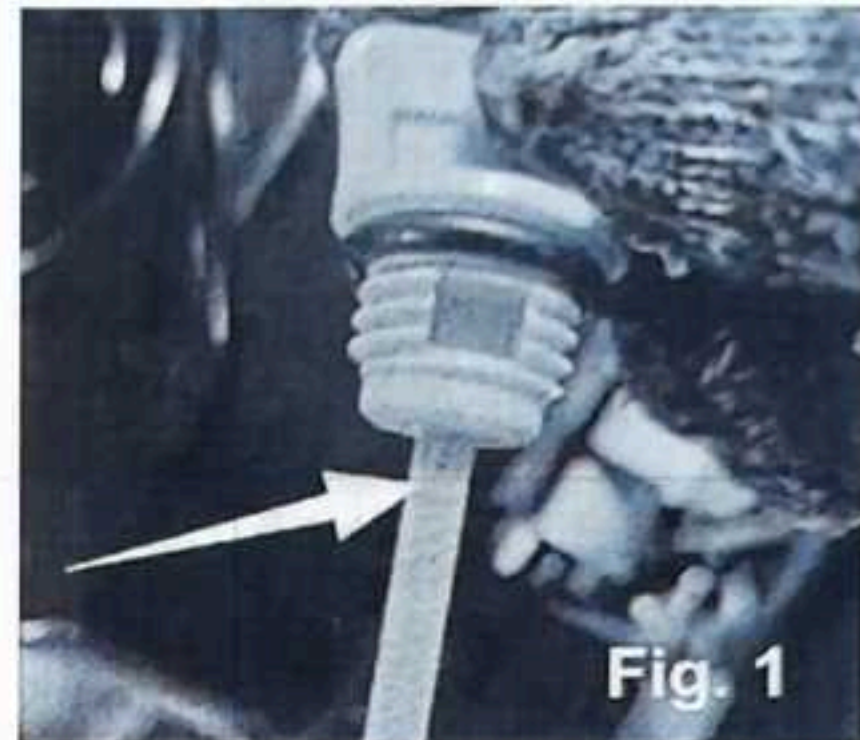
Engine Starting Procedure:

1. **Pre-start Inspection:** Check the engine for any damage sustained during transport, and for any missing parts. If any are found, please contact us immediately for assistance.

2. **Starting Preparation:** The engine has been emptied of fuel and engine oil during transport. Before first use, add sufficient fuel and engine oil.

Note: The oil tank contains a level protector. If the oil level is insufficient, the engine will be in a protective state and will not start. Therefore, the oil level should generally be filled to the middle position indicated by the level indicator – approximately 0.5-0.8L.

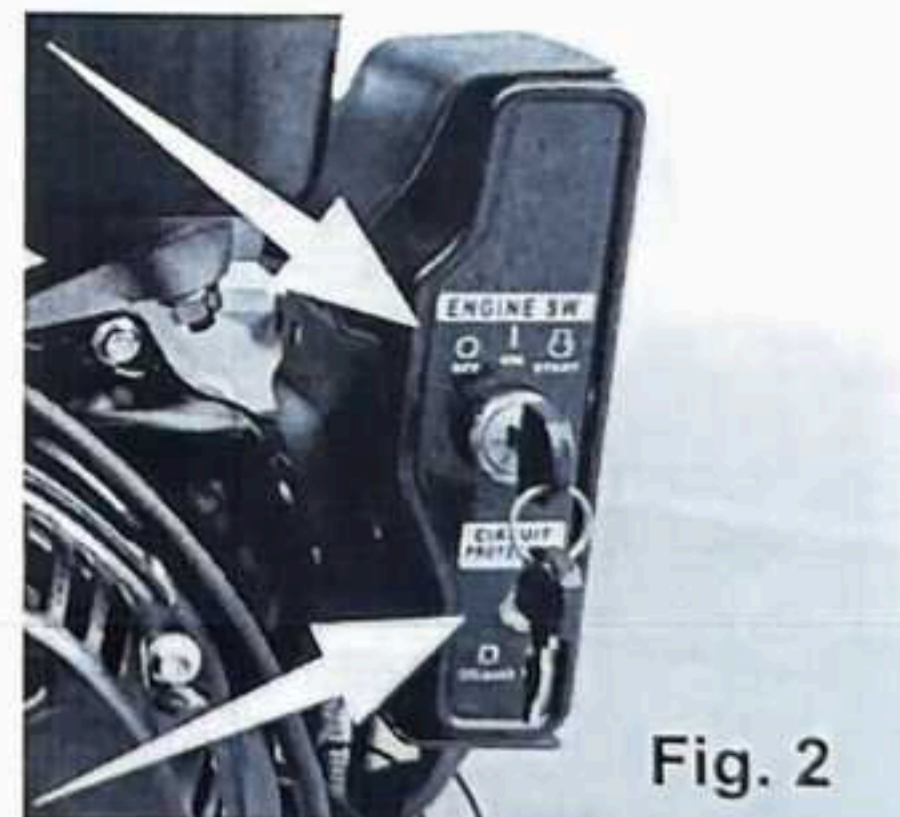
It is best not to exceed the "H" mark to prevent oil from entering the combustion chamber-when the machine(engine) is tilted on uneven ground. (See Fig. 1)



3. This engine has two starting methods:

(1) Manual Start:

a. Ensure the **ENGINE SWITCH** is in the "ON" position, and the **CIRCUIT PROTECTOR** is also in the "ON" position (try pressing it several times to rule out poor contact). (See Fig. 2)



b. Turn on the engine fuel switch and the intake switch, and adjust the throttle to the appropriate position. (See Fig. 3)



c. Firmly grip the pull rope handle and pull it out quickly. Because the fuel has been purged, the fuel flow in the fuel line may be discontinuous during the first start. If it fails to start on the first try, try several times. (See Fig. 4)



d. After starting, smoothly close the choke (for cold starts) and adjust the throttle to the appropriate position. (See Fig. 3)

(2) Electric Start

a & b. Steps are the same as manual start.

c. Turn the ignition key to the **"START"** position and hold for 2-3 seconds. Release the key immediately after the engine starts.

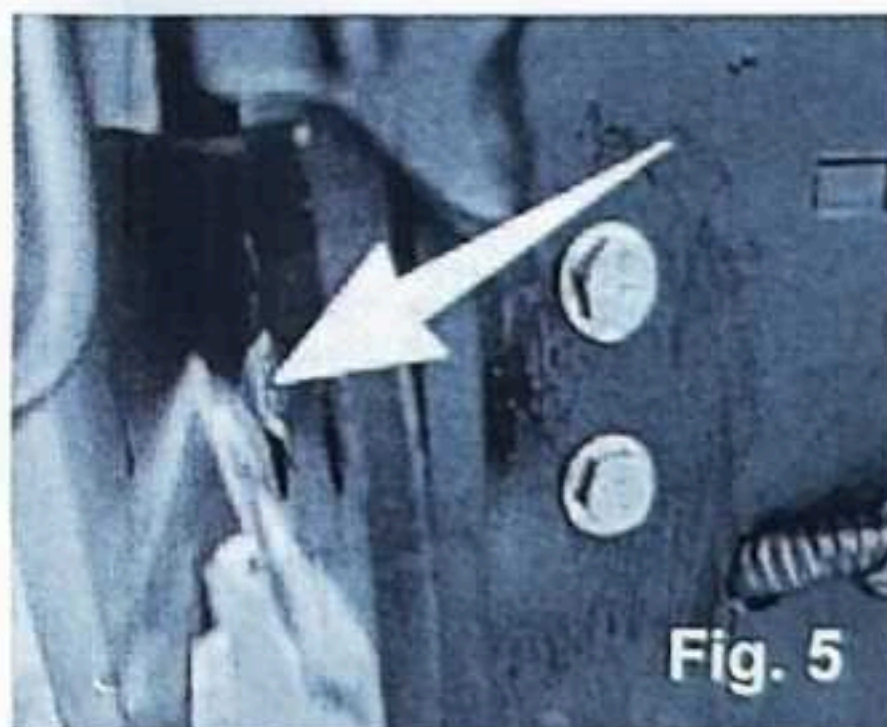
d. After starting, smoothly close the choke (for cold starts), and adjust the throttle to the appropriate position.

Note: When using the electric starter, do not attempt to start for more than 5 seconds each time. Release the key even if the engine fails to start. If the engine fails to start after two or three attempts, wait a while. Exceeding this time may cause damage to the starter motor.

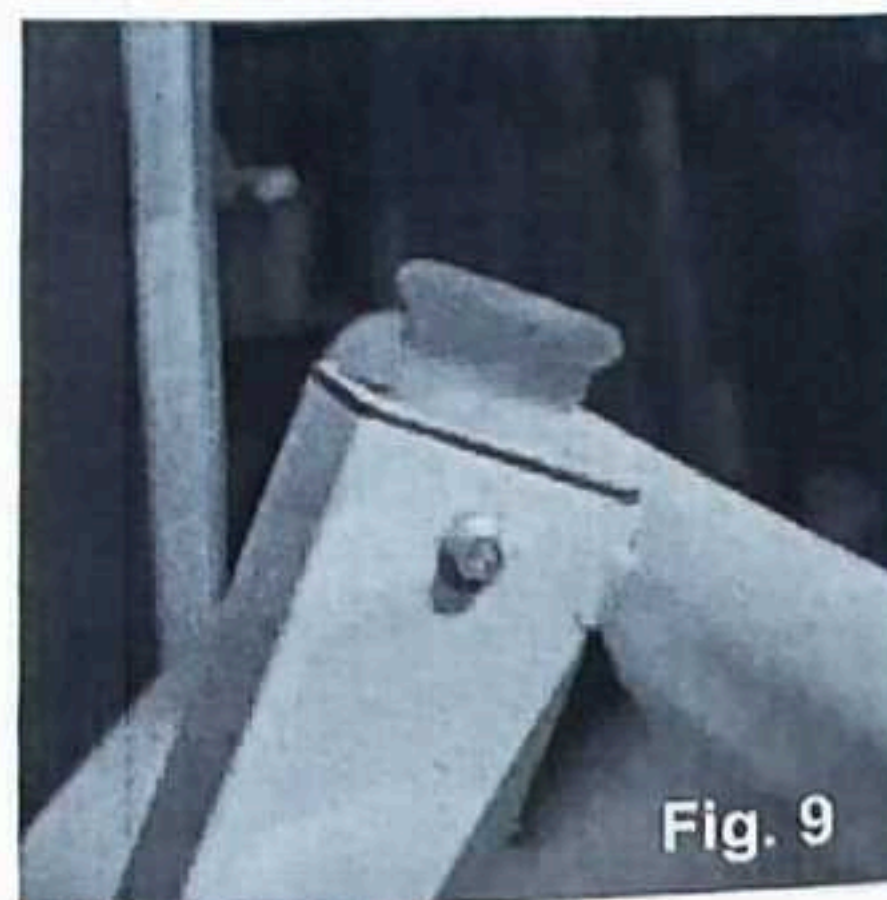
(3) Precautions

a. The choke should be opened for cold starts and closed for hot starts.

b. Safety switches are installed in both the inlet and outlet buckets of the machine (Fig. 5 & 6). Please ensure that the corresponding latches are fastened when assembling the machine (Fig. 7).

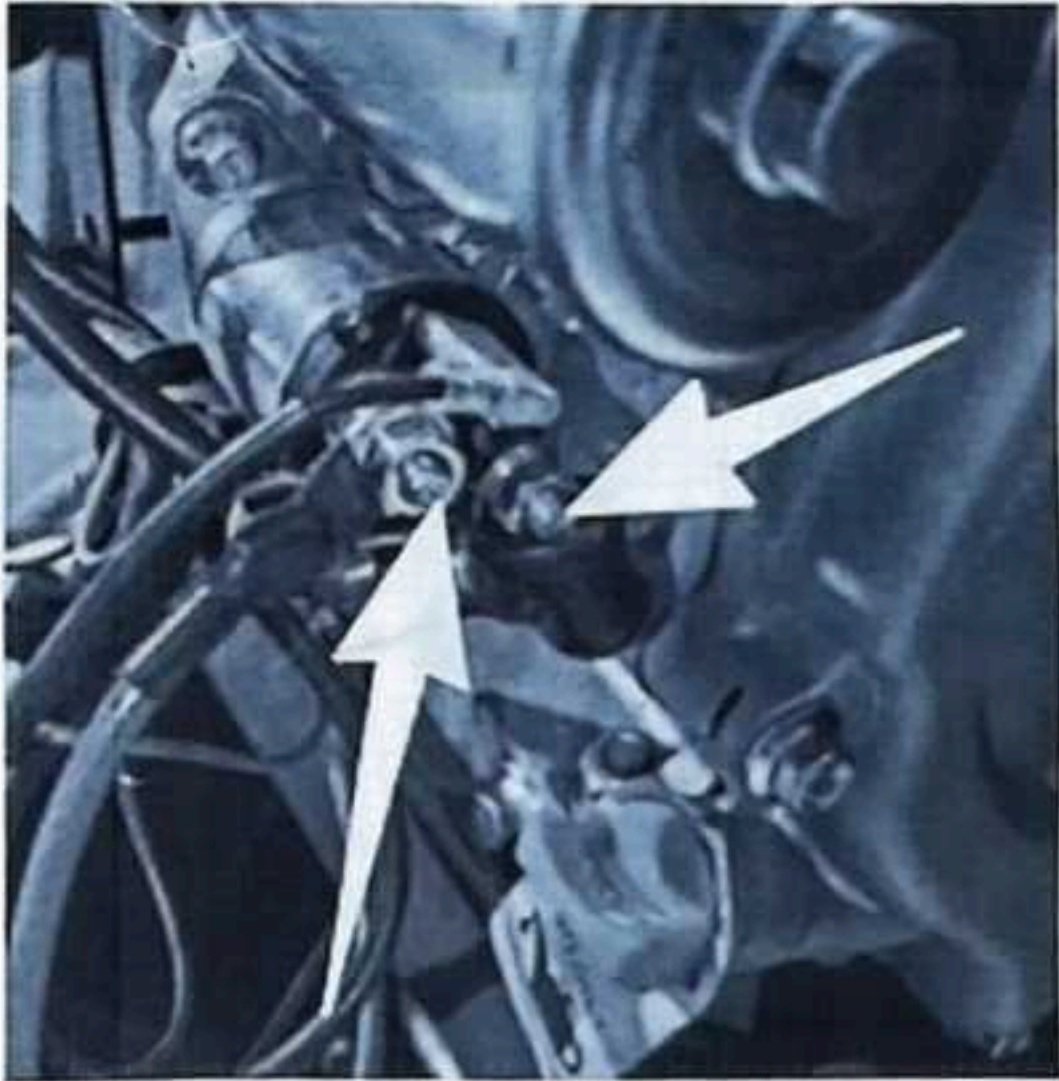


Connect the connectors on the safety switch wiring (Fig. 8) and confirm that the emergency stop switch is in the released state (Fig. 9), otherwise the engine will not start.



Troubleshooting:

Issues	Possible reasons	Solutions
Engine cannot start	1. Insufficient fuel or engine oil levels 2. Fuel switch not turned on 3. Choke not open when starting the engine cold, or not closed when starting the engine warm 4. Starter key not in the ON position (when using the pull starter) 5. Safety switch not tightened or connector not securely connected	1. Add sufficient fuel and engine oil. 2. Turn on the fuel switch. 3. Open the choke for engine cold starts, and close the choke for engine hot starts. 4. Turn the ignition key to the "ON" position. 5. Check the safety switch and connectors, and ensure they are connected correctly.
No response when turning the key to electric start.	1. Wiring connection fault	1. Refer to the diagram below to check if the wiring between the battery and starter motor is correct, and check for corrosion at the positive and negative electrode connections. If corrosion is present, clean it with alcohol before reconnecting correctly to avoid affecting conductivity.
	2. Starter battery fault	2. Check the battery voltage using a multimeter. Generally, a voltage above 12.6V indicates normal starting. A voltage above 13V indicates a fully charged battery. Below 12.4V indicates the battery is dead and must be charged for normal starting. A current of 1.8A-3.6A is recommended, with 2.4A being preferred. Note: If the voltage remains below 12.5V after charging, the battery is unusable and needs to be replaced.

	3. Starter motor fault 4. Starter key box fault	3 & 4. If the battery is confirmed to be fine, reconnect the wiring and then follow these steps to troubleshoot: Use pliers or a screwdriver to connect the two contacts indicated by the arrows in the diagram below (this bypasses the ignition key and directly connects the starter motor and battery). If the engine does not start after connecting, the starter motor is faulty. Conversely, if the engine starts, the starter key box is faulty. Replace the faulty component. 
It is difficult to start engine by pulling, and it feels heavy when pulled.	The clutch failed to disengage properly.	With the machine off, open the belt cover and remove the belt. Manually turn the clutch housing. If it cannot be turned easily, the clutch has not disengaged successfully, and the pulley is still connected to the engine spindle. In this case, please contact us to replace the clutch.