TIMBERWOLF
Manufacturing Corporation

Firewood Processor Operation Manual

Model PRO-MX Offset
Model PRO-HD Offset

Fill out and submit Registration Form to ensure warranty coverage and receive product updates.

Every effort has been made to ensure the accuracy of this document.

TIMBERWOLF Manufacturing Corporation
118 Spruce Street
Rutland, Vermont 05701

Phone: 802-775-4227
FAX: 802-773-1275
E-mail: info@timberwolfcorp.com
Web page: www.timberwolfcorp.com

Printed in the USA

Rev 08/02 Manual Produced by Osborne Gibbs (ozgibbs@aol.com)
Cover & Line Art by Anything Graphic (bearsaway@aol.com)

About the Manual

Thank you for buying a Timberwolf Manufacturing Corporation firewood processor. The processor is made with high quality components and will provide years of service under normal working conditions.

Please study this manual before you operate the machine. The manual is divided into the following sections:

- **Overview** – descriptions of the firewood processor and how it operates.
- **Safety Instructions** – information on safe operating practices. It is very important to be familiar with this information before operating the firewood processor.
- **Setup and Takedown** – instructions for setting the processor up for work and taking it down for travel.
- **Operation** – instructions for processing firewood: startup, advancing logs with live deck and feed trough, cut off, splitting; separate instructions for Top Roll and guillotine clamping systems.
- **Maintenance** – information on periodic and preventive care, lubrication, adjustments for valves and other components.

If you have any questions regarding assembly, use, safety, or maintenance, please call Timberwolf Manufacturing Corp. at 1-800-340-4386.

Safety Note

Please take time to read this manual and learn to how operate and maintain the firewood processor safely. The processor is a powerful piece of equipment that can generate more than 50,000 pounds of force. Incorrect use of the processor can cause serious injury or death.

Read Entire Manual Before Operating the Firewood Processor

Attention Rental Companies

It is extremely important that any person who operates this equipment has access to and has read the operator's manual. Timberwolf Manufacturing Corporation strongly urges you to keep the manual with the processor at all times, and to instruct all persons who will operate this machine to read the manual.

Caution!

Residual Hydraulic Energy

Residual energy must be released from the pressurized hydraulic fluid before any maintenance or repair work is done on the firewood processor. Hydraulic fluid can remain highly pressurized even while the processor's motor is off. Escaping pressurized hydraulic fluid can penetrate skin and cause serious injury.

To release residual hydraulic energy:

1. **Shut off processor motor (tractor motor if processor is run by PTO).**
2. **Move control valves back and forth, from one limit of travel to the other, at least four times.**
3. **Hold valve for three seconds at each limit of travel.**

Record your firewood processor's ID numbers here:

Model # _____

Serial # _____

Motor # _____

Table of Contents

Table of Contents (Continued)

Protect the investment you've made in a Timberwolf Manufacturing firewood processor.

Fill out the Registration Form and send it to us by mail or Fax to ensure your warranty coverage and enable you to receive product updates.

All warning stickers and hazard triangles should be secured and clearly visible at all times. Please check decals daily.

Replacement safety and warning stickers are available free of charge from Timberwolf Manufacturing. Warning stickers include:

One Man Operation

Caution

Warning

Timberwolf PRO-MX & PRO-HD Firewood Processors

Overview

This manual covers Timberwolf Manufacturing Corporation's PRO-MX Offset and PRO-HD Offset firewood processors.

These are extremely portable, turnkey systems available with a variety of self-powered features and options. Working from the safety and comfort of the operator's station, you can saw and split as much as two and a half cords an hour with a PRO-MX processor, or more than three cords an hour with a PRO-HD processor.

These processors handle logs up to 22 inches in diameter. Two feed trough lengths are available:

- 16-foot trough to handle logs as long as 22 feet,
- 20-foot trough to handle logs up to 26 feet long.

All processor functions, including the chain saw, are hydraulically driven. Self-powered PRO-MX and PRO-HD processors use a diesel engine to drive the hydraulic pump. PRO-MX processors are available with either a 47 horsepower Perkins or a 45 horsepower John Deere engine. PRO-HD processors feature an 80 horsepower John Deere engine.

PRO-MX processors are also available in PTO-driven models. Those processors require a tractor with at least 45 horsepower to drive the hydraulic pump.

PRO-MX processors feature a two-section hydraulic pump as standard equipment. The pump is equivalent to a pair of 22 gallon per minute (GPM) pumps, and each section powers a separate hydraulic subsystem. One subsystem advances and cuts the logs, the other powers the splitter.

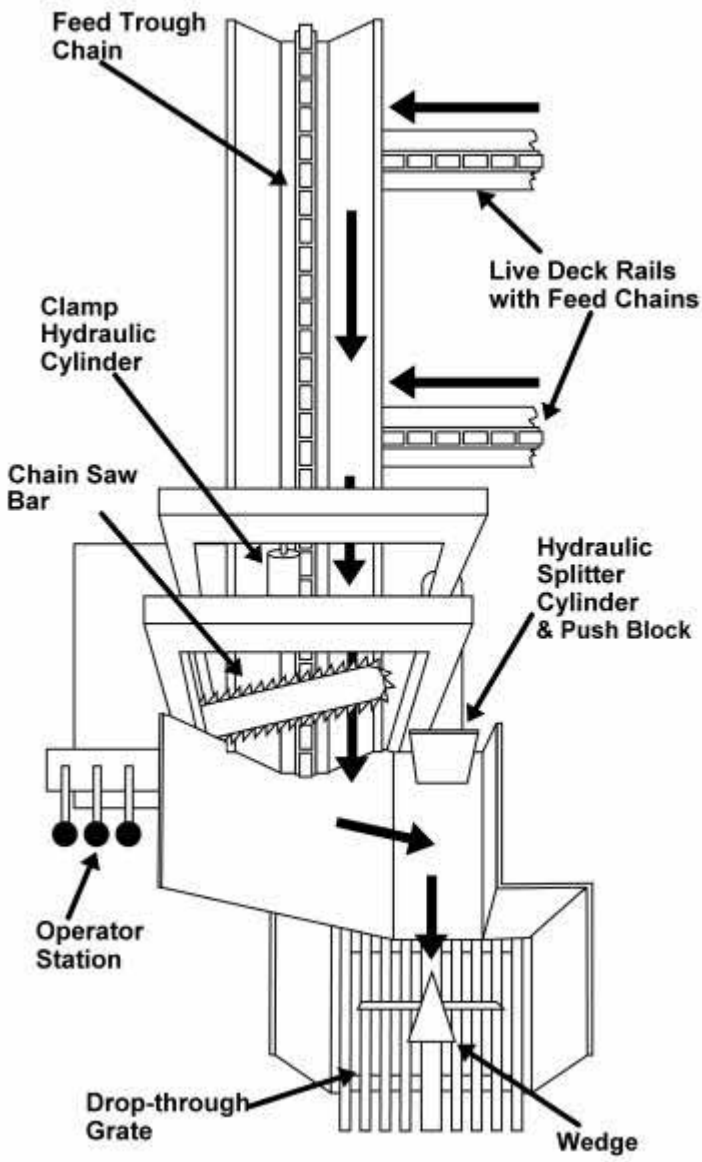
PRO-HD processors feature a three-section pump as standard equipment. The sections produce 33 GPM for the splitter, 20 GPM to advance logs and power the chain saw motor, and 13 GPM for the chain saw bar and the clamp.

As an option, Timberwolf processors can be factory-equipped to power and control a Timberwolf hydraulic conveyor. In addition to hydraulic line connectors and control valves, PRO-MX conveyor kits include an 8 GPM third pump section to power the conveyor. A PRO-HD processor with a conveyor kit installed powers the conveyor with its standard third pump section, and powers the chain saw bar and clamp with its second section through a hydraulic divider.

Processor Functions

Firewood processor functions divide into –

- **Transport** – live deck drops log into feed trough, hydraulic driven chain advances log to be cut.
- **Clamp/Saw** – hydraulic clamping mechanism holds log in position, hydraulic mechanism raises and lowers hydraulic driven chain saw.
- **Splitter** – cut piece rolls onto log carriage, hydraulic driven push block forces log against adjustable, multi-wing wedge, splits multiple pieces with one stroke.
- **Removal** – standard drop-through chip separating grate, optional provision for powering and controlling conveyor.



Firewood Processor Functional Diagram
(Heavy Arrows Indicate Log Travel Direction)

Hydraulics

The processors' hydraulic systems are complex and sophisticated. Major repairs or modifications should be left to Timberwolf-designated and authorized service personnel.

The Maintenance section of this manual has adjustment instructions for the splitter valve détentes. Inspect hydraulic hoses every day for loose fittings and signs of wear.

Timberwolf Mfg. recommends using Texaco Rando 46 hydraulic oil in its PRO-MX and PRO-HD firewood processors.

PRO-MX Pumps

PRO-MX processors feature a 2-22 sectional hydraulic pump as standard equipment. Each section performs like a separate 22 GPM pump so you can run several functions at once.

One section powers transport and cutoff functions:

- Live deck chains
- Feed trough chain
- Clamp mechanism cylinder
- Feed roller drive (Top Roll clamp system only)
- Chain saw drive
- Chain saw bar cylinder.

One section powers splitter functions:

- Splitter cylinder
- Wedge lift cylinder.

A PRO-MX processor can be equipped with a factory installed conveyor kit that includes a third, 8 GPM pump section. The option enables the processor to power and control a specially equipped Timberwolf hydraulic conveyor. The kit also includes hydraulic connections and additional operator station controls.

PRO-HD Pumps

PRO-HD wood processors feature a 33/20/13 sectional hydraulic pump.

- 33 GPM section always powers the splitter and wedge lift.
- 20 GPM section powers the live deck and feed trough chains, and drives the chain saw. When a conveyor kit is installed, the 20 GPM section also powers the clamp and chain saw bar cylinders through a hydraulic divider.
- 13 GPM section powers the clamp and chain saw bar cylinders when the processor doesn't have a conveyor kit installed. When the optional connections and controls are installed, this pump section is dedicated to the conveyor.

Power Plant

Self-powered processors use a diesel engine to power the hydraulic pumps. The two most common engine options for the PRO-MX processor are –

- 47 horsepower Perkins diesel
- 45 horsepower John Deere diesel

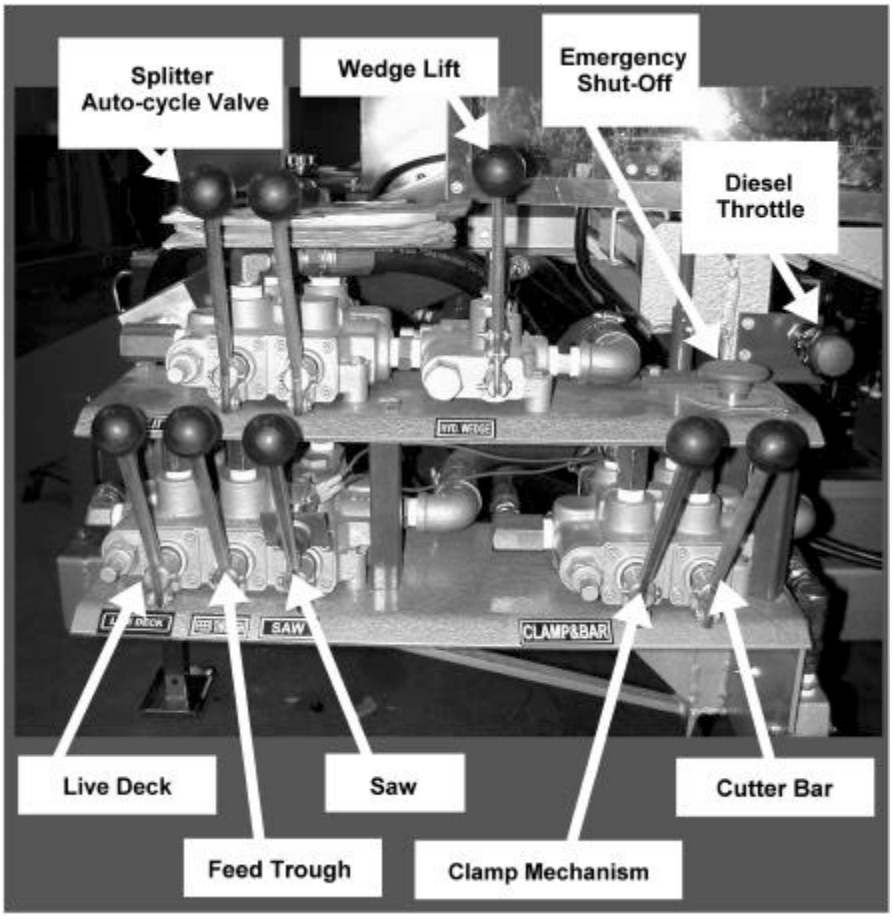
PRO-HD processors are powered by an 80 horsepower John Deere engine.

The tractor that powers a PTO-driven PRO-MX processor should produce at least 45 horsepower.

Controls

Control valves are carefully positioned for safety and ease of use. The live deck, feed trough, cut-off saw, wedge, and splitter are all controlled from the operator station.

Optional factory-installed conveyor kits add a lever below the standard array to control the conveyor belt. The kit for connecting the conveyor lift as well as the belt drive also adds a control lever for the conveyor height adjustment.



Standard Control Array

Log Deck

Live Deck

When setting up the processor, pay special attention to orienting the log deck. Arrange convenient access for your loading equipment.

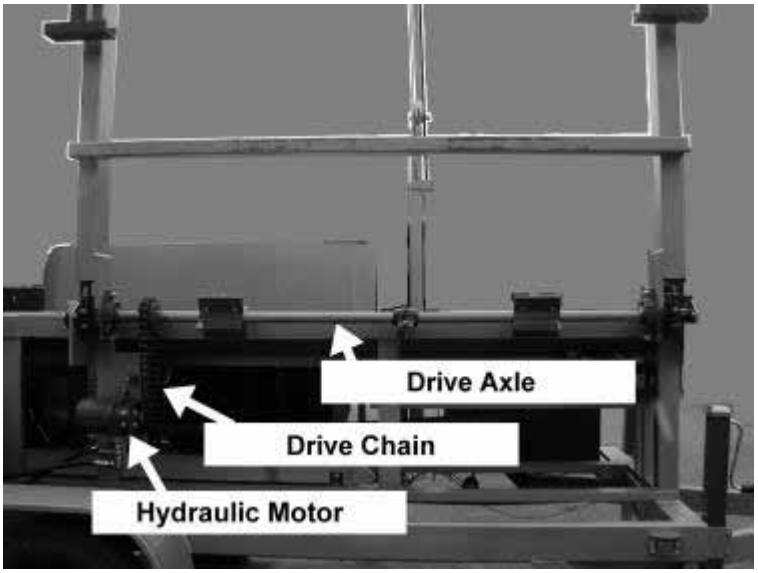
Most PRO-MX and PRO-HD processors are equipped with a hydraulically powered live deck. Feed chains in the deck rails, controlled from the operator station, carry logs to the feed trough.

The standard live deck has three rails and holds up to a cord of logs. The rails are unevenly spaced, enabling the deck to handle a wide range of log lengths:

- Front rail to middle rail: 4 feet 8 inches on center
- Middle rail to rear rail: 6 feet 3 inches on center
- Deck width: 11 feet 8 inches overall.

The 16-foot and 20-foot processors use the same standard deck. On each model, the deck is centered on the feed trough for balanced and stable loading.

Larger, non-retractable live decks are also available.



Live Deck Drive System

Hydraulic motor for feed chains in live deck rails is mounted on processor frame. Drive chain connects motor to axle, which has a drive sprocket for each rail.

Live Deck features –

- Single lever forward/reverse control at operator station.
- Electric winch to extend deck for set up and retract it for transport is standard.
- Hydraulic deck deployment system is available as an option.
- Stop unloader mechanism (optional) helps make sure only one log at a time drops into the feed trough.

Live Deck (Continued)

Height of fully raised standard live deck is 13 ft. 2 in. – low enough to travel safely on most public roads.

⚠CAUTION

The user is responsible for knowing local road clearances and other conditions that affect transporting the processor.

Static Log Deck

Processors can be ordered with static log decks in a variety of sizes. A static deck just supports logs to be muscled into the feed trough with a peavey or a cant hook.

NOTE

This manual describes set up, take down, and operations for the standard live deck. If your processor has a special order oversize live or stationary deck and you have problems adapting directions for your specific equipment, call Timberwolf Mfg. at 1-800-340-4386.

Clamp Mechanisms

The processor's clamping mechanism holds logs while they're being sawed. Two types of clamping mechanism are available –

- Top Roll System
- Guillotine clamp.

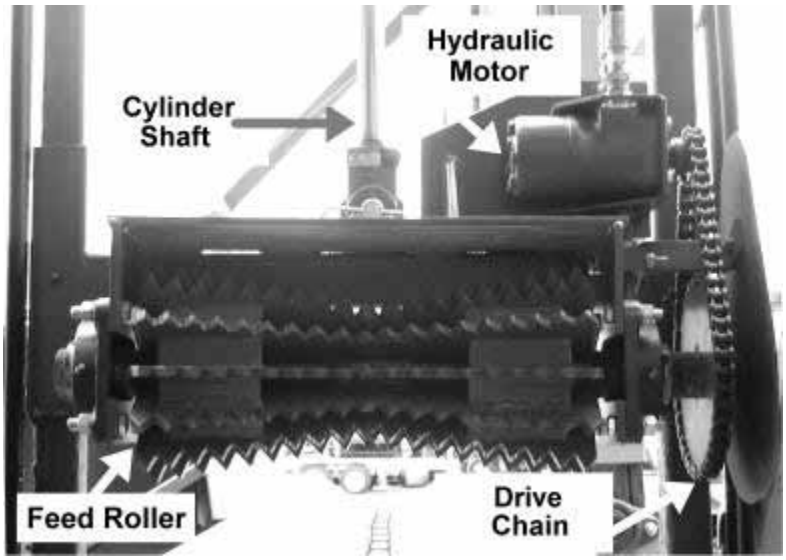
Because of differences between the clamps, the Operating Instructions in this manual include separate directions for each clamping system.

Top Roll System

Patented Top Roll clamping system speeds production and simplifies the firewood making process:

- Does not have to be raised and lowered every time log moves forward.
- Motor driven feed roller rides on top of log.
- Feed roller maintains constant hold and helps feed trough chain advance log.
- Roller drive controlled by Feed Trough control lever.

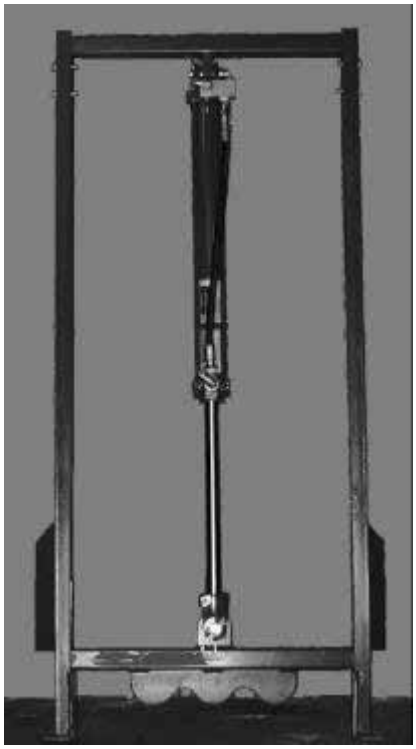
The Top Roll system's constant hold helps accurately position the last cut on each log. Traditional clamping systems often have to catch the log as it starts to tip forward, leaving it poorly positioned.



Top Roll Clamping System

Guillotine Clamp

The guillotine clamping system holds logs with a one-piece blade. The blade has to be raised and lowered every time the log moves forward.



Guillotine Clamping System

Guillotine clamp requires close attention when a log is advanced for its final cut. Short logs tend to tip forward and must be caught before they move into a poor cutting position.

Hydraulic Chain Saw

PRO-MX and PRO-HD processors feature a hydraulic driven and controlled chain saw:

- Cuts logs into sections from 2 to 24 inches long.
- 25-inch bar
- .404 chain.
- Automatic chain oiler with electric pump and 5 gallon reservoir.
- Controlled from operator station by Saw and Bar levers.

Chain runs only while Saw lever is held in position. Bar lever controls hydraulic cylinder that raises and lowers the chain saw bar. A chute directs sawdust for collection and removal.

Chain can be easily swapped for a fresh one and sharpened later off site, or sharpened on the machine. Swapping chains keeps downtime to a minimum. The best way to sharpen a chain without removing it is by using a handheld electric sharpener.

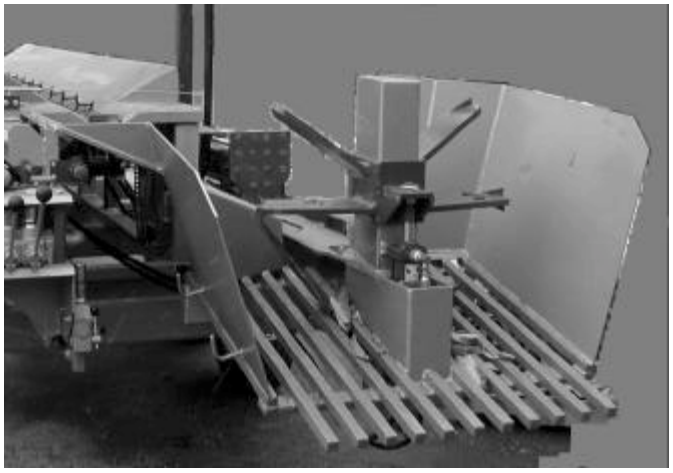
NOTE

Chain should be sharpened at least every 9 to 10 cords. Depending on the condition of wood being cut, the chain might require more frequent sharpening.

Splitter

PRO-MX and PRO-HD offset splitter units feature:

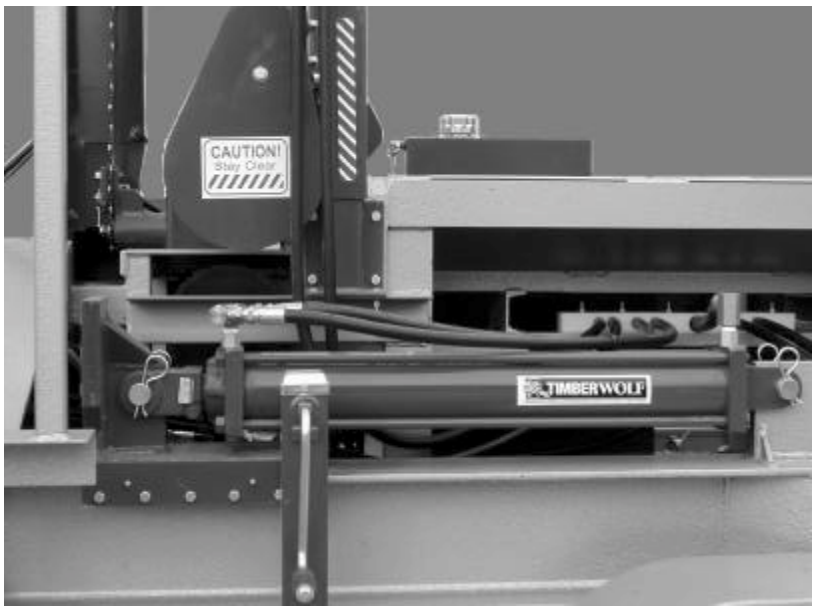
- Offset design that rolls pieces onto the log carriage as they're sawed.
- Interchangeable 4- and 6-way movable wedges.
- 8-way wedge available for the PRO-HD.
- Wide angle fixed wedge.
- Cylinder parallel to feed trough, opposite operator station.



Offset Splitter – Piece Rolls Away from Operator, onto Log Carriage

The offset splitter design reduces the need for repositioning because pieces tend to align themselves as they roll into position. When you do have to reposition, this design provides room enough to do it without having to hoist the whole piece.

Splitter cylinders have oversized shafts for greater strength. An oversize shaft also speeds up the splitting cycle by reducing the amount of hydraulic fluid the cylinder uses to retract the push block.



PRO-MX Splitter Push Block and Cylinder

PRO-HD Splitter Push Block and Cylinder

Logs should roll right into position on the splitter's log carriage as they're sawed. When a log does need to be repositioned, use a peavey or cant hook if you can.

Auto-cycle Valve

Log splitters are equipped with auto cycle valve for hands-free operation.

With auto-cycle valve engaged, splitter automatically completes forward stroke and returns to fully retracted position. Operator can start next cut while log splits.

⚠CAUTION

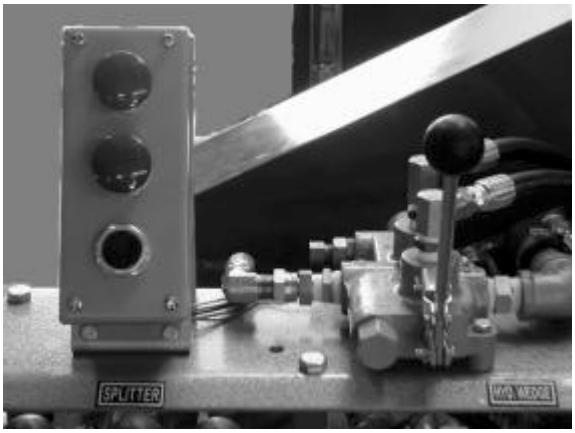
Auto-cycle control is intended for use by professional wood handlers only! Not all logs can be split under auto-cycle control. Operator has to monitor the splitting cycle and know when to override the automatic function.

Operation of the auto-cycle valve depends on forward and return détente settings to control the cylinder and push block as they extend and retract. The détentes should be set for hands-free splitting on normal wood. See the Maintenance section of this manual for auto-cycle adjustment instructions.

Wood that resists splitting – because it's hard, twisty grained, or knotty – can make the détentes kick out to neutral position. When that happens the push block usually starts back; sometimes it stops in place. The splitter can be operated manually to split logs that kick out the détentes.

Electric Auto-cycle

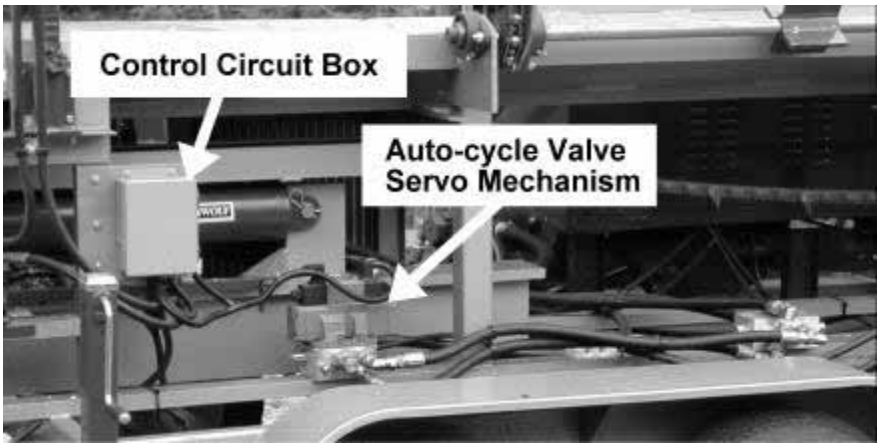
Timberwolf firewood processors can be factory-equipped with an electric auto-cycle feature. Pushbuttons control the splitter in place of the standard two-handle, manually operated auto-cycle valve.



Electric Auto-cycle Switch

Electric auto-cycle speeds processing by simplifying the control routine. In addition to its convenience, the electric valve requires less frequent adjustment than the two-handle valve.

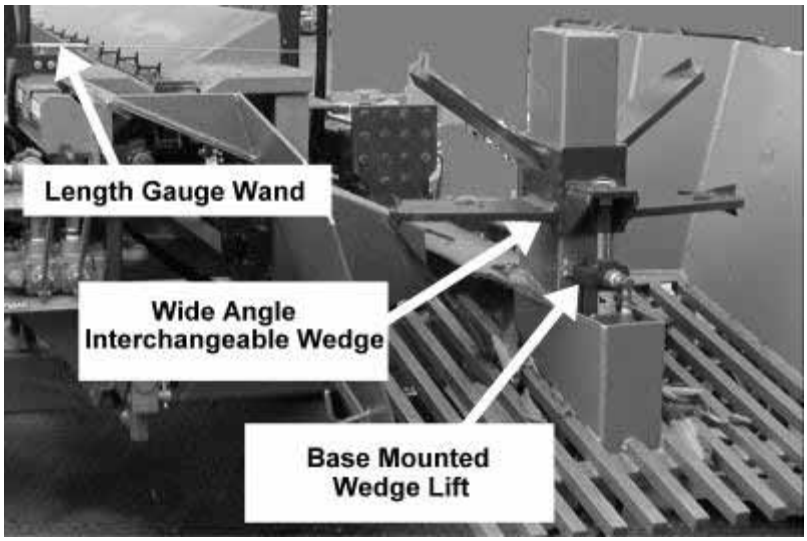
Most instructions in this manual are written for the two-handle valve. The manual has separate instructions as needed for electric auto-cycle.



Electric Auto-cycle Components

Wedge

Offset splitters come with interchangeable moveable wedges that mount on a wide angle fixed wedge. The moveable wedges have "wings" to speed production by making multiple sticks of firewood with each cycle.



PRO-MX Wedge Assembly
(Shown with 6-way Wedge)

Wedge shape and position determine final size of split firewood. Multi-wing, 4- and 6-way wedges are standard for both PRO-MX and PRO-HD processors. An optional 8-way wedge is available for the PRO-HD.

Multi-wing wedges are named by the number of sticks they make, not how many wings they have –

- 4-way wedge – 2 wings
- 6-way wedge – 4 wings
- 8-way wedge – 6 wings

Wedge (Continued)

Wedges are designed so log doesn't hit all wings at once. The staggered wings engage a log in stages for easier splitting on tough pieces.

Wedge Lift

PRO-MX and PRO-HD offset splitter units feature a base-mounted hydraulic wedge lift for adjusting the moveable wedge's vertical position.

Wedge lift is controlled from the operator station. Moveable wedge is usually centered on log. It can be raised out of the way to split small logs on the single-edge fixed wedge.

Drop-Through Grate

The drop-through, chip-separating grate lets most chips, splinters, and debris fall through the splitter hopper for a cleaner finished product. The drop-through grate keeps debris from falling onto the conveyor where it might cause belt alignment and slippage problems.

The optional factory installed conveyor kits include a coupler for attaching the conveyor to the splitter hopper. The connection prevents shifting and permits moving the equipment as a unit on-site (not on the road).

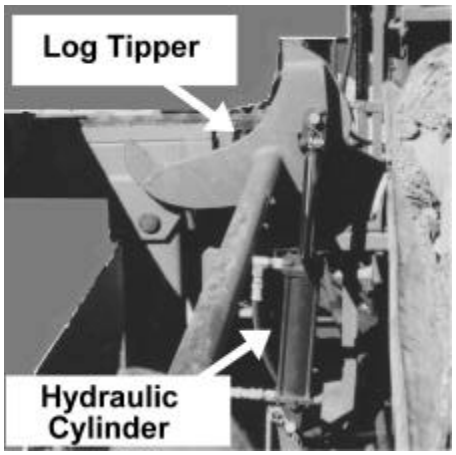
Processor Options

While Timberwolf Mfg. builds each firewood processor to order, major processor features are fairly uniform from one processor to the next.

This manual points out the instances where optional and non-standard features affect descriptions and instructions.

Stop Unloader

The stop unloader option for the live deck is a hydraulically operated tipping mechanism. It makes sure only one log at a time goes into the feed trough. With the unloader installed, the live deck rails carry logs forward to a set of pivoting jaws. A separate lever controls the unloader jaws to tip each log into feed trough.



Stop Unloader Mechanism

Conveyor Kits

Timberwolf processors can be factory-equipped to power and control a Timberwolf hydraulic conveyor. Two versions of the conveyor kit are available, one that runs only the conveyor belt, and one that also runs the conveyor's lift mechanism. The kits include –

- Connectors for conveyor's hydraulic supply and return
- Operator station control lever(s) and hydraulic flow controller(s)
- 3-section hydraulic pump (PRO-MX only; added 8 GPM section powers conveyor)

This manual includes instructions for connecting and controlling a conveyor.

Timberwolf Mfg. also makes self-powered conveyors that operate completely independent of the processor. Self-powered conveyors are gasoline engine-powered and available in both hydraulic and belt-driven models.

Timberwolf conveyors are supplied with their own Maintenance and Operation manuals.

Operator Seat

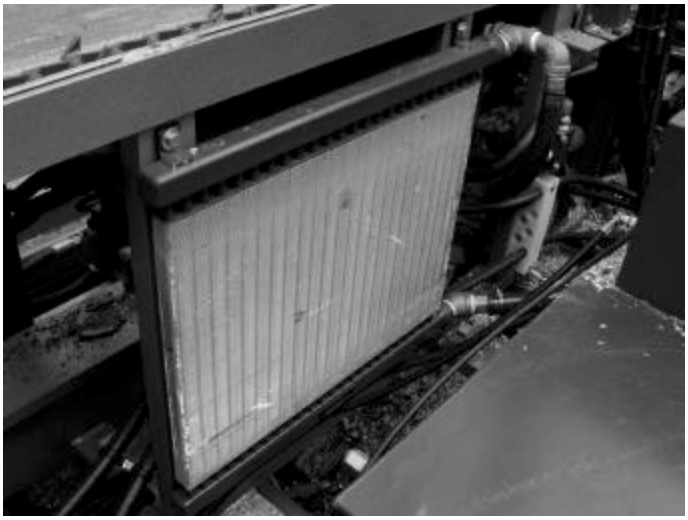
Timberwolf firewood processors can be factory-equipped with a cantilever-mounted seat for the operator station. The seat swings out of the way easily when the operator prefers to stand.

Processor Controls with Operator Seat

The seat mount is a box coupler located below the hydraulic control valves. A self-locking retainer pin secures the seat base in the coupler.

Hydraulic Cooler

Timberwolf firewood processors can be factory-equipped with a hydraulic cooler to improve hot weather performance. Consult your Timberwolf dealer to determine what's best for your local conditions.



Hydraulic Cooler

PRO-MX Processor Specifications

Feed Trough Length	16 ft. or 20 ft.
Maximum Log Diameter	22 in.
Maximum Log Length	
16-foot trough	Approximately 22 ft.
20-foot trough	Approximately 26 ft.
Cords Per Hour	1.0 to 2.0
Power Plant:	Perkins 47 HP Diesel or John Deere 45 HP Diesel or PTO (45 HP tractor minimum)
Hydraulics:	
Pump	2–22 GPM sectional pump (std.) or 22/22/8 GPM 3-section pump (with conveyor kit installed)
Tank Capacity	40 gallons
Splitter:	20 tons splitting force 4 in. x 24 in. tie rod cylinder 2 in. shaft 8 in. H-beam log carriage
Wedge:	Wide-angle fixed wedge 4- and 6-way changeable wedges Base-mounted wedge lift
Cut-off Saw:	Hydraulically driven 25 in. bar .404 chain
Clamp Mechanism::	Top Roll system (std.) Guillotine (opt.)
3-rail Live Deck:	11 ft 8 in overall 4 ft 8 in. front rail to middle rail 6 ft 3 in. middle rail to rear rail Centered on feed trough Retractable for transport Electric winch deployment (std.) Hydraulic deployment (opt.)
Product Options	Conveyor Kits (Belt-only or Belt & Lift) Operator Seat Hydraulic Cooler Stop Unloader

PRO-HD Processor Specifications

Feed Trough Length	16 ft. or 20 ft.
Maximum Log Diameter	22 in.
Maximum Log Length	
16-foot trough	Approximately 22 ft.
20-foot trough	Approximately 26 ft.
Cords Per Hour	1.0 to 3.0
Power Plant:	John Deere 80 HP Diesel
Hydraulics:	
Pump	30/20/13 GPM sectional pump
Tank Capacity	50 gallons
Splitter:	25 tons splitting force 5 in. x 24 in. tie rod cylinder 3 1/2 in. shaft 8 in. H-beam log carriage
Wedge:	Wide-angle fixed wedge 4- and 6-way changeable wedges (std.) 8-way changeable wedge (opt.) Base-mounted wedge lift
Cut-off Saw:	Hydraulically driven 25 in. Titanium bar .404 chain
Clamp Mechanism::	Top Roll system (std.) Guillotine (opt.)
3-rail Live Deck:	11 ft 8 in overall 4 ft 8 in. front rail to middle rail 6 ft 3 in. middle rail to rear rail Centered on feed trough Retractable for transport Electric winch deployment (std.) Hydraulic deployment (opt.)
Product Options	Conveyor Kits (Belt-only or Belt & Lift) Operator Seat Hydraulic Cooler Stop Unloader

Important Safety Instructions

What You SHOULD Do

- Read this manual before you operate the firewood processor.
- Locate firewood processor only on firm, level ground. Site must be free of slippery surfaces and tripping obstacles.
- Only operate the firewood processor outdoors or in a well-ventilated area. Diesel engine fumes can cause fatal poisoning.
- Only operate the firewood processor in a well-lit area.
- Always wear personal protective equipment –
  - Goggles or face shield for eye protection
  - Ear plugs or hearing protectors
  - Snug-fitting work gloves (loose gloves increase risk of snagging)
  - Steel toe safety shoes.
- Keep hands and feet clear of moving components. .

What You SHOULD NOT Do

- Never cut or split anything other than logs.
- When loading pieces into the splitter by hand, do not handle them by the ends.

You don't want your hands at pinch points where they can get caught between a log and the wedge, push block, or log cradle.

- Never handle logs while chain saw or wood splitter is in motion.

What You SHOULD NOT Do (Continued)	• Don't put any part of yourself, your clothing, or your personal protective equipment into a crack in a piece that's being split; it might close suddenly and with great force. • Don't put anything between the side of the hopper and the side of a log; logs spread as they're forced against the wedge. • Do not straddle or climb over the firewood processor while it is running. • Do not move or reposition the firewood processor with the motor running. • Do not move or reposition the firewood processor without retracting and fully securing the live deck. • Do not modify or alter the machine in any way at any time.
What You SHOULD <u>NEVER</u> Do	• Never team up with another person to operate the firewood processor controls – it's a one-person job. • Never operate firewood processor under the influence of alcohol, drugs, or medication. • Never allow an untrained operator to use the firewood processor. • Never allow anyone under age eighteen to operate the firewood processor. • Never leave firewood processor unattended with its motor running.

Hydraulic Safety

⚠ WARNINGS

Escaping pressurized fluid from hydraulic system leaks can have enough force to penetrate skin and cause serious injury or death.

Hydraulic fluid can remain highly pressurized while splitter motor is off.

Never use your hand or any part of your body to check for hydraulic system leaks while the system is pressurized.

Get professional medical help at once if hydraulic oil penetrates anyone's skin.

Always release residual energy from pressurized hydraulic fluid before doing any maintenance or repair work on the firewood processor.

What You SHOULD Do

- Inspect hydraulic hoses every day – check for worn, frayed, kinked, and cracked areas.
- Replace any damaged or worn hoses.
- Use sheet of cardboard or log to check for hydraulic leaks while system is running.
- Depressurize system to release residual hydraulic energy before starting any repairs.
  1. Shut off diesel engine.
  2. Move all control valve handles back and forth, from one limit of travel to the other, at least four times.
  3. Hold valves for three seconds at each limit of travel.

⚠ CAUTION

Each section of the processor's pump pressurizes a separate sub-system. Make sure all sub-systems are de-pressurized before working on the machine.

- Contact Timberwolf Manufacturing Corp. or a qualified hydraulic mechanic to replace worn components.

What You SHOULD NOT Do

- Do not make any adjustments to the pressure relief valve.
- Never remove cap from hydraulic tank while motor is running or while tank is still warm after motor is shut off. Hot pressurized oil can cause serious injury, so wait for hydraulic tank to cool before removing cap.
- Never use any connectors, valves, or fittings that are different from the ones originally installed on the firewood processor.

Setup and Takedown

Overview

This part of the manual contains instructions for setting up the processor at the work site and taking it down for transport.

Setup procedures include –

- Planning the work area
- Positioning and leveling
- Live deck setup
- Opening petcocks
- Routine maintenance tasks.

Takedown procedures include –

- Shutting petcocks
- Retracting the live deck
- Tow vehicle hookup

This part of the manual also includes set up directions for optional equipment:

- Factory-installed conveyor kits for connecting a Timberwolf conveyor to processor hydraulics.
- Operator seat.

Work Area Layout

- Locate processor on firm, level ground.
- Select well-lit spot, outdoors or in well-ventilated area.

⚠CAUTION

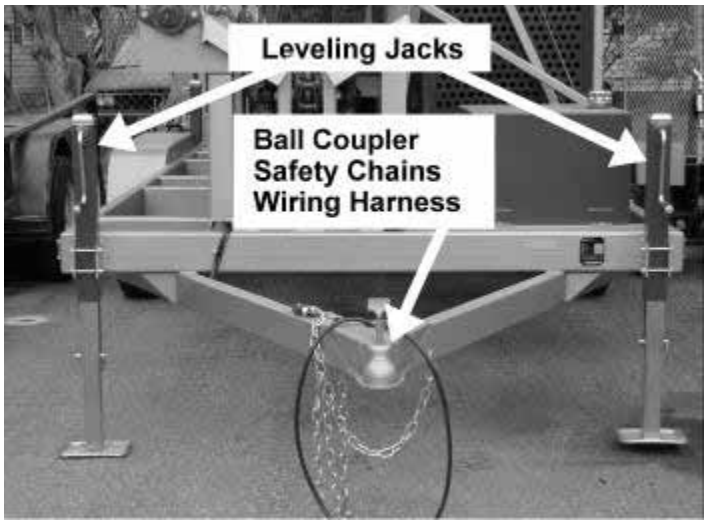
Never run the processor without adequate ventilation. Diesel engine fumes can cause fatal poisoning.

- Check for hazards around the processor. Make sure area is free of slippery surfaces and objects to trip over.
- Make sure there won't be people or animals in the area around the processor.
- Plan for –
  - Log supply – access to load logs onto the live deck
  - Split wood takeaway – conveyor to truck or pile
  - Sawdust handling – collection and removal

New Location Setup

Position processor in the selected location, then disconnect tow vehicle:

1. Block wheels firmly so processor can't roll in either direction.



Processor Towing Hitch

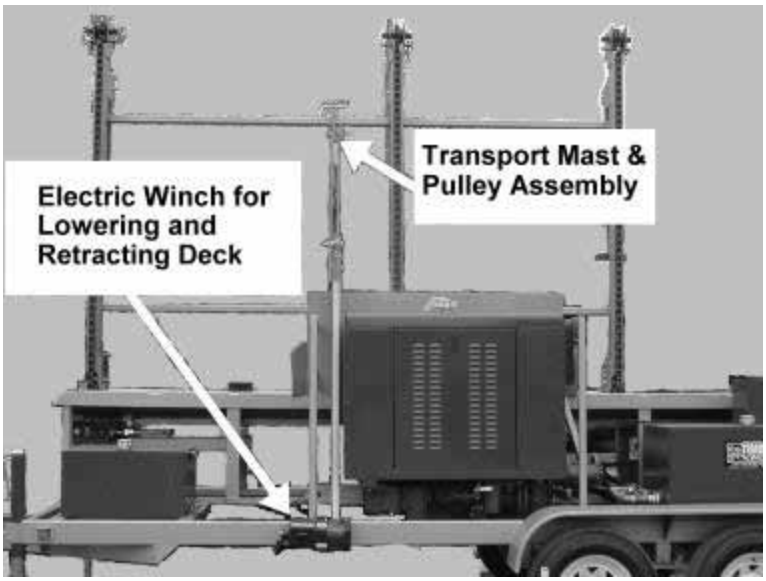
2. Raise corner leveling jacks to lift processor ball coupler off tow vehicle's trailer hitch.
3. Disconnect safety chains, emergency brake cable, and wiring harness for processor lights and brakes.
4. Drive tow vehicle clear.
5. Adjust leveling jacks at the four corners until processor is level.

Live Deck Setup

When processor is in position, set up the live deck to carry logs into the feed trough. Timberwolf Mfg. firewood processors can be equipped with either electric or hydraulic deck deployment systems. Instructions for both systems appear below.

Electric Deployment System

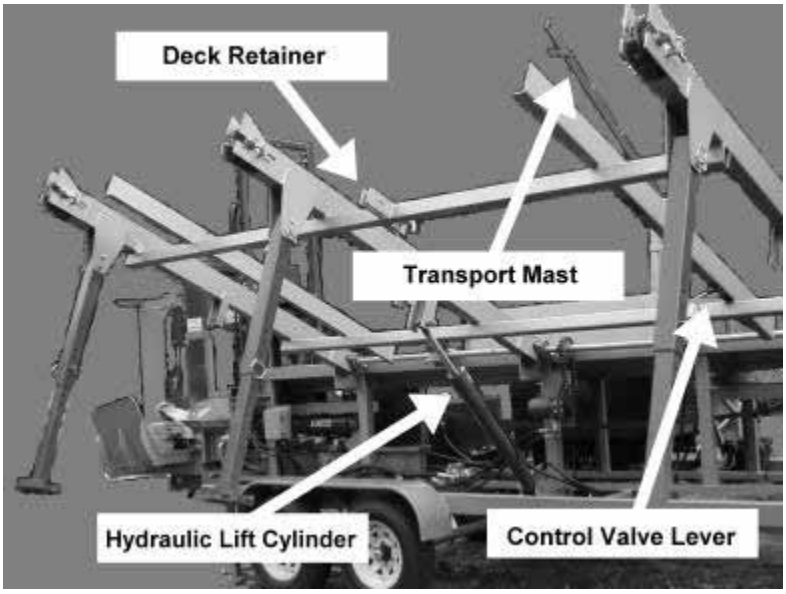
The electric deployment system uses an electric winch and cable to raise and lower the deck. The engine battery powers the winch. The processor does not have to be running in order to extend or retract live deck.



Electric Deck Deployment System

Hydraulic Deployment System

The hydraulic deployment system raises and lowers the deck with a cylinder located below the deck.

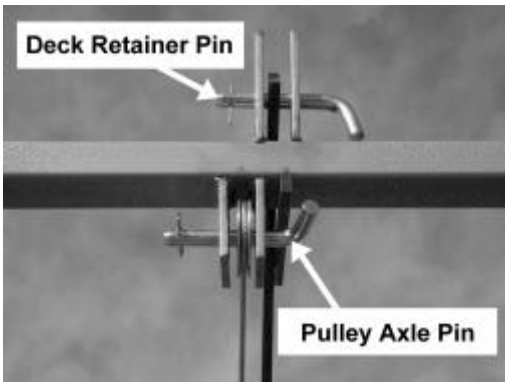


Hydraulic Deck Deployment System

You can retract the deck when hydraulic power isn't available by disconnecting the lift cylinder shaft from the underside of the deck. Then carefully use a loader or other piece of equipment to raise the deck.

Deck Setup Procedure

1. Take out the retainer pin that secures the deck to the mast:
   - Climb on the processor to reach the pulley assembly (electric only) and retainer.
   - Pull back on deck to relieve pressure on the retainer pin. (Best way to do this for electric deployment system is by grasping cable.)
   - Take out retainer pin; hold onto it to re-insert after the deck is down.
   - Swing transport security mast back out of the way.



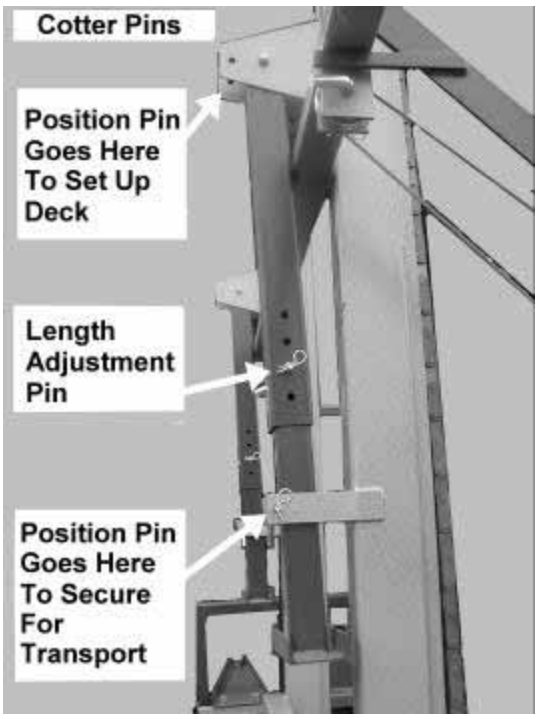
Deck Retainer Pins

2. Begin lowering the live deck.

Electric Winch Control

Hydraulic Deck Control

3. Stop lowering deck when you can reach the cotter pins on the deck support legs.



Live Deck Support Leg – Cotter Pin Positions

4. For each leg:
   - Remove cotter pin,
   - Swivel leg into upright position,
   - Re-insert pin to lock leg in upright position.
5. Resume lowering deck until rails are just above level.
6. Stop lowering, and adjust each extension leg to make deck rails level with the feed trough:
   - Remove cotter pin,
   - Extend or retract leg,
   - Re-insert pin.
7. Finish lowering deck. Hydraulic deployment procedure is done at this point; following three steps are only for winch and cable.
8. Take out the pulley axle pin and release the winch cable from the pulley.
9. Re-install the pulley and re-insert the deck retainer pin.
10. Retract the cable out of the way.

Make sure drive chain between the deck's hydraulic motor and drive axle is secure on the gear sprockets.

Conveyor

Provide a sturdy, high-capacity conveyor to carry split firewood clear of the work area. Timberwolf Mfg. builds a variety of conveyors specifically designed for firewood production.

Arrange convenient access for trucks to be loaded by the conveyor.

Processor Powered Conveyor

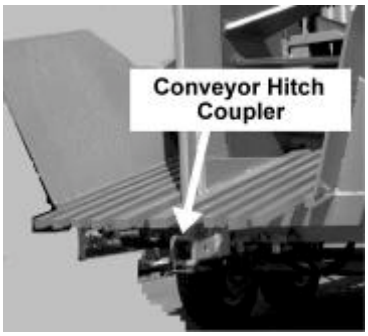
A Timberwolf processor can be equipped to power a Timberwolf hydraulic conveyor and control it from the operator station. Two types of factory-installed conveyor kit are available:

- Belt drive only – conveyor/processor hitch adapter and one set of hydraulics (control lever, flow controller, connectors).
- Belt drive and lift – includes second set of hydraulics for conveyor's lift mechanism.

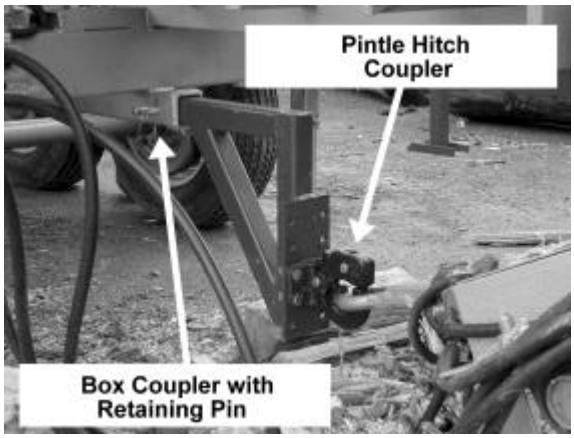
The conveyor/processor hitch adapter secures the machines together for positioning and on-site moves, not for over-the-road travel. Two hitch adapters are available to match the type of hitch on the conveyor: ball coupler or pintle hitch.

To connect a conveyor to the processor:

1. Position conveyor.
2. Insert conveyor/processor hitch adapter into the coupler sleeve located under the processor's splitter hopper. Lock the adapter in place with the retaining pin.



Coupler Sleeve Under Splitter Hopper

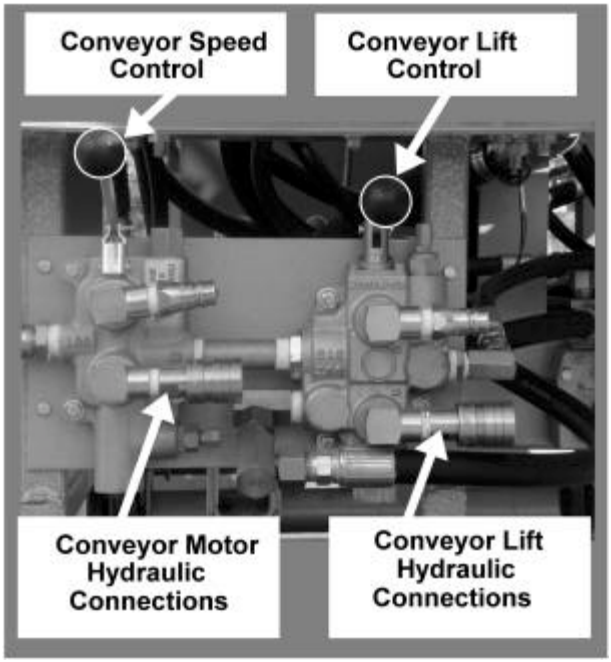


Conveyor/Processor Hitch Adapter

3. Connect the conveyor's towing hitch to the conveyor/processor hitch adapter.
4. Make hydraulic connections. Connectors accept standard, barrel-style, self-locking hydraulic fittings.

⚠CAUTION

Always depressurize the entire processor hydraulic system before connecting or disconnecting any hydraulic fitting. Failure to observe this caution can result in serious injury.



Conveyor Control Levers & Hydraulic Connections

Consult conveyor Maintenance and Operation manual.

Changing Wedges

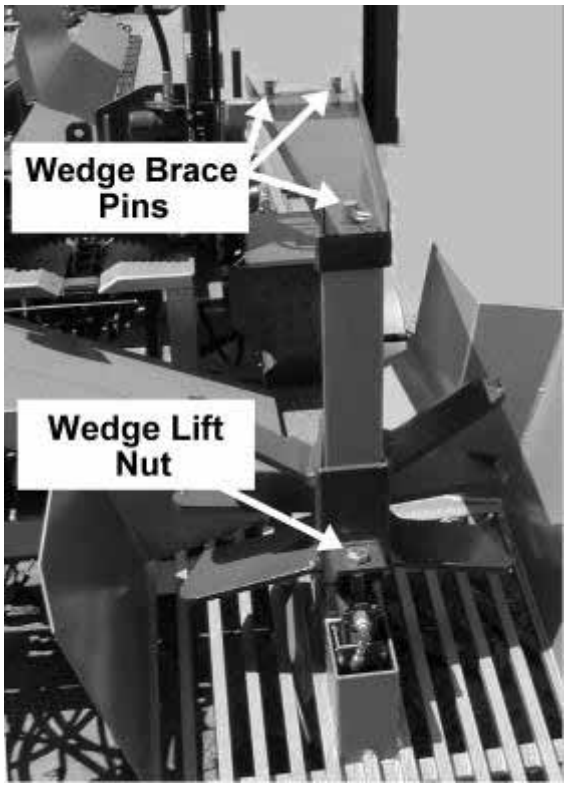
PRO-MX and PRO-HD processors both feature interchangeable moveable wedges that install over the fixed wedge. The PRO-HD wedge is taller than the PRO-MX wedge and reinforced with a brace that isn't present on the PRO-MX.

To change a processor's moveable wedge:

1. Remove nut that secures the wedge to the wedge lift.
2. Pull the cotter pins securing the wedge brace on its pins and lift off the brace (PRO-HD only).
3. Lift off wedge.
4. Slide on new wedge.

Changing Wedges (Continued)

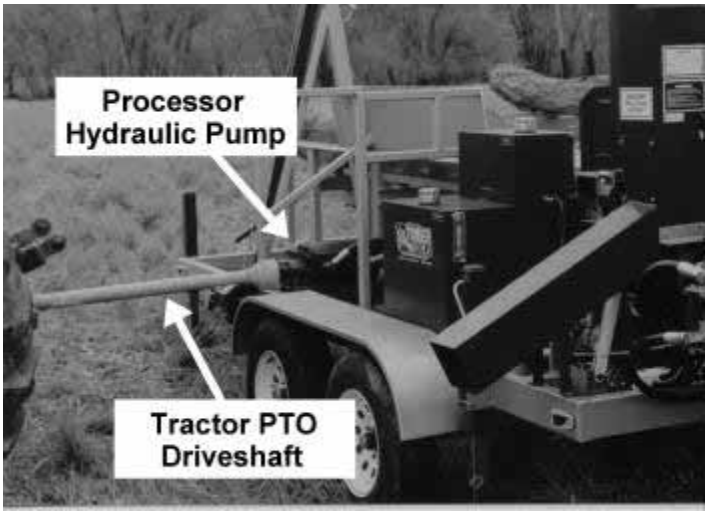
5. Replace wedge lift nut.
6. Replace wedge brace (PRO-HD only).



PRO-HD Wedge Assembly

PTO Hookup

On PTO driven PRO-MX processors the hydraulic pump is positioned at a right angle to the feed trough. Position the tractor (45 HP minimum) so that its PTO drive shaft can be connected to the pump.



PTO Driven PRO-MX Processor

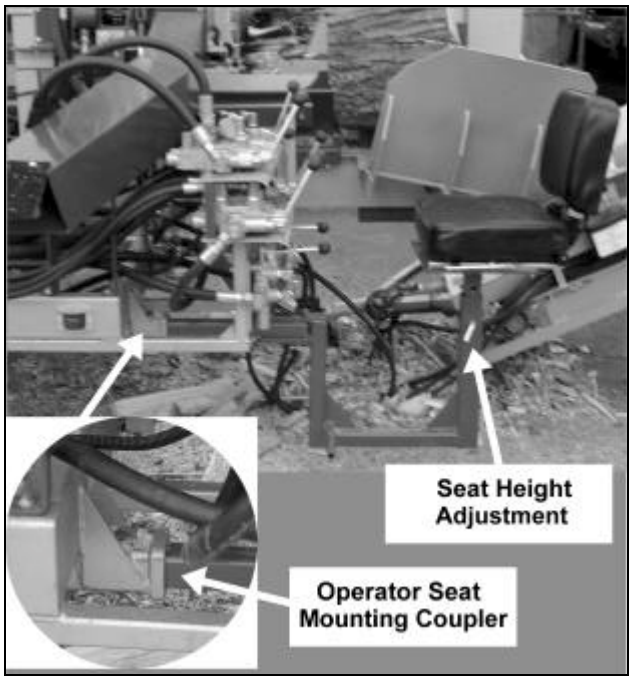
Opening Petcocks

Petcocks on the processor's hydraulic, fuel, and lubricant lines should be closed when the machine is secured for transport. During set up, check to make sure petcocks are open on:

- Hydraulic lines
- Diesel fuel line
- Chain oiler

Operator Seat

If the processor is equipped with the optional operator seat, it needs to be installed during set up and removed during take down. An operator seat should not be left on the machine during transport.



Operator Seat Mounting and Height Adjustment

To install the operator seat:

1. Remove the locking pin from the coupler sleeve located below the operator station.
2. Slide seat bracket into the coupler.
3. Replace pin.
4. Adjust seat height as needed.

Seat can be swiveled out of the way when the operator prefers to stand.

Operator Seat (Continued)

Operator Seat Swivel Mount

Takedown Procedures

Timberwolf Mfg. firewood processors are easily moved between work sites. With live deck retracted, processors meet the normal size limits for travel on public roads:

Shutting the processor down for a move requires special attention:

- Make sure feed trough, log carriage, and hopper are clear of scraps and debris
- Close petcocks on
  - Hydraulic tank, supply and return
  - Diesel fuel line
  - Chain oiler

Retracting the Live Deck

If the processor has the winch and cable deck deployment system you need to rig the cable before you can retract the deck:

1. Use the electric winch to release enough cable to loop around the deck pulley.
2. Take out the pulley axle pin, loop the cable on the pulley, and re-install the pulley.

The following instructions apply for both deployment systems:

1. Take out the retainer pin for securing the live deck to the lift mast. Hold onto the pin to re-insert after the deck is up.
2. Start raising the deck.
3. Stop raising deck when it reaches a convenient height for securing the legs.

4. For each leg:
   - Remove leg position cotter pin,
   - Swivel leg back into transport position,
   - Re-insert pin to secure leg.
5. Resume raising deck until it reaches the transport mast.
6. Climb up and re-insert the mast retainer pin.

NOTE

To re-insert the retainer pin when using the electric deployment system, stop raising the deck just short of vertical then pull the deck and mast together by hand. Use the winch cable for leverage. When the pin is in place, go back to the winch and take up the remaining slack.

Tow Vehicle Hookup

The firewood processor is a massive piece of equipment; make sure the tow vehicle is heavy enough and powerful enough to safely maintain control while pulling it.

Processor towing weights and overall lengths:

- PRO-MX 16-foot processor – 5,980 lb./25 ft.
- PRO-MX 20-foot processor – 6,580 lb./29 ft.
- PRO-HD 16-foot processor – 8,450 lb./25 ft.
- PRO-HD 20-foot processor – 9,050 lb./29 ft.

Tow vehicle equipment requirements:

- Hitch – 2 5/16 inch ball coupler or pintle hitch
- Electric brake controller
- Standard 6-pin wiring harness for lights and brakes

1. Fully retract back corner jacks so the tires and front corner jacks support the processor. Use front corner jacks to lift the processor's coupler.
2. Back tow vehicle into position with its hitch under the coupler.
3. Fully retract front corner jacks when coupler is securely positioned on tow vehicle's hitch.
4. Connect light and brake wiring harness, hitch failure emergency brake cable, and safety chains.

Operating Instructions

Startup Procedure

First, walk-around the entire machine:

- Check –
  - Fluid levels:
    - Diesel fuel – start the day with a full tank –
      - Plan to use one gallon per cord of firewood;
      - Use 60/40 diesel fuel/kerosene mix in winter weather (30° F and below).
    - Hydraulic oil – Timberwolf Mfg. recommends Texaco Rando 46.
    - Chainsaw bar oil – use 30 weight in summer, 10 weight in winter.
  - Petcocks on fuel, hydraulic, and bar oil lines – make sure all are open.
  - Cutting chain condition – don't start the day with a dull or damaged chain.
  - Hydraulic line condition – keep track of wear; save on downtime by replacing hoses *before* they fail.
  - Nuts, bolts, and fittings – make sure all are tight and secure, especially on the push block.
  - Welds – check high-stress joints.
  - Cut off length gauge – adjust if necessary.

Engine Startup

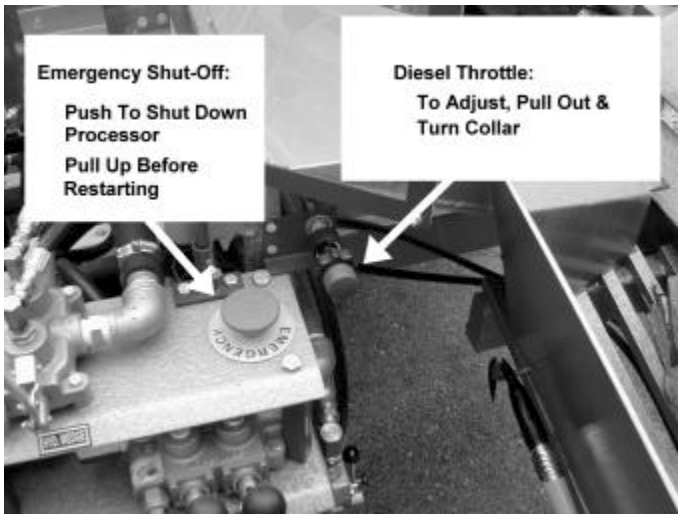
Stand at the operator station to start the diesel engine:

- Make sure –
  - All control valve handles are in neutral/center position
  - **No one** is near any moving part
  - Emergency shut-off switch ("panic button") is in the "ON" position (pulled up).
- Start the engine, following the instructions in its operating guide. Press Oil Pressure Override switch for 5 – 10 seconds while starting.
- Allow engine to warm up at idle before you start to process firewood:
  - Always warm up for at least ten minutes.
  - In winter weather (30° F and below) warm up for 30 minutes.

Don't try to operate the processor before engine and hydraulic fluid are properly warmed up. Take care of other tasks during warm up.

When the system is warmed up, return to the operator station and increase the engine speed.

Engine Startup
(Continued)



Power Plant Controls – Throttle and Emergency Shut-Off

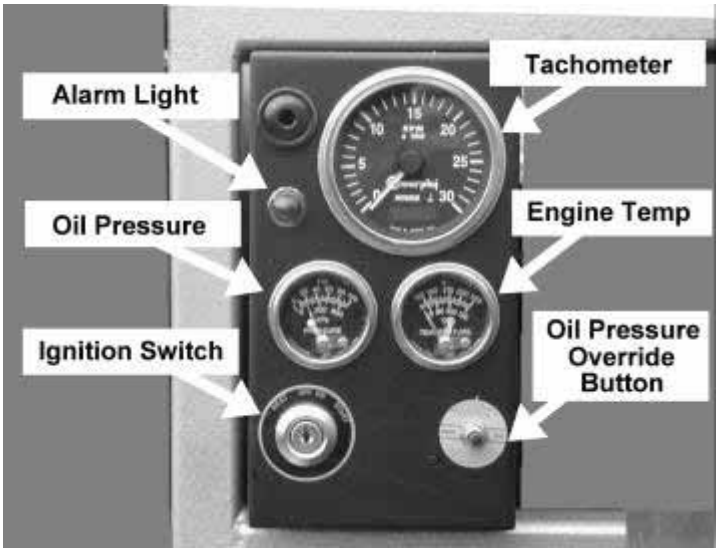
Engine should run between 2200 and 2500 RPM. Set a speed you're comfortable with in that range, based on your experience and judgement. Regulate engine speed by checking the tachometer located on the engine housing.

NOTE

New operators should run the engine at slower speeds while learning to run the processor. Operator should be familiar with the controls and comfortable running the processor before increasing engine speed.

⚠CAUTION

Never let anyone within 20 feet of the processor or log pile while the processor is in operation.



Diesel Gauges and Switches

Hydraulic Startup

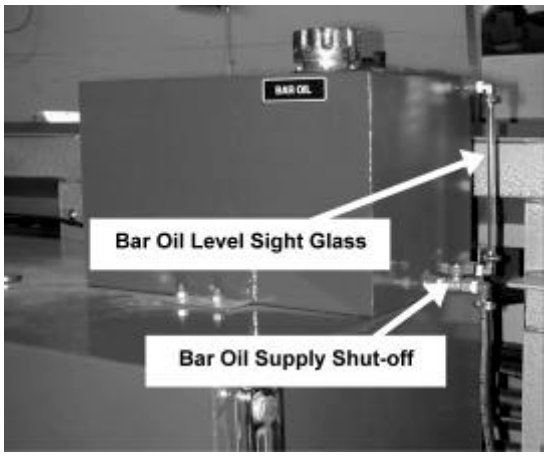
Timberwolf Mfg. firewood processors have an open hydraulic system that begins circulating and warming the hydraulic oil when the engine starts running. The processor's hydraulic system is ready to go when engine warm-up is complete.

Chain Saw Setup

Bar Oiler

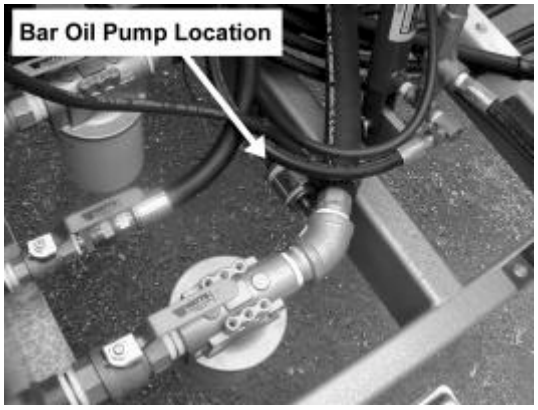
Check the sight glass on the Bar Oil tank and add oil if necessary.

Make sure the Bar Oil tank shut-off petcock is open.



Bar Oil Tank

Make sure the bar oil pump's shut-off petcock is open.

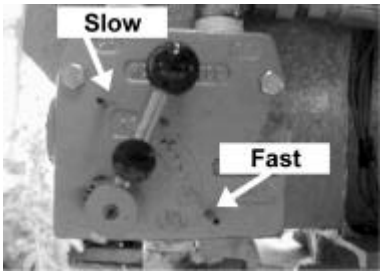


Bar Oil Pump

Chain Saw Speed

The hydraulic flow controller that governs chain saw speed is located below and to the right of the hydraulic control levers. Normal running speed is the #2 position. Check the setting each day to be sure it hasn't been changed accidentally.

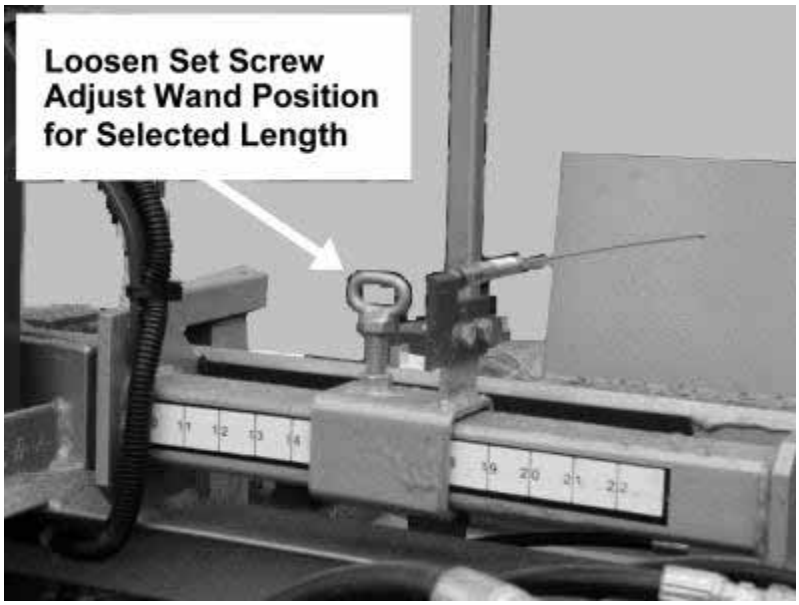
Chain saw speed shouldn't need to be adjusted very often.



Chain Saw Speed Control

Length Gauge Adjustment

Set the processor's length gauge to guide you in sawing off uniform pieces.



Length Gauge Adjustment

Processing Firewood

General Guidelines

Maximum log diameter is 22 inches. A 16-foot processor can handle logs from 4 feet, 8 inches up to 22 feet long. A 20-foot processor can handle logs up to 26 feet long.

Logs should be as smooth as possible, and free of knots, bumps, and branches. Always try to point the butt end toward the wedge, not the smaller tip end.

Use good judgment about log lengths, size, and straightness. The processor's production rate depends chiefly on the size of the wood being processed and your ability to run the machine efficiently.

Processing Crooked Logs

Processing crooked logs takes judgement and experience. Most crooked logs can feed through the machine without problems when handled correctly. Less experienced operators, though, should avoid them because they can make problems:

- Crooked logs can catch and damage clamp or saw mechanism.
- Crooked logs often result in pieces with ends cut diagonally, instead of square.
- Diagonal pieces cause problems and slow up operations because they tend to slide off the push block or the piece ahead, and can even pop up out of the splitter hopper.

⚠CAUTION

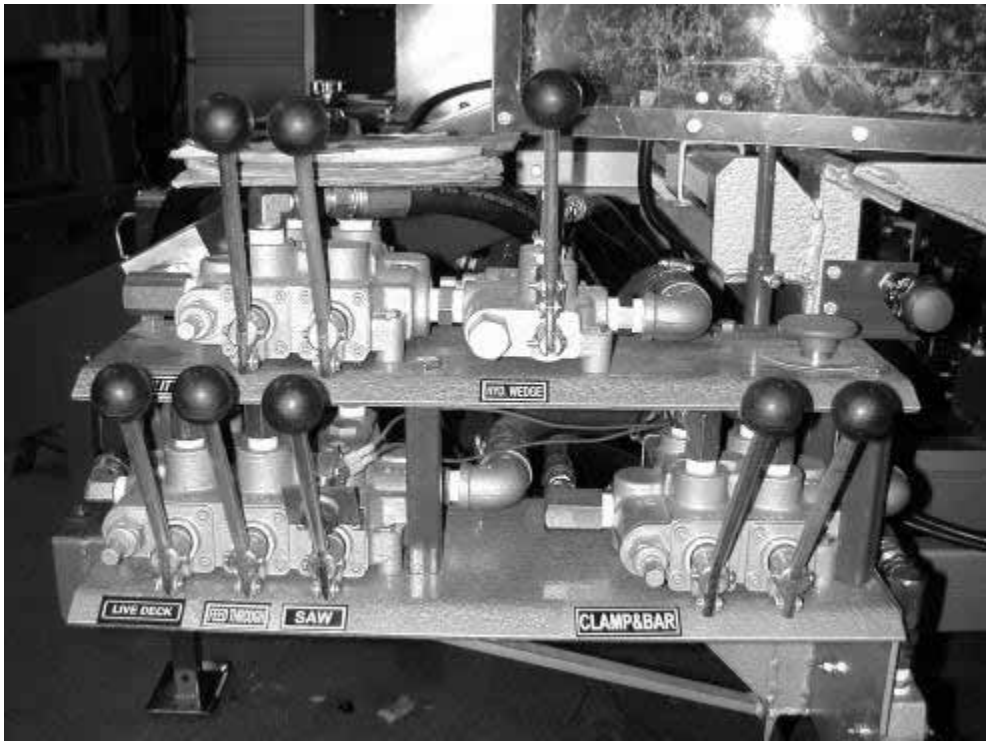
When you split a diagonal piece, watch carefully as it begins to split. Make sure the end closest to the wedge doesn't start to come up toward you as it pushes against the piece in front of it. If the end of a piece does start to lift, retract the push block and use a peavey or cant hook to reposition the piece.

As with anything you do processing wood, operating this machine is a learning process. As you spend more time with it you will become more proficient with it. Always pay attention. Never become complacent. Do not hesitate to call Timberwolf Mfg. if you have any questions about how to use the machine.

⚠CAUTIONS

Never adjust pressure settings on the machine.
Never make an adjustment while machine is running.
Do not take chances.
Do not let debris fall into the valve area.
Clean the machine of debris daily.
Do not operate this machine when you're tired or while taking any form of medication, drugs, or alcohol.

Operator Station



Splitter (Auto-cycle)	
Push for manual retract	
Pull & release to split	Pull & release for auto retract

Hyd Wedge
Push to raise
Pull to lower

Live Deck
Push for reverse
Pull for forward

Feed Trough
Push for reverse
Pull for forward

Saw
Release to stop
Pull to run

Clamp
Push to raise
Pull to lower

Bar
Push to raise
Pull to lower

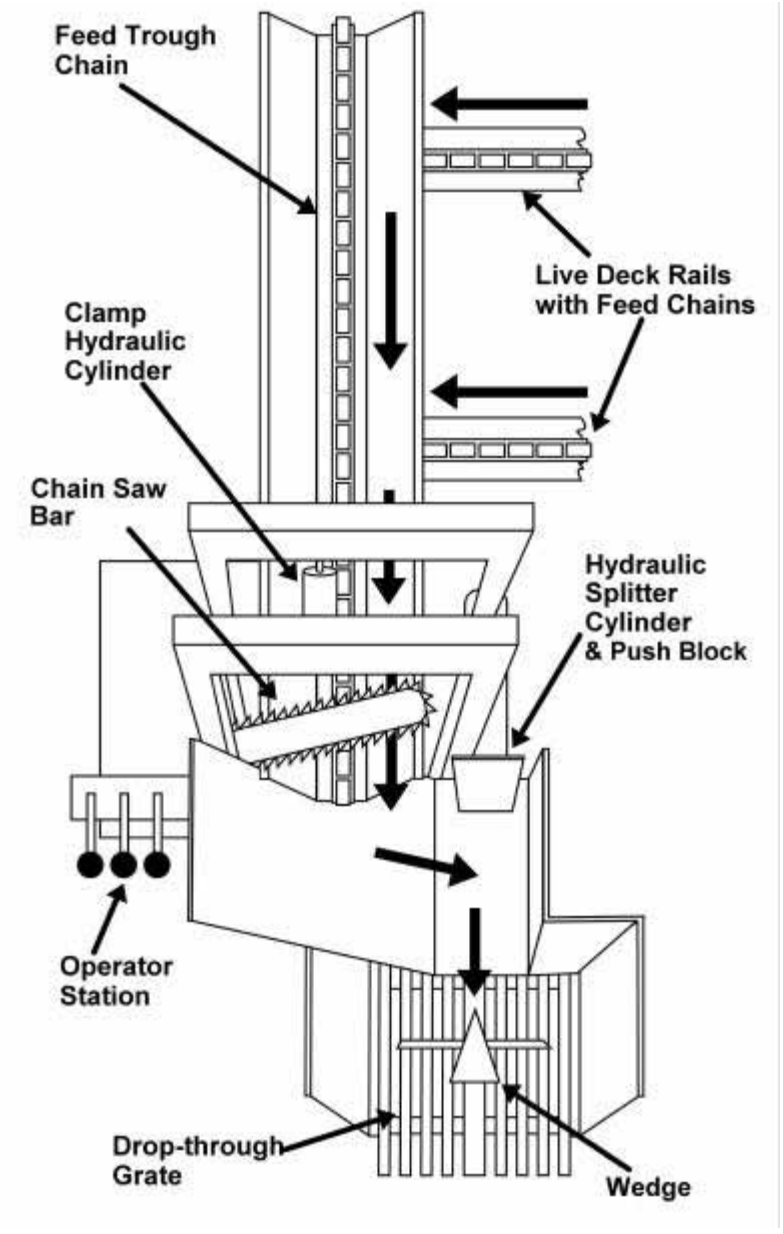
NOTE

For auto-cycle operation pull and release both Splitter handles together. For manual splitter control, use only left Splitter handle.

Operations

Procedures for processing firewood divide into four parts:

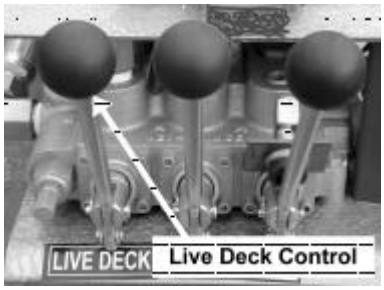
- **Transport** – live deck moves logs into feed trough and feed trough advances logs to be cut.
- **Clamping** – top roll or guillotine holds log in place for cutting. Procedure for advancing log differs between clamp systems so this manual provides separate instructions.
- **Cut off** – separate controls for chain saw motor and lowering/raising chain saw bar.
- **Splitting** – wedge positioning and auto-cycle operation; manual operation for problem pieces.



Processor Functional Diagram

Transport

1. Load logs onto deck with butt ends pointed toward the cut off bar and splitter. Make sure logs are parallel to feed trough and weight is evenly distributed on deck rails.
2. Live Deck lever controls drive chains in the deck rails. Pull lever to move logs toward feed trough, push back for reverse.



Live Deck Lever

3. Advance logs carefully. Make sure only one log is positioned to drop into the feed trough.

NOTE

If more than one log does fall into the feed trough, shut down the processor and remove the extra log(s) from the trough.

4. When processor has stop unloader option installed, live deck chains advance log into unloader jaws. Use Unloader control lever to tip log into feed trough.
5. After log drops into feed trough, move it forward to be cut off by the chain saw. Procedure for advancing a log depends on which clamping system (top roll or guillotine) is installed on the processor.
6. Before you advance the log, make sure clamping mechanism (top roll or guillotine) and chain saw cutoff bar are both raised:
   - Raise guillotine far enough to let log pass under without contact.
   - Raise top roll far enough to let log under roller.

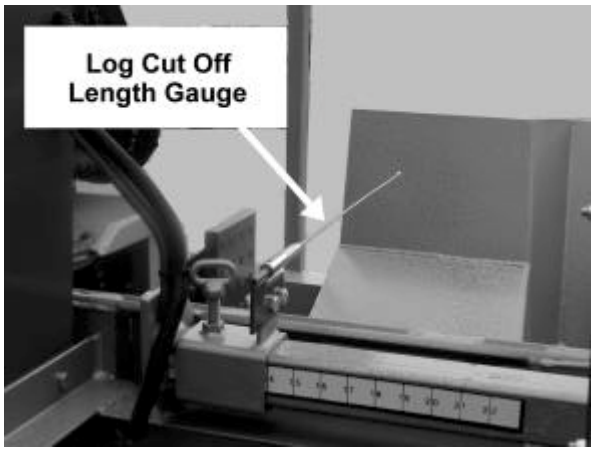
⚠CAUTION

Advancing log without properly positioning the clamp mechanism and cutoff bar can cause severe damage to the equipment.

7. Pull on Feed Trough control lever: to move log forward toward clamp and cut-off. Push back on Feed Trough lever for reverse. Top roll system's roller motor operates in tandem with the feed trough motor.

Feed Trough Lever

8. Advance log until it touches the length gauge.



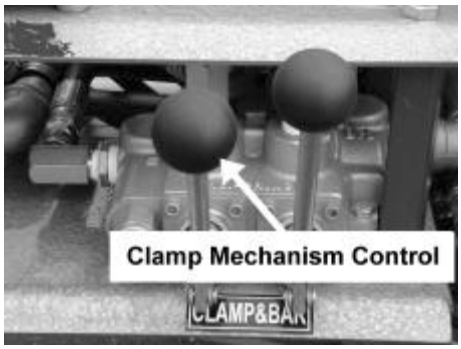
Length Gauge

9. If log moves too far, push on the Feed Trough control lever for reverse.
10. Engage clamp mechanism.

Clamping

The operator station Clamp lever raises and lowers whichever clamping system is installed on the processor.

Separate instructions for each clamping system appear below because clamp operation is different for the two systems. Locate the instructions that apply for your processor's clamping system.



Clamp Lever

Top Roll System

To operate top roll feed mechanism:

1. Pull back on the Clamp control lever to raise the roller. Lift just enough to let the incoming log pass under; advancing log should make the roller turn.
2. When the log is under the roller, push the Clamp lever all the way forward into the float position. That releases the roller to ride over the log's irregular surface.
3. The weight of the roller is enough to hold a log while the saw makes most cuts. The roller takes the place of the clamp bar, but doesn't have to be raised and lowered for every cut.
4. Pull the Feed Trough lever to advance the log until it touches the length gauge wand. If the log advances too far, back it up by pushing back on the lever.
5. Saw off piece and start splitter auto-cycle.
6. Repeat advancing and cutting log.
7. The last cut on some logs can require extra clamping pressure to prevent tipping. For manual clamping –
   - Pull the valve handle back into the neutral position.
   - Carefully push in on the handle to exert as much pressure on the log as needed.
   - Release manual clamping pressure before advancing the log again: return lever all the way forward into float position.
   - Roller cannot climb over bumps on a log while manual clamping pressure is applied.
8. Pay attention while you operate the machine:
   - Check how the roller rides on the log.
   - Don't let the end of a log sneak up on you.
   - Lift roller onto each log; don't drop it roughly.

⚠CAUTION

If you have a problem with the Top Roll System, shut off the machine and contact Timberwolf Mfg. or a Timberwolf dealer. Do not attempt to solve the problem without qualified assistance. Call Timberwolf Mfg. directly at (800) 340-4386 with any questions about the Top Roll System.

Guillotine System

To operate a guillotine clamping system:

1. Push back on the Clamp control lever and raise the clamp far enough to let the incoming log pass under.
2. Pull the Feed Trough lever to advance the log until it touches the length gauge. If the log advances too far, back it up by pushing back on the lever.
3. Pull Clamp lever to bring the guillotine clamp down so that it firmly holds the log.
4. Saw off piece and start splitter auto-cycle.
5. Repeat raising clamp to advance log and lowering to cut.
6. Pay special attention as you approach the last cut. Short logs tend to tip forward, and you need to catch them with the clamp before they get too far out of position.

Cutting

When the log is extended to the length gauge and firmly held by the clamping mechanism, it's time to cut off a piece to be split.

Oiler Pump

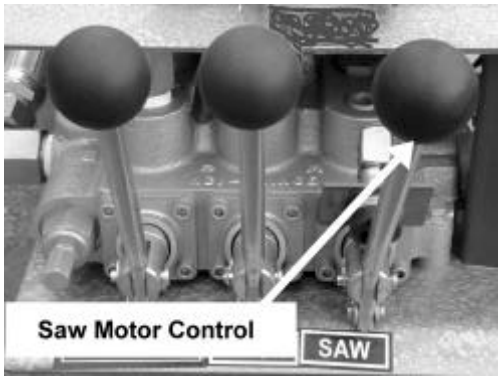
NOTE

Make sure oiler pump valve is open about one quarter turn to regulate bar oil. In mild weather use 30-weight bar oil. Use 10-weight oil at winter temperatures (30° F and below). Bar oils stay on the bar and lubricate better than conventional motor oil.

When log is in cutting position:

1. With the left hand, pull and hold Saw lever to engage the chain saw. Saw only runs while you hold the lever in position. Running the chain also runs the bar oiler.

Cutting
(Continued)



Saw Lever

2. At the same time, pull on the Bar control lever with your right hand to bring the saw down for the cut. Push back on the lever to raise the saw.

Bar Lever

3. When the bar gets near the log, slow it down and approach carefully. Slamming the saw bar into a log can stall the chain.
4. Apply more pressure as the bar enters the cut. Go slowly and carefully to feather the saw bar through the cut. As your experience increases you'll know just how much pressure to exert with the valve handle.
5. If you do exert too much pressure and stall the saw motor, let go of the Bar lever to release the pressure and let go of the Saw lever to stop the chain. Lift the bar up out of the cut by pushing back on the Bar lever, then re-start the saw motor and begin the cut again.
6. If the saw binds in a cut, let up slightly on the Bar control lever. If it continues to bind, raise the bar and come down again to make the cut wider.

7. For a clean cut that drops the log smoothly into the splitter, hold the Bar control until the log falls. Lifting the bar too soon can leave a hinge and make the log tumble into a bad position.
8. Release the Saw control lever when the cut is done. The lever returns to neutral position and the chain stops turning.
9. At the same time, with your other hand, push back on the Bar lever and raise the chain saw bar into position for the next cut.

⚠CAUTION

Be sure to raise chain saw bar far enough to let advancing log pass under. A log hitting the bar can cause severe damage.

Splitting

The fourth processing operation is to split each piece as it's sawed off from the log. The processor's log splitter is similar to a standalone splitter. Pieces may have to be shifted to improve splitting position, and twisted or knotty pieces will exceed auto-cycle détentes and require manual control.

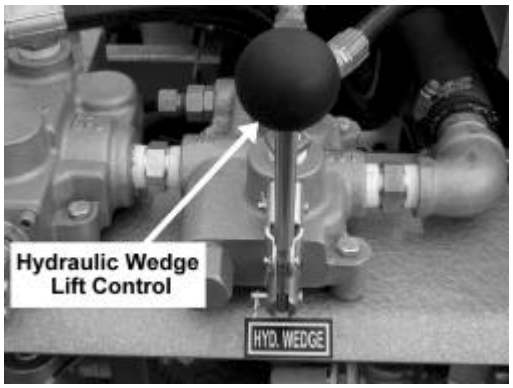
Always observe common rules of log splitter safety:

- Do not use under the influence of drugs or alcohol.
- Never handle firewood by the ends.
- Stay clear of the wedge area once a log begins to split.
- Keep hands away from the splitter during the return stroke.
- Always place both Splitter handles in the neutral position when starting the engine.

Two-lever Auto-cycle Operation

Lever controlled auto-cycle operating instructions for the log splitter:

1. Piece cut off by chain saw should roll into position on the splitter's log carriage. You may have to use a peavey or cant hook to reposition some pieces.



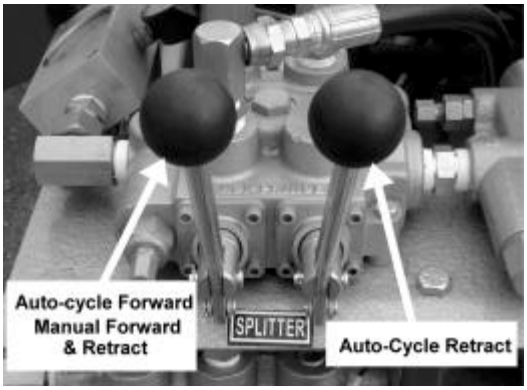
Hydraulic Wedge Lift Lever

Two-lever Auto-cycle Operation (Continued)

2. Center the movable wedge on the log by adjusting up or down with the Hyd Wedge control lever:
   - Push to raise wedge.
   - Pull to lower wedge.
3. Pull both Splitter levers to the détente position and release. Push block should completely extend and return, automatically.
4. Hard-to-split pieces that exceed détente settings make the control levers kick out to neutral position, which makes the push block start back or stop in place.
5. Use your judgement when that happens. You can split some pieces by just starting the push block forward again; some pieces need to be repositioned or turned around; and some need to be removed. You also have the option of controlling the splitter manually with just the left handle.

NOTE

If auto-cycle handles kick out early too often, the valve's forward détente needs adjustment. Consult Maintenance section of this manual for adjustment instructions.



Splitter Auto-cycle Levers

6. While a piece splits under auto-cycle control, you can advance the log in the feed trough and start the next cut. Always keep an eye on the splitter while you do that, though.
7. Both handles stay in détente position until push block is fully extended.
8. At the end of the stroke, forward détente returns left lever to neutral position.
9. Right lever remains in détente position and controls cylinder while it retracts the push block.
10. When cylinder is fully retracted, return détente kicks right lever to neutral position.

You can start cutting the next piece before the push plate returns to the rest position.

⚠CAUTION

Never finish a cut before the push plate returns completely to its rest position.

Continue as previously instructed.

These operating instructions are designed as a guide for you. In time you will become proficient.

Manual Operation

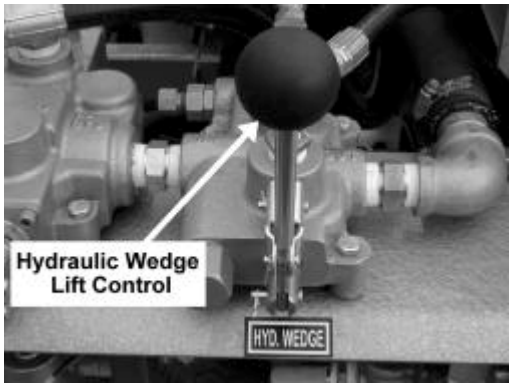
Use left Splitter lever to control the log splitter manually for tough logs that kick out the auto-cycle détentes:

1. Leave right Splitter lever in neutral position.
2. Push and hold left Splitter lever to extend the push block.
3. When log is split, pull and hold the lever until push block is fully retracted.
4. Return lever to neutral position.

Electric Auto-cycle Operation

Electric auto-cycle operating instructions for the log splitter:

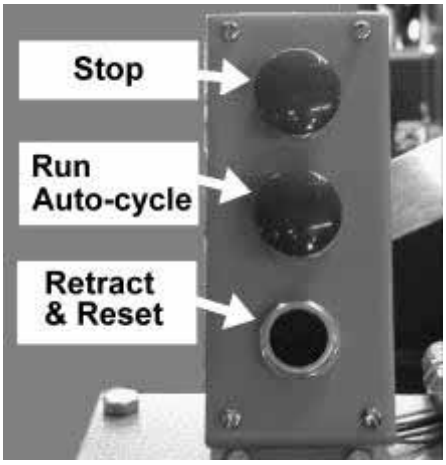
1. Piece cut off by chain saw should roll into position on the splitter's log carriage. You may have to use a peavey or cant hook to reposition some pieces.



Hydraulic Wedge Lift Lever

2. Center the movable wedge on the log by adjusting up or down with the Hyd Wedge control lever:
   - Push to raise wedge.
   - Pull to lower wedge.

Electric Auto-cycle Operation (Continued)



Electric Auto-cycle Switches

3. Push and release the center, green switch to start the cycle. Push block should completely extend and return, automatically.
4. While a piece splits under auto-cycle control, you can advance the log in the feed trough and start the next cut. Always keep an eye on the splitter while you do that, though.
5. If a hard-to-split piece stops or noticeably slows the push block, press and release the red stop button.
6. If you have to stop the push block in mid-cycle, next push the black retract button. That button makes the push block return to its start position and resets the splitter to begin a new cycle. Use your judgement when that happens. You can split some pieces by just starting the push block forward again; some pieces need to be repositioned or turned around; and some need to be removed.

You can start cutting the next piece before the push plate returns to the rest position.

⚠CAUTION

Never finish a cut before the push plate returns completely to its rest position.

Continue as previously instructed.

These operating instructions are designed as a guide for you. In time you will become proficient.