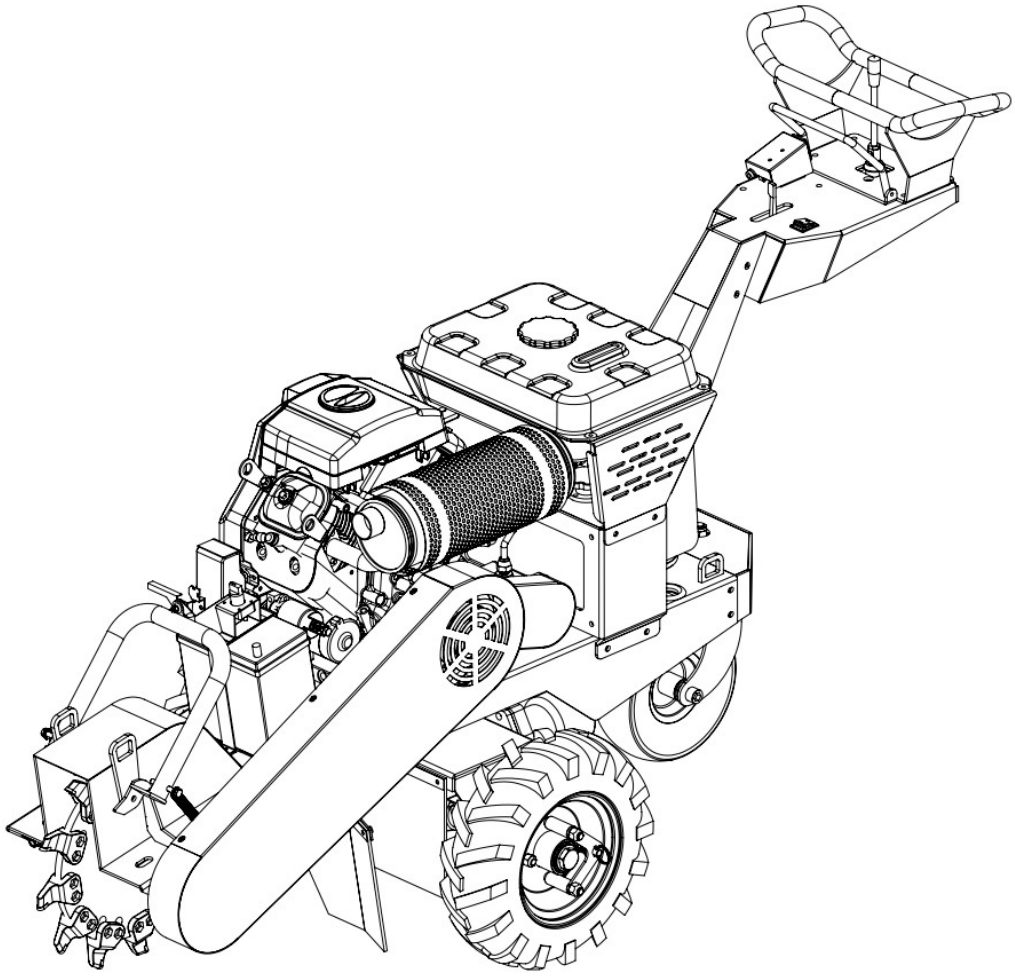
range-road

# STUMP GRINDER

## USER MANUAL

## SAFETY AND OPERATION INSTRUCTIONS



**RR315**

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

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## Conventions used in this manual

**⚠ WARNING**

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

**⚠ CAUTION**

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

**⚠ NOTICE**

**This information is important in proper using of your machine. Failure to follow this instruction could result in damage to your machine or property.**

## Additional Information and Potential Changes

**We reserve the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine. This manual provides complete operating and maintenance instructions that will help to maintain your Stump Grinder in top running order. Read this manual carefully before assembling, operating, or servicing your equipment.**

# PART I: General Safety Rules

## Safety Labels Found on Your Unit

**It is vitally important to understand the meaning of the danger notices and all messages should be kept in legible condition. In the instance of wear these notices should be replaced and use of the machine suspended while without such notices.**

**The operator is advised to observe the warnings given on the affixed notices.**

**The symbols affixed to the machine serving to warn of danger during its use and maintenance are as follows Figure 1 shows:**

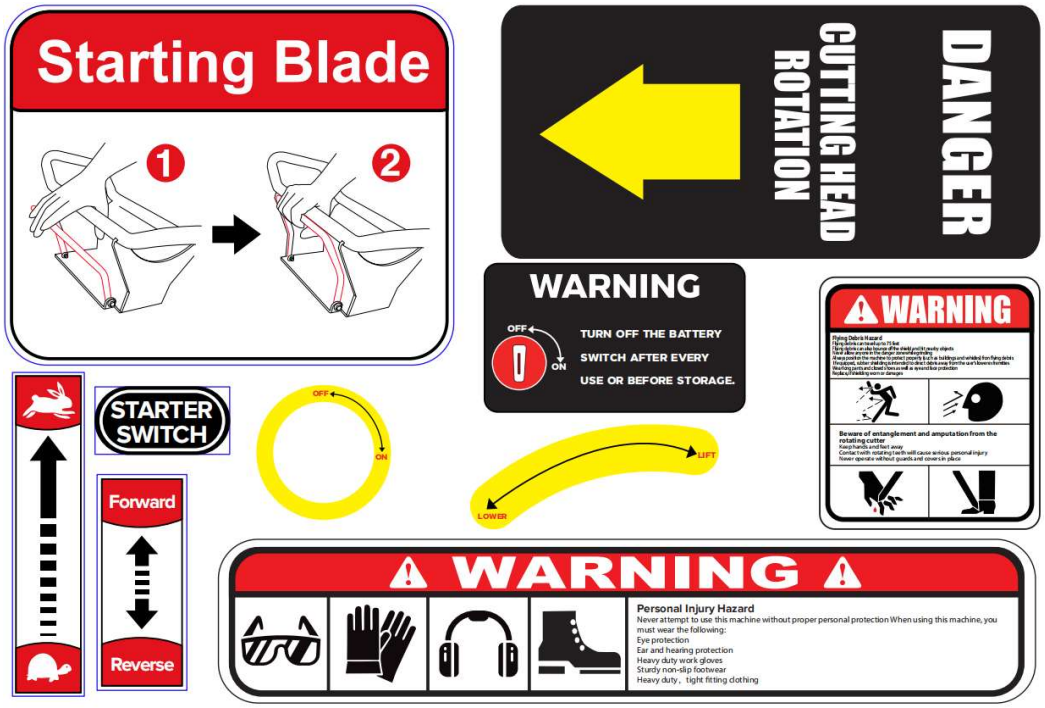



**Figure 1. Labels**

## ⚠ WARNING

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

## Propose

## ⚠ CAUTION

**This machine is designed only for agricultural use, for the cutting of stump, and must not be**

**used for any other purpose.**

**Failure to comply with instructions in this Manual and in the Engine Manual releases the manufacturer from all liability, in particular for any damage resulting from improper or incorrect use, through negligence, superficial interpretation or flagrant disregard for the safety requirements herein. Should any information given in the following pages be unclear or not straight forward please contact the dealer directly.**

**It should only be used by trained operators who are familiar with the content of this manual. It is potentially hazardous to fit or use any parts other than your dealer parts. The company disclaims all liability for the consequences of such use, which in addition voids the machine warranty.**

## Before using the Stump Grinder

# ⚠ NOTICE

**A. Operators must be fully trained before using this machine.**

**B. User Manual is read and understood.**

**C. All fasteners are checked for tightness.**

**D. Fire extinguisher is available on site.**

## When using the Stump Grinder

# ⚠ NOTICE

**A. Maintain strict discipline at all times and service machine at specified periods.**

**B. DO NOT put any part of your body into cutting area while the machine is running.**

**C. DO NOT operate the machine while under the influence of alcohol or drugs.**

## Protecting Yourself and Those Around You

# ⚠ WARNING

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

**A. Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.**

**B. Always wear protective goggles or safety glasses while using the Stump Grinder to protect your eyes from possible thrown debris.**

**C. Wear shoes with non-slip treads when using your Stump Grinder. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing open sandals.**

D. **Keep bystanders at least 30 feet away from the wind direction at all times.**

## Safety for Children and Pets

# ⚠ WARNING

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

**A. Keep children and pets at least 30 feet from the wind direction and ensure they are under the watchful care of a responsible adult.**

**B. Never allow children to operate the Stump Grinder.**

## Safety with Gasoline - Powered Machines

# ⚠ WARNING

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

**A. Never run the engine in an enclosed area or without proper ventilation as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and a deadly poisonous gas.**

**B. Store all fuel and oil in containers specifically designed and approved for this purpose and keep away from heat and open flame, and out of the reach of children.**

**C. Replace rubber fuel lines and grommets when worn or damaged and after 5 years of use.**

**D. Fill the gasoline tank outdoors with the engine off and allow the engine to cool completely. Don't handle gasoline if you or anyone nearby is smoking, or if you're near anything that could cause it to ignite or explode. Reinstall the fuel tank cap and fuel container cap securely.**

**E. If you spill gasoline, do not attempt to start the engine. Move the machine away from the area of the spill and avoid creating any source of ignition until the gas vapors have dissipated. Wipe up any spilled fuel to prevent a fire hazard and properly dispose of the waste.**

**F. Allow the engine to cool completely before storing in any enclosure. Never store a machine that has gas in the tank, or a fuel container, near an open flame or spark such as a water heater, space heater, clothes dryer or furnace.**

**G. Never make adjustments or repairs with the engine running. Shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes before making adjustments or repairs.**

**H. Never tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. If required, see your authorized dealer for engine governor adjustments.**

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

**J. Never cover the machine while the muffler is still hot.**

**K. Do not operate the engine with the air cleaner or the carburetor air intake cover removed. Removal of such parts could create a fire hazard. Do not use flammable**

**solutions to clean the air filter.**

**L. The muffler and engine become very hot and can cause a severe burn; do not touch.**

**M. DO NOT use in the rain.**

## General Safety

# ⚠ WARNING

**Operating this Stump Grinder safely is necessary to prevent or minimize the risk of death or serious injury. Always take the following precautions when operating:**

**A. Your Stump Grinder is a powerful tool, not a plaything. Exercise extreme caution at all times.**

**B. Know how to stop the Stump Grinder quickly.**

**C. Never operate your unit on a slippery, wet, muddy, or icy surface. Exercise caution to avoid slipping or falling.**

**D. See manufacturer's instructions for proper operation and installation of accessories.**

**E. Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the Stump Grinder. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will invalid your warranty.**

**F. If the machine start to make an unusual noise or vibrate, shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for engine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check damaged parts and clean, repair and/or replace as necessary.**

**G. Never tamper with safety devices. Check their proper operation regularly.**

**H. Before performing any maintenance or inspection procedure, shut down the engine, disconnect the spark plug wire keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for machine to cool down.**

**I. Never allow people who are unfamiliar with these instructions to use the Stump Grinder. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.**

**J. While using, don't hurry or take things for granted. When in doubt about the equipment or your surroundings stop the machine and take time to look things over.**

**K. Never operate the machine when under the influence of alcohol, drugs, or medication.**

**L. Use the machine only in daylight.**

**M. Stay alert for hidden hazards or traffic.**

**N. Keep all nuts and bolts tight and keep the equipment in good operating condition.**

**O. DO NOT use in the rain.**

**P. Climbing aboard and/or riding on the Stump Grinder is strictly prohibited.**

**Q. Tampering with the safety systems and guards is strictly prohibited.**

**R. Use of the machine by minors under the age of 16 years or by persons without the necessary psychological and physical capabilities is forbidden.**

**S. The placing of hands, other parts of the body and clothing in the moving parts of the machine is prohibited.**

**T. Take care not to touch the silencer when hot.**

**U. It is strictly prohibited to leave the Stump Grinder running whilst unsupervised.**

**V. It is strictly prohibited to transport the machine with the engine running. When loading the machine onto a vehicle, the inclination of the ramps must not exceed 15°.**

# A Note to All Users

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

# PART II: Familiar with the Stump Grinder

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

## TECHNICAL SPECIFICATIONS

| | Recoil Start |
|---|---|
| Engine | 27HP 2-cylinders, four strokes |
| Displacement | 740cc |
| Power | 16.8KW Gasoline/petrol |
| Blade | 12pcs carbide alloy(4*left,4*right,4*straight) |
| Cut Depth Max. | 12 in |
| Clutch | Electromagnetic clutch |
| Drive system | V-belt and hydraulic walk system |
| Wheel | Front wheel 16*6.5-8, rear wheel 4.10-4 |
| Oil capacity | 1.6L |
| Gasoline/Petrol Capacity | 12L |
| Hydraulic oil capacity | 7L |
| Blade disk speed | Max.2200rpm |
| Blade disk diameter | 320mm |
| Dimension L*W*H | 2040*830*1180mm |
| Packing size L*W*H | 1490*780*880mm |
| Weight | 245/270kgs |
| Noise at ear LpA, dB(A) K=3 dB(A) | 104dB(A) |
| Guaranteed sound power level LwA, dB(A) | 120dB(A) |

## Assembly

**1.Follow the below figure 2, put two wheels on the wheel axle, here you may need lifting sling or some assistants.**

**2.For each wheel, insert the two bolt sleeves to the two long bolts, and put the "lock pin set" into position, the pin will insert to the free hole of the wheel.**

**3.Fasten the two nuts to finish the wheel assembly for each wheel.**

**4.Insert the "rear wheel set" into the tail of the machine into position.**

**5.Fasten the rear wheel set with the two "handle screw".**

**6.Put the handrail into position to align the holes, here you may need an assistant. Note that should put the throttle cable in step 8 and and control valve hoses in step 9 at the middle of the handrail.**

**7.Insert the two long screws to fasten the handrail.**

**8.Fasten the throttle handle into position.**

**9.Fasten the control valve into position.**

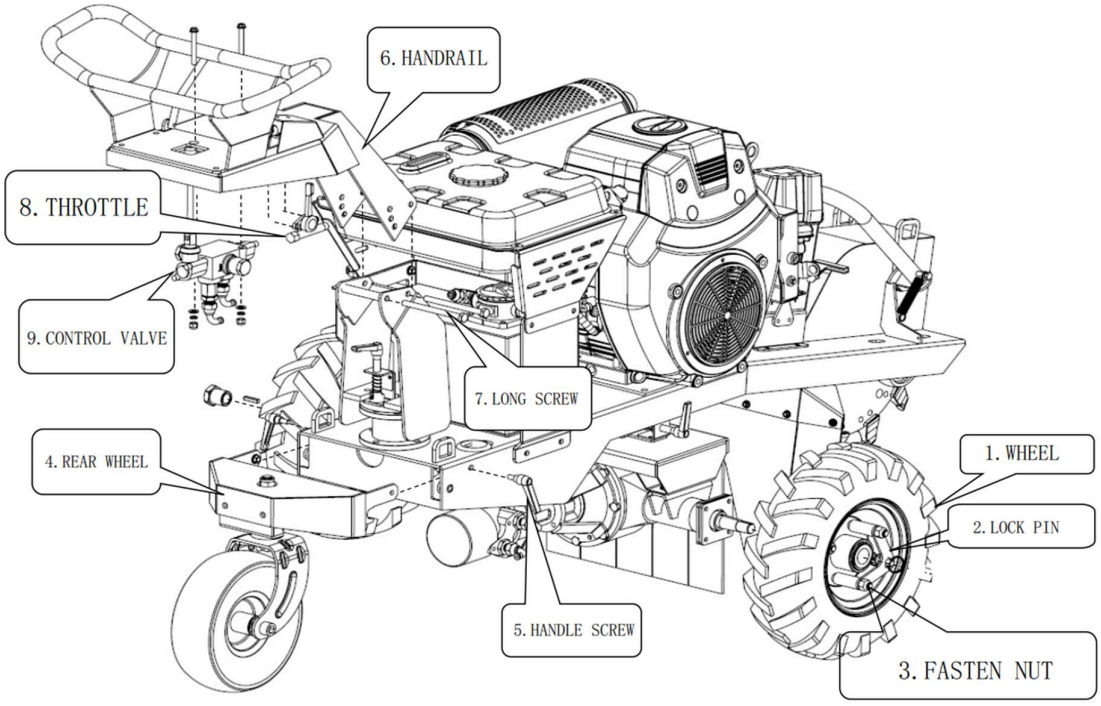



**Figure 2. Assembly**

# Main parts of the Stump Grinder

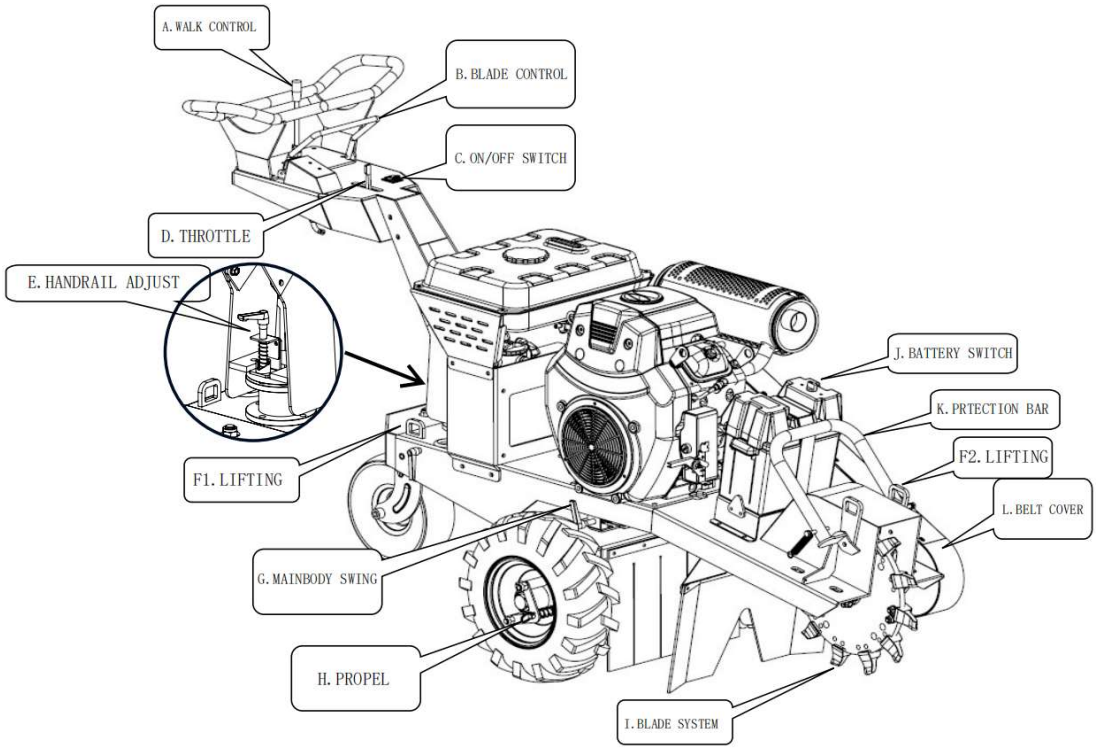



**Figure 3. Main parts**

# Main parts instruction

**A. Walk Control lever**

**Push front the lever engages the walk forward and pull back it engages the walk behind. This lever automatically operates the brake: when released the lever engages the brake, when engaged the lever disengages the brake.**

**Before using the operation, the user should check below points:**

**1. For safety purpose, should release the "B. blade control" to stop the blade action.**

**2. Check the "E. handrail adjust" to middle position to avoid unintentional wrong walk direction.**

**3. Check the "G. main body swing" to make sure it's inserted to avoid unintentional swing of the mainframe when walking.**

**4. Make sure the pin of "H. Propel" of both wheels is inserted, or the walk gear will not be activated and there would be no action when pull or push the walk control lever.**

**B. Blade Control Lever**

**This is used to engage and disengage the blade movement. Pulling the lever engages the clutch and releasing it disengages the clutch. The blade will continue to move if the engine is running and the blade clutch is engaged, regardless of the position of the walk clutch.**

**C. On/Off switch(On/Off)**

**Two-position switch:**

**(ON) before start the engine, should check this switch to be on this position.**

**(OFF) for switching off the engine.**

**D. Throttle Control Lever**

**This is used to adjust the number of engine revolutions according to the operations to be carried out. Can be positioned on the minimum around 1800rmp(pull back) to max around 3600rpm(push front) while during work operations as required by use. Suggest to keep at max position when working.**

**E. Handrail adjust**

**Pull up the handle and then can adjust the handrail position, push back to inserted to fix the direction adjustment.**

**F. Lifting point**

**There are 4 lifting point as the figure shows, two at rear "F1" and two at front "F2", when assembling or transporting using lifting sling, should use all these lifting point to avoid unbalance.**

**G. Main body swing lever**

**Pull out the lever allow the user to swing the main body of the equipment. When grinding the stump, should pull out the lever. And after every use, should insert to avoid**

**unintentional swinging of the body when moving or transporting.**

**H. Propel control lever**

**There are "Propel control lever" on both front wheel, when pull out the levers, will lock the walk clutch, then the equipment will not move by the walk control lever.**
**The user should pull or insert both lever, DO NOT pull one and insert another, this will cause unintentional movement when operation the walk control lever.**

**I. Blade system**

**The user should check the blades timely when using and before every use, if worn or broken, should replace with new ones.**

**J. Battery switch**

**This is the switch to connect or disconnect the battery power. Before start the engine, should check this switch to be at "on" position. And when transporting or storage, should switch off the battery switch.**

**K. Protection bar**

**This bar is to protect the contact of the blade when moving, should lower down when transporting or moving.**

**L. Belt Cover**

**The cover prevents any contact with the moving parts of the machine. Use of the machine without the said cover is strictly prohibited.**

# Blade Checking and replacement

**Always check the state of the blade to make sure it's not bent or broken before work. Do not forget to switch the engine off!**
**-If the blade is very worn, cracked or bent, it may snap and project objects outwards, risking serious accident. A damaged blade must be replaced.**
**-Use heavy-duty work gloves to check or replace the blade to avoid risk of injury to hands.**
**-The blade wears more quickly on hard tree. In these conditions it should be replaced more frequently.**

### To replace the blade proceed as follows(Figure 4):

**1. Switch off the engine and disconnect the spark plug wire**
**2. Rotate the cutting disk to check all 12pcs blades(4*left, 4*right, 4*straight).**
**3. Check the state of the blade. Check that the blade is not cracked, bent, excessively worn or broken. Remove the 2 bolts as below figure shows to replace with new blade and bolts/nuts(It's suggested that the bolts/nuts replaced together with blade).**

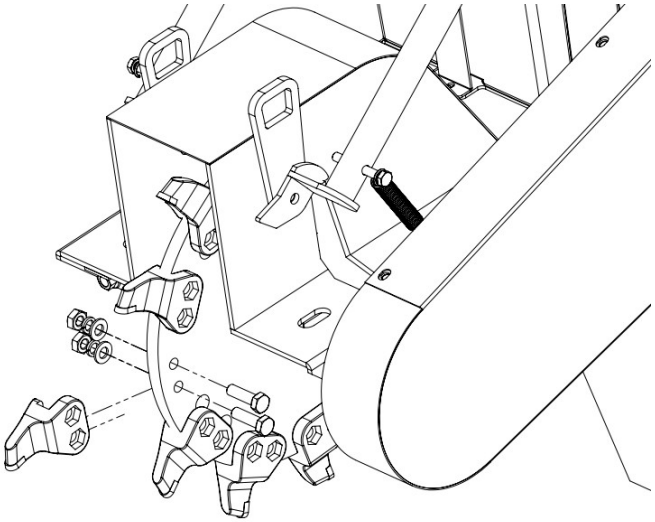


**Figure 4. Blade replacement**

# Belt Checking and replacement

**Switch off the engine and disconnect the spark plug wire before carrying out any maintenance or repair work on the machine.**

**If a belt is worn or breaks it should be replaced as follows:**

**-remove the belt cover (fig. 3 ref. L).**

**-The belt (Fig. 5) can be slipped off by manually turning the relative lower pulley anticlockwise.**

**-To fit the new belt and check that the belt is correctly positioned not too tight or loose.**

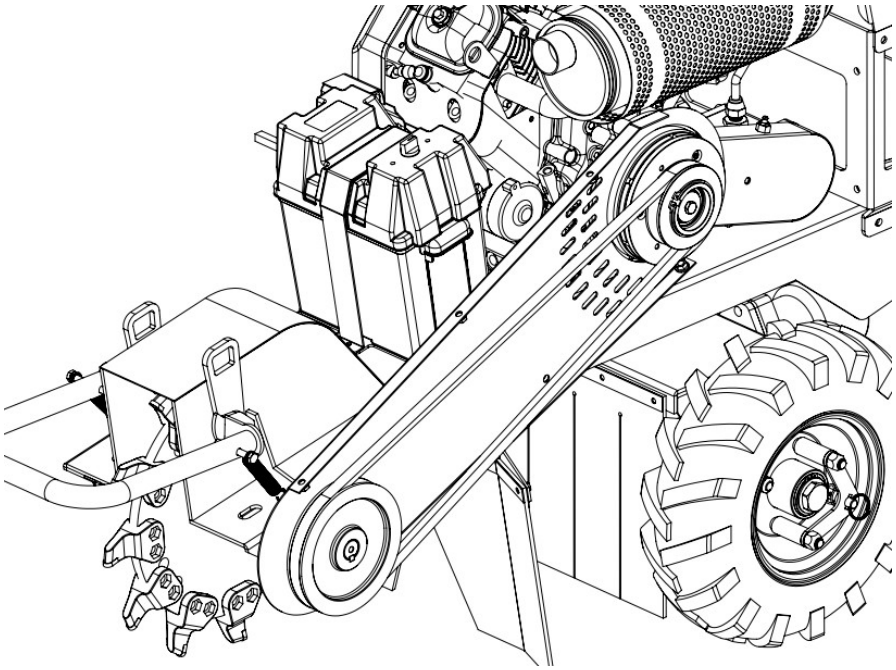


**Figure 5. belt replacement**

# PART III: Operating the Stump Grinder

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

## ⚠ WARNING

**A. Read and understand all instructions, safety precautions, and/or warnings listed in "PART I: General Safety Rules" before operating the Stump Grinder. If any doubt or question arises about the correct or safe method of performing anything found in this manual, please contact the dealers in your area.**
**B. Make sure that all operators of this equipment are trained in general machine use and safety.**
**C. Knowing the correct and incorrect methods of using Stump Grinder. Never using an incorrect or unsafe method.**
**D. Inspect machine work area and machine before operating.**
**E. FILL ENIGNE OIL AND PETROL/GASOLINE IN ENGINE and HYDRAULIC OIL INTO HYDRAULIC TANK BEFORE STARTING**
**F. Do not operate if excessive vibration occurs. Shut engine off immediately and check for damaged or worn impeller, loose impeller bolt, loose engine or lodged foreign objects.**
**G. Make sure you do not get too close to sharp drop-offs to avoid tipping over.**
**H. Always park your Stump Grinder on level ground.**

## GASOLINE/OIL LEVEL CHECK

**BEFORE CHECKING:**

**A. make certain the engine is level.**

**B. the engine switch is in the OFF position**

**C. the "blade control lever" and "walk control lever" is NOT engaged**

**1. Engine oil check(Figure 6):**

**-Pull out the dipstick and wipe it clean.**

**-Insert and remove the dipstick, check the oil level shown on the dipstick if between to 2 marked holes.**

**-If the oil level is low, remove the filler cap and fill to the edge of the oil filler hole with the recommended oil until the oil level between the 2 holes(low level, high level) on the oil dipstick. SAE 10W-30 is recommended for general use. Refer to engine oil recommendations in engine manual for other viscosity and information.**

**-Screw in the filler cap securely and insert the dipstick.**

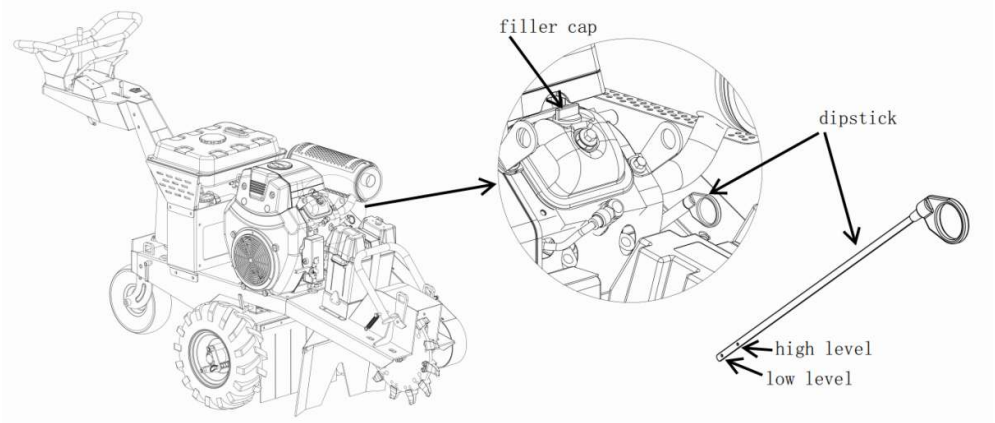



**Figure 6: Engine oil check and filling**

**2. Gasoline/petrol check(Figure 7):**
**-Remove the "Gasoline cap" and check the gasoline level.**
**-If it's less than 1/3 of the tank, fill with the recommended unleaded gasoline by engine manual, suggest to keep gasoline between 1/3 to 2/3 volume of the gasoline tank.**
**-Put back the cap and clean the splashed gasoline before working.**

**3. Hydraulic oil check(Figure 7):**
**-Check the hydraulic oil level by the "Oil meter" as the Figure 7 shows.**
**-If the oil level less than 1/3, remove the "Oil cap"(Figure 7), and fill with recommended hydraulic oil(46#) until between 1/3 and 2/3 of the tank through observe the "oil meter".**
**-Turn back the "oil cap" and clean splashed oil if any.**

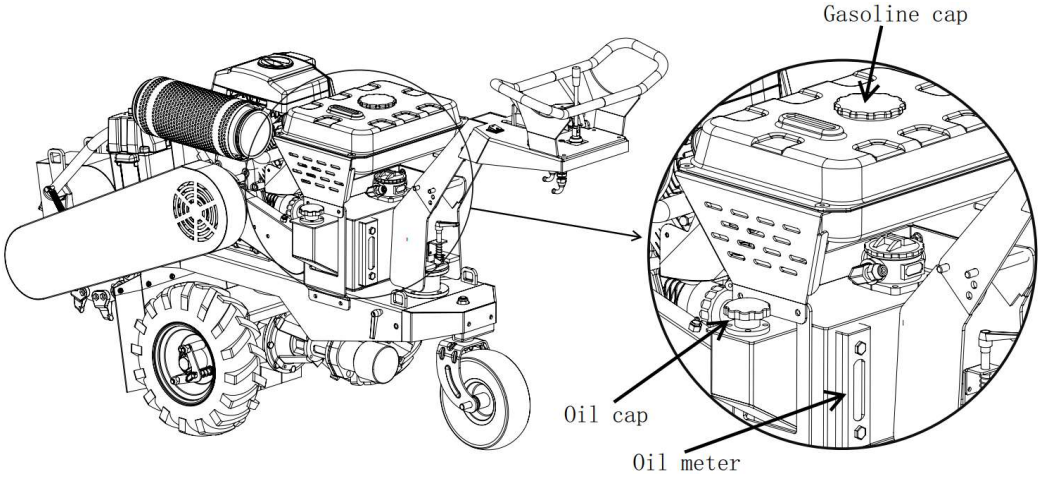



**Figure 7: Hydraulic Oil filling and Gasoline Filling**

# Before operating

**1. Remove all loose pieces of wood, stones, wires and other debris from area before beginning stump removal.**
**2. Note areas where cutting will be a problem or too risky (i.e. stones, steep hills, etc.).**
**3. Before switching on the machine make sure that the screws, fixing elements and protection**

**devices are in place and that the affixed notices are legible.**

**4. Remove as much dirt from the area around the bottom of the stump as possible.**

**5. Wind direction should be considered, as it influences the direction in which dust and wood chips are directed.**

**6. Never operate the grinder after dark, there will be no adequate light for the operator to use the grinder safely.**

**7. Always allow a cold engine time to warm up before cutting a stump.**

**8. Ensure that everyone is in the vicinity is aware of the danger zone associated with this machine(Figure 8). You must avoid the danger zone at all times when the machine is in operation.**

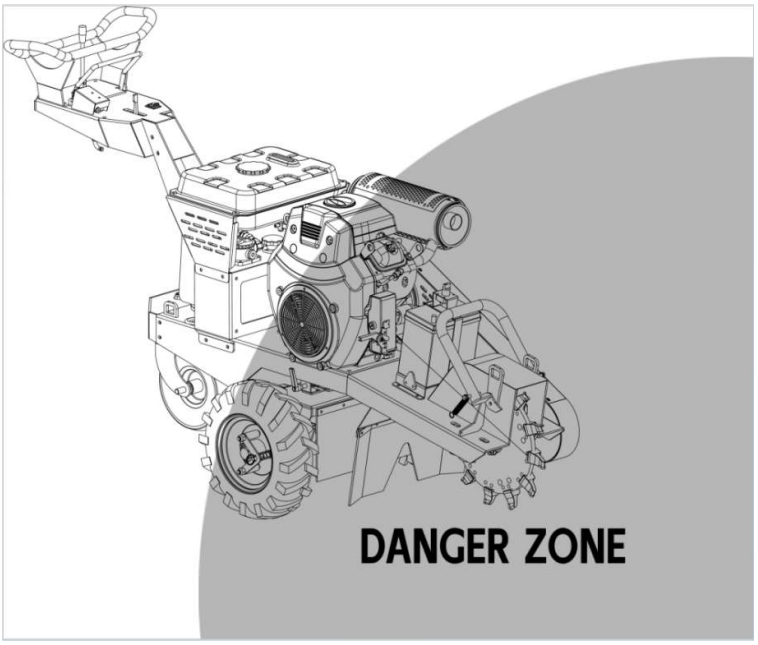



**Figure 8: Danger Zone**

**9. Only the portion of cutting wheel within the 80 degree area shown above should engage the stump(Figure 9). Never undercut the stump or use the bottom of the cutting wheel for cutting purposes.**

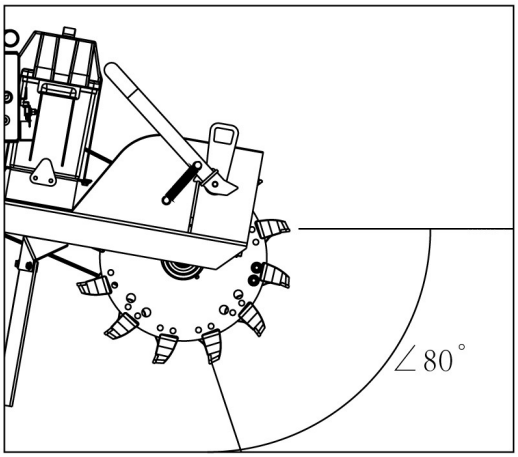



**Figure 9: Cutting Area**

**10. Suggest not tilt the equipment more than 25 degree as Figure 10 shows.**

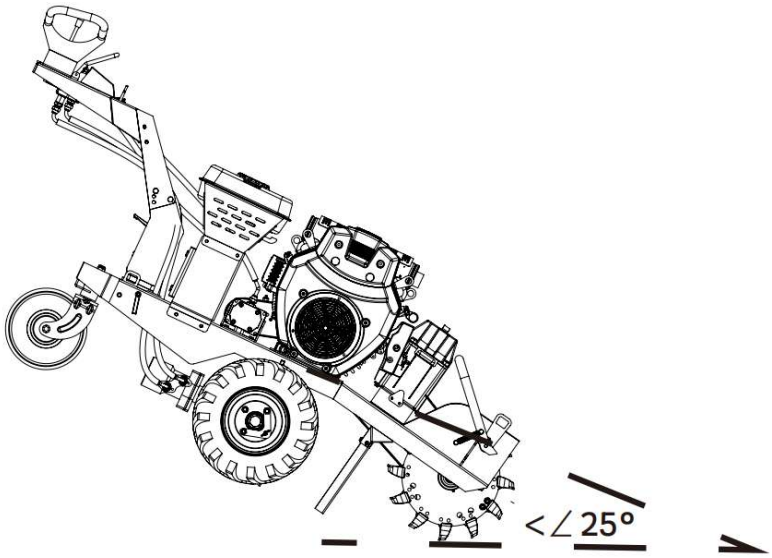



**Figure 10: Tilt max angle**

# Starting

1. **Position your Stump Grinder on flat, dry ground.**
2. **Check the battery switch(Figure 3: J) to be at position "ON".**
3. **Check the engine switch(Figure 3: C) to be at position "ON".**
4. **Make sure the fuel shut-off valve is in the "ON" position.**
5. **Move the choke control lever to the "CHOKE" position (should only be needed if the engine is cold).**
6. **Move the throttle control lever to the "FAST" position.**
7. **Turn and hold the Key in the start position until Engine starts then let the Key return to run position.**
8. **Move the choke control lever (if used for cold engine) slowly back to the "RUN" position when the engine is running well.**
9. **If the Stump Grinder has not been running (cold engine), warm up the engine by running the engine at half throttle for 3 to 4 minutes, then advance the engine throttle control lever to the maximum speed.**

# Stopping

1. **Pull the Throttle control Lever(Figure 3: D) to IDLE.**
2. **Turn the engine switch(Figure 3: C) to "OFF".**

# Operating Notes

**1. Use smooth, comfortable side to side movements while operating.**

**2. When it is desired to cut smaller roots, it may be more effective to do so before rather than after cutting the stump.**

**3. Should the chip build-up become excessive when cutting, shut off the machine, wait for the cutting wheel to stop rotating, retract the machine from the stump and rake away the chips. It is also possible to use the cutter wheel to push chips off to the side.**
**4. In order to prevent any of the wheels becoming stuck in the hole. Move the grinder to the other side of the stump to continue removal or by filling the hole with chips before continuing.**

# Prepare the grinder at the stump

**Place it into position with the cutting wheel near the top edge of the stump(Figure 11).**

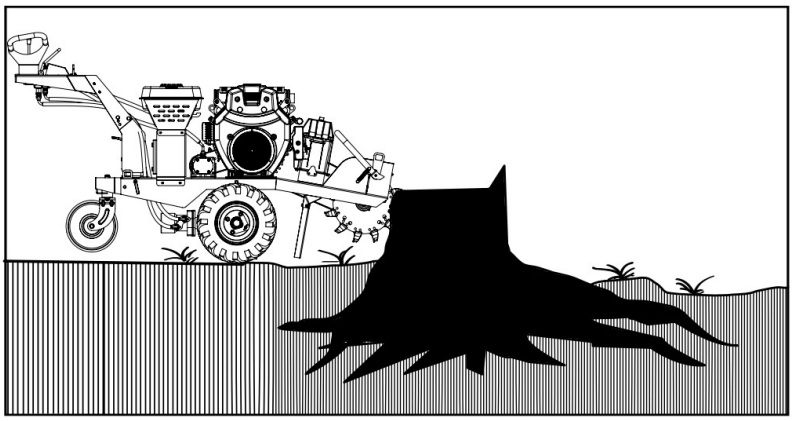


**Figure 11: Preparing**

# Removing roots

**1. Make sure the throttle lever is set to fast, the cutter wheel will accelerate to cutting speed.**
**2. Swing the cutting wheel to one side, then lower it into the nearest roots that are buried at the foot of the stump.**
**3. Swing the cutting wheel before each sweep, until the roots are sufficiently removed.**
**4. Raise the cutting wheel until the centre of the cutting wheel is just above the top of the stump.**
**5. Allow the cutter wheel to stop, reposition the machine.**

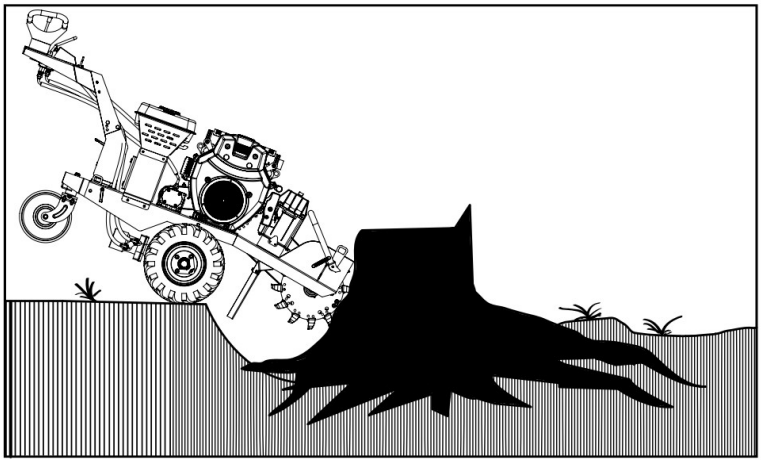


**Figure 12:Removing roots**

# Removing full stump

**1. Make sure the throttle lever is set to fast, the cutter wheel will accelerate to cutting speed.**
**2. Direct the cutter wheel against the stump, beginning with the nearest top corner of the stump, and steadily sweep it across the stump left and right, cutting away 1/2 inch of wood with each sweep.**
**3. Raise and lower the cutter wheel between sweeps by lowering and raising the control handle.**
**4. Roll the machine forward and back, by pushing and pulling on the control handle.**

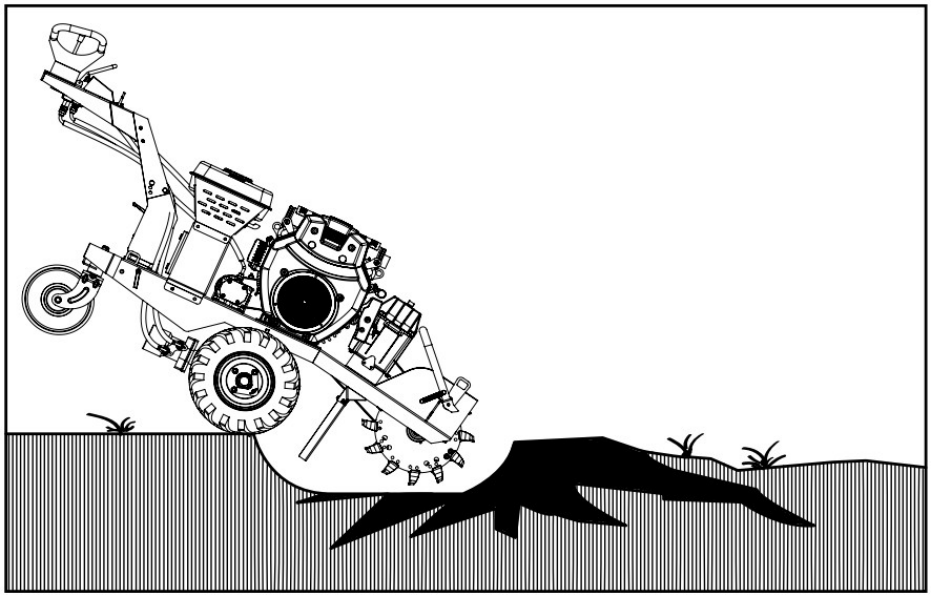


**Figure 13:Removing full stump**

# Continue with final roots removal

**Cut the remaining roots as described in STEP "Removing roots" until satisfactorily removed**

# PART IV: Maintaining the Stump Grinder

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

**The manuals form an integral part of the machine and must therefore be kept intact and in good condition, in a known, easily accessible place for the entire working life of the machine, even if the Stump Grinder is passed on to another owner. The purpose of these manuals is to provide the information necessary for the safe and competent use of the product.**

## ⚠ WARNING

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

## Clean the machine

**1. Frequently check the grinder and ensure that all bark and dirt deposits are removed from beneath the deck.**
**2. Check the cutting wheel often. In order to achieve clean work the blade should always be sharp and well balanced.**
**3. Check the tightening of all bolts and screws at regularly intervals. Nuts and bolts that are worn out or badly tightened can damage the engine or the frame.**
**4. If the grinder hits an obstacle violently, stop the grinder and take it to a specialist for inspection.**
**5. Clean the equipment after every use and keep it dry when storage(Figure 14).**

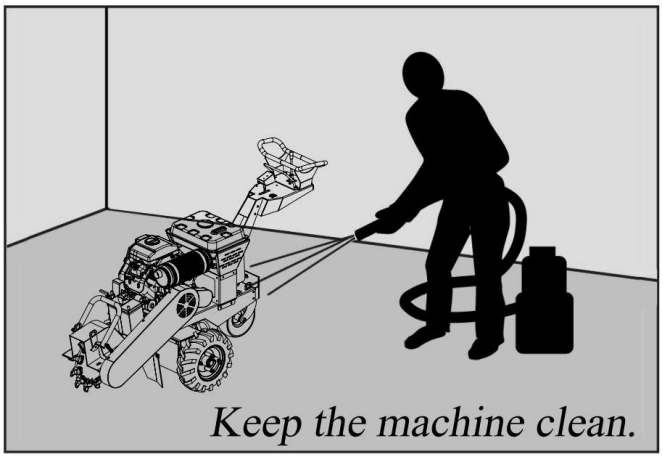



**Figure 14:Clean the machine**

## Storage

# ⚠ WARNING

**a. Never store engine indoors or in enclosed poorly ventilated areas with fuel in tank, where fuel fumes may reach an open flame, spark or pilot light, as on a furnace, water heater, clothes dryer or other gas appliance. If engine is to be unused for 30 days or more, prepare as follows: Remove all gasoline from carburetor and fuel tank to prevent gum deposits from forming on these parts and causing possible malfunction of engine. Drain fuel outdoors, into an approved container, away from open flame. Be sure engine is cool. Do not smoke. Run engine until fuel tank is empty and engine runs out of gasoline.**

**b. Fuel stabilizer is an acceptable alternative for minimizing the formation of gum deposits during storage. Add stabilizer to gasoline in storage container or fuel tank. Follow stabilizer manufacturer's instructions to determine proper mix ratio. Run engine at least 10 minutes after adding stabilizer to allow it to reach carburetor.**

**c. In the instance of a long period of non-use, drain the fuel tank completely.**

## Regular Maintenance Checklist

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

## Engine Service

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

## Handling and Transportation

# ⚠ Notice

1. **Using lifting sling equipment to lift machine at the "Lifting point" is recommended. Secure in place during transportation.**
2. **Do not use the front grill as an anchor point when securing the unit for transport.**
3. **Never lift the machine while the engine is running.**

# PART V: Troubleshooting and Parts List

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

## ⚠ WARNING

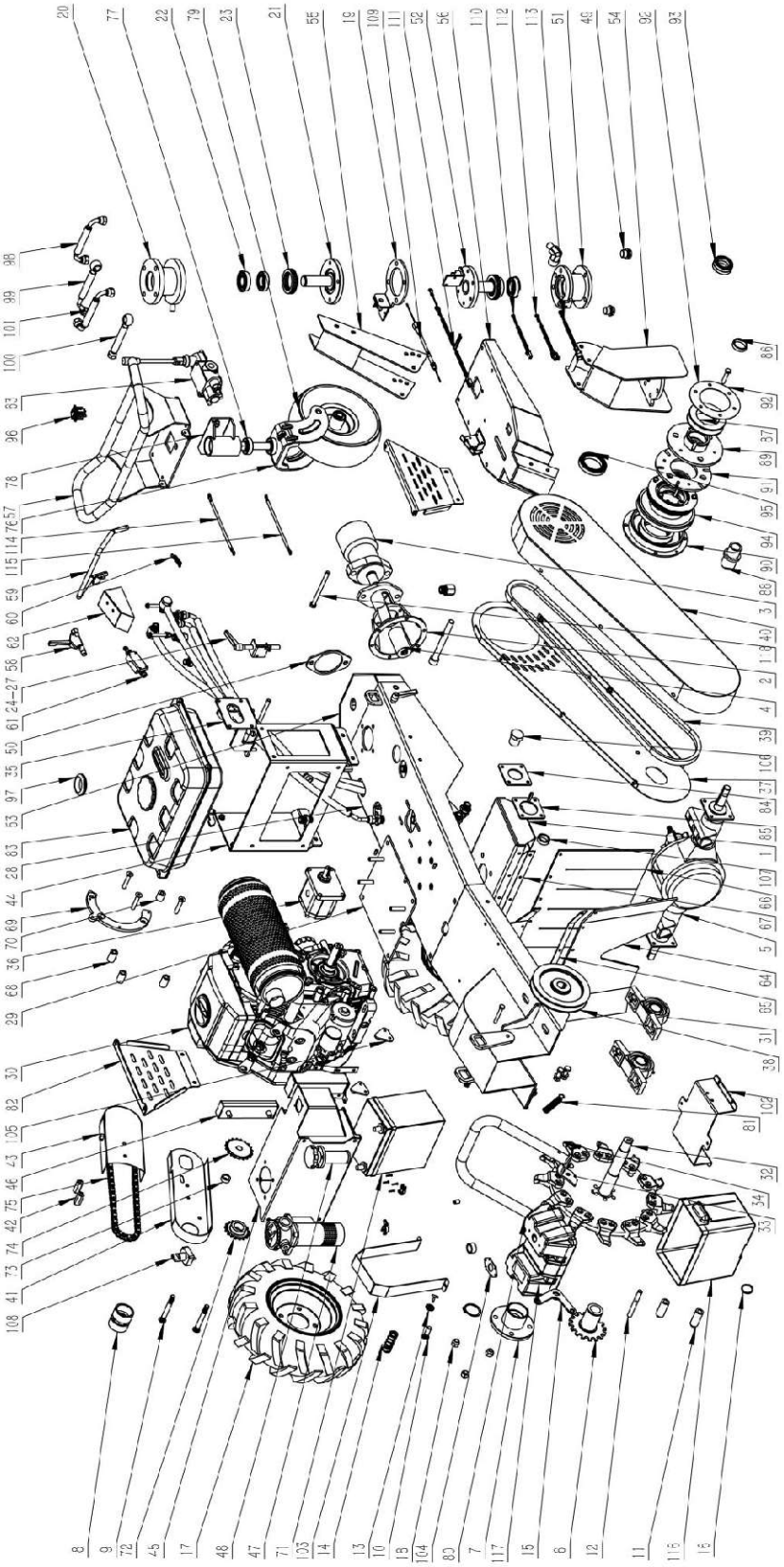
**Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.**

## Troubleshooting Table

| SYMPTOM | POSSIBLE CAUSE |
|---|---|
| *The engine won't start.*<br><br>*(Please refer to the engine user manual for engine-specific procedures.)* | ➢ *Is the ignition switch in the "ON" position?*<br>➢ *Is the fuel shut-off valve on?*<br>➢ *Are you using fresh, clean gas? If the gas is old, change it. Use a fuel stabilizer if you keep gas longer than 30 days.*<br>➢ *Is the spark plug clean? If the spark plug is dirty or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull the recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.* |
| *The engine lacks power or is not running smoothly.*<br><br>*(Please refer to the engine user manual for engine-specific procedures.)* | ➢ *Check that the Throttle Lever is in the "Run" position.*<br>➢ *Is the air filter clean? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.*<br>➢ *Is the spark plug clean? If it's fouled or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull your recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.*<br>➢ *Are you using fresh, clean unleaded gas? If it's old, change it. Use a fuel stabilizer if you keep gas longer than 30 days.*<br>➢ *Does your engine have the right amount of clean oil? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.*<br>➢ *Check the oil level and adjust as needed.* |
| *Engine smokes.*<br><br>*(Please refer to the engine user manual for engine-specific procedures.)* | ➢ *Check the oil level and adjust as needed.*<br>➢ *Check the air filter and clean or replace if needed.*<br>➢ *You may be using the wrong oil—too light for the temperature. Refer to your Engine Owner's Manual for detailed information.*<br>➢ *Clean the cooling fins if they're dirty.* |
| *Engine stalls* | ➢ *No fuel* |

| | |
|---|---|
| *Engine fumes* | ➢ *Low grade fuel*<br>➢ *Too much engine oil*<br>➢ *Choke not fully opened*<br>➢ *Air filter blocked* |
| *excessive vibration* | ➢ *Check engine*<br>➢ *Check belt if damaged*<br>➢ *Check blade if worn too much or broken* |
| *Belt Slips* | ➢ *Check belt tension if adequate*<br>➢ *Belt worn* |
| *Engine overloads during work operations* | ➢ *Engine speed too low*<br>➢ *Blade worn or broken*<br>➢ *Work overload* |

# Explosion View and Parts List



| Ref. | Description | Ref. | Description | Ref. | Description |
|---|---|---|---|---|---|
| 1 | Wheel frame | 41 | Chain cover base | 81 | Protection bar Spring |
| 2 | Motor seat | 42 | Chain cover post | 82 | Gasoline tank support |
| 3 | Motor | 43 | Chain cover | 83 | Gasoline tank |
| 4 | Motor coupler | 44 | Tank install plate | 84 | Wheel hub press plate |
| 5 | Drive axle | 45 | Tank | 85 | Wheel flange washer |
| 6 | Ratchet axle | 46 | Oil meter | 86 | Bearing spacer |
| 7 | Wheel Flange Assy. | 47 | Oil filter | 87 | Clutch pulley |
| 8 | Bearing | 48 | Oil inlet | 88 | Clutch sleeve |
| 9 | Bolt M12 | 49 | Tank drain bolt | 89 | Connecting disk |
| 10 | Short Bolt M12 | 50 | Motor gasket | 90 | Electromagnet |
| 11 | Bolt sleeve | 51 | Spin shaft base | 91 | Friction sheet |
| 12 | Wheel pin | 52 | Spin shaft | 92 | Spring sheet |
| 13 | Spring retainer | 53 | Universal wheel | 93 | Bearing 61907 |
| 14 | Wheel spring | 54 | Rocker arm | 94 | Friction disk |
| 15 | Compression sheet | 55 | Arm sideboard | 95 | Bearing 61911 |
| 16 | Pull ring | 56 | Panel | 96 | On/Off switch |
| 17 | Front wheel | 57 | Handrail | 97 | Protective ring |
| 18 | Wheel nut | 58 | Throttle handle | 98 | Tank outlet hose |
| 19 | Spin shaft lock ring | 59 | Pull bar | 99 | Pump outlet hose |
| 20 | Main Spin shaft base | 60 | Switch spring | 100 | Return hose |
| 21 | Main Spin shaft | 61 | Switch | 101 | Power hose |
| 22 | Bearing 6006 | 62 | Switch cover | 102 | Battery fitting base |
| 23 | Bearing 51110 | 63 | Control valve | 103 | Battery fitting hoop |
| 24 | Pin tail | 64 | Mudguard rubber | 104 | Battery rubber pad |
| 25 | Lock pin | 65 | Rubber fitting bar | 105 | Battery baffle sheet |
| 26 | Pin spring | 66 | Rearguard | 106 | Wheel axle nut |
| 27 | Pin handle | 67 | Rearguard fitting bar | 107 | Wheel spacer |
| 28 | Mainframe | 68 | Clutch fitting post | 108 | Battery switch |
| 29 | Engine plate | 69 | Clutch fitting plate | 109 | Throttle cable |
| 30 | Engine | 70 | Cover spacer | 110 | Clutch switch cable |
| 31 | Bearing Base UCP206 | 71 | Battery | 111 | Clutch cable |
| 32 | Blade shaft | 72 | Drive Chain wheel | 112 | Engine switch cable |
| 33 | Blade disk | 73 | Chain wheel spacer | 113 | Stop cable |
| 34 | Blade | 74 | Driven Chain wheel | 114 | Battery positive wire |
| 35 | Pump frame base | 75 | Chain | 115 | Battery negative wire |
| 36 | Pump 10ml | 76 | Universal wheel | 116 | Battery box |
| 37 | Belt inner cover | 77 | Bearing 6204 | 117 | Battery box cover |
| 38 | Blade pulley | 78 | Universal wheel | 118 | Pin axle 10*125 |
| 39 | Belt B1651 | 79 | Universal wheel | | |
| 40 | Belt cover | 80 | Protection bar | | |