



**HWP-HPU  
PTO Driven  
Hydraulic  
Power Unit**

**Operator's Manual**



**Halverson Wood Products**

**205 College Street**

**Pine River, MN 56474**

**218-587-2065**

## Pre-Delivery Checklist

The purchaser should review the contents of the Operator's Manual including safety equipment, safe operation, and maintenance, review the Safety Signs on the implement (and tractor if necessary), and it is the Purchaser's responsibility to ensure safe operation procedures.

- **IMPLEMENTS:** The chain must be used on the pump to avoid damaging the unit. The HWP-HPU was designed specifically for the Halverson Firewood Processor, and it is not intended for any other use. This product has been extensively tested with Halverson Firewood Processors.
- **HYDRAULICS:** I have made certain that the hydraulic supply pump, hoses, and motor are in good repair and fastened securely in place to prevent injuries.

### **PRE-DELIVERY SERVICE CHECK AND ADJUST OR LUBRICATE AS REQUIRED**

Refer to this Manual for Details

**Inspection Performed - Warranty and Safety Procedures Explained - Installation Complete**

#### **LUBRICATION, HYDRAULICS, & HARDWARE**

- Make Sure All Hardware Is Properly Tightened
- Check All Hoses and Coupling for Damage or Leaks.
- 20 Gallons of Hydraulic Fluid for the Hydraulic Reservoir.

#### **HPU TO TRACTOR CONNECTIONS**

- Make Sure the Proper Hydraulic Connections Are Available on the Tractor and Implement

#### **SAFETY ITEMS**

- Make Sure Safety Decals Are Installed
- Review This Operator's Manual

The HWP-HPU and Operator's Manual have been received by me (the purchaser), and as the purchaser I have read, understand, and taken responsibility for the use of this attachment. I understand and accept responsibility for the proper use of this Hydraulic Power Unit. I acknowledge this unit is dangerous if not used correctly or if the safety information is not followed.

Date \_\_\_\_\_

Owner's Signature \_\_\_\_\_

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# 1.0 Introduction

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## 1.1 Welcome

Congratulations on your choice of the HWP-HPU PTO Driven Hydraulic Power Unit. This equipment has been designed and manufactured to meet the needs of discerning users.

The HWP-HPU was designed to use with the Halverson Wood Products, Inc. ("Halverson") hydraulically driven attachments. This industrial built auxiliary hydraulic unit allows you to add hydraulic horsepower to tractors that do not have enough of their own. This will expand the versatility and value of your tractor.

The system uses a PTO motor to power the HWP-HPU. At 540 RPM, the HWP-HPU provides 21.2 gpm. of fluid to the Halverson attachments. Read this manual carefully to learn how to operate the unit safely and how to set up and maintain it to provide maximum efficiency. By following the operating instructions in conjunction with a good maintenance program, your HWP-HPU will provide many years of trouble-free service.

**Oil operating temperature should not exceed 180° F (82° C). 165° F (74° C) is considered the optimum operating temperature. High temperatures will result in rapid oil deterioration and may cause damage to components.**

**This Unit will not work on a 1000 RPM PTO.**

**The HWP-HPU is equipped with ¾" quick couplers for attachment to implements.**

## 1.2 Safe Operation

Safe, efficient, and trouble-free operation of your HWP-HPU requires that you, and anyone else who will be using or maintaining the unit, read and understand the information contained within the Owner's Manual. Use this manual for frequent reference and to pass on to new operators or owners.

### WARNING

**Read and Understand Manual**

**To prevent personal injury or even death, be sure you read and understand all of the instructions in this manual and other related Original Equipment Manufacturer (OEM) equipment manuals! The HWP-HPU, if not used and maintained properly, can be dangerous to users unfamiliar with its operation. Do not allow operation, maintenance, adjustment, or cleaning of this system until the user has read this manual and developed a thorough understanding of the safety precautions and functions of the unit.**

**DO NOT modify or use this system for any application other than for which it was designed.**

## 1.3 Intended Usage

Do not use this HWP-HPU for any other purpose than its intended use.

## CAUTION

Using the HWP-HPU without the pressure relief valve or adjusting the pressure relief valve will void the warranty and can cause damage to the unit and attachments.

### 1.4 Owner/Operator Manual Storage

Always store the owner/operator manual and other operating materials in the document store in a location that is accessible to the operator.

### 1.5 Operator Orientation

The directions: left, right, front and rear as mentioned throughout this manual as seen from the tractor operator's seat and facing the direction of travel.

### 1.6 Serial Number Location

The serial number plate is located on the unit as shown.



### 1.7 Product Improvements

Because Halverson Wood Products, Inc. maintains an ongoing program of product improvement, we reserve the right to make improvements in design or changes in specifications without incurring any obligation to install them on units previously sold.

### 1.8 Disposal of Equipment at End of Useful Life

The HWP-HPU has been designed for the specific purpose of powering Halverson attachments. When this unit is no longer capable of doing its designed purpose, it should be dismantled and scrapped. Do not use any materials or components from this unit for any other purpose.

## 1.9 Other Questions

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact Halverson Wood Products, Inc., or the dealer you purchased the unit

## 2.0 Safety

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### 2.1 Overview

The safety of the operator and bystanders is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers incorporate as many safety features as possible. However, every year many accidents occur, which could have been avoided by a few seconds of thought and a more careful approach to handling the equipment.

Most work-related accidents are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you assemble, operate, or maintain the HWP-HPU (unit), you must be alert to potential hazards. You should also have the necessary training, skills, and tools to perform any assembly or maintenance procedures.

Improper operation and maintenance of this unit could result in a dangerous situation that could cause injury or death. If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your Authorized Halverson Wood Products Dealer or:

Halverson Wood Products, Inc.  
205 College Street  
Pine River, MN 54474  
Phone: 218-587-2065  
[www.Halversonwoodproducts.com](http://www.Halversonwoodproducts.com)

### 2.2 Safety Warnings

#### **WARNING**

**Do not assemble, operate, or maintain the unit until you have read and understand the information contained in this manual.**

**Safety precautions and warnings are provided in this manual and on the unit. If these hazard warnings are not followed, bodily injury or death could occur.**

Halverson cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the unit are, therefore, not all-inclusive. If a method of assembly, operation, or maintenance not specifically recommended by us is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that the unit will not be damaged or be made unsafe by the methods that you choose.

The information, specifications, and illustrations in this manual are based on the information that was available at the time this material was written and can change at any time without notice.

This manual contains DANGERS, SAFETY INSTRUCTIONS, CAUTIONS, IMPORTANT NOTICES, and NOTES which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death. The following keywords call the readers' attention to potential hazards.

**Hazards are identified by a signal word such as "DANGER", "WARNING", or "CAUTION".**

**DANGER**

**Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.**

**WARNING**

**Indicates a potentially hazardous situation, which if not avoided, could result in serious injury or death.**

**CAUTION**

**Indicates a potentially hazardous situation, which if not avoided, may result in injury.**

### **2.3 General Safety Instruction**

The owner/operator is responsible for the SAFE use and maintenance of the HWP-HPU. Make sure anyone who is operating, maintaining, or working around the unit is familiar with the operating and maintenance procedures and related SAFETY information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be used while using the unit.

In addition to the design features of the unit including safety signs, accident prevention is dependent upon the awareness, concern, prudence, and proper training of the people involved in the operation, maintenance, and storage of the unit. In addition to this safety section, refer also to safety messages and instructions in each of the appropriate sections of the manual.

These general safety instructions apply to the overall use and maintenance of the HWP-HPU. More specific instructions on safety are found in the operation, maintenance, and storage sections of this manual. Refer to these sections before performing any of these tasks.

**WARNING**

**This HWP-HPU was designed for the specific purpose of cutting wood.  
DO NOT modify or use this unit for any application other than which it was designed.**

**Maintaining or operating this unit improperly can be dangerous, exposing the operator and/or bystanders to potential serious injury of death.**

HWP-HPU owners must provide operator instructions to anyone using the unit before use, and at a minimum, annually thereafter. Refer to section 2.6 OSHA Training Requirements on page 9.

**Stay Clear:** Clear the area of people, especially small children, prior to using the HWP-HPU. Under no circumstances should young children be allowed to work around or with the unit.

**Impaired User Hazard:** Do not attempt to assemble, operate, or maintain this unit under the influence of drugs or alcohol. Consult your doctor before using this unit while taking prescription medication.

**Crush Hazard:** Do not allow anyone to ride on the tractor or the HWP-HPU. Falling or crushing hazards can result in severe injury or death.

**Falling Hazard:** Do not allow riders on the hitch, tractor, or HWP-HPU at any time. Falling can result in severe injuries or death.

**No Unauthorized Modifications:** Do not modify the HWP-HPU or safety devices. Do not weld on the unit. Unauthorized modification may impair its function and safety. Personal injury or death can result from unauthorized modifications. If the HWP-HPU has been altered in any way from its original design, Halverson Wood Products, Inc. does not accept any liability or warranty.

**Damaged Parts Hazard:** Do not use the HWP-HPU if any parts are damaged. If the unit has a defect, immediately stop using it and remedy the problem before continuing use.

**Entanglement Hazard: Always** disengage the PTO and turn off tractor before checking fluid level. Do not engage the tractor PTO when attaching or removing the pump to the PTO shaft. Do not stand near the PTO while rotating.

**CAUTION**

**The following safety instructions are provided to help prevent potential injury. Not following these instructions may lead to injury.**

**Personal Protective Equipment:** When using the HWP-HPU, wear appropriate personal protective equipment. This list may include but is not limited to:

- Protective shoes with slip resistant soles
- Protective goggles, glasses, or face shield
- Protective clothing and gloves
- Safety vest
- Hearing Protection

**Ear Protection:** Wear suitable ear protection during prolonged exposure to excessive noise.

**Hearing Loss:** Prolonged exposure to loud noises may cause permanent hearing loss! Working environments with noise producing equipment can cause partial or permanent hearing loss. We recommend using hearing protection any time noise levels exceed 80 decibels (dB). Noise levels over 85 dB can cause severe hearing loss. Noise levels of 90 dB can cause permanent or total hearing loss.

**Crush Hazard:** The tractor should be equipped with a Roll-Over-Protective-Structure (ROPS) and a seat belt. A crushing hazard can occur if the driver is ejected from the seat while the tractor is in motion. Fasten the seat belt whenever the tractor is moving.

**Fire Extinguisher:** Have an appropriately rated fire extinguisher available for use and know how to use it.



**High Pressure Fluids:** Relieve the pressure before disconnecting hydraulic lines or performing work on the system. Ensure all hydraulic fluid connections are tight and ensure all hoses and lines are in good condition prior to applying pressure to the system.

**Safety Signs:** Replace any missing or hard to read safety signs or instructional labels. Use care when washing or cleaning the reservoir system. Replacement safety sign locations and parts numbers are provided in this manual and are available from Halverson Wood Products, Inc.

**First Aid Kit:** Have a first aid kit available for use and know how to use it.

**Hand Protection:** Do not touch the exterior of the HWP-HPU, it may become hot during operation.

## 2.4 Training

Anyone who will be using and/or maintaining the HWP-HPU must read, clearly understand, and follow ALL safety, operation, and maintenance information presented in this manual, other related OEM manuals, and the safety signs. If you do not understand any information in this manual, see your dealer or contact Halverson Wood Products, Inc., before proceeding.

Do not use or allow anyone else to use this HWP-HPU until all information has been reviewed. Annually review this manual before the season start-up. Make periodic reviews of SAFETY and OPERATION of the HWP-HPU a standard practice. An untrained operator is not qualified to use the HWP-HPU.

## 2.5 OSHA Training Requirements

The following training requirements have been taken from Title 29, Code of Federal Regulations Part 1928.57 (a) (6). [www.osha.gov](http://www.osha.gov).

**Operator instructions:** At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor and implements in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

## 2.6 Federal Laws and Regulations

### IMPORTANT FEDERAL LAWS AND REGULATIONS CONCERNING EMPLOYERS, EMPLOYEES AND OPERATORS

This section is intended to explain in broad terms the concept and effect of the following federal laws and regulations. It is not intended as a legal interpretation of the laws and should not be considered as such.

#### U.S. PUBLIC LAW 91-596 (The Williams-Steiger Occupational Safety and Health Act of 1970) OSHA

##### **This Act seeks:**

"... to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources ..."

#### DUTIES

##### **Sec. 5(a) Each Employer -**

- (1) shall furnish to each of its employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to its employees.
- (2) shall comply with occupational safety and health standards promulgated under this Act.
  - (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his or her own actions and conduct.

##### **OSHA Regulations**

Current OSHA regulations state in part: "At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved." These will include (but are not limited to) instructions to:

Keep all guards in place when the machine is in operation;

Permit no riders on equipment.

Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain equipment.

Make sure no one is within 300 feet of machinery before starting the engine, engaging power, or operating the machine.

#### EMPLOYEE TRACTOR OPERATING INSTRUCTIONS:

1. Securely fasten your seat belt if the tractor has ROPS.
2. Where possible, avoid operating the tractor near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going, especially at row ends, on roads, and around trees.
6. Do not permit others to ride.
7. Operate the tractor smoothly - no jerky turns, starts, or stops.]
8. Hitch only to the drawbar and hitch points recommended by tractor manufacturers.
9. When a tractor is stopped, set brakes securely and use park lock if available.

##### **Child Labor Under 16 Years Old**

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102).



## **2.8 Operation Safety**

Refer to the Operation section for safety recommendations related to using the HWP-HPU.  
All applicable safety recommendations in other sections should also be followed.

## **2.9 Transportation Safety**

Refer to the Transporting section for safety recommendations related to transporting the HWP-HPU.  
All applicable safety recommendations in other sections should also be followed.

## **2.10 Storage Safety**

Refer to the Storage section for safety recommendations related to storing the HWP-HPU.  
All applicable safety recommendations in other sections should also be followed.

## **2.11 Maintenance Safety**

Refer to the Service and Maintenance section for safety recommendations related to maintaining the HWP-HPU.  
All applicable safety recommendations in other sections should also be followed.

## 3.0 Safety and Instructional Labels

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### 3.1 General Information

The types of safety signs (hazard labels) and instructional labels, along with their locations on the equipment, are shown in the following illustrations. Good safety practices require that you familiarize yourself with the various safety signs, the type of warning, and the area or particular operation related to that area that require your **safety awareness**.

Pay close attention to the safety signs and instructional labels attached to the tractor and the HWP-HPU. Duplicate safety signs, which are attached to the HWP-HPU, can also be found in this section. If the HWP-HPU is missing a label or one is unreadable, replace the label before using the unit.

### 3.2 How to Install Replacement Safety Signs

1. Clean and dry the installation area.  
Note: Do not install the signs if the temperature is below 50°F (10°C).
2. Determine the exact position before you remove the backing paper.
3. Remove the backing paper.
4. Align the sign over the specified area and carefully press the sign to the part/frame.  
Note: Small air pockets can be pierced with a pin and smoothed out.

**Keep safety signs or instructional labels clean and legible at all times. Use a clean, damp cloth to clean safety decals.**

1. Replace any missing or hard-to-read safety signs or instructional labels.
2. Use care when washing or cleaning the equipment not to remove or damage the labels. When using a pressure washer to clean the unit, avoid spraying too close to decals; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.
3. Locations for the labels and replacement part numbers are shown in this section.
4. Replacement parts must have replacement labels attached during installation and/or before the HWP-HPU is used.
5. Labels are available from your Halverson Wood Products, Inc. at no charge.

### 3.3 Safety Signs



## 4.0 Operation

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### 4.1 Operating Safety

#### WARNING

##### **Crush Hazard**

The tractor should be equipped with a Roll-Over-Protective-Structure (ROPS) and a seat belt. A crushing hazard can occur if the driver is ejected from the seat while the tractor is in motion. Fasten the seat belt whenever the tractor is moving.

**Roll Away Hazard:** Before leaving the tractor seat, make sure the engine is stopped, the transmission is placed in park, the key is removed, and the parking brake is set. The weight of the tractor plus the HWP-HPU can cause serious injury or death.

**Stay Clear:** Clear the work area of all unnecessary people and obstructions to prevent injury.

**Entanglement Hazard:** To avoid serious injury or death, ensure PTO is off while attaching the HWP-HPU. Make sure the safety chain is not in the area of the PTO.

**Think Safety:** To avoid serious injury or death, do not use the HWP-HPU to push or carry objects. Never removed the hydraulic fill cap during operation, hot oil can escape causing severe burns. Allow hydraulic system to cool completely prior to removing oil cap. Ensure hydraulic hoses are properly routed with no kinks or twists. If the hydraulic lines become pinched, kinked, or blocked, the hydraulic lines can burst causing a hydraulic fluid leak and serious injury or death.

**Train Unfamiliar Users:** It is the HWP-HPU owners' responsibility to ensure any person using the unit, especially if it is loaned or rented, has been thoroughly trained in its proper and safe use.

### 4.2 Work Area Safety

Never operate the unit in limited visibility conditions where you cannot clearly see at least 300 feet in front and to the sides of the tractor and HWP-HPU. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris, and foreign objects. If you are unable to clearly see these types of items, stop operating the HWP-HPU. Do not operate the HWP-HPU, or drive the tractor into material that is burning, or areas that recently burnt and may contain hot embers. Burning material, sparks, and coals could be thrown from the HWP-HPU to areas of vegetation that might ignite.

**Carry a fire extinguisher on the tractor at all times to extinguish possible fires encountered.**

**Do not operate the HWP-HPU on a tractor with under-frame exhaust.**

**Before turning, slightly raise the unit off the ground.**

**After the pump is hydraulically disengaged, the motor can free wheel for several minutes. Stay clear of the shaft until it comes to a complete stop.**

**Stay alert and watch for trees, power lines, and other overhead obstacles as well as solid ground objects.**

**Do not use the HWP-HPU to push objects.**

### 4.3 Tractor Requirements

The tractor used to operate the HWP-HPU must have the power capacity to lift and move the unit. Minimum 30 HP required to run the unit. Operating the HWP-HPU with a tractor that does not meet the following requirements may cause tractor or HWP-HPU damage and be a potential danger to the operator and passersby.

**Some tractors are available with multispeed PTO.**

**Ensure your tractor's PTO is set to 540 RPM to prevent damage to the implement.**

Do not operate the HWP-HPU while it is unhooked from the tractor's 3-point hitch. This unit could become unstable if not properly attached to a tractor during operation. Always review the "controls" section of the tractor operator's manual to be familiar with the location, settings, and function of the tractor controls. Be familiar with all controls before using this equipment.

- Approved Roll-Over-Protective Structure (ROPS) or ROPS cab and seat belt.
- Tractor Safety Devices; Slow Moving Vehicle (SMV) emblem, lighting.

### 4.4 Attaching to Tractor

Use caution when connecting the HWP-HPU to the tractor. The HWP-HPU should be securely resting at ground level or setting on blocks. Keep hands and feet from under the unit and clear of pinch points between the tractor hitch arms and HWP-HPU hitch pins.

#### **WARNING**

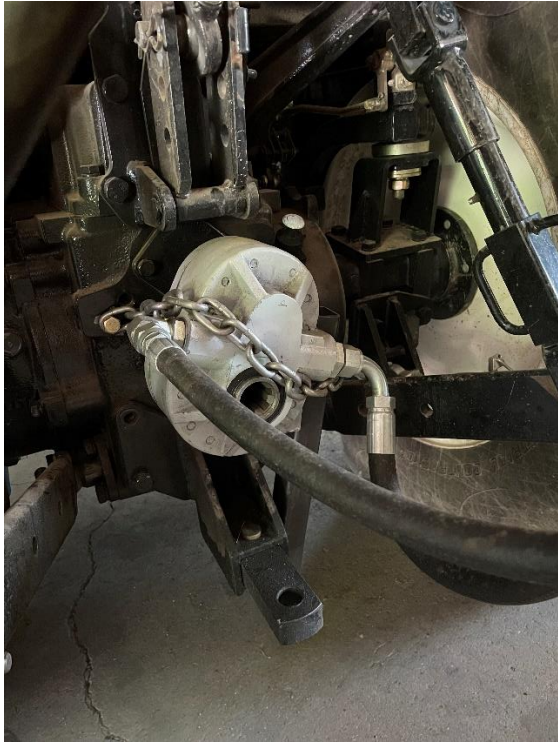
**Crush hazard exists between tractor and reservoir system.**

**Do not allow anyone to stand between the tractor and implement during hook-up operations.**

### Attaching to Tractor

1. Connect the "out" side of the PTO pump to the pressure relief block.
2. Connect the "in" side of the PTO pump to the bottom of the tank prior to filling with hydraulic fluid!
3. Slowly back the tractor towards the HWP-HPU and align the lower lift arm hitch holes with the lug holes on the HWP-HPU using the tractor's 3-point hydraulic controls.
4. Engage the tractor's parking brake and shut the tractor engine off. Remove the key before dismounting from the tractor.
5. With the lower hitch arms on the tractor aligned and positioned between the lug holes on the HWP-HPU, insert the lower 3-point hitch pins through the lug holes on the unit. Secure with lynch pins.
6. Connect the top center link on the tractor to the top center link mounting holes on the HWP-HPU using the top link pin and cotter pin.
7. If necessary for the PTO pump to fit on tractor, remove the PTO guard assembly (*if equipped*) from the tractor.
8. Attach PTO pump to PTO shaft on tractor. Secure with provided chain, using the two (2) removed bolts from the PTO guard assembly. (*See image on page 16*)





**Ensure the support brace is orientated correctly to prevent PTO pump from spinning.**

9. Add hydraulic fluid to the desired level in the sight glass.
10. Attach hydraulic lines to the HWP-HPU.
11. Attach optional HWP-HPU Case Drain Kit *(if required)*
12. Connect quick couplers to the attachment.
13. Connect the cooler fan connector *(if equipped)* and plug into a 12v power port using the supplied harness.
14. Enjoy the use of your HWP-HPU. *Note: When running a HWP Firewood Processor, it is not anticipated that you will need to run the tractor at the full 540 rpm.*

**Hydraulic flow and pressure are preset from the Factory.  
Do not attempt to adjust.**



## 5.0 Transporting

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### 5.1 Transportation Safety

#### WARNING

**Always refer to the tractor owner's manual to determine its compatibility and maximum safety.**

**Operating the Tractor:** Before attaching the HWP-HPU to the tractor, be familiar with its controls and how to stop it quickly in the event of an emergency. Read and understand this manual and the one provided with your tractor before transporting the unit.

**Fall and Crush Hazard:** Do not allow riders on the HWP-HPU or tractor.

**Maximum Transporting Speed:** Do not exceed 20 MPH when transporting the HWP-HPU. Slow down for corners and rough terrain.

**Visibility:** Clean reflectors, slow moving vehicle (SMV) signage, and lights before towing. Make sure all the lights and reflectors required by highway and transport authorities are in place and can be seen clearly by all overtaking and oncoming traffic.

**Regulations:** Make sure all local, state, and federal regulations, regarding the transport of equipment on public roads and highways, are met. Check with the local authorities regarding transporting the HWP-HPU on public roads. Obey all applicable laws and regulations.

**Rollover Protection:** The tractor should be equipped with a Roll-Over-Protective-Structure (ROPS) and a seat belt.

**Drive Safely:** Be a safe and courteous driver. Anticipate what other drivers will do and drive accordingly.

**Allow Extra Distance:** Apply brakes early. Leave extra distance between your vehicle and the one(s) ahead to provide adequate stopping space. Extra distance will be required to stop the vehicle.

**Clear Vision:** Remove all objects from the area that would prevent clear vision of the complete work area or would present an obstacle when moving the HWP-HPU.

**Hitch Attachment:** Be sure the HWP-HPU is securely attached to the tractor and in good operating condition before use.

**Working Taillights:** Make sure lights on the tractor are working properly. Daybreak and dusk are particularly dangerous and rear pilot vehicles are recommended. HWP-HPU without lights should be transported on public roads only during daylight hours.

**Hazard Flashers:** Use hazard flashers on the tractor when transporting unless prohibited by law.  
Right-of-Way

**When traveling below the posted speed limit, keep to the right and yield the right-of-way to allow faster traffic to pass.**

## 6.0 Storage

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### 6.1 Storage Safety

At the end of the season, the HWP-HPU should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components to prevent any unnecessary downtime at the beginning of the next season.

**Personal Injury Hazard:** Store the HWP-HPU in an area away from human activity. To prevent the possibility of serious injury, do not permit children to play on or around the stored unit.

**Crush Hazard:** Always set the HWP-HPU on safety stands or on blocks for storage.

**CAUTION**

**To prevent damage to the HWP-HPU, store it in a dry, level area.**

### 6.2 Placing In Storage

When placing the HWP-HPU in storage, follow this procedure:

1. Remove all entangled vegetation.
2. Thoroughly wash with a pressure washer or water hose to remove all grease, dirt, mud, or debris.
3. Select a storage area that is dry, level, and free of debris (inside a building is ideal).
4. Replace all damaged or missing decals.
5. Follow all detaching from tractor instructions when disconnecting tractor from the HWP-HPU.
6. Touch up all paint nicks and scratches to prevent rusting.

### 6.3 Removing From Storage

When removing the HWP-HPU from storage, follow this procedure:

1. Attach the HWP-HPU to the tractor 3-point hitch.
2. Raise the unit up off the blocks.
3. Before placing the HWP-HPU back into service, replace any worn or defective parts.
4. Perform the Pre-Operation Checklist.

## 7.0 Service and Maintenance

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### 7.1 Maintenance Safety

#### WARNING

**Failure to comply with the following safety instructions can and will result in serious injury and possibly even death.**

**Personal Protection Equipment:** Wear close fitting and belted clothing to avoid getting caught in moving parts. Wear personal protection equipment (PPE), which may include hard hat, safety glasses, safety shoes, and gloves appropriate for the work site and working conditions.

**Damaged Parts Hazard:** Do not use the HWP-HPU if any parts are damaged. If the unit is believed to have a defect which could cause it to work improperly, immediately stop using it and remedy the problem before continuing.

**No Unauthorized Modifications:** Do not modify the HWP-HPU or safety devices. Do not weld on the unit. Unauthorized modifications may impair its function and safety and will void the warranty. If the HWP-HPU has been altered in any way from the original design, Halverson Wood Products, Inc. does not accept any liability for injury or warranty.

**Crush Hazard:** Always set the HWP-HPU on safety stands or on the ground when performing maintenance.

**Hand Safety:** Never check for leaks with your hand. Leaks can be located by holding a piece of cardboard or wood (at least 2 feet long) with your hand at one end and passing the other end over the suspected area (wear eye protection). Look for discoloration of the cardboard or wood. Hydraulic fluid escaping through a pinhole sized opening can burn or puncture skin, resulting in wounds that could cause blood poisoning, infection, disability, gangrene, amputation, or death. If injured by escaping fluid, no matter how small the wound is, see a doctor at once. A typical injection may be a small wound that does not look serious. However, severe infection or reaction can result if proper medical treatment is not administered immediately by a doctor who is familiar with injection injuries.

**The following safety instructions are provided to help prevent injury or limit equipment damage.**

**Safety Equipment:** A fire extinguisher and first aid kit should be readily accessible while performing maintenance on this equipment.

**Clean Work Area:** Do not leave tools lying around the work area. Follow good shop practices. Keep service area clean and dry. Be sure electrical outlets and tools are properly grounded. Use adequate light.

**Use the Right Tools:** Use the correct tools, jacks, hoists or other tools that have the capacity for the job.

**Good Working Condition:** Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts.

**Safety Shields and Devices:** When completing a maintenance or service function, make sure all safety shields and devices are installed before placing the HWP-HPU in service

**Proper Support:** Use certified safety stands rated to support the load when working beneath the HWP-HPU, or performing repairs or maintenance. Before working underneath the HWP-HPU, place it on a minimum of four jack stands, with a load rating of at least 1000 lbs. each. Make sure the jack stands are stable and the HWP-HPU is approximately level. Test the stability of the unit before working underneath. If the unit is attached to the tractor, set the brakes, remove the key, chock the tractor wheels, and block the HWP-HPU before working underneath.

## 7.2 Welding Repairs

Before performing any type of welding repair to the HWP-HPU, contact Halverson for approval. Repair welding must be done with care and with procedures that may be beyond the capabilities of the ordinary welder. Anyone performing a welding repair should be certified in accordance with the American Welding Society (AWS) standards. Repairs or modifications to the HWP-HPU can result in serious injury or death should these repairs fail.

### WARNING

**Repairs or modifications to the HWP-HPU can result in serious injury or death should those repairs fail.**

## 7.3 Hydraulic Fluid Maintenance

One of the most important items to prevent problems is ensuring that the HWP-HPU is free of dirt and other containments.

### 7.3.1 Check Fluid Level

Check the fluid level every 8 hours of operation or if a spill or leak has occurred. **DO NOT** attempt to add more hydraulic fluid during operation.

1. Level the HWP-HPU.
2. Clean dirt and containments around the fill cap.
3. Remove the filler cap.
4. Add Hydraulic Fluid to the reservoir until it reaches between the low and high in the sight glass.
5. Put the filler cap back on.

### 7.3.2 Replace Filter Element

Replace the filter element after every 75 hours of operation or if contamination occurs.

1. Place a drip pan under the filter to catch spilled hydraulic fluid
2. Unscrew filter element and drain the hydraulic fluid from the filter.
3. Clean the filter head
4. Replace oil filter with a filter and O-ring. Coat O-ring with clean hydraulic fluid.
5. Hand tighten filter. Tighten by turning filter an additional 7/8 of a turn.

### 7.3.3 Change Hydraulic Fluid

Change hydraulic fluid every 150 operating hours or every 2 years of service, whichever comes first.

1. Place a container with the ability to hold 20 gallons under the drain plug.
2. Remove the drain plug and filler cap.
3. Allow the hydraulic fluid to drain from the unit completely, and then replace the drain plug.
4. Fill the reservoir with 20 gallons of hydraulic fluid and replace the fill cap.

### 7.4 Service Record

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication or oil changes.

Hours and Serviced by																		
<b>Every 8 Hours</b>																		
Make sure fasteners and clamps are properly tightened.																		
Make sure all retainer clips and cotter pins are in place.																		
Check Fluid Level, and check for leaks																		
Inspect labels and hoses for damage																		
<b>Every 75 Hours</b>																		
Replace Filter Element																		
<b>Every 150 Hours</b>																		
Change Hydraulic Fluid																		
Check unit, motor, and hoses for damage.																		
Wash the reservoir system.																		
Fill in any nicks in the paint																		

## 8.0 Warranty

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**Warranty Duration:** Unless otherwise provided in writing by Halverson Wood Products Inc., Halverson Wood Products makes the following warranty to the first retail purchaser of each HWP-HPU attachment:

**Six (6) months from the date of delivery to the first retail purchaser.**

**Warranty Coverage:** This warranty applies to the HWP-HPU PTO Driven Hydraulic Power Unit manufactured by Halverson Wood Products, Inc. All parts and components of the HWP-HPU which, delivered to the original purchaser, are found to be defective in terms of materials and/or workmanship, will be repaired or replaced as Halverson Wood Products Inc. elects within the warranty period as measured from the date of delivery to the first retail purchaser.

**Halverson Wood Products Inc.**

205 College Street  
Pine River MN, 56474  
218-587-2065

[halversonwoodproducts@halversonwp.com](mailto:halversonwoodproducts@halversonwp.com)

**Obtaining Warranty Service:** Warranty repair work must be pre-authorized by Halverson Wood Products, Inc. call 218-587-2065 for authorization. A warranty service must be requested from the nearest authorized Halverson Wood Products dealer or directly from the factory before the expiration of the warranty. Halverson Wood Products Inc. or authorized repair facilities will only use new or re-manufactured parts or components furnished or approved by Halverson Wood Products, Inc.

**Warranty Exclusions:** Halverson Wood Products obligations shall not apply to any part or component not manufactured, furnished, or installed by Halverson Wood Products nor failures caused by such items. Specifically excluded are failures of and damage to any vehicle or other piece of equipment tired or upon which the HWP-HPU is attached.

**Purchaser's Responsibilities:**

- The cost of normal maintenance and depreciation.
- Consequences of negligence, misuse or accident involving the HWP-HPU.
- Consequences of service performed by someone other than a party authorized to perform warranty service, if such service, in Halverson Wood Products judgment, has adversely affected the performance or reliability of the HWP-HPU.
- Consequences of any modification or alteration of the machine or the attachment not approved by Halverson Wood Products Inc. These include, but are not limited to hydraulic pressure settings and/or contamination of the hydraulic system
- The effects of hydraulic system neglect as manifested in hydraulic motor pitting, scoring, erosion, valve spool sticking and other internal component caused by cavitations, contamination, high oil temperatures and excessive hydraulic pressure.
- Consequences of excessive system back pressure within the machine to which the HWP-HPU is attached.
- Any premium for overtime labor requested by the purchaser.
- Costs of transporting the HWP-HPU to and from the location at which the warranty service is performed.
- Cost incurred in gaining access to the machines or overcoming physical barriers such as walls, fences, ditches, streams, or similar structures impeding access to the HWP-HPU or rental of cranes or similar construction of ramps or lifts.
- Incidental travel costs including tolls, meals, lodging and similar expense.
- Service outlet costs incurred in solving or attempting to solve non-warranty problems.

**Purchaser's Responsibility, continued:**

- Services performed by a party other than authorized Halverson Wood Products Inc. Personnel.
- Charges by dealers for initial machine set up, installation, start up and inspection deemed unnecessary by Halverson Wood Products Inc. when operation and maintenance instructions are supplied.
- Cost of interpreting or translating service.

**Replacement Parts Warranty**

- New Halverson Wood Products Inc. parts installed during the warranty service are warranted for the remaining warranty period of the unit. A new HWP-HPU replacing a failed HWP-HPU is warranted for the remaining period of the original unit.
- No Representation or Implied Warranty
- Where permitted by law, neither Halverson Wood Products Inc. nor any company affiliated with it makes any guaranties, warranties, conditions, representations or promises express or implied, oral or written, as to the non-occurrence of any defect or the quality of performance of its machines or attachments other than those set forth in the document and DOES NOT MAKE ANY IMPLIED WARRANTY OR CONDITIONS OF MERCHANTABILITY OR FITNESS otherwise provided in the Uniform Commercial Code or required by any Sale of Goods Act or any other statute. This exclusion includes fundamental terms. In no event will a Halverson Wood Products Inc. authorized dealer or a Halverson Wood Products Inc. authorized service facility, or Halverson Wood Products Inc. or any company affiliated with Halverson Wood Products Inc., Be liable for incidental or consequential damages or injuries including, but not limited to, loss of profits, loss of firewood contracts, rental of substitute equipment or other commercial loss or damage suffered by the purchaser as a result of fundamental breaches of contract or breach of fundamental terms unless such damages are caused by the gross negligence or intentional acts of the foregoing parties

**Remedy Limitations**

- The remedies set forth in this warranty are the purchaser's exclusive remedies in connection with the performance of or any breach of guaranty, condition, or warranty in respect of the Halverson Wood Products Inc. products. In the event that the above warranty fails to correct purchaser's performance problems caused by defects in workmanship and or materials, purchaser's exclusive remedy shall be limited to payment by Halverson Wood Products Inc. of actual damages in an amount not to exceed the cost of the HWP-HPU.
- No Sellers Warranty
- No person or entity other than Halverson Wood Products Inc. who sells the HWP-HPU makes any guaranty or warranty of its own on any product warranted by Halverson Wood Products Inc. unless it delivers to the purchaser a separate written guaranty certificate specifically guaranteeing the product, in which case, Halverson Wood Products Inc. will have no obligation to the purchaser. Neither equipment distributors, equipment dealers, nor any other person or entity, has the authority to make a representation or promise on behalf of Halverson Wood Products Inc. or to modify its terms in any way.

**Warranty Transfer**

- The remainder of the original warranty may be transferred to the subsequent owner of the HWP-HPU only by express written consent.

Please report the transfer of ownership to Halverson Wood Products Inc. by phone or e-mail:

**218-587-2065**

**halversonwoodproducts@halversonwp.com**

## 9.0 Parts List

### HWP-HPU Parts List

Description	Quantity
1. Fluid Tank Assembly	1
2. HPU Frame Assembly	1
3. HPU Leg Assembly	2
4. VIO-2-A8T Aluminum Block	1
5. Pressure Relief Valve	1
6. Radiator (w/Cooler Only)	1
7. Electric Fan (w/Cooler Only)	1
8. Thermostat Assembly (w/Cooler Only)	1
9. PTO Pump Assembly	1
10. 28" 5/16" PTO Chain	1
11. Male Quick Coupler	1
12. Female Quick Coupler	1
13. 1 1/2" 14-20ga. Ribbed Plug	4
14. Filter Breather Assembly w/screen & Fill Cap	1
15. Sight Glass with Temp. Gauge	1
16. Filter Housing	1
17. 3/8" Snap Safety Pin	2
18. Fluid Filter	1
19. 145 deg. Temp. Switch	1
20. #12 Hose 33" w/ #12 JIC Female & #12 JIC Female 90°	1
21. #12 Hose 12 1/2" w/ #12 JIC Female & #12 JIC Female 90°	1
22. #12 Hose 17" w/ qty. 2 #12 JIC Female Fittings	1
23. #12 Hose 37" w/ #12 JIC Female & #12 JIC Female 90°	1
24. #8 Hose 15" w/ #10 JIC Female & #10 JIC Female 90°	1
25. #8 Hose 44" w/ #10 JIC Female & #10 JIC Female 90°	1
26. 1/4" Nylock Nut	2
27. 1/4" Flat Washer	4
28. 3/8" x 1" Bolt	4
29. 3/8" Lock Washer	4
30. 5/16" x 1" Bolt	12
31. 5/16" Lock Washer	12
32. 5/16" Flat Washer	12
33. 1/4" x 2" Bolt	2
34. 3/4" ORB Plug	2
35. 3/4" ORB x 3/4 Pipe Male	2
36. 3/4" ORB x 3/4 Pipe Male 90°	1
37. 3/4" JIC x 3/4 ORB Male 90°	1
38. 1" ORB x 3/4 JIC Male	3
39. 3/4" ORB x 5/8" JIC Male	2
40. 1/2" ORB x 3/4 JIC Male 90°	1
41. 3/4" JIC "T" Double Male w/Female	1
42. 1/2" ORB x 5/8 JIC Male	1
43. 5/8" ORB "T" Double Male w/Female	1
44. Fluid Level Label	1
45. Halverson Logo Label	1
46. Crush Hazard Label	1
47. USA Label	1
48. HWP Serial Tag w/ Rivets	1
49. 12 Radiator Fan Pigtail w/ Plug (w/Cooler Only)	1
50. Owner's Manual & Quick Start Guide	1



**Halverson Wood Products**

**205 College Street  
Pine River, MN 56474  
218-587-2065**