
















# Range Road EcoPro300 Firewood Processor















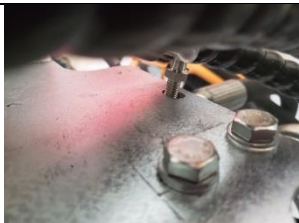


## Crated Unit Assembly Manual

<p><b>Crated Unit</b></p>	
<p>1.) Undo 4 Nuts and bolts , 1 on each leg of top frame</p>	
<p>2.) Lift top of Metal crate off and move it out of the work area.</p>	
<p>3.) Remove Shrink-wrap.</p>	
<p>4.) Remove and Unwrap components</p>	
	
<p>5.) Lift Unit off of the crate, if using straps be careful not to bend or stress any components</p>	

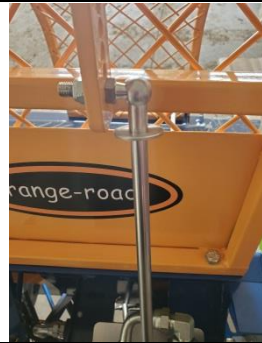
<p>6.) Insert axle into the square tube at the rear of the processor, center the axle in the housing and then tighten the bolts, Make sure the holes in the axles are facing up, when the bolts are tightened then tighten the nuts</p>	
<p>7.) Once the bolts are tight, tighten the nuts to lock the bolts in place</p>	
<p>8.) Mount the fenders on the axle, snug the bolts but do not tighten, holes in the fenders go to the rear</p>	
<p>9.) Gently remove dust seals from the rear of the hubs</p>	
<p>10.) Grease all 4 bearing cones with wheel bearing grease</p>	
<p>11.) Re-install bearings and dust seals</p>	
<p>12.) Remove the nuts from the axle shaft</p>	
<p>13.) Install wheel and hub onto the axle and install the outside bearing cones.</p>	



<p>14.) Re-install axle nut and tighten until wheel is hard to turn, then back the nut off slowly until the wheel turns with minor resistance.</p>		
<p>15.) Line up holes and install cotter pin</p>		
<p>16.) Install hub cap and tap lightly to get it into place</p>		
<p>17.) Torque wheel nuts to 70-80 ft/lbs</p>		
<p>18.) Centre fender over tire and tighten the 13mm nuts and bolts</p>		
<p>19.) Install tripod leg in front mount and lower processor to the ground</p>		
<p>20.) If this unit was supplied with both a spring and a gas cylinder for the saw return it is up to the assembler which method to use          - If you use the spring continue to 20a and skip 20b          - if using the gas cylinder skip 20a and continue at 20b</p>		
<p>20a)- if you decide to use the spring, a 7mm socket on an extension works to lock the spring in its tab, the 7mm socket fits over the end of the spring and allows you to safely apply downward pressure to put the spring in place under the tab</p>		

<p>20b) If you decide to use the gas cylinder, remove the 18mm bolt at the end of the swivel plate shaft beside the spring</p>	
<p>20b) Slide the swivel plate up and remove the spring, slide the plate back into place and re-tighten the bolt</p>	
<p>21.) Mount sawdust chute to side of processor with Allan head bolts and 10mm nuts</p>	
<p>22.) Mount small safety cage with 4 - 13mm nuts and bolts</p>	
<p>23.) Remove 2 - 18mm bolts from swivel plate</p>	
<p>23b) Take the 2 pieces that make up the Chainsaw arm and mount them together using the provided hardware</p>	
<p>24.) Mount Chainsaw arm to swivel plate with 2 bolts and nuts provided The bolts will be installed through the chainsaw arm into the threaded holes on the swivel plate-the nuts are not needed to hold the arm in place, but they are a good idea to use on the bottom side to add strength</p>	

25.) screw the gas cylinder into the swivel head that is already mounted to the small safety cage (if using gas cylinder to return saw bar and not using the spring in step 20)  
- If you are using the spring skip steps 25 & 26



26.) Mount gas cylinder to the saw bar handle and tighten nut



27.) Find the Manual engagement lever for the ram, as shown in the photo



27b) The handle in the previous step slides on this bar



27c) Here is the handle after installation



27d) Take special note to line up the marks on the brackets



28.) Place large safety cage on the end without any bolts, remove all 10mm nuts & bolts, place blue chainsaw cover on the end of safety cage and line up the bolt holes, tighten all 10mm nut & bolts



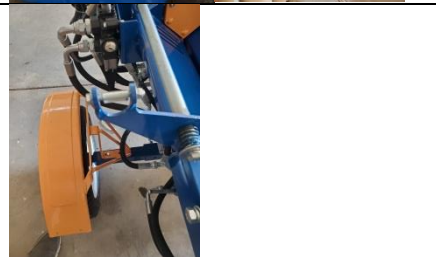
29.) Remove 13mm nuts from bar oil tank and mount tank to the chainsaw safety cover, tighten 13mm nuts.











30.) Remove 10mm nut & bolt from safety cage pivot point and remove cotter pin from round bar on safety cage












31.) Set safety cage in place






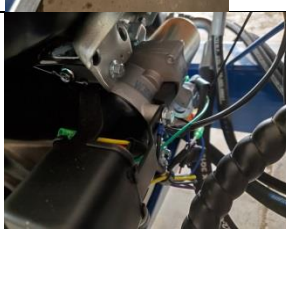
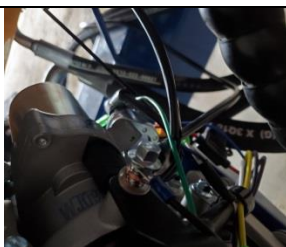












<p>32.) Re-install 10mm bolt &amp; nut to hold cage in place, do not tighten as the safety cage needs to swivel.</p>		
<p>33.) Re-install cotter pin in end of safety cage round bar</p>		
<p>34.) Remove nut from chainsaw tensioner and put plastic tubing in place, re-tighten the nut to hold the plastic tubing and seal, do not over tighten.</p>		
<p>35.) Run the tubing through the safety cage, make sure cage can open and close freely, push the end of the tubing into the tank fitting.</p>		
<p>36.) Put toolbox into place and tighten 22 - 13mm nuts and bolts</p>		
<p>37.) Remove the 16mm bolt &amp; 17mm nut from the end of the hitch drawbar. If the bolt is not present at the end of the draw bar, you can use the bolt near the coupler that is holding on the safety chain</p>		
<p>38.) Place drawbar in receiver tube by the engine, re-install 16mm bolt and 17mm nut, tighten.</p>		
<p>39.) Tighten both 18mm bolts on the receiver tube, tighten the lock nuts.</p>		



<p>40.) Mount the tongue jack and tighten the bolts.</p>	
<p>41.) Remove the cotter pin and slide out the pin &amp; roller.</p>	
<p>42.) Line up the tab holes and re-insert the pin and roller</p>	
<p>43.) re-insert cotter pin and bend the end of the cotter pin so it stays in place.</p>	
<p>44.) Place the end of the log holder spring in the hole of the log holder and tighten bolt.</p>	
<p>45.) Remove 18mm bolts &amp; 19mm nuts from side of processor.</p>	
<p>46.) Assemble wedge adjuster as shown.</p>	
<p>47.) The nut goes on a few threads, once everything is in position you can tighten this to adjust the tension of the wedge adjuster to where you prefer it.</p>	
<p>48.) Remove the bolt &amp; washer from the end of the swivel bar.</p>	

<p>49.) Slide the swivel bar through the mount behind the axle.</p>	
<p>50.) Re-install the bolt &amp; washer and tighten.</p>	
<p>51.) Install wedge adjustment plate and tighten 2 - 18mm bolts &amp; 19mm nuts.</p>	
<p>52.) Pull the adjuster bar into position.</p>	
<p>53.) Tighten the tensioner bolt until the bar has the tension on it that you prefer.</p>	
<p>54.) Mount the battery ground cable to the 10mm ground bolt on the engine.</p>	
	

<p>55.) Mount the red battery cable to the lower position of the solenoid on the engine.</p>	
	
<p>56.) Connect the battery terminals to the other end of the battery cables, + to red cable, - to black cable.</p>	
<p>57.) Connect terminal to battery and tighten.</p>	
<p>58.) Tighten bolts on chain and coupler.</p>	
<p>59.) Find and install the extension plate onto the rear of the processor Take care to ensure the notch in the middle is facing towards the splitting wedge</p>	
<p>60.) Remove the outfeed conveyor from its box and unwrap all components</p>	
<p>61.) Next step is to locate the large bolts for mounting the conveyor to the extension plate These bolts are wrapped up with the conveyor motor(not the bolts installed onto the motor, but the ones loosely wrapped up with the motor)</p>	



62.) Mount the conveyor base section to the rear of the processor using the 2 bolts mentioned in the previous step



63.) Mount the winch support arm to the processor with the 4 bolts provided.



64.) Mount the winch to the plate on the top of the support arm.



65.) Lift the conveyor section up and line up the holes in the leg with the tab holes and push the long pin through.



66.) Loosen the winch cable and mount rollers to the pins and put in safety clips



67.) The hook end of the winch cable goes to the loop on the winch support arm.



68.) Lift the leg and put lower pin through the leg and tabs to hold it in place.



69.) Lower the conveyor and place the second section of the conveyor upside down on the first section.



70.) Install bolts and washers at swivel point, remember when tightening the nuts that the conveyor section must be able to swivel, so do not tighten too much.



71.) Swing upper section of conveyor out and install the roller head



72.) Now the conveyor motor will be installed onto the lower drive wheel  
First step is to loosen the outer allen head bolt on the coupler shown in the photo  
This will allow the motor shaft to be inserted easily into the coupler



74.) Install the motor and tighten the bolts  
Install the motor so the ports are on top  
Once the motor is tightened in place, tighten the allen head bolt on the coupler that we had loosened in step 72



75.) Locate the conveyor hoses that are tied to the rear of the processor  
Untie the hoses and run them down to the motor



75b) Photo of the hoses ran to their appropriate locations  
The hose that comes from the shut-off valve(feed hose) will go to the outside port on the motor  
The longer hose is the return hose and will go to the inside port on the conveyor motor  
If these hoses are reversed, the motor will run backwards





76.) Install conveyor belt.



77.) Connect the belt together and put the pin through the lacing.



78.) Locate the lower belt guides  
These will be installed near the bottom roller on either side



78b) The two bolts for mounting the left guide can be seen in this photo  
Remove these bolts and install guide



Here is a photo of the left guide after installation  
Adjust the guides so that they will keep the belt in line with the lower roller  
repeat this process for the other side

Further adjustments can be made as necessary

Never adjust the guides while the machine is running



A photo showing the right side guide installed onto the conveyor



79.) when the conveyor is extended for use the safety clasp should be engaged



80.) The belt retaining bar shown in this photo that is running along the side of the conveyor is used for retaining the belt when the conveyor is in travel position

The bar is in its rest position in the photo and is out of the way of the belt and the machine can be operated as normal



80b) The belt retaining bar is in the travel position in this photo  
When the conveyor is folded up, this bar keeps the belt from falling in on its self



Photo showing the belt being held by the bar as the conveyor is folded



81.) The conveyor in the folded up and pinned in the travel position, with the belt retaining bar holding the belt in place



**Adjustments to make before starting engine**

82.) To adjust the chain tension, loosen these 2 - 13mm bolts.



83.) The chain can now be adjusted to ensure the tension is set correctly. Proper chain tension is achieved when the chain can be pulled away from the bar by hand  $\frac{1}{4}$ "...  $\frac{1}{2}$ ". To tighten or loosen the chain, the two bolts can be loosened using a 12mm wrench. Next, the allen key bolt can be turned clockwise to tighten or counter-clockwise to loosen the chain. The two 12mm bolts can be tightened again to hold the bar securely.





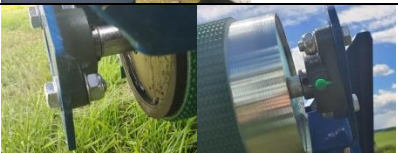





84.) To adjust the chainsaw actuator tab so it will activate valve when moved, make sure that the bolt head and valve rocker line up and the bolt is adjusted to allow chainsaw to engage at the position you want it to.



85.) The safety cage by-pass valve must be adjusted so that when the cage is closed the plunger is all the way down with no polished surface showing.





<p>86.) Advisable but not required - Undo 17mm nuts on engine mount bolts and apply Loctite, re-tighten</p>	
<p>87.) Turn adjusting bolts until conveyor is snug, if belt is too loose drive pulley will spin without turning belt, if it is too tight a jammed piece of wood could tear belt</p>	
<p>88.) Grease conveyor bearings, 2 at top of conveyor, 1 at bottom</p>	
<p>89.) Check engine oil, top up or fill as necessary</p>	
<p>90.) Add bar oil</p>	
<p>91.) Make sure all return hoses are run the cleanest way, so they won't rub or pull tight, you may have to swap Tee's or hose positions</p>	
<p>92.) Add 26L AW32 hydraulic oil, in cold climates AW22 can be used and in hot conditions AW46 can be used</p>	
<p>93.) Check ALL bolts, hoses and fittings, including engine mount bolts to make sure nothing is loose</p>	

<p>94.) Add fuel to engine fuel tank, do not fill above red level marker in tank neck, the tank vents through the cap, if fuel is above this line, engine will not run very well and will stall. Premium fuel is recommended, Farm Fuel should not be used.</p>	
<p>95.) The emergency stop button is pushed down to stop the engine so make sure it is in the run position, turn it slightly and the button will pop up if it is in the off position.</p>	
<p>96.) Make sure that manual ram engagement bar is in up position, Start engine and let idle until engine and hydraulic oil are at operating temperature</p>	
<p>97.) This valve is used to control the flow to the conveyor, you can control the speed or shut it right off, for cold starts this valve should be closed until the hydraulic oil is warm and then opened to allow the conveyor to run.</p>	
<p>98.) While engine is warming up, adjust conveyor belt to run in center of upper and lower pulleys, upper puller has bolts on either side for adjustment, lower puller has this bolt and the guides we installed earlier</p>	
<p>When adjusted properly belt rides in center of lower pulley</p>	
<p>99.) When unit is up to operating temperature operate saw and ram multiple times to make sure they are adjusted and working properly</p>	
<p>100.) Shut unit off</p>	
<p>101.) Check ALL nuts, bolts, hose and fittings one more time, check for leaks</p>	

## Ram Hood Adjustment

The 2 brackets on the ram hood must be checked for adjustment to make sure the ram does not extend to far and that when it returns it does not have a hard hitting stop.

1<sup>st</sup>) The rear bracket hits the manual ram bar as the rams goes out, it needs to be adjusted so that it hits the return bar before the ram is fully extended. This is set from the factory but should always be checked.



2<sup>nd</sup>) The front bracket hits the post on the manual return arm as the ram returns home, this must hit the post before the ram hits its internal stops, softening the stop.  
This should be adjusted so that the ram hood does not stick out into the splitting valley when it is in the home position, it should not be sunk into the housing, it should sit almost flush with the front wall.  
Again - this is set at the factory - do not adjust unless there is a problem.



Optional: If the customer is only cutting and splitting shorter lengths, the bar can be reversed to shorten the stroke and reduce the cycle time  
You can see the "L" bracket is reversed in this photo

