

OWNER'S/ OPERATOR'S MANUAL

MODEL NO.'s

HPD-16 MSS

HPD-16 HSS

(S/N 4215 and above)

HPD-20 MSS

HPD-20 HSS

(S/N 4825 and above)

HPD-24 HSS

(S/N 1324 and above)



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.



SKID STEER MOUNTED HYDRAULIC POST DRIVERS with Quick Change™ System

Safety Instructions

Tractor Preparation

Operating Instructions

Assembly & Mounting

Maintenance

Repair Parts

⚠ CAUTION ⚠

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

1. 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.
3. 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.
8. 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.
9. **Before operating equipment – If you have any questions regarding the proper assembly or operation, contact your dealer or representative.**

TABLE OF CONTENTS

WARRANTY	2
SAFETY INFORMATION	3
SAFETY SIGNS	12
PREPARATION INSTRUCTIONS	13
OPERATING INSTRUCTIONS	19
SERVICE INSTRUCTIONS	21
SPECIFICATIONS	24
TROUBLE-SHOOTING	25
PARTS LISTS	27-39
RETURN LINE KITS	40-41

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 SKID STEER 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 skid steer, 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.



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 skid steer 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 skid steer running.

SAFETY INSTRUCTIONS (continued)



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 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 skid steer 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 Skid Steer and Post Driver Manuals. Pay close attention to the Safety Signs affixed to the Skid Steer and the Post Driver.

SAFETY INSTRUCTIONS (continued)



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 50°F (10°C).
- 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 skid steer and post driver until you and the operator have read and completely understand this manual, the Skid Steer Operator's Manual, and each of the Safety Messages found on the safety signs on the skid steer 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!

Skid Steer units 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 engines, 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.

SAFETY INSTRUCTIONS (continued)



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 skid steer 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 near the skid steer unit and post driver while post driver 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 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 skid steer unit. Use extreme care during travel. Slow down on turns and watch out for bumps.



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

SAFETY INSTRUCTIONS (continued)

-  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.
-  Consult local utility companies to make certain there are no buried gas lines, electrical cables, etc., in the work area before beginning operation.
-  Do not allow anyone who is not familiar with the safety rules and operation instructions to use this Post Driver.
-  Never allow children to operate or be around this Post Driver.
-  Never allow anyone to walk or work under a raised loader.
-  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 skid steer unit with the post driver uphill. This way if any movement of the skid steer should occur, it will be away from the post driver operator. Use extreme care when working on inclines and hillsides.
-  Never position the post by hand. Always use Post Holder Tool.
-  Beware of low electrical wires when loader is raised. Serious injury or death can result if contact is made.
-  Beware of lift clearance when raising loader. 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.
-  Operate loader from operator’s seat only. Remain at controls until operating cycle is complete.
-  Operate the loader controls smoothly, avoiding jerky operation. Stop loader gradually when lowering or lifting loads.
-  Do not lift or carry anyone on loader or in bucket or on post driver attachment.
-  **ALWAYS** lower loader to the ground and lower post driver ram or block securely before performing any maintenance work.
-  Observe Safety Recommendations in loader instruction manual. Always use care when operating a Post Driver.

SAFETY INSTRUCTIONS (continued)



TRANSPORT SAFETY



Comply with state and local laws governing highway safety and movement of 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 skid steer unit 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. Reduce speed on rough roads and surfaces.



When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the skid steer, loader, and post driver. Drive slowly.



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.



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. 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 skid steer 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.
















Plan your route to avoid heavy traffic.

SAFETY INSTRUCTIONS (continued)



MAINTENANCE SAFETY

-  Inspect the entire machine periodically as indicated in the Maintenance Section of this manual. Look for loose fasteners, work or broken parts, pinched hydraulic hoses, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order.
-  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 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.
-  Do not work under a raised loader unless it is securely blocked or held in position. Do not depend on the hydraulic system to hold the implement in place.
-  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.

SAFETY INSTRUCTIONS (continued)



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 exploded parts drawing 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 skid steer unit, set the brakes, lower loader to ground, lower ram to lowest position and engage transport lock pin, install the two cylinder locking straps, make sure support stands are positioned correctly, shut off the engine and remove the ignition keys.



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. Store the unit in an area away from human activity.



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 INSTRUCTIONS (continued)




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 skid steer unit.

 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

CAUTION

**ALWAYS WEAR SAFETY GLASSES
TO PREVENT EYE INJURY.**

101078

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

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 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 STEEL POSTS.
- ALWAYS WEAR SAFETY GLASSES TO PREVENT EYE INJURY.
- FAILURE TO HEED CAN RESULT IN PERSONAL INJURY OR DEATH.



101056



**Know what's below.
Call before you dig.**

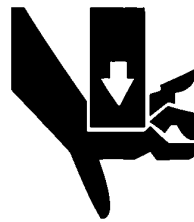
101358

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.

101057

WARNING



AVOID SERIOUS INJURY

NEVER PUT HAND OR
FINGERS BETWEEN
DRIVING RAM AND POST

FAILURE TO HEED WILL
RESULT IN INJURY.

101058

WARNING

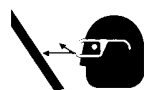


HIGH-PRESSURE FLUID HAZARD

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.

101122



WARNING

Stand clear

101027

Cylinder Locking Strap - Remove before using Post Driver

101202

INSTRUCTIONS

These instructions are for the models HPD-16 MSS, HPD-16 HSS, HPD-20 MSS, HPD-20 HSS, and HPD-24 HSS skid steer mounted hydraulic post drivers.

The models HPD-16 MSS and HPD-20 MSS are manually adjusted post drivers. The manual adjusting base have two threaded cranks to set the side to side and front to back positioning of the driving ram.

The models HPD-16 HSS, HPD-20 HSS, and HPD-24 HSS have the driving ram positioning controlled hydraulically. A two spool hydraulic valve controls the front to back and side to side movement for aligning to a vertical ram position. A separate single spool valve controls the raising and lowering of the driving ram.

SKID STEER REQUIREMENTS AND PREPARATION

Both the manual and hydraulic positioning skid steer post driver mounts are designed to fit skid steer units with the “Universal” (Bobcat) style quick-attach loaders.

NOTE: Due to the location of the oil reservoir fill opening, some skid steer units cannot be used with a post driver unit that must return the oil to the reservoir. (Examples: Caterpillar, Bobcat models 773, 873 G series, and ASV Posi-Track.) These skid steer units require the model HSS/P post drivers (the HSS/P model drivers have a self-contained hydraulic system).

The model 16, 20, and 24 post drivers vary as to the size post they can drive and the amount of impact force they can strike a post with. (Refer to Specifications.)

A larger size skid steer unit is required in relation to the size of driver used. A general rule is that the skid steer specified operation lift capacity should be at least 1.25 times the weight of the post driver attachment.

A post driver is equipped with adjustable legs which should be adjusted to the proper height and have the weight of the driver on them while driving the post. This makes the driver a more stable unit and eliminates shock loads on the skid steer loader.

The skid steer post driver mounts are equipped with a priority flow divider valve. This valve makes 8 gpm available to operate the post driver and all excess oil is returned directly back to the skid steer remote outlet.

Post drivers require that the return oil line be plumbed directly to the oil reservoir tank. This assures that the 8 gpm that is used to operate the post driver is returned with no line restriction that would slow the oil return and lessen the down force of the driving ram.

Be sure that the skid steer unit is in good working order, particularly the hydraulic system, prior to using the post driver. Be sure the skid steer hydraulic oil and filter have been serviced according to the skid steer manufacturer's recommendations.

The return oil from the driver's operating valve must be connected directly to the skid steer unit's hydraulic tank fill opening – NOT THE SKID STEER REMOTE OUTLET. Special return fittings are available for many popular makes of skid steer units. Check with your dealer for an application list (also, last two pages of this manual).

The hydraulic valve that operates the driving ram is a convertible valve and is shipped ready for OPEN center hydraulic systems. Do not change this valve to a closed-center valve. This convertible feature is only required for some farm tractor applications.

Post drivers are a tall attachment to your skid steer unit. Always watch for low clearance problems such as low tree limbs, doorways, or low hanging wires.



A heavy load can cause instability in driving a skid steer unit. Always drive slowly – especially around turns. An unstable skid steer unit could steer badly and possibly tip over, causing damage, injury or even death.



Post drivers are tall and visibility of the top of the post driver may be obstructed by the top of the skid steer unit operators cab. Always be aware of low doorways, low limbs, and especially low hanging wires.



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

INSTRUCTIONS (continued)

PACKAGING

The Post Driver is shipped as 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 package for the hydraulic base, in a carton.
5. Post Holder, in a carton.
6. A special return line hose and filler cap assembly or a special fitting for your specific make of skid steer.
NOTE: This is an option which must be ordered. It is NOT a standard part included with the post driver package.

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 Skid Steer Mounted Post Driver.

Carefully follow instructions for final assembly.

Before attempting assembly check the following items. Having all the needed parts and equipment readily at hand will speed up your assembly task and will make the job as safe as possible.

- Check for fasteners and pins that were shipped with the post driver. Some hardware coming from the factory has been installed in the location where it will be used. If a part or fastener is temporarily removed for assembly reasons, remember where it goes. Keep the parts separated.
- Have a fork lift or loader along with chains and safety stands that are sized for the job ready for the assembly task.
- Have a minimum of 2 people at hand during assembly.
- Check to see that all nuts are properly tightened.

Refer to the “exploded view” of the skid steer mounted post driver on pages 33 and 35 of this manual. Become familiar with the relationship of the various components and parts shown.

Remove the bucket from your Skid Steer unit. Check the loader arms and cylinders to make sure they are in good working order. Lubricate all loader pivot points. Check all bolts to make sure they are in place and tight.

1. Connect the post driver base mount (manual or hydraulic) to the “universal” quick-attach plate on your skid steer loader. Flip the spring loaded latch pins to the “latch lock” position and check to see they are properly latched.



WARNING!



Do not operate this product until you have positive indication that this attachment is securely mounted to the loader. Failure to have the latching mechanism engaged could result in injury or death.

Raise the unit about 2½ ft. from the ground and lower the adjustable stabilizer legs on each side of the mounting frame. Pin each leg into position.

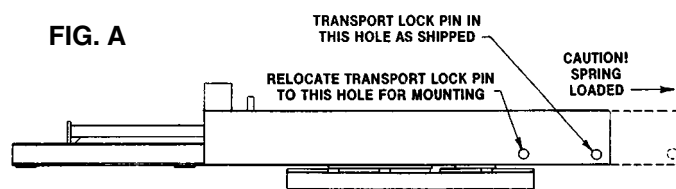
Operate the bucket tilt cylinders until the mounting frame is vertical and then lower until the legs are supporting the unit.

2A. FOR MANUAL ADJUSTMENT MODELS

Attach the manual base mounting plate assembly to the mount frame using six (6) ½” – 13 NC x 1½” hex head bolts, nuts and lock washers.

- 3A. Prepare the driving ram for attaching to the manual 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.



INSTRUCTIONS (continued)

ASSEMBLY (continued)

4A. Attach the driving ram assembly to the manual adjustment base plate assembly. A chain hoist or forklift can be used to stand the driving ram assembly upright to its normal working position. Take care not to let the chain damage the hydraulic cylinder when lifting the unit. Once the ram assembly is upright, the tractor can be positioned to align the driving ram assembly to the manual adjustment base. Align the four (4) $\frac{5}{8}$ " diameter bolts already in the driving ram assembly with the four (4) holes in the base mount channel assembly and secure with $\frac{5}{8}$ – 11 NC nuts and lock washers provided.

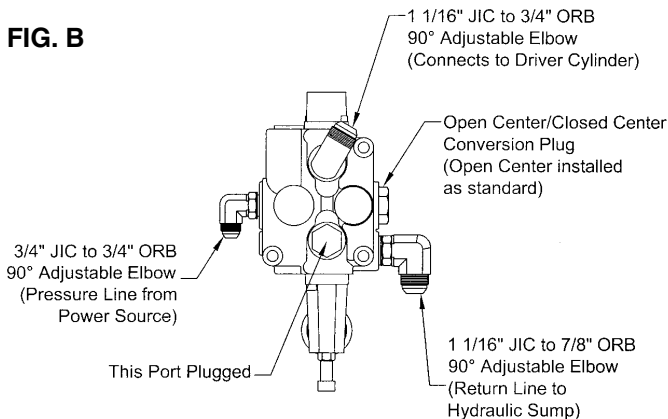
5A. Install the hydraulic package. Refer to Figure B for correct location and orientation of components.

Almost all of the hydraulic fittings on the new post drivers have O-ring type connections.

Do NOT use thread sealant on O-ring fittings.

RAM CONTROL VALVE

FIG. B



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

NOTE: The port and end of the 24" hose has a NPT (pipe thread) type connection. Use a good grade of thread sealant at this connection. (Do NOT use Teflon tape.)

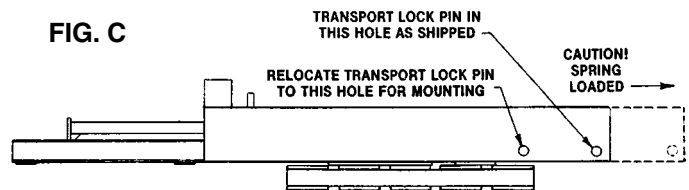
2B. FOR HYDRAULIC ADJUSTMENT MODELS

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.

3B. 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 C).

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.

FIG. C



4B. 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.

INSTRUCTIONS (continued)

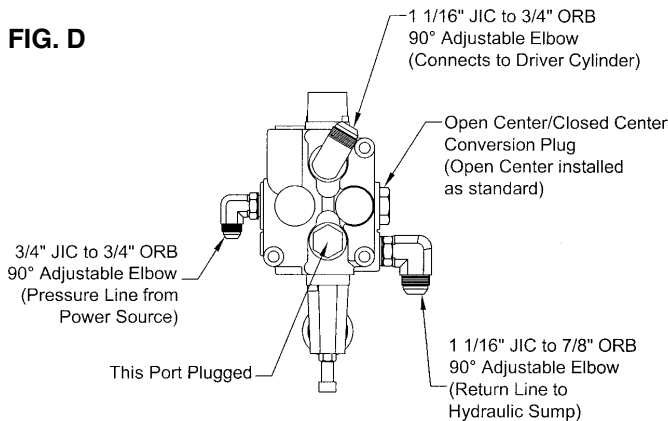
ASSEMBLY (continued)

5B. Install the hydraulic package. Refer to Figure D for correct location and orientation of components.

Almost all of the hydraulic fittings on the new post drivers have O-ring type connections.

Do NOT use thread sealant on O-ring fittings.

FIG. D



RAM CONTROL VALVE

Connect the 3/4" I.D. x 24" long hose from the control valve work port to the Post Driver hydraulic cylinder port.

NOTE: The port and end of the 24" hose has a NPT (pipe thread) type connection. Use a good grade of thread sealant at this connection. (Do NOT use Teflon tape.)

HYDRAULIC CONNECTIONS

Mount the priority flow divider valve on the post driver frame. On manual adjustment models, the valve is mounted flat on the post driver skid steer mount. On hydraulic adjustment models, the valve is mounted on the front side of the plate that holds the two spool valve. Refer to the exploded views of the mounts to make sure you have the valve properly mounted.

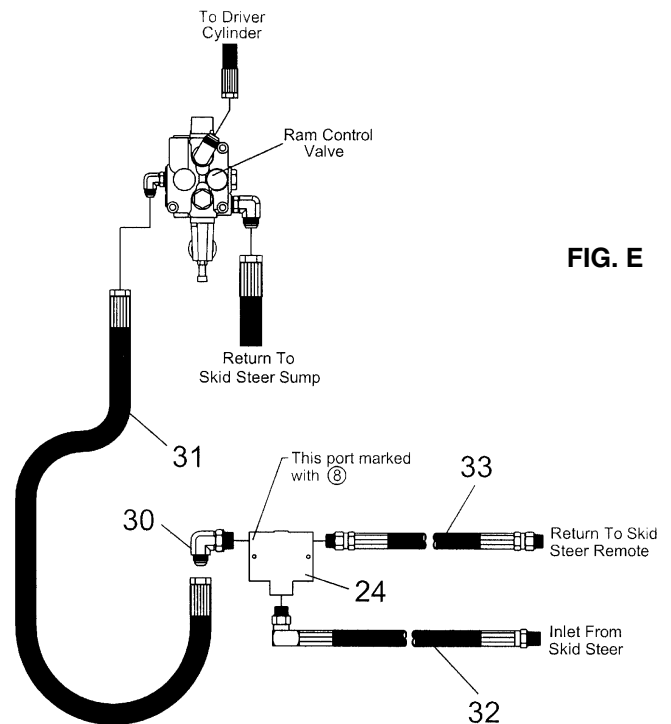
Check all hose and fitting connections. Make sure the hoses are not twisted or kinked and that they will not be pinched during operation of the post driver or the skid steer unit.

NOTE: It is important that the return line (Ref. #33 in Figure E) to the skid steer remote be properly connected to the correct port on the priority flow divider valve. This makes sure that there is a flow of oil always going back through the skid steer system. Failure to make this connection properly can result in damage to the skid steer hydraulic system.

FOR MANUAL ADJUSTMENT MODELS

See Figure E for a view of the hoses and fitting to correctly orient them to the valves.

FIG. E



NOTE: Hose (#31) and elbow fitting (#30) need to connect to the port of the flow divider valve (#24) marked with a number 8.

See the section on return line connections to the skid steer reservoir to complete the hydraulic instructions on manual adjustment models.



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.

INSTRUCTIONS (continued)

ASSEMBLY (continued)

FOR HYDRAULIC ADJUSTMENT MODELS

See Figure F for a view of the hoses and fitting to correctly orient them to the valves.

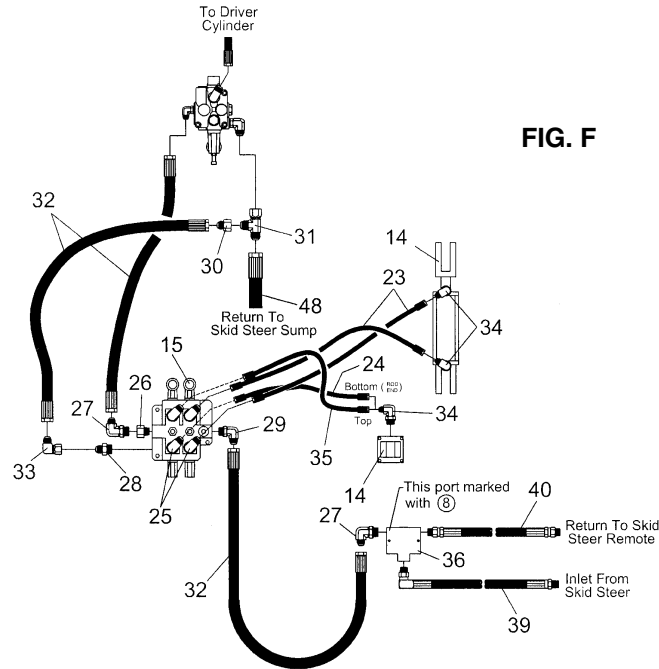


FIG. F

MOUNT ASSEMBLY: Connect a $\frac{3}{8}$ " I.D. x 36" long hose from the inlet side of the ram control valve to the 90° elbow (#27) in the 2 spool valve.

Refer to Figure F and assemble the swivel tee (#31) and the $\frac{3}{4}$ " to $\frac{1}{2}$ " reducer bushing (#30) to the 90° outlet port fitting in the single spool ram control valve. Then connect a $\frac{3}{8}$ " I.D. x 36" long hose (#32) from the reducer bushing to the 90° elbow (#33) that is connected to the two spool valve.

NOTE: Hose (#32) and elbow fitting (#27) need to connect to the port of the flow divider valve (#36) marked with a number 8.

6. INSTRUCTIONS FOR BOTH

Connect the 1" I.D. x 216" long return line from the bottom of the swivel tee (#31) on hydraulic adjusted models and from the ram control valve on manual adjustment models to the special return adapter (hose or fitting) for your specific skid steer unit. See listing of these special return line fittings in the parts listing in the back part of this manual. Connect the special return line fitting or optional hose/cap assembly to the filler neck on the skid steer hydraulic reservoir.

NOTE: On both models, route the hoses to the skid steer reservoir so that they will not be pinched or caught by the movement of the positioning mount

Nylon tie straps and special hose clamps and instructions are included with each return line kit that is designed for a specific brand of skid steer unit

7. Remove the cylinder lock straps (Item #46 on page 35). Stand clear of the driving ram assembly and raise the completely assembled unit approximately 6 inches with the skid steer loader. The driving ram assembly will probably lean out of its normal position. Operate the hydraulic valve so that oil flows from the skid steer to the multi-spool valve or ram control valve and returns to the hydraulic reservoir. The skid steer engine 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 skid steer 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.

8. 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 G), then tighten all bolts.

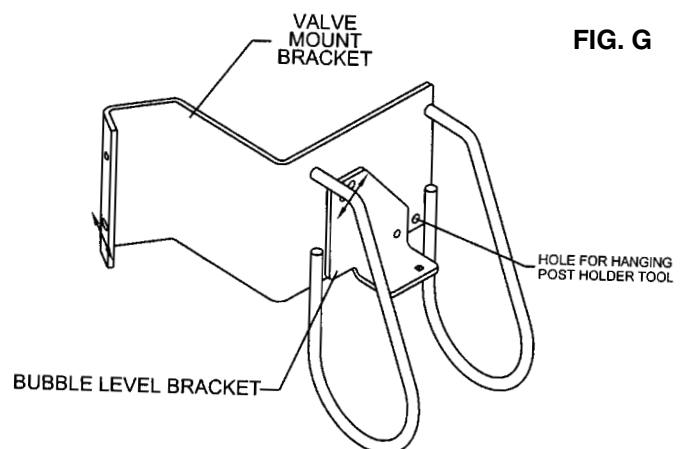


FIG. G

INSTRUCTIONS (continued)

POST HOLDER MOUNTING

Refer to page 39 and become familiar with the parts of the Post Holder and the description of parts.

Locate the two holes in the left side of the support channel. These holes are directly opposite the valve mount bracket holes.

Bolt the Post Holder Mount weldment to the support channel with the two $\frac{3}{8}$ " x $1\frac{1}{2}$ " hex bolts. (See photo J.)

Assembly the remaining parts of the Post Holder referring to photo K.

Using the vertical handle on the arm weldment, swing the Post Holder away from the ram and to the left. The arm will go over center and remain to the left side of the post driver.



PHOTO J



PHOTO K

LUBRICATION

- The Post Driver is designed with "special" polyethylene slide blocks for long trouble-free operation.
- Oil or grease applied to the slide channel will make the operation smoother and if applied after use will help keep rust from forming in the channel.
- There are grease fittings on the large side to side pivot tube and on all the threaded tilt adjustment nuts. A few shots of grease at the beginning of the work day is recommended.
- It is recommended to apply grease or oil to the threaded portion of the tilt adjustment cranks before storage to help prevent rust from forming.
- Smear grease over the exposed portion of the plated hydraulic cylinder rod after use to help prevent pitting and rust from forming. If Post Driver is going to be stored outside this is very important.
- The hydraulic control base has a grease fitting on the large, side to side, pivot tube and one on the lower, front to rear, pivot pin.

**PLEASE WORK, DRIVE, PLAY AND LIVE EACH DAY
WITH CARE AND CONCERN FOR YOUR SAFETY
AND THAT OF YOUR FAMILY AND FELLOW CITIZENS.**

OPERATING INSTRUCTIONS

BEFORE YOU START

Review the assembly instructions to be sure the Driver is properly assembled and plumbed correctly for your skid steer hydraulic system. The control valve return hose must be connected directly to the hydraulic oil fill opening – NOT to the remote outlets. **(See Assembly Instruction, item #6.)** Be sure the skid steer hydraulic oil and filter have been serviced according to the skid steer manufacturer's recommendations before using the Post Driver.

PRE-OPERATION CHECKLIST

(OWNER/OPERATOR RESPONSIBILITY)

- _____ Review and follow safety rules and safety signs on pages 3 through 12.
- _____ Check that Post Driver is properly and securely attached to skid steer loader.
- _____ Lubricate all grease fitting locations.
- _____ Check that all hardware is properly installed.
- _____ Check that no one enters the area of machine operation. Always keep bystanders at a safe distance from the post driver.
- _____ Know your controls and how to stop skid steer, engine and PTO quickly in an emergency. **READ THIS MANUAL AND THE ONE PROVIDED WITH YOUR SKID STEER.**
- _____ To avoid accident or injury, do not allow anyone to operate this equipment without proper instructions. Any person who operates this equipment must be instructed in and be capable of the safe operation of the skid steer, post driver and all controls.



DANGER!



Beware of low electrical wires when loader is raised. Serious injury or death can result if contact is made.

OPERATION

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

1. Position the skid steer for driving a post.
2. On the skid steer 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. Always lower loader so weight of loader and driver is on the legs.
3. Set the skid steer brakes. Raise the ram slightly and remove the transport pin.
4. Align the driving ram vertically by use of the "bulls-eye" bubble level and the multi-spool hydraulic valve handles or hand cranks on the manual model.
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 H). 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.

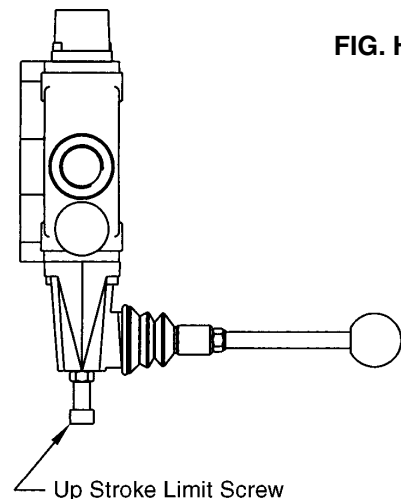


FIG. H

6. 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.

OPERATING INSTRUCTIONS (continued)

OPERATION (continued)



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 45° 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 20” 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 ATTACHMENT” or “POST HOLDER TOOL.” Swing the Post Holder Attachment back and out of the way. Then stand back to the right of the post driver 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.

DRIVE POSTS SAFELY

Improper use of loaders can result in serious injury or death to the skid steer operator.

For optimum stability, visibility and safety:

- Carry the post driver slowly and low to the ground.
- Operate the loader controls smoothly, avoiding jerky operation.

- When driving posts on a slope, always have the post driver facing uphill.
- Only use a skid steer equipped with a ROPS cab or roll-over protective structure.
- Use particular care when working on inclines and hill-sides.
- Avoid holes, ditches, and obstructions which may cause skid steer loader to tip.
- Never allow anyone to walk or work under a raised loader.
- Be sure that people, livestock, or pets are not standing near the machine while operating.

TRANSPORTING



When traveling on public roads, whether at night or during the day, use accessory light and devices for adequate warnings to operators of other vehicles. Comply with all federal, state and local laws.

Carry load low.

Check visibility. If visibility is impaired, reduce speed or consider other means of bale transport.

Allow for additional height of loader on skid steer while turning.

Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.

When traveling over rough or hilly terrain or when making turns, slow down and use extra care.

Read all the safety warnings in the front of the manual.

OWNER SERVICE

STORING THE POST DRIVER

Following operation, or when disconnecting the post driver, stop the skid steer unit, set the brakes, lower the loader, lower the driver ram to it's lowest position and engage the transport lock pin. Install the two locking straps on the angle cylinders and make sure the adjustable legs are positioned correctly.

Shut off the engine and remove the ignition key.

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.

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



- **Serious injury or death may result from disengaging the attachment when the attachment is in an unstable position. Place the attachment in a stable position before disengaging.**
- **Hoses for the attachment must be disconnected before the quick attach is disengaged. Pulling the attachment with the hoses could result in damage to the prime mover or the attachment.**

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 skid steer mount with adjustable legs, locate the transport locking pin into the higher hole location in the ram and then adjust legs to same height.

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 or threaded cranks 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.

MAINTENANCE AND ADJUSTMENTS



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

Do not get under machine to make measurements or adjustments without securely blocking implement first.

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.



Do not work under a raised loader unless it is securely blocked or held in position. Do not depend on the hydraulic system to hold loader and attachment in place.

Check the pins at the ends of the loader arms. Make sure they are locked in place with the linchpins.

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.

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

SERVICE INSTRUCTIONS (continued)

MAINTENANCE AND ADJUSTMENTS (continued)

HYDRAULIC CYLINDER BASE 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 I).

The "Special 7/8" Nut" (Part #815205) has the correct amount of freedom designed in. No adjustment is required at the rod end of the cylinder rod.

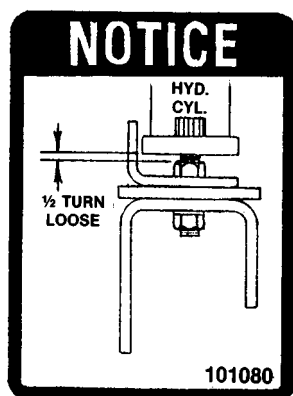


FIG. I

RAM CONTROL HYDRAULIC VALVE

The hydraulic ram control valve supplied with the Post Driver is "convertible" to accommodate both open-center and closed-center hydraulic systems. Consult your skid steer owner's manual (specifications section) or your skid steer dealer. The control valve is shipped "ready" for open-center hydraulic systems.

NOTE: Failure to make the control valve compatible with your 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 J).

Remove the large hex 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.

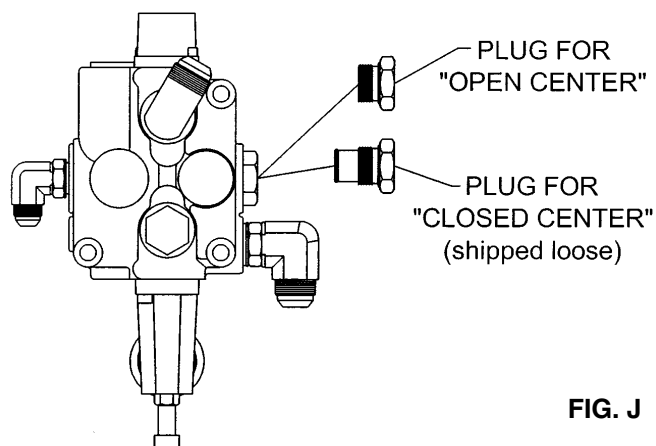


FIG. J

DISASSEMBLY – CARRIAGE AND RAM ASSEMBLY

1. Lay the driving ram assembly face down on the floor or on a solid workbench.
2. 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. Refer to the exploded view of your model post hole driver and become familiar with the parts and how they are assembled.
2. It is NOT necessary to remove the complete hydraulic cylinder to change any of the internal cylinder parts. These parts can be changed from the top of the cylinder. (See following section on replacing the seal).

NOTE: If you need to replace the rod or rod guide, it may be easier to remove the complete cylinder. This will allow you to place the cylinder in a vise to remove the lower part of the cap (gland) from the cylinder tube.

SERVICE INSTRUCTIONS (continued)

MAINTENANCE AND ADJUSTMENTS (continued)

3. Remove the hydraulic cylinder from the carriage.
4. Remove the special 7/8" step nut from the cylinder rod. Use a 1 1/2" wrench on the step nut and a 5/8" wrench on the rod flats at the top of the rod.
5. Place the base end of the hydraulic cylinder in a vise, support the upper end of the cylinder and remove the aluminum cap assembly.
6. Carefully slide the aluminum cap assembly off the upper end of the cylinder rod.
7. Pull the rod from the cylinder tube.
8. Remove the nut from the lower end of the cylinder rod. The rod must be protected with leather, cardboard, or wood blocks and placed in a vise to remove the nut. Remove the rod guide.
9. **NOTE:** It is advisable to install a new rod guide and seal when rebuilding the cylinder. Inspect the cylinder rod for pits and/or rust and replace if necessary.

CAP SEAL REPLACEMENT

Tools required:

- 2 1/8" wrench or 18" crescent wrench
- Seal pick or small flat blade screwdriver
- 1 1/2" wrench or 12" crescent wrench
- 1 5/16" wrench or 12" crescent wrench
- 5/8" wrench or 12" crescent wrench
- Anti-seize thread compound

The procedure for changing the seal is as follows:

1. The driver must be connected to the tractor/skid steer for stability. The tractor engine turned off.
2. Lock the driver in the upper lock position by inserting the transport lock pin through the bottom hole of the driver ram (Photo L).
3. Remove the top lock nut from the rod using the 1 5/16" wrench and the 1 1/2" wrench on the step nut (Photo M).



PHOTO L



PHOTO M

4. Lower the cylinder with the valve (Photo N).
5. Remove the step nut from the cylinder rod using the 1 1/2" wrench and the 5/8" wrench on the rod flats (Photo O).
6. Unscrew the top of the cap from the bottom of the cap (Photo P). (2 1/8" wrench or 18" crescent wrench.)



PHOTO N



PHOTO O

7. Remove the old seal with a flat blade screw driver or seal pick.
8. Install the new seal over the rod and start one edge into the cap.
9. Carefully using a flat blade screw driver, gently work the seal into the bottom of the cap (Photo Q).



PHOTO P



PHOTO Q

10. Reinstall the top of the cap using approx. 50 FT/LB of torque.
11. Never use any type of thread sealant on the threads between the top cap and bottom gland of the cap and seal assembly. This will destroy the aluminum threads when trying to remove. Thread sealant is only needed on the bottom threads of the cap (gland) to the cylinder tube weldment.
12. Reapply anti seize on threads of rod.
13. Reinstall step nut to bottom of threads on rod.
14. Pull cylinder rod up to the driver mount plate and reinstall top nut to approx. 80 FT/LB or torque.
15. The driver is now ready to drive posts.

SERVICE INSTRUCTIONS (continued)

MAINTENANCE AND ADJUSTMENTS (continued)

SPRING REPLACEMENT – MODELS 16 and 20

1. Lower the driving ram so the springs are in their relaxed position. Remove the upper spring bracket from the square tube by removing the $\frac{3}{8}$ " bolt.
2. Remove the upper spring clip from the spring bracket by rotating the clip and sliding it out the keyhole slot.
3. Insert a screwdriver in the spring clip and screw it out of the spring coils. The spring can be removed from the lower spring clip by rotating the spring.
4. Install the plastic stabilizing pipe inside the springs prior to installing the spring clips. Install new spring clips by inserting a screwdriver in the end coil and screwing the clip onto the first two coils (see Figure L). Use a large pair of adjustable (water pump) pliers and close the ends of the clips to retain them on the spring.
5. To replace the springs, it is necessary to remove the top spring anchor (#814408) and to remove the two lower bolts that hold the lower end of the main hydraulic cylinder. Removing these bolts will allow the removal of the lower spring bracket (#814430 on HPD-16 and #814527 on HPD-20).

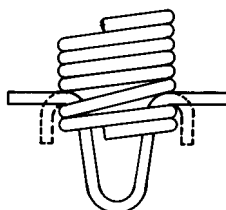


FIG. L

NOTE: The lower hydraulic cylinder mounting bolts have stamploc hex nuts ($\frac{3}{8}$ " on HPD-16 and $\frac{1}{2}$ " on HPD-20). **DO NOT** use regular hex nuts in place of these nuts. They need to be stamploc nuts. Also, on reassembly, there are instructions on the proper adjustment of these bolts. See the section on Hydraulic Cylinder Base Adjustment. (Figure I).

SPRING REPLACEMENT – MODEL 24

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 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.

When the anchor brackets are installed in both ends of the new spring (see Figure M), 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.

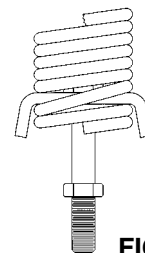


FIG. M

SKID STEER POST DRIVER SPECIFICATIONS

DRIVER MOUNT MODEL	MSS (Manual Adjust)		HSS (Hydraulic Adjust)		
DRIVER MODEL	16	20	16	20	24
Maximum Post Size	5" x 9'	8¾" x 10'	5" x 9'	8¾" x 10'	11" x 10'
Impact at Full Stroke	32,000 lb.	80,000 lb.	32,000 lb.	80,000 lb.	110,000 lb.
Impact at Half Stroke	16,000 lb.	40,000 lb.	16,000 lb.	40,000 lb.	55,000 lb.
Minimum Skid Steer Size	Skid Steer should have SAE Operating Load Rating at least 1.25 times weight of post driver				
Adjustable Support Legs	Two		Two		
Minimum Hydraulics Required	3-4 gpm	6-8 gpm	3-4 gpm	6-8 gpm	
Ram Lift Cylinder	2" x 56"	2" x 68"	2" x 56"	2" x 68"	
Operating Range (above ground)	50" to 116"	50" to 128"	50" to 116"	50" to 128"	
Tilt Adjustment – front/back	20° (10° from vertical)		17° each way from vertical		
Tilt Adjustment – side/side	34° (17° from vertical)		20° each way from vertical		
No. of Cylinder(s)/Size	Not Applicable		Two 3" x 6"		
Shipping Weight	536 lb.	693 lb.	857 lb.	1,014 lb.	1,250 lb.

TROUBLE-SHOOTING

PROBLEM: DRIVER DOES NOT DRIVE A POST

SOLUTIONS:

1. 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.
5. 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.
7. Hydraulic oil flow problems on skid steer.

PROBLEM: DRIVING RAM WILL NOT RAISE, OR RAISES SLOWLY

SOLUTIONS:

1. Hydraulic valve may be improperly plumbed. See assembly instructions.
2. Post Driver control valve handle "UP" limit screw may need adjustment (see Figure C page 15).
3. Carriage may be binding. Check for broken springs, worn slide blocks or other obstructions.
4. Hydraulic cylinder rod guide (piston) may be excessively worn.
5. Hydraulic system may not be supplying rated pressure (usually 1800 to 3000 PSI). Consult your dealer.
6. Hydraulic system may not be delivering its rated volume of oil due to wear. Hydraulic pump may need to be repaired.
7. Hydraulic valve on Post Driver is not compatible with skid steer 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.

10. Hydraulic system may not be supplying rated volume of oil due to priority flow valve being 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 off-center.
3. Post Driver mount may not be properly latched on Skid Steer loader. Check lock pins.
4. Skid steer has moved slightly while driving post. Always set brakes and use extra care on slopes.
5. Adjustable legs on mount are not setting firmly on the ground. Re-adjust legs.
6. 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.
7. Post may be encountering a rock. Relocate post 6-8 inches and try again. Pointing post may help in light, rocky soil.
8. Driver ram may be improperly angled – if top of ram is angled away from post, ram will veer off post. Re-adjust ram angle.

PROBLEM: HYDRAULIC OIL OVERHEATS

SOLUTIONS:

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

TROUBLE-SHOOTING (continued)

PROBLEM: HYDRAULIC HOSE FAILURE

SOLUTIONS:

1. 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.
4. Hose being pinched – reroute hose and refasten.

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

SOLUTIONS:

1. Post Driver control valve “UP” limit screw needs adjusting.
2. Skid Steer model has high volume hydraulic oil pump. Set throttle at lower speed to reduce volume of oil or if necessary, install an orifice in line to reduce volume of oil.

PROBLEM: DRIVER RAM AND CARRIAGE ASSEMBLY MOVE FAST AND ARE HARD TO CONTROL (Hyd. adjusted models only)

SOLUTIONS:

1. Orifice fittings missing.

PROBLEM: OIL SQUIRTS OUT OF RETURN LINE CONNECTION TO OIL RESERVOIR

SOLUTIONS:

1. Wrong return line fitting being used.
2. Return line not properly secured.
3. Oil reservoir is over filled.
4. Skid Steer model has high volume hydraulic oil pump. Set throttle at slightly lower speed to reduce volume of oil.

PROBLEM: DRIVER HAS EXCESSIVE MOVEMENT OR BOUNCE

SOLUTIONS:

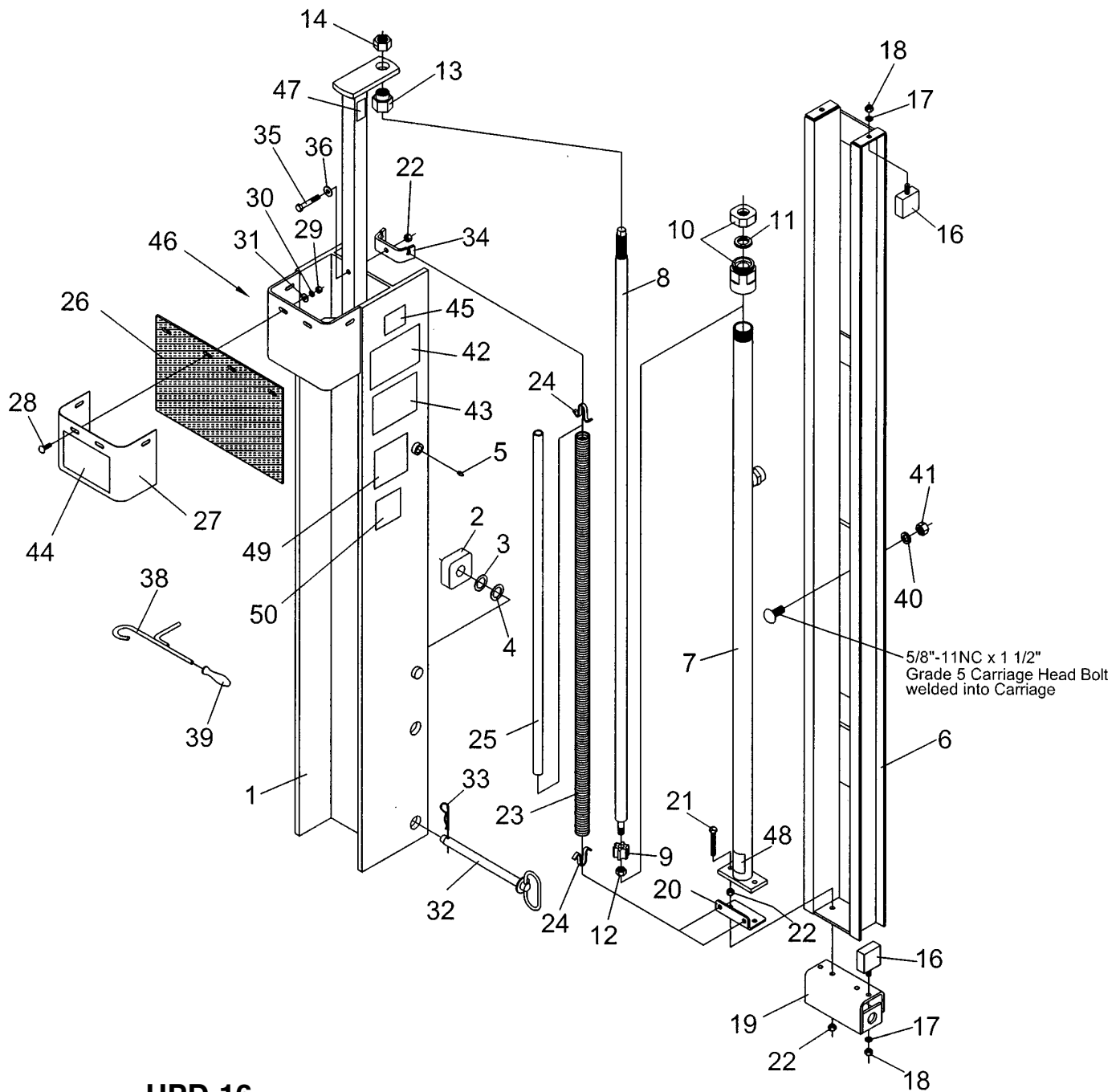
1. Top of post is not cut “square,” causing the driver to veer off at an angle. Re-cut top of post “square.”
2. Skid steer loader is not all the way down.
3. Adjustable legs on mount are not setting firmly on the ground. Re-adjust legs.
4. Carriage springs may be disconnected or broken.
5. Ground may 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.
6. Post may be encountering a rock. Relocate post 6-8 inches and try again. Pointing post may help in light, rocky soil.
7. Driver ram may be improperly angled – if top of ram is angled away from post, ram will veer off post. Re-adjust ram angle.
8. Skid steer unit may not be large enough to handle driver. Use larger heavier skid steer model.

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.
2. 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.
3. 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.
4. Driving steel pipe in hard conditions will induce vibrations in the springs which can shorten spring life.

HPD-16 PARTS DRAWING

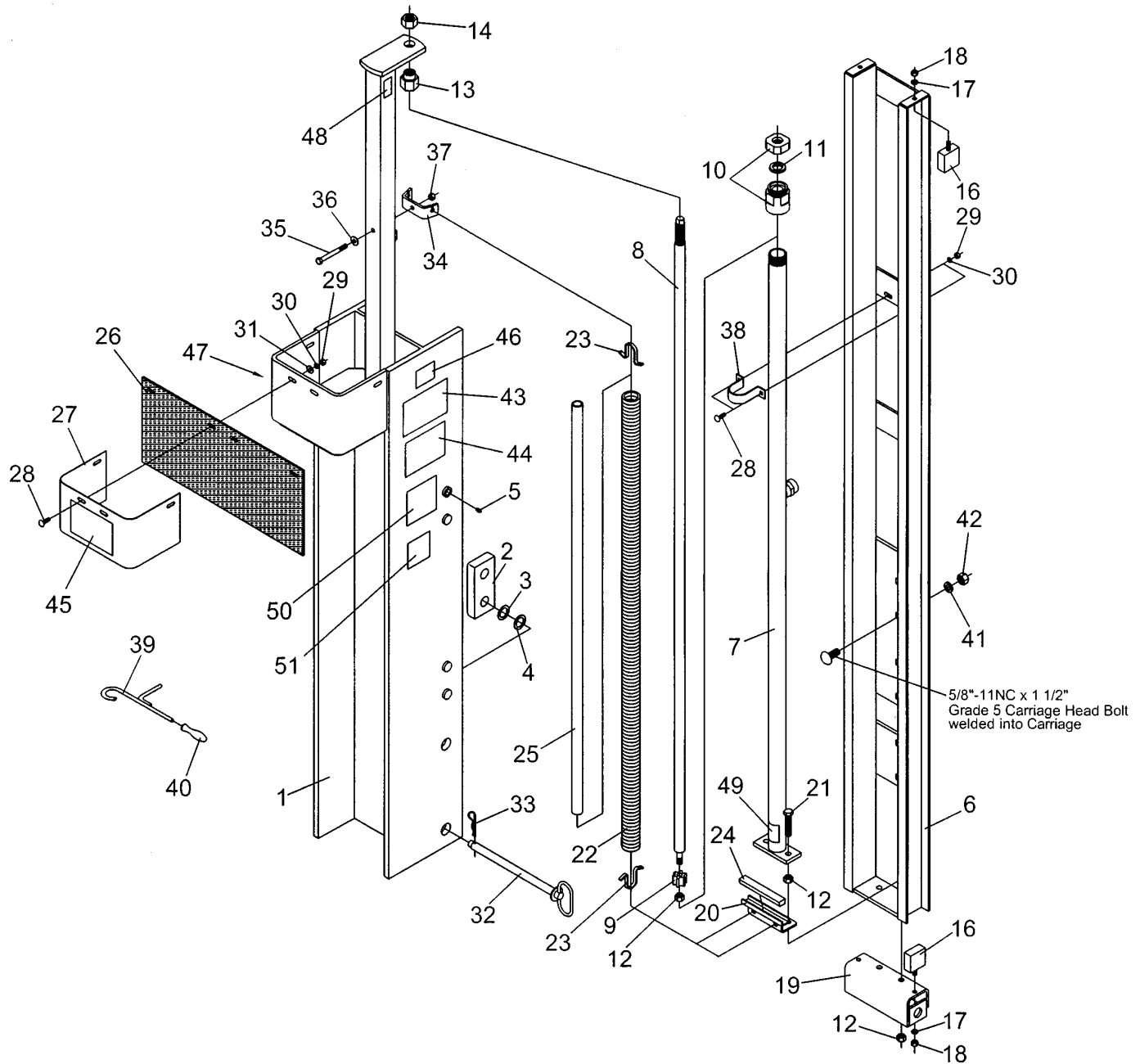


HPD-16
Effective with S/N 4077

HPD-16 PARTS LIST

Ref. No.	Part No.	Description	No. Req'd.
1	814401	Driving Ram Weldment	1
2	814551	Guide Block	4
3	2504132	Machinery Bushing 1"ID x 18 Ga.	Var.
4	2504110	Machinery Bushing 1"ID x 14 Ga.	Var.
5	2504049	Drive Zerk 5/16"	2
6	814411	Carriage Weldment	1
	815165	Complete Cylinder Assembly (Items #7 thru #14)	1
7	814417	Tube, Hydraulic Cylinder	1
8	815166	Rod, Hydraulic Cylinder	1
9	814422	Rod Guide, Hydraulic Cylinder	1
10	815170	End Cap Assembly w/Rod Seal	1
11	814523	Rod Seal (only)	1
12	2500054	Nut 1/2"-13NC Stamplock Hex	1
13	815205	Special Step Nut 7/8"-14NF	1
14	2500017	Nut 7/8"-14NF Full Hex	1
16	814426	Bumper, Urethane	4
17	2502008	Washer 3/8" Springlock	4
18	2500004	Nut 3/8"-16NC Full Hex	4
19	814427	Transport Lock Weldment	1
20	814430	Lower Spring Bracket	1
21	2503198	Bolt 3/8"-16NC x 2 1/2" Gr. 8 Full Thread	2
22	2500055	Nut 3/8"-16NC Stamplock Hex	5
23	814431	Spring, Driving Ram	2
24	814432	Clip, Spring	4
25	814581	Pipe, Plastic Stabilizing	2
26	814433	Rubber Guard	1
27	814629	Guard Retainer	1
28	2503266	Bolt 5/16"-18NC x 1 1/4" Carriage Head	4
29	2500011	Nut 5/16"-18NC Full Hex	4
30	2502011	Washer 5/16" Springlock	4
31	2501012	Washer 5/16" Flat	4
32	814488	Pin, Transport Lock	1
33	590188	Hair Clip Pin 5/32" (AK-2705)	1
34	814408	Upper Spring Bracket	1
35	2503201	Bolt 3/8"-16NC x 2 1/4" Gr. 5 Hex Head	1
36	2501004	Washer 3/8" Flat	1
38	814476	Post Holder w/Handle	1
39	2504129	Handle, Post Holder	1
40	2502007	Washer 5/8" Springlock	6
41	2500013	Nut 5/8"-11NC Full Hex	6
42	101056	Safety Sign - Safety Instructions	1
43	101057	Safety Sign - Warning (Set Brake)	1
44	101058	Safety Sign - Warning (Avoid Injury)	1
45	101078	Safety Sign - Caution (Safety Glasses)	1
46	101027	Safety Sign - Warning (Stand Clear)	1
47	101079	Safety Sign - Notice (1/2 Turn Loose)	1
48	101080	Safety Sign - Notice (1/2 Turn Loose)	1
49	101122	Safety Sign - Warning (Hi-Pressure)	1
50	101358	Safety Sign - 811 (Know what's below)	1

HPD-20 PARTS DRAWING

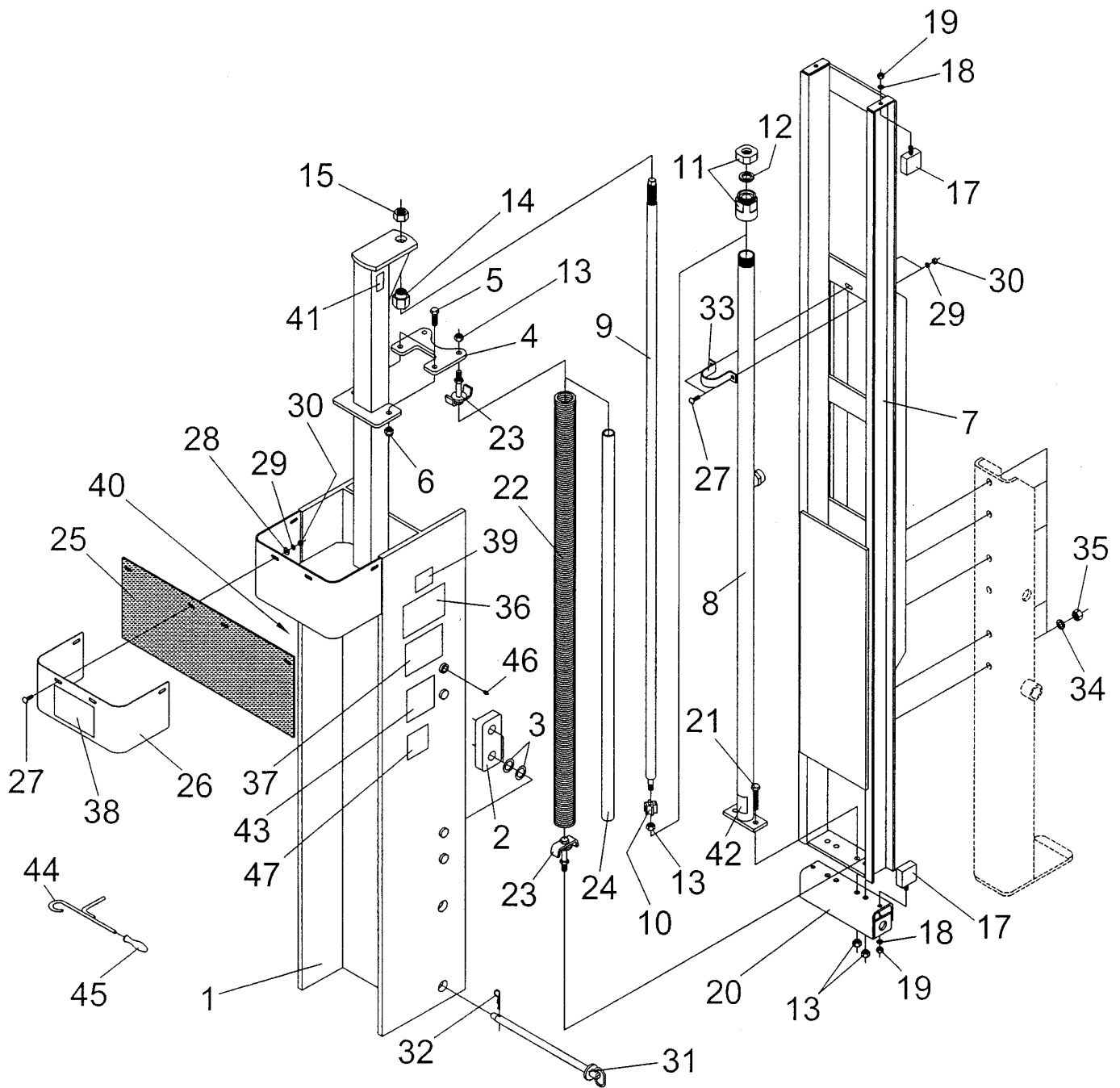


HPD-20
Effective with S/N 4531

HPD-20 PARTS LIST

Ref. No.	Part No.	Description	No. Req'd.
1	814502	Driving Ram Weldment	1
2	814549	Guide Block	4
3	2504132	Machinery Bushing 1"ID x 18 Ga.	Var.
4	2504110	Machinery Bushing 1"ID x 14 Ga.	Var.
5	2504049	Drive Zerk 5/16"	2
6	814510	Carriage Weldment	1
	815175	Complete Cylinder Assembly (Items #7 thru #14)	1
7	814517	Tube, Hydraulic Cylinder	1
8	815204	Rod, Hydraulic Cylinder	1
9	814422	Rod Guide, Hydraulic Cylinder	1
10	815170	End Cap Assembly w/Rod Seal	1
11	814523	Rod Seal (only)	1
12	2500054	Nut 1/2"-13NC Stamplock Hex	5
13	815205	Special Step Nut 7/8"-14NF	1
14	2500017	Nut 7/8"-14NF Full Hex	1
16	814426	Bumper, Urethane	4
17	2502008	Washer 3/8" Springlock	4
18	2500004	Nut 3/8"-16NC Full Hex	4
19	814525	Transport Lock Weldment	1
20	814527	Lower Spring Bracket	1
21	2503202	Bolt 1/2"-13NC x 2 1/2" Gr. 8 Full Thread	2
22	814530	Spring, Driving Ram	2
23	814531	Clip, Spring	4
24	814532	Damper, Spring	1
25	814547	Pipe, Plastic Stabilizing	2
26	814533	Rubber Guard	1
27	814626	Guard Retainer	1
28	2503266	Bolt 5/16"-18NC x 1 1/4" Carriage Head	6
29	2500011	Nut 5/16"-18NC Full Hex	6
30	2502011	Washer 5/16" Springlock	6
31	2501012	Washer 5/16" Flat	4
32	814536	Pin, Transport Lock	1
33	590188	Hair Clip Pin 5/32" (AK-2705)	1
34	814578	Upper Spring Bracket	1
35	2503320	Bolt 3/8"-16NC x 3 1/2" Gr. 5 Hex Head	1
36	2501004	Washer 3/8" Flat	1
37	2500055	Nut 3/8"-16NC Hex Stamplock	1
38	814543	Cylinder Stabilizer Strap	1
39	814476	Post Holder w/Handle	1
40	2504129	Handle, Post Holder	1
41	2502007	Washer 5/8" Springlock	6
42	2500013	Nut 5/8"-11NC Full Hex	6
43	101056	Safety Sign - Safety Instructions	1
44	101057	Safety Sign - Warning (Set Brake)	1
45	101058	Safety Sign - Warning (Avoid Injury)	1
46	101078	Safety Sign - Caution (Safety Glasses)	1
47	101027	Safety Sign - Warning (Stand Clear)	1
48	101079	Safety Sign - Notice (1/2 Turn Loose)	1
49	101080	Safety Sign - Notice (1/2 Turn Loose)	1
50	101122	Safety Sign - Warning (Hi-Pressure)	1
51	101358	Safety Sign - 811 (Knows what's below)	1

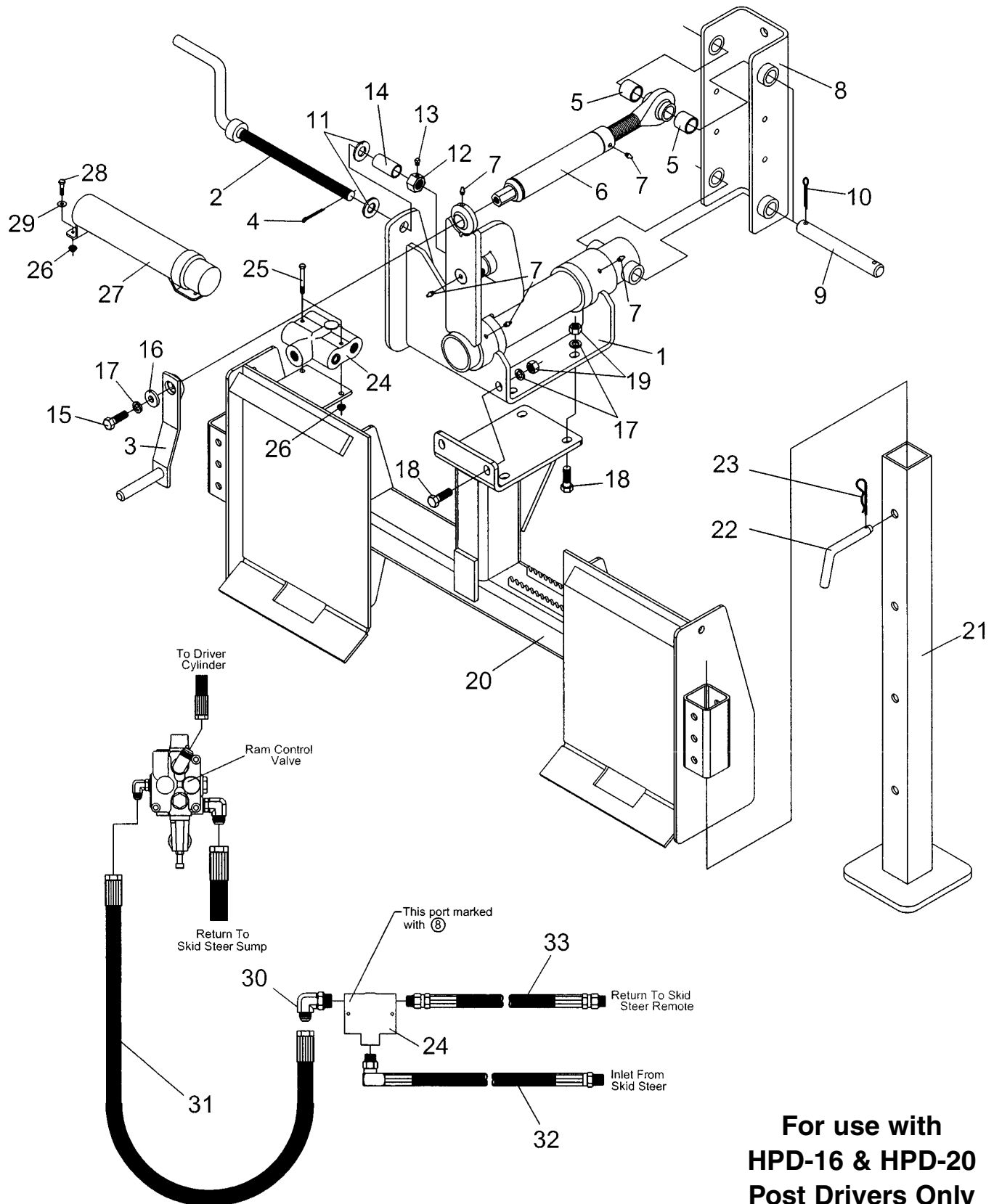
HPD-24 PARTS DRAWING



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
	815175	Complete Cylinder Assembly (#8 thru #15)	1
8	814517	Tube, Hydraulic Cylinder	1
9	815204	Rod, Hydraulic Cylinder	1
10	814422	Guide, Hydraulic Cylinder Rod	1
11	815170	End Cap Assembly w/Rod Seal	1
12	814523	Rod Seal (only)	1
13	2500054	Nut 1/2"-13NC Hex Stamplock	7
14	815205	Special Step Nut 7/8"-14NF	1
15	2500017	Nut 7/8"-14NF Full Hex	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
47	101358	Safety Sign-811 (Know what's below)	1

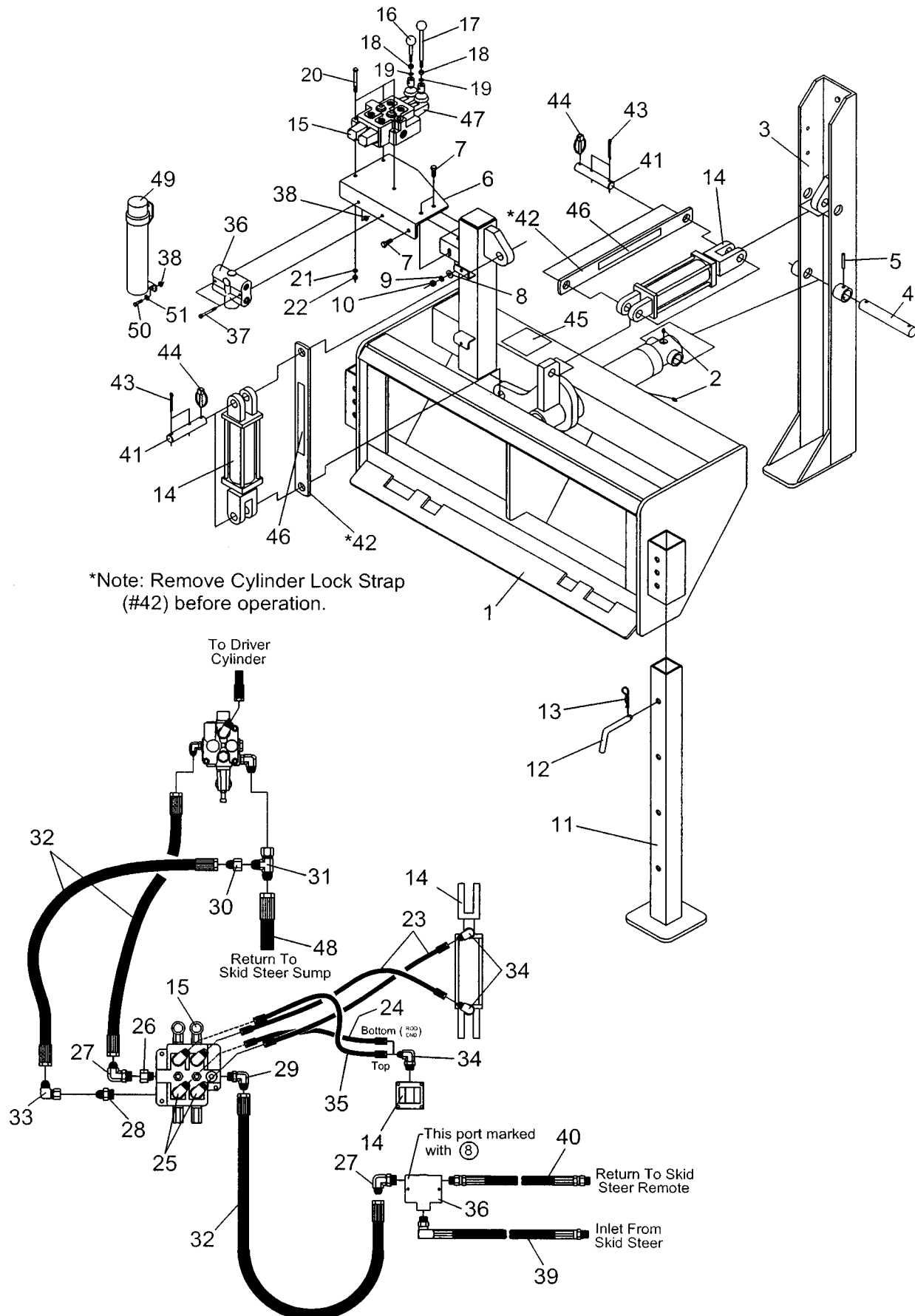
MANUAL ADJUSTMENT SKID STEER MOUNT PARTS DRAWING



MANUAL ADJUSTMENT SKID STEER MOUNT PARTS LIST

Ref. No.	Part No.	Description	No. Req'd.
1	815252	Manual Base Mount Weldment	1
2	814450	Side Tilt Crank (3/4"-10NC Threads)	1
3	815263	Handle Weldment, Fore & Aft	1
4	2504015	Cotter Pin 1/8" x 1 1/2"	1
5	815275	Spacer, Fore & Aft Link	2
6	815266	Barrel Weldment	1
7	2504049	Drive Zerk 5/16"	5
8	814460	Support Channel Weldment	1
9	830309	Lift Pin 1" Dia. x 8" Lg.	2
10	2504068	Cotter Pin 1/4" x 1 3/4"	4
11	2504149	Machinery Bushing 3/4" ID x 10 Ga.	2
12	814425	Nut 3/4"-10NC Full Hex (Drilled & Tapped)	1
13	2503196	Set Screw 1/4"-20NC x 1/4"	1
14	590027	Toplink Bushing (AK-54)	1
15	2503350	Bolt 1/2"-13NC x 1 1/2" Hex Head (Coated)	1
16	2501039	Washer 1/2" Flat, Extra Thick	1
17	2502002	Washer 1/2" Spring Lock	7
18	2503145	Bolt 1/2"-13NC x 1 1/2" Hex Head Gr. 5	6
19	2500003	Nut 1/2"-13NC Full Hex	6
20	814638	Manual Adjustment Mount Weldment	1
21	814867	Stand Tube Weldment	2
22	343180	Stand Pin	2
23	590187	Hair Clip Pin (AK-2704)	2
24	2505761	Priority Flow Divider Valve	1
25	2503249	Bolt 1/4"-20NC x 2 1/4" Hex Head Gr. 2	2
26	2500008	Nut 1/4"-20NC Whiz Flange Hex	4
27	2504225	Plastic Tube, Owner's Manual	1
28	2503116	Bolt 1/4"-20NC x 1" Hex Head Gr. 2	2
29	2501006	Washer 1/4" Flat	2
30	2505748	90° Elbow 7/8"-14 ORB Male / 3/4"-16 JIC Male	1
31	2505752	Hydraulic Hose 3/8" ID x 36"	1
32	2505775	Hydraulic Hose 3/4" ID x 48" w/ 90° Elbow	1
33	2505776	Hydraulic Hose 3/4" ID x 48"	1

HYDRAULIC ADJUSTMENT SKID STEER MOUNT PARTS DRAWING



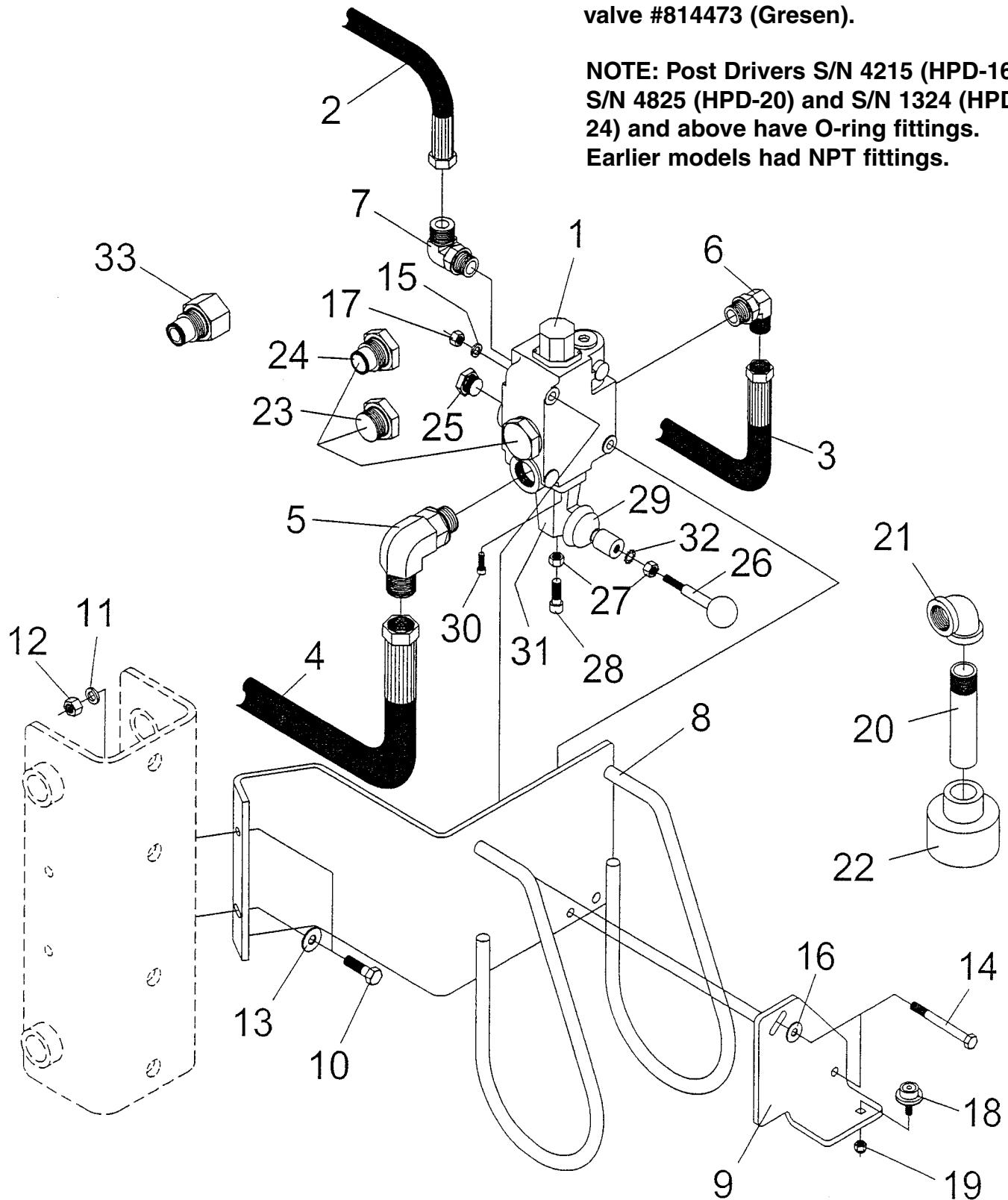
HYDRAULIC ADJUSTMENT SKID STEER MOUNT PARTS LIST

Ref. No.	Part No.	Description	No. Req.
1	814605	Skid Steer Mount Weldment	1
2	2504049	Drive Zerk 5/16"	2
3	814771	Support Channel Weldment w/Foot	1
4	830334	Lift Pin 1 1/4" x 8"	1
5	2504070	Roll Pin 5/16" x 2"	1
6	814672	Valve Mount (2 Spool)	1
7	2503011	Bolt 3/8"-16NC x 1" Hex Head Gr. 2	3
8	2501004	Washer 3/8" Flat	3
9	2502008	Washer 3/8" Springlock	3
10	2500004	Nut 3/8"-16NC Full Hex	3
11	814867	Stand Weldment	2
12	343180	Stand Pin	2
13	590187	Hair Clip Pin (AK-2704)	2
14	2504258	Hydraulic Cylinder 3 x 6	2
15	815085	Valve, 2-Spool	1
16	815087	Handle, Valve (Short)	1
17	815088	Handle, Valve (Long)	1
18	2500088	Nut, M8 Hex	2
19	2502023	Washer, External Star 8mm	2
20	2503098	Bolt 5/16"-18NC x 2 1/2" Hex Head Gr. 2	3
21	2502011	Washer 5/16" Springlock	3
22	2500011	Nut 5/16"-18NC Full Hex	3
23	2505756	Hydraulic Hose 1/4" ID x 36"	2
24	2505755	Hydraulic Hose 1/4" ID x 30"	1
25	2505681	90° Elbow 3/4"-16 ORB Male / 9/16"-18 JIC Male	4
26	815086	Power Beyond Sleeve (1.415 Hex AF)	1
	815094	Power Beyond Sleeve (1.285 Hex AF)	1
27	2505748	90° Elbow 7/8"-14 ORB Male / 3/4"-16 JIC Male	2
28	2505746	Connector 3/4"-16 JIC Male to 7/8"-14 ORB Male	1
29	2505737	90° Elbow 3/4"-16 ORB Male / 3/4"-16 JIC Male	1
30	2505745	Reducer Bushing 3/4" to 1/2"	1
31	2505747	Swivel Tee 1 1/16"-12 JIC (2) Male (1) Female	1
32	2505752	Hydraulic Hose 3/8" ID x 36"	3
33	2505736	90° Elbow 3/4"-16 JIC Male / 3/4"-16 JIC Female	1
34	2505751	90° Elbow 3/4" ORB M / 9/16" JIC M w/Orifice	4
35	2505754	Hydraulic Hose 1/4" ID x 24"	1
36	2505761	Priority Flow Divider Valve	1
37	2503249	Bolt 1/4"-20NC x 2 1/4" Hex Head Gr. 2	2
38	2500008	Nut 1/4"-20NC Hex Whiz Flange	4
39	2505775	Hydraulic Hose 3/4" ID x 48" w/ 90° Elbow	1
40	2505776	Hydraulic Hose 3/4" ID x 48"	1
41	814758	Pin, Special Cylinder	4
42	814759	Strap, Cylinder Lock	2
43	2504068	Pin, Cotter 1/4" x 1 3/4"	8
44	590034	Linch Pin 1/4" (AK-61)	4
45	101122	Safety Sign - Warning (Hi-Pressure)	1
46	101202	Safety Sign - Cylinder Strap	4
47	815091	Valve Operator	2
48	2505764	Hydraulic Hose 1" ID x 216"	1
49	2504225	Manual Holder, Plastic	1
50	2503116	Bolt 1/4"-20NC x 1" Hex Head Gr. 2	2
51	2501006	Washer 1/4" Flat	2
N/S	2505544	Tie Wrap	12

HYDRAULIC CONTROL VALVE AND MOUNTING BRACKET PARTS DRAWING

NOTE: Post Drivers prior to S/N 2656 (HPD-16) and S/N 2987 (HPD-20) used valve #814473 (Gresen).

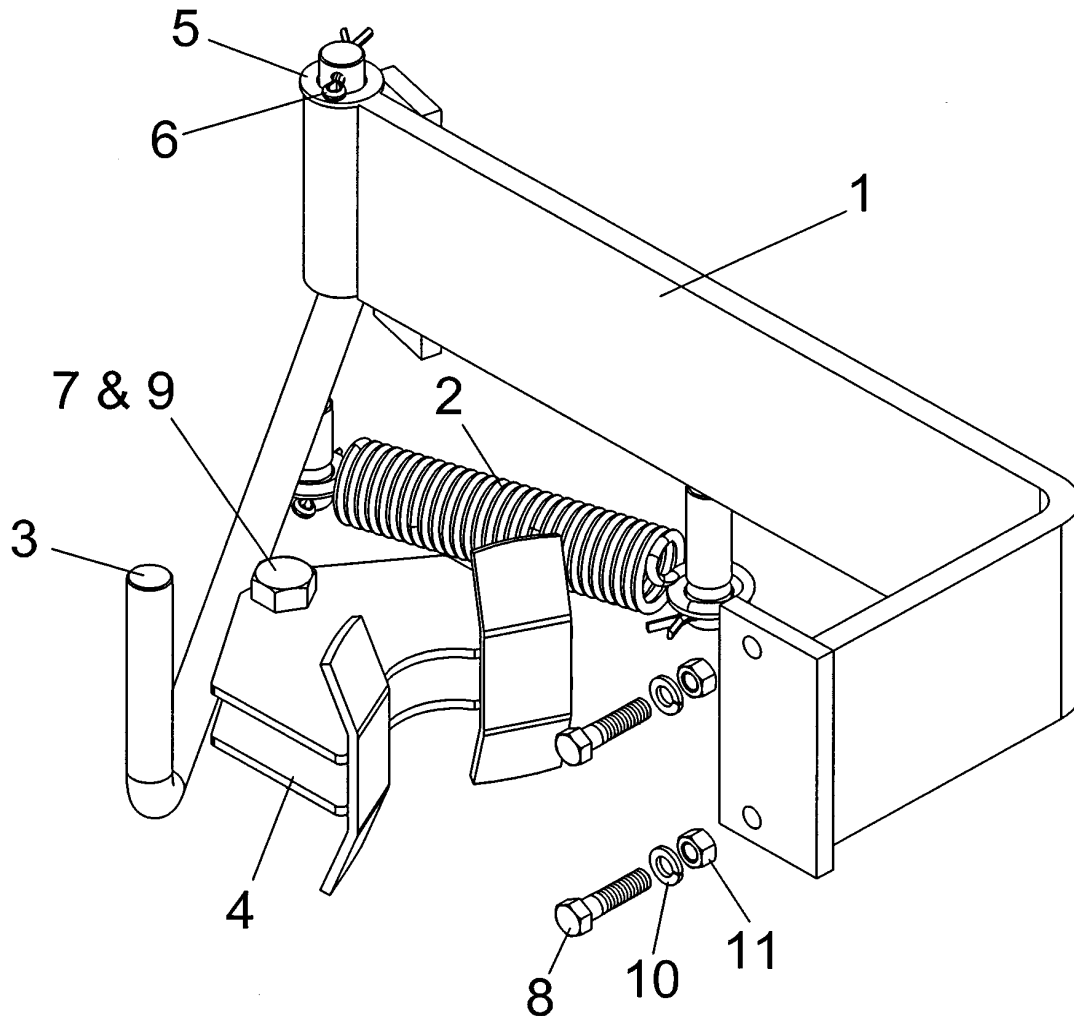
NOTE: Post Drivers S/N 4215 (HPD-16), S/N 4825 (HPD-20) and S/N 1324 (HPD-24) and above have O-ring fittings. Earlier models had NPT fittings.



HYDRAULIC CONTROL VALVE AND MOUNTING BRACKET PARTS LIST

Ref. No.	Part No.	Description	No. Req'd.
1	815080	Valve, Hydraulic	1
2	2505743	Hose, Cylinder 3/4" ID x 24" Double Braid	1
3	2505744	Hose, Pressure 1/2" ID x 60" Double Braid	1
4	2505742	Hose, Return 1" ID x 96" Single Braid	1
5	2505750	Elbow, 1 1/16"-12 JIC to 7/8"-14 O-Ring	1
6	2505737	Elbow, 3/4"-16 JIC to 3/4"-16 O-Ring	1
7	2505749	Elbow, 1 1/16"-12 JIC to 3/4"-16 O-Ring	1
8	814647	Bracket, Valve Mount	1
9	814643	Plate, Level Mount	1
10	2503020	Bolt 3/8"-16NC x 1 1/4" Hex Head Gr. 2	2
11	2502008	Washer 3/8" Springlock	2
12	2500004	Nut 3/8"-16NC Full Hex	2
13	2501004	Washer 3/8" Flat	1
14	2503114	Bolt 5/16"-18NC x 3" Hex Head Gr. 2	2
15	2502011	Washer 5/16" Springlock	2
16	2501012	Washer 5/16" Flat	1
17	2500011	Nut 5/16"-18NC Full Hex	2
18	814489	Level Assembly	1
19	2500006	Nut 1/4"-20NC Nylock Hex	1
	814496	Return Adapter Assembly (Includes #20-#22)	1
20	814498	Center Tube	1
21	2504139	Elbow 3/4" NPT 90° Black	1
22	815100	Adapter Shield	1
23	815081	Open Center Plug	1
24	815082	Closed Center Plug	1
25	815083	Plug, 3/4"-16 O-Ring (SAE 8)	1
26	815087	Handle, Valve	1
27	2500088	Nut, M8 Hex	2
28	2503296	Screw, Limit M8 x 25 Socket Head Gr. 8.8	1
29	815103	Rubber Boot	1
30	2503337	Screw, M5m x 0.8 x 16mm Socket Head Gr. 12.9	2
31	815089	Valve Operator (Includes #27 - #30)	1
32	2502023	Washer, External Star 8mm	1
33	815086	(Option) Power Beyond Adapter - 1.415 Hex AF	1

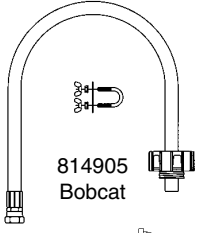
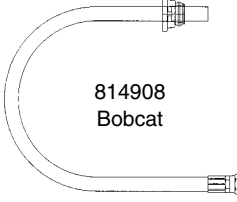
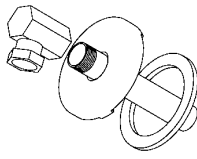
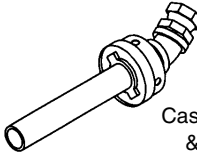
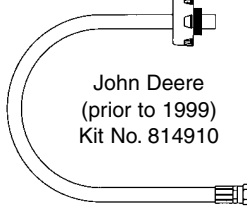
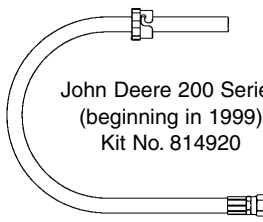
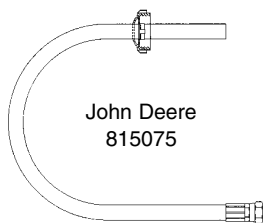
POST HOLDER ATTACHMENT PARTS DRAWING & LIST



Ref. No.	Part No.	Description	No. Req'd.
1	815121	Mount Weldment, Post Holder	1
2	815129	Spring, Extension	1
3	815131	Arm Weldment	1
4	815141	Guide Weldment	1
5	2501032	Washer 3/4" SAE Flat	3
6	2504121	Cotter Pin 3/16" x 1 1/2"	3
7	2503059	Bolt 5/8"-11NC x 2 1/4" Hex Head Gr. 2	1
8	2503300	Bolt 3/8"-16NC x 1 1/2" Hex Head Gr. 5	2
9	2500041	Nut 5/8"-11NC Hex Nylock	1
10	2502008	Washer 3/8" Springlock	2
11	2500004	Nut 3/8"-16NC Full Hex	2

SKID STEER POST DRIVER RETURN LINE PACKAGES

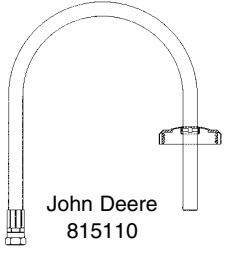
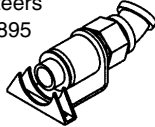
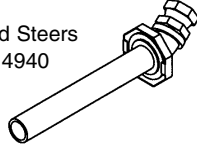
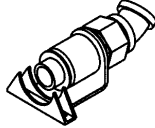
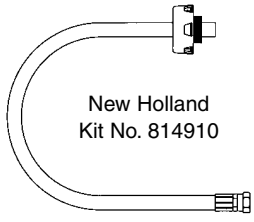
Return Line Kits are required for all MSS and HSS (except HSS/P) models.
These kits contain fittings to allow the oil to be returned to the hydraulic reservoir.

	MODEL	ITEM #	DESCRIPTION
 <p>814905 Bobcat</p>  <p>814908 Bobcat</p>	Bobcat	814905	Return Line fittings, hoses, and hardware for S200, S250, S300, S330, T250, T300, T320, T630, T650 and earlier models except 773G & 873G (Note: approx. 4" dia. screw type plastic cap)
	Bobcat	814908	For Models S130, S150, S160, S175, S185, T140, T190 (Rubber plug type cap)
 <p>815105 Case</p>  <p>814915 Case, Daewoo, & Thomas</p>	Case	815105	For most 1835, 1835B, 1835C, 1840, 1845, 1845B & 1845C (Large Diameter Cap)
	Case	814915	For Models 410, 420, 430, 440, 435, 445, 450, 465 (Radiator Type Cap)
	Case	814915	For Models 40XT, 60XT, 70XT, 75XT, 85XT, 90XT, 95XT
	Thomas	814915	For All Models including 85, 105, 137, 153, 175, 205, 250, 255
	Daewoo	814915	For All Models including 430, 440, 450, 460
 <p>John Deere (prior to 1999) Kit No. 814910</p>  <p>John Deere 200 Series (beginning in 1999) Kit No. 814920</p>  <p>John Deere 815075</p>	John Deere	814910	For Units prior to 1/99 (Black plastic screw type cap)
	John Deere 200-Series	814920	For early 200-series (Yellow twist lock cap)
	John Deere	815075	For late Models 260, 270, 280 with screw type hydraulic reservoir cap
	John Deere	815075	For Models 317, 320, 325, 328, 332 (Side panel must be removed)

Additional Return Line Kits on next page.

SKID STEER POST DRIVER RETURN LINE PACKAGES

Return Line Kits are required for all MSS and HSS (except HSS/P) models.
These kits contain fittings to allow the oil to be returned to the hydraulic reservoir.

	MODEL	ITEM #	DESCRIPTION
 <p>John Deere 815110</p>	John Deere	815110	For Models 313, 315, 318D, 319D, 320D, 323D, 326D, 328D, 329D, 332D, 333D (4.25" O.D. Orange plastic cap)
 <p>Gehl Skid Steers Kit No. 814895</p>	Gehl	81895	For all Models including SL3635SX, SL3935SX, SL4640, SL4840, SL5640, SL6640, SL7810, 3640E, 4240E, 5240, 5640E, V270, V330, RT210, RT175
 <p>Mustang Skid Steers Kit No. 814940</p>	Mustang	814940	For Models including 2022, 2032, 2044, 2054, 2066, 2076, 2086, 2099, 2109
 <p>Kit No. 814895</p>	Mustang	814895	For Models 3300V, 2076, 2026, 2041, 2086, 2700V, 2109, 1750RT, 2100RT, MTL325
 <p>New Holland Kit No. 814910</p>	New Holland	814910	For all Models including LS120, LS125, LS140, LS150, LS160, LS170, LS175, LS180, LS185, LS185.B, LS190.B, L553, L554, L555, LX865, LX985, LX885, LX665, L784, L783, L781, C190, C185, C175, LT190.B, LT185.B (Black plastic screw type cap)

Note: Every attempt has been made to provide return line packages for current skid steer loader models. However, some models are not adaptable (i.e.: Caterpillar Models, ASV Posi-Track, Terex and others). They can be fit with a hydraulic post driver by using a HSS/P model, which is a self-contained unit and requires no return line fitting. If you have questions, please consult the factory.

[illegible]

SAFETY PRECAUTIONS

**MOST ACCIDENTS OCCUR BECAUSE OF NEGLIGENCE 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 counter-weights 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-16

(S/N 4215 and above)

HPD-20

(S/N 4825 and above)

HPD-24

(S/N 1324 and above)

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.**

FEBRUARY 2012

HYDRAULIC POST DRIVERS with Quick Change™ System

**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**