



Scan Code

SHP400 STUMP GRINDER

Operation, Safety & Maintenance Instructions

 **RED ROO**TM
Commercial Environmental Equipment

Online Demonstration Available at: www.redroo.com/products/stumpgrinder



INTRODUCTION

Dear Valued Customer

Congratulations! You are now the proud owner of the Red Roo Model SHP400 Stump Grinder. Please take a moment of your time to look over the following information. Familiarise yourself with the Stump Grinder, its characteristics and method of operation. Pay particular attention to the safety and operating instructions.

If you have any questions or need any replacement parts in the future please contact us at your convenience on our toll-free phone number 1300 133 767 or redroo.com

You alone know the operational demands and special conditions affecting the equipment in your situation and therefore assume the responsibility for developing, carrying out and enforcing the safety concepts and methods which apply to your own operation to effect the greatest safety for yourself and the people around you.

*THANK YOU for your patronage, confidence and support in
Red Roo Commercial Environmental Equipment.*

Machine Identification Record:

Red Roo Customer number _____

Machine model number _____

Machine serial number _____

Engine manufacturer _____

Engine model number _____

Engine serial number _____



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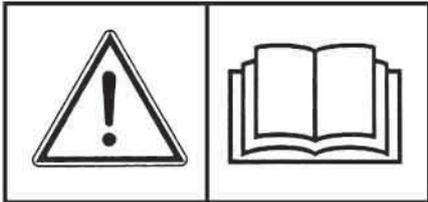
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redroo.com

ABOUT THIS MANUAL

The information contained in this manual has been prepared to assist you in the safe operation, the routine maintenance and general care of your Red Roo product. By following these guidelines, you may look forward to years of reliable service from your Red Roo. Information is categorised and denoted by the following symbols and phrases:

-  **SAFETY FIRST** Identifies general safety practices.
-  **DANGER!** An instruction which, if not followed, could result in serious or fatal injury.
-  **WARNING!** An instruction which, if not followed, could result in personal injury.
-  **CAUTION!** An instruction which, if not followed, could damage machine components.



Before operating this Machine read and observe all Warnings, Cautions and Instructions on the Machine and in the Operators Manual. Although the reading of information contained in this manual does not eliminate the risk involved in operating this machine, your understanding of this information will promote the correct and safe use of your machine. Failure to follow Instructions and Safety Information could result in serious injury or death.

HAZARD SYMBOLS & MEANINGS

 Read	 Hearing Protection	 Eye Protection	 Wear Gloves	 Cut Hand
 Electrical Shock	 Moving Parts	 Hot Surfaces	 Remove Spark Plug Leads	 Toxic Fumes
 No Bystanders	 Don't Remove Guards	 Explosion	 Don't Refuel Hot Engine	 Rotating Cutter

SAFETY FIRST – Stay Alert, Do Not Get Hurt



Read this section before use!

A Stump Grinder is designed to remove tree stumps and therefore is potentially dangerous. Careless or improper use may cause serious or even fatal injury.

It is important that you read and understand the contents of this manual and that you allow only mature, well trained adult individuals to operate your Stump Grinder. It is your responsibility to ensure that any individual who operates your Stump Grinder has read and understood his manual.

Never use the Stump Grinder for any other purpose than grinding stumps. The machine is designed for this purpose only. Any other use may cause serious or even fatal injury and/or damage to the machine.

SAFETY INSTRUCTIONS FOR SHP400 USERS

Outdoor Power Equipment Institute Recommendations



WARNING TO PURCHASERS OF INTERNAL COMBUSTION ENGINE EQUIPPED MACHINERY OR DEVICES:

The equipment which you have purchases does not have a spark arrester muffler. If this equipment is to be used on any forest and brush covered land or grass covered unimproved land, the law may require that a spark arrester muffler be installed and be in effective working order. The spark arrester must be attached to the exhaust system and comply with local authorities by-laws.



USE COMMON SENSE AND PLENTY OF IT

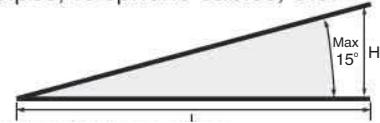
- 1)  **DO NOT** allow any person to operate the stump grinder without first reading and understanding the safety and operating instructions. **KNOW THE CONTROLS AND HOW TO STOP THE STUMP GRINDER QUICKLY IN AN EMERGENCY.**
- 2) **NEVER** allow children or untrained adults to operate the stump grinder.
- 3) **PPE (Personal Protection Equipment) is mandatory** before operating this machine. **ALWAYS** wear protective clothing when operating the stump grinder. This includes, but not limited to; safety glasses, loose fitting gloves, steel capped boots and hearing protection. **NEVER** wear loose fitting clothing or jewelry when operating the stump grinder. Keep all clothing away from moving parts. Clothing could become caught in the machine resulting in injury. 
- 4) **ALWAYS** operate the stump grinder in a well lit area.
- 5)  **ALWAYS** operate the stump grinder on level ground only. Inspect the immediate area before grinding. Remove any foreign objects in the grinding area eg: bricks, rocks, wire and sticks. Locate and mark any sprinkler heads, water pipes, gas lines, electrical and telephone cables or any other hazard either below or above ground.
- 6)  **DO NOT** allow other persons near the stump grinder. It is up to the operator to keep bystanders and animals a minimum of 6 metres (18ft) away from the machine while in operation.
- 7) **NEVER** operate the stump grinder when fatigued. **ALWAYS BE ALERT!** If you get tired while operating the stump grinder, take a break. If you have any type of physical or mental condition that may be aggravated by strenuous work, check with your physician before you operate this equipment. **NEVER** operate the stump grinder under the influence of medication, alcohol or drugs.
- 8)  **ALWAYS KEEP YOUR HANDS, FEET AND BODY AWAY FROM THE CUTTING / GRINDING AREA WHILE ENGINE IS RUNNING**
- 9)  **NEVER** operate the stump grinder without the safety guards in place and in working order. Keep the unit well maintained and in good working order
- 10)  **ALWAYS STOP** the engine immediately if a hydraulic leak occurs. **NEVER** operate this machine with frayed, kinked, cracked or damaged hoses, fittings, or tubing.
- 11) **DO NOT** leave the machine unattended while the engine is running.
NEVER PLACE GRINDING DISC IN THE UPRIGHT POSITION WHILE GRINDING DISC IS IN OPERATION.
- 12) Always disengage the clutch after grinding the stump.
- 13) **DO NOT** overspeed the engine or alter the governor settings. Excessive speed is dangerous and will shorten engine life.
- 14)  **NEVER** operate the stump grinder in an enclosed area. Engine exhaust contains carbon monoxide, an odourless and tasteless poison.
- 15)  **STOP** the engine, remove the key and allow engine to cool before inspecting or performing maintenance on the stump grinder.
- 16) **REFUELLING**
 * Shut off engine. **DO NOT REFUEL AN ENGINE WHILE OPERATING!**
* Allow engine to cool; minimum 5 minutes.
* **USE UNLEADED FUEL ONLY. Use clean, fresh unleaded fuel.**
 * **DO NOT mix oil with unleaded fuel.**
* **DO NOT** over-fill fuel tank. Allow space for fuel expansion.
* **DO NOT** smoke.
 * Allow no naked flame or hot material in refuelling area.
* Use only approved fuel containers and funnels. Remember, fuel is a potential hazard.



OPERATING INSTRUCTIONS

BEFORE USE

- 1)   Inspect the immediate area. Remove any foreign objects from the area.
- 2) Identify and mark the location of sprinkler heads, gas pipes, telephone cables, etc.
- 3) Check the fuel and oil level of engine.
- 4) **Angle of Operation. Do not exceed an operating angle greater than 15°.** Be sure crackcase oil is at the top level before starting.
This machine has a high centre of gravity. Use extreme care when operating it on an uneven surface.



DUAL WHEEL KIT IS AVAILABLE AS AN OPTIONAL ACCESSORY

OPERATION INSTRUCTIONS



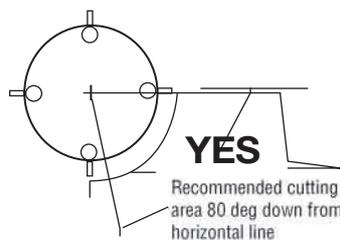
Use caution

- 1) Remove the stump grinder from its carrying vehicle or trailer.
- 2) Familiarize yourself with the machine and its controls. Learn where all engine controls are and be prepared to stop quickly in possible emergencies.
- 3) Manoeuvre the stump grinder to the area where the stump is to be removed.
- 4) **IGNITION:** Must be in 'ON' position to start. 'OFF' to stop.
- 5) Start the engine as follows:
For an Electric Start Engine - Turn key switch to "start" and hold in this position to electrically crank engine until it starts, then release the key. **NOTE:** If engine fails to start after cranking for ten seconds, release the key & allow 60 seconds cool-down period to prevent burning out the start motor.
- 6) Move the stump grinder to the stump, position the grinding disc over the front edge of the stump.
- 7) Release handle adjusting pin located right behind the handle, and place handle into position that best suits the operator.
- 8) Release swivel locking pin located on the main body of the machine.
This will allow the unit to pivot over centre.
- 9) Slowly lower the stump grinder until the grinding disc comes in contact with the stump. Move the stump grinder back and forth in a long, slow sweeping motion. Maintain the same elevation until a section has been removed, then lower the stump grinder to take out the next section.

DO / CORRECT

A.

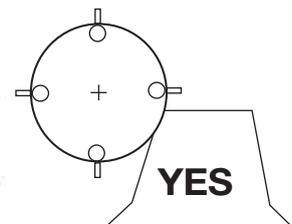
Only cut the stump using the section of cutter wheel as illustrated.



DO / CORRECT

B.

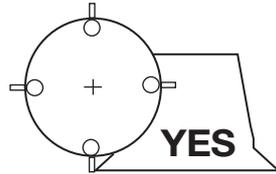
Position the cutter wheel as shown. Starting at the side of the stump, sweep the cutter head lightly from side to side.



DO / CORRECT

C.

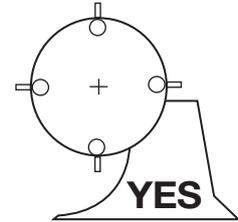
Gradually lower the cutter head with each swing from side to side until the required depth of cut is achieved.



DO / CORRECT

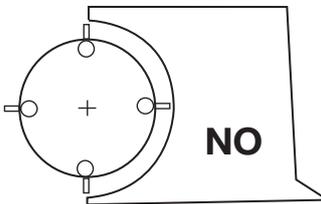
D.

If the required depth cannot be achieved with one pass, raise the cutter head, move the machine forward and repeat the procedure.



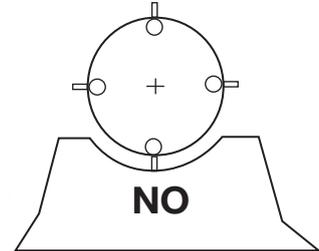
DO NOT! / INCORRECT

Never undercut the stump. Undercutting can cause violent kickback and machine damage.



DO NOT! / INCORRECT

Avoid cutting the stump from the top. The cutter teeth will throw chips and debris up towards the operator.



NOTE: SELF PROPELLED UNITS. For more precise control of the wheel while grinding it can be easier to operate one control lever at a time, alternating between the two, making the machine walk, from side to side.

NOTE: Constant build up of grinding debris may inhibit the stump grinder from performing effectively. To help assure safe, effective and efficient working results, always keep the working area raked level and free of grinding debris.

NOTE: Make sure disc has stopped completely before clearing debris.

- 14) When the front part of the stump has been removed, move the stump grinder forward to a new edge.

NOTE: FOR BETTER PERFORMANCE AND TO AVOID EXCESSIVE CLUTCH WEAR, RUN THE ENGINE AT FULL THROTTLE DURING OPERATION.



WARNING! – KEEP HANDS AND FEET CLEAR OF THE GRINDING DISC AND GRINDING ZONE AND OTHER MOVING PARTS WHILE ENGINE IS RUNNING.

- 15) After stump has been removed use the throttle to gradually decrease the engine RPM's, turn the electric clutch engagement switch to OFF. Make sure the grinding disc has come to a complete stop before moving to the stump grinder.
- 16) **STOP ENGINE:** With machine at idle and clutch disengaged turn the key to the off position.

AFTER USE & MACHINE HAS BEEN TURNED OFF

- 1) Allow machine to cool down. Wash mud and dirt off of the stump grinder. Ensure no water enters the fuel injection area. Always keep machine clean and well maintained.
- 2) Remove any weeds, wire, rope, etc. that may have wrapped around the disc grinding shaft assembly.
- 3) **INSPECT TEETH, ROTATE OF REQUIRED AND TIGHTEN NYLOCK NUT. CHECK FOR LOOSE BOLTS SECURING POCKETS ON GRINDING DISC.**



You alone know the operational demands and special conditions affecting the equipment in your situation and therefore assume the responsibility for developing, carrying out, and enforcing the safety concepts which apply to your own operation to effect the greatest safety for yourself and the people around you.

SERVICE INFORMATION



DANGER: Before attempting any maintenance: shut off engine, wait for all moving parts to stop. Rotating cutter wheel may cause serious injury or death. Material thrown by cutter wheel may cause serious injury. Stay away from cutter wheel and work area until the engine and cutter wheel have stopped.

MAINTENANCE SCHEDULE

This section of the operator's manual contains maintenance instructions for the SHP400. Do not attempt any maintenance which you do not fully understand or that you cannot do accurately and safely with the tools and equipment available to you.

GREASING THE MACHINE



As a general rule, grease the machine after it has finished operation. This protects the metal under the seals from corrosion caused by condensation as the temperature drops.

Make sure all grease nipples are clean before applying grease. If any grease nipples are missing or fail to accept grease, replace these immediately.

Pay particular attention to the cutter wheel bearings. **DO NOT OVER GREASE.**



WHEEL DRIVE HUB BEARING



WHEEL DRIVE HUB BEARING



ROTOR SHAFT BEARINGS



ROTOR SHAFT ASSEMBLY

AIR FILTER MAINTENANCE

IMPORTANT NOTICE

DAILY INSPECTION OF AIR FILTER. THE IMPORTANCE OF REGULAR DAILY AIR FILTER MAINTENANCE CANNOT BE OVER EMPHASIZED.

- AIR FILTER MAINTENANCE IS CRITICAL ON STUMP GRINDING MACHINES. DIRT INGESTION WILL NOT BE WARRANTED BY THE ENGINE MANUFACTURER OR RED ROO SALES AND SERVICE**

Follow these steps:

- Unhook the two retaining clips and remove the end cap from the air cleaning housing.
- Pull the air cleaner element out of the housing. (See Fig 1.)
- After the main element is removed, check the condition of the inner element. It should be replaced whenever it appears dirty, typically every other time the element is replaced. Clean the area around the base of the inner element before removing it, so dirt does not get into the engine.
- Do not wash the paper element and inner element or used pressurized air, this will damage the elements. Replace dirty, bent or damaged elements with new elements as required. Handle new elements carefully; do not use if the sealing surfaces are bent or damaged.
- Check all parts for wear, cracks or damage. Replace any damaged components.
- Install the new inner element. Slide each fully into place in the air cleaner housing.
- Reinstall the end cap so the dust ejector valve is down and secure with the two retaining clips. (See Figure 2.)



AIR FILTER

TO SERVICE HEAVY DUTY AIR CLEANER

Every 100 to 150 hours of operation (more often under extremely dusty or dirty conditions), replace the paper element and check inner element.

2. **OIL AND AIR FILTER MAINTENANCE AND STAYING WITHIN THE LIMITS OF THE ANGLE OF OPERATION IS ALSO CRITICAL ON STUMP GRINDING MACHINES. STARVING THE ENGINE FOR OIL WILL NOT BE WARRANTED BY THE ENGINE MANUFACTURER OR RED ROO SALES AND SERVICE PTY. LTD.**



ENGINE OIL FILL



DIPSTICK

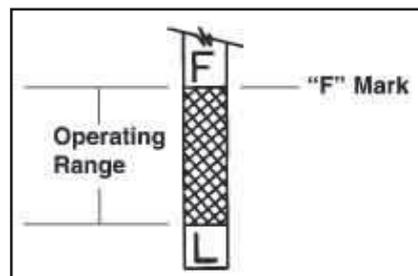


Figure 3 – Oil Level Dipstick

OIL LEVEL MAINTENANCE

THE IMPORTANCE OF CHECKING AND MAINTAINING THE PROPER OIL LEVEL IN THE CRANKCASE CANNOT BE OVEREMPHASIZED. CHECK OIL BEFORE EACH USE AS FOLLOWS:

- Make sure the engine is stopped, level, and is cool so the oil has had time to drain into the crankcase.
- To keep dirt, debris, etc., out of the engine, clean the area around the dipstick before removing it.
- Remove the dipstick; wipe oil off. Reinsert the dipstick into the tube and press all the way down.
- Remove the dipstick and check the oil level.

The oil level should be up to, but not over, the "F" mark on the dipstick. (See Figure 3.)

- If the level is low, add oil of the proper type, up to the "F" mark on the dipstick. Always check the level with the dipstick before adding more oil.

ENGINE MAINTENANCE INTERVALS

Refer to Engine Manual supplied with machine

– Daily

Check air filter system for damage or air leaks.

Check air filters and pre-cleaners. Do not blow out or tap on ground. Replace with the manufacturer recommend air filter only. Dirty air filters can lead to ingestion of dirt into the engine. This is the most common cause of engine failure and is not warrantable.

CHECK ENGINE OIL AT DIPSTICK DAILY. INSPECT DIPSTICK READING WITH ENGINE SITTING LEVEL. CLEAN ENGINE COOLING FINS - IF BLOCKED, ENGINE WILL OVER HEAT IMMEDIATELY.

– At 5 hours

Initial engine oil change

– Every 10 hours

Regularly inspect the condition of the tyres. Inspect for cuts, worn treads, bulges or damage to the rim.

Inflate tyres to the proper pressure. Do not exceed recommended limit.

– Every 40 hours

Change engine oil

– Every 100 hours

Change engine oil filter

Replace In-line fuel filter

Change air cleaner element

outer and check inner for dirt.

Check spark plug condition



FUEL TANK



FUEL FILTER

GENERAL MAINTENANCE INTERVAL

– Daily to 5 hours

Grease cutter wheel bearings – **DO NOT OVER GREASE**

Inspect cutter wheel drive belt tension

Inspect hydraulic pump belt tension

Inspect for any loose hardware (nuts and bolts)

– Daily to 10 hours

Inspect the engine system (Refer to Engine Manual)

Inspect air filter system externally for damage that may allow unfiltered air to enter the engine. Fill fuel tank at the end of each day to prevent condensation. Do not fill tank to the very top, leave room for expansion.

Check cutter wheel system.

A. Inspect cutter wheel for cracks

B. Inspect cutter teeth for cracks or excessive wear

C. Inspect that tooth pocket bolts are all in place and torqued to 90 foot pounds.

Grease cutter wheel bearings. **DO NOT OVER GREASE**

Hydraulic oil filter change

- **Every 50 hours
Or weekly** Initial hydraulic oil filter change
Inspect/adjust cutter wheel belts tension
Inspect/adjust hydraulic pump belt tension
Remove cutter wheel belt cover and remove debris
- **Every 100 hours** Inspect the hydraulic system for leaks, kinked hoses or rubbing hoses.
Inspect overall machine
A. Inspect for missing or loose covers
B. Inspect for worn or missing safety decals
C. Inspect for loose, worn or missing parts and hardware. Tighten any loose parts and replace any worn or missing parts.
Inspect frame for any bending, warping or cracking.
Inspect tyres and rims for damage and correct tyre pressure - 30psi.
Change Hydraulic oil filter
Inspect battery terminals. The battery is sealed and requires no regular maintenance
- **Daily to 200 hours** Change hydraulic fluid
Inspect wheel bearings
Inspect machine pivot bearings
Inspect control handle pivot bearings
- **As required** Replace battery
Replace cutter wheel belts
Replace hydraulic pump belt
Replace cutter wheel bearings
Replace cutter teeth, pockets and bolts
Replace the air filter element. It is recommended that the element be replaced rather than cleaned. Leaks can develop during the cleaning process which are not readily detectable.

CHECK/ADJUST BELT TENSION CUTTER WHEEL DRIVE BELTS

- Remove belt cover
- Check tension and deflection at mid-span of each belt
- New belts should be tensioned so they deflect 12mm when 3-4 Kg of force is applied.
- To tension belts, slacken engine mount bolts and use engine adjuster located underneath the engine.
- Pull engine backwards until the correct tension on the belts is achieved.
- Check the alignment of the pulleys and re-tension the engine mount bolts.

HYDRAULIC PUMP BELT TENSION

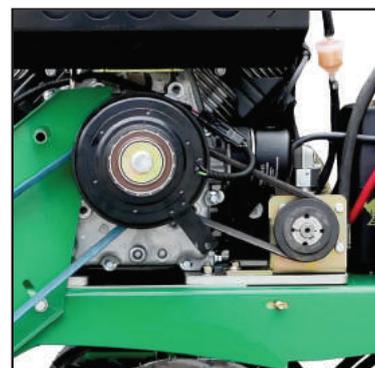
- Check tension and deflection at midpoint of belt - if it slips, it's too loose. Tighten.
- A new belt should be tensioned to deflect 12mm when a 3-4kg force is applied.
- To tension belts, slacken pump mount bolts and slide pump back until correct tension on the belt is achieved.
- Check the alignment of the pulleys and re-tension the pump mount bolts.

REMOVE CUTTER WHEEL PULLEYS

- Slacken 3 retaining bolts. Remove the inner pulley off the bushing by tapping on the head of the bolts. Use a long thread bolt through one of the threaded holds in the outer pulley to remove from the bush.



BELT ADJUSTING BOLT



BELT ADJUSTING BOLT

HYDRAULIC OIL TANK

Check hydraulic oil level daily.

The SHP400 hydraulic tank is equipped with a site glass that shows the level of hydraulic oil.

Do not overfill this tank, allow for the expansion of hydraulic fluid.

This machine is equipped with Castrol Hyspin 68 hydraulic oil at the time of manufacture.

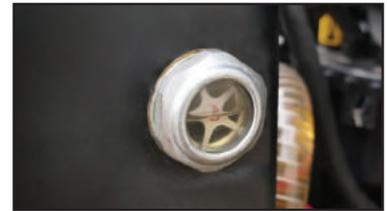
Use the same or equivalent.

For a new machine, change the hydraulic oil filter when the stump grinder has been operating for 10 hours.

Replace with the same type of in-tank filter element supplied originally - available through Red Roo.

From this point on change the filter every 200 hours of operation.

Change hydraulic oil every 500 hours of operation or at least once a year depending on use.



SERVICE PIVOT BEARINGS

Automotive/trailer style bearings are used for the machine centre pivot as well as the pivot mechanism for the control handles. If these bearings become stiff they should be disassembled and repacked with grease.

REPACK THE CENTRE PIVOT BEARING.

1. Support the upper frame of the machine securely on stands or lifting equipment.
2. Remove the dust cap from the end of the pivot shaft underneath the machine.
3. Remove the cotter pin from the castle nut and washer.
4. Remove the outer bearing and inspect the lubricant / grease.
If a generous amount of grease is on the bearing and in the housing, and if the grease is soft, the grease will not need changing
If the lubricant / grease is caked and the bearings seem dry, the bearings should be repacked.

TO REPACK THE BEARING

5. Lift the top half of the machine clear of the ground drive base section.
6. Remove the grease seal and inspect for damage. Replace if necessary
7. Remove the inner bearing
8. Wash the cone bearings and inside the hub with solvent and wipe clean.
9. Inspect bearing cups. Replace if damaged or worn.
10. Repack the bearings. Be sure the grease is worked into the roller retainers from the edge to fill the entire bearing with grease.
11. Install the inner bearing
12. Install the seal.
13. Install the outer bearing.
14. Lower the top half of the machine back onto the base.
15. Install the washer and castle nut.
16. Tighten the nut until a slight drag is felt when turning the wheel.
Loosen the nut until the nearest castellation in the nut lines up with the
17. Install the cotter pin and dust cap.

The same procedure applies for the handle pivot hub assembly.



INDEPENDENT HYDRAULIC
DRIVE MOTORS

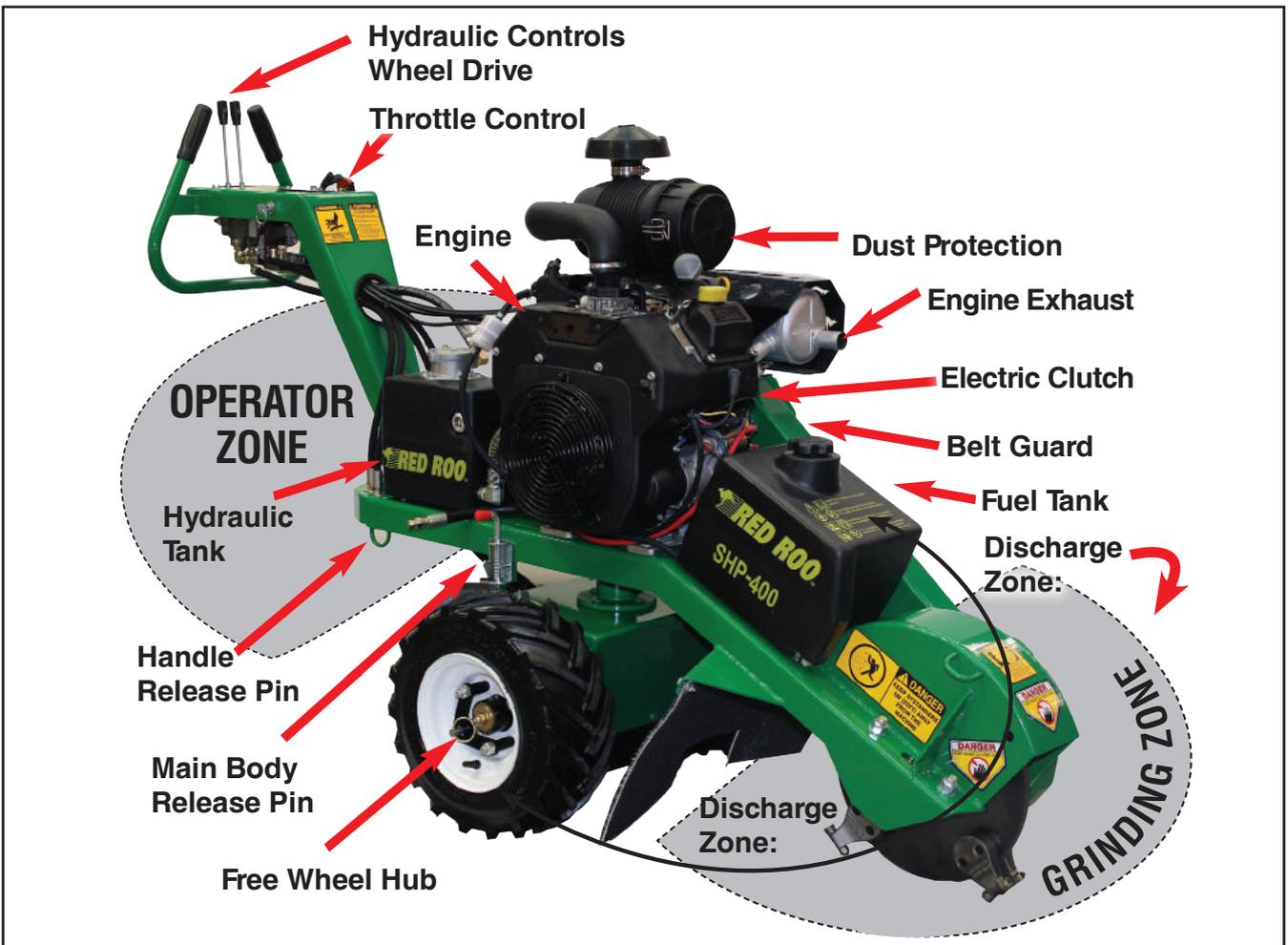
CARING FOR POWDERCOATED FINISH

The effects of ultra violet light, pollution, dirt, grim, and salt deposits can all accumulate on the powder coated surface of your machine over time. To extend the effective life of the powder coated surface a very simple regular maintenance program should be implemented for the removal of any debris or residues.

As a general rule the machine should be cleaned after every use.

- 1) Remove any loose deposits with a wet sponge.
- 2) Use a soft brush (non abrasive) or cloth, and a mid household detergent solution to remove any dirt, or grime.
- 3) Pressure wash or rinse when finished.

Detergents that recommend the use of gloves when handling should be avoided as this as a good indication that the detergent is too harsh and therefore unsuitable for cleaning your powder coating. Although some strong solvents are recommended for removing grease, or other stubborn residues these may be harmful to the extended life of the powder coated surface. If paint splashes, or other residue need to be removed then use Methylated Spirits, Turpentine, or White Spirits. Keeping this unit clean and well serviced wis very important.



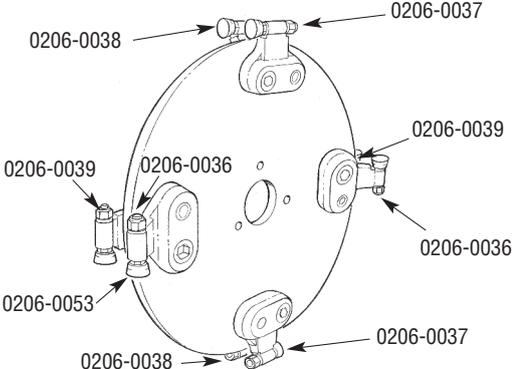
safety
IS EVERYBODY'S BUSINESS
...now

You alone know the operational demands and special conditions affecting the equipment in your situation and therefore assume the responsibility for developing, carrying out, and enforcing the safety concepts which apply to your own operation to effect the greatest safety for yourself and the people around you.

REPLACING STUMPGRINDING TEETH



BEFORE YOU REPLACE ANY CUTTERS YOU MUST TURN THE ENGINE OFF AND WAIT FOR ALL MOVING PARTS TO STOP. MAKE SURE ALL OF THE CUTTERS ARE SHARP AND WELL MAINTAINED AT ALL TIMES.



REPLACEMENT POCKETS & CUTTERS

Item No.	Part No.	Description
1	0206-0036	Tooth Pocket LH (Bent Counterbore) x 2
2	0206-0037	Tooth Pocket Straight (Counterbore) x 2
3	0206-0038	Tooth Pocket RH (Bent Threaded) x2
4	0206-0039	Tooth Pocket Straight (Threaded) X2
5	1901-0044	SHC Screw x 8
6	0206-0053	Tooth x 8
7	2301-0057	Washer x 8



NOTE:

DO NOT OPERATE THE STUMP GRINDER IF ANY OF THE CUTTERS ARE MISSING. THIS WILL CAUSE THE GRINDING DISC TO BE OUT OF BALANCE. DO NOT OPERATE THE STUMP GRINDER IF ANY OF THE CUTTERS ARE DAMAGED.

TEETH SHARPENING



Cutting teeth may be sharpened by grinding. Initial sharpening should be performed using a silicon carbide (green) wheel. The best results will be achieved by finish grinding using a diamond grinding wheel.

Please Visit: www.redroo.com to view **RED TOOTH Sharpening video.**

NOTE: Using a silicon carbide grinding wheel to grind the tooth body will result in very rapid breakdown of the silicon carbide wheel.



WARNING: Eye protection and particle mask must be used when sharpening the teeth.

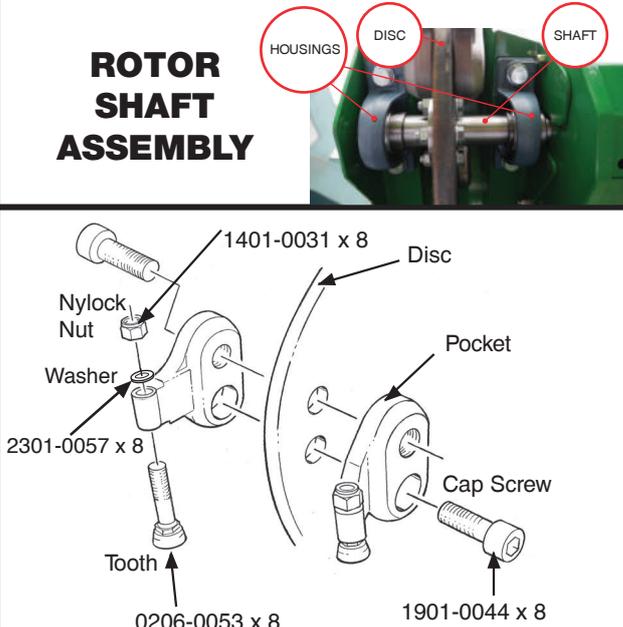
The Red Tooth is manufactured from a steel fastener base incorporated with tungsten carbide tip. This tip is silver soldered onto the top. The Red Tooth can be rotated 120 degrees in order to allow three working edges.

Look for **RED TOOTH Sharpening Video online at www.redroo.com**

ATTENTION:

The sharpening of tungsten carbide cutting teeth requires a special process and a degree of machine tool sharpening skills. If you are unsure of your ability to safely sharpen these cutting teeth correctly, contact a machinist or a qualified saw sharpening specialist. This will ensure your cutting teeth are returned to their proper edge profile and avoid injury.

ROTOR SHAFT ASSEMBLY



TIGHTENING NUTS & BOLTS

Torque each 3/8 nyloc nut part number (1401-0031) to 25 ft/lbs.
Torque each 5/8 cap screw part number (1901-0044) to 180 ft/lbs.



ATTENTION



The sharpening of tungsten carbide cutting teeth requires a special process and a degree of machine tool sharpening skills. If you are unsure of your ability to safely sharpen these cutting teeth correctly, contact a machinist or a qualified saw sharpening specialist. This will ensure your cutting teeth are returned to their proper edge profile and avoid injury.

TRANSPORTING THE MACHINE

LOADING

If the machine is loaded using steep ramps use extreme caution. This unit has a high centre of gravity.

OPTIONAL DUAL WHEEL KIT IS AVAILABLE

TIE DOWN

The machine is equipped with a pin lock and hole through the cutter wheel cover. This pin lock is designed to connect to a purpose built bracket fitted to the trailer or truck used to carry the machine.

The pin lock is designed to:

Stop the machine tilting backwards and forwards

Stop the machine moving front to back

Stop the machine sliding side to side.

If the lock pin is used, an additional strap should be used around the handle to prevent the rear of the machine moving side to side.

If the pin lock is NOT used, the front of the machine must also be tied down, either around the cutter shaft or through the tie down points.

Underneath the machine a tie down point has been incorporated.

Use a shackle through the hole.



FRONT TIE-DOWN POINT



REAR TIE-DOWN POINT

STARTING PROCEDURE

SLIGHTLY TILT THE MACHINE TO LIFT THE CUTTER WHEEL CLEAR OF THE GROUND ENGINE.

- Make sure the throttle is set no more than just above low idle.
- Make certain that the clutch engaging switch is in the **OFF** position as the engine will not start.
- **Turn Ignition Switch clockwise to start. Release the switch as soon as the engine starts.**

Important: Never run the starter motor for more than ten seconds at a time.

Allow it to cool 60 seconds between attempts.

MACHINE CONTROLS

ENGINE CONTROLS

All engine controls are located on the machine handle bar.

- **IGNITION SWITCH** Centre position engine off
1st position clockwise engine on
Fully clockwise engine start
- **THROTTLE** Pull lever towards operator ... increase engine rpm
Push lever away decrease engine rpm

- **HOUR-METER**

When the engine is off the meter shows total engine running hours.

When the engine is running the meter shows engine RPM

Note: Oil level should be checked daily. The engine is fitted with an automatic shutdown system designed to stop the engine if oil pressure falls below a reset level either because the engine is low on oil or the engine is tilted past 25 degrees. This system is not fool proof and should not be relied on as a substitute to checking oil level. Damage to the engine may have already occurred before the shutdown system stops the engine due to low oil.



THROTTLE LEVER CONTROL
CLUTCH ON/OFF SWITCH



ENGINE HOUR METER/TACHOMETER



DIPSTICK

GROUND DRIVE CONTROLS

Ground drive is achieved by two independent drive tyres driven by hydraulic motors. Each of the motors has its own control lever on the handle bar.

- 1 FORWARD: Push BOTH levers forward equally: machine moves straight ahead.
- 2 REVERSE: Pull BOTH levers back equally: machine moves straight back.
- 3 Move one lever more than the other: machine will turn.
- 4 PUSH one lever forward and PUSH the other lever back and the machine will turn to the RIGHT or LEFT.



Neutral



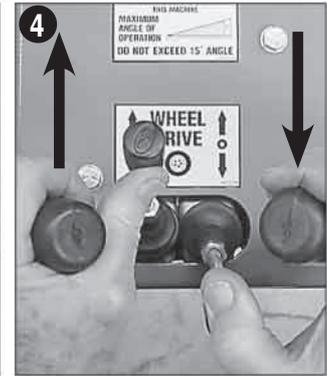
Forward



Reverse



Left Turn

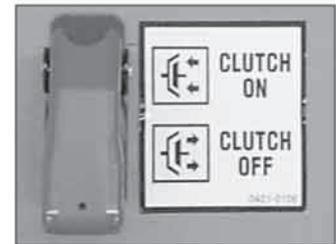


Right Turn

CUTTER WHEEL / CUTTER CONTROL / ENGAGEMENT / DISENGAGEMENT

Electric Clutch: The grinding wheel is engaged by switching the toggle switch located next to the throttle on the control handle. The safety cover must be lifted on the switch before the switch can be accessed.

The engine will not start if the clutch is in the 'on' position.



ELECTRIC CLUTCH SWITCH ON / OFF

STOPPING PROCEDURE

- Reduce engine speed to idle.
- Turn the electric clutch engaging switch to the OFF position.
- Whenever practical and safe, allow the engine to run at low speed for a short time before switching OFF. This allows engine temperatures to decrease and equalise which will increase the engine life.
Allow engine to cool before turning off.
- Wait for the cutter wheel to stop spinning before releasing the handles.
- Turn the engine OFF and remove the key.
- In an emergency the machine can be STOPPED by simply turning OFF THE KEY.



ELECTRIC CLUTCH



You alone know the operational demands and special conditions affecting the equipment in your situation and therefore assume the responsibility for developing, carrying out, and enforcing the safety concepts which apply to your own operation to effect the greatest safety for yourself and the people around you.

TROUBLE SHOOTING

ENGINE PROBLEM

Engine won't turn over

Engine hard to start or will not start or lacking power

CAUSE

Flat battery
Dirty battery terminals
Defective ignition switch
Defective starter solenoid
Electric Clutch is turned on
Out of fuel
Wrong fuel
Leak in fuel line

Faulty ignition module
Faulty spark plugs
Wrong weight engine oil
Restricted air filter
Low engine compression
Engine too hot

SOLUTION

Check condition of battery and replace if necessary.
Disconnect battery cables and clean terminals.
Replace switch.
Replace solenoid.
Turn clutch switch to 'off' position.
Add fuel
Drain tank and replace fuel
Clean tank, replace fuel filter. It may also be necessary to do an engine calibration test. This should only be done by Experienced mechanic.
Replace module.
Replace plugs.
Use manufacturer's specified engine oil.
Replace air filter.
See Authorised Service Technician.
See Authorised Service Technician.

ELECTRICAL SYSTEM PROBLEM

(This unit is fitted with a maintenance free battery)

Low battery output

Battery terminals

Low battery charge

CAUSE

Low water level

Corroded or loose
Defective battery cell
Cracked battery case
Dirty or wet battery top, causing discharge
Engine not charging
Loose or corroded battery cables

SOLUTION

This is a no maintenance sealed battery so would need to be replaced if it lost it's fluid.
Clean and tighten battery cables.
Replace battery.
Replace battery or broken terminal.
Clean battery top.

See authorised engine dealer.
Clean and tighten battery cables.

HYDRAULIC SYSTEM

No hydraulic power

Slow hydraulic power

Oil foams

Machine does not travel straight

CAUSE

Low hydraulic fluid
Broken or loose pump belt
Worn pump
Relief valve damaged
Low hydraulic fluid
Blocked hydraulic filter
Worn pump
Improper relief setting
Low hydraulic fluid
Water in hydraulic oil
Air leak between tank and pump
Worn motor
Low tyre pressure

SOLUTION

Replenish fluid.
Tension or replace belt.
See Authorised Service Technician.
See Authorised Service Technician.
Replenish fluid.
Replace filter.
See Authorised Service Technician.
See Authorised Service Technician.
Replenish oil
Drain system, flush and replace oil.
Repair leak.

Replace motor.
Inflate tyres equally.

CUTTER WHEEL PROBLEM

Cutter wheel slows down while cutting
Rough cutting or bouncing of the cutter wheel

CAUSE

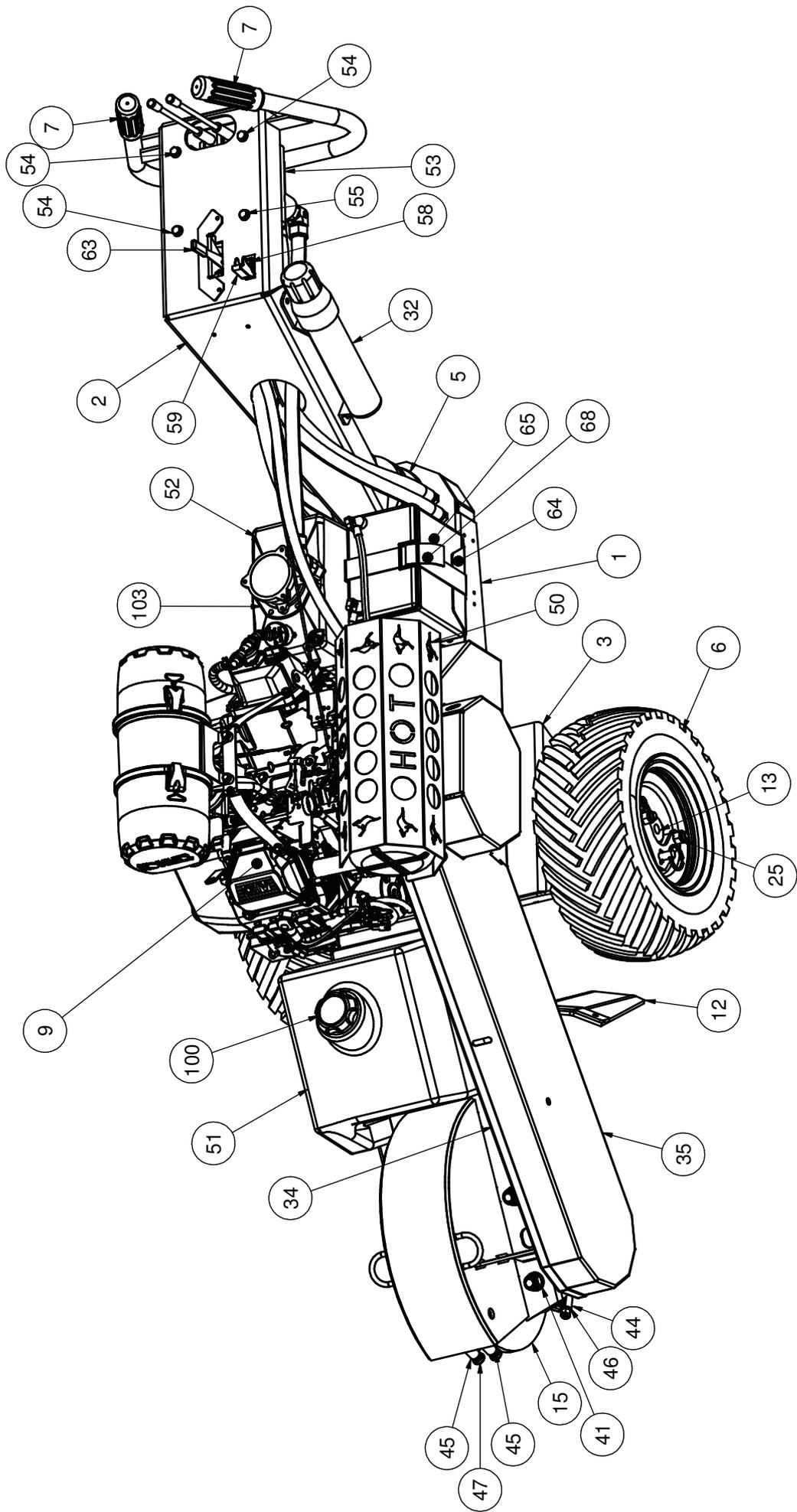
Loose or worn drive belts

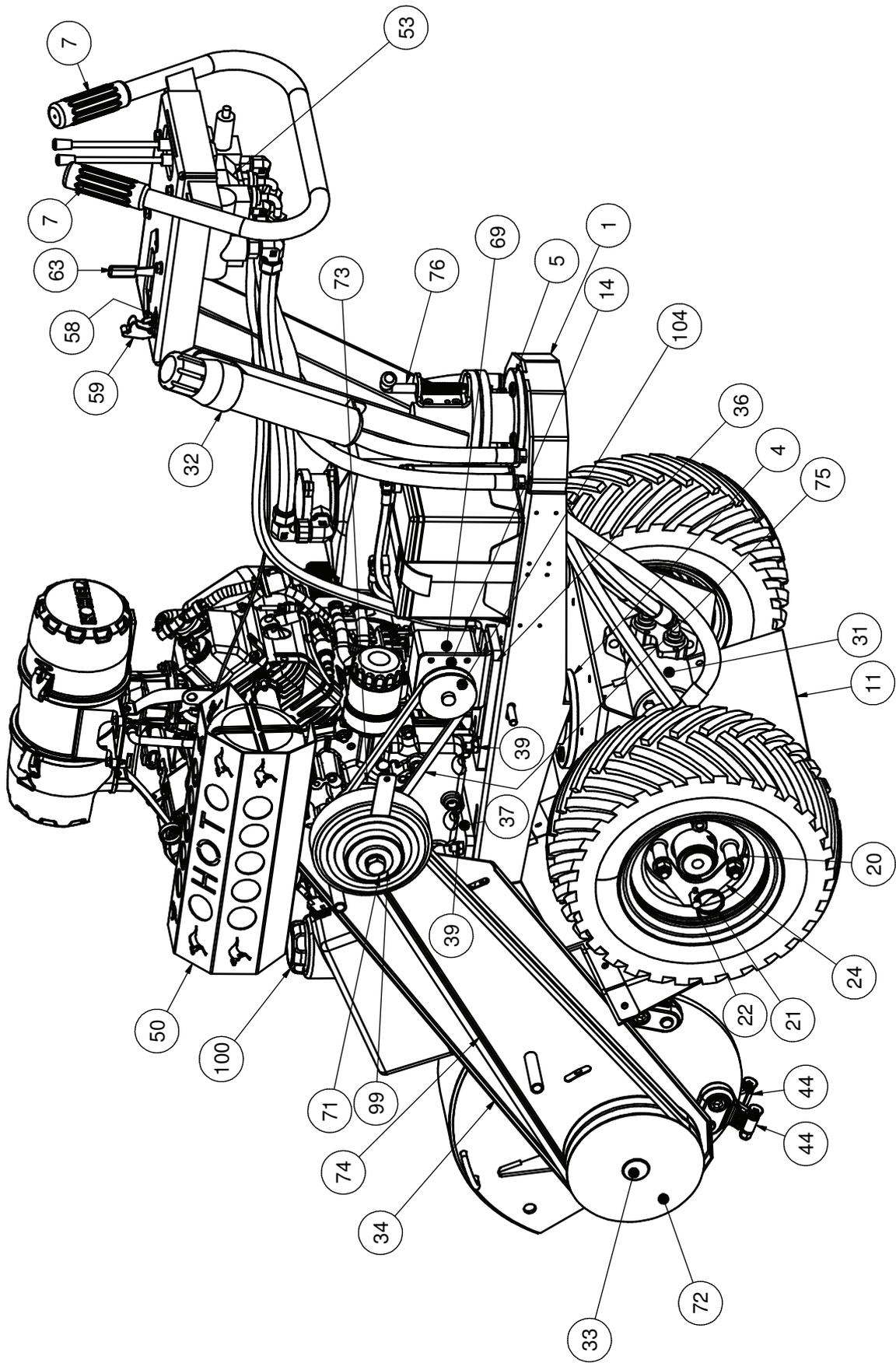
Bent, broken, missing or blunt teeth

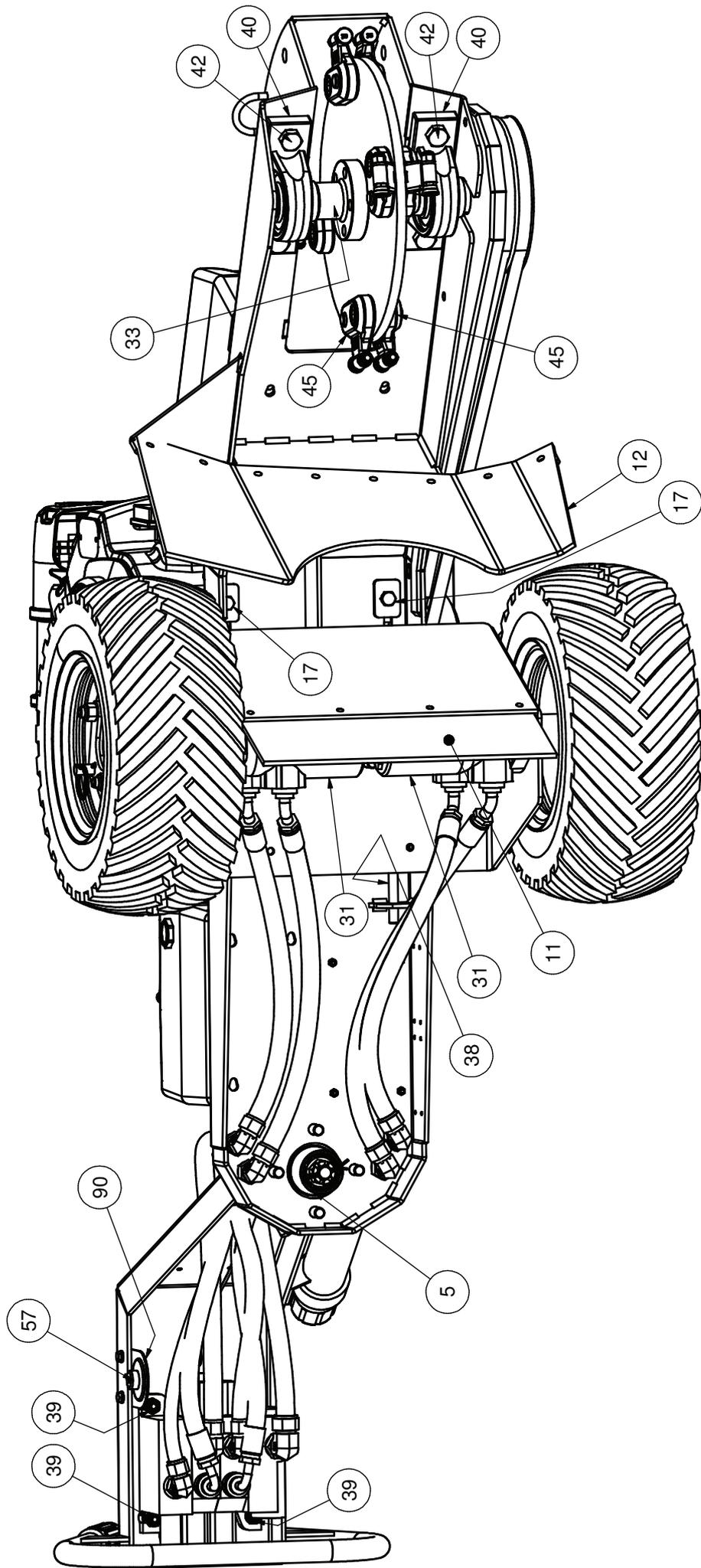
SOLUTION

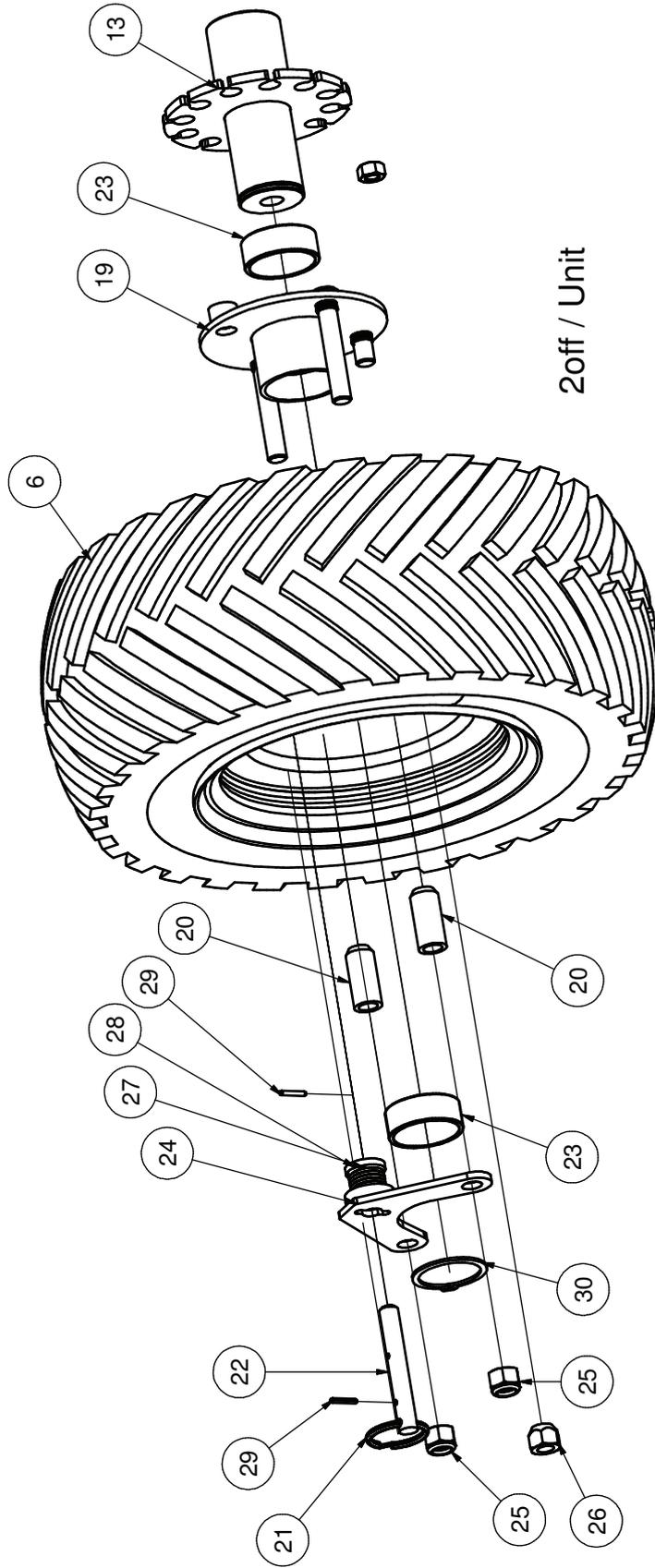
Adjust or replace belts.

Replace teeth.









2off / Unit



Parts List			DESCRIPTION
ITEM	QTY	PART NUMBER	
1	1	0605-0042	Body Weldment
2	1	0801-0021	Handle Weldment
3	1	0605-0040	Wheel Motor Body Weldment
4	1	1105-0006	4 Stud Hub and Bearings / Hub Only is Part Number 0806-0013
5	1	0806-0036	4 Stud Hub and Pivot Plate
6	2	2301-0016	Wheel & Tyre
7	2	0703-0002	Rubber Handle Grip
9	1	0503-0020	KOHLER COMMAND 27HP EFI
10	1	0214-0119	Latch Bracket
11	1	0601-0011	Rear Chip Deflector
12	1	0601-0010	Front Chip Deflector
13	2	0806-0030	Hub Free Wheeling Centre
14	1	0214-0122	Pump Mounting Bracket
15	1	0403-0010	Cutter Disk
17	3	0214-0121	Engine Bolt Down Bracket
19	2	BM-01252	Wheel Hub
20	4	BM-02083	Wheel Spacer
21	2	BM-03550	Split Ring
22	2	BM-02068	Pin
23	4	BM-03168	Nylon Bushing
24	2	BM-01077	Free Wheeling Mounting Plate
25	4	1401-0053	Nut
26	4	1401-0055	Lug Nut
27	2	BM-03352	Spring
28	2	2301-0025	Washer
29	2	BM-05548	Roll Pin
30	2	BM-05610	Circlip
31	2	1305-0004	Drive Motor
32	1	0313-0002	Document Holder
33	1	1904-0024	Cutter Shaft

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RED ROO™ SHP400

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
34	1	0704-0052	Guard Backing Plate
35	1	0704-0050	Guard Body
36	1	1605-0034	Engine Mount Plate Rear
37	1	1605-0035	Engine Mount Plate Front
38	1	0214-0018	Belt Adjuster
39	7	1401-0003	M10 Nylock Nut
40	2	0204-0035	Bearing Only / Housing Only 0806-0028
41	4	2301-0508	M16 Flat Washer ZP
42	4	0209-1650	M16x50 HT ZP Bolt
43	4	1401-0517	M16 NyLock Nut
44	4	0206-0061	Holder Tooth - Straight
45	4	0206-0060	Holder Tooth - Bent
46	8	2301-0057	Washer
47	8	1901-0053	Tooth Grinding
48	8	1401-0031	3/8 UNC Nylock
49	8	1901-0054	5/8 x 1 3/4 UNF Cap Screw
50	1	0704-0054	Exhaust Guard
51	1	2001-0010	Fuel Tank
52	1	2001-0012	Hydraulic Oil Tank
53	1	2201-0013	Hydraulic Valve
57	1	1102-0043	Ignition Switch
58	1	1923-0001	Clutch Toggle / On - Off Switch
59	1	0704-0057	Switch Cover
63	1	0301-0038	Throttle Cable

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RED ROO™ SHP400

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
64	1	0214-0120	Battery Tray
65	1	0203-0007	Battery
68	1	1918-0022	Battery Strap
69	1	1609-0004	Hydraulic Pump
71	1	0310-0012	Clutch & Pulley Assy
72	1	1608-0035	Pulley Rotor
73	1	1608-0034	Hydraulic Pump Drive Pulley
74	2	0205-0021	Large - V-Belt - Main Drive Belt
75	1	0205-0046	Small - V-Belt - Hydraulic Belt
76	2	1208-0008	Latch Bolt Assembly
90	1	0214-0131	Ignition Switch Mount
92	1	1605-0040	Fuel Tank Plate
93	1	0314-0031	Kohler Ignition Hole Cover
95	1	0314-0030	Kohler Air Intake Shroud Cover
99	1	2301-0046	Clutch Retaining Washer (Kohler CH25)
100	1	0303-0005	Fuel Cap
103	1	1605-0037	Flange For Hydraulic Tank
104	1	1608-0050	Hydraulic Pump - Pulley

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DECALS

IMPORTANT

Keep safety and instructional decals clean and replace any that are damaged, difficult to read or missing.



3 x 0401-0001



1 x 0401-0034 (Large) 0401-0036 (Small)



1 x 0401-0095



1 x 0401-0081



1 x 0401-0052



1 x 0401-0065



1 x 0401-0078



1 x 0401-0070



1 x 0401-0074



1 x 0401-0038



1 x 0401-0049



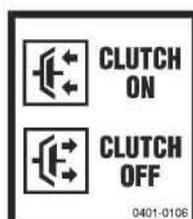
1 x 0401-0077



1 x 0401-0050



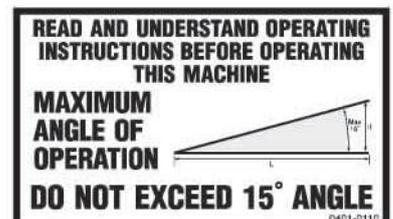
1 x 0401-0109



1 x 0401-0106



1 x 0401-0107



1 x 0401-0110

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PRODUCTS

Red Rooster provides an extensive range of Commercial Environmental Equipment to the Hire and Rental Industry, Arborist, Local Government Council. This equipment ranges from Chipper Mulcher Shredders to Stump Grinders



CHIPPERS, MULCHERS & SHREDDERS



COMMERCIAL WOOD CHIPPERS



STUMP GRINDERS - UP TO 27HP



STUMP GRINDERS - UP TO 250HP



LOG SPLITTERS



POST HOLE DIGGERS



ROTARY HOES



TRENCHERS



TURF AERATOR



TURF CUTTERS



TRAILERS



RIGGING GEAR

**RED ROO A LEADER IN
COMMERCIAL ENVIRONMENTAL EQUIPMENT**



Commercial Environmental Equipment

Superseding Warranty
Red Roo Group of Companies
Warranty Policy
effective December 31, 2014

Replaces all undated previous Warranties and all Warranties dated prior to December 31, 2012

"For a time period shown below from date of purchase, pending owner registration, Red Roo Sales & Service Company, P/L, herein referred to as "MANUFACTURER", will, at its option, repair or replace for the original purchasers of new Red Roo equipment, free of charge, any part, or parts of the unit (excluding Power Unit, warranty coverage provided by respective engine manufacturer), found upon inspection and testing by a Factory Authorised Agent, or by the Factory at Keysborough, Victoria, to be defective in material or workmanship or both under normal operating conditions; this is the exclusive remedy. All transportation charges on parts submitted to the MANUFACTURER for replacement under this Warranty are the responsibility of the purchaser.

This Warranty shall not apply to any product that has been altered, modified, or operated in a manner not approved or recommended by the MANUFACTURER. Warranty will be null and void in the following circumstances: (1) repairs or attempted repairs have been performed by persons other than agents authorised by the MANUFACTURER; (2) repairs are required because of normal wear; (3) the unit has been subject to abuse or involved in an accident; (4) misuse is evident, such as that caused by an application that unit is not intended to perform.

The MANUFACTURER reserves the right to modify, alter, or otherwise improve any product or part.

The purchaser is responsible for the performance of regular maintenance services as specified in the operator manual applicable to the unit. Untimely and/or improper care and replacement of normal maintenance items (eg.: filters, belts, drive chains, blades, knives, lubricants) may void Warranty. Use of non genuine Red Roo parts may void Warranty.

THERE IS NO OTHER EXPRESS WARRANTY. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO 14 DAYS FROM PURCHASE, AND TO THE EXTENT PERMITTED BY LAW ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. LIABILITY FOR CONSEQUENTIAL DAMAGES UNDER ANY AND ALL WARRANTIES ARE EXCLUDED TO THE EXTENT EXCLUSION IS PERMITTED BY LAW. RED ROO GROUP OF COMPANIES DOES NOT AUTHORISE ANY PERSON OR ENTITY TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH ITS PRODUCTS OR SERVICES. Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state."

Red Roo Sales & Service Company, P/L
James A. Kerr III
Managing Director

Warranty Period

All Equipment	Consumer Use* 365 Days	Commercial Use* 90 Days
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* For the purposes of this warranty policy, "consumer use" shall mean personal residential household use by the original retail consumer. "Commercial use" shall mean all other uses, including use for commercial, income producing or hire purposes. Once a unit has experienced commercial use, it shall thereafter be considered as a commercial use unit for purposes of this warranty policy.

Proper registration of your Red Roo equipment is required to obtain warranty service. It is the responsibility of the original purchaser to register equipment within 10 days of purchase.

USE ONLY GENUINE RED ROO PARTS

safety
IS EVERYBODY'S BUSINESS
...now

You alone know the operational demands and special conditions affecting the equipment in your situation and therefore assume the responsibility for developing, carrying out, and enforcing the safety concepts which apply to your own operation to effect the greatest safety for yourself and the people around you.

 **RED ROO**™
Commercial Environmental Equipment