

GASOLINE POWERED WOOD CHIPPER

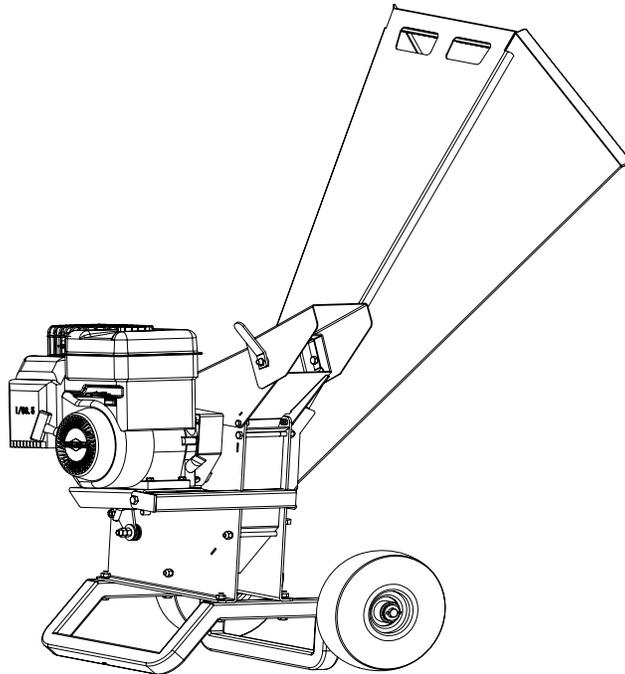
MODEL NUMBER : PK36070

SERIAL NUMBER :

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.

Pow'R'kraft®



OPERATION & PARTS MANUAL

**Please read these instructions carefully before using!
You must fill engine with oil & grease all points before operating!**

www.Betstco.com

Phone: 541-895-3083

E-mail cservice@betstco.com

83371 Melton Rd, Creswell OR 97426

BETSTCO

Pow'R'kraft

RUGGED LABOR SAVING EQUIPMENT SINCE 1995

TABLE OF CONTENTS

Introduction	2
Specifications	2
Symbols	2
Safety	3
General Safety Rules	3
Specific Safety Rules	5
Contents supplied	7
Assembly	7
Know your Wood Chipper	9
Features & Controls	10
Operation	10
Delivering Wood Chipper To Work Site	12
Maintenance	12
Storage	17
Trouble Shooting	18
Parts Schedule	19

INTRODUCTION

The wood chipper is a power-driven machine for cutting wood into chips.

Your new wood chipper will more than satisfy your expectations. It has been manufactured under stringent quality standards to meet superior performance criteria. You will find it easy and safe to operate, and with proper care, it will give you many years of dependable service.



Carefully read through this entire operator's manual before using this unit. Take special care to heed the cautions and warnings.

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 unit, for more information.

Specifications

Item No.	PK30670
Engine	205 cc,
Chipping Capacity	70 mm
Disc Size	400 X 10 mm
Disc Speed	2600 rpm
Knives	Two 110 X 42 X 9 mm
Infeed Throat Opening	150 X 150 mm
Feed Hopper Opening	530 X 350 mm
Tires	Pneumatic 4.00-4
Sound pressure level	83.1db(A) k=4db(A)
Sound power level	95.5db(A) k=6.4db(A)
Level of vibration	5.52m/s ²
Weight	90.0 kg

Specifications subject to change without notice!

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 environment-friendly safe way.

SYMBOLS

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



Wear eye protection.



Wear hearing protection.



Read these instructions for use carefully.



Wear safety footwear.



Wear safety gloves.



It is forbidden to remove or tamper with the protection devices and safety devices.



Keep away from hot parts on the machine.



Do not smoke or have open flames.



Keep your hand and feet away from moving parts.



Thrown objects.



Keep bystanders away.

SAFETY

General Safety Rules

Understand your machine

Please avoid misuse, such as do not use the machine as a shredder witch described in the standard EN13683/A2:2011.

Read and understand the operator's manual and labels affixed to the machine. Learn its application and limitations as well as the specific potential hazards peculiar to it.

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.

Work area

Never start or run the machine 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.

Never operate the machine without good visibility or light.

Personal safety

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, and 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.

Use safety equipment. Wear hearing and eye protection while operating this machine or if you are within 75 feet of this machine. Thrown objects which ricochet can cause serious injury to the eyes.

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.

Never remove or tamper with safety device. Check their proper operation regularly.

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

Form a habit of checking to see that keys and adjusting wrenches are removed from 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.

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 time. This enables better control of the machine in unexpected situations.

Avoid accidental starting. Be sure the engine 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 engine on invites accidents.

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. 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 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 over fill fuel tank. Fill tank to no more than 12.5mm (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 spilt fuel. Never operate the unit without the fuel cap securely in place.

Avoid creating a source of ignition for spilt fuel. If fuel is spilt, 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.

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 machine with fuel in the tank inside a building where fumes may reach a spark, open flame, or other sources of ignition, such as a water heater, furnace, clothes dryer and the like. Allow the engine to cool before storing in any enclosure.

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.

Maintain the machine. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the machine's operation. If damaged, have the machine repaired before use. Many accidents are caused by poorly maintained equipment.

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.

Store idle machine out of the reach of children and do not allow persons unfamiliar with the machine or these instructions to operate it. Machine is dangerous in the hands of untrained users.

Service

Before cleaning, repair, inspecting, or adjusting, shut off the engine and make certain that all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting.

Have your machine serviced by qualified repair personnel using only identical replacement parts. This will ensure the safety of the machine maintained.

Specific Safety Rules

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

Thoroughly inspect the area to be worked, keep the working area clean and free of debris to prevent tripping. Operate on a flat level ground.

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

Keep all bystanders, children, and pets at least 23m (75 feet) away. If you are approached, stop the unit immediately.

The operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.

Start the engine carefully according to instructions.

Before starting the wood chipper, make sure the feed hopper and cutting housing are empty and free of all debris.

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 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.

Never allow an accumulation of processed material to build up in the discharge area as this will prevent proper discharge and can result in kickback from the chipper hopper.

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

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

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. 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, disconnect spark plug wires, keeping them a away form the spark plugs to prevent accidental starting, and wait for all moving parts to come to a complete stop.

Do not tilt the machine while the engine is running.

Always stop the engine before moving the machine.

Always make sure that the engine is switched off and that the cutting disk and engine are at a complete standstill and the belt drive is disengaged before opening the cutting disk housing.

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

Never cover the machine while the muffler is still hot.

Feed only clean materials into the machine. Foreign matter like soil, sand, grit, stones, pieces of metal, etc will damage the sharp edge of the cutting knives. Root balls and dead wood will also blunt the blades quickly. Avoid feeding any flax and cabbage tree leaves into the machine as 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, as 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.

Do not force the branches into this machine. Allow the machine to automatically feed through.

Never operate the machine on slopes.

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

This wood chipper is for off-road use only. Never attempt to tow the machine on public highways, roads, or thoroughfares.

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

Move the machine at least 3m away from the refueling point before starting engine.

Always check the oil level of the engine before use.

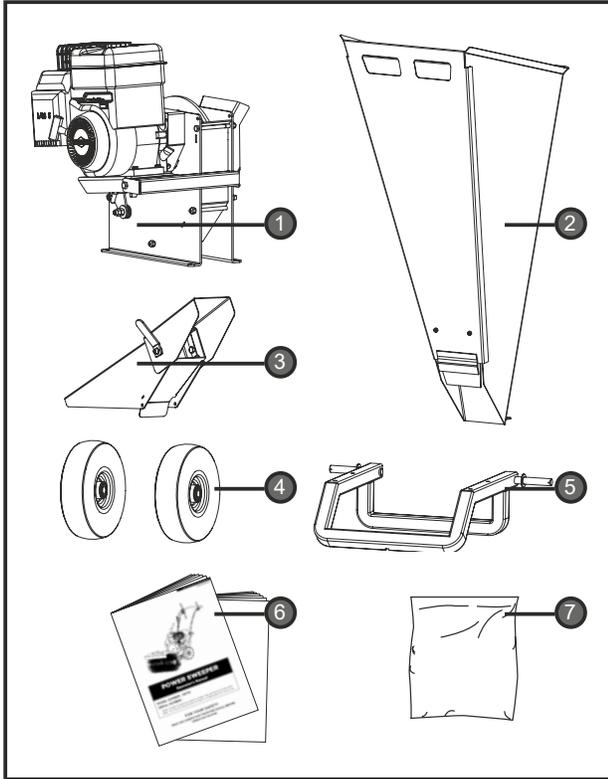
Inspect that all nuts and bolts are tight and well connected to ensure the safety and reliability of this machine prior to any operation.

Inspect the air pressure in the tires prior to use and pay attention to sharp objects when moving the machine to prevent the tires from being pierced.

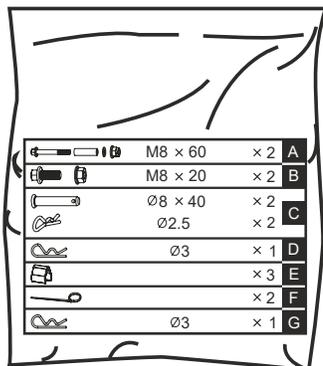
Since some parts of the machine are made of plastic or rubber materials, it should be kept away from any chemical article to prevent a chemical reaction from occurring.

CONTENTS SUPPLIED

The wood chipper comes partially assembled and is shipped in carefully packed package. After all the parts have been removed from the package, you should have:

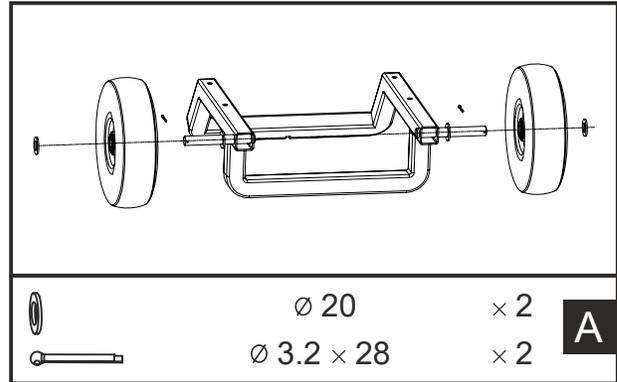


1. Main Body
2. Feed Hopper
3. Discharge Chute
4. Transport Wheels
5. Mounting Stand
6. Operator's Manual & Engine Manual
7. Hardware Bag, including

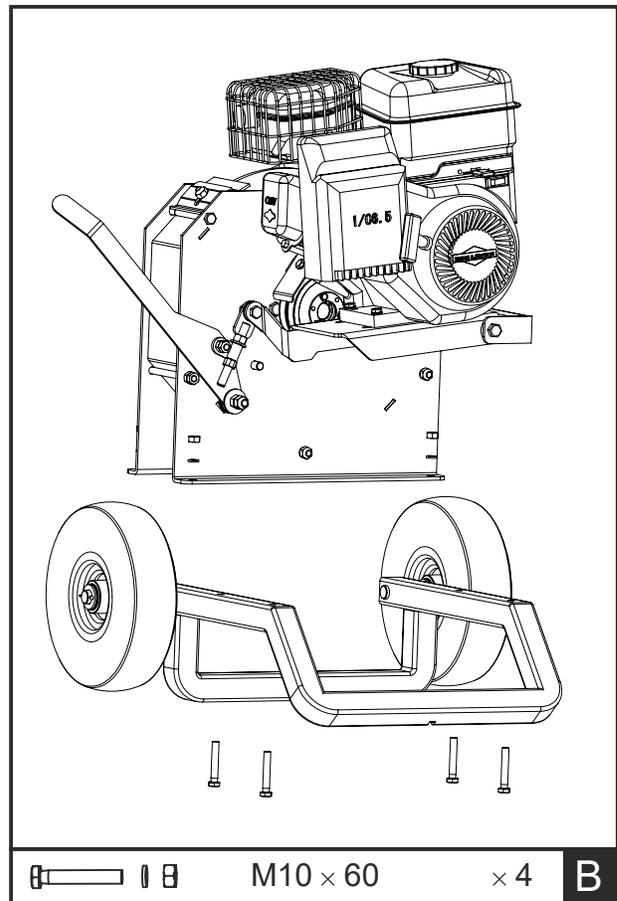


ASSEMBLY

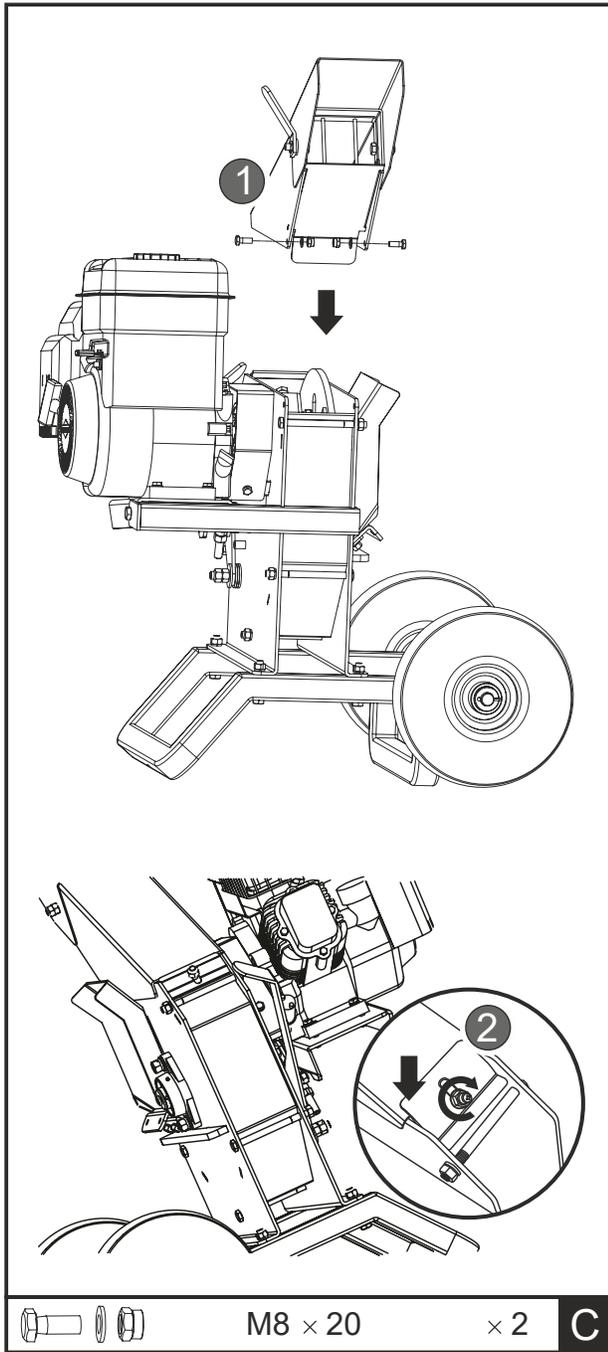
Following the assembly directions below, you will assemble the machine in a few minutes.



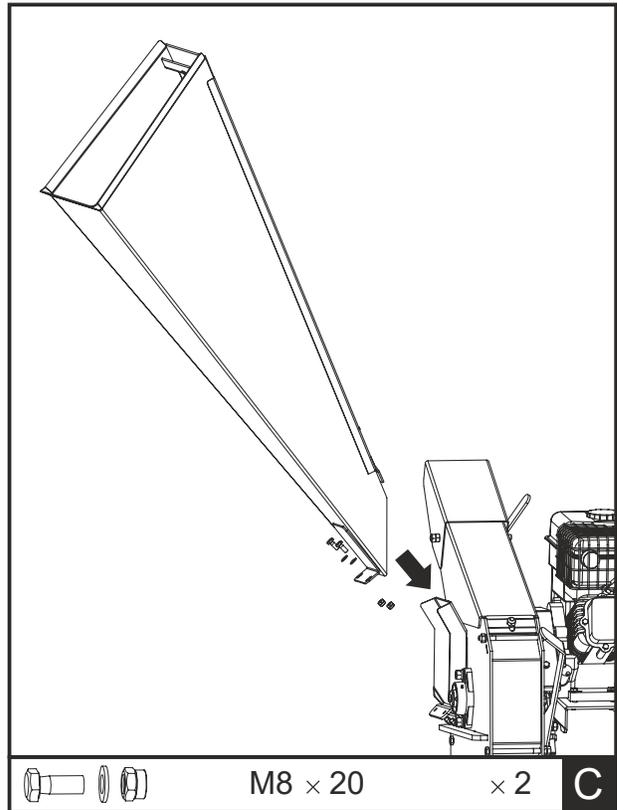
1. Slide a wheel onto the axle, followed by a washer, and secure with a cotter pin. Repeat above procedure for the other side.



2. Place main body onto the mounting stand and secure with bolts, washers and nuts.



3. Disengage the belt drive by pushing the lever at the back of the housing down. Loosen the clamp using the lock nut which holds the discharge chute on the machine and place the discharge chute onto the machine. Tighten down the bolts, washers and nuts. Slide clamp over the top of the discharge chute and fasten lock nut.



4. Place feed hopper onto the machine and ensure it is sitting on the wear plate before tightening it with bolts, washers and nuts securely.



We recommend that you have someone help you lift the hopper in place and support it until it is secured to the chipper.

Engine oil



Oil has been drained for shipping. Failure to fill engine sump with oil before starting engine will result in permanent damage and will void engine warranty.

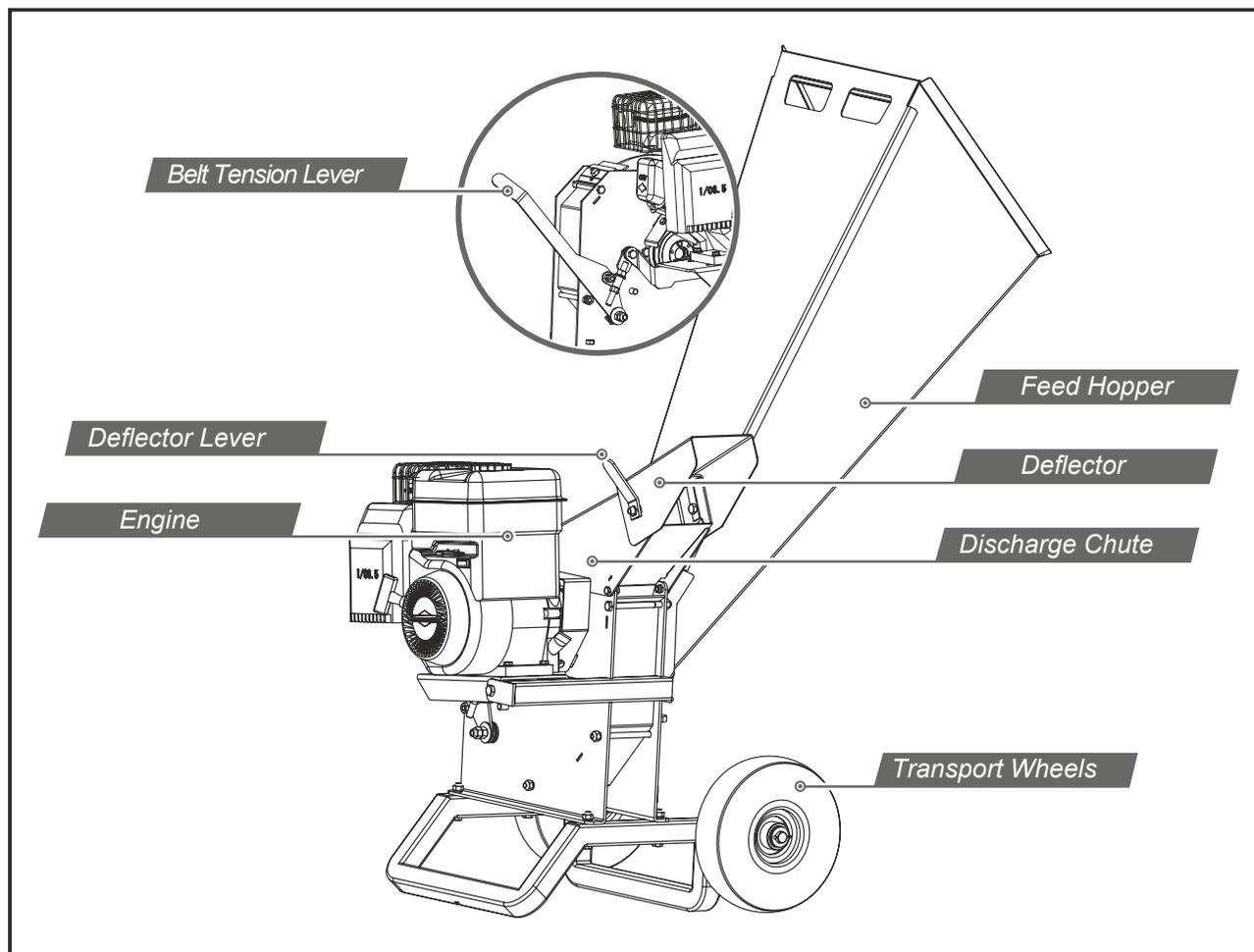


Please note that wood chipper is supplied without fuel or oil in the engine.

Add oil according to Engine Manual packed separately with your unit.

KNOW YOUR CHIPPER

Features and Controls



Fuel Valve Control

The fuel valve opens and closes the passage between the fuel tank and the carburetor. The fuel valve lever must be in the ON position for the engine to run. When the engine is not in use, leave the fuel valve lever in the OFF position to prevent carburetor flooding and to reduce the possibility of fuel leakage.

Throttle Control

The throttle lever controls engine speed. Moving the throttle lever makes the engine run faster or slower.

Engine Switch

The engine switch enables and disables the ignition system. The engine switch must be in the ON position for the engine to run. Turning

the engine switch to the OFF position stops the engine.

Choke Lever

The choke lever opens and closes the choke valve in the carburetor. The closed position enriches the fuel mixture for starting a cold engine.

The open position provides the correct fuel mixture for operation after starting, and for restarting a warm engine.

Recoil Starter Grip

Pulling the starter grip operates the recoil starter to crank the engine.

Feed Hopper

It is the opening into which all materials to be chipped should be fed.

Discharge Chute

Chipped materials are discharged through this opening. Deflector can be attached to the chute.

Transport Wheels

To move the wood chipper, grip the handles to tilt the machine slightly for next location.

Belt Tension Lever

It 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 it in the anti-clockwise direction to adjust discharge angle. Tighten it in the clockwise direction.

Wood Chipper Operation

Adding fuel

Fill the fuel tank as instructed in the separate Engine Manual packed with the machine.



Fill tank to no more than 12.5mm (1/2") below the bottom of the filler neck to provide space for expansion.

Disengaging the belt drive

For easy starting of the engine, disengage the belt drive by pushing the lever at the back of the housing down.

Starting engine

1. Move the fuel valve lever to the ON position.
2. To start a cold engine, move the choke to the CLOSE position. To restart a warm engine, leave the choke lever in the OPEN position.
3. Move the throttle lever to the halfway position.
4. Turn the engine switch to the ON position.
5. Operate the starter.

Recoil Starter

Pull the starter grip lightly until you feel resistance, then pull briskly, return the starter grip gently.

If the choke lever has been moved to the CLOSE position to start the engine, gradually move it to the open position as the engine warms up.



IMPORTANT: Allow the engine to run with no load until warm (1-5 minutes) after each start-up to stabilize.

Operating

After engine warms up, pull 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 wood chipper can process a wide variety of dry or green organic materials such as branch, pruning, stalks, vines, leaves, roots, and vegetable matter. The maximum capacity is approximately 50 to 70 mm diameter branches, 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 butt 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 and springy when dried out and become more awkward to handle by making the knives blunt more quickly.

While operating the machine keep a wooden stick handy, approx 30mm diameter x 600mm 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 replacement, or the gap between the knives and the wear plate needs adjusting.

Make sure not to overload the machine by feeding too much material into the feed hopper at one time. If you hear the speed of 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 becomes wrapped around the rotor shaft, remove it before it works its way into the bearing.

Should it happen that the wood chipper stalls through 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 be completely cool and remove its spark plug. Open the housing cover to clear and remove all the materials from the housing. Lock the housing cover, reinstall the spark plug and start the machine again to resume the operation.

As the discharge materials piles up, move the chipper or the processed material to keep the outlet free. Otherwise blocking will occur. Do not position the deflector vertically, as it will reduce the airflow, impeding discharge and cause a blockage.



Position the machine level and stable to avoid unnecessary vibrations.



Do not operate on concrete or bitumen.



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 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, simply move the throttle control lever at idle speed, turn the engine switch to the OFF position, and it will gradually come to a standstill.

Idle speed

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

Stopping 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 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.



Do not move choke control to CLOSE to stop 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, as this will cause friction and vibration on the belt drive.

DELIVERING WOOD CHIPPER TO WORK SITE

The wood chipper is equipped with 2 large pneumatic wheels for moving. To move the wood chipper to the work site, grip the handles to tilt the wood chipper slightly after making sure the oil tank cover is tightened.

MAINTENANCE

Maintaining your wood chipper will insure long life to the machine and its components.

Preventive Maintenance

1. Turn off engine. Engine must be cool.
2. Keep the engine's throttle lever in its SLOW position, and remove spark plug wire from spark plug and secure.
3. Inspect the general condition of the wood chipper. 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 light weight machine oil to lubricate all moving parts.
5. Replace 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. The use of pressure washers will result in shortened life and reduce serviceability.



Shut down the engine, wait for all moving parts to come to a complete stop, remove plug wire, and then wait for 5 minutes before performing maintenance on the chipper.

Regular Maintenance Check List

Note: Consider that 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	1 st time 1 hour	▲	
Check the tire pressure			▲
Change engine oil	1 st time 5 hour		▲
Inspect or replace drive belt			▲
Inspect or replace spark plug			▲
Inspect or replace air filter and precleaner			▲

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

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. Remove the spark plug from the engine 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 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 pieces of 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.

The knives need to be removed for sharpening. To remove the knives, loosen the clamp by unscrewing the locknut to open the discharge chute and remove the feed hopper. With a 13 mm ring spanner loosen the locknuts at the back of the cutting disk. If the bolt head turns, hold it with a 5 mm hexagonal Allan key. Do not try to loosen the bolt with the hexagonal Allan key.



Be careful and wear gloves when working near the knives because their edges can cut you if you come in contact with them.

Remove the dull or damaged knives and visually inspect the cutting disk slot and knives mounting area and be sure they are clean and that the replacement knives will be able to mount flush against the cutting disk. Remount new or sharpened knives with the knife edges facing up in the reverse procedure, making sure that all mounting surfaces are cleaned beforehand.



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 approx 1mm on the inside closest to the bearing and 3mm on the outside edge of the cutting disk. 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 by a long wooden stick and check if the cutting disk rotates freely.

Knife Resharpener

After removal, the knives should be sharpened on a surface grinder. Be careful and wear gloves to protect hands. It is extremely important to consistently maintain the 38 degree cutting angle for proper performance.

Excessive heat generated during the grinding process will damage the knives and weaken the metal. Make sure that there is plenty of coolant used when grinding to avoid overheat. If you are unable to re-sharpen the knives yourself, take the knives to a professional machine shop for proper re-sharpening.

Normally only a slight touch up is needed. In this way your knives should last for a long period of time.

Wear Plate Removal and Replacement

The wear plate is case-hardened and reversible. Normally the edges will last for a long time. When the edge is rounded off, it can be reversed. The wear plate can not be re-sharpened as it will loose its hard edge due to being case-hardened. When both edges are worn, the wear plate should be replaced.

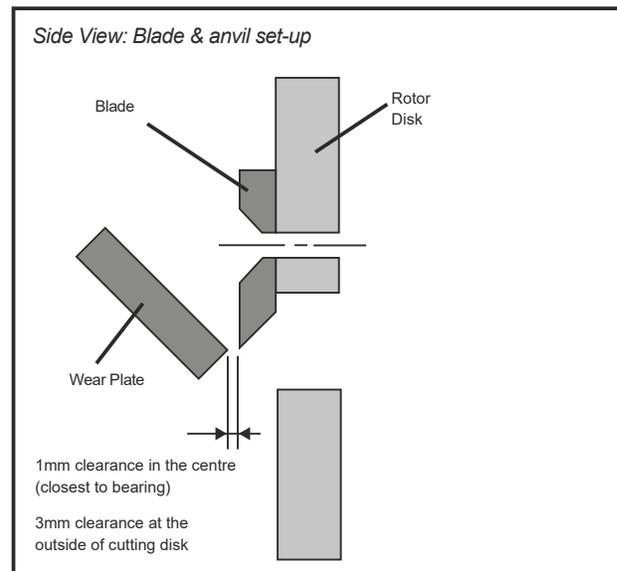
1. Remove the feed hopper.
2. Remove the locknuts and bolts that attach the wear plate to the chipper assembly and then remove the wear plate.
3. Install the new wear plate and secure with the bolts and locknuts.

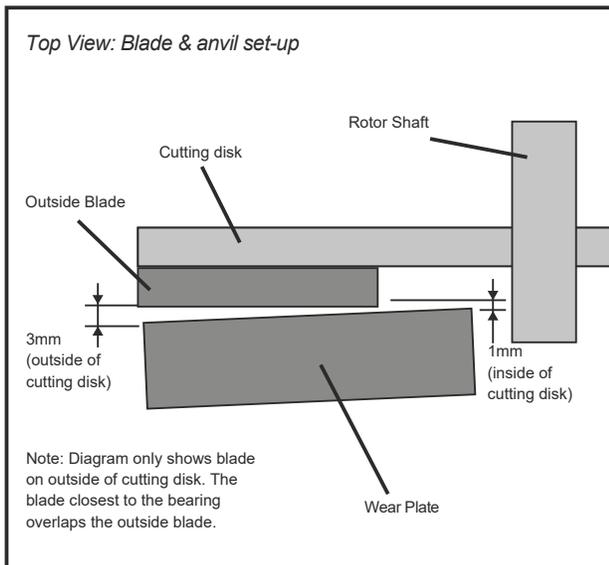
NOTE: The gap between the knife and wear plate must be adjusted whenever the wear plate is removed.

Wear Plate Adjustment

When the knife or wear plate is replaced, it is a must to check and set the clearance between the knife and wear plate.

The clearance between the knives and wear plate should be approx 1mm on the inside closest to the bearing and 3mm on the outside edge of the cutting disk. Refer to diagram below for more details.





A piece of cardboard of the right thickness is usually a good gap gauge for resetting the wear plate. The wear plate can be adjusted through the mounting slots. Always ensure these bolts are properly tightened.

Remove the feed hopper and use a wooden stick to rotate the cutting disk to make the knives positioned next to the wear plate. Slide the gap gauge in between the knives and wear plate to check the clearance.

- If the gap gauge slides freely, with no resistance and a lot of extra space, the wear plate must be adjusted.
- If the gap gauge will not slide down between the knives and wear plate, the wear plate must be adjusted.
- If the gap gauge slides in between the knives and wear plate with some resistance felt against them both or slides in between with no noticeable space, then the wear plate is properly adjusted.

If the wear plate is not set correctly, excessive vibration will occur when chipping and the knife will seem to be dull. If there is not enough clearance, the knife edges may touch the wear plate through deflection when cutting heavy branches and damage the sharp edge. Too much clearance will allow small twigs and fibrous materials to be dragged through without being cut.



After any knife or wear plate maintenance or adjustment, rotate the cutting disk by using a wooden stick and watch and listen carefully for any unusual noises, clicking or vibration. If you detect any of these, inspect the machine for damage or any loose parts. Repair or replace any damaged parts and tighten any loose parts before starting the machine.

V-Belt Check

To ensure optimum power transmission from the engine to the rotor shaft, the V-Belts must be in good condition and operate under proper tension.

1. Turn off engine. Engine must be cool.
2. Pull up belt tension lever to get the belts tight in working condition.
3. Remove the top belt guard from the front housing by taking off the fixing bolts.
4. Check the condition of the V-Belts. If any V-Belt is cracked, frayed, or glazed, it should be replaced as soon as convenient.
5. Check the V-Belt tension by squeezing them in the center. The normal deflection on each side should be approximately 3/8" with moderate pressure from your thumb or finger.

V-Belt Tensioning

Proper belt tension is critical to good performance. Proper adjustment will assure long belt life. Too much or too little belt tension will cause premature belt failure.

1. Turn off engine. Engine must be cool.
2. Pull up belt tension lever to get the belts tight in working condition.
3. Remove the top belt guard from the front housing by taking off the fixing bolts.
4. Loosen two M12 adjustment nuts by turning them in the anti-clockwise direction and move downward to reduce any slack in V-Belts.

two M12 adjustment nuts by turning them in the clockwise direction. If the V-Belt tension is too tight, loosen it in the reverse procedure by moving upward two M12 adjustment nuts and adjusting sleeve in between two M12 adjustment nuts.

6. Install the upper and secure them with fixing bolts.



When adjusting the belt(s), make sure that the engine pulley is in alignment with cutting disk pulley.

V-Belt Replacement



Both V-Belts should be replaced at the same time because they will wear evenly through normal use. Work on one belt at a time.

1. Turn off engine. Engine must be cool.
2. Push down belt tension lever to release belt tension.
3. Remove the upper belt guard from the front housing and lower belt guard from the engine base by taking off the fixing bolts respectively,
4. Take off 4 engine mount bolts that fix engine on the engine base to slide engine forward away from the housing until the belts are loose enough to remove.
5. Slip the old V-Belts from engine pulley and cutting disk pulley and install the new V-Belts. Align engine pulley and cutting disk pulley by moving cutting disk pulley in or out on the rotor shaft. Do not make the adjustment by attempting to move the engine pulley on the engine shaft.
6. Move the engine back. Adjust the V-belt tension to be correct, and tighten M12 adjustment nuts and the engine mount bolts.
7. Install the upper and lower belt guards and secure them with fixing bolts.



drive belt(s), be careful not to get your fingers caught between the belt and pulley.

Lubrication

Check oil level every 50 hours of working. Remove the plug and check, with machine horizontal, oil reaches the two notches. If necessary, add the oil.

Use portable tool lithium #0 grease such as Lubriplate 6300AA , Lubriplate GR-132, or Multifak, e.g. EP-O.

Engine oil / fuel

Refer to the Engine manual include in your unit for the information on how to check /add oil / fuel for engine and oil / fuel recommendations.

Engine maintenance

Refer to the Engine Manual included in your unit for the information on engine maintenance. Your engine manual provides detailed information and a maintenance schedule for performing the tasks.

STORAGE

If the wood chipper will not be used for a period longer than 30 days, following the steps below to prepare your unit for storage.

1. Drain the fuel tank completely. Stored fuel containing ethanol or MTBE can start to go stale in 30 days. 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. Run the engine until it stops. This helps prevent deposits from forming inside the carburetor and possible engine damage.
3. While the engine is still warm, drain the oil from the engine. 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 of 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 of the 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 of obstructions.



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

6. Store your wood chipper in upright position in a clean, dry building that has good ventilation.



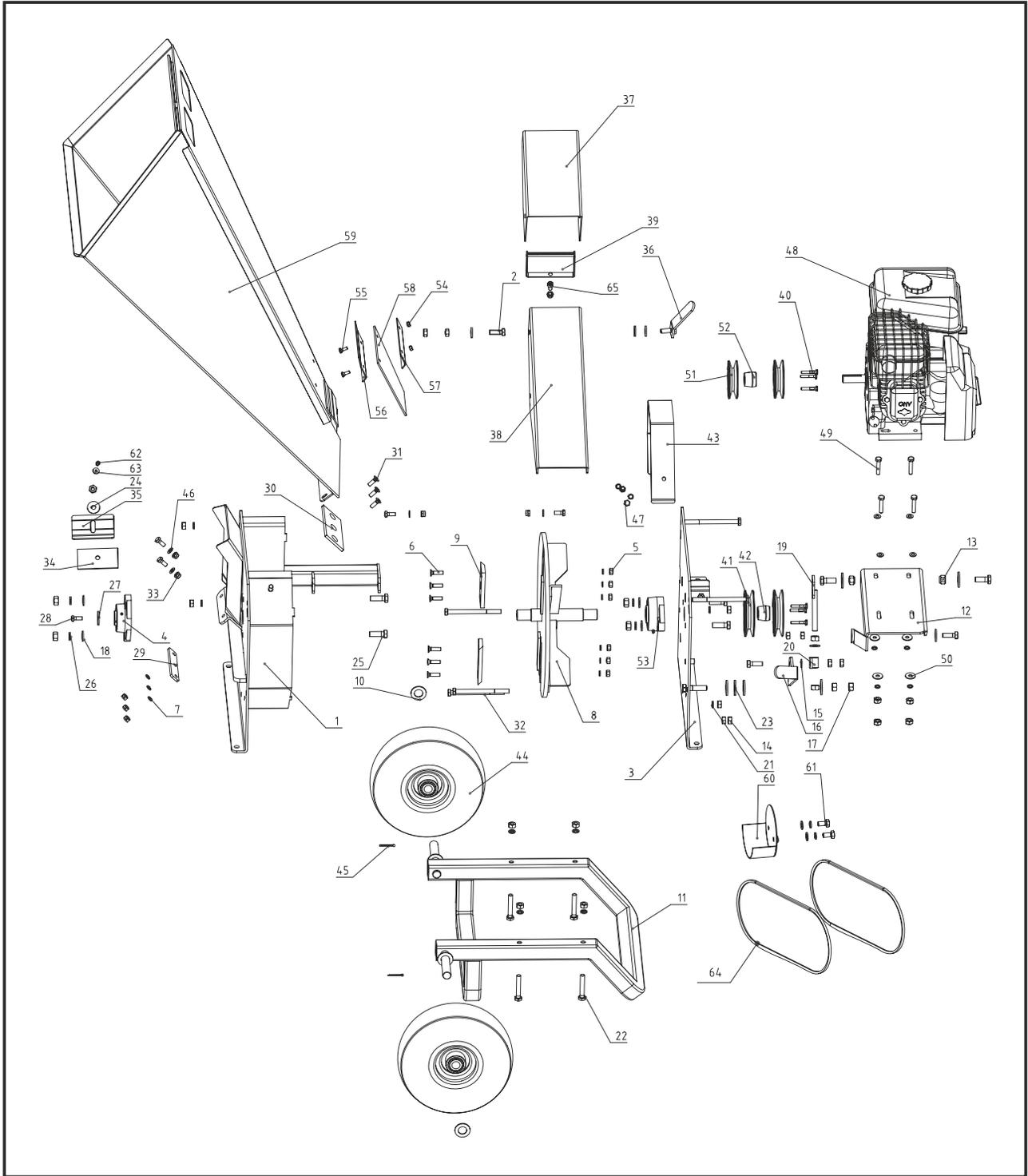
Do not store wood chipper with fuel in a non-ventilated area where fuel fumes may reach flame, sparks, pilot lights or any ignition sources.

Use only approved fuel containers.

TROUBLE SHOOTING

Problem	Cause	
Engine fails to start.	<ol style="list-style-type: none"> 1. Spark plug wire disconnected. 2. Out of fuel or stale fuel. 3. Fuel valve not in ON position. 4. Choke lever not in CLOSE position. 5. Blocked fuel line. 6. Fouled spark plug. 7. Engine flooding. 	<ol style="list-style-type: none"> 1. Attach spark plug wire securely to spark plug. 2. Fill with clean, fresh gasoline. 3. Fuel valve must be in ON position. 4. Choke level must be in CLOSE position for a cold start. 5. Clean the fuel line. 6. Clean, adjust gap, or replace. 7. Wait a few minutes to restart, but do not prime.
Engine runs erratically.	<ol style="list-style-type: none"> 1. Spark plug wire 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. 	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 1. Engine oil level low. 2. Dirty air cleaner. 3. Air flow restricted. 4. Carburetor not adjusted properly. 	<ol style="list-style-type: none"> 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, or cutting disk stalls, or no material is discharged when engine is running.	<ol style="list-style-type: none"> 1. The engine speed is too slow causing belt to slip. 2. Drive Belt loose or damaged. 3. Knives dull or damaged. 4. Cutting disk jammed by debris from the feed hopper and discharge chute. 5. Discharge chute clogged. 	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 1. The rotor drive pulley groove may be nicked. 2. The drive belts may be stretched. 3. The pulleys may be misaligned. 	<ol style="list-style-type: none"> 1. Check the drive belts for wear and hard spots. File off any nicks on the pulley. 2. Replace the drive belts. 3. Adjust the pulleys.
When chipping, branch seems to vibrate and move about excessively with unusual noise.	<ol style="list-style-type: none"> 1. Knives dull or damaged. 2. Knives is not properly seated on the cutting disk. 3. The gap between the knives and wear plate is too large. 4. Rotor overloaded with material. 	<ol style="list-style-type: none"> 1. Sharpen or replace knives. 2. Loosen the knives 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.	Refill air to tires.

PARTS SCHEDULE



PARTS LIST

No.	Description	Q'ty
1	Front Housing	1
2	Bolt M10x30	3
3	Rear Housing	1
4	Bearing UCFLU205	1
5	Nut M8	13
6	Bolt M8x30	6
7	Elastic Washer 8	15
8	Cutting disk	1
9	Knife	2
10	Washer 20	2
11	Mounting Stand	1
12	Engine Seat	1
13	Lock Nut M12	2
14	Nut M10	16
15	Washer 10	3
16	Belt Tension Lever	1
17	Nut M12	9
18	Washer 12	5
19	Threaded Rod	1
20	Adjusting Sleeve	1
21	Elastic Washer 10	10
22	Bolt M10x60	4
23	Big Washer 12	7
24	Big Washer 10	4
25	Bolt M10x30	6
26	Elastic Washer 12	4
27	Washer	1
28	Bolt M8x20	5
29	Binder Plate	1
30	Wear Plate	1
31	Bolt M8x25	3
32	Bolt M10x130	5
33	Lock Nut M8	4
34	Shim	1
35	Clamp	1

No.	Description	Q'ty
36	Lever	1
37	Deflector	1
38	Discharge Chute	1
39	Grille	1
40	Bolt M6X35	6
41	Cutting Disk Pulley 95A	2
42	Taper Sleeve 1#	1
43	Belt Guard-Upper	1
44	Wheel	2
45	Cotter Pin	2
46	Washer 8	8
47	Bolt M8x16	2
48	Engine	1
49	Bolt M8x40	4
50	Big Washer 8	4
51	Engine Pulley 75A	2
52	Taper Sleeve 3/4#	1
53	Bearing UCFLU206	1
54	Nut M6	2
55	Bolt M6X16	2
56	Fixing Plate I	1
57	Fixing Plate II	1
58	Rubber Flap	1
59	Feed Hopper	1
60	Belt Guard-Lower	1
61	Bolt M10x20	2
62	Screw M5X10	1
63	Big Washer 5	1
64	Drive Belt	2
65	Screw M8X16	1

Pow'R'kraft Brand LIMITED WARRANTY

Unless otherwise stated on purchase invoice, Betst Products, llc. warrants to original Purchaser that Pow'R'kraft products are free from major defects in material under normal use and service for a period of Two (2) Years from the date the product is purchased or shipped whichever date is later. Commercial use 180 days. Use at address that is not yours, is considered commercial use. Consumable, Expendable and Wear Items (Rubber & plastic parts, hydraulic hoses, belts, tires, cables, blades, tines, wedges, teeth, tips, chains, pins, etc.) plus bent or broken cylinder rods are not covered under this warranty.

Betst Products, llc. obligation under this warranty is to repair or replace defective product upon approval by; Betst Products, llc., 83371 Melton Rd. N., Creswell OR 97426 that Warranty Claim is Valid. Product shall be returned upon request of Betst Products, llc. Transportation charges to be prepaid by buyer. Gasoline or diesel engines used to power Pow'R'Kraft products are covered by the warranty of the appropriate engine manufacture and Purchaser must look to the engine manufacture for all issues relating to engine operation.

Betst Products, llc. assumes no responsibility for outside labor.

PERMISSIBLE BY APPLICABLE LAW, BETST PRODUCTS, LLC. HEREBY DISCLAIMS ALL WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, ANY IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT PURCHASED, WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, BETST PRODUCTS, LLC. HEREBY EXPRESSLY DISCLAIMS ALL LIABILITY FOR PRODUCT DEFECT OR FAILURE, CLAIMS THAT ARE DUE TO NORMAL WEAR, PRODUCT MISUSE, ABUSE, PRODUCT MODIFICATION, IMPROPER PRODUCT SELECTION, NON-COMPLIANCE WITH ANY CODES, OR MISAPPROPRIATION. • BETST PRODUCTS, LLC. MAKES NO WARRANTIES TO THOSE DEFINED AS "CONSUMERS" IN THE MAGNUSON-MOSS WARRANTY-FEDERAL TRADE COMMISSION IMPROVEMENTS ACT. THE FOREGOING EXCLUSIONS OF IMPLIED WARRANTIES DO NOT APPLY TO THE EXTENT PROHIBITED BY LAW. PLEASE REFER TO YOUR LOCAL LAWS FOR ANY SUCH PROHIBITIONS

THERE SHALL BE NO LIABILITY FOR PRODUCT LIABILITY OR LIABILITY ON THE PART OF BETST PRODUCTS, LLC. FOR ANY GENERAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE SALE OR USE OF ANY PRODUCTS SOLD BY BETST PRODUCTS, LLC OR AN AGENT THEREOF. BETST PRODUCTS, LLC. MAKES NO WARRANTIES, EXPRESS OR IMPLIED, (INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS OF THE PRODUCTS FOR ANY PURPOSE) WITH RESPECT TO THE PRODUCTS COVERED BY THIS AGREEMENT EXCEPT AS IN THIS PARAGRAPH OTHERWISE EXPRESSLY PROVIDED.

THIS IS THE SOLE AND ONLY WARRANTY OF POW'R'KRAFT PRODUCTS. NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESSED OR IMPLIED, IN FACT OR BY LAW,

This warranty shall not be interpreted to render Betst Products, llc., or any authorized agent liable for injury or damages of any kind or nature, direct, consequential, or contingent, to person or property.

The sole and only remedy in regard to any defective products shall be the repair or replacement thereof as herein provided. Betst Products, llc., agent(s) of Betst Products, llc. shall not be liable for any consequential, special, incidental or punitive damages resulting from or caused by any such defects.

Betst Products, llc. reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify, or enlarge this warranty nor the exclusions, limitations, and reservation thereof.

Revision 10-16-13

Pow'R'kraft 1-877-876-7895 Support@powrkraft.com

WARRANTY VOID IF REGISTRATION IS NOT RECEIVED OR RECORDED ONLINE WITHIN 30 DAYS OF PURCHASE DATE OR SHIP DATE, WHICHEVER IS LATER.

REGISTRATION

Item _____ Model # _____ Purchase Date ____/____/____
Purchased From: _____ Gift Inv#/Order# _____
Owner Name: _____ Serial # (if Applicable) _____
Owner Address: _____
City: _____ County: _____ ST: _____ Zip Code: _____
Phone: _____ Email: _____

Acceptance of responsibility:

I (Purchaser) have read operators manual and Limited Warranty or someone has read/and explained all instructions to me. I understand this warranty does not cover any labor and that all disputes will be settled by binding arbitration. Binding arbitration is conducted by the Better Business Bureau (BBB) located at 4004 SW Kruse Way Place Ste 375 Lake Oswego OR 97035 or the current BBB location closest to Betst Products, I acknowledge my Limited Warranty is void if any attempt to repair or replace defective parts has been made by unauthorized personnel. I acknowledge receipt of my Operators Manual and have read the Safe Operation Section. I acknowledge understanding maintenance and safe operation requirements, item specifications, operation, controls, and storage requirements. **I understand that I alone am responsible for proper maintenance, care and safe operation of this Pow'R'kraft item.**

___ Received and read Operators Manual, Specifically Safe Operation Section. ___ Specifications Accepted

___ Controls Understood ___ Maintenance Requirements Understood ___ Proper Storage Understood

I (Purchaser) agree that persons not familiar with the operation of this item should not be allowed to use it. Children especially should not operate or be near Power Products when in use. ANYONE OPERATING POW'R'KRAFT PRODUCTS SHOULD HAVE READ OPERATIONS MANUALS AND SAFETY MANUALS.

Owners Signature: x _____ Date: ____/____/____

You must sign this warranty and mail or fax copy to Betst Products, 83371 Melton Rd N.#3, Creswell OR 97426. If you prefer you may complete your registration on line at www.PowRkraft.com. This warranty is not effective unless the Purchaser completes Registration and Warranty Form within 30 days of purchase date or ship date whichever is later.

Fax to 1-904-216-2059

NOTE: We may refuse warranty of any kind unless Betst Product, llc., receives a completed, legible and signed warranty registration. It is the responsibility of the purchaser to assure that registration document is received by Betst Products, llc..

Fax to 1-904-216-2059

Betst Products / Pow'R'kraft 1-877-876-7895 Support@powrkraft.com Revised 10-14-13

2 YEAR EXTENDED WARRANTY & REGISTRATION Pow'R'Kraft

Branded Products

2 YEAR EXTENDED WARRANTY

2 Year Extended Warranty amends to original Recorded Warranty Registration the time period of described coverage. Extended Warranty does not apply to Consumable and Expendable Items as described in Product Warranty Registration.

This Amendment does not affect any other part of recorded Warranty Registration or Policy.

No one is authorized to alter, modify, or enlarge this Amendment to original recorded warranty registration.

EXTENDED REGISTRATION & PAYMENT MUST BE RECEIVED WITHIN 30 DAYS OF PURCHASE DATE

EXTENDED WARRANTY REGISTRATION

Product & Model # : _____

Serial #: _____

Owner Name: _____

Betst Products Invoice # _____

Acceptance of responsibility:

I (Purchaser) have Read and understand the Extended Warranty or someone has read/and explained all the above to me. I understand this extended warranty does not cover any labor. I have filed my Original Warranty Registration and fully understand my requirements. **I understand that I alone am responsible for proper maintenance, care and safe operation of this tractor implement.**

I (purchaser) also understand that persons not familiar with the operation of this equipment should not be allowed to use it. Children especially should not operate or be near equipment. ANYONE OPERATING EQUIPMENT SHOULD HAVE READ ALL EQUIPMENT OPERATIONS MANUALS AND SAFETY MANUALS..

Owners Signature: x _____

Date: _____

You must sign this extended warranty and Fax to 1-305-397-1780 or mail copy to Betst Products, 83371 Melton Rd N.#3, Creswell OR 97426. This extended warranty is not effective unless the Purchaser faxes or mails this Registration Form within 30 days of purchase. NOTE: The Manufacturer may refuse warranty of any kind unless Betst Products receives a completed, legible and signed extended warranty registration. It is the responsibility of the purchaser to assure that this registration document is received by Betst Products.

To Make Payment for Extended Warranty Call: 1-877-876-7895

Please contact us at Support@powrkraft.com or go online to www.PowRkraft.com.

Thank you for allowing us to serve you.

Betst Products Family
83371 Melton RD
Creswell OR 97426

Contact Information:

Telephone: Local 541-895-3083 Toll Free: 1-877-876-7895

Fax Number: 541-895-2756

Efax Number: 904-216-2059

To Place Order: Ext. #312 or #317 E-mail: Sales@PowRkraft.com

Product Support Ext. #311 or #314 E-mail Support@PowRkraft.com