



RH918 ROTARY HOE

Operation, Safety & Maintenance Instructions



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



INTRODUCTION

Dear Valued Customer,

Congratulations! You are now the proud owner of the Red Roo Model RH918 Rotary Hoe. Please take a moment of your time to look over the following information. Familiarise yourself with the rotary hoe, 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 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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ASSEMBLY INSTRUCTIONS

1. Remove rotary hoe from shipping crate.
2. Screw the handle bar adjustment crank into the lower handle bar adjuster pin.
3. Fasten handle bar to rotary hoe using the 1/2" x 3" bolt supplied.
4. Arrange hoses down handle bar tube and fasten to the tube with tie wraps provided.
5. Adjust clutch cable by removing all slack in lever.
6. Check reservoir according to instructions in service information on page eight (8).
7. Fill engine with fuel and oil according to the engine manual.
8. Free wheel hubs: Pull one free wheeling pin slightly, using the split ring. Rotate the pin until the 1/8" diameter roll pin aligns with the slot mounting plate. Allow the pin to slide through the slot. Repeat for the other wheel. Roll the rotary hoe until each pin drops into a hole in the hub. The hubs are now locked.
9. Uncoil the wire for the remote engine on/off switch. Route wire along the clutch cable to the engine and secure with the cable ties provided. Splice this wire to the kill switch wire on the engine with the electrical splice provided.



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.



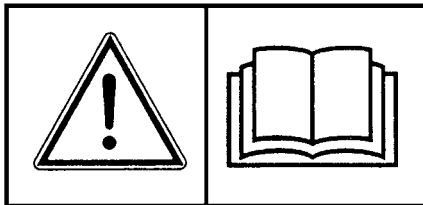
DANGER! An instruction which, if not followed, could result in serious or fatal injury.



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



Keep Clear Rotating Tyres

SAFETY FIRST – Stay Alert, Do Not Get Hurt



Read this section before use!

The RH918 Rotary Hoe is designed to cultivate soil and therefore is potentially dangerous. Careless or improper use may result in serious or even fatal injury.

It is important that you read and understand the contents of this manual and that you allow only mature, adult individuals to operate your Rotary Hoe. It is your responsibility to ensure that any individual who operates your rotary hoe has read and understood this manual.

Never use the rotary hoe for any other purpose than soil cultivation. The machine is designed for this purpose only. Any other use may result in serious or even fatal injury and/or damage to the machine.

SAFETY INSTRUCTIONS FOR RH918 USERS

Outdoor Power Equipment Institute Recommendations




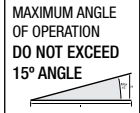












WARNING TO PURCHASERS OF INTERNAL COMBUSTION ENGINE EQUIPPED MACHINERY OR DEVICES:

The equipment which you have purchased 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 rotary hoe without first reading and understanding the safety precautions and operating instructions. Read and understand the engine manual. **KNOW THE CONTROLS AND HOW TO STOP THE ROTARY HOE QUICKLY IN AN EMERGENCY.**
- 2) **NEVER** allow children or untrained adults to operate the rotary hoe.
- 3) **ALWAYS** wear protective clothing when operating the rotary hoe. This includes, but is not limited to: safety glasses, loose fitting gloves, steel capped boots and hearing protection. **NEVER** wear loose fitting clothing or jewellery when operating the rotary hoe. Keep all clothing away from moving parts. Items could become caught in the machine, resulting in injury. 
- 4) **ALWAYS** operate the rotary hoe in a well lighted area. 
- 5) **ALWAYS** make certain that the tyne engagement control lever is in the "neutral" position prior to starting the engine. The TYNE ENGAGEMENT CONTROL LEVER on the left handlebar is for the operator's protection. All motion stops when the control lever's released!
DO NOT TAPE THE CONTROL LEVER UP or otherwise by-pass this safety feature!
- 6)  **MAXIMUM ANGLE OF OPERATION DO NOT EXCEED 15° ANGLE**  **ALWAYS** operate rotary hoe on level ground only. Police the area before rotary hoeing. Remove any foreign objects in the digging 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.
- 7)  **DO NOT** allow other persons near the rotary hoe. It is the responsibility of the operator to keep bystanders and animals a minimum of 6 metres (18ft) away from the machine while it is in operation.
- 8)  Hydraulic oil is under extreme pressure and can get under skin and burn or poison. Check for leaks with cardboard.
- 9) **NEVER** operate the rotary hoe when fatigued. **ALWAYS BE ALERT!** If you become tired while operating the rotary hoe, take a break. If you have any physical or mental condition that may be aggravated by strenuous work, consult your physician before you operate this equipment. **NEVER** operate the rotary hoe under the influence of medication, alcohol or drugs.
- 10)  **ALWAYS KEEP YOUR HANDS, FEET AND BODY AWAY FROM THE DIGGING AREA WHILE ENGINE IS RUNNING.**
- 11)  **NEVER** operate the unit without the safety guards in place and in working order. Keep the unit well maintained and in good working order
- 12) **DO NOT** leave the machine unattended while the engine is running.
- 13) **DO NOT** overspeed the engine or alter the governor settings. Excessive speed is dangerous and will shorten engine life.
- 14)  **NEVER** operate the rotary hoe in an enclosed area. Engine exhaust contains carbon monoxide, an odourless and tasteless poison.
- 15)  **STOP** the engine, disconnect the spark plug lead and allow engine to cool before inspecting or performing maintenance on the rotary hoe.
- 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 near equipment. 
 - * Allow no naked flame or hot material in refuelling area.
 - * Use only approved fuel containers and funnels. Remember, fuel is a potential hazard.
 - * Refer to engine owners manual for full details.




OPERATING INSTRUCTIONS - RH918

BEFORE USE

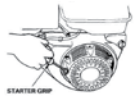
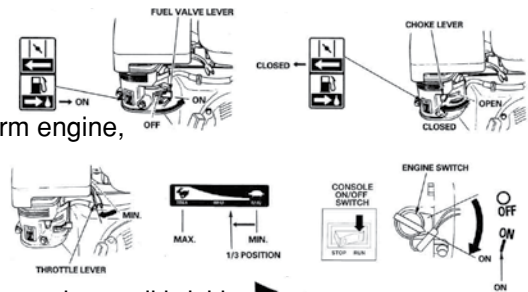
- 1) Ensure that all grass and weeds have been cut as low as possible.
- 2) If the rotary hoe is to be used in clay or hard ground conditions, it is recommended to water the area thoroughly and allow sufficient time for the soil to soften.
- 3)   Police the area. Remove any foreign objects from the area.
- 4)   Identify and mark the location of sprinkler heads, gas pipes, telephone cables, etc.

OPERATION

- 1) Remove the rotary hoe from its trailer/carrier/ute. **Use caution.** 
- 2) Familiarize yourself with the machine and its controls.
- 3) Adjust wheels if required, using the handle wheel adjustment lever.
- 4) Adjust depth shoe if required, using the depth control adjustment lever.
- 5) Ensure the tyne engagement control lever is in the neutral position. The tyne engagement control lever is located on the left hand side of the machine below handle bar. The neutral position of the lever is achieved by simply releasing the tyne engagement control lever.

6) STARTING THE ENGINE:

- a. Move the fuel valve lever to ON position.
- b. To start a cold engine, move the choke lever or choke rod (applicable types) to the CLOSED position. To restart a warm engine, leave the choke lever or choke rod in the OPEN position.
- c. Move the throttle lever away from the MIN position, about 1/3 of the way toward the MAX position.
- d. Turning the engine switch to the ON position.



RECOIL STARTER

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

- 7) When in position to begin rotary hoeing pull up on the tyne engagement control lever. The tynes will begin to turn, adjust accordingly in the rear position while rotary hoeing. Release the tyne engagement control lever to stop the tynes turning. Tyne speed is governed by engine throttle setting.
- 8) Do not hurry the job. Proceed slowly and allow the machine time to do the job. When ground is extremely hard, reduce engine speed. Consider watering the surface and reducing engine speed. Adjust wheels and depth shoe accordingly while rotary hoe.



WARNING! – KEEP HANDS AND FEET CLEAR OF TYNES AT ALL TIMES!

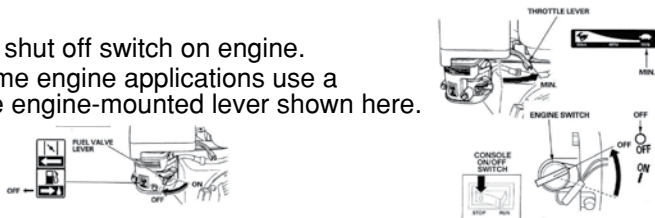


WARNING! – IN CASE OF DIFFICULTY, RELEASE THE TYNE ENGAGEMENT CONTROL LEVER ALL ROTARY HOEING ACTION STOPS. Turn the engine "STOP" switch to off located on the engine.





9) STOPPING THE ENGINE:

Shut off switch on console should be used, not shut off switch on engine.

- a. Move the throttle lever to the MIN position. Some engine applications use a remote-mounted throttle control rather than the engine-mounted lever shown here.
- b. Turn the engine switch to the OFF position.
- c. Turn the fuel valve lever to the OFF position.



AFTER USE

- 1)   Turn fuel shut off valve to the "OFF" position.
- 2)   Allow machine to cool down.
- 3) Wash mud and dirt off of the garden tiller. Ensure no water enters the carburettor.
- 4) Remove any weeds, wire, rope or other material that may have wrapped around the tynes and rotor assembly.
- 5) Return wheel axle to forward position for transport. Replace shaft locking collar.
- 6) Return depth shoe (if equipped) to full Up position.

SERVICE INFORMATION

1. Check reservoir level using sight glass on the left side of the tank. If required, add to reservoir with tractor transmission hydraulic oil (Shell DONAX TD FLUID or comparable). Recheck oil level after the rotary hoe has been run and poil has been circulated through the wheel and tyne motors. Routinely check level thereafter. **DO NOT OVERFILL THE TANK.**
2. Change the hydraulic oil filter after the first 50 hours of use. Change it after every 200 hours thereafter.
3. Add 1 quart of hydraulic oil to the reservoir with each oil filter change.
4. Check the tyne bolts after each use and tighten as needed., Check all hydraulic fittings for leaks and tighten if necessary.
5. Tynes should be changed as often as needed for the machine to do satisfactory and efficient rotary hoeing job. Use loctite stud and bearing adhesive/sealant on tyne bolt threads to prevent loosening.
6. The grease zerks on both ends of the tynes shaft flange bearing should be greased after every 4 to 8 hours of use.
7. Grease zerks on the wheel hubs should be greased once a week or so, depending upon freewheel use.

IMPORTANT: The engine is normally serviced prior to shipping. However, shipping regulations may prohibit this. Check levels and add oil and fuel as required before starting. Service according to the engine manual before starting.

WARNING: Running the rotary hoe without hydraulic oil will cause serious damage to the hydraulic pump. **CHECK RESERVOIR LEVEL BEFORE STARTING THE MACHINE.**

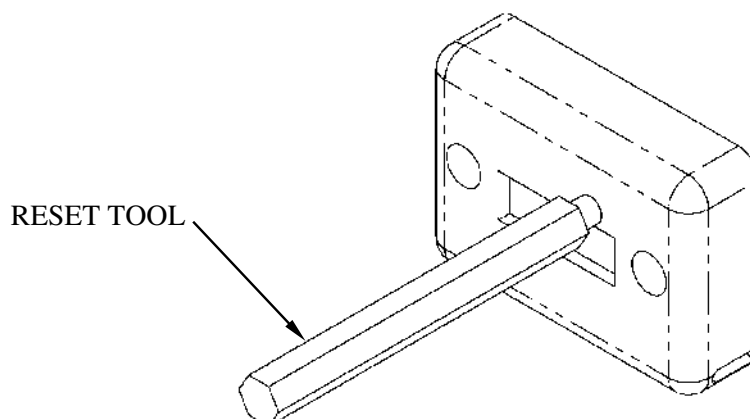
HOUR METER

The SenDEC® TACH/HOUR hour meter tracks the hours of machine operation in order for routine maintenance to be performed on a timely basis.

Your SenDEC® hour meter is preset at the SenDEC® factory to go into *Flash Alert* mode at 25-hour intervals. Although the engine manufacturer does not require changing engine oil this often, **due to heavy-duty use and extreme conditions inherent to tiller use, Red Roo strongly recommends frequent oil changes.**

Refer to this manual for equipment service requirements and to the **Engine Manual** for engine service requirements.

While *Flash Alert* is active, hold the tip of the RESET TOOL (Key Cancel Wand) against the meter as shown. Within several seconds, the display will stop flashing indicating the Service Interval has been reset. If the wand gets lost, a small mechanic's pick-up magnet will work.



RH918 ROTARY HOE TROUBLE SHOOTING GUIDE

CAUTION: ALWAYS USE EXTREME CARE WHEN TROUBLE SHOOTING OR MAKING ADJUSTMENTS ON THE ROTARY HOE. STAY CLEAR OF TYNES WHEN ENGINE IS RUNNING. ALWAYS SHUT THE ENGINE OFF BEFORE DISASSEMBLING ANY COMPONENT.

A. ENTIRE HYDRAULIC SYSTEM DOES NOT OPERATE AND THE ENGINE IS NOT UNDER LOAD

- | | |
|---|--|
| 1. Broken or improperly adjusted clutch (actuator) cable. | If broken, replace. Remove slack then adjust for 7/16" to 1/2" movement at actuator lever pin. |
| 2. Low hydraulic oil in tank. | Fill to centre of sight glass. |
| 3. Hydraulic pump-to-engine coupler has slipped. | Check for wear and replace both coupler halves and rubber spider as needed. |
| 4. Hydraulic pump worn or tyne motor relief valve not functioning properly. | Follow the series of tests described below: |

Remove the tank end of hose that goes from the pump to the tank. Start the engine and with the tynes and wheels in neutral, pump off about four gallons of hydraulic oil into a clean bucket. (The .52 CID pump, @ 1000PSI & 3000 RPM, should pump at the rate of 6.5 GPM). Replace the hose and remove the tank lid. Remove the end of the intake hose from the fitting on the tank lid. Submerge the end of the hose in the hydraulic oil in the tank. (A non-collapsible hose extension may be required). Block the tynes with a sort 4 X 4 and stand to the side.

With tynes selected to forward rotation, activate the actuator valve and check to see where the oil enters the tank. If the pump is good, the oil will enter through the relief valve or the return line from the filter. If the oil returns only through the filter return, the tyne drive motor is bad.

If the oil returns through the relief valve but does not kill the engine, check the out-put pressure of the pump. To do this, "T" a 4000 pound gauge into the line at the tank. **DO NOT BLOCK THE LINE OR DEAD-HEAD THE GAUGE INTO THE LINE.** With the tynes in forward and blocked, activate the hydraulic valve as before. The relief valve is set at 2750 pounds. If the gauge reaches this pressure, the valve is OK. If not, the relief valve is bad and needs to be replaced.

If the pressure reaches 2750 pounds but there is only a small amount of oil returning, the pump is worn and should be replaced.

RH918 ROTARY HOE TROUBLE SHOOTING GUIDE (CONTINUED)

B. TYNES FAIL TO ROTATE BUT WHEELS DRIVE.

- | | |
|---|--|
| 1. Clutch cable stretched so needs adjustment | Remove cable slack then adjust for 7/16" to 1/2" movement at actuator lever pin. |
| 2. Tyne motor worn | Rebuild or replace motor. Exchange motors are available from Red Roo. |
| 3. Wheel axle keys have sheared or removed. | |

C. WHEELS FAIL TO TURN BUT TYNES ROTATE

- | | |
|---|-----------------------|
| 1. Wheel axle keys have sheared or removed. | Replace keys |
| 2. Wheel relief valve bad | Replace relief valve. |

D. ENGINE LUGS DOWN OR DIES AND WHEELS AND TYNES DO NOT TURN.

- | | |
|---|--|
| 1. Rocks or other obstruction blocking tynes. | Shut OFF engine and remove obstruction. |
| 2. Tyne shaft bound with wire, vines or grass. | Shut OFF engine and remove debris, especially at the ends |
| 3. Rotary hoeing depth too great for soil conditions. | Shut OFF engine and lower depth bar to raise the tynes, decreasing rotary hoeing depth. |
| 4. Outboard tyne shaft bearings binding. | Lubricate or replace bearings as needed. |
| 5. Engine improperly tuned or maintained. | See engine manual and correct as needed. |
| 6. Low oil alert causes engine to shut down. | This may occur if rotary hoeing on hills, (not advised). Level the tiller and check engine oil level. Fill if required. Oil alert should reset. See engine manual. |
| 7. Engine losing power due to wear. | See engine manual. |

RH918 ROTARY HOE TROUBLE SHOOTING GUIDE (CONTINUED)

E. OIL LEAKS IN HYDRAULIC SYSTEM.

- | | |
|---------------------------------|---|
| 1. Fittings are loose. | Tighten as required. |
| 2. Worn or broken hoses. | Replace as necessary.. |
| 3. Oil around tyne motor shaft. | Inspect tyne motor for leaking shaft seal. Rebuild per instructions in Hydraulic Motor manual or replace with a new motor. |

F. EXCESSIVE FOAMING OF HYDRAULIC OIL FROM VENT HOSE

- | | |
|------------------------------|---|
| 1. Improper oil used. | Verify that hydraulic oil used has anti-foaming additives*. |
| 2. Pump sucking air. | Inspect and tighten fittings on intake side of pump. |
| 3. Hydraulic pump is faulty. | Test using procedure in section A4 above. (See page 9) |


* Recommended oil is Shell DONAX TD FLUID or equivalent hydraulic oil with anti-foaming and anti-wear additives




WORK SITE ASSESSMENT

Examine the work area for any conditions or obstructions that may inhibit rotary hoeing or create a safety hazard for the operator or others. Use the information in this manual combined with good judgment to identify any hazards to avoid.

In addition to calling to DETERMINE LOCATION OF UNDERGROUND UTILITIES (see previous section for details), the operator and/or job foreman should visually inspect the work site. Look for electrical drop boxes, notices of underground placements, manhole covers, recent trenching or rotary hoeing activity, any evidence of possible underground placements, banks, drop-offs, rocks, wire, uneven terrain, any existing holes and toxic ground conditions.


 Only operate rotary hoe outdoors and avoid breathing engine exhaust and fumes. **WARNING:** Engine exhaust contains carbon monoxide gas that is toxic. Breathing it can cause unconsciousness and death.

 Do not operate rotary hoe near any source of flammable dust or vapors. **WARNING:** Sparks from the engine exhaust can cause an explosion or fire in a flammable or explosive atmosphere. Fuel fumes can catch fire or explode.

Allow adequate side and overhead clearances between rotary hoe and any objects such as buildings, fences, and trees.

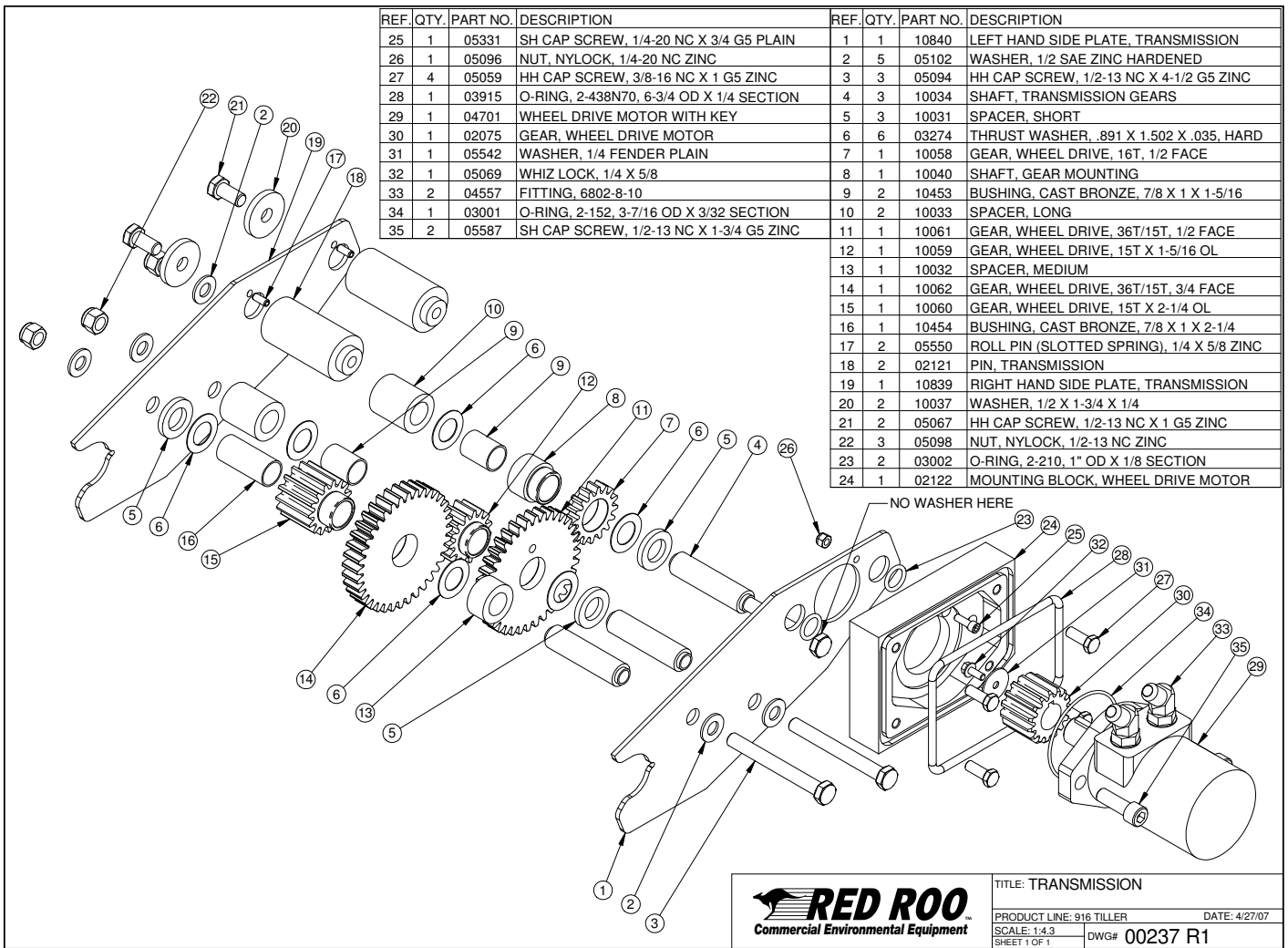
Adequate lighting is required, daylight or artificial, for safe operation of the rotary hoe.

Keep others away. If the job site is near a road or pedestrian path, warn and divert both motorized traffic and pedestrians. As appropriate, erect barriers, use traffic flag personnel, signs, cones, and lighting devices to insure safety.

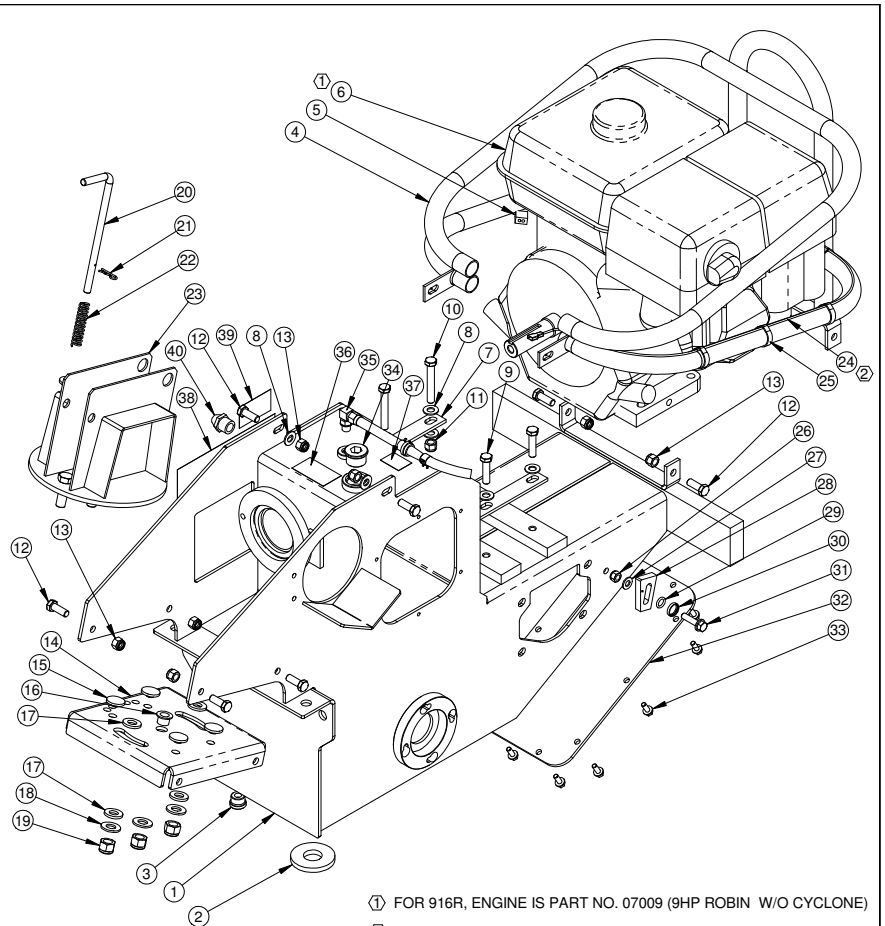
 **WARNING:** Someone could step into the cultivated area by accident. Walking near the edge of the cultivated area could cause loss of balance and possibly cause someone to fall into the rotating tynes. Contact with the rotating tynes while in operation will cause serious injury or even death.

MACHINE FUNCTION CHECK: If the operator releases the TYNE ENGAGEMENT CONTROL LEVER, the rotating tynes should stop. This is intended for your safety and must be maintained in good functional condition. Contact your dealer or the factory if anything on the rotary hoe does not function properly.





| REF. | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|---|
| 1 | 1 | 10701 | 916 & 918 BODY, BOLT ON TORQUE TUBE |
| 2 | 2 | 03520 | MAGNET |
| 3 | 1 | 10361 | FITTING, 6409-8 PLUG |
| 4 | 1 | 10188 | ENGINE GUARD, 916 |
| 5 | 1 | 03806 | QUICK-SPLICE |
| 6 | 1 | 07006 | ENGINE, 9 HP HONDA GX270 |
| 7 | 2 | 11188 | SPACER, 9 HP ENGINES |
| 8 | 8 | 05101 | WASHER, 3/8 SAE ZINC |
| 9 | 2 | 05092 | HH CAP SCREW, 3/8-16 NC X 1-1/2 G5 ZINC |
| 10 | 2 | 05284 | HH CAP SCREW, 3/8-16 NC X 2-1/2 G8 ZINC |
| 11 | 2 | 05073 | NUT, NYLOCK, 3/8-16 NC |
| 12 | 8 | 05056 | HH CAP SCREW, 3/8-24 NF X 1 G5 ZINC |
| 13 | 8 | 05072 | NUT, NYLOCK, 3/8-24 NF |
| 14 | 1 | 10035 | MOUNTING PLATE, HANDLE BAR |
| 15 | 4 | 10064 | BUSHING, NYLATRON, 1" OD SOLID |
| 16 | 1 | 03501 | BUSHING, IGUS MFI-0810-08 |
| 17 | 4 | 10469 | THRUST WASHER, .500 X 1.000 X .125 NYLATRON |
| 18 | 3 | 05102 | WASHER, 1/2 SAE ZINC HARDENED |
| 19 | 3 | 05098 | NUT, NYLOCK, 1/2-13 NC |
| 20 | 1 | 10068 | PIN, HANDLE BAR |
| 21 | 1 | 03065 | HAIR SPRING COTTER #4 |
| 22 | 1 | 03080 | SPRING |
| 23 | 1 | 10036 | HANDLE BAR BRACKET |
| 24 | 1 | 10558 | IGNITION WIRE, 916 |
| 25 | 6 | 03035 | TIE WRAP, 1/8 X 6 |
| 26 | 1 | 05273 | NUT, NYLOCK, 5/16-18 NC |
| 27 | 1 | 05068 | WASHER, 5/16 SAE ZINC |
| 28 | 1 | 10555 | WEDGE |
| 29 | 1 | 03907 | O-RING, 2-111, 5/8 OD X 3/32 SECTION |
| 30 | 1 | 02526 | HOUSING, 2-111 O-RING & FLANGE SCREW |
| 31 | 1 | 05138 | HH FLANGE SCREW, 5/16-18 NC X 1-1/4 G8 ZINC |
| 32 | 1 | 10056 | ACCESS PLATE |
| 33 | 10 | 05069 | WHIZ LOCK, 1/4-20 UNC X 5/8 |
| 34 | 1 | 10526 | FITTING, 6409-12 PLUG |
| 35 | 1 | 10189 R2 | BREATHER HOSE ASSEMBLY |
| 36 | 1 | 03040-06 | DECAL, "HYDRAULIC OIL ONLY" |
| 37 | 1 | 03040-16 | DECAL, "CE" |
| 38 | 1 | 03040-11 | DECAL, "BARRETO", 2-3/16 X 7-3/8 |
| 39 | 1 | 03040-57 | DECAL, "HYDRAULIC OIL LEVEL" |
| 40 | 1 | 03503 | SIGHT GAUGE |

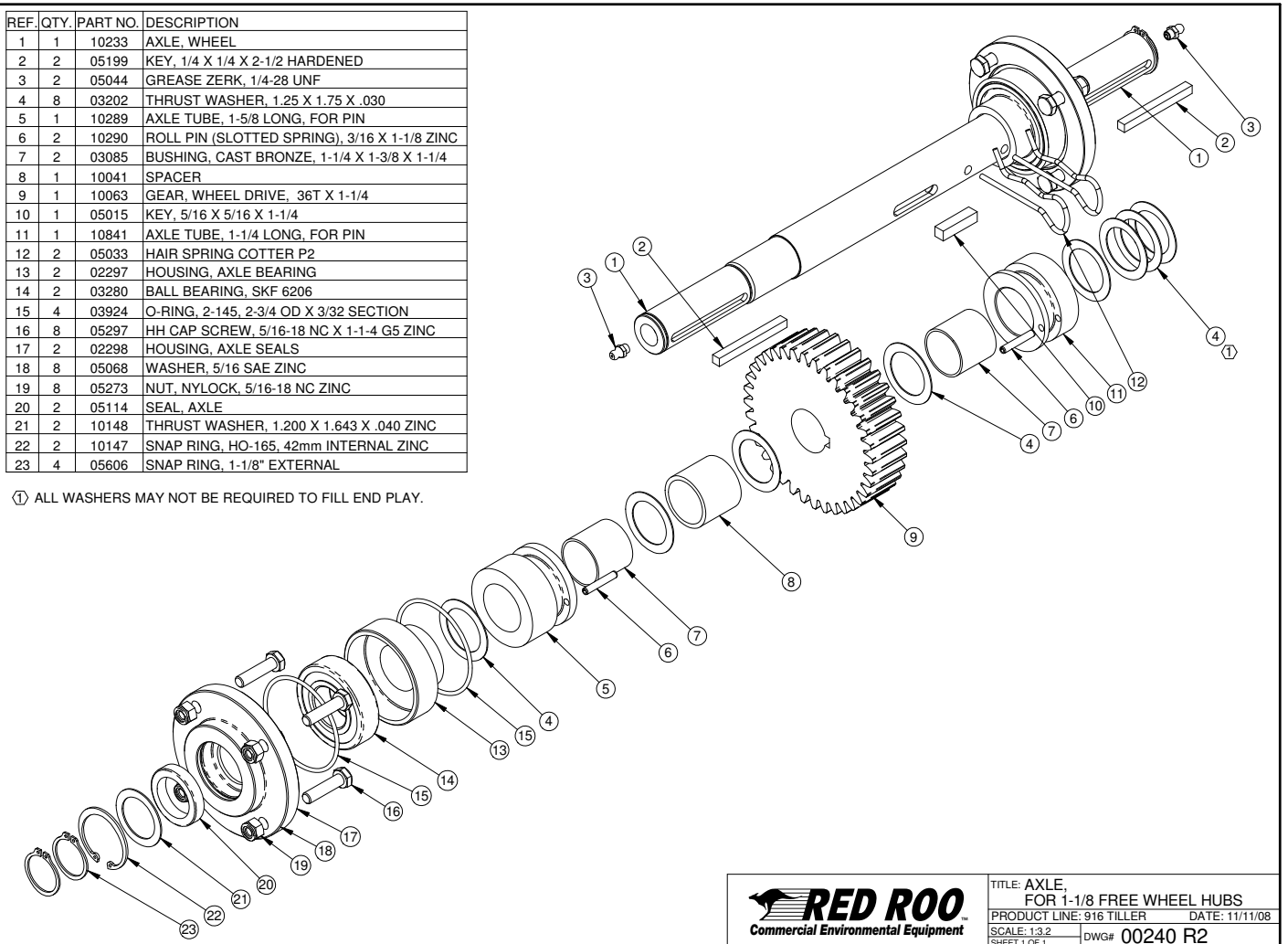
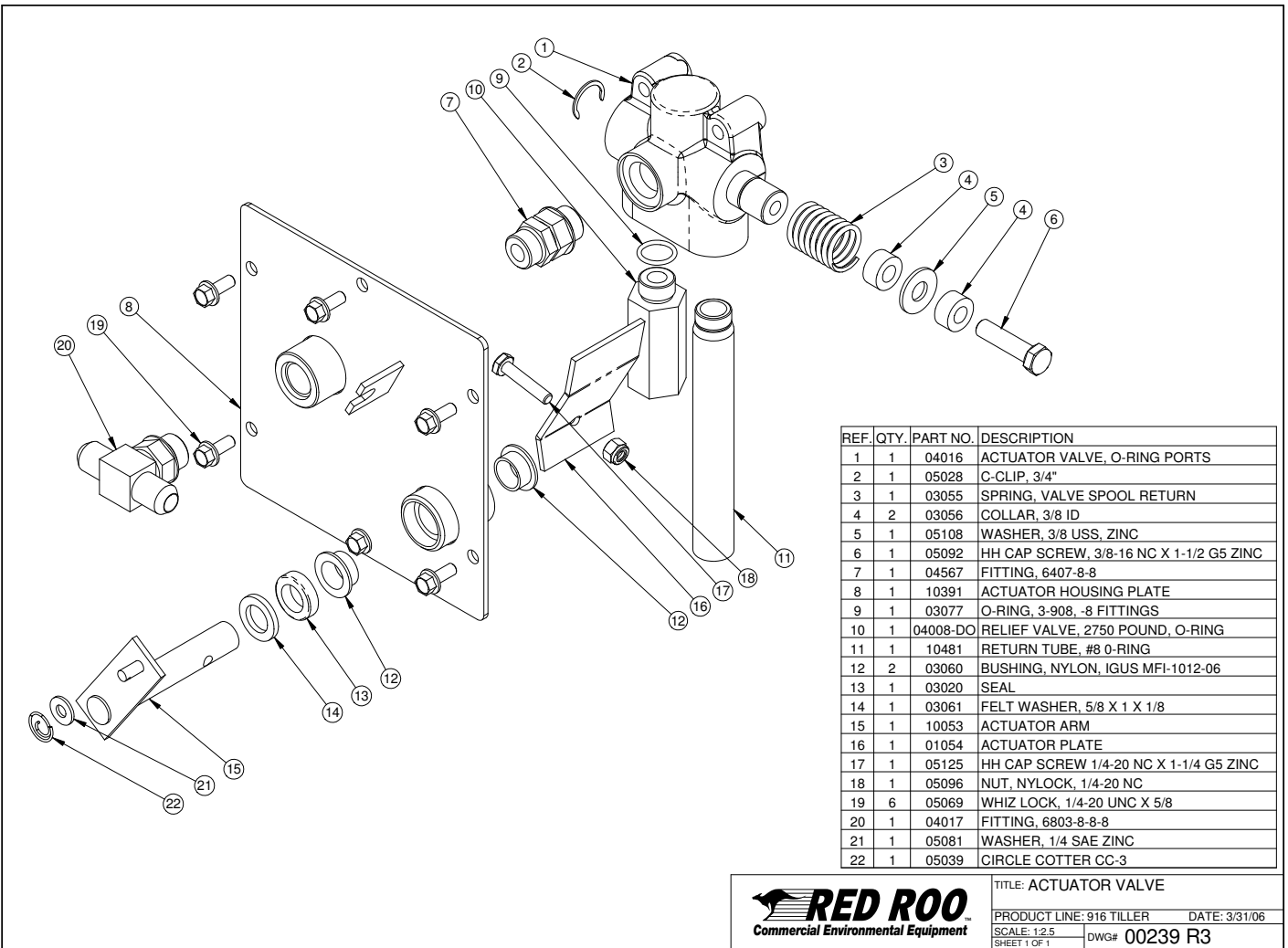


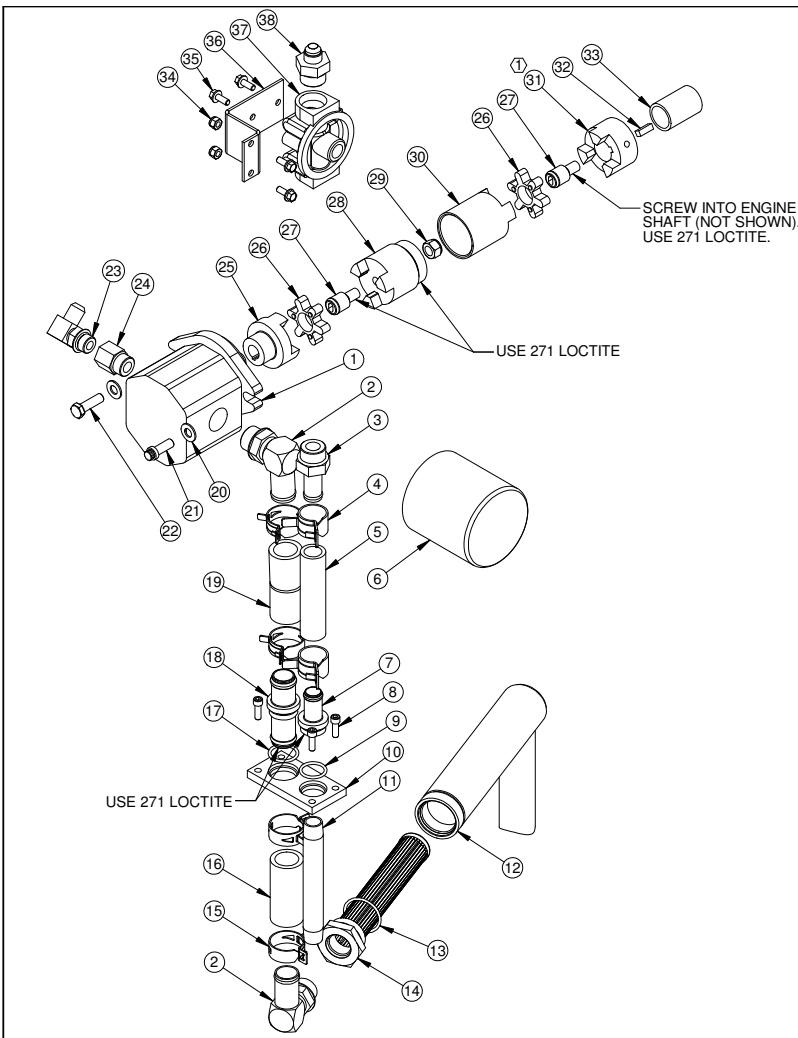
TITLE: BODY, BOLT ON TORQUE TUBE

PRODUCT LINE: 916/18 DATE: 12/4/06

SCALE: 1:7.2 DWG# 00238 R4

SHEET 1 OF 1





| REF. | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|---|
| 1 | 1 | 04004-A | PUMP, HYDRAULIC |
| 2 | 2 | 04530 | FITTING, 4601-16-12 |
| 3 | 1 | 04219 | FITTING, 4604-12-12 |
| 4 | 2 | 05008 | CLAMP, 1" HOSE, CTB-29 |
| 5 | 1 | 10796 | HOSE, RETURN TO TANK |
| 6 | 1 | 03951 | FILTER, HYDRAULIC OIL, WITH BY-PASS |
| 7 | 1 | 10853 | FITTING, 3/4 HOSE BIB, 1/2 NPT |
| 8 | 4 | 05611 | SH CAP SCREW, 1/4-20 NC X 3/4 G5 ZINC |
| 9 | 1 | 03075 | O-RING, 3-912, -12 FITTINGS |
| 10 | 1 | 10851 | MOUNTING PLATE, HOSE BIB FITTINGS |
| 11 | 1 | 01020 | PIPE NIPPLE, 1/2 X 6, SCH 40 |
| 12 | 1 | 10860 | SUCTION TUBE, #20 O-RING |
| 13 | 1 | 03293 | O-RING, 3-920N90, -20 FITTINGS |
| 14 | 1 | 10247 | SUMP SCREEN #20 EXT #12 INT O-RING |
| 15 | 4 | 05225 | CLAMP, 1-1/2" HOSE, CTB-35 ST |
| 16 | 1 | 10184 | HOSE, SUMP SCREEN |
| 17 | 1 | 10855 | O-RING, 3-914, -14 FITTINGS |
| 18 | 1 | 10852 | FITTING, 1" HOSE BIBS |
| 19 | 1 | 10854 | HOSE, PUMP INTAKE |
| 20 | 2 | 05101 | WASHER, 3/8 SAE ZINC |
| 21 | 1 | 05119 | 12 POINT HEAD SCREW, 3/8-16 NC X 1 |
| 22 | 1 | 05091 | HH CAP SCREW, 3/8-16 NC X 1-1/4 G5 ZINC |
| 23 | 1 | 04554 | FITTING, 6801-8-8 |
| 24 | 1 | 04209 | FITTING, 6410-10-8 |
| 25 | 1 | 10747 | JAW COUPLER, PUMP. 5/8 BORE |
| 26 | 2 | 03022 | SPIDER, RUBBER |
| 27 | 2 | 10738 | PILOT |
| 28 | 1 | 10737 | COUPLER SHAFT, PUMP SIDE |
| 29 | 1 | 05077 | NUT, NYLOCK, 7/16-20 NF |
| 30 | 1 | 10739 | COUPLER SHAFT, ENGINE SIDE |
| 31 | 1 | 03023 | JAW COUPLER, 1" BORE ML095 |
| 32 | 1 | 05014 | KEY, 1/4 X 1/4 X 3/4 |
| 33 | 1 | 10180 | SPACER, ENGINE SHAFT |
| 34 | 2 | 05096 | NUT, NYLOCK, 1/4-20 NC |
| 35 | 4 | 05069 | WHIZ LOCK, 1/4-20 UNC X 5/8 |
| 36 | 1 | 10798 | BRACKET, FILTERHEAD |
| 37 | 1 | 04403 | FILTER HEAD, #12 O-RING |
| 38 | 1 | 10808 | FITTING, 6400-8-12 |

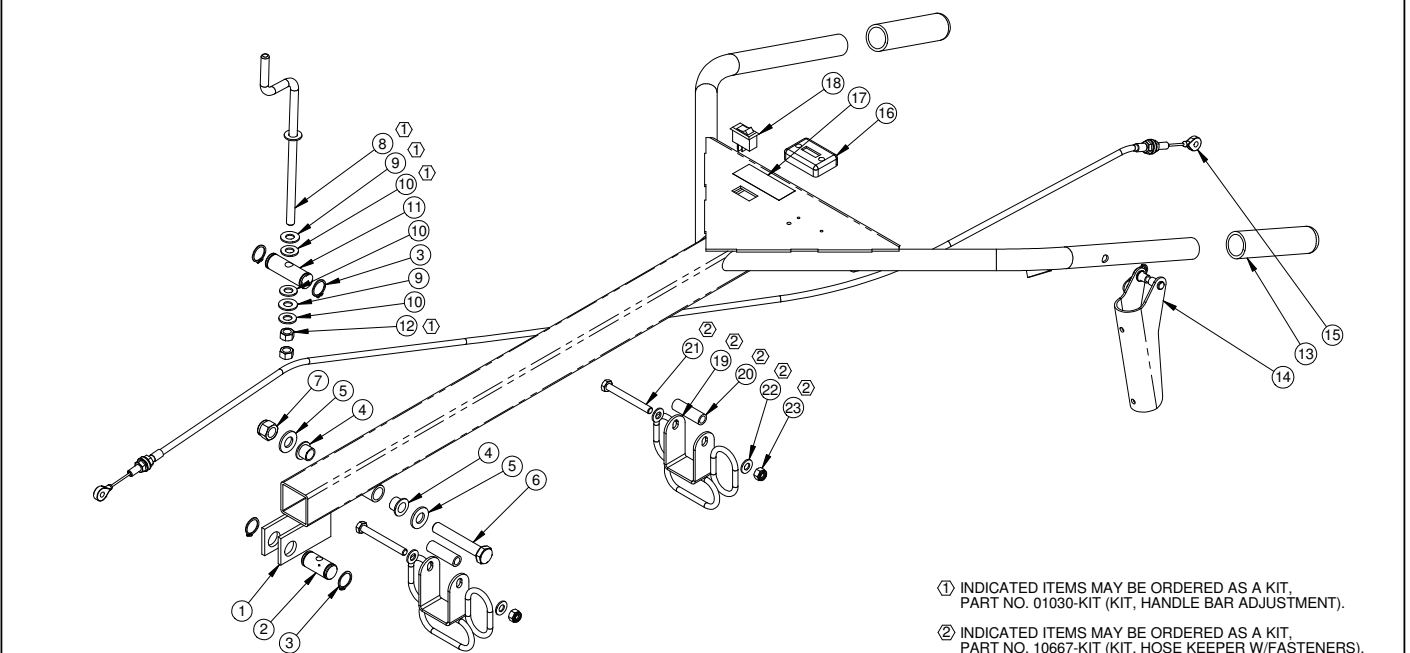
NOTES:

- ① COMES WITH SET SCREW. REPLACEMENT SET SCREW IS 5/16 X 5/16, PART NO. 05127.



| | | |
|--------------|-------------------|---------------|
| TITLE: PUMP | PRODUCT LINE: 916 | DATE: 2/15/06 |
| SCALE: 1:5.8 | DWG# 00241 R3 | |
| SHEET 1 OF 1 | | |

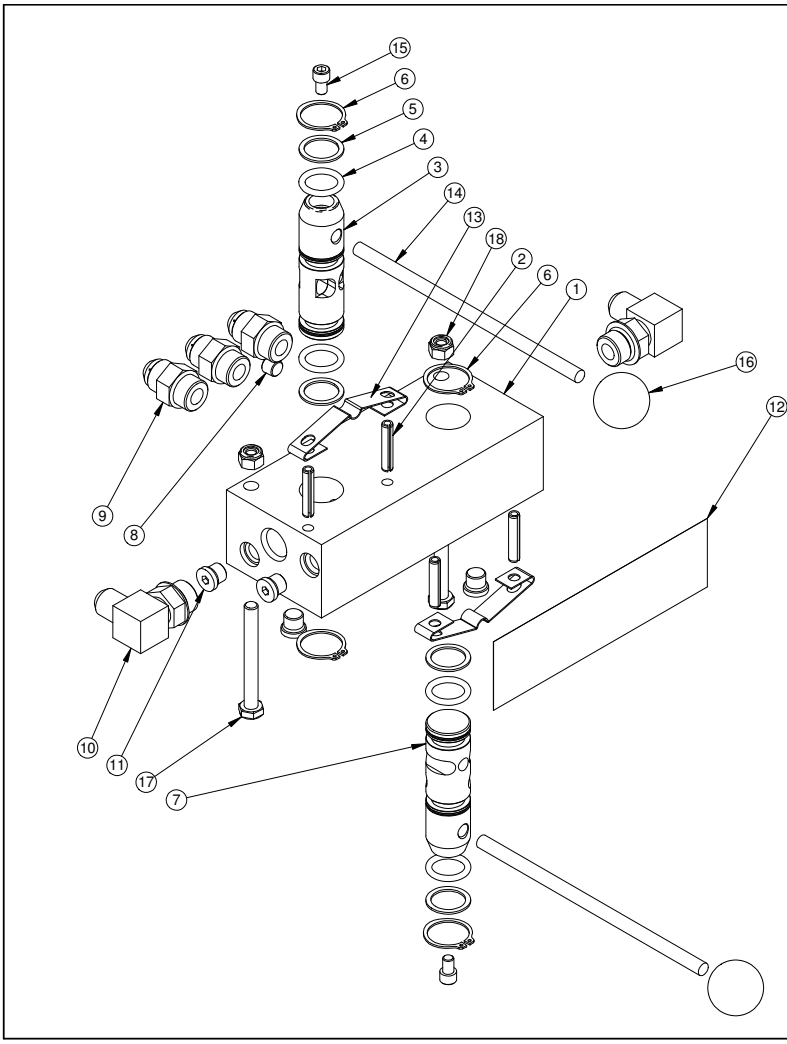
| REF. | QTY. | PART NO. | DESCRIPTION | REF. | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|-------------------------------------|------|------|----------|--|
| 1 | 1 | 01017 | HANDLE BARS | 13 | 2 | 03032-01 | GRIP, 1 X 5 (P/N 03032 IS A PAIR) |
| 2 | 1 | 02027-L | HANDLE BAR ADJUSTER PIN, LOWER | 14 | 1 | 03029 | LEVER ASSEMBLY (COMPLETE) |
| 3 | 4 | 05216 | SNAP RING, 3/4 EXTERNAL | 15 | 1 | 10057 | CABLE, ACTUATOR |
| 4 | 2 | 03501 | BUSHING, IGUS MFI-0810-08 | 16 | 1 | 03009 | HOUR METER - COMPLETE KIT |
| 5 | 2 | 05102 | WASHER, 1/2 SAE ZINC HARDENED | 17 | 1 | 03341-07 | DECAL, "IGNITION OFF/ON" |
| 6 | 1 | 05093 | HH CAP SCREW, 1/2-13 NC X 3 G5 ZINC | 18 | 1 | 06420 | ROCKER SWITCH, IGNITION OFF/ON |
| 7 | 1 | 05098 | NUT, NYLOCK, 1/2-13 NC | 19 | 2 | 10667 | HOSE KEEPER |
| 8 | 1 | 01030 | CRANK, HANDLE BAR ADJUSTMENT | 20 | 2 | 10668 | SPACER, HOSE KEEPER |
| 9 | 2 | 05058 | WASHER, 3/8 NYLON | 21 | 2 | 05065 | HH CAP SCREW, 5/16-18 NC X 2-3/4 G5 ZINC |
| 10 | 3 | 05103 | WASHER, 3/8 A325 HARDENED ZINC | 22 | 4 | 05068 | WASHER, 5/16 SAE ZINC |
| 11 | 1 | 02027-U | PIN, HANDLE BAR ADJUSTMENT, UPPER | 23 | 2 | 05273 | NUT, NYLOCK, 5/16-18 NC |
| 12 | 2 | 05269 | NUT, 3/8-16 NC GRB ZINC | | | | |



- ① INDICATED ITEMS MAY BE ORDERED AS A KIT, PART NO. 01030-KIT (KIT, HANDLE BAR ADJUSTMENT).
- ② INDICATED ITEMS MAY BE ORDERED AS A KIT, PART NO. 10667-KIT (KIT, HOSE KEEPER W/FASTENERS).



| | | |
|----------------------------|-------------------|---------|
| TITLE: HANDLE BARS & CRANK | PRODUCT LINE: 916 | 1/16/07 |
| SCALE: 1:6.2 | DWG# 00250 R1 | |
| SHEET 1 OF 1 | | |

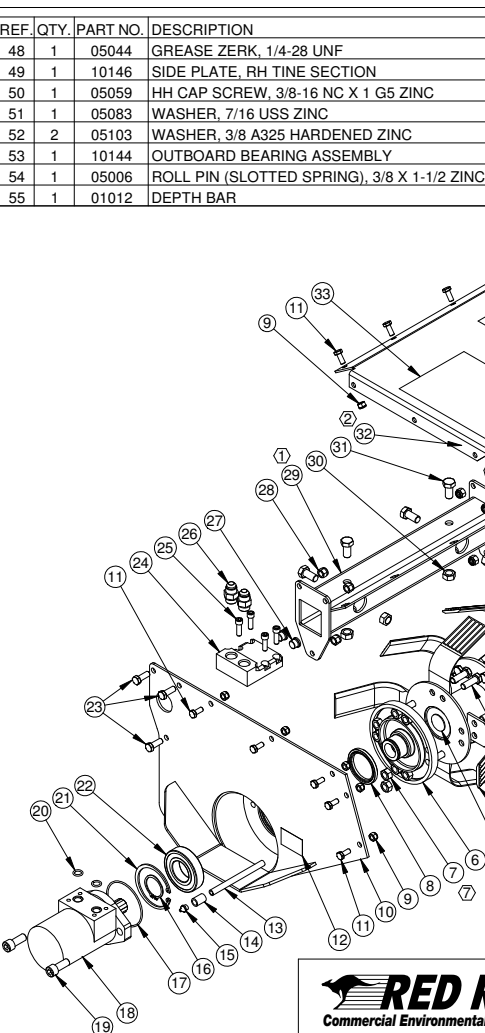


| REF. | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|---|
| 1 | 1 | 04010 | CONTROL VALVE BODY (ORDER 04010-K) |
| 2 | 4 | 05200 | ROLL PIN (SLOTTED SPRING), 1/4 X 1-1/4 ZINC |
| 3 | 1 | 04015-D | VALVE SPOOL, TINES (ORDER 04010-K) |
| 4 | 4 | 03002 | O-RING, 2-210, 1" OD X 1/8 SECTION |
| 5 | 4 | 03025 | BACK-UP RING, 1" TEFLON |
| 6 | 4 | 05010 | SNAP RING, 1" EXTERNAL |
| 7 | 1 | 04015-C | VALVE SPOOL, WHEEL DRIVE (ORDER 04010-K) |
| 8 | 1 | 05023 | PIPE PLUG, 1/8" |
| 9 | 3 | 04520 | FITTING, 6400-8-8 |
| 10 | 2 | 04554 | FITTING, 6801-8-8 |
| 11 | 4 | 03300 | FITTING, 6409-4 PLUG |
| 12 | 1 | 03040 | DECAL, CONTROL VALVE |
| 13 | 2 | 03027 | DETENT SPRING |
| 14 | 2 | 02017 | HANDLE, 5/16 X 7 |
| 15 | 2 | 05573 | SH CAP SCREW, 1/4-20 NC X 3/8 ZINC |
| 16 | 2 | 03026 | KNOB, 5/16-NC |
| 17 | 2 | 05065 | HH CAP SCREW, 5/16-18 NC X 2-3/4 G5 ZINC |
| 18 | 2 | 05273 | NUT, NYLOCK, 5/16-18 NC ZINC |



TITLE: CONTROL VALVE
 PRODUCT LINE: 916 DATE: 4/26/07
 SCALE: 1:3 DWG# 00251 R1
 SHEET 1 OF 1

| REF. | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|---|
| 1 | 1 | 11279 | TINE SHAFT |
| 2 | 16 | 05061 | HH CAP SCREW, 7/16-20 NF X 1 G8 ZINC |
| 3 | 8 | 05063 | HH CAP SCREW, 7/16-20 NF X 1-1/4 G8 ZINC |
| 4 | 12 | 03196 | TINE, REVERSIBLE |
| 5 | 1 | 03928 | SOFT PLUG, 1-1/4 DIA |
| 6 | 1 | 11278 | TINE MOTOR HUB, SPLINED |
| 7 | 24 | 05074 | NUT, 7/16-20 NF G8 ZINC |
| 8 | 1 | 03930 | SEAL, CR 19763 |
| 9 | 14 | 05071 | NUT, NYLOCK, 5/16-24 NF ZINC |
| 10 | 1 | 01067 | TINE MOTOR MOUNT & LH SIDE PLATE |
| 11 | 14 | 05052 | HH CAP SCREW, 5/16-24 NF X 3/4 G5 ZINC |
| 12 | 2 | 03040-04 | DECAL, "GREASE DAILY" |
| 13 | 1 | 05282 | PIPE NIPPLE, 1/8" X 5 LONG |
| 14 | 1 | 05204 | PIPE COUPLER, 1/8" |
| 15 | 1 | 05256 | GREASE ZERK, 1/8 NPT |
| 16 | 1 | 05607 | SNAP RING, SH-156, 1-9/16" EXTERNAL |
| 17 | 1 | 03001 | O-RING, 2-152, 3-7/16 OD X 3/32 SECTION |
| 18 | 1 | 04605 | TINE MOTOR |
| 19 | 2 | 05585 | SH CAP SCREW, 1/2-13 NC X 1-1/4 G5 ZINC |
| 20 | 2 | 03926 | O-RING, 2-112N90, 11/16 OD X 3/32 SECTION |
| 21 | 1 | 05603 | SNAP RING, HQ-315, 3-5/32 INTERNAL |
| 22 | 1 | 03943 | BALL BEARING, SKF 6208 |
| 23 | 6 | 05056 | HH CAP SCREW, 3/8-24 NF X 1 G5 ZINC |
| 24 | 1 | 02065 | MANIFOLD, TINE MOTOR |
| 25 | 4 | 05572 | SH CAP SCREW, 5/16-18 NC X 1 G5 ZINC |
| 26 | 2 | 04520 | FITTING, 6400-8-8 |
| 27 | 2 | 03302 | FITTING, 6409-6 PLUG |
| 28 | 6 | 05072 | NUT, NYLOCK, 3/8-24 NF ZINC |
| 29 | 1 | 10702 | TORQUE TUBE, 17" BOLT ON |
| 30 | 4 | 05046 | NUT, GRIPCO, 1/2-13 NC G5 ZINC |
| 31 | 4 | 05067 | HH CAP SCREW, 1/2-13 NC X 1 G5 ZINC |
| 32 | 1 | 10067 | TINE COVER, 916 |
| 33 | 1 | 03341-22 | DECAL, "TILLER OPERATING INSTRUCTIONS" |
| 34 | 1 | 03341-23 | DECAL, "TILLER SAFETY INSTRUCTIONS" |
| 35 | 2 | 05092 | HH CAP SCREW, 3/8-16 NC X 1-1/2 G5 ZINC |
| 36 | 2 | 05073 | NUT, NYLOCK, 3/8-16 NC ZINC |
| 37 | 1 | 01099 | HANDLE, DEPTH BAR |
| 38 | 1 | 03018 | GRIP, 1/8 X 3/4 X 2-3/4 |
| 39 | 1 | 03080 | SPRING |
| 40 | 1 | 01018 | PIN, DEPTH BAR |
| 41 | 1 | 03065 | HAIR SPRING COTTER #4 |
| 42 | 1 | 03040-02 | DECAL, "BARRETO", 3-1/2 X 11-1/4 |
| 43 | 1 | 03040-01 | DECAL, "MADE IN USA" |
| 44 | 1 | 03040-08 | DECAL, "WARNING" (YELLOW) |
| 45 | 1 | 03040-03 | DECAL, "CAUTION" (BLACK & WHITE) |
| 46 | 1 | 03040-07 | DECAL, "CAUTION" (YELLOW) |
| 47 | 1 | 04340 | DECAL, "916" |

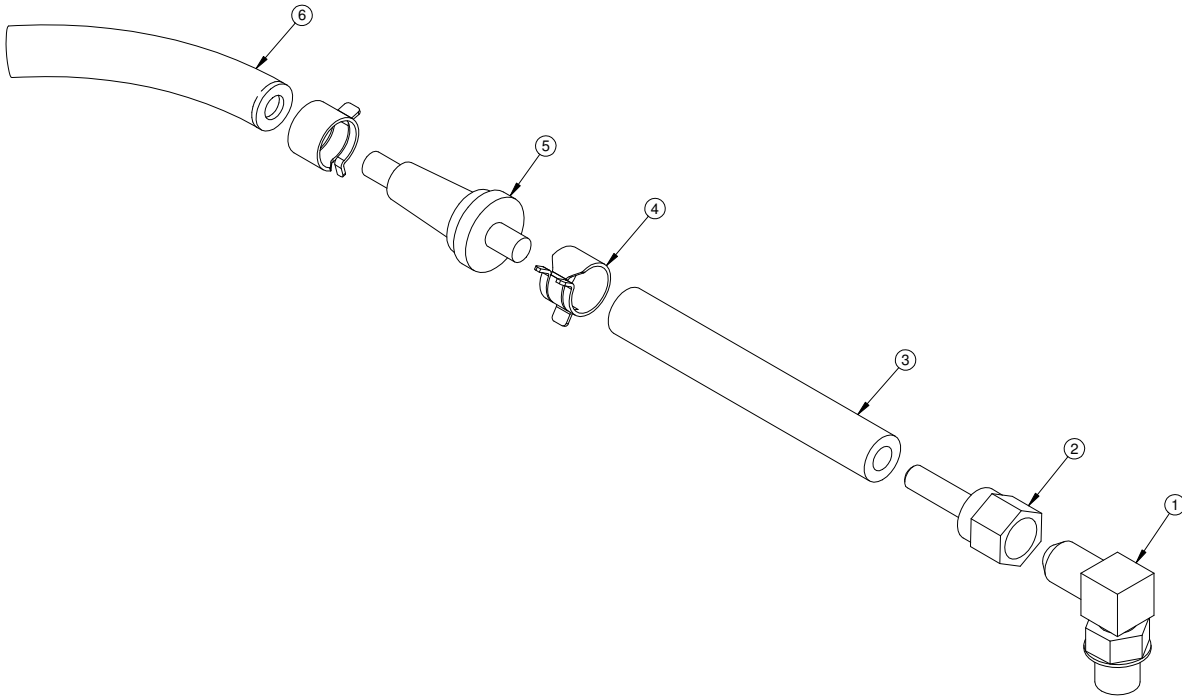



- ① FOR 918, USE PART NO. 10706 (TORQUE TUBE, 19")
- ② FOR 918, USE PART NO. 01066 (TINE COVER, 918)
- ③ FOR 918, USE PART NO. 03040-51 (DECAL, "918")
- ④ FOR 918, USE PART NO. 11281 (TINE SHAFT, 918)
- ⑤ PART NO. 05063-24 IS A SET OF 24 PIECES.
- ⑥ PART NO. 03196-12 IS A SET OF 12 PIECES.
- ⑦ PART NO. 05074-24 IS A SET OF 24 PIECES.
- ⑧ REFERENCE DWG. 10144 FOR INDIVIDUAL PARTS.



TITLE: TINE SECTION,
 16" OR 18" DIGGING WIDTH
 PRODUCT LINE: 916 & 918 TILLER DATE: 4/26/07
 SCALE: 1:3 DWG# 00253 R2
 SHEET 1 OF 1

| REF. | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|---|
| 1 | 1 | 04555 | FITTING, 6801-4-4 |
| 2 | 1 | 04214 | FITTING, JS-4-4, HOSE BARB 1/4 X 1/4 SWIVEL |
| 3 | 1 | 11348 | HOSE, 1/4 INCH GASOLINE, 4L5, 3-1/2" LONG |
| 4 | 2 | 03062-06 | CLAMP, 1/4" FUEL LINE |
| 5 | 1 | 04516 | BREATHER, FILTER SNAPPER 1435 |
| 6 | 1 | 11347 | HOSE, 1/4 INCH GASOLINE, 4L5, 3-1/4" LONG |



| | | |
|--|-------------------------------|---------------|
|  | TITLE: BREATHER HOSE ASSEMBLY | |
| | PRODUCT LINE: 916 | DATE: 4/26/07 |
| | SCALE: 1:1.3 | DWG# 10189 R2 |

HOSES, 916 TILLER

| QTY. | PART NO. | DESCRIPTION |
|------|----------|---|
| 1 | 10204 | HOSE, PUMP TO ACTUATOR TEE FITTING |
| 1 | 10205 | HOSE, CONTROL VALVE TO ACTUATOR TEE FITTING |
| 1 | 10206 | HOSE, CONTROL VALVE TO OIL FILTER MOUNT |
| 1 | 10207 | HOSE, CONTROL VALVE TO WHEEL DRIVE MOTOR FRONT PORT |
| 1 | 10208 | HOSE, CONTROL VALVE TO WHEEL DRIVE MOTOR REAR PORT |
| 1 | 10209 | HOSE, CONTROL VALVE TO TINE MOTOR FRONT PORT |
| 1 | 10210 | HOSE, CONTROL VALVE TO TINE MOTOR REAR PORT |

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Superseding Warranty
Red Roo Group of Companies
 Warranty Policy
effective January 1, 2013

Replaces all undated previous Warranties and all Warranties dated prior to January 1, 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

| | | |
|---------------|---------------|-----------------|
| | Consumer Use* | Commercial Use* |
| All Equipment | 365 Days | 90 Days |

* 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