range-road

RR440 Wood Chipper

Operator's Manual

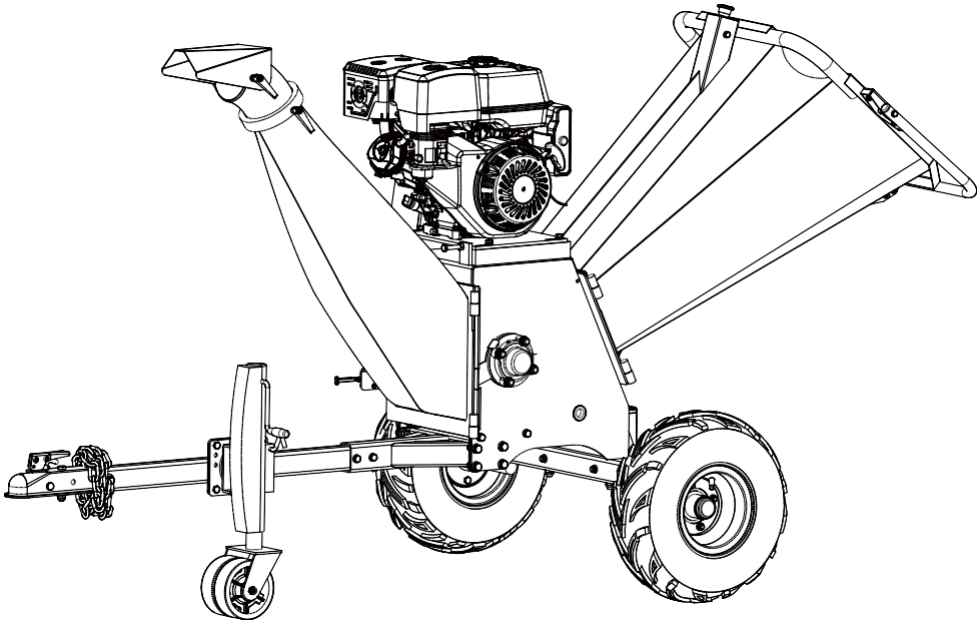
MODEL NUMBER

RR440

SERIAL NUMBER

PURCHASE DATE

Both model number and serial number may be found on the main label. You should record both of them in a safe place for future use.



FOR YOUR SAFETY

READ AND UNDERSTAND THE ENTIRE MANUAL BEFORE OPERATING MACHINE

Your new RR440 Wood Chipper offers quality construction, and is easy and safe to operate. With proper use and care, it is designed to give you many years of dependable service.

Prepare to experience the durability to take on any job with the ease, portability, and convenience of your new Wood Chipper.

RR440 Wood Chipper

- √ Backed by decades of proven manufacturing expertise
- √ Enhanced design features come standard
- √ Engineered for the best user experience
- √ Quality metal parts are used instead of plastic
- √ A robust warranty supports all products
- √ Budget-friendly prices make it practical

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Carefully read through this entire operator's manual before using your new unit. Pay attention to all cautions and warnings.

This unit is a gasoline engine driven Wood Chipper. It is designed to cut wood into chips. It offers quality solid steel construction and is easy and safe to operate. With proper use and care, it should give you many years of dependable service.

ENGINE MANUAL

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/operator's manual, packed separately with your unit, for more information.

EMISSION CONTROL SYSTEM

This equipment and or its engine may include exhaust and evaporative emission control system components required to meet U.S. Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB) regulations. Tampering with emission controls and components by unauthorized personnel may result in severe fines or penalties. Emission controls and components can only be adjusted by an authorized engine manufacturer's service center.

ENVIRONMENTAL

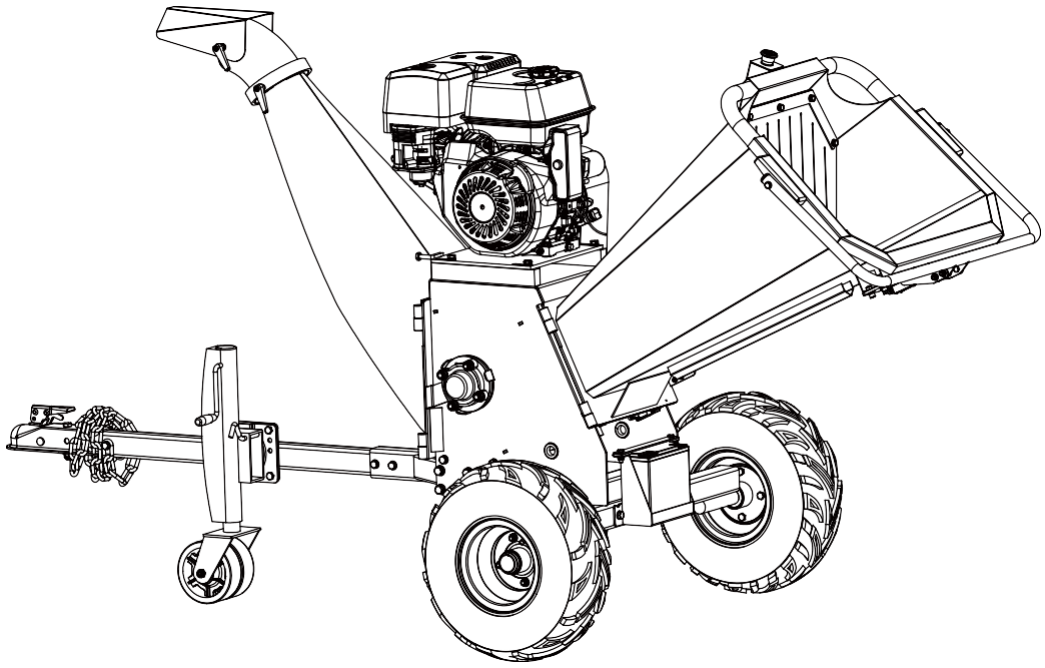
Recycle unwanted materials instead of disposing of them as waste. All tools, hoses and packaging should be resorted, taken to the local recycling center and disposed of in an environmentally safe way.

MODEL AND SERIAL NUMBERS

Record the serial number as well as date and place of purchase for future reference. Have this information available when ordering parts or optional accessories and when making technical or warranty inquiries.

DISCLAIMER

Range Road reserves 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 unit.



SYMBOLS

The rating plate on your machine may show symbols. These represent important information about the product or instructions on its use.



Read these instructions for use carefully.



Wear eye protection.

Wear hearing protection.



Wear protective gloves.



Wear safety footwear.



Do not remove or tamper with the protection and safety devices.



Do not touch parts which are hot from operation. Serious burns may result.



No smoking, No sparks, No flames.



Keep your hands and feet away from moving parts.



Thrown Objects.



Be sure the engine's switch is off before transporting the machine or performing any maintenance.



Keep bystanders away.

SPECIFICATIONS

Model Number	RR440
Engine	B&S
Displacement	420cc
Net Power	13.5hp (9.1kw)
Chipping Capacity	6 inch/150mm
Weight	255kgs
Length	2700mm
Width	1218mm
Height	1424mm
Blade Material	A8
Start	E-start; 12V 20Ah Lead-acid battery
Discharge chute	360 degrees adjustable
Towing	2" Coupler hitch; Double jockey wheel
Wheel	19x7.00-8 Tubeless tire
Roller Dia.	350mm
Drive	Kevlar belt, Centrifugal clutch
Package Size	1100*770*1230mm
Gross Weight	285kgs

SAFETY

GENERAL SAFETY RULES

UNDERSTAND YOUR MACHINE

Read this manual and labels affixed to the machine to understand its limitations and potential hazards.

Be thoroughly familiar with the controls and their proper operation. Know how to stop the machine and disengage the controls quickly.

Make sure to read and understand all the instructions and safety precautions as outlined in the Engine Manufacturer's manual packed separately with your unit. Do not attempt to operate the machine until you fully understand how to properly operate and maintain the engine and how to avoid accidental injuries and/or property damage.

If the unit is to be used by someone other than original purchaser or loaned, rented, or sold, always provide this manual and any needed safety training before operation. The user can prevent and is responsible for accidents or injuries that may occur to themselves, other people, and property.

Do not force the machine. Use the correct machine for your application. The correct machine will do the job more efficiently and safer at the rate it was designed.

PERSONAL SAFETY

Do not permit children to operate this machine at any time.

Keep children, pets, and other people not using the unit away from the work area. Be alert and shut off unit if anyone enters work area. Keep children under the watchful care of a responsible adult.

Do not operate the machine while under the influence of drugs, alcohol, or any medication that could affect your ability to use it properly.

Dress properly. Wear heavy long pants, boots, and gloves. Do not wear loose clothing, short pants, or jewelry of any kind. Secure long hair so it is above shoulder level. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.

Protect eyes, face, and head from objects that may be thrown from the unit. Always wear safety goggles or safety glasses with side shields when operating.

Wear appropriate hearing protection.

Always keep hands and feet away from all moving parts during operation. Moving parts can cut or crush body parts.

Always keep hands and feet away from all pinch points.

Do not touch parts that might be hot from operation. Allow parts to cool before attempting to maintain, adjust, or service.

Stay alert, watch what you are doing, and use common sense when operating the machine.

Do not overreach. Do not operate the machine while barefoot or when wearing sandals or similar lightweight footwear. Wear protective footwear that will protect your feet and improve your footing on slippery surfaces. Keep proper footing and balance at all times. This enables better control of the machine in unexpected situations.

INSPECT YOUR MACHINE

Check your machine before starting it. Keep guards in place and in working order. Make sure all nuts, bolts, etc., are securely tightened.

Never operate the machine when it is in need of repair or is in poor mechanical condition. Replace damaged, missing, or failed parts before using it. Check for fuel leaks. Keep the machine in safe working condition.

Do not use the machine if the engine's switch does not turn it on or off. Any gasoline powered machine that can't be controlled with the engine switch is dangerous and must be replaced.

Regularly check to see that keys and adjusting wrenches are removed from the machine area before starting it. A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.

Avoid accidental starting. Be sure the engine's switch is off before transporting the machine or performing any maintenance or service on the unit. Transporting or performing maintenance or service on a machine with its switch on invites accidents.

If the machine should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning sign of trouble.

ENGINE SAFETY

This machine is equipped with an internal combustion engine. Do not use on or near any unimproved, forest covered, or brush covered land unless the exhaust system is equipped with a spark arrester meeting applicable local, state, or federal laws.

In the state of California, a spark arrester is required by law. Other states have similar laws. A spark arrester, if used, must be maintained in effective working order by the operator.

Never start or run the engine inside a closed area. The exhaust fumes are dangerous, containing carbon monoxide, an odorless and deadly gas. Operate this unit only in a well-ventilated outdoor area.

Do not tamper with the engine to run it at excessive speeds. The maximum engine speed is preset by the manufacturer and is within safety limits. See engine manual.

Keep a Class B fire extinguisher on hand when operating this Wood chipper in dry areas as a precautionary measure.

FUEL SAFETY

Fuel is highly flammable, and its vapors can explode if ignited. Take precautions when using to reduce the chance of serious personal injury.

When refilling or draining the fuel tank, use an approved fuel storage container while in a clean, well-ventilated outdoor area. Do not smoke, or allow sparks, open flames, or other sources of ignition near the area while adding fuel or operating the unit. Never fill the fuel tank indoors.

Keep grounded conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing. These events could ignite fumes or vapors.

Always stop the engine and allow it to cool before filling the fuel tank. Never remove the cap of the fuel tank or add fuel while the engine is running or when the engine is hot. Do not operate the machine with known leaks in the fuel system.

Loosen the fuel tank cap slowly to relieve any pressure in the tank.

Never overfill the fuel tank. Fill the tank to no more than 1/2" below the bottom of the filler neck to provide space for expansion as the heat of the engine can cause fuel to expand.

Replace all fuel tank and container caps securely and wipe up spilled fuel. Never operate the unit without the fuel cap securely in place.

Avoid creating a source of ignition for spilled fuel. If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapors have dissipated.

When fuel is spilled on yourself or your clothes, wash your skin and change clothes immediately.

Store fuel in containers specifically designed and approved for this purpose.

Store fuel in a cool, well-ventilated area, safely away from sparks, open flames, or other sources of ignition.

Never store fuel or a machine with fuel in the tank inside a building where fumes may reach a spark, open flame, or any other source of ignition, such as a water heater, furnace, or clothes dryer. Allow the engine to cool before storing in any enclosure.

SPECIFIC SAFETY RULES

Identify hazards and take preventive steps to avoid accidents and minimize risk. Possible hazards include, but are not limited to, moving parts, thrown objects, weight of the machine and components, and the operating environment.

PRIOR TO STARTING

Thoroughly inspect the area in which you are working, keeping it clean and free of debris to prevent tripping. Operate on a flat level ground.

Before starting your chipper shredder: make sure the feed hopper and cutting housing are empty and free of all debris, check the oil level, make sure all nuts and bolts are tight, and check the air pressure in the tires.

OPERATION SAFETY

Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintenance, repair, or moving.

Keep all bystanders and pets at least 75 feet away. If you are approached, stop the unit immediately.

Never place your hands, feet, or any part of your body in the chipper hopper, discharge opening, or near or under any moving part while the machine is running. Keep the area of discharge clear of people, animals, buildings, glass, or anything else that will obstruct clear discharge, causing injury or damage. Wind can also change discharge direction, so be aware. If it becomes necessary to push materials to the chipper hopper, use a small-diameter stick, not your hands.

Keep your face and body back from the chipper hopper and discharge chute to avoid injury from accidental bounce back of material.

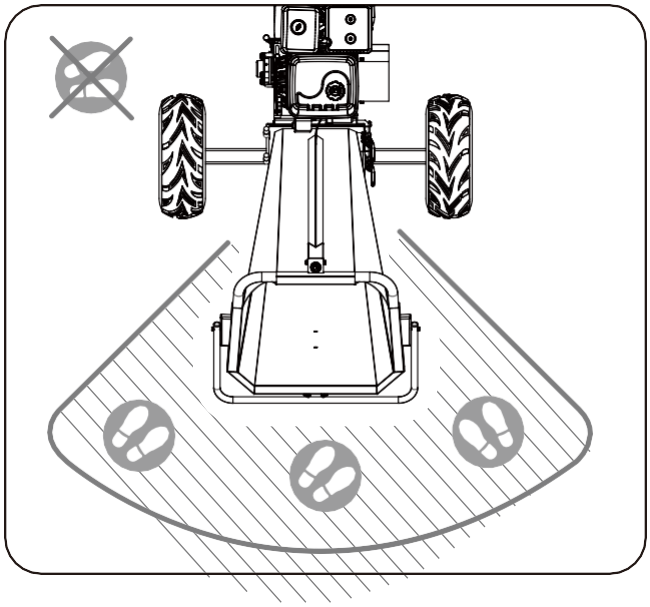
Never reach with your hands inside the feed hopper past the rubber flap while operating the machine.

Keep combustible substances away from the engine when it is hot.

Do not tilt the machine while the engine is running

Never operate this machine without the feed hopper or discharge chute properly attached.

OPERATING ZONE



FEEDING MATERIALS

Feed only clean materials into the machine. Foreign matter such as soil, sand, grit, stones, pieces of metal, etc. will damage the sharp edge of the cutting knives. Root balls and dead wood will also dull the blades quickly

Avoid feeding pine needles, flax and cabbage tree leaves into the machine; these stringy materials can wrap around the rotor shaft and work their way into the bearing.

Avoid feeding short, stubby pieces of wood into the machine; they tend to bounce and spin in the feed hopper. Feed these short pieces together with longer pieces. After becoming familiar with the machine, prune to suit its capabilities.

This machine is self-feeding, do not force branches into the blades. Allow the machine to automatically feed through. Allow time for the machine to reach the highest spinning revolutions before feeding the next load of branches.

UNCLOGGING

Never allow processed material to build up in the discharge area. This can prevent proper discharge and result in kickback from the chipper hopper.

Never attempt to unclog either the feed hopper or discharge chute while the engine is running. Immediately shut off the engine, allow the cutting disk to come to a complete stop, and then remove the clogged material. Inspect for damage and check for any loose parts for repair or replacement.

Whenever you leave the operating position or if you have to remove processed material, leaves, or debris from the machine, always shut down the engine, and ensure the engine is switched to "off" to prevent accidental starting, and wait for all moving parts to come to a complete stop.

Before opening the cutting disk housing, always make sure the engine is switched off, the cutting disk is at a complete standstill, and the belt drive is disengaged.

MOVING

Move the machine at least 10 feet away from the refueling point before starting engine.

This chipper shredder is for movement by hand only. Never attempt to tow the machine on public highways, roads, or thoroughfares.

Always stop the engine before moving the machine, and watch out for sharp objects that could pierce the tires.

MACHINE USE AND CARE

Position the machine in such a way that it can not move during maintenance, cleaning, adjustment, assembly of accessories or spare parts, as well as under storage

Do not force the machine. Use the correct machine for your application. The correct machine will do the job better and safer at the rate for which it is designed.

Do not change the engine governor settings or over-speed the engine. The governor controls the maximum safe operating speed of the engine.

Do not run the engine at a high speed when you are not working.

Do not put hands or feet near rotating parts.

This machine has two rotating cutting knives capable of amputating hands and feet and throwing objects. Keep hands and feet out of openings while machine is running. Failure to observe these safety instructions could result in serious injury or death.

Avoid contact with hot fuel, oil, exhaust fumes and hot surfaces. Do not touch the engine or muffler. These parts get extremely hot from operation. They remain hot for a short time after you turn off the unit. Allow the engine to cool before doing maintenance or making adjustments.

If the machine should start to make an unusual noise or vibration, immediately shut off the engine, disconnect the spark plug wire, and check for the cause. Unusual noise or vibration is generally a warning of trouble.

Use only attachments and accessories approved by the manufacturer. Failure to do so can result in personal injury.

Keep the engine and muffler free of grass, leaves, excessive grease or carbon build up to reduce the chance of a fire hazard.

Never douse or squirt the unit with water or any other liquid. Keep handles dry, clean and free from debris. Clean after each use.

Observe proper disposal laws and regulations for gas, oil, etc. to
protect the environment.

When storing machine out of the reach of children and do not allow persons unfamiliar with the machine or these instructions to operate it. This machine can be dangerous when used by an untrained user.

MAINTAINING YOUR MACHINE

Some parts of this machine are made of plastic or rubber and should be kept away from chemicals.

Never cover the machine while the muffler is still hot.

Do not alter or adjust any part of the chipper shredder or its engine that is sealed by the manufacturer or distributor. Only a qualified service technician may adjust parts that increase or decrease governed engine speed.

To maintain your machine, check for any misalignment or binding of any moving parts. Parts that are broken or worn down that may affect the machine's operation. If damage or worn parts are identify, they should be repaired before use. Many accidents are caused by poorly maintained equipment.

UNPACKING THE CONTAINER

Use scissors or a knife to cut and remove the straps. Remove the wooden plate in the top. At least two people hold up the package and move it from the top. (See Figure 1)

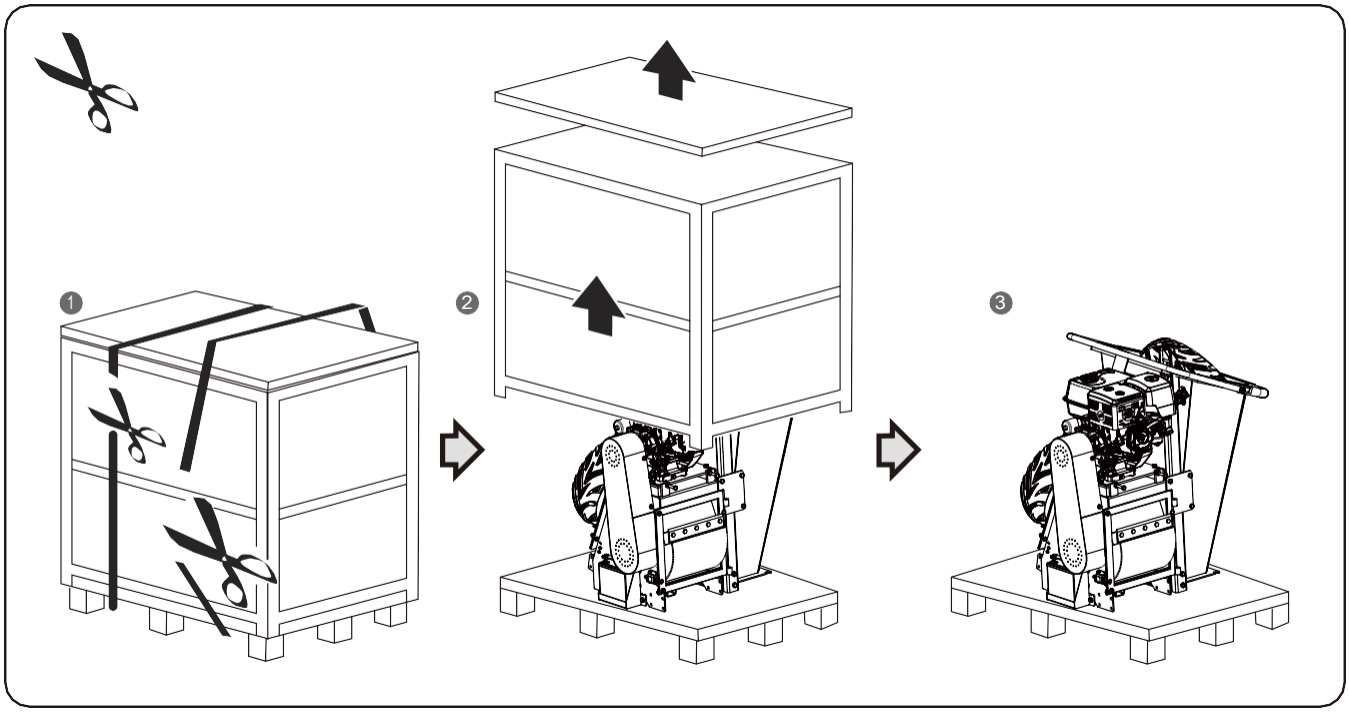
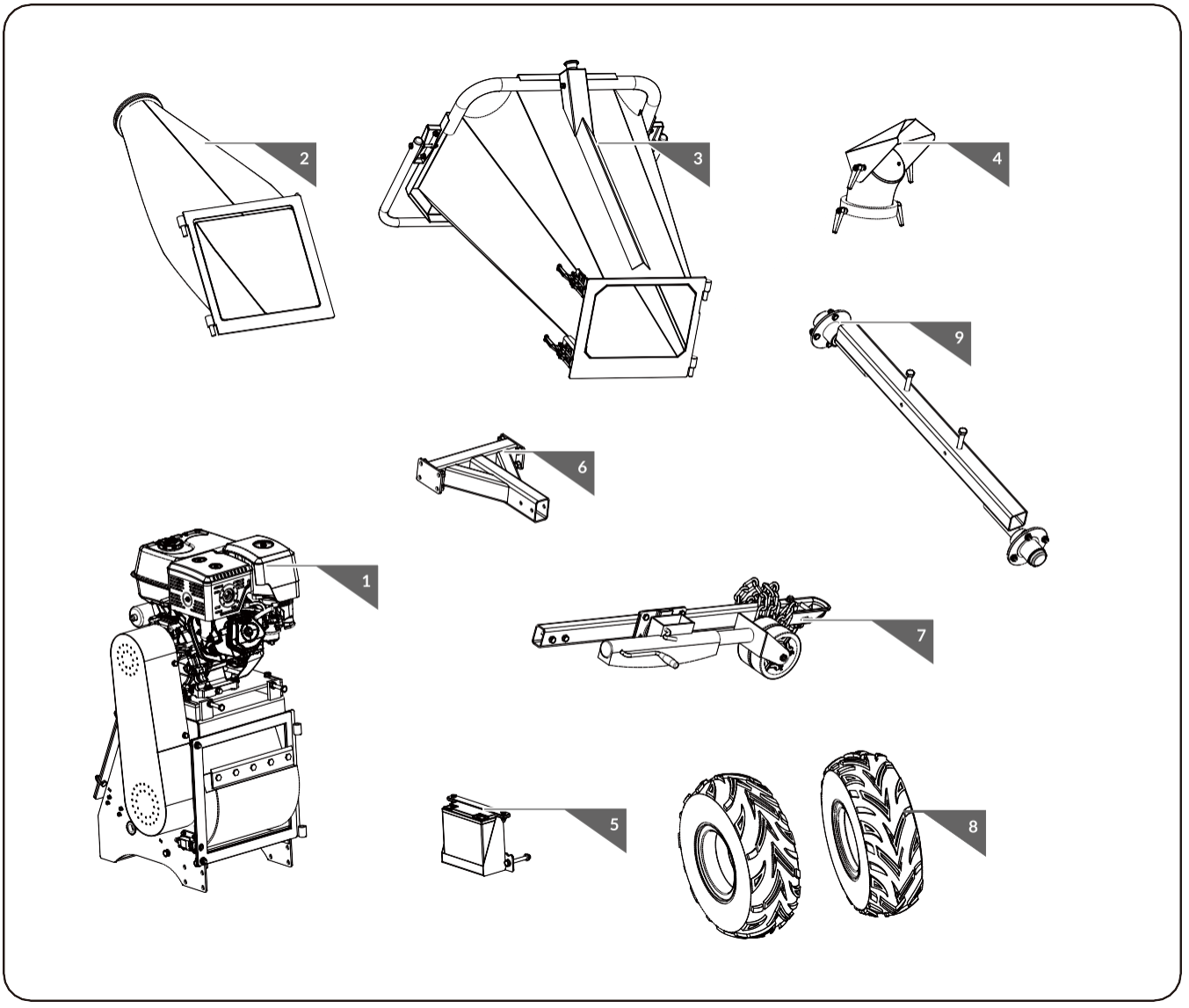


Figure 1

CONTENTS SUPPLIED

Your Wood Chipper comes partially assembled and contains the following:



1. Engine and Drum (Main Machine)
2. Lower expulsion chute
3. In-feeding chute
4. 360 degree upper expulsion chute
5. Battery
6. Tower bar mount
7. Tow bar and Guiding wheel
8. Wheels
9. Axle

ASSEMBLY

This chipper shredder was partially assembled at the factory, following the below assembly instructions to do assembling.

Deflector

Loosen the deflector lever in counter-clockwise direction to adjust discharge angle. Tighten it in the clockwise direction. (See Figure 2)

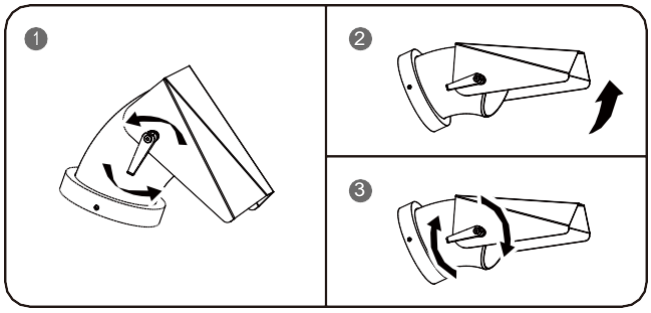


Figure 2

Axle

Attach the wheel axle to the cutter base with M14x140 hex bolts, flat washer 14 and M14 lock nuts. (See Figure 3)

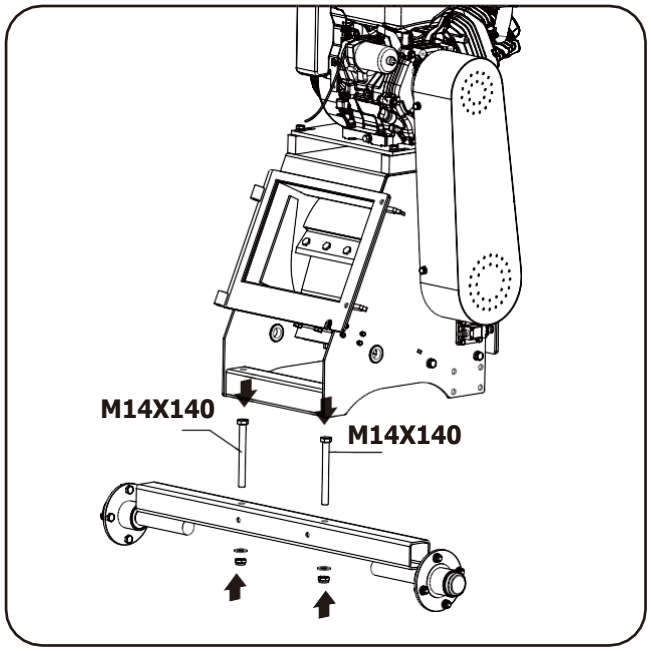
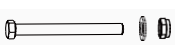


Figure 3



M14X140

Wheels

Attach the wheels to the wheel axles with M10x25 hex bolts, M10 lock nuts and flat washer10(See Figure 4)

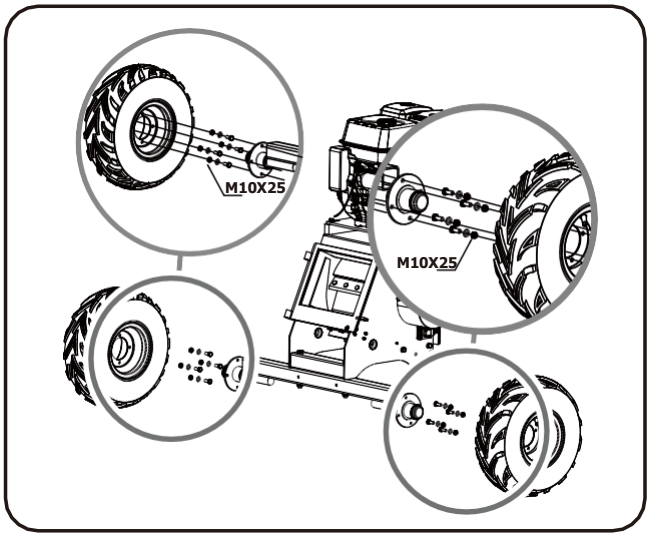


Figure 4

M10X25

Tower bar mount

Attach the tower bar mount to the base frame with M12x35 hex bolts, Spring Washer 12 and flat washer 12 (See Figure 5)

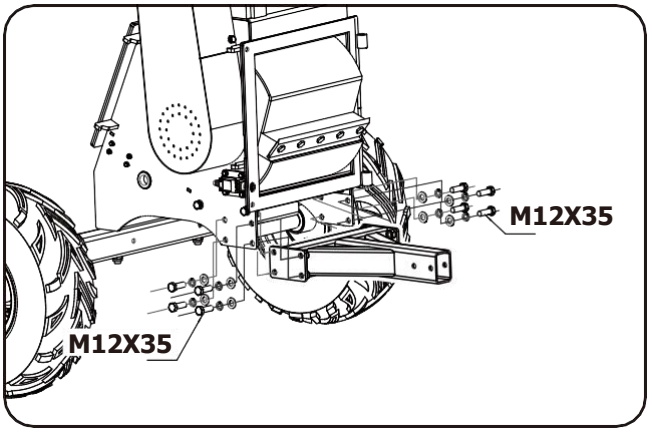


Figure 5

M12X35

Tow bar and Guiding wheel

Attach the tow bar to the tower bar mounts with M10x70 hex bolts, M10 lock nuts and flat washer10 (See Figure 6)

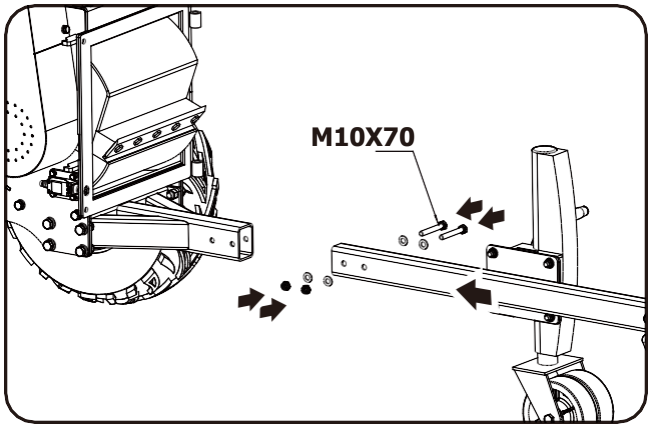


Figure 6

M10X70

Lower expulsion chute

Attach the lower expulsion chute to the cutter base with two lock catches. (See Figure 7)

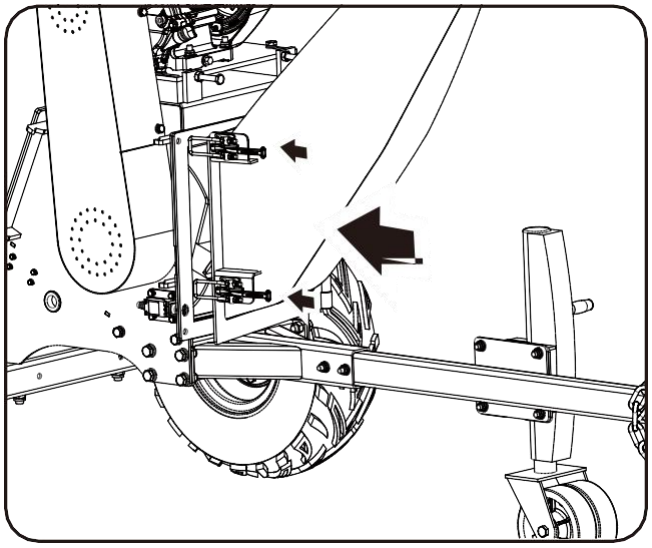


Figure 7

360 degree upper expulsion chute

Attach the upper expulsion chute to the lower expulsion chute with adjustable locking handle. (See Figure 8)

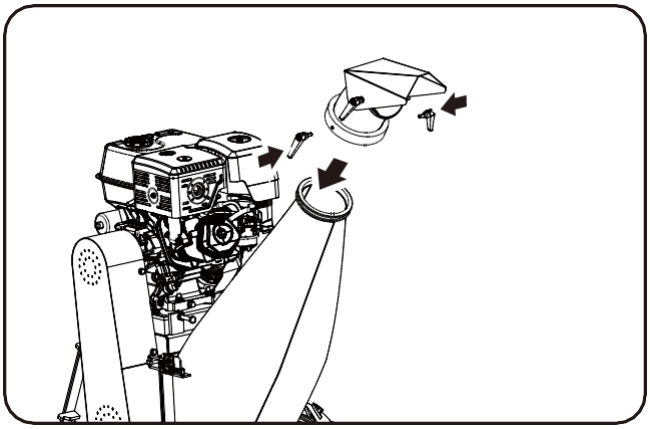


Figure 8

Battery

Attach the battery box to the wheel axle with M10x80 hex bolts, M10 lock nuts and flat washer 10. (See Figure 9)

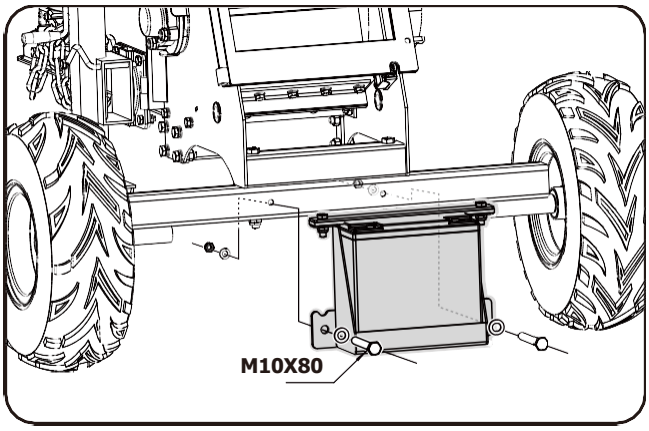


Figure 9

M10X80

In-feeding chute

Attach the feeding chute to the cutter base with two lock catches. (See Figure10)

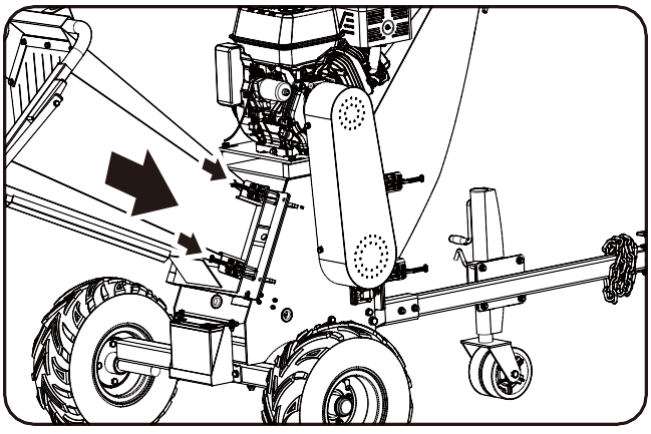
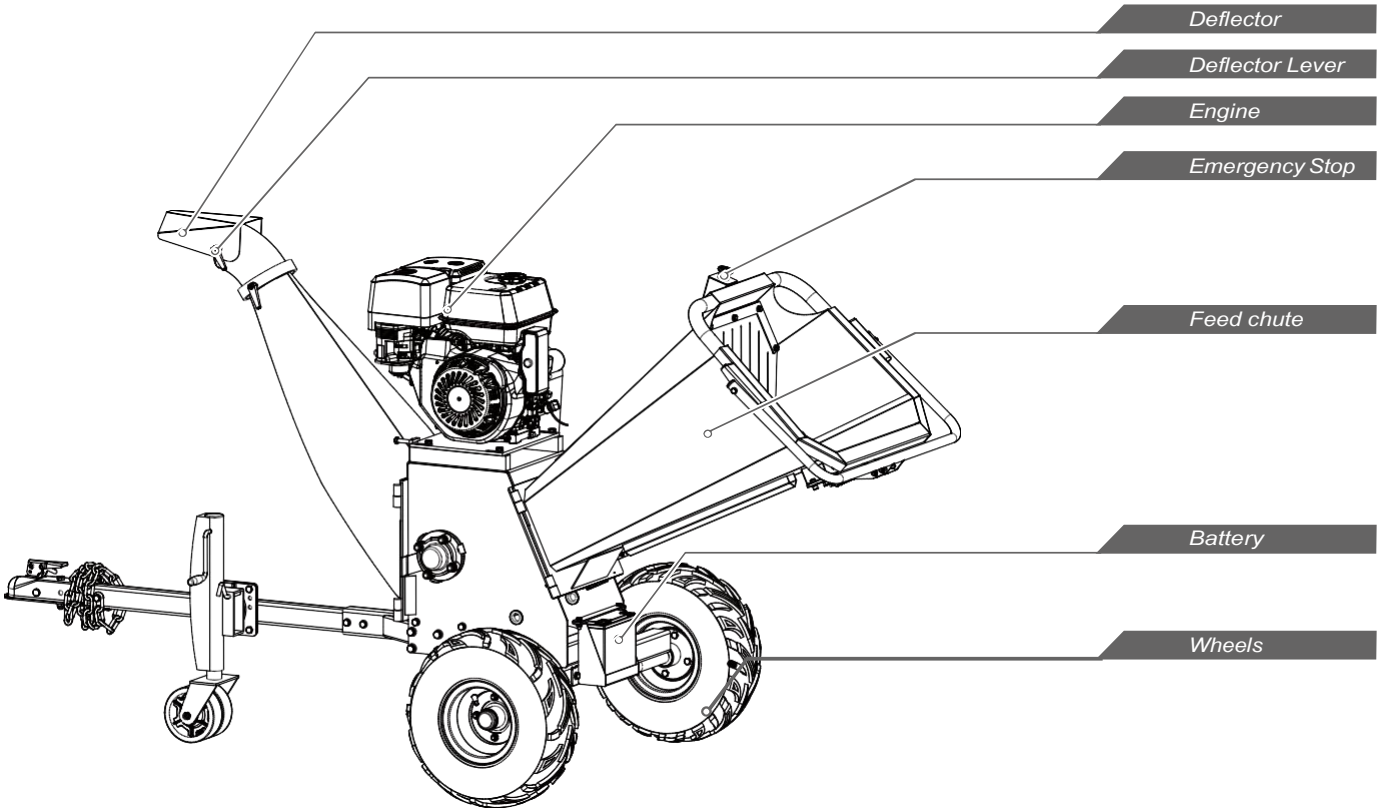
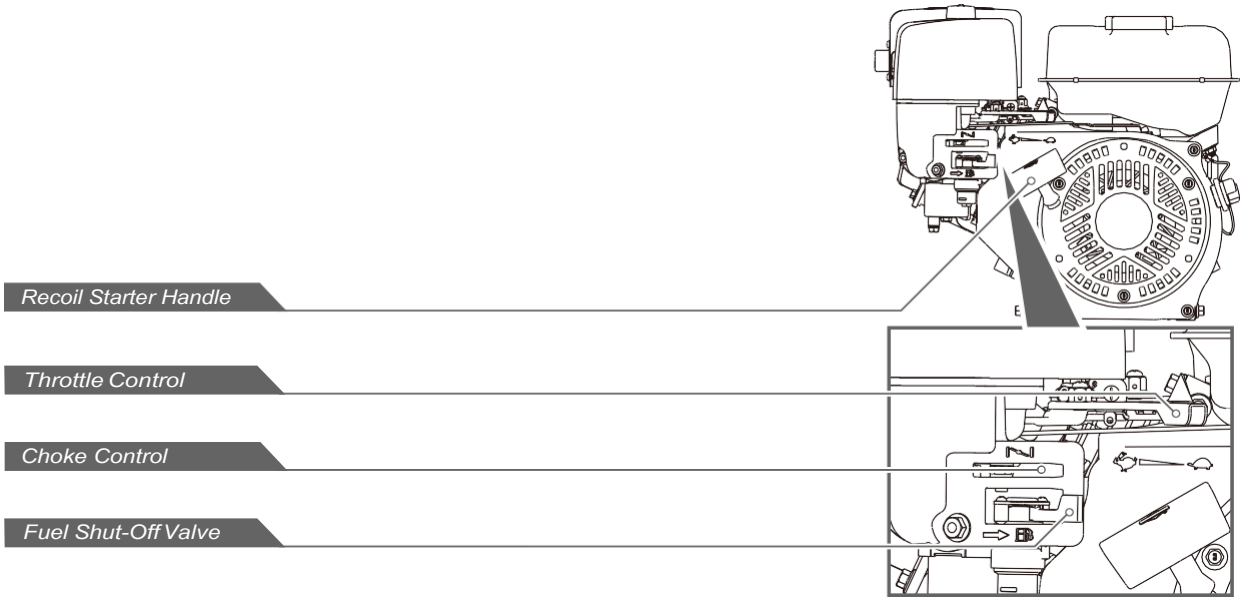


Figure 10

KNOW YOUR MACHINE

FEATURES AND CONTROLS





FEED HOPPER

» The feed hopper is where you insert your materials to be chipped.

DISCHARGE CHUTE

» Chipped materials are discharged through this opening. The deflector can be attached to the chute.

GRIP HANDLES

» The handles are used to move the unit.

TRANSPORT WHEELS

» To move the Wood chipper, grip the handles located on the top of the opening of the hopper and tilt the machine back until it is fully resting on the tires.

BELT TENSION LEVER

» The belt tension lever is at the back of the housing. Pull it up to engage the belt drive and run the cutting disk. Push it down to disengage the belt drive and stop the cutting disk.

DEFLECTOR LEVER

» Loosen the deflector lever in a counter-clockwise direction to adjust the discharge angle. Turn it clockwise to tighten.

ENGINE ON/OFF SWITCH

» The engine switch has two positions. OFF - engine will not start or run. ON - engine will start and run.

RECOIL STARTER HANDLE

» The handle is used to start the engine.

FUEL SHUT-OFF VALVE

» The fuel shut - off has two position. ( ) - use this position to service, transport, or store the unit.

» OPEN ( )- use this position to run the unit.

CHOKE CONTROL

» The choke control is used to choke the carburetor and assist in starting the engine. The choke control slides between the CHOKE CLOSED and CHOKE OPEN positions.

THROTTLE CONTROL

» The throttle control regulates the speed of the engine and will shut off the engine when it is moved to the STOP position. The throttle control moves between FAST , SLOW and STOP positions.

OPERATION

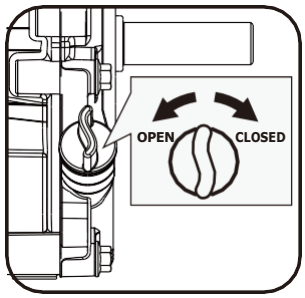
The engine is shipped without oil. Do not start the engine before adding oil.

DO NOT OVERFILL. Check engine oil level daily and add as needed.

ADD OIL TO ENGINE

1. Make sure the chipper shredder is on a flat, level surface.

2. Remove the oil fill cap/dipstick to add oil.



3. Using a funnel, add oil up to the FULL mark on the dipstick. (See engine manual for oil capacity, oil recommendation, and location of fill cap.).

ADD GASOLINE TO ENGINE

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Use extreme care when handling gasoline.

Fill the fuel tank outdoors, never indoors. Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.

1. The engine must be off and allowed to cool at least two minutes before adding fuel.

2. Remove the fuel filler cap and fill the tank. (See engine manual for fuel capacity, fuel recommendation, and location of fuel cap.)

IMPORTANT:DO NOT OVERFILL!

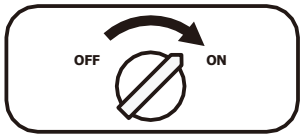
This equipment and/or its engine may include evaporative emissions control system components, required to meet EPA and/or CARB regulations, that will only function properly when the fuel tank has been filled to the recommended level. Overfilling may cause permanent damage to evaporative emissions control system components. Filling to the recommended level ensures a vapor gap required to allow for fuel expansion. Pay close attention while filling the fuel tank to ensure that the recommended fuel level inside the tank is not exceeded. Use a portable gasoline container with an appropriately sized dispensing spout when filling the tank. Do not use a funnel or other device that obstructs the view of the tank filling process.

3. Reinstall the fuel cap and tighten. Always clean up spilled fuel.

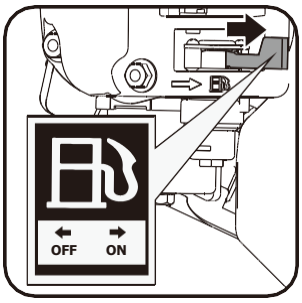
STARTING ENGINE

1. Make sure the belt tension lever is disengaged.

2. Move the engine switch to the ON position.

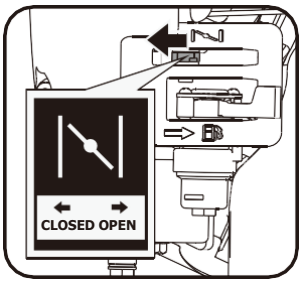


3. Open the fuel shut-off valve.

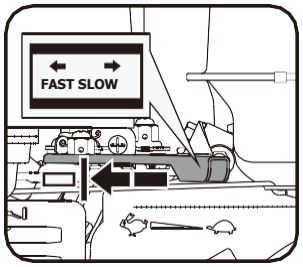


4. Move the choke lever to the CLOSED position.

If the engine is hot, closing the choke is not necessary.



5. Move the throttle lever slightly to the FAST speed.



6. Pull the recoil starter until engine compression has become difficult to pull. Let the recoil return to the home position, then pull quickly to start the engine. Repeat steps as needed. Fully open the choke and set the throttle to the FAST position, before operating the unit.

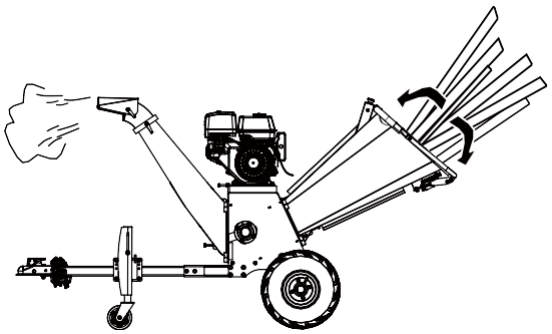
Rapid retraction of the starter cord (kickback) will pull your hand and arm toward the engine faster than you can let go. Broken bones, fractures, bruises, or sprains could result.

OPERATING

After the engine warms up, pull the throttle lever to accelerate engine speed.

As the engine is increased slowly to full speed, gradually and slowly pull the belt tension lever as far as it will go to engage the belt drive. This has to be done slowly to allow the cutting disk to pick up speed, otherwise the engine will stall because there is high inertia in the cutting disk.

The chipper shredder can process a wide variety of dry or green organic materials such as branches, stalks, vines, leaves, roots, and vegetable matter. The maximum capacity is 3-inch diameter branches, this can vary depending on the type and hardness of wood. Rotating the branch as you feed it into the machine will improve performance.



Feed limbs or branches through cut-end first, leaving the bushy head on. This helps guide the limb down the feed hopper and reduces spinning and bouncing of small pieces back up the feed hopper. Some side branches may require pre-cutting so that the branch will self-feed more efficiently.

It is always advisable to process freshly cut materials, as wooden branches get very hard, they become springy when dried out and can make the knives dull more quickly.

While operating the machine, keep a wooden stick handy, approximately 1 inch in diameter by 2 feet long. This stick will be useful to push in short, brushy and very leafy materials and keep the feed hopper clear.

Do not force material into the machine. If it does not chip well, the chipper knives may need sharpening or to be replaced, or the gap between the knives and the wear plate needs adjusting.

Do not overload the machine by feeding too much material into the feed hopper at one time. If you hear the speed of the engine decreasing, immediately stop feeding material into the machine. Do not resume feeding material into the machine until the engine has returned to full speed.

The wood chipper can clog up with soft, wet, or fibrous materials. However, if you feed soft materials intermittently with branches, there should be no problem, as the wood chipper tends to clean out any residue left in the machine.

If any stringy material wraps around the rotor shaft, remove it before it works its way into the bearing.

If the chipper shredder stalls from overloading or clogging, turn off the engine's power switch and wait until the cutting disk is completely stopped and the belt drive is disengaged. Allow the engine to completely cool and switch the engine to off. Open the housing cover to clear and remove all the materials from the housing. Lock the housing cover, switch the engine to the on position, and start the machine again to resume operation.

As the discharge material plies up, move the chipper away from the pile. This will keep the material from backing up the discharge chute. Do not position the deflector vertically, as this will reduce the airflow, impeding the discharge and causing blockage.

Make sure the machine is level and stable to avoid unnecessary vibrations.

Do not operate on concrete or other hard surface.

Do not open the housing cover unless the engine and cutting disk are completely stopped and the belt drive is disengaged.

The engine is fitted with an oil alert and will not start if the oil level in the sump is too low. It may also stop if it is operated on a steep slope.

To shut down the machine, move the throttle control lever to idle speed, turn the engine switch to the OFF position, and it will gradually come to a standstill.

IDLE SPEED

Set the throttle control lever to the SLOW position to reduce stress on the engine when chipping is not being performed. Lowering the engine speed will help extend the life of the engine, as well as conserve fuel and reduce noise level.

STOP ENGINE

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following procedure:

1. Move the throttle lever to the SLOW ( ) position.
2. Let the engine idle for one or two minutes.
3. Turn the engine switch to the OFF position.
4. Turn the fuel valve lever to the OFF ( ) position.

Sudden stopping at a high speed under a heavy load is not recommended. Engine damage may result.

Do not move the choke control to CLOSE to stop the engine. Backfire or engine damage may occur.

Wait until the machine completely stops. Allow the engine to completely cool. Remove the engine's spark plug. Then clean out the interior of the machine and its discharge chute.

Do not disengage the belt drive with the machine running. This will cause friction and vibration on the belt drive.

TRANSPORTING

Your wood chipper is equipped with two large pneumatic wheels for easy movement by hand. To move the unit, grip the handles and tilt the wood chipper slightly after making sure the oil tank cover is tightened.

MAINTENANCE

Maintaining your Wood chipper will ensure long life to the machine and its components.

PREVENTIVE MAINTENANCE

1. Turn off the engine. The engine must be cool.
2. Keep the engine's throttle lever in its SLOW position and remove the spark plug wire from the spark plug and secure.
3. Inspect the general condition of the chipper shredder. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect its safe operation.
4. Remove all debris from the Wood chipper with a soft brush, vacuum, or compressed air. Then use a premium quality lightweight machine oil to lubricate all moving parts.
5. Replace the spark plug wire.

Never use a pressure washer to clean your Wood chipper. Water can penetrate tight areas of the unit and cause damage to spindles, pulleys, bearings, or the engine.

Shut down the engine, wait for all moving parts to come to a complete stop, remove the spark plug wire, and then wait five minutes before performing maintenance on the chipper.

REGULAR MAINTENANCE CHECKLIST

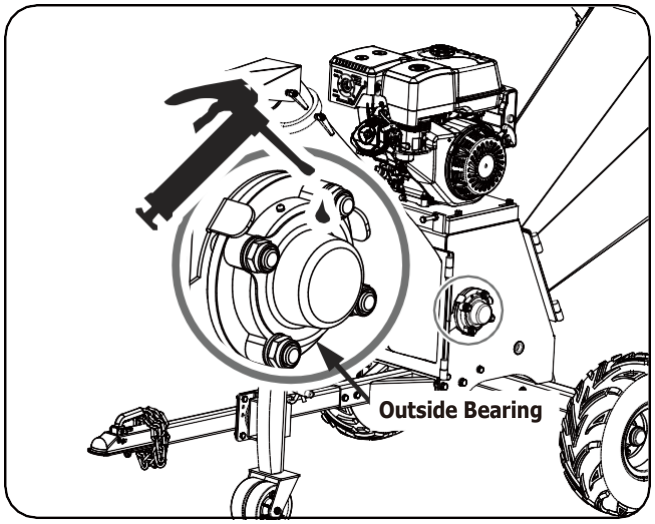
The service intervals shown are the maximum under normal operating conditions. Increase frequencies under extremely dirty or dusty conditions.

Procedure	Before each use	Every 8-10 Hours	Every 40 Hours
Check engine oil level	▲		
Check general equipment condition	▲		
Check that cutting disk turns freely (with a long stick only)	▲		
Visually inspect knife for damage	▲		
Check knife and wear plate for sharpness		▲	
Check knife and wear plate attachment screws		▲	
Check for any loose nut and bolts		▲	
Check knife to wear plate gap		▲	
Check belt tension and condition	1st time 1 hour	▲	
Check tire pressure			▲
Change engine oil	1st time 5 hours		▲
Inspect or replace drive belt			▲
Inspect or replace spark plug			▲
Inspect or replace air filter and precleaner			▲

There are two bearings, one outside and the other inside the housing . The bearings are greased when they are new, but it is recommended to grease them after a couple hours of use. One or two pumps is sufficient. Be careful not to over grease. Over lubrication can damage the bearings.

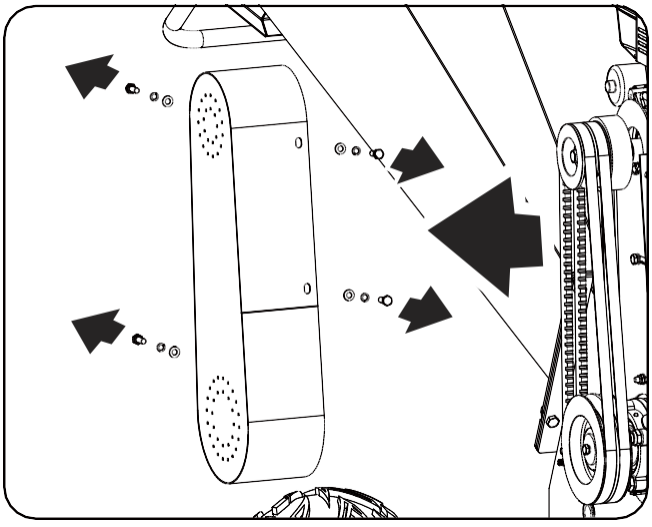
Grease the outside bearing

1. Open the plastic oil plug.
2. Grease the outside bearing through the filling hole.
3. Close the plastic oil plug.

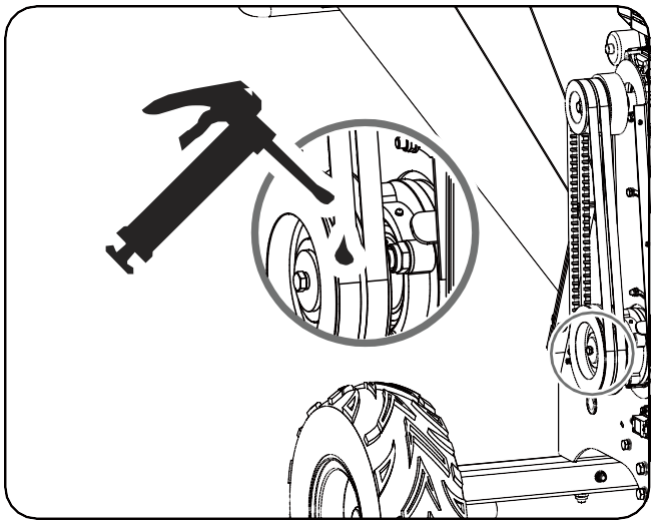


Grease the inside bearing

1. Loosen the lock nut which holds the discharge chute on the machine.
2. Slide down the fixing plate under the lock nut.



3. Open , then grease the inside bearing.

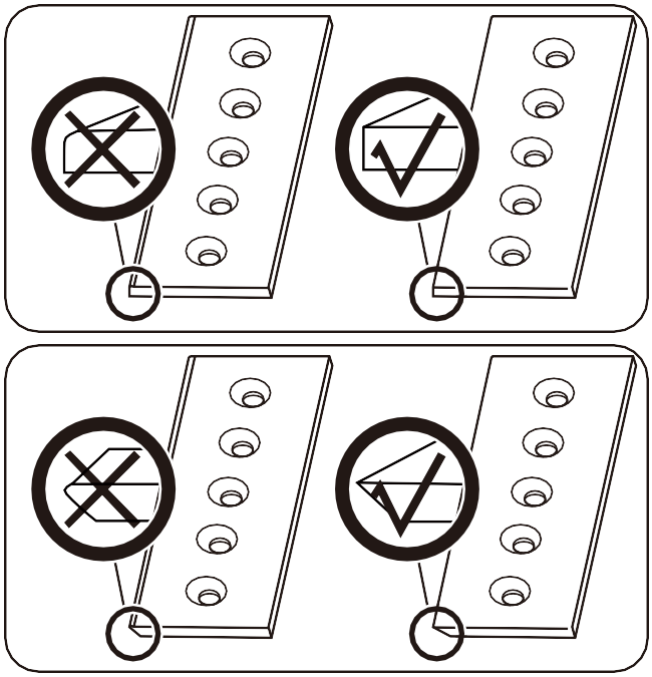


If the machine's cutting disk strikes a foreign object, or if the machine begins to make an unusual noise or vibrates excessively, immediately shut off the engine. Allow the cutting disk to come to a complete stop. Switch the engine to "off" to avoid any accidental start. Then perform the following steps:

- Inspect for damage.
- Repair or replace damaged parts.
- Check for any loose parts and tighten to ensure continued safe operation.

KNIFE AND WEAR PLATE INSPECTION

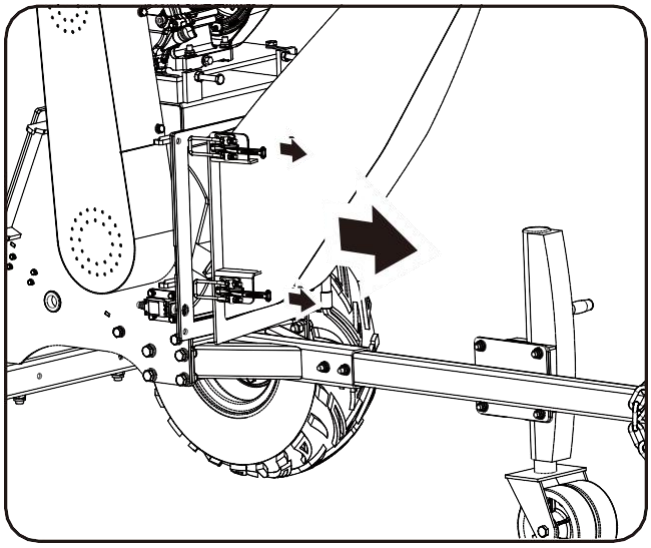
Routine inspection of the knives for sharpness and wear plate for a sharp edge will ensure that your wood chipper is operating at full efficiency. Using dull knives or a rounded wear plate will decrease performance and cause excessive vibration that will damage the machine and make chipping difficult for the operator.



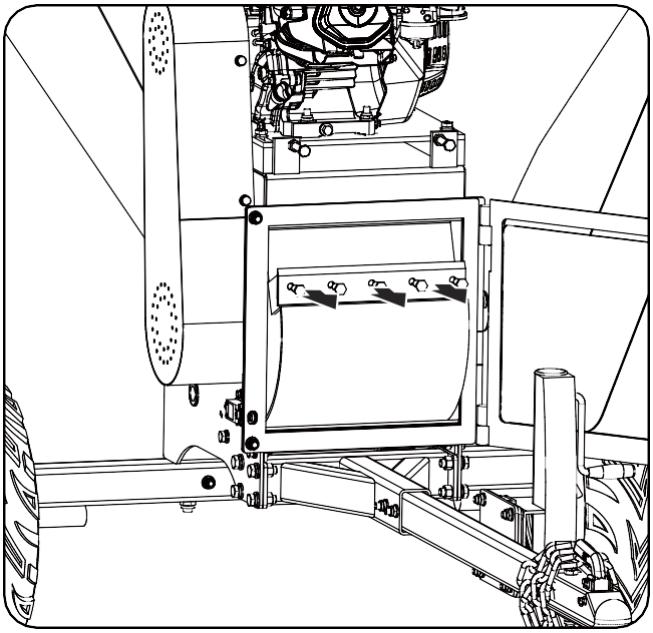
KNIFE REMOVAL AND REPLACEMENT

This Wood chipper is equipped with two chipper knives mounted on the cutting disk. When the knives get dull or show visible nicks, the machine will lose its self- feeding action and the material has to be pushed in. Often it comes out in long strips. Replace the knifes by following steps.

1. Remove the feed hopper.



2. open the two lock buckles.
3. Remove the discharge chute.
4. Rotate the cutting disc until the blade can be seen from the feed hopper side.



5 . Remove the bolts, nuts that fix the blade.

> ⚠ *Be careful and wear gloves when working near the knives.*

6. Remove the dull or damaged knives and visually inspect the cutting disk slot and knives mounting area. Make sure they are clean and that the placement knives will be able to mount flush against the cutting disk. Remount new or sharpened knives with the knife edges facing up.

> ⚠ *If the cutting disk surface is not cleaned properly and the knives are not mounted flush on the cutting disk, the knives could crack when the hardware is tightened.*

The clearance between the knives and wear plate should be approximately 1 mm at the position of closest to the rotor shaft and 3 mm at the position of farthest to the rotor shaft. They are tapered out slightly to allow for a small amount of movement in the cutting disk as it bites into the wood.

Make sure that all locknuts are tightened properly. Then turn the cutting disk with a long wooden stick to make sure it rotates freely.

STORAGE

If your Wood chipper will not be used for more than 30 days, follow the steps below to prepare your unit for storage:

1. Drain the fuel tank completely. Stale fuel has high gum content and can clog the carburetor and restrict fuel flow.
2. Start the engine and allow it to run until it stops. This ensures no fuel is left in the carburetor and helps prevent deposits from forming inside, which can damage the engine.
3. Drain the oil from the engine while it is still warm. Refill with fresh oil of the grade recommended in the engine manual.
4. Allow the engine to cool. Remove the spark plug and put 60 ml of SAE-30 high-quality engine oil into the cylinder. Pull the starter rope slowly to distribute the oil. Replace the spark plug.

Remove the spark plug and drain all oil from the cylinder before attempting to start the unit after storage.

5. Use clean cloths to clean off the outside of the Wood chipper and to keep the air vents free from obstructions.

Do not use strong detergents or petroleum based cleaners when cleaning plastic parts. Chemicals can damage plastics.

6. Store your chipper shredder in an upright position in a clean, dry building with good ventilation.

Do not store your chipper shredder with fuel in a non-ventilated area where fuel fumes could reach flames, sparks, pilot lights or any ignition sources.

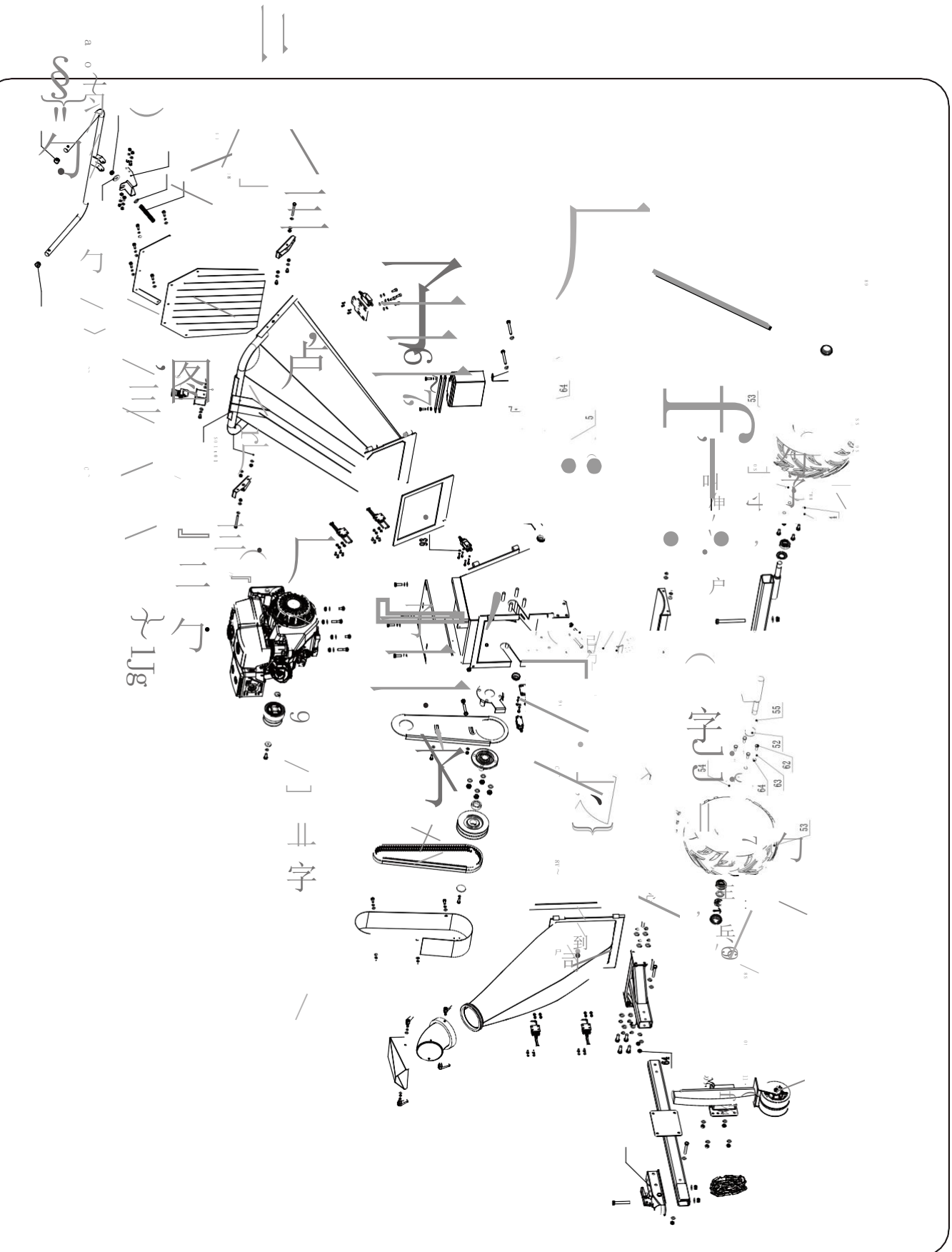
Use only approved fuel containers.

TROUBLESHOOTING

Problem	Cause	Remedy
Engine fails to start	1. Spark plug wire is disconnected 2. Out of fuel or stale fuel 3. Engine and/or Fuel valve is not in ON position 4. Choke lever is not in CLOSE position 5. Blocked fuel line 6. Fouled spark plug 7. Engine flooding 8. Belt tension lever is engaged	1. Attach spark plug wire securely to spark plug 2. Fill with clean, fresh gasoline 3. Engine and Fuel valve must be in ON position 4. Choke level must be in CLOSE position for a cold start 5. Clean fuel line 6. Clean, adjust gap, or replace 7. Wait a few minutes to restart, but do not prime 8. Disengage the belt tension lever

Engine runs erratically	1. Spark plug wire is loose 2. Unit running with Choke lever in CLOSE position 3. Blocked fuel line or stale fuel 4. Vent plugged 5. Water or dirt in fuel system 6. Dirty air cleaner 7. Improper carburetor adjustment	1. Connect and tighten spark plug wire 2. Move choke lever to OPEN position 3. Clean fuel line. Fill tank with clean, fresh gasoline 4. Clear vent 5. Drain fuel tank. Refill with fresh fuel 6. Clean or replace air cleaner 7. Refer to engine manual
Engine overheats	1. Engine oil level low 2. Dirty air cleaner 3. Air flow restricted 4. Carburetor not adjusted properly	1. Fill crankcase with proper oil 2. Clean air cleaner 3. Remove housing and clean 4. Refer to engine manual
Chipping action seems too slow, cutting disk stalls, or no material is discharged when engine is running	1. Engine speed is too slow causing belt to slip 2. Drive Belt is loose or damaged 3. Knives are dull or damaged 4. Cutting disk is jammed by debris from the feed hopper and discharge chute 5. Discharge chute is clogged	1. Run the engine at full throttle 2. Tighten or replace drive belt 3. Sharpen or replace knives 4. Remove any built-up debris and turn cutting disk with a wooden stick to be sure it turns freely 5. Clean out debris
The belt frays or rolls over the pulley	1. Rotor drive pulley groove may be nicked 2. Drive belts may be stretched 3. Pulleys may be misaligned	1. Check drive belts for wear and hard spots. File off any nicks on the pulley 2. Replace drive belts 3. Adjust pulleys
When chipping, branch seems to vibrate and move about excessively with unusual noise	1. Knives are dull or damaged 2. Knives are not properly seated on the cutting disk 3. The gap between the knives and wear plate is too large 4. Rotor is overloaded with material	1. Sharpen or replace knives 2. Loosen the knife mounting screws, reset the knives and tighten the screws 3. Adjust the gap 4. Allow unit to clear itself before adding more material to the hopper
Chipper Knives are hitting the wear plate	The gap between the knives and wear plate is set incorrectly	Adjust the gap
The machine's wheels track left or right while being towed	Low tire pressure	Add air to tires

PARTS DIAGRAM



PARTS LIST

No.	Description	QTY.
1	Roller housing	1
2	Protective ring	2
3	Bearing base plate <L>	1
4	Bearing UCFC207	2
5	Bearing cover	2
6	Battery holder	1
7	Battery	1
8	Rubber pad	1
9	Rubber mounted plate	1
10	Limit switch mounted plate	1
11	Spring	1
12	Emergency stop trigger	1
13	Limit switch	3
14	Stop button holder	1
15	Stop bar holder A	1
16	Rubber chip baffle	1
17	Rubber mounted plate	1
18	Emergency stop bar	1
19	End cap	2
20	Emergency stop button	1
21	Feeding hopper	1
22	Stop bar holder B	1
23	Engine	1
24	Clutch	1
25	Clutch locating bush	1
26	Flat key	1
27	Clutch gasket	1
28	Buckle	4
29	In-feed to frame rubber	1
30	Engine foundaton	1
31	Bearing base plate <R>	1
32	Limit switch mounted plate	1
33	Inner belt cover	1
34	Pulley locating bush	1
35	Pulley	1
36	V-belt	2
37	Flat key	1
38	Pulley gasket	1
39	Belt cover	1
40	Clamp handle	4
41	Deflector	1

No.	Description	QTY.
42	Rotating component	1
43	Discharge chute	1
44	Discharge to frame rubber	1
45	Roller	1
46	Blade	2
47	Anvil	1
48	Anvil mounted plate	1
49	Anvil adjusting plate	1
50	Roller base plate	1
51	Dust cap	2
52	Bearing 6205	4
53	19x7.00-8 tubeless tires	2
54	Axle flange	2
55	Oil seal	2
56	Wheel axle	1
57	Tow bar mounted base	1
58	Tow bar	1
59	Jockey wheel	1
60	Coupler	1
61	Safety chain	2
62	Hex bolt M10x25	12
63	Flat washer 10	39
64	Lock nut M10	21
65	Hex bolt M10x70	3
66	Hex bolt M12x80	2
67	Flat washer 12	10
68	Lock nut M12	3
69	Hex bolt M12x35	8
70	Flat washer 12	9
71	Hex bolt M12x35	8
72	Hex bolt M8x25	9
73	Spring washer 8	19
74	Hex bolt M8x20	8
75	Flat washer 8	33
76	Lock nut M8	13
77	Lock nut M14	10
78	Gasket 14	8
79	Hex bolt M10x60	2
80	Hex nut M10	6
81	Hex bolt M6x16	4
82	Spring washer 6	4

PARTS LIST

No.	Description	QTY.
83	Flat washer 6	4
84	Sunk screw M5x14	8
85	Hex bolt M10x25	10
86	Hex socket screw M10x60	4
87	Hex bolt M10x35	5
88	Spring washer 10	14
89	Hex bolt M14x140	2
90	Flat washer 14	2
91	Hex bolt M5x16	4
92	Spring washer 5	8
93	Flat washer 5	8
94	Carriage bolt M10x50	4
95	BS Hex bolt 3/8-24x1	1
96	Hex bolt M8x80	2
97	Hex bolt M8x16	6
98	Gasket 12	1
99	Hex socket screw M8x20	4
100	Hex bolt M10x80	2
101	Split pin 4x45	2
102	Hex slotted nut M24x1.5	2
103	Flat washer 24	2
104	Hex socket screw M6x16	16
105	Lock nut M6	16