

OWNER'S/ OPERATOR'S MANUAL

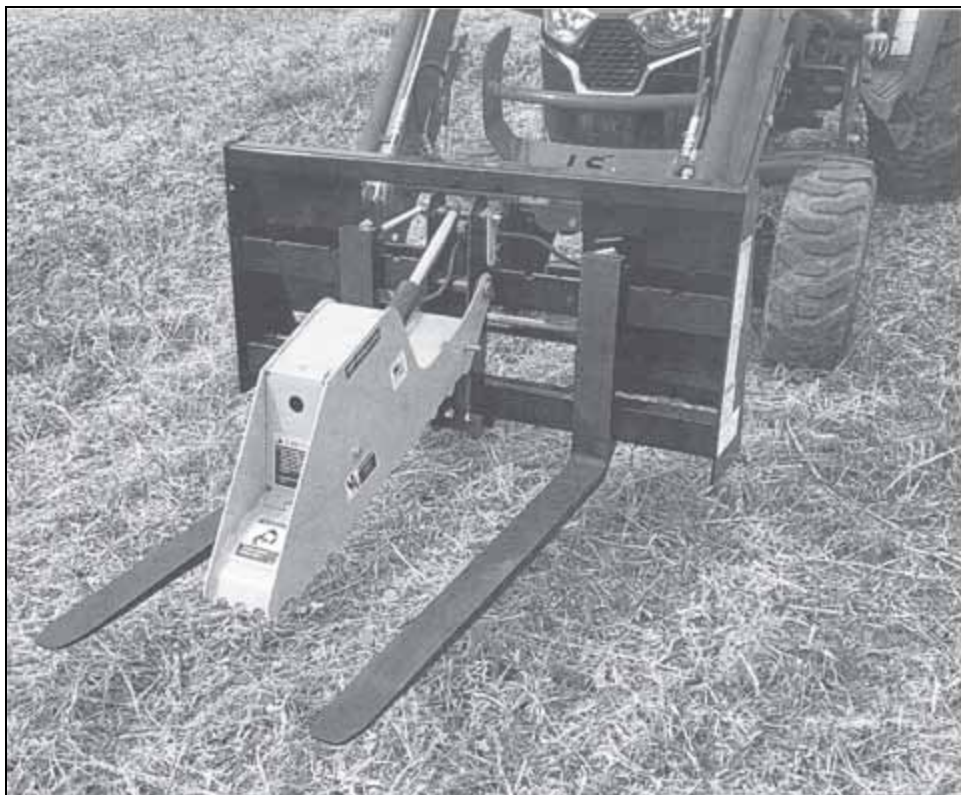
MODEL NO.

EPFC-1

CAUTION

For Safe Operation
Read Rules And
Instructions Carefully

SI NO LEEINGLES, PIDA AYUDA
A AIGUIEN QUE SI LO LEA
PARA QUE LE TRADUZCA LAS
MEDIDAS DE SEGURIDAD.



Electric PALLET FORK CLAMP for Tractor Front Loaders

**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.**

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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 Electric Pallet Fork Clamp. This manual is provided to give you the necessary operating and maintenance instructions for keeping your Electric Pallet Fork Clamp 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.

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 Electric Pallet Fork Clamp 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 Electric Pallet Fork Clamp (Model EPFC-1), that the mount and clamp be free from defects in material and workmanship for a period of twelve (12) months for non-commercial, state, and municipalities. The electric actuator is warranted for six (6) months. Use sixty (60) days for commercial use from date of retail sale.

NOTICE! Installing the Compact Tractor Model Electric Pallet Fork Clamp on tractors with over 32 hp (engine) or on skid steer power units voids all warranty.

Replacement or repair parts installed in the equipment covered by this warranty are warranted for sixty (60) 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 tires and tubes.
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 teeth, chains, sprockets, belts, springs and other items that in the company's sole judgement is a wear item.

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

To the Owner/Operator/Dealer

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

BEFORE YOU START!!

**Read the safety messages on the implement and shown in your manual.
Observe the rules of safety and common sense!**



THIS SYMBOL MEANS

- ATTENTION!
- BECOME ALERT!
- YOUR SAFETY IS INVOLVED!

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

UNDERSTAND SIGNAL WORDS



DANGER

Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.



WARNING

Indicates a imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.



CAUTION

Indicates a imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

IMPORTANT

Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.*

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 equipment can lead to injuries. Read this manual, and the manual for your tractor, before assembly or operating, to acquaint yourself with the machines. It is the implement 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.

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. 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. Review the safety instructions with all users annually.



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



To prevent injury or death, use a tractor equipped with a Roll-Over Protective System (ROPS). Keep foldable ROPS systems in "locked up" position at all times.



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 or over the counter medications.



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.



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



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



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

SAFETY INSTRUCTIONS (continued)



OPERATIONAL SAFETY



Start tractor only when properly seated in the tractor seat. Starting a tractor in gear can result in injury or death. Do not mount or dismount the tractor while the tractor is moving. Mount or dismount the tractor only when the tractor and all moving parts are completely stopped.



Operate the tractor and/or implement controls only while properly seated in the tractor seat with the seat belt securely fastened around you. Inadvertent movement of the tractor or implement may cause serious injury or death.



Keep all helpers and bystanders twenty-five feet (25') from an operating power unit and attached equipment. Only properly trained people should operate this machine. It is recommended the tractor be equipped with a Rollover Protection System (ROPS) and a seat belt that is used. Always stop the tractor, set brake, shut off the engine, remove the ignition key, and lower loader and attachment to the ground before dismounting. Never leave equipment unattended with the engine running.



Please remember it is important that you read and heed the safety signs on the front loader attachment and loader, 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.



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



Never leave the tractor and implement unattended while the implement is in the lifted position. Accidental operation of lifting lever or a hydraulic failure may cause sudden drop of unit with injury or death by crushing.



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



Never allow children to play on or around tractor or implement. Children can slip or fall off the equipment and be injured or killed. Inadvertent contact with controls can cause the implement to shift or fall crushing themselves or others.



Always use two people to handle heavy, unwieldy components during assembly, installation, removal, or moving the loader attachment.



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 implement.



Be certain the power unit is in neutral or park position before starting engine.



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

SAFETY INSTRUCTIONS (continued)



OPERATIONAL SAFETY (continued)



Check that this attachment is securely mounted to the loader. Failure to install lock pins or have the latching mechanism engage could result in injury or death.



Do not allow children or others to ride on the power unit with an operator. Riders are subject to injury such as being struck by foreign objects or being thrown off. Riders obstruct the operator's view resulting in unsafe operation. **Never allow anyone to ride on the implement!**



Operate the loader controls smoothly, avoiding jerky operation. Stop loader gradually when lowering or lifting loads.



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



When handling material on a slope, always approach the material with the power unit facing uphill.



Only use a power unit equipped with a ROPS cab or rollover protective structure. Keep foldable ROPS systems in "locked up" position at all times. Keep seat belt fastened.



When stacking logs or stumps, ALWAYS MAKE SURE MATERIAL IS PLACED SO THE STACK IS STABLE.



Keep all bystanders at a safe distance. REMEMBER FALLING LOGS OR STUMPS CAN ROLL OR TUMBLE.



Do not handle loads that exceed the weight limitations of the loader.



Carry the loads slowly and as low as possible to the ground. Avoid excessive speed during operation.



For operator safety, always keep load in front of power unit. NEVER position load back over operator. ALWAYS BE CAREFUL!



Always shut off power unit and shift to "Park" or set brakes when leaving unit. Always lower bucket or attachment to ground, relieve all hydraulic pressure. Remove key when leaving equipment unattended. Park in level area.

















Keep alert and watch the rear as well as the front when working with the loader.

SAFETY INSTRUCTIONS (continued)



OPERATIONAL SAFETY (continued)

-  When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the power unit, loader, and load. Drive slowly. Allow for additional length of loader and load on power unit while turning.
-  Operate loader from operator's seat only. Remain at controls until operating cycle is complete.
-  Use extreme care when working on inclines and hillsides. Do not operate close to ditches, creeks or holes. Slow down when operating over rough ground.
-  Before you operate any equipment, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.
-  Do not work under a raised loader unless it is securely blocked or held in position. Do not depend on the power unit hydraulic system to hold the implement in place.
-  Keep load centered on pallet forks and loader. Unbalanced loads increase possibility of tipping or roll-over.
-  When handling brush or branches, be aware of branches that might contact power unit or operator.
-  When cleaning up old building sites, check for live utility lines. Always be sure electric, gas, and water lines have been properly disconnected.
-  Check material to be handled, especially at old building sites or dumps. Be alert for any hazardous material that could be released by pallet forks or clamp contact. If in doubt, check with professional waste haulers.
-  Do not lift or carry anyone on loader or in bucket or on attachment.
-  ALWAYS lower loader to the ground or block securely before performing any maintenance work.
-  Always keep power unit on solid footing when operating loader.
-  Observe Safety Recommendations in loader instruction manual.
-  Inspect the entire machine periodically as indicated in the Maintenance Section of this manual. Look for loose fasteners, worn 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.

SAFETY INSTRUCTIONS (continued)



TRANSPORT SAFETY



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



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



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



Always be sure the implement is in the proper raised position for transport. Close pallet fork clamp unless carrying a load.



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



Be aware of the operating conditions. Do not operate the tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases; use extreme care and reduce your speed in these conditions. When operating in traffic, always use the tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy.



Do not drink and drive!



Watch for traffic when operating near or crossing roadways. Plan your route to avoid heavy traffic.



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



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



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



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



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

SAFETY INSTRUCTIONS (continued)



MAINTENANCE SAFETY

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



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



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



Do not use blocking made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Use only good quality blocking material.



Never operate controls from the ground. Operate the controls only from the operator's station.



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.



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)



STORAGE SAFETY



Following operation, or when unhooking, stop the tractor, set the brakes, lower loader, disengage the PTO, shut off the engine and remove the ignition keys.



Use extreme care to keep feet and hands from under the unit and clear of any pinch points. Never stand or allow another person to stand between a running tractor and the unit when disconnecting the implement from the tractor.



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



Store the unit in an area away from human activity. Do not permit children to play on or around the stored unit.



Make sure all parked machines are on a hard, level surface and engage all safety devices. Storage location should be level and solid to make connecting and unconnecting to power unit easy.



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.

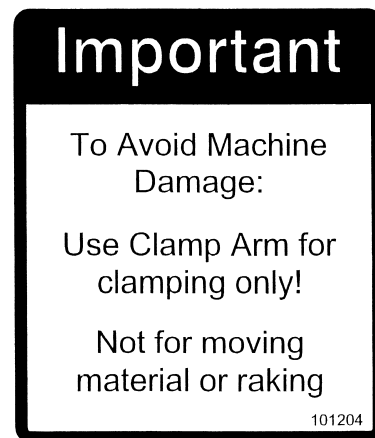
SAFETY & INSTRUCTIONAL DECALS

⚠ ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! ⚠

Replace Immediately If Damaged!



1



2



3



4

Use a clean, damp cloth to clean safety decals.

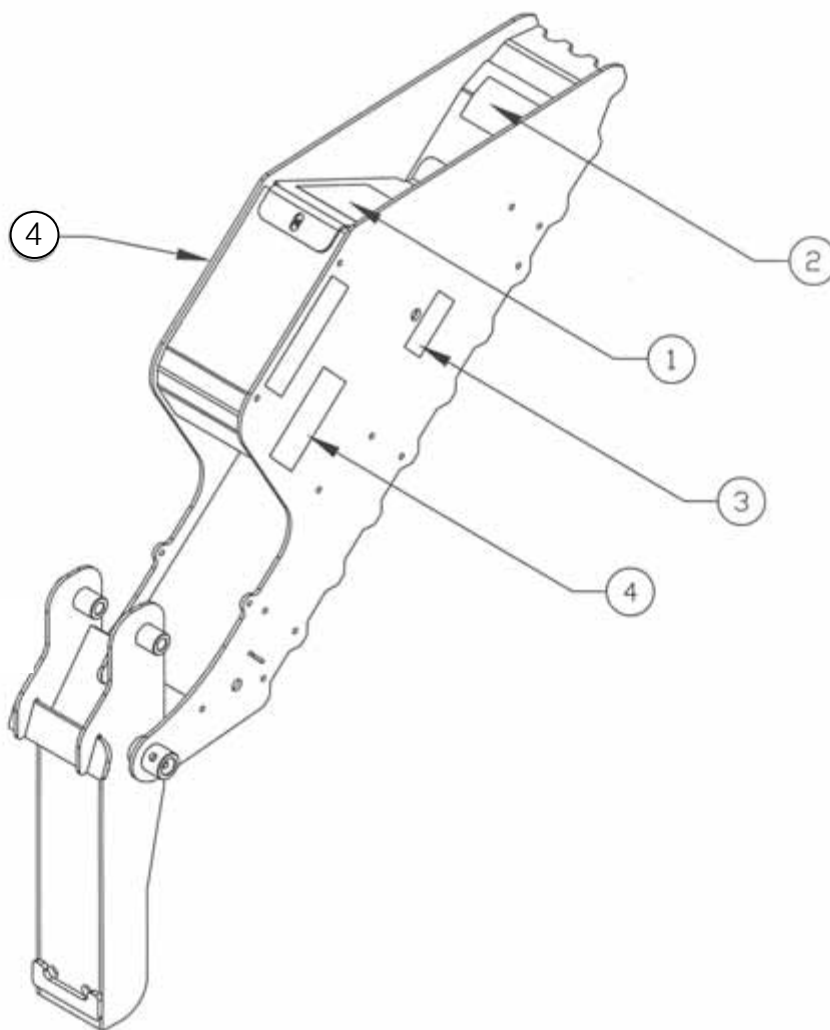
Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

Replacement safety decals can be ordered from your dealer.



SAFETY SIGN LOCATION

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
Replace Immediately If Damaged!



Ref. No.	Part No.	Description	No. Req'd.
1	101505	SAFETY SIGN - CAUTION (OWNER'S MANUAL)	1
2	101204	IMPORTANT - CLAMP ONLY	1
3	101295	SAFETY SIGN - WARNING (CRUSHING HAZARD)	1
4	101297	SAFETY SIGN - WARNING (PINCH POINT)	2
5			

INSTRUCTIONS

INSTALLATION

The model EPFC-1 Pallet Fork Clamp is designed to fit Class I Pallet Forks.

Before mounting the pallet fork clamp, look at the exploded parts diagram on page 24. Become familiar with the parts and their relationship with the other parts.

Have the pallet fork properly mounted on the tractor front loader and locate it in a location that is firm and flat. It is suggested to raise the pallet fork about 30 inches from the ground to reduce bending over during the installation. Be sure to block the loader with proper blocking to prevent the loader from lowering while you are working on it.

The pallet fork clamp is designed to mount in the center of the pallet fork. It will not mount in any other location.

Unfasten the two 1/2" carriage bolts and the clamp plate from the bottom of the mounting frame.

Place the mounting frame in the center of the upper pallet fork rail. Then rebolt the clamp plate to the lower rail using the two 1/2" x 2" carriage bolts. The center of the lower crossrail should be between the clamp plate and the lower part of the mounting frame. Install the 1/2" lockwasher and 1/2" hex nuts. **DO NOT TIGHTEN THE BOLTS AT THIS TIME.**

The two 1/2" bolts go in the center notch in the lower pallet fork crossrail.

Check to see that the mounting frame is centered on the pallet fork main frame. Make sure that the mounting frame is sitting on the upper crossrail vertically.

If the mounting frame is correctly positioned, then tighten the two 1/2" carriage bolts. Tighten these bolts to 55 lbs-ft (or 75 Nm).

The clamp mount frame is now fastened to the pallet fork frame.



WARNING

Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.

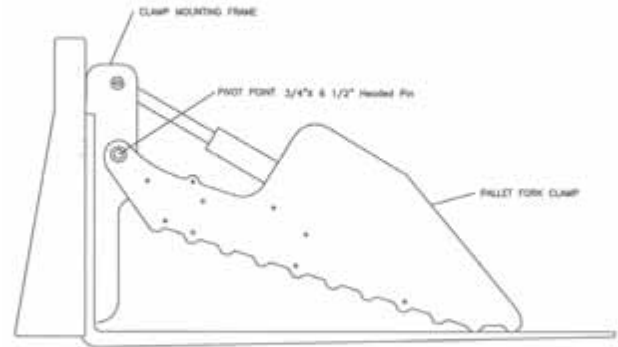


Figure B

Place the pallet fork clamp open end on the mounting frame at the pivot point (see Figure B) and insert the 3/4" x 6 1/2" headed pins. As you insert the pin, try to align the hole in the welded bushing on the opposite side of the clamp. When the holes are aligned, install a 1/4" lynch pin and flip it to its locked position.

NOTE: If the hole in the pin and the hole in the welded bushing are not aligned, rotate the pin to align the holes. Then insert the lynch pin or locking pin to secure.

The teardrop shaped headed pin makes it easier to rotate the pin.

Connect the rod end of the actuator to the top of the frame mount with the 1/2" x 6.0" pin. (See Figure C)

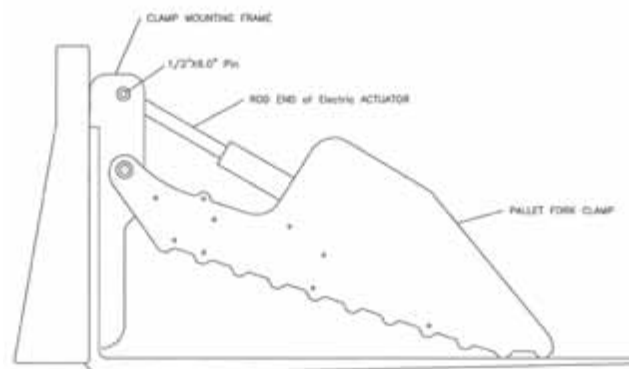


Figure C

Continued on next page

INSTRUCTIONS (continued)

ASSEMBLY / INSTALLATION (cont'd)

Install the locking strap (hole end) on the end of the 1/2 x 6" pin, then insert the hair clip pin in the hole at the end of the pin. The locking strap just hangs on the pin.

There is a split rubber grommet (1.06"OD x .50"ID) on the wiring cable connected to the electric actuator, (which is inside the pallet fork clamp). Remove the tape holding the rubber grommet in place.

Slide the rubber grommet and wiring cable into the key-hole slot in the middle of the frame mount. Slide the grommet and wiring cable down until it is seated in the hole at the bottom of the slot.

The grommet protects the cable from wear as it goes through the frame mount.

WIRING

Always stop engine before disconnecting or connecting battery cables or servicing battery.

Locate the battery on the tractor and remove the cover or guarding so you have access to the battery terminals.

Uncoil the power cable shipped with the pallet fork and lay it on the right side of the tractor loader.

Connect the electric power cable to the electric actuator cable on the rear of the pallet fork. Open the protective cover cap on each end and connect the two electric cable ends together. (See photo A).

PHOTO A

Heavy duty power connectors with soft shell boot protector



Route the power cable up the right-hand side of the front loader arm and toward the loader control joystick. Allow some slack in the power cable at the front of the loader to allow the pallet fork to tilt forward and back without putting tension on the power cable.

Locate the red and black wires with eyelet ends and route them to the tractor's battery. Fasten the red wire to the positive (+) terminal of the battery and the black wire to the negative (-) terminal. Tighten both connections securely. (See photo B)

NOTE: Always disconnect negative (-) cable first and connect it last. Connect only to the battery. The electric actuator can draw 30 amps.

PHOTO B

Connecting to the battery



Route the opposite end of the cable and wires so they will not be pinched or where moving parts can rub against them.

Route the cable to the loader control lever. Mount the double switch to the upper part of the loader control or the "joystick". (See photo C)

PHOTO C

Double switch allows the operator to control grapple movement with the touch of a finger



Locate the switch on the loader control rod (or joystick) so that you can easily operate the switch with an extended finger as you also control the loader.

Use a hex key wrench to tighten the two bolts on the double switch mount bracket.

INSTRUCTIONS (continued)

WIRING (continued)

Using plastic tie strips, fasten the power cable to the loader arm. Make sure the cable is positioned where it will not be pinched by the loader as it moves up and down. (See photo D).



PHOTO D

Cable is run along loader arm and fastened with plastic tie straps

If the electric power cable provided is too long – coil it up and fasten it to the loader with a plastic tie strap. (See photos E & F)



PHOTO E

Excess cable coiled and fastened with plastic tie strips

PHOTO F



NOTE: Make sure power cable is secured to loader frame. **DO NOT** let any part of the cable dangle loose. Loose wires can get caught and damaged.



CAUTION

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

PRE-OPERATION

When the electric cable is installed, try the double switch to operate the electric actuator. Open and close the grapple clamp a few times to make sure it is working smoothly.

If the actuator does not operate, check trouble shooting pages 22-23.

The electric actuator has a built-in slip clutch. If you hear the clicking or chattering, it means that the actuator is fully extended or retracted. It will also occur if you are clamping some material and the actuator has reached its clamping limit. When you hear the clicking or chattering sound, immediately stop pressing on the switch.

When you hear the clicking or chattering sound, the actuator is at the end of its stroke or has encountered an object that prevents further movement, pressing the other switch will make the actuator move in the opposite direction.

INSTRUCTIONS (continued)

PRE-OPERATION (continued)



12-volt industrial actuator with
8-inch stroke, slip clutch protected

NOTE: Letting the slip clutch continue to slip **can and will** cause premature wear on the slip clutch.

When the actuator has clamped materials such as logs or brush as tight as it can, the slip clutch will slip. When you continue to press the rocker switch, the clamp will not be tighter. If you release the switch, the actuator will hold the clamp in that position. When you press the other switch, the actuator will move in the opposite direction, releasing the clamped load. The switches are spring loaded for a non-contact neutral position. It only has an electric connection when one or the other is pressed.

The electric actuator is manufactured as single sealed unit. If the actuator fails, it must be replaced.

Examples of Wiring of Electric Pallet Fork Clamp



INSTRUCTIONS (continued)

LOCKING / UNLOCKING CLAMP

LOCKING THE CLAMP

1. Using the electric switch, fully raise the pallet fork clamp.
2. Shut off the tractor engine.
3. The locking link is hanging on the 1/2" x 6" pin at the top of the mounting frame.
Place the slotted end over the protruding bolt in the pallet fork clamp. If necessary, manually push the raised clamp toward the tractor so the slotted end of the link goes on the end of the bolt. (See Figure E).

UNLOCKING THE CLAMP

1. Shut off the tractor engine.
2. Manually push the clamp slightly toward the tractor to "free" the locking link. Slide the blocking link off the end of the protruding bolt.
3. Let the locking link hang free on the 1/2" x 6" pin.
4. Using the electric switch, lower the pallet fork clamp.

REMOVAL /DISASSEMBLY

REMOVING PALLET FORK CLAMP ASSEMBLY FROM PALLET FORK

1. Drive to the storage location. Always store attachment in a flat, level, dry covered location.
2. Open the clamp fully and shut off the engine. Follow instructions above to lock clamp in the raised position.
3. Disconnect the wiring cable behind the pallet fork frame.
4. Remove the two 1/2" carriage bolts and the clamp plate from the bottom of the clamp mount frame.
5. Lift clamp assembly off pallet fork frame. It weighs about 60 lbs. so get help if necessary.
6. Place the pallet fork clamp assembly in the storage location. It is suggested to loosely rebolt the clamp plate to the frame mount so that all parts are available for next use.

If preferred - the clamp and electric actuator can be removed and leave the frame mount on the pallet fork.

Follow steps 1, 2, and 3 in list and remove the 1/2" x 6" pin connecting the electric actuator. Then remove the 3/4" main pivot pin to remove the clamp.

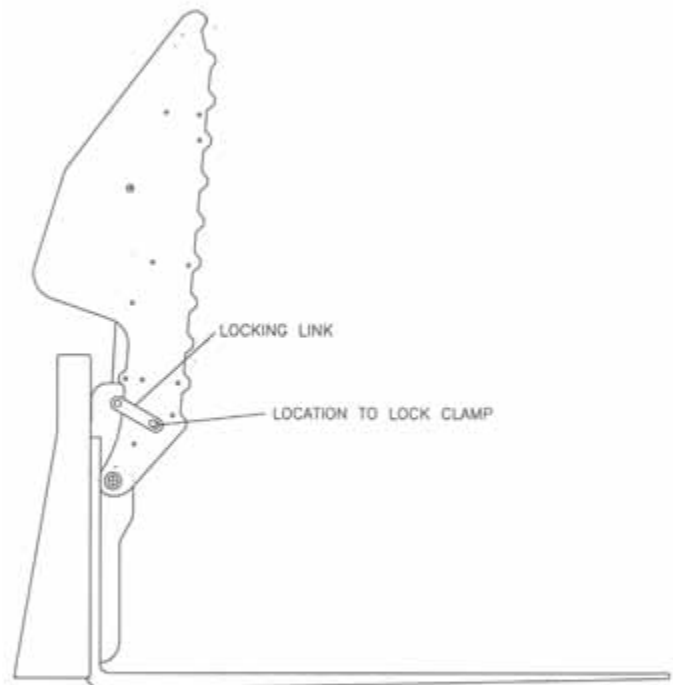


Figure E

OPERATING INSTRUCTIONS

OPERATION

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 an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, 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 operator.

The operator is responsible for the safe operation of this equipment. The operator must be properly trained. Operators should be familiar with the equipment, the tractor and all safety rules and safety decals on pages 3 through page 11.

The pallet fork clamp is ideal for helping to secure various loads. The clamp provides extra security when tilting the load slightly backwards, as well as traveling over uneven terrain. The clamp closes below the pallet forks so you can handle logs, pipe, and other long material and it opens wide for sizeable brush and debris cleanup. The clamp can also stabilize sheets of plywood or similar products.

When lifting loads with a tractor front loader, it is always best to have a heavy implement or weight box connected to the rear 3 pt. hitch.

The load rating of all pallet forks is calculated with the load positioned half the length of the forks in front of the pallet fork frame (18" for 36" forks and 21" for 42" forks). The load should be evenly distributed between the two forks.

Never put load at the ends of the fork tines – the lift capacity at the ends of the forks is only about 1/3 of the total lift capacity.



WARNING

■ Tractor must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off tractor can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.



WARNING

■ Never allow children or untrained persons to operate equipment.

■ Keep bystanders away from equipment.

■ Never allow riders on tractor or attachment.

■ Always be careful when tipping a load back when the loader is fully raised. The load could fall back on the operator or the power unit, causing injury or death.

■ Do not detach loader from tractor with this attachment installed. Equip loader with materials bucket when detaching.



WARNING

■ Rear ballast is required to ensure 25% of gross vehicle weight is transferred to the rear axle. Attachment and load must be included as weight. Adequate rear weights are required to counterbalance maximum loader capacity and safe loader operation. Weight can be added as rear tire liquid, rear wheel weights, rear axle weights and/or three point hitch mounted ballast or implement. Ballasting will vary with tractor and loader attachment. Refer to the Tractor manual for recommended ballasting.

OPERATING INSTRUCTIONS (continued)



WARNING

- **Operate the attachment only when properly seated at the operator's station. Any other method could result in serious personal injury or death.**
 - **Do not exceed the recommended lifting capacity of any approved fork tines or the tractor. Keep lifting surface of the forks level at all times. Do not use the forks tine for prying or any purpose other than lifting.**
 - **Transport the loaded pallet fork at a slow speed and with the loader at the lowest transport position to avoid tipping or upsetting, which could result in serious injury or death.**
1. To open and close the clamp, activate the electric actuator. One direction to open the clamp and the other direction to close the clamp.
 2. With the clamp in the open position, approach the load so the weight will be centered between the fork tines. The heaviest side of the load should be closest to the pallet fork frame.
 3. Make sure the pallet fork tines are level and completely under the load.
 4. Activate the electric actuator to close the clamp.
 5. Lift the load slightly, and check to make sure it is secure. If the load appears to be unstable, lower it and repeat previous steps 2-4 until load is stable.
 6. Raise the load to the minimum height required for transport.
 7. Carefully transport the load to the desired location.

8. Lower the load and open the clamp. Back away until the fork tines are clear of the load.

If piling logs, brush, or stumps, drive to the location of the pile. Position the pallet forks above the pile by 2-3 feet. Open the clamp and tilt the pallet forks until the load slides off onto the pile.

Make sure the load does not roll back toward the tractor.

When handling item that you do not want to clamp or if you will be working on something on the pallet fork, always pin the clamp in its raised position.

IMPORTANT: Keep forklift tines adjusted to maximum width for better load stability.



CAUTION

- **Beware of lift clearance when raising loader to maximum height.**

When stacking or loading vehicles, make sure you are operating in an area AWAY FROM OVERHEAD WIRES.

- **Keep load centered on pallet fork and loader. Unbalanced loads increase possibility of tipping or roll-over.**

- **Never stack loads on uneven ground. Loads stacked on uneven ground can topple.**



DANGER

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

Do not leave the operator's seat if any part of the tractor or implement contacts electric lines.

OPERATING INSTRUCTIONS (continued)



OPERATE LOADER SAFELY

- Be sure tractor is properly counter-balanced with weights before attempting to lift any load.
- Adjust the spacing of the forks so they engage the pallet or load at its maximum width and then approach the load in such a fashion that the weight will be centered between the fork tines. The heaviest side should be closest to the fork frame and not near the tips of the fork tines. Make sure weight is centered between the forks.
- Secure the load properly. Unsecured loads can fall unexpectedly. When handling a load, keep the forks as close to the ground as possible.
- Before lifting make certain the fork tines are completely under the load and level. (Fork length should be at least two-thirds of load length).
- Lift the load slightly to make sure the load is stable. If load appears unstable, lower and reposition the tines to achieve full stability.
- Raise the load to the MINIMUM height required for the terrain.
- During transportation, keep the fork tines level, gradually accelerate and brake, slow down before turning and avoid any obstacles, bumps or holes. Check load frequently to ensure stability.
- Start lifting slowing and smoothly. Lift speeds can be slightly increased once the load has started moving and appears to be stable.
- If the load starts to lean or move, lower to the ground and reposition.
- Lower the load gently until the weight of the load is securely resting on the landing point and the forks are free to be retracted from under the load.
- Allow for additional length of loader and attachment on tractor while turning. Watch overhead clearance if grapple is raised.
- Check visibility. If visibility is impaired, reduce speed or consider other means of transport.
- Before exiting the tractor, lower the pallet forks to the ground, lower the grapple, turn off the tractor's engine, remove the key and apply the brakes.

OWNER/OPERATOR PRE-OPERATION CHECK LIST

(Owner's/Operator's responsibility)

- | | |
|---|---|
| <input type="checkbox"/> Review and follow all safety rules and safety decal instructions on pages 3 through page 11. | <input type="checkbox"/> Check that all safety decals are installed and in good condition. Replace if damaged. |
| <input type="checkbox"/> Check that equipment is properly and securely attached to tractor. | <input type="checkbox"/> Check that all hardware is properly installed and secured. |
| | <input type="checkbox"/> Do not allow riders. |
| | <input type="checkbox"/> Make sure tractor ROPS or ROPS CAB and seat belt are in good condition. Keep seat belt securely fastened during operation. |

OWNER SERVICE



WARNING

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

■ Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in “locked up” position at all times.

■ Before dismounting tractor or performing any service or maintenance, follow these steps: disengage power to equipment, lower all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.

MAINTENANCE



WARNING

Always stop the tractor, set brake, shut off engine, remove key, and lower loader to ground before attempting to service. Never leave equipment unattended with engine running.



WARNING

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.

LUBRICATION

The electric actuator is a sealed unit and requires no lubrication.

Twice a year, remove the main pivot pin and apply a light coat of grease on the pin. Replace pin and lock in place.

CLEANING THE PALLET FORK CLAMP

At the end of the working season or when the clamp will not be used for a long period, it is good practice to clean off any dirt or grease that may have accumulated.

It is recommended that the clamp be washed with a low-pressure hose. If any dirt or debris is on the electric actuator or guard, wipe it off with a wet cloth.

NOTE: The clamp can be washed with a high-pressure hose, but **DO NOT** allow the high-pressure discharge to be applied on any part of the electric actuator or switch - damage can occur.

NOTE: If the tractor/loader and electric clamp are stored outside:

The double switch is waterproof. If the tractor/loader is going to be outside for sometime, it is recommended that the switch be covered.

A small plastic sandwich bag can easily be slipped over the switch and switch housing to keep moisture out.

TRANSPORTING



CAUTION

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.

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

Allow for additional length of loader on tractor while turning. Carry load low. Travel with clamp closed.

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 this manual and in the manual of tractor.

STORAGE

- Always store in a safe place away from children or livestock. Inside storage is best.
- Storage location should be level and solid to make hitching and unhitching easy.
- Always protect the electric cables and connectors in storage. Keep them clean and off the ground.

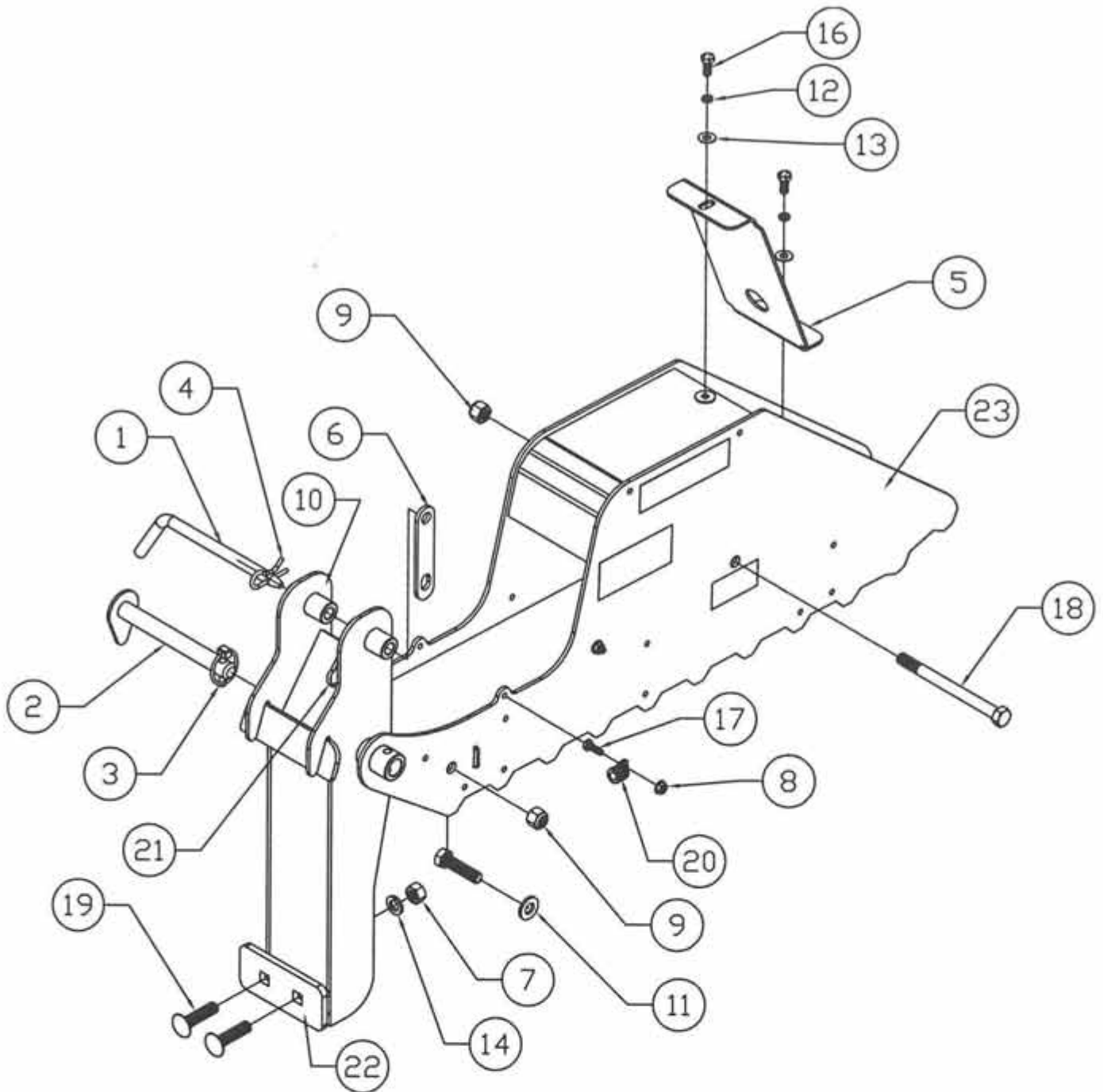
TROUBLE-SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Pallet Fork clamp will not operate.	1. Bad connection.	Check all connections to make sure they are clean and tight.
	2. Blown fuse.	Check fuse and replace if necessary.
	3. Tractor battery is low or dead.	Charge battery.
	4. Wiring damaged.	Check all wiring to make sure it is not pinched or cut.
	5. Bad switch.	Replace double switch.
	6. Actuator slip clutch worn.	Replace electric actuator.
<hr/>		
Pallet Fork is loose on loader.	1. Attachment not correct.	Pallet fork mount may not be properly latched on tractor loader. Check lock pins and/or latch pins.
<hr/>		
Material slips from grasp of clamp.	1. Clamp arm not positioned correctly on material.	Reposition clamp.
	2. Not firmly clamped.	Operate until actuator “clicks”. Actuator not closed until slip clutch “clicks”.
		NOTE: Once the slip clutch “clicks”, the clamp is as tight as it will get – engaging switch and letting the slip clutch continue to click will only wear out the slip clutch.
	3. Load is too heavy for clamp.	Reduce amount of material handled.

TROUBLE-SHOOTING GUIDE (continued)

PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Excessive rear tractor tire slip-page.	1. Tractor too small.	Reduce amount handled.
	2. Insufficient traction.	Add rear tire weights or add ballast in tire. Use tractor with FWDA.
		Attach heavy implement on rear of tractor for counter weight.
Tractor loader tilt cylinders won't pull back after tilting forward.	1. Loader too small for weight of material being handled.	Reduce amount of material handled.
	2. Hydraulic system not operating at correct pressure.	Check pressure and adjust or repair.
Tractor and loader tilt to one side when load is lifted.	1. Load is not centered on pallet fork.	Release and reposition to center the load.
	2. Not enough air in tractor front tire(s).	Check for proper air pressure.
	3. Load is too large for tractor loader and off-center.	Reduce the size of the load – may have to saw log or limb to shorter dimension.
Bent clamp.	1. Improper operation.	Operator contacting solid objects or ground when operating clamp.
		Operator contacting overhead objects when clamp is fully raised.
		Trying to handle large, heavy object that is off-center.
		For all above - retrain operator.

ELECTRIC PALLET FORK CLAMP PARTS

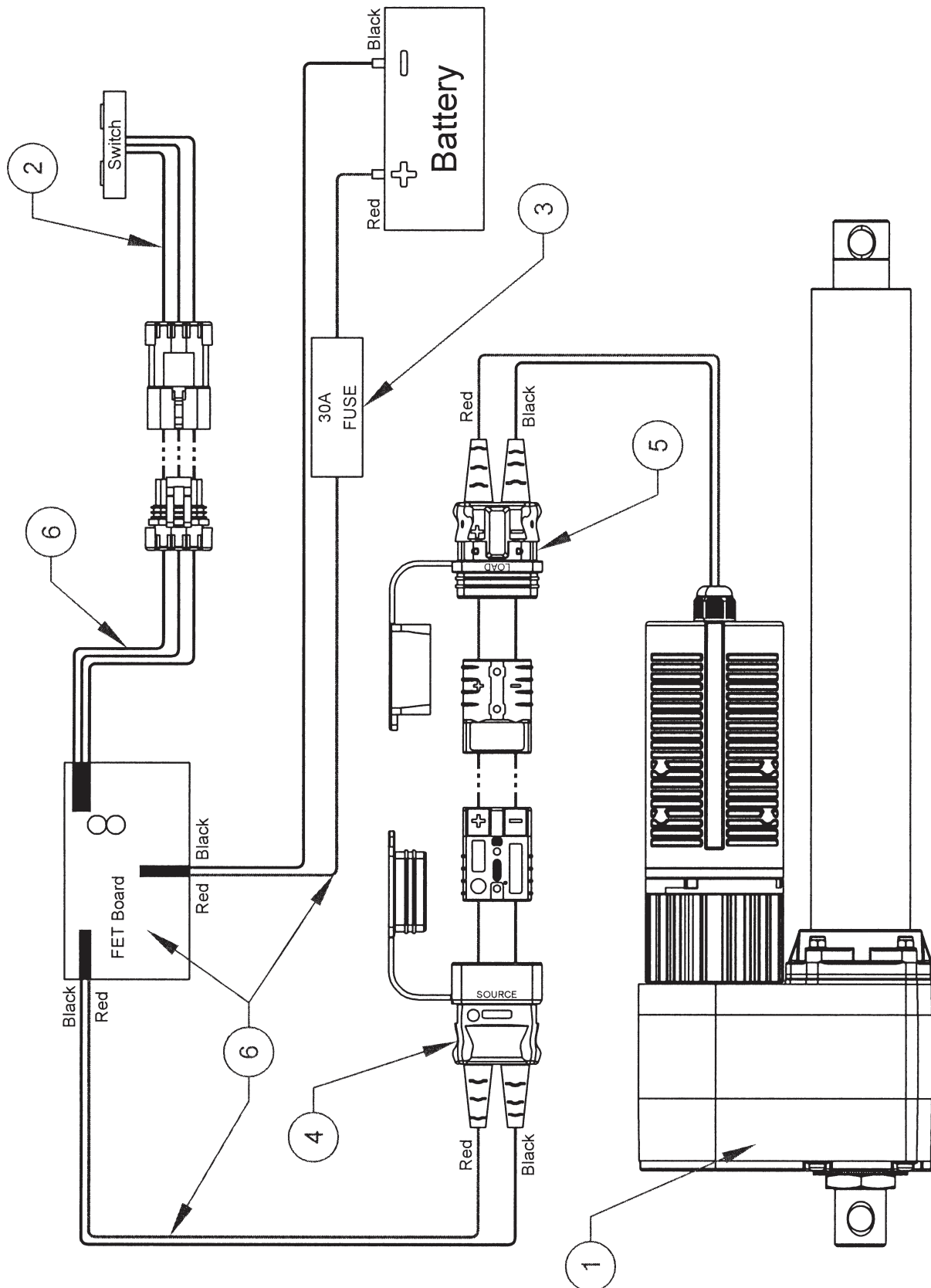


ELECTRIC PALLET FORK CLAMP PARTS (Model EPFC-1)

Ref. No.	Part No.	Description	No. Req'd.
1	343181	HITCH PIN - 1/2 X 6.0"	1
2	343187	PIN, GRAPPLE ASSEMBLY	1
3	590034	AK-61 LYNCH PIN	1
4	590188	AK-2705 HAIR PIN CLIP	1
5	834251	COVER, BOLT-ON	1
6	834256	STRAP, LOCKING 1.0" X 4.78"	1
7	2500003	NUT, HEX 1/2-13NC	2
8	2500008	NUT, HEX 1/4 WHIZ FLANGE	2
9	2500050	NUT, HEX 1/2-13NC NYLOCK JAM	2
10	834250	ELECTRIC PALLET FORK GRAPPLE - MOUNT	1
11	2501003	WASHER, MED. FLAT 1/2	1
12	2501011	WASHER, 5/16 SPRING LOCK	2
13	2501012	WASHER, 5/16 MED. FLAT	2
14	2502002	WASHER, 1/2 SPRING LOCK	2
15	2503007	BOLT, HEX 1/2-13NC X 2.0"	1
16	2503094	BOLT, HEX 5/16-18NC X 0.75" GR. 2	2
17	2503127	BOLT, HEX 1/4-20NC X 0.75"	2
18	2503289	BOLT, HEX 1/2-13NC X 6.0"	1
19	2503371	BOLT, 1/2-13NC CARRIAGE	2
20	2504284	CLAMP, EPDM LOOP	2
21	834257	GROMMET, RUBBER 0.50"ID X 1.06"OD	1
22	834044	PLATE, GRAPPLE MOUNT LOCK	1
23	834258	ELECTRIC PALLET FORK GRAPPLE - CLAMP	1

WIRING DIAGRAM

Model EPFC-1 Electric Clamp Parts Drawing



WIRING DIAGRAM

Model EPFC-1 Electric Clamp Parts List

Ref. No.	Part No.	Description	No. Req'd.
1	2505834	Electric Actuator with Cable & Connector (approx. 48")	1
NS	2507038	Complete Cable Assembly - includes 2507036 and 2507037 - Mounting Bracket (2508544) included	1
2	2507036	Cable Assembly - switch enclosure assembly, wiring, switch, and connector (Mounting Bracket not included)	1
3	2505837	30A Blade Type Fuse (procure locally)	1
4	2505839	Connector with Boot & 6" Lead (Source) - Battery side	1
5	2505840	Connector with Boot & 6" Lead (Load) - Actuator side	1
NS	2505844	Mounting Bracket for Switch Enclosure	1
6	2507037	Cable Assembly - includes fuse holder, fuse & connector, FET Board and Battery connection wires	1

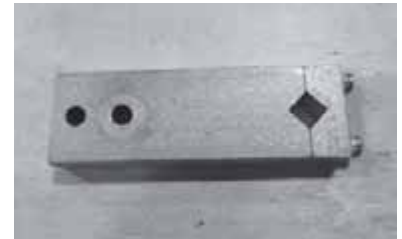
NS = Not Shown on page 25



2505834 – Actuator



2507036 – Switch Enclosure /
Wiring Connector



2505844 – Mounting Bracket

Parts used as of 1/1/2022



2507037 – Wiring, FET Board,
Fuse Holder & Anderson Connector



2507038 – Complete Wiring Harness
(Combined 2507036, 2505844 & 2507037)

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SAFETY REQUIREMENTS

AVOID ACCIDENTS BY FOLLOWING ALL OF THE SAFETY REQUIREMENTS LISTED BELOW.

- Machinery should be operated only by those who are responsible and are authorized to do so.
- Stop the engine, lower all equipment, lock the brakes, and remove the ignition key before dismounting from the tractor.
- Never stand between tractor and implement while tractor is being backed to hitch.
- Loose fitting clothing should not be worn, to avoid catching on various parts.
- Detach implement in area where children normally do not play.
- When performing adjustments or maintenance on an implement, first lower it to the ground or block it securely at a workable height.
- Only a qualified operator should be permitted on tractor when in operation; no riders allowed.
- Make certain everyone is in the clear before starting tractor or raising or lowering equipment.
- Operate the tractor and implement only while seated in the driver's seat.
- Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.
- A heavy load can cause instability of the tractor. Use extreme care during road travel. Slow down on turns and watch out for bumps. Tractor may need front counterweights to counter-balance the weight of the implement.
- Reduce speed on hillsides or curves so there is no danger of tipping.
- Avoid driving too close to the edge of ditches or creeks.
- Do not transport implement on public roads without reflectors and slow moving vehicle emblem in daylight and with approved warning lights at night and other periods of poor visibility.
- Due to the width of some implements, use extra caution on highways, farm roads, and when approaching gates.
- Always be sure the implement is in the proper position for transport.
- Keep alert and watch the front as well as the rear when working with the implement.

OWNER'S/
OPERATOR'S
MANUAL

MODEL NO.

EPFC-1

WS-EPF001-OG

April 2024

Electric PALLET FORK CLAMP for Tractor Front Loaders

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.

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