

Range Road EcoPro Series Firewood Processor



Owners Manual



EcoPro

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Note: Any modification to Processor will void all warranty

Warning



Read this manual. Serious injury or death can result if safety instructions are not followed.



Engine is shipped without oil.

Before starting engine, fill with SAE 10/30 motor oil.

See engine manual for engine oil capacity.

Hydraulic reservoir is shipped without oil.

When adding hydraulic oil, use the dipstick to gauge amount, Approximately 26 litres (6 gallons) of AW Type Hydraulic Oil only.

Closely inspect all processor components and ensure all exterior bolts are tightened

If components are damaged during delivery, please contact the freight company that delivered the unit and file a claim.



DANGER (red) indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury



WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury



CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage



You must be 16 or older to operate this machine.



Keep untrained people out of work zone.



Never leave the firewood processor unattended, while the engine is running.



The wedges can cut through skin and break bones. Keep both hands away from wedges and ram cylinder. Serious accidents can happen when other people are allowed inside the work zone. Keep everyone else out of the work zone while operating Processor.



Never wear loose clothing, when operating the firewood processor.



Only operate the firewood processor in daylight.



Wear safety glasses to avoid eye injury as pieces of log may fly out while splitting.



High pressure hydraulic fluid can inject under skin resulting in serious injury including amputation.



Make sure all fittings are tight before applying pressure. Relieve system pressure before servicing.



Do not check for leaks with hand. Instead, use a piece of cardboard to check for leaks.



If skin injection happens, seek immediate "Medical Assistance".



Serious injury or death can occur if towing safety rules are not followed.



Review towing safety warnings in your towing vehicle manual.



Drive safely. Be aware of the added length of the firewood processor.



Never ride or transport cargo on the firewood processor.



Drive the vehicle with the firewood processor securely attached.



Choose a level surface to operate the firewood processor.
Block the firewood processor wheels to prevent unintended movement.

EcoPro



Never tow or operate this processor while under the influence of alcohol, drugs, or medication.



Risk of fire and explosion.

Hot exhaust fumes from engine can cause fire. Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.



Position muffler at least 213 cm (7 feet) from combustible objects.



Before adding fuel, stop the engine and keep heat, sparks, and flame away. Do not add fuel when engine is running or still hot. Do not smoke near the engine while fueling.



Pay attention to the conveyor height, if the conveyor is too high or split wood lengths too long the wood will jam into the conveyor belt instead and possibly tear it, conveyor can be at a higher angle with shorter lengths of wood.



Do not pump fuel directly into engine at gas station. Static charge can build and ignite fuel. Use a safety approved fuel container to transfer gas to the engine. Wipe up fuel spills immediately.



Only store and handle fuel outdoors. Gasoline vapors can ignite if they collect inside an enclosure. Explosion may result.



Do not change or add to exhaust system. Fire may result.



Do not change or add fuel tanks or fuel lines. Fire may result.



Before each use, check fuel tank and fuel lines for leaks. Any fuel leak is a fire hazard. Fix any fuel leaks before starting engine.



During transportation take precautions to make sure machine will not tip over and cause a fuel leak fire hazard.



Poisonous fumes from engine can kill you. Do not operate indoors even if ventilated. For outdoor use only.



Do not touch the muffler as you may get burned.

Note: Any modification to Processor will void all warranty

Component Identification



1. **2" Coupler:** Attaches the firewood processor to your ATV or vehicle. Fits only 2" hitch balls.
2. **Safety Chains:** for attaching to tow vehicle along with 2" coupler.
3. **Front Wheel:** Used for moving on even stable ground & raising or lowering coupler height.
4. **Leg:** The leg helps support the firewood processor while operating. The leg should be pulled out of the sleeve and reinserted from top down while towing (see Operation Instructions)
5. **Engine:** The air cooled engine powers the hydraulic pump.
6. **Hydraulic Cylinder:** The hydraulic cylinder has a 61cm (24") stroke. It is rated to 3500 PSI
7. **Gear Pump:** The gear pump makes the hydraulic oil flow through the system. The EcoPro has a 2 section pump with one live section dedicated to the saw/ram and one dedicated to the conveyor/accessories.
8. **Hydraulic Filler Cap:** Unscrew the cap to add hydraulic oil to the tank, oil should be midway up the sightglass
9. **Tires:** Maximum rated speed is: 12" Wheels - 80Kph (50 Mph).
10. **Log Deck:** The log deck is angled to help keep the log against the deck wall without operator assistance.

11. **Log Roller Bar/Infeed:** Shown is the RR2504 hydraulic infeed (optional) When the log roller or infeed is unfolded it allows longer logs to be loaded onto the Log Deck manually or hydraulically.
12. **Saw Bar Handle:** Use the saw bar handle to draw the chain saw bar down, run the chain, and to move the splitter ram forward.
13. **Bar Oil Tank:** Fill this with bar oil to lubricate the cutting chain.
14. **Safety Sticker**
15. **Manual Engagement Lever:** Pushing this down manually engages the splitting ram.
16. **Battery**
17. **Fender**
18. **Wedge Height Adjuster:** The lever raises and lowers the splitting wedge for splitting different diameter logs.
19. **Log Hold Down:** Push the lever forward to put pressure on the log and hold it in place.
20. **Splitter/Chainsaw Safety Cover:** This cover has to be in the down position for hydraulics to operate, when lifted up the chainsaw and splitter will stop and not operate until it is lowered again.
21. **Conveyor Winch:** Use the winch to adjust the angle of the conveyor.
22. **Conveyor Belt:** The belt moves the wood up the conveyor, it should be tensioned so that if a piece of wood jams, the belt will stop moving.
23. **Conveyor Leg:** When conveyor is unfolded the safety chain must be attached to this leg to keep the conveyor at the desired height.
24. **Output Conveyor:** Shown folded up in travel mode, when unfolded the conveyor can be adjusted to the output height needed.
25. **Hydraulic Control:** When accessories are added like the RR2504 Hydraulic infeed, a Hydraulic control valve is mounted in this location.
26. **Toolbox, Emergency Stop switch, Hour Meter**

Operation

Proper Operation of the Firewood Processor

1. Preset the cut off length using the measuring bar, loosen the 2 bolts and slide the bar to the correct position, re-tighten the bolts.
2. Load a log onto the log cradle and slide into processor until the end of the log touches the measuring bar.
3. Open the ball valve to start the flow of bar oil.
4. Pull the Saw Bar Handle down to engage the chain.
5. Gently pull the Saw Bar handle downwards with the chain running and cut through the wood.
6. When pulling the saw bar down and the saw is getting close to cutting through the log you will notice tension on the bar as the cable to engage the ram starts to be activated, keep drawing the saw blade down until cut is complete.
7. The cut piece will drop into the splitter area, raise Saw Bar Handle and ram will engage.
8. Once the log has been pushed through the splitter, the ram will automatically retract.
9. Repeat steps above, when a stub piece needs to be cut, make sure to cut the short piece off so that the longer piece is on the log deck, this keeps hands away from moving chain.
10. Serious accidents may happen when other people are allowed inside the work zone.
11. It is recommended to have a minimum 7 metre (20 ft) radius safe work zone.
12. Keep all non-essential people out of the work zone while operating processor.
13. Make sure hands are clear of crush hazard zones.
14. Clear the split wood from the work zone.

Maintenance

Before performing maintenance, the firewood processor must be placed in maintenance mode.

- 1.) Turn off engine.
- 2.) Move the saw bar handle down and up multiple times to relieve hydraulic pressure.

After performing maintenance, make sure all guards, shields, and safety features are put back in place.

Failure to follow this warning can result in serious injury.

Refer to the engine owner's manual for engine maintenance.

Failure to do regular maintenance will void warranty

Only Use AW Series Hydraulic Oil, Use of any other Oil will Void All Warranties

Check The Following Each time the Processor is Used

What	How
Hoses	Inspect for exposed wire mesh and leaks. Replace all worn or damaged hoses before starting engine
Hydraulic Fittings	Inspect for cracks and leaks. Reseal or replace all damaged fittings before starting engine
Nuts and Bolts	Visually Check for loose bolts
Moving Parts	Clear debris
Ram Valley	Clean Sawdust from slider area after every use to prevent possible jamming
Grease	Lightly lubricate Ram slider & log length adjuster every use
Chain	Check saw chain for sharpness and correct tension
Bar Oil	Ensure Bar Oil tank is full
Conveyor	If Conveyor Belt is not centered on pulleys use adjusting bolts to correct position of belt

10 Hour Maintenance - Every 10 Hours of Operation

Nuts and Bolts	Snug and Tighten all Bolts, Including Motor Mounts
Grease	Grease 3 Conveyor Bearings
Grease	Grease wheel hubs
Grease	Log Rollers
Engine Oil	Check level and cleanliness Use 10/30 Oil or as recommended in Engine Manual
Hydraulic Oil	Check level and cleanliness Use AW Series Hydraulic Oil Only
Air Filter	Check & Clean Engine Air Filter if Necessary

Adjustments

Fig.1



Fig.2



The Saw Chain engagement arm is used to control when the chain starts to spin. This is an on/off valve, when the engagement arm is in the up position the bolt head from the lever touches the bolt on the valve, (Fig. 1)disengaging the chain. Fig. 2 shows when the engagement arm is pulled forward, allowing the valve to automatically move to the on position, starting the saw motor.

Fig.3

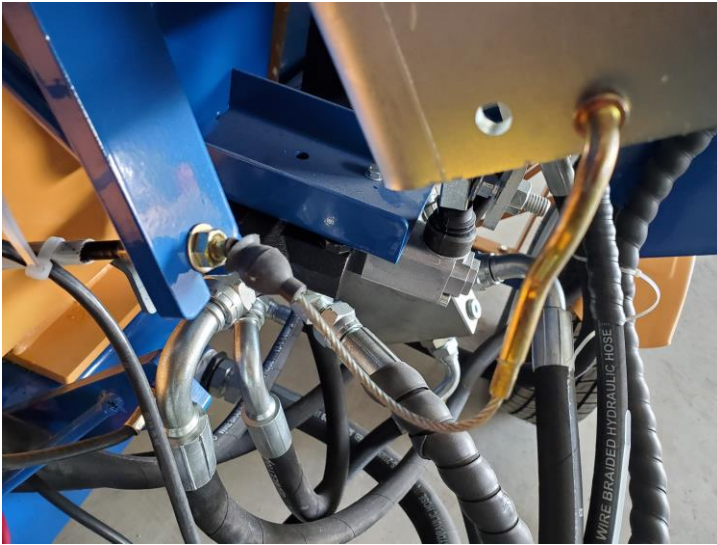


Fig.4



The ram engagement cable is used to engage the ram at the end of the sawing process, The cable should be adjusted so that when the sawbar is at its lowest position the ram engagement valve arm is pulled to the left. If the cable is too tight it will stretch & possibly fray or break, if it is too loose then the arm will not move enough to engage the ram.

Fig. 5

If the emergency stop switch is depressed, turn the red button slowly until it pops up into the run position.

Fig. 6

This silver bent bar is used to stop the ram at the end of its stroke, if the ram doesn't return to the home position and stays extended, loosen the 2-13mm nuts and slide the bar to the left so it hits the manual ram engagement handle sooner.

Fig. 7

When returning to the home position, if the ram hits hard, stalls the engine or lugs the engine, loosen these 2 -13mm nuts at the front of the ram cover and slide the bracket to the right, when adjusting this the ram face should stick out 1-2mm from the blue processor body, if the face sits inside the processor body metal then adjust the bracket more to the right until it sits even or slightly protrudes from the body.

Fig. 8

The hydraulic bypass valve at the back of the Splitter/Chainsaw Safety Cover puts the hydraulic circuit for the chainsaw and ram into bypass when the cage is open and they can not operate. When the cage is closed this valve must be fully depressed or partial bypass will happen and you will have less saw speed and ram power.

Fig. 9



Fig. 10



This valve at the rear, engine side of the processor controls oil flow to the conveyor or secondary hydraulic circuit.

Fig. 10 Shows the valve in the open position, allowing flow to the conveyor or accessories.

Fig. 11 Shows the valve in the closed position, returning the flow directly to tank.

Specifications

Model	EcoPro100 Firewood Processor
Engine	Ducar 16HP
Maximum Splitting Force	20 Tons
Bar	18" Oregon
Chain	18" .325" .058"/1.5mm 72 drive teeth
Hydraulic Oil Capacity	26 litres (6 gallons) AW32
Maximum Log Length (cut)	60 cm (24")
Maximum Log Diameter	38.75 cm (15.5")
Pump Capacity	36L/Min 2 Section Pump 3250 Psi
Saw Motor	28.8L/Min 6000 RPM
Conveyor	Optional (320 cm (128"))
Conveyor Pump	18L/min 3000 Psi
Trailer Coupler	2"
Hydraulic Cylinder Stroke	61 cm (24")
Cycle Time	8 seconds
Maximum Towing Speed	70 km/h (45 mph)

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

Note: Any modification to Processor will void all warranty

Failure to do regular maintenance will void warranty

Only Use AW Series Hydraulic Oil, Use of any other Oil will Void All Warranties

Specifications

Model	EcoPro300 Firewood Processor
Engine	Kohler 14HP
Maximum Splitting Force	20 Tons
Bar	18" Stihl 30050084717 20" Oregon
Chain	18" .325" .063"/1.6mm 72 drive teeth 20" .325" .058" 76 drive teeth
Hydraulic Oil Capacity	26 litres (6 gallons) AW32
Maximum Log Length (cut)	60 cm (24")
Maximum Log Diameter	38.75 cm (15.5")
Pump Capacity	36L/Min 2 Section Pump 3250 Psi
Saw Motor	28.8L/Min 6000 RPM
Conveyor	320 cm (128")
Conveyor Pump	18L/min 3000 Psi
Trailer Coupler	2"
Hydraulic Cylinder Stroke	61 cm (24")
Cycle Time	7 seconds
Maximum Towing Speed	70 km/h (45 mph)

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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Spare Parts

RR2121	18" Oregon Chain
RR2122	18" Oregon Bar
RR2243	20" Oregon Chain
RR2244	20" Oregon Bar
RR2240	18" Stihl Chain
RR2239	18" Stihl Bar
RR2166	6 Way Splitter
RR2237	Ram Engagement Cable
RR2206	Saw Motor
RR2144	Chain Drive Sprocket
RR2126	Conveyor Motor
RR2238	250mm Conveyor Belt
RR2133	Battery
RR2215	Saw Motor Oil Seal
RR2133	Battery
RR2249	1" Machined Coupler
RR2250	18mm Machined Coupler
RR2251	Coupler Insert
RR2156	Chainsaw return Spring
RR2236	Chainsaw return cylinder



EcoPro

Range Road Equipment

This equipment comes with a 12 month warranty against Manufacturer's defects and excludes wear parts. If any product or part is proved to be defective within 12 months from date of purchase, by reason of improper workmanship and/or material we will replace, or repair at Range Road Enterprises Ltd. discretion, that part or product at no charge to you, excluding any freight costs.

Items not covered:

Wear parts -including Saw Bar, Saw Chain, Drive Sprocket, Lovejoy Coupling & Rubbers, Ram Cable, Tires, Bearings, Etc.

(Conveyor Belt - does not include rips or tears)

The engine is warranted separately by the engine manufacturer (Honda, Lifan, Kohler, Princess Auto, Ducar, Etc.)

The warranty begins on the date of sale and is warranted by Range Road Enterprises Ltd. to the original purchaser only. This Warranty does not cover items that have been damaged by accident, alteration, abuse or improper lubrication.

If the equipment is used commercially (Over 50 cords of firewood per year for processor) or a rental, warranty for this product is limited to a period of 90 days from the date of purchase.

Warranty cancellation

Unauthorized modification voids the warranty, Including but not limited to, welding, engine modification, pump and hydraulic system modification. The warranty is void if the user violates the assembly and/or operating & maintenance instructions.

Range Road Enterprises Ltd. shall not be liable under any circumstances for any incidental or consequential damages or expenses of any kind, including but not limited to - the cost of equipment rental, loss of profits, or cost of hiring services to perform tasks normally performed by the equipment.

Range Road Enterprises Ltd. obligation under this warranty shall be exclusively limited to repairing or replacing (at Range Road Enterprises Ltd. discretion) products which are determined by Range Road Enterprises Ltd. to be defective upon delivery F.O.B. (return freight paid by customer) Range Road Enterprises Ltd., and on inspection by Range Road Enterprises Ltd.. This warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligence, accidents, unauthorized repairs, alterations, lack of maintenance, acts of nature, or items that would normally be consumed or require replacement due to normal wear. In no event shall Range Road be liable for death, personal or property injury, or damages arising from the use of its products. Range Road Enterprises Ltd. does not issue credits or refunds on products purchased directly from a distributor or dealer.