OWNER'S/ OPERATOR'S MANUAL

MODEL 24

MODEL NO.'s HPD-24 SHC HPD-24 SWO

A CAUTION

For Safe Operation Read Rules And Instructions Carefully

SINO LEEINGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MEDIDAS DE SEGURIDAD.



Safety Instructions
Tractor Preparation
Operating Instructions

HYDRAULIC
POST
DRIVER
WITH 3-PT.
HYDRAULIC
POSITIONING
MOUNT

Assembly & Mounting Maintenance Repair Parts

A CAUTION A

THE FOLLOWING SAFETY PRECAUTIONS SHOULD BE THOROUGHLY UNDERSTOOD BEFORE ATTEMPTING TO BEGIN ASSEMBLING THIS MACHINE

- Select an area for assembly that is clean and free of any debris which might cause persons working on the assembly to trip.
- 2. Do not lift heavy parts or assemblies. Use crane, jack, tackle, fork trucks or other mechanical devices.
- Preview the assembly instructions in your operator's manual before proceeding further.
- 4. If the assembly instructions call for parts or assemblies to be blocked up, use only blocking material that is in good condition and is capable of handling the weight of the assembly to be blocked. Also insure that the blocking material is on a clean, dry surface.
- 5. Never put hands, or any part of body, under blocked up assemblies if at all possible.

- 6. After completing assembly, thoroughly inspect the machine to be sure that all nuts, bolts, hydraulic fittings or any other fastened assemblies have been thoroughly tightened
- 7. Before operating the machine, thoroughly read the operation section of your operator's manual.
- Before operating, read the maintenance section of your operator's manual to be sure that any parts requiring lubrication, such as gearboxes, are full, to avoid any possible damage.
- Before operating equipment If you have any questions regarding the proper assembly or operation, contact your dealer or representative.

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SINO LEEINGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MEDIDAS DE SEGURIDAD.

STATEMENT OF POLICY

It is the policy of Worksaver, Inc. to improve its products where it is possible and practical to do so. Worksaver, Inc. reserves the right to make changes or improvements in design and construction at any time, without incurring the obligation to make these changes on previously manufactured units.

TO THE OWNER:

Read this manual before using your Hydraulic Post Driver. This manual is provided to give you the necessary operating and maintenance instructions for keeping your Hydraulic Post Driver in top operating condition. Please read this manual thoroughly. Understand what each control is for and how to use it. Observe all safety signs on the machine and noted throughout the manual for safe operation of implement. Keep this manual handy for ready reference.

Like all mechanical products, it will require cleaning and upkeep. Lubricate the Post Driver as specified.

Use only genuine Worksaver, Inc. service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model and serial number of your Post Driver here:

Model:	Serial Number:

RETAIL CUSTOMER'S RESPONSIBILITY

It is the Retail Customer and/or Operator's responsibility to read the Operator's Manual, to operate, lubricate, maintain, and store the product in accordance with all instructions and safety procedures. Failure of the operator to read the Operator's Manual is a misuse of this equipment.

It is the Retail Customer and/or Operator's responsibility to inspect the product and to have any part(s) repaired or replaced when continued operation would cause damage or excessive wear to other parts or cause a safety hazard.

It is the Retail Customer's responsibility to deliver the product to the authorized Worksaver Dealer, from whom he purchased it, for service or replacement of defective parts which are covered by warranty. Repairs to be submitted for warranty consideration must be made within forty-five (45) days of failure.

It is the Retail Customer's responsibility for any cost incurred by the Dealer for traveling to or hauling of the product for the purpose of performing a warranty obligation or inspection.

LIMITED WARRANTY



Worksaver warrants to the original purchaser of any new Hydraulic Post Driver, that the equipment be free from defects in material and workmanship for a period of twenty-four (24) months for non-commercial, state, and municipalities. Use ninety (90) days for commercial use from date of retail sale.

Replacement or repair parts installed in the equipment covered by this warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later.

Such parts shall be provided at no cost to the user during regular working hours. Worksaver reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Worksaver's obligation under this warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Worksaver; duty; taxes; charges for normal service or adjustments; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery of equipment or parts resulting from acts beyond the control of Worksaver.

THIS WARRANTY SHALL NOT APPLY:

- 1. To vendor items which carry their own warranties, such as hydraulic motors, valves, and hydraulic cylinders.
- 2. If the unit has been subjected to misapplication, abuse, misuse, negligence, fire or other accident.
- 3. If parts not made or supplied by Worksaver have been used in connection with the unit, if, in sole judgement of Worksaver such use affects its performance, stability, or reliability.
- 4. If the unit has been altered or repaired outside of an authorized Worksaver dealership in a manner which, in the sole judgement of Worksaver affects its performance, stability or reliability.
- 5. To normal maintenance service and normal replacement items such as gearbox lubricant, hydraulic fluid, worn blades, or to normal deterioration of such things as belts and exterior finish, due to use or exposure.
- 6. To expendable or wear items such as slide blocks, bumpers, springs and other items that in the company's sole judgement is a wear item.

NO EMPLOYEE OR REPRESENTATIVE OF WORKSAVER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY WORKSAVER'S SERVICE MANAGER, POST OFFICE BOX 100, LITCHFIELD, ILLINOIS 62056-0100.



To the Owner/Operator/Dealer

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!!

Read the safety messages on the implement and shown in your manual.

Observe the rules of safety and common sense!



THIS SYMBOL MEANS

- ATTENTION!

- BECOME ALERT!

- YOUR SAFETY IS INVOLVED!

THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY WARNING MESSAGES. CAREFULLY READ EACH WARNING MESSAGE THAT FOLLOWS. FAILURE TO UNDERSTAND AND OBEY A SAFETY WARNING, OR RECOGNIZE A SAFETY HAZARD, COULD RESULT IN AN INJURY OR DEATH TO YOU OR OTHERS AROUND YOU. THE OPERATOR IS ULTIMATELY RESPONSIBLE FOR THE SAFETY OF HIMSELF, AS WELL AS OTHERS, IN THE OPERATING AREA OF THE TRACTOR AND ATTACHED EQUIPMENT.

UNDERSTAND SIGNAL WORDS

Note the use of the signal words **DANGER, WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or the manufacturer directly.

IMPORTANT SAFETY INFORMATION!

Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor, before assembly or operating, to acquaint yourself with the machines. It is the Post Driver owner's responsibility, if this machine is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:

1. Reads and understands the operator's manuals.

- 1. Reads and understands the operator's manuals.
- 2. Is instructed in safe and proper use.



The use of this equipment is subject to certain hazards which cannot be protected against by mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using. If there is something in this manual you do not understand, ask your supervisor, or your dealer, to explain it to you.



Most accidents occur because of neglect or carelessness. Keep all helpers and bystanders twenty-five feet (25') from an operating driver. Only properly trained people should operate this machine. It is recommended the tractor be equipped with a Rollover Protection System (ROPS) and a seat belt that is used. Always engage parking or place transmission in "Park" before dismounting tractor. Never leave equipment unattended with the tractor running.



EQUIPMENT SAFETY GUIDELINES



Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in 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 equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.



In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.



Replace any CAUTION, WARNING, DANGER or instruction safety sign that is not readable or is missing. Location of such safety signs is indicated in this booklet.



Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.



Review the safety instructions with all users annually.



This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**



To prevent injury or death, use a tractor equipped with a Roll-Over Protective System (ROPS). Do not paint over, remove or deface any safety signs or warning signs on your equipment. Observe all safety signs and practice the instruction on them.



Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**



Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.



In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and Operation Instructions in each of the appropriate sections of the Tractor and Post Driver Manuals. Pay close attention to the Safety Signs affixed to the Tractor and the Post Driver.



SAFETY SIGNS



Keep safety signs clean and legible at all times.



Replace safety signs that are missing or have become illegible.



Replaced parts that displayed a safety sign should also display the current sign.



Safety signs are available from your Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs:

- · Be sure that the installation area is clean and dry.
- Be sure temperature is above 50ÞF (10ÞC).
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.



PREPARATION



Never operate the tractor and post driver until you and the operator have read and completely understand this manual, the Tractor Operator's Manual, and each of the Safety Messages found on the safety signs on the tractor and post driver.



Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving the implement. Do not allow long hair, loose fitting clothing or jewelry to be around moving parts.



PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!

Tractors with or without attachments can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis if the noise in the Operator's position exceeds 80db. Noise over 85db on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss. **NOTE:** Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.



Ensure post driver is properly mounted, adjusted and in good operating condition.



Please remember it is important that you read and heed the safety signs on the post driver, and the safety rules set forth. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety as well as the safety of others. The safe use of this machine is strictly up to you, the operator.



All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. The manufacturer has designed this driver to be used with all its safety equipment properly attached, to minimize the chance of accidents. Study this manual to make sure you have all safety equipment attached.



Make sure that all operating and service personnel know that in the event hydraulic fluid penetrates the skin, it must be surgically removed within a few hours by a doctor familiar with this form of injury, or gangrene may result.



If a safety shield or guard is removed for any reason, it must be replaced before the machine is again operated.



Before servicing the machine, engage the parking brake or place the transmission in "Park", shut off the tractor and remove the key. Relieve all hydraulic pressure in lines.



When the use of hand tools is required to perform any part of assembly, installation, adjustment, maintaining, repairing, removal, or moving the driver, be sure the tools used are designed and recommended by the tool manufacturer for that specific task.



Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving the driver. Do not allow long hair, loose fitting clothing or jewelry to be around moving parts.



Always use two people or a mechanical lift device to handle heavy, unwieldy components during assembly, installation, removal, or moving the driver.



Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal, or moving the driver.



Never place yourself between the tractor and post driver while implement is in operation.



Do not walk or work under a raised driver ram unless it is securely blocked or held in position. Do not depend on the tractor hydraulic system to hold the driver ram in place.



Never leave post driver ram in the raised position. Always lower ram to the ground or to the transport position and install the transport lock pin before transporting or storing.



A heavy load can cause instability of the tractor. Use extreme care during travel. Slow down on turns and watch out for bumps. The tractor may need front counter-weights to counter-balance the weight of the driver.



Do not allow riders on the driver or tractor at any time. There is no safe place for any riders.

A

Before you operate the driver, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.

A

Consult local utility companies to make certain there are no buried gas lines, electrical cables, etc., in the work area before beginning operation.

A

Do not allow anyone who is not familiar with the safety rules and operation instructions to use this Post Driver.

A

Never allow children to operate or be around this Post Driver.

A

Use stabilizer bars, adjustable sway chains, or sway blocks on your tractor lift arms to keep the Post Driver from swinging side to side. Adjust as tightly as practical for best performance.



Clear the work area of objects which might cause operator to trip or fall.



Do not operate post driver on steep hillsides. When installing posts on uneven or hilly terrain, position the tractor with the post driver uphill. This way if any movement of the tractor should occur, it will be away from the post driver operator.



Never position the post by hand. Always use Post Holder Tool.



Watch out for low overhead electrical wires and limbs when operating or transporting the post driver. Check clearance of doorways when entering a building.



Be sure post is cut "SQUARE" on top. Angle cut post can "KICK OUT" of driver and injure the operator.



Install transport lock pin and pin clip before transporting or storing the post driver. NEVER INSERT FINGER IN TRANSPORT PIN HOLE TO CHECK ALIGNMENT. Finger could be sheared off if driving ram moves.



Keep hands, feet, hair, jewelry, and clothing, away from all moving parts.



Do not operate the Post Driver without all safety shields and guards in place.



When using a unit, a minimum 20% of tractor and equipment weight must be on tractor front wheels. Without this weight, tractor could tip over, causing personal injury or death. The weight may be attained with a front end loader, front wheel weights, ballast in tires of front tractor weights. When attaining a minimum 20% of tractor and equipment weight on the front wheels, you must not exceed the ROPS weight certification. Weigh the tractor and equipment. Do not guess or estimate!



Always use care when operating a Post Driver.

ALWAYS OBEY SAFETY WARNINGS!



TRANSPORT SAFETY



Comply with state and local laws governing highway safety and movement of farm machinery on public roads.



The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.



When driving the tractor and equipment on the road or highway under 20 mph (32 kph) at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.



Always be sure the implement is in the proper raised position for transport.



Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.



Plan your route to avoid heavy traffic.



Always install transport locks, pins or brackets before transporting.



Watch out for low overhead electrical wires and limbs when operating or transporting the post driver. Check clearance of doorways when entering a building.



Do not drink and drive!



Watch for traffic when operating near or crossing roadways.



Turn curves or go up or down hills only at a low speed and at a gradual steering angle. Make certain that at least 20% of the tractor's weight is on the front wheels to maintain safe steerage. Slow down on rough or uneven surfaces, and loose gravel.



Use extreme care and maintain minimum ground speed when transporting on hillside, over rough ground and when operating close to ditches or fences. Be careful when turning sharp corners.



Never allow riders on either tractor or implement. Falling off can kill.



Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.



Do not exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.



MAINTENANCE SAFETY



Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.



Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.



Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.



Before working on this machine, drive to a level area, disengage the PTO, lower implement (or if working underneath, raise and block securely), shut off the engine, set the brakes, and remove the ignition keys.



Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.



Never work under equipment unless it is blocked securely. Never depend on hydraulic system to keep implement in raised position.



Keep all persons away from operator control area while performing adjustments, service, or maintenance.



Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance.



Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure unit is in a safe condition.



When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.



Remove hydraulic pressure prior to doing any maintenance. Place the driver ram on the ground or securely blocked up, disengage the PTO, and turn off the engine. Push and pull the remote cylinder lever in and out several times to relieve hydraulic pressure.



Never use your hands to locate a hydraulic leak on attachments. Use a small piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate the skin.



Openings in the skin and minor cuts are susceptible to infection from hydraulic fluid. If injured by escaping hydraulic fluid, see a doctor at once. Gangrene and death can result. Without immediate medical treatment, serious infection and reactions can occur.



MAINTENANCE SAFETY (continued)



After servicing, be sure all tools, parts and service equipment are removed.



Check to ensure all safety signs are installed and in good condition. (See safety sign section for location drawing.)



Do not allow grease or oil to build up on any deck or platform.



Never replace hex bolts with less than grade five bolts unless otherwise specified, i.e. shear bolts. Refer to bolt torque chart for head identification marking.



Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.



If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.



A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.



STORAGE SAFETY



Following operation, or when unhooking, stop the tractor, set the brakes, lower ram to lowest position and engage transport lock pin, disengage the PTO, shut off the engine and remove the ignition keys.



Store the unit in an area away from human activity.



Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.



Do not permit children to play on or around the stored unit.



Make sure all parked machines are on a hard, level surface and engage all safety devices.



If blocking is used, make sure it is solid and secure before leaving area.



SAFETY TRAINING



Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator.



In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.



It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Accidents can be avoided.



Working with unfamiliar equipment can lead to careless injuries. Read this manual, and the manual for your tractor, before assembly or operating, to acquaint yourself with the machines. It is the post driver owner's responsibility, if this machine is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:

- 1. Reads and understands the operator's manuals.
- 2. Is instructed in safe and proper use.



Know your controls and how to stop tractor, engine, and driver quickly in an emergency. Read this manual and the one provided with your tractor.



Train all new personnel and review instructions frequently with existing workers. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.



Do not allow children to operate this machine.

SAFETY SIGNS

$oldsymbol{ ilde{A}}$ CAUTION

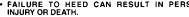
ALWAYS WEAR SAFETY GLASSES TO PREVENT EYE INJURY.

SAFETY INSTRUCTIONS

Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca la medidas de seguridad.

- READ THE OPERATOR'S MANUAL BEFORE OPERATING
- READ THE OPERATOR'S MANUAL BEFORE OPERATING THE POST DRIVER. SET BRAKES OR PLACE AUTOMATIC TRANSMISSION IN "PARK" BEFORE DRIVING POSTS.
 STAND AT A 45° ANGLE TO THE DRIVING RAM. DO NOT STAND IN FRONT OF THE DRIVING RAM. START THE POST WITH A FEW SHORT STROKES UNTIL THE POST IS IN FAR ENOUGH TO HOLD ITS POSITION BY ITSELF, THEN STAND BACK AND FINISH DRIVING THE POST. THE POST DRIVER MUST BE OPERATED BY ONE PERSON ONLY.
 USE THE SAFETY POST HOLDER TO START POSTS, THEN REMOVE TO FINISH DRIVING POST. NEVER HOLD A POST WITH YOUR HAND.
 ALWAYS USE STEEL T-POST HOLDER WHEN DRIVING STEL POSTS.
 ALWAYS WEAR SAFETY GLASSES TO PREVENT EYE INJURY.

- FAILURE TO HEED CAN RESULT IN PERSONAL





OBEY ALL SAFETY **WARNINGS**

NOTE: If Safety Sign is missing or damaged, replace immediately.

A WARNING

- AFTER TRACTOR IS POSITIONED: SET BRAKE SECURELY - PUT TRANSMISSION IN PARK.
- WHEN OPERATING: NEVER STAND DIRECTLY IN FRONT OF POST DRIVER. STAND AT A [45°] ANGLE TO THE SIDE.
- USE SAFETY POST HOLDER ONLY FOR INITIAL PENETRATION. WHEN POST IS SELF-STANDING, STEP ASIDE.
- FAILURE TO HEED THE ABOVE MAY RESULT IN PERSONAL INJURY OR DEATH.



DRIVING RAM AND POST

FAILURE TO HEED WILL RESULT IN INJURY.



HIGH-PRESSURE FLUID HAZARD To prevent serious injury or death:

- Relieve pressure on system before repairing or adjusting or disconnecting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.



Stand clear

101027

Cylinder Locking Strap - Remove before using Post Driver

INSTRUCTIONS

These instructions are for the Model HPD-24 SHC and HPD-24 SWO Hydraulic Post Drivers.

The hydraulic center mount Model HPD-24 SHC mount so that the driving ram is directly behind and in the center of the tractor. A two spool hydraulic valve controls the front to back and the side to side movement for aligning the driving ram to a vertical position. A separate single spool valve controls the raising and lowering of the driving ram.

The hydraulic offset Model HPD-24 SWO is designed with the driving ram offset to the left. The driving ram can be telescoped (offset) hydraulically an additional twenty-four (24) inches. This provides for easier positioning when driving posts along ditch banks and in existing fence lines by reducing tractor maneuvering. A three spool valve controls the vertical aligning and the telescoping (offset) of the Driver.

TRACTOR REQUIREMENTS AND PREPARATION

It is recommended that the tractor be equipped with a Roll-Over Protection System (ROPS) and a seat belt that is used.

Be sure your tractor is in good working order, particularly the hydraulic system, prior to using the Post Driver. Be sure the tractor hydraulic oil and filter have been serviced according to the tractor manufacturer's recommendations. The return oil from the driver must be connected directly to the tractor hydraulic fill opening — **NOT THE TRACTOR REMOTE OUTLET**. Special return fittings are available, when required, for many popular tractors. Check with your dealer for an application list.

Refer to your tractor owner's manual or dealer to determine if your tractor has an OPEN or CLOSED hydraulic system. The hydraulic valve on the driving ram MUST match your tractor hydraulic system. This valve is convertible and is shipped ready for OPEN center systems. See the "maintenance and adjustment" section of this manual for conversion instructions.

Tractor lift arm stabilizer bars, sway chains, or sway blocks must be used to control side movement of the Post Driver. **NOTE:** If your tractor uses top link sensing for the draft control, it will be necessary to lock out the sensing mechanism to minimize front to rear movement of the Post Driver.

The Models HPD-24 SHC and HPD-24 SWO are recommended for use on 60 hp Category II or larger tractors only. The tractor must have front weights to counterbalance the load.

The Models HPD-24 SHC and HPD-24 SWO require a tractor with a hydraulic system capable of 6-8 gpm and at least 1500 psi.

↑ CAUTION! ↑

A heavy load can cause instability in driving a tractor. Make sure the front of the tractor is properly counterbalanced with weights. Always drive slowly – especially around turns. An unstable tractor could steer badly and possibly tip over, causing injury or death.

↑ CAUTION! ↑

Be sure your tractor is in good condition. Read all the safety precautions and make sure all tractor operators are familiar with the safety rules of operation.

PACKAGING

The Post Driver is shipped as four (4) bundles.

- 1. The hydraulic base mount unit, partially pre-plumbed.
- 2. The driving ram assembly, on a pallet.
- 3. A hydraulic package for the ram, in a carton.
- 4. A hydraulic package for the hydraulic base, in a carton.

Please inspect these bundles for any obvious signs of damage before attempting to assemble the Post Driver. Unpack all the bundles and lay out the various parts.

ASSEMBLY & MOUNTING

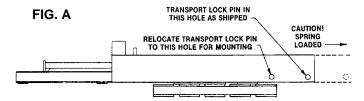
The following procedure is recommended for assembling the Post Driver.

 Attach the hydraulic base mount assembly to the tractor 3-point. The pull pins are mounted to the inside for shipping. Mount the pins to the outside for Cat. II or Cat. II quick hitch applications. Lower pin bushings will be required for quick hitch applications, available from your tractor dealer. The top link pin is furnished by the customer

Quick hitches have some looseness built into them. If the driver has too much front to rear movement when in use, try not using the quick hitch.

2. The hydraulic base mount is shipped with the hydraulic system partially plumbed and ready to accept the driving ram assembly. The multi-spool valve and mounting plate is detached and shrink wrapped in place. Simply remove the shrink wrapping, swing the mounting plate into position and install the mounting bolts.

3. Prepare the driving ram for attaching to the hydraulic base mount. To do this, first lower the driving ram to its lowest transport position. The driving ram is shipped in the upper transport position for compactness. To lower the ram, pull the transport lock pin, allow the ram to lower (approximately 10 inches) and replace the transport lock pin. This should be done with the Driver laying on the shipping pallet. The ram is spring loaded downward. Stand clear of the ram when the pin is removed (see Figure A). NOTE: This step of repositioning the driving ram is necessary in order to make the mounting bolts at the correct height when the unit is stood upright for the next step.



4. Attach the driving ram assembly to the hydraulic base mount. A chain hoist or forklift can be used to stand the driving ram assembly to its normal (vertical) working position. Take care not to damage the hydraulic cylinder or carriage when lifting the unit. Once the ram assembly is upright, remove the six (6) nuts and lock washers from the mounting bolts.

Align the mounting bolts with the six (6) holes in the mounting channel and secure with the nuts and lock washers. The mounting channel on the hydraulic base mount will probably have to be positioned by hand to get the mounting channel and carriage lined up. NOTE: One mounting bolt goes into a blind hole and does not get a nut and lock washer. Due to trapped air, it may be necessary to operate the control levers on the multi-spool valve in order to position the mounting channel on the hydraulic base unit. Plastic plugs or hose end caps may have to be removed to allow trapped air in the hydraulic cylinders to escape. DO NOT ATTEMPT TO CONNECT THE VALVE TO THE TRACTOR AND OPERATE IT AT THIS TIME. When properly mounted, the bottom of the driving ram should be resting on the same level surface as the mounting base. This should keep the driving ram assembly in a vertical position. **NOTE:** The driving ram assembly will be somewhat unstable until the hydraulic cylinders are filled with oil once all plumbing is completed.

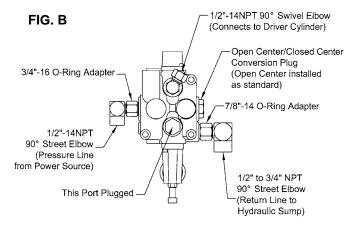
↑ WARNING! **↑**

MAKE SURE THAT ALL OPERATING AND SERVICE PERSONNEL KNOW THAT IN THE EVENT HYDRAULIC FLUID PENETRATES THE SKIN, IT MUST BE SURGICALLY REMOVED WITHIN A FEW HOURS BY A DOCTOR FAMILIAR WITH THIS FORM OF INJURY, OR GANGRENE MAY RESULT.

Install the hydraulic package. Refer to Figure B for correct location and orientation of components. Use a good grade hydraulic thread sealant at all pipe thread connections. (Do NOT use Teflon tape sealer.)

Do NOT use thread sealant on O-ring fittings.

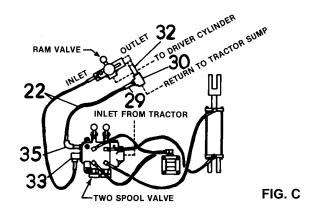
NOTE: Install the O-ring to pipe thread adapters in the valve ports as shown in Figure B.



RAM CONTROL VALVE

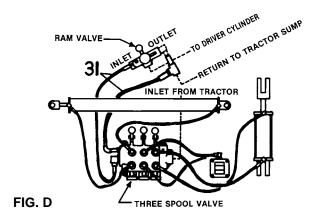
Connect the $^{3}/_{4}^{n}$ I.D. x 24" long hose from the control valve work port to the Post Driver hydraulic cylinder port.

CENTER MOUNT ASSEMBLY: Connect a ³/₈" I.D. x 36" long hose (see Figure C, ref. #22) from the inlet side of the ram control valve to the 90P street elbow in the 2 spool valve (see Figure C, ref. #33).



Refer to Figure C and assemble the $^3/_4$ " x 3" pipe nipple (ref. #32), the $^3/_4$ " pipe tee (ref. #30), and $^3/_4$ " to $^1/_2$ " reducer bushing (ref. #29) to the $^3/_4$ " outlet port fitting in the single spool ram control valve. Then connect a $^3/_8$ " I.D. x 36" long hose (ref. #22) from the reducer bushing (ref. #29) to the $^1/_2$ " 90P elbow, (ref. #35) that is connected to the two spool valve.

OFFSET MOUNT ASSEMBLY: Follow the same procedure as described above, but the 3/8" I.D. hoses are 48" long (Figure D, ref. #31).



INSTRUCTIONS FOR BOTH: Connect the 1" I.D. x 96" long return line from the bottom of the ³/₄" pipe tee on the ram control valve return directly to the filler opening on the tractor's hydraulic system. On many tractors, the return line can be inserted directly into the filler opening. The hose should be securely tied in place and wrapped with a rag or duct tape to prevent contamination. Special care should be taken to remove the hose when not in use, to prevent rainwater or dirt entering the opening. Screw a ³/₄" pipe cap on the hose end to keep it clean. Special filler opening adapter fittings are available for most popular tractor models. Contact your Worksaver supplier for prices and availability.

NOTE: Due to the necessary discharge rate of hydraulic oil, this line **CANNOT** be connected to the tractor remote outlets. To do so will restrict the drop rate of the driving ram such that it will not properly drive a post.

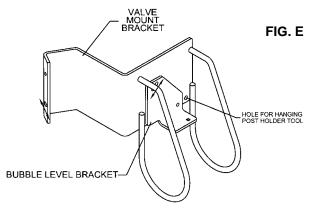
NOTE: If the 1" x 96" hydraulic oil return hose is too short for your tractor application, you may increase the length by ordering hose extension kit #2504141. Connect the ½" I.D. x 60" long hose from the inlet side of the multi-spool control valve to one of the tractor hydraulic remote outlets.

NOTE: On both models, route the hoses to the tractor so that they will not be pinched or caught by the movement of the positioning mount. On the offset model, a special hose retaining bracket is provided to retain the hoses.

6. Stand clear of the driving ram assembly and raise the completely assembled unit approximately 10 inches with the 3-point of the tractor. The driving ram assembly will probably lean out of its normal position. Operate the hydraulic valve on the tractor so that oil flows from the tractor to the multi-spool valve and returns by the tractor fill opening hose. Tie the tractor

hydraulic valve handle into operating position with a tarp strap. The tractor should be operated at an idle until the system is charged with oil. Now operate the hydraulic levers on the multi-spool valve. This should cause the driving ram assembly to pivot, side to side and front to rear. The cylinders will have to be cycled several times to remove all the air from the cylinders and lines. Be sure to check the tractor hydraulic oil level after charging the system. Special orifice fittings have been installed at the hydraulic cylinder ports to restrict the flow and cause the cylinders to operate in a slow, smooth manner.

7. Attach the circular (bulls-eye) level as shown in the parts illustration. Adjust the alignment of the level as follows: using a 2' or longer carpenter's level, adjust the driving ram with the alignment cranks until the ram is plumb front to back and side to side. Tilt the top of the driving ram slightly to the rear to allow for recoil when the ram drops. Now adjust the valve mounting bracket and the bubble level bracket so the level bubble is centered in the level circle (see Figure E), then tighten all bolts.



LUBRICATION

The Post Driver is designed with "SPECIAL" polyethylene slide blocks for long, trouble-free operation. There is a grease fitting on the large, side to side, pivot tube and one on the lower, front to rear, pivot pin. A few shots of grease at the beginning of the work day is recommended.

BEFORE YOU START

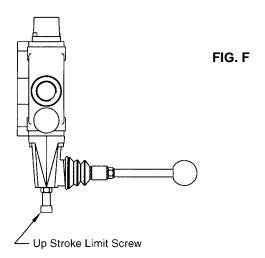
Review the assembly instructions to be sure the Driver is properly assembled and plumbed correctly for your tractor hydraulic system. The control valve return hose must be connected directly to the tractor hydraulic oil fill opening — NOT to the tractor remote outlets. (See Assembly Instruction, item #5.) Refer to the Hydraulic Valve Section (page 17) for open-center and closed-center tractor hydraulic system requirements. Be sure the tractor hydraulic oil and filter have been serviced according to the tractor manufacturer's recommendations before using the Post Driver.

Tractor lift arm stabilizer bars, sway chains or sway blocks must be used to control side movement of the Post Driver. Also, if your tractor uses top link sensing for the draft control, it will be necessary to lock out the sensing mechanism to control front to rear movement of the Post Driver.

OPERATION

Observe all operating and safety instructions in this manual and those on the Post Driver before using this machine.

- Position the tractor for driving a post. The hydraulic base should be lowered to the ground before driving the post. Three point hitch lift arm stabilizer bars, sway chains or sway blocks must be used to control side movement of the Driver.
 - If you have an offset version, the driving ram can be telescoped laterally to accurately position the post. A special optional bracket is available for holding the fence wire away from the driving ram (offset models only) when driving posts in an existing fence line.
- On the hydraulic center mount with adjustable legs, adjust the legs so that when the driver is at the desired height, the legs will be on the ground supporting the weight of the driver.
- Set the tractor brakes or place the transmission in "PARK." Raise the ram slightly and remove the transport pin. Store the pin in the additional top link pin hole.
- Align the driving ram vertically by use of the "bulls-eye" bubble level and the multi-spool hydraulic valve handles.
- 5. Raise the driving ram by lifting up on the control valve handle. NOTE: Do not allow the ram to continually hit the urethane bumpers at the top of the carriage. Tractors with high volume hydraulic pumps will cause the ram to raise very fast. If the ram raises too fast, turn the up stroke limit screw into the valve body to limit the amount of handle movement (see Figure F). Tighten the lock nut to keep the limit



- screw in position. Raise the ram so that it is 18" to 24" above the top of the post. The tractor hydraulic control valve should be tied in the "ON" position so the Driver is controlled solely by the Post Driver control valve.
- Place the post within the driving ram. The back of the post should be against the web of the I-Beam and centered between the flanges. Stabilize the post using the special "Post Holder Tool" provided.

A CAUTION!

NEVER hold the post with your hand. Always use the post holder or the special STEEL T-POST Holder when driving steel T-posts. Order part #814490.

- 7. Stand at a 45Þ angle to the post not directly in front of the post. Be sure all bystanders are at a safe distance from the Post Driver.
- 8. Drop the driving ram by pushing "Full Down" on the control valve handle.
- 9. Repeat raising and dropping the driving ram until the post is to the desired depth. Be sure the ram slide blocks are not "BOTTOMING OUT" on the urethane bumpers. Likewise, do not raise the ram to its extreme up position with each stroke. The ram should normally be raised 18" to 24" above the top of the post. Once the post is deep enough to be stable, it is no longer necessary to hold the post with the "POST HOLDER TOOL." Stand back and "DRIVE" the post.
- 10. In dry or light rocky conditions, cutting a point on the post may be beneficial. The point should be centered on the post to prevent the post veering to one side.
- 11. When driving steel "T" posts do not raise the ram as you would for wood posts. Usually, raising the ram 4" to 6" is enough for steel "T" post. Too much impact on steel "T" post can cause the post to buckle or bend.
- 12. Re-engage the transport lock pin when finished with the job.

OFFSET MODELS ONLY

Polyethylene wear pads are used to hold the telescoping unit withing the tube of the base mount. The pads on the top and front have adjustable steel caps for maintaining a snug fit on the telescoping tube. If excess motion occurs, it may be necessary to tighten the cap bolts. Looseness can usually be detected by "rocking" the driving ram assembly front to rear.

NOTE: The driving ram on the offset mount can be rotated to drive the post left of the driver. Always install pin or bolt to secure the rotated position when driving.

A CAUTION!

Always rotate driving ram back to the rear before transporting driver on any road. This provides the minimum width for road travel.

MAINTENANCE AND ADJUSTMENTS

Make certain the safety and instruction decals are attached to the Post Driver. If they are lost, damaged, or painted over, order replacements.

↑ WARNING! **↑**

Before servicing the machine, engage the parking brake or place the transmission in "Park," shut off the tractor and remove the key. Relieve all hydraulic pressure in lines.

If the machine is used in heavy duty conditions, the maintenance operations must be carried out more frequently.

Thoroughly clean the grease zerks before servicing. Dirt mixed with lubricant will rapidly wear parts and destroy bearings. Keep it clean.

Periodically check all bolts to make sure they are tight (except those that are supposed to be loose).

Check hydraulic hoses. Make sure they are not chafed or pinched. Replace any damaged hose.

Check hydraulic hoses and fittings for leaks. Repair any leaks immediately. Never use your hand to check for a hydraulic leak when system is under pressure.

Replace any worn or damaged parts immediately. Do not use post driver attachment with any damaged parts.

HYDRAULIC VALVE

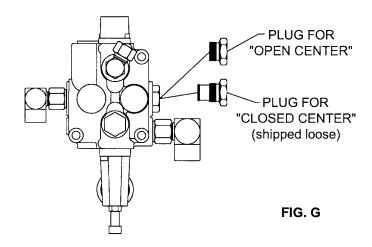
The hydraulic control valve supplied with the Post Driver is "convertible" to accommodate both open-center and closed-center tractor hydraulic systems. Most John Deere and some other late model tractors use closed-center hydraulic systems. Consult your tractor owner's manual (specifications section) or your tractor dealer. The control valve is shipped "ready" for open-center hydraulic systems.

NOTE: Failure to make the control valve compatible with your tractor hydraulic system will cause the hydraulic oil to overheat.

VALVE CONVERSION INSTRUCTIONS

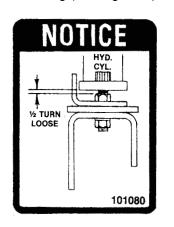
The conversion plug for making the control valve compatible with closed-center hydraulic systems is shipped in the hardware box (see Figure G).

Remove the large open-center plug and store it in a safe place. Install the optional closed-center plug from the hardware box. Be sure the O-ring and seal are on the plug before insertion. DO NOT use a thread sealant on the conversion plug.

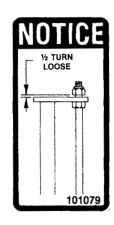


HYDRAULIC CYLINDER BASE AND ROD END ADJUSTMENT

Due to the design of the Driver carriage, it is necessary for both the base and rod end of the hydraulic cylinder to have a slight amount of freedom. This adjustment should only be necessary if the hydraulic cylinder is removed for servicing (see Figure H).









SAFETY . . .
YOU CAN LIVE WITH IT!

DISASSEMBLY - CARRIAGE AND RAM ASSEMBLY

- Lay the driving ram assembly face down on the floor or on a solid workbench.
- Remove the transport lock pin. This will allow the ram carriage to move up, thereby relieving the spring tension. Disconnect the upper spring bracket.
- 3. Remove the lock nut from the top of the cylinder rod and push the rod back into the cylinder.
- 4. Now remove the hex nuts holding the transport lock pin bracket in place. Slide the carriage down and remove the hydraulic cylinder and springs as a unit from the lower end.
- 5. The carriage can now be removed from the upper end of the ram assembly.

HYDRAULIC CYLINDER DISASSEMBLY

- 1. Remove the hydraulic cylinder from the carriage.
- Place the base end of the hydraulic cylinder in a vise, support the upper end of the cylinder and unscrew the aluminum cap. DO NOT remove the cap over the upper threaded end of the cylinder rod.
- 3. Pull the rod from the cylinder tube.
- 4. Remove the nut from the lower end of the cylinder rod. The rod should be protected with leather, cardboard or wood blocks and placed in a vise to remove the nut. Remove the aluminum rod guide. Now slide the cap down the cylinder rod and remove it from the bottom (unthreaded) end.
- NOTE: It is advisable to install a new rod guide, cylinder cap and seal as a unit when rebuilding the cylinder. Also inspect the cylinder rod for pits and/or rust and replace if necessary.

CAP SEAL REPLACEMENT

 Use a screwdriver or knife to remove the old seal. Soften the new seal by placing it in warm water or direct light from a lamp. Squeeze the new seal

together and place one end of it in the seal groove. Force down on the other end of the seal, and it will snap into place. Inspect the seal to be sure it is properly seated (see Figure I).



FIG. I

- Oil the new seal and slide the cap onto the cylinder rod from the bottom end. Do not slide the cap on over the upper threaded end of the rod. This will damage the seal.
- Replace the rod guide and retaining nut. Be sure to protect the rod with leather, cardboard, etc., when holding the rod in a vise for tightening the nut. DO NOT hold the rod with a pipe wrench.
- 4. Insert the rod assembly in the cylinder tube. Place the base end of the cylinder in a vise and support the upper end. DO NOT tighten the vise on the cylinder tube, as this may collapse the tubing. Use a good grade hydraulic thread sealer and tighten the aluminum cap.

SPRING REPLACEMENT

The springs on the Model 24 post driver are quite heavy and stiff. It is recommended that any work performed on these springs be done on a workbench equipped with a vise to hold them.

Lower the driving ram so the springs are in relaxed position. Remove the hex stamplock nut from the upper and lower spring anchors (Ref. #23). Remove the spring assembly from the driver and take to a good solid workbench vise.

To remove the spring anchor from the old spring, clamp the spring in a vise and clamp a good pair of vise grip pliers on the unthreaded portion of the spring anchor bolt. Tap on the ends of the formed spring anchor bar while applying an unscrewing force with the vise grip pliers. The spring anchor should "unscrew" from the spring.

To install spring anchor in the end of a new spring, insert spring into a solid vise and insert a screw driver in the end coil to open the end of the spring. Tap in one end of the formed anchor bar and using vise grip pliers, reverse the procedure described in the above paragraph for removal. **NOTE:** Getting the second end of the formed anchor bar started in the spring is difficult – time and patience are required.

When the anchor brackets are installed in both ends of the new spring, install the spring into the post driver. Reinstall the hex stamplock hex nuts on the anchor bracket bolt. **NOTE:** USE ONLY stamplock nuts in this application – regular nuts will come loose.



STORING THE POST DRIVER

Lower the ram to the lowest position and engage the transport lock pin. This position will have the hydraulic cylinder rod fully retracted into the cylinder and will be self-protecting.

Smear grease over the exposed portion of the plated hydraulic cylinder rod to prevent pitting and rust from forming.

It is recommended to apply grease or oil to any exposed portion of the tilt cylinders to help prevent rust from forming.

Be sure to cap the open return line hose end to prevent contamination during storage. Lubricate all grease fittings prior to storage.

Inside storage is preferred to prevent deterioration of the springs, hoses, etc. For safety, the Driver should be securely blocked for stability.

To store the hydraulic center mount with adjustable legs, locate the transport locking pin into the higher hole location in the ram and then adjust legs to same height.

NOTE: When storing the offset models, rotate the ram to the rear. This provides the most stable unit for storing.

Make sure driver will be located on a solid surface and in a location away from children, animals, or traffic area.

POST DRIVER SPECIFICATIONS

	HPD-24 SHC (Center)	HPD-24 SWO (Offset)
Maximum Post Size	11 in.	x 10 ft.
Impact at Full Stroke	110,0	00 lbs.
Impact at Half Stroke	55,00	00 lbs.
Minimum Tractor Size	60 P	TO hp
Rear Hitch Type	Cat. I	I 3 pt.
Adjustable Support Legs	2	N/A
Minimum Hydraulics Required	6 - 8 gpm	– 1500 psi
Ram Lift Cylinder	2" x	68"
Operating Range (above ground)	50" to	128"
Tilt Adjustment – front/back	17Þ each	way from vertical
Tilt Adjustment – side/side	20Þ each	way from vertical
Post Driver Offset		46" left of Tractor Center
Maximum Offset Side Adjustment		24" to left
Hydraulic Valve on Mount	Two Spool	Three Spool
No. of Positioning Cylinder(s)/Size	Two 3" x 6"	Two 3" x 6" One 2" x 24"
Shipping Weight	1,116 lbs.	1,669 lbs.
Weight with Stabilizer Box Filled		2,169 lbs.

TROUBLE-SHOOTING

PROBLEM: DRIVER DOES NOT DRIVE A POST

SOLUTIONS:

- The hydraulic valve return line is connected to a tractor remote outlet and/or a quick coupler is being used.
 Connect the return line directly to the tractor reservoir filler opening.
- 2. The ram may be binding in the carriage or carriage slide blocks may need lubrication or replacement.
- 3. Carriage springs may be disconnected or broken.
- 4. Ground may be too dry or hard. Pointing the post may help. Otherwise, wait for rain.
- Post may be encountering a rock. Relocate post 6-8 inches and try again. Pointing post may help in light, rocky soil.
- 6. Remote hydraulic connection fittings not compatible. Check for proper fitting.

PROBLEM: DRIVING RAM WILL NOT RAISE, OR RAISES SLOWLY

SOLUTIONS:

- 1. Hydraulic valve may be improperly plumbed. See assembly instructions.
- Post Driver control valve handle "UP" limit screw may need adjustment (see Figure F page 16).
- 3. Carriage may be binding. Check for broken springs, worn slide blocks or other obstructions.
- Hydraulic cylinder rod guide (piston) may be excessively worn.
- Tractor hydraulic system may not be supplying rated pressure (usually 1500 to 2250 PSI). Consult your tractor dealer.
- Tractor hydraulic system may not be delivering its rated volume of oil due to wear. Hydraulic pump may need to be repaired.
- Hydraulic valve on Post Driver is not compatible with tractor hydraulic system. See Hydraulic Valve section in this manual.
- 8. Hydraulic valve on Post Driver may be leaking and need to be repaired or replaced.
- 9. Carriage may be bent due to hitting overhead object. Straighten or replace carriage assembly.

PROBLEM: OFFSET RAM AND CARRIAGE HAVE EXCESSIVE FORE & AFT MOVEMENT

SOLUTIONS:

- 1. Special polyethylene wear pads in slide tube need adjusting or replacement.
- 2. SEE: Driver has excessive movement or bounce section.

PROBLEM: OFFSET RAM AND CARRIAGE ASSEMBLY WILL NOT MOVE OR ONLY IN ONE DIRECTION

SOLUTIONS:

- 1. Dirt in orifice fitting.
- 2. Plumbed incorrectly.

PROBLEM: POST VEERS OFF AT AN ANGLE WHILE BEING DRIVEN

SOLUTIONS:

- 1. Top of post is not cut "square," causing the post to drive at an angle. Re-cut top of post "square."
- 2. Bottom of post is cut at an angle or post is pointed offcenter.
- 3. Tractor 3 pt. may be moving sideways. Install lift arm stabilizer bars, sway chains or sway blocks to limit lift arm movement.
- 4. Tractor may have "Top Link Load Sensing" upper link (usually Ford/New Holland and M-F). Install pin to "lock out" sensing mechanism movement.
- 5. Tractor has moved slightly while driving post. Always set brakes and use extra care on slopes.
- 6. Post may have encountered a rock or large root. Post may have to be relocated.

PROBLEM: OFFSET DRIVER ASSEMBLY AND TELESCOPING TUBE WILL NOT MOVE

SOLUTIONS:

- 1. Special polyethylene wear pads adjusted too tight.
- 2. Check plumbing.
- 3. Check tractor hydraulic pressure.

PROBLEM: DRIVER RAM AND CARRIAGE ASSEMBLY MOVE FAST AND ARE HARD TO CONTROL

SOLUTIONS:

1. Orifice fittings missing.

TROUBLE-SHOOTING (continued)

PROBLEM: DRIVER RAM RAISES VERY FAST AND HITS TOP URETHANE BUMPERS

SOLUTIONS:

- 1. Post Driver control valve "UP" limit screw needs adjusting.
- Tractor model has high volume hydraulic oil pump. Set tractor throttle at lower speed to reduce volume of oil or if necessary, install an orifice in line to reduce volume of oil.

PROBLEM: HYDRAULIC OIL OVERHEATS

SOLUTIONS:

- 1. Hydraulic oil level in tractor may be low.
- Hydraulic oil or oil filter in tractor may be dirty. Change oil and filter according to tractor manufacturer's recommendations.
- Hydraulic oil reservoir of tractor may be small. Allow time for oil to cool down.
- Hydraulic valve on Post Driver may not be compatible with tractor hydraulic system. See Hydraulic Valve section in this manual.

PROBLEM: HYDRAULIC HOSE FAILURE

SOLUTIONS:

- Tractor hydraulic relief pressure setting is very high and may cause hydraulic hose failure. Requires plumbing other work port of post driver control valve to return line.
- 2. Hoses are worn or frayed replace hose.
- 3. Hose rating may be too low for hydraulic system pressure. Replace with higher rated hoses.

PROBLEM: OIL SQUIRTS OUT OF RETURN LINE ORIFICE IN TRACTOR

SOLUTIONS:

- 1. Wrong return line fitting being used.
- 2. Return line not properly secured with wire or tarp strap.
- 3. Wrong tractor return line opening is being used. Check tractor for alternate return opening.

PROBLEM: DRIVER HAS EXCESSIVE MOVEMENT OR BOUNCE

SOLUTIONS:

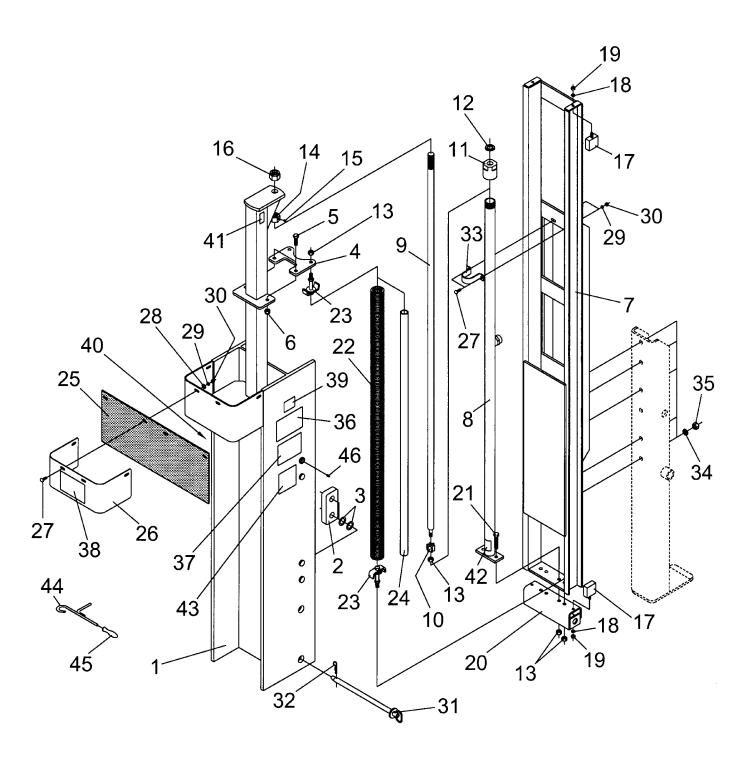
- 1. Top of post is not cut "square," causing the driver to veer off at an angle. Re-cut top of post "square."
- 2. Tractor 3 pt. may be moving sideways. Install lift arm stabilizer bars, sway chains or sway blocks to limit lift arm movement.
- 3. Tractor may have "Top Link Load Sensing" upper link (usually Ford/New Holland and M-F). Install pin to "lock out" sensing mechanism movement.
- 4. Adjustable legs on center mount are not setting firmly on the ground. Re-adjust legs.
- 5. Offset model not setting on ground. Lower 3 pt. or block under weight box and leg.
- 6. Carriage springs may be disconnected or broken.
- 7. Ground may be too dry or hard. Pointing the post may help. You may have to wait until it rains if ground is extremely hard and dry.
- 8. Post may be encountering a rock. Relocate post 6-8 inches and try again. Pointing post may help in light, rocky soil.
- 9. Driver ram may be improperly angled if top of ram is angled away from post, ram will veer off post. Re-adjust ram angle.
- 10. Tractor may not be large enough to handle driver. Use larger heavier tractor.
- 11. Using a Quick-Hitch May have to remove Quick-Hitch and connect directly to 3 pt. arms.

PROBLEM: SPRING AND/OR SPRING CLIP BREAKAGE

SOLUTIONS:

- 1. Operator is continuously raising the ram to the full height. It is only necessary to raise the ram 18-20 inches to achieve full hitting force.
- In colder temperatures, it will help to "warm-up" or "season" the springs by first only raising the ram 6-8 inches, then 12-16 inches, then normal hitting height. This allows the spring steel to warm-up and not be subjected to full stretch when cold.
- Springs and clips are a wear item on post drivers. It is expected that these parts will have to be replaced depending on length of use and when being subjected to "hard driving" conditions.

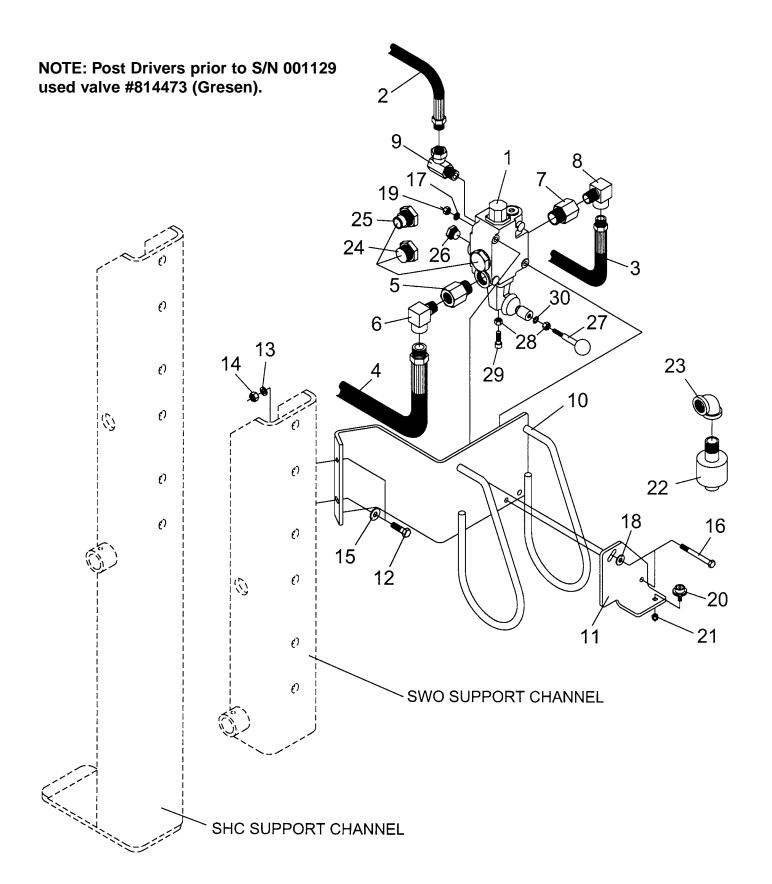
HPD-24 PARTS DRAWING



HPD-24 PARTS LIST

Ref. No.	Part No.	Description	No. Req.
1	814962	Driving Ram (HPD-24)	1
2	814549	Channel Guide - Double	4
3	2504132	Machinery Bushing, 18 Ga. 1" I.D.	Var.
4	814970	Spring Anchor Bracket	1
5	2503145	Bolt 1/2"-13NC x 1 1/2" Hex Head Gr. 5	2
6	2500039	Nut 1/2"-13NC Hex Nylock	2
7	814992	Carriage Weldment (HPD-24)	1
	814516	Complete Cylinder Assembly (#8 thru #16)	1
8	814517	Tube, Hydraulic Cylinder	1
9	814520	Rod, Hydraulic Cylinder	1
10	814422	Guide, Hydraulic Cylinder Rod	1
11	814538	End Cap with Rod Seal	1
12	814523	Rod Seal (only)	1
13	2500054	Nut 1/2"-13NC Hex Stamplock	7
14	814524	Nut 1"-14NF Full Hex (Drilled & Tapped)	1
15	2503196	Set Screw 1/4"-20NC x 1/4"	1
16	2500057	Nut 1"-14NF Hex Nylock	1
17	814426	Bumper, Urethane	4
18	2502008	Washer 3/8" Springlock	4
19	2500004	Nut 3/8"-16NC Full Hex	4
20	814980	Transport Lock Bracket	1
21	2503202	Bolt 1/2"-13NC x 2 1/2" Hex Head Gr. 8	2
	814985	Spring Assembly (#13,#22 thru #24)	2
22	814990	Spring, Driving Ram	2
23	814986	Spring Anchor Weldment	4
24	814991	Tube, Plastic Damper	2
25	814993	Guard, Rubber	1
26	814994	Retainer, Rubber Guard	1
27	2503266	Bolt 5/16"-18NC x 1 1/4" Carriage Head	6
28	2501012	Washer 5/16" Flat	4
29	2502011	Washer 5/16" Springlock	6
30	2500011	Nut 5/16"-18NC Full Hex	6
31	814995	Pin, Transport Lock	1
32	590188	Hair Clip Pin (AK-2705)	1
33	814543	Strap, Cylinder Stabilizer	1
34	2502007	Washer 5/8" Springlock	5
35	2500013	Nut 5/8"-11NC Full Hex	5
36	101056	Safety Sign-Safety Instructions	1
37	101057	Safety Sign-Warning (Set Brake Securely)	1
38	101058	Safety Sign-Warning (Avoid Serious Injury)	1
39	101078	Safety Sign-Caution (Safety Glasses)	1
40	101027	Safety Sign-Warning (Stand Clear)	1
41	101079	Safety Sign-Notice (1/2 Turn Loose)	1
42	101080	Safety Sign-Notice (1/2 Turn Loose)	1
43	SW700	Safety Sign-Warning (High Pressure Fluid)	1
44	814476	Post Holder with Handle	1
45	2504129	Handle, Post Holder	1
46	2504049	Drive Zerk 5/16"	2

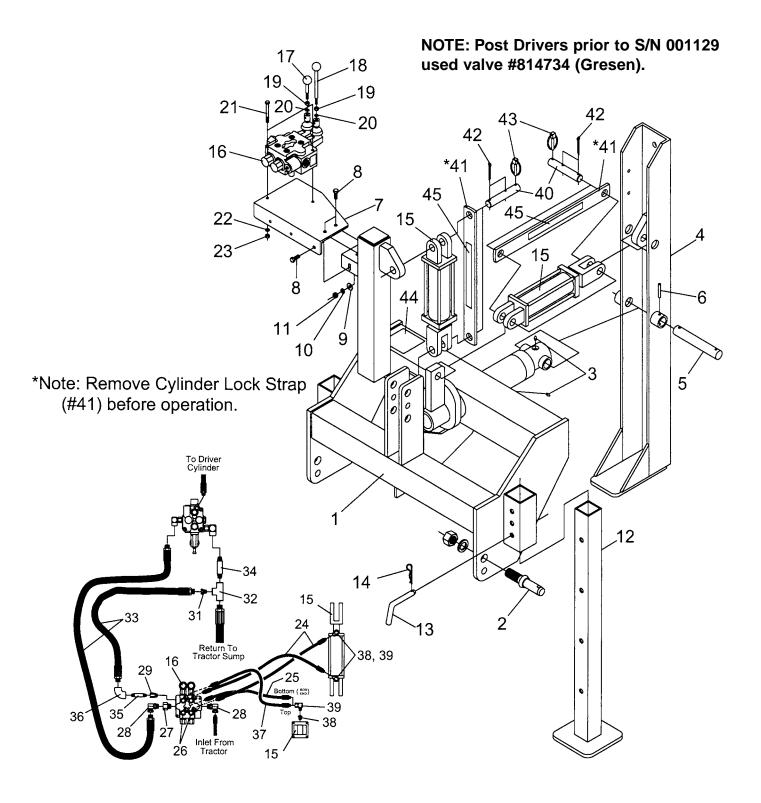
HYDRAULIC CONTROL VALVE & MOUNTING BRACKET PARTS DRAWING



HYDRAULIC CONTROL VALVE & MOUNTING BRACKET PARTS LIST

Ref. No.	Part No.	Description	No. Req'd.
1	815080	Valve, Hydraulic	1
2	2504125	Hose, Cylinder 3/4" ID x 24" Double Braid	1
3	2504126	Hose, Pressure 1/2" ID x 60" Double Braid	1
4	2504131	Hose, Return 1" ID x 96" Single Braid	1
5	2505527	Adapter, 1/2" NPTF to 7/8"-14 O-Ring (SAE 10)	1
6	2505613	Elbow, Street 1/2" to 3/4" NPT 90°	1
7	2505528	Adapter, 1/2" NPTF to 3/4"-16 O-Ring (SAE 8)	1
8	2900021	Elbow, Street 1/2" NPT 90°	1
9	2505610	Swivel Adapter, 90° 1/2" NPTF to 3/4"-16 O-Ring	1
10	814647	Bracket, Valve Mount	1
11	814643	Plate, Level Mount	1
12	2503020	Bolt 3/8"-16NC x 1 1/4" Hex Head Gr. 2	2
13	2502008	Washer 3/8" Springlock	2
14	2500004	Nut 3/8"-16NC Full Hex	2
15	2501004	Washer 3/8" Flat	1
16	2503114	Bolt 5/16"-18NC x 3" Hex Head Gr. 2	2
17	2502011	Washer 5/16" Springlock	2
18	2501012	Washer 5/16" Flat	1
19	2500011	Nut 5/16"-18NC Full Hex	2
20	814489	Level Assembly	1
21	2500006	Nut 1/4"-20NC Nylock Hex	1
22	814496	Return Adapter	1
23	2504139	Elbow 3/4" NPT 90° Black	1
24	815081	Open Center Plug	1
25	815082	Closed Center Plug	1
26	815083	Plug, 3/4"-16 O-Ring (SAE 8)	1
27	815087	Handle, Valve	1
28	2500088	Nut, M8 Hex	2
29	2503296	Screw, Limit M8 x 25 Socket Head Gr. 8.8	1
30	2502023	Washer, External Star 8mm	1

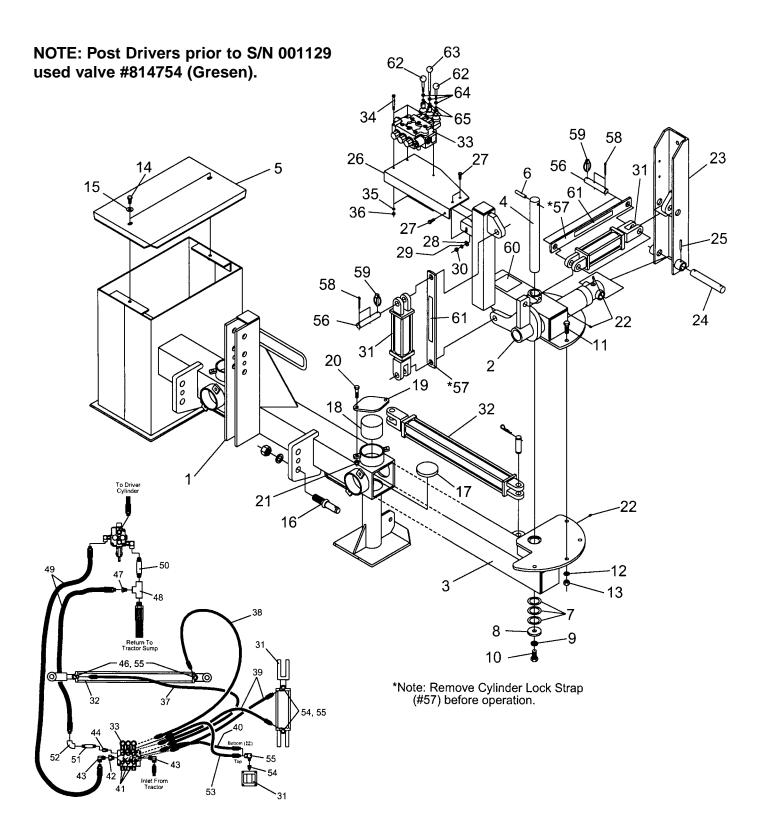
HYDRAULIC CENTER MOUNT PARTS DRAWING



HYDRAULIC CENTER MOUNT PARTS LIST

Ref. No.	Part No.	Description	No. Req'd.
1	814695	Center Mount Weldment	1
2	590159	Draw Pin (AK-4120)	2
3	2504049	Drive Zerk 5/16"	2
4	814771	Support Channel Weldment w/Foot	1
5	830334	Lift Pin (1 1/4" x 8")	1
6	2504070	Roll Pin 5/16" x 2"	1
7	814672	Valve Mount	1
8	2503011	Bolt 3/8"-16NC x 1" Hex Head Gr. 2	3
9	2501004	Washer 3/8" Flat	3
10	2502008	Washer 3/8" Springlock	3
11	2500004	Nut 3/8"-16NC Full Hex	3
12	814687	Stand Weldment	2
13	803637	Adjustment Pin	2
14	590187	Hair Clip Pin (AK-2704)	2
15	2504097	Hydraulic Cylinder 3 x 6	2
16	815085	Valve, 2-Spool	1
17	815087	Handle, Valve (Short)	1
18	815088	Handle, Valve (Long)	1
19	2500088	Nut, M8 Hex	2
20	2502023	Washer, External Star 8mm	2
21	2503114	Bolt 5/16"-18NC x 3" Hex Head Gr. 2	2
22	2502011	Washer 5/16" Springlock	2
23	2500011	Nut 5/16"-18NC Full Hex	2
24	2505505	Hydraulic Hose 1/4" ID x 36"	2
25	2505506	Hydraulic Hose 1/4" ID x 30"	1
26	2505609	90° Elbow 3/4"-16 ORB M/1/4" F Swivel	4
27	815086	Power Beyond Sleeve	1
28	2505611	90° Elbow 7/8"-14 ORB M/1/2" F Swivel	2
29	2505527	Adapter 1/2" NPT to 7/8" O-Ring	1
31	2504119	Reducer Bushing 3/4" to 1/2"	1
32	2505509	Pipe Tee 3/4"	1
33	2505516	Hydraulic Hose 3/8" ID x 36"	2
34	2505511	Pipe Nipple 3/4" x 3"	1
35	2505512	Pipe Nipple 1/2" x 2"	1
36	2505513	90° Elbow 1/2"	1
37	2505514	Hydraulic Hose 1/4" ID x 24"	1
38	2505515	Reducer Bushing 1/2" to 1/4" w/orifice	4
39	2505530	90° Swivel Elbow 1/4" NPT	4
40	814758	Pin, Special Cylinder	4
41	814759	Strap, Cylinder Lock	2
42	2504068	Pin, Cotter 1/4" x 1 3/4"	8
43	590034	Linch Pin 1/4" (AK-61)	4
44	101122	Safety Sign - Warning (Hi-Pressure)	1
45	101202	Safety Sign - Cylinder Strap	4

OFFSET PIVOT MOUNT PARTS DRAWING



OFFSET PIVOT MOUNT PARTS LIST

Ref.	Part No.	Description	No. Req'd.	Ref. No.	Part No.	Description	No. Req'd.
-	814880	Offset Mount Base Weldment	1	33	815090	3-Spool Valve	-
2	814870	Telescoping Pivot Weldment	1	34	2503114	Bolt 5/16"-18NC x 3" Hex Head Gr. 2	က
က	814875	Lower Pivot Weldment	-	32	2502011	Washer 5/16" Springlock	က
4	265083	Pivot Pin 1 3/4" Dia. x 16"	1	98	2500011	Nut 5/16"-18NC Full Hex	က
5	814889	Weight Tank Lid	1	28	2505537	Hydraulic Hose 1/4" ID x 96"	_
9	2504195	Roll Pin 1/2" x 2 1/2"	1	38	2505533	Hydraulic Hose 1/4" ID x 72"	-
7	2504202	Machinery Bushing 1 3/4" ID x 18 Ga.	3	39	2505505	Hydraulic Hose 1/4" ID x 36"	2
8	265085	Retainer, Hinge Pin	1	40	2505506	Hydraulic Hose 1/4" ID x 30"	-
6	2502001	Washer 3/4" Springlock	1	41	2505609	90° Elbow 3/4"-16 ORB M/1/4" F Swivel	9
10	2503139	Bolt 3/4"-10NC x 1 1/2" Hex Head Gr. 2	1	42	815086	Power Beyond Sleeve	_
1	2503152	Bolt 5/8"-11NC x 2" Hex Head Gr. 5	2	43	2505611	90° Elbow 7/8"-14 ORB M/1/2" F Swivel	2
12	2502007	Washer 5/8" Springlock	2	44	2505527	Adapter 1/2" NPT to 7/8" O-Ring	
13	2500013	Nut 5/8"-11NC Full Hex	2	46	2505517	Reducer Bushing 3/8" to 1/4"	2
14	2503062	Bolt 1/2"-13NC x 1" Hex Head Gr. 2	2	47	2504119	Reducer Fitting 3/4" to 1/2" NPT	-
15	2501003	Washer 1/2" Flat	2	48	2505509	Pipe Tee 3/4" NPT	-
16	590159	Draw Pin (AK-4120)	2	49	2505510	Hydraulic Hose 3/8" ID x 48"	2
17	814745	Wear Pad 4" Dia. x 9/16"	4	20	2505511	Pipe Nipple 3/4" x 3"	-
18	814746	Wear Pad 4" Dia. x 2 3/4"	4	51	2505512	Pipe Nipple 1/2" x 2"	-
19	814747	Plate, Wear Pad Retainer	4	25	2505513	90° Elbow 1/2" NPT	-
20	2503007	Bolt 1/2"-13NC x 2" Hex Head Gr. 2	8	53	2505514	Hydraulic Hose 1/4" ID x 24"	1
21	2500050	Nut 1/2"-13NC Hex Jam Nylock	8	54	2505515	Reducer Bushing 1/2" to 1/4" w/.040" Orifice	4
22	2504049	Drive Zerk 5/16"	3	22	2505530	90° Swivel Elbow 1/4"-18NPT	9
23	814725	Support Channel Weldment	1	26	814758	Pin, Special Cylinder	4
24	830334	Lift Pin 1 1/4" x 8"	1	22	814759	Strap, Cylinder Lock	2
25	2504070	Roll Pin 5/16" x 2"	1	58	2504068	Pin, Cotter 1/4" x 1 3/4"	8
26	814698	Mount, 3-Spool Valve	1	59	590034	Linch Pin 1/4" (AK-61)	4
27	2503020	Bolt 3/8"-16NC x 1 1/4" Hex Head Gr. 2	3	09	101122	Safety Sign - Warning (Hi-Pressure)	_
28	2501004	Washer 3/8" Flat	3	61	101202	Safety Sign - Cylinder Strap	4
29	2502008	Washer 3/8" Springlock	3	62	815087	Handle, Valve (Short)	2
30	2500004	Nut 3/8"-16NC Full Hex	3	63	815088	Handle, Valve (Long)	-
31	2504097	Hydraulic Cylinder 3 x 6	2	64	2500088	Nut, M8 Hex	3
32	2504120	Hydraulic Cylinder 2 x 24	1	65	2502023	Washer, External Star 8mm	3

A SAFETY PRECAUTIONS A

MOST ACCIDENTS OCCUR BECAUSE OF NEGLECT OR CARELESSNESS.

AVOID NEEDLESS ACCIDENTS BY FOLLOWING ALL OF THE SAFETY PRECAUTIONS LISTED BELOW.

- Machinery should be operated only by those who are responsible and are authorized to do so.
- Stop the engine, lower all equipment, lock the brakes, and remove the ignition key before dismounting from the tractor
- Never stand between tractor and implement while tractor is being backed to hitch.
- Loose fitting clothing should not be worn, to avoid catching on various parts.
- Detach implement in area where children normally do not play.
- When performing adjustments or maintenance on an implement, first lower it to the ground or block it securely at a workable height.
- Only a qualified operator should be permitted on tractor when in operation; no riders allowed.
- Make certain everyone is in the clear before starting tractor or raising or lowering equipment.
- Operate the tractor and implement only while seated in the driver's seat.

- Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.
- A heavy load can cause instability of the tractor. Use extreme care during road travel. Slow down on turns and watch out for bumps. Tractor may need front counterweights to counter-balance the weight of the implement.
- Reduce speed on hillsides or curves so there is no danger of tipping.
- Avoid driving too close to the edge of ditches or creeks.
- Do not transport implement on public roads without reflectors and slow moving vehicle emblem in daylight and with approved warning lights at night and other periods of poor visibility.
- Due to the width of some implements, use extra caution on highways, farm roads, and when approaching gates.
- Always be sure the implement is in the proper position for transport.
- Keep alert and watch the front as well as the rear when working with the implement.

OWNER'S/ OPERATOR'S MANUAL

MODEL NO.'s HPD-24 SHC HPD-24 SWO



For Safe Operation Read Rules And Instructions Carefully

SINO LEEINGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MEDIDAS DE SEGURIDAD.

MARCH 2003

HYDRAULIC POST DRIVERS

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

- 1. PART NUMBER
- 2. PART DESCRIPTION
- 3. MODEL NUMBER
- 4. NAME OF ITEM

MAKE EVERY DAY
A HOLIDAY FROM ACCIDENTS

WORKSAVER, INC.

P.O. BOX 100 LITCHFIELD, IL 62056-0100 (217) 324-5973 WEB: http://www.worksaver.com E-MAIL: sales@worksaver.com