



OPERATOR'S & PARTS MANUAL

72" & 74" SIDE TILT FORK CARRIAGE



PALADIN™
LIGHT CONSTRUCTION GROUP



The Power of Combined Excellence



SERIAL NUMBER: _____

MODEL NUMBER: _____

Manual Number: 76828

Part Number: 76828

Rev. 2: January 27, 2010

TABLE OF CONTENTS

PREFACE.....	3
SAFETY PRECAUTIONS	4-7
SAFETY STATEMENTS	4
GENERAL SAFETY PRECAUTIONS.....	5-6
EQUIPMENT SAFETY PRECAUTIONS	7
INSTALLATION AND OPERATION	8
ATTACHING AND DETACHING EQUIPMENT	8
OPERATING EQUIPMENT	8
SIDE TILT FORK CARRIAGE	8
MAINTENANCE AND SERVICE.....	9-11
GENERAL INFORMATION.....	9
DAILY	9
EVERY 40 HOURS	9
CYLINDER SEAL REPLACEMENT	10-11
STORAGE.....	12
LIMITED WARRANTY	13
PARTS	
<u>SIDE TILT FORK CARRIAGES</u>	
72" SIDE TILT FORK CARRIAGE ASSEMBLY #11492	16-17
72" SIDE TILT FORK CARRIAGE ASSEMBLY #11709	18-19
72" SIDE TILT FORK CARRIAGE ASSEMBLY #12288	20-21
72" SIDE TILT FORK CARRIAGE ASSEMBLY #12515.....	22-23
72" SIDE TILT FORK CARRIAGE ASSEMBLY #12784.....	24-25
72" SIDE TILT FORK CARRIAGE ASSEMBLY #12789.....	26-27
74" SIDE TILT FORK CARRIAGE ASSEMBLY #12427	28-31
<u>CYLINDERS</u>	
CYLINDER ASSEMBLY #89113	32-33
CYLINDER ASSEMBLY #89117	34-35

FOREWORD

Although Bradco has various side tilt fork carriages available, we are continually designing new sizes and mountings. If your combination is not listed, please contact the factory. We have extensive mounting information available to generate the product you need.

Below is a listing of the fork positioners that are currently available in 72" and 74" widths. See the "Parts" section of this manual for the assemblies "Shown".

DESCRIPTION & MOUNT	ASSEMBLY #
CASE	
72" Side Tilt Fork Carriage - CASE 10,000 LB CAP, 60MM SHAFT (Shown)	12288
CATERPILLAR	
72" Side Tilt Fork Carriage - CAT IT/TH (Shown)	11709
IR	
72" Side Tilt Fork Carriage - IR VR638 (Shown)	12789
JCB	
72" Side Tilt Fork Carriage - JCB 526 Q-FIT (Shown)	11492
72" Side Tilt Fork Carriage - JCB 506/508C (Shown)	12784
74" Side Tilt Fork Carriage - JCB 532/550 BOOM MOUNT (Shown)	12427
LULL	
72" Side Tilt Fork Carriage - LULL 644E (Shown)	12784
MANITOU	
72" Side Tilt Fork Carriage - MANITOU 10,000 LB CAP, 2" SHAFT (Shown)	12515
SKYTRAK	
72" Side Tilt Fork Carriage - SKYTRAK (Shown)	12784

PREFACE

GENERAL COMMENTS

Congratulations on the purchase of your new attachment! This product was carefully designed and manufactured to give you many years of dependable service. Only minor maintenance, such as cleaning and lubricating, is required to keep it in top working condition. Be sure to observe all maintenance procedures and safety precautions in this manual and on any safety decals located on the product, and on any equipment on which the attachment is mounted. Also, check load charts before operating the attachment.

This manual has been designed to help you do a better, safer job. Read this manual carefully and become familiar with its contents.

WARNING! Never let anyone operate this unit without reading the “Safety Precautions” and “Operating Instructions” sections of this manual.



Always choose hard, level ground to park the vehicle on, and set the brake so the unit cannot roll.

Unless noted otherwise, right and left sides are determined from the operator's control position when facing the attachment.

NOTE: The illustrations and data used in this manual were current, according to the information available to us at the time of printing. However, we reserve the right to redesign and change the attachment as may be necessary, without notification.

BEFORE OPERATION

The primary responsibility for safety with this equipment falls to the operator. Make sure the equipment is operated only by trained individuals who have read and understand this manual. If there is any portion of this manual or function that you do not understand, contact your local authorized dealer or the manufacturer.

SAFETY ALERT SYMBOL



This is the “Safety Alert Symbol” used by this industry. This symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and for the safety of others working with you.

SERVICE

When servicing your product, remember to use only manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering, record the model and serial number of your unit in the space provided on the cover of this manual. This information may be obtained from the identification plate located on the product.

The parts department needs this information to ensure that you receive the correct parts for your specific model.

SAFETY STATEMENTS



THIS SYMBOL BY ITSELF OR WITH A WARNING WORD THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



DANGER

THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH WILL RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.



WARNING

THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.



CAUTION

THIS SIGNAL WORD IS USED WHERE MINOR INJURY COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

NOTICE

NOTICE INDICATES A PROPERTY DAMAGE MESSAGE.

GENERAL SAFETY PRECAUTIONS

WARNING!

READ MANUAL PRIOR TO INSTALLATION



Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual, as well as all manuals related to this equipment and the prime mover thoroughly before beginning installation, operation, or maintenance. **FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE PRIME MOVER'S MANUAL(S).**



READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA regulations, local laws, and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing, or operating this equipment.



KNOW YOUR EQUIPMENT

Know your equipment's capabilities, dimensions, and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to ensure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued, or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they become worn or hard to read.

GENERAL SAFETY PRECAUTIONS

WARNING!



PROTECT AGAINST FLYING DEBRIS

Always wear proper safety glasses, goggles, or a face shield when driving pins in or out, or when any operation causes dust, flying debris, or any other hazardous material.

WARNING!



LOWER OR SUPPORT RAISED EQUIPMENT

Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels, or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower booms to ground level or on blocks. Lower booms and attachments to the ground before leaving the cab or operator's station.

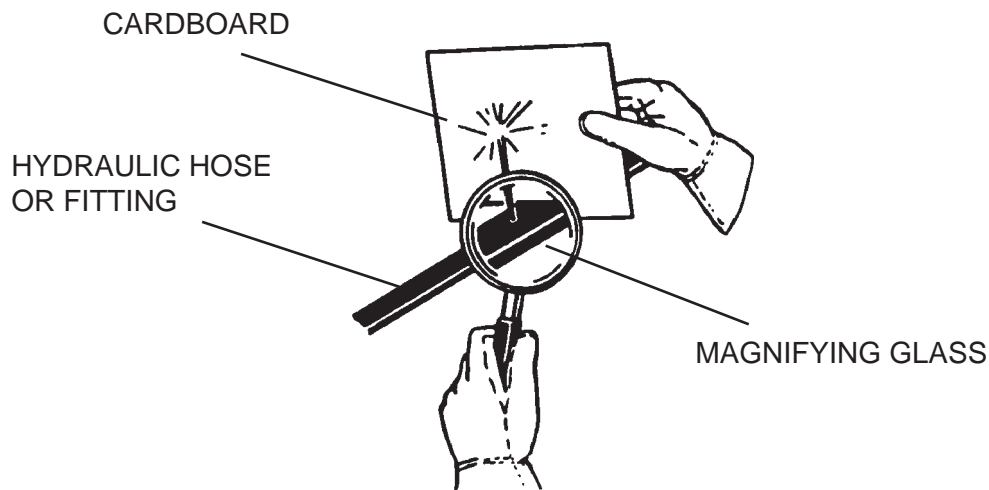
WARNING!



USE CARE WITH HYDRAULIC FLUID PRESSURE

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your prime mover's operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.
- If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him or her to research it immediately to determine proper treatment.
- Wear safety glasses, protective clothing, and use a piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS! SEE ILLUSTRATION.**



M-807 7-28-05-2

GENERAL SAFETY PRECAUTIONS

WARNING!



DO NOT MODIFY MACHINE OR ATTACHMENTS

Modifications may weaken the integrity of the attachment and may impair the function, safety, life, and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. Never modify any ROPS (Roll Over Protection Structure) or FOPS (Falling Object Protective Structure) equipment or device. Any modifications must be authorized in writing by the manufacturer.

WARNING!



SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Do not wear loose clothing or any accessories that can catch in moving parts. If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well-lit area.
- Use properly grounded electrical outlets and tools.
- Use the correct tools for the job at hand. Make sure they are in good condition for the task required.
- Wear the protective equipment specified by the tool manufacturer.



SAFELY OPERATE EQUIPMENT

Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, dimensions, and all safety requirements. See your machine's manual for these instructions.

- Keep all step plates, grab bars, pedals, and controls free of dirt, grease, debris, and oil.
- Never allow anyone to be around the equipment when it is operating.
- Do not allow riders on the attachment or the prime mover.
- Do not operate the equipment from anywhere other than the correct operator's position.
- Never leave equipment unattended with the engine running, or with this attachment in a raised position.
- Do not alter or remove any safety feature from the prime mover or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

EQUIPMENT SAFETY PRECAUTIONS

WARNING!



KNOW WHERE UTILITIES ARE

Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call your local utilities for location of buried utility lines, gas, water, and sewer, as well as any other hazard you may encounter.



OPERATING THE PRIME MOVER

Avoid steep hillside operation, which could cause the prime mover to overturn. Consult your machine operator's and safety manuals for maximum incline allowable.

When operating on a slope, keep the load low, and proceed with extreme caution.

Do not drive ACROSS a steep slope - drive straight up and down.

With LOADED forks - drive with the forks and load facing uphill.

With EMPTY forks - drive with the forks facing downhill.



WORKING WITH THE ATTACHMENT

- Never use the attachment for a work platform or personnel carrier.
- Specified lift capacities must not be exceeded, otherwise machine stability will not be sufficient. Always observe lift capacity limits listed in machine specifications or on load charts furnished with the prime mover.
- An operator must not use drugs or alcohol, which can change his or her alertness or coordination. An operator taking prescription or over-the-counter drugs should seek medical advice on whether or not he or she can safely operate equipment.
- Always check locking pins before operating any attachment.
- Never lift, move, or swing loaded forks over anyone.
- Always space the forks correctly for the load. Loads can fall off incorrectly spaced forks. Make sure the forks are completely under the load before lifting.
- Never stack loads on uneven ground. Loads stacked on uneven ground can topple.
- Never lift a load with one fork. A load lifted with one fork can slip off and cause injury.
- Secure loads properly. Unsecured loads can fall unexpectedly.
- Do not handle round bales with fork lift tines.
- Don't obstruct your vision when traveling or working. Carry the forks low for maximum stability and visibility.



MAINTAINING THE ATTACHMENT

- Never perform any work on the equipment unless you are authorized and qualified to do so. Always read the operator's and service manual(s) before any repair is made. After completing maintenance or repair, check for correct functioning of the attachment. If not functioning properly, always attach a "DO NOT OPERATE" tag to the machine until all problems are corrected.
- Worn, damaged, or illegible safety decals must be replaced. New safety decals can be ordered from the manufacturer.

INSTALLATION AND OPERATION

ATTACHING AND DETACHING EQUIPMENT

Please see your vehicle operator's manual for instructions on attaching and detaching your equipment.

OPERATING EQUIPMENT

Read all Safety Precautions before operating your new attachment. If you have not been supplied with a load chart for your attachment, order one from your dealer, and place it inside the operating machine for safe lift capacity limits.

Refer to your machine operator's manual for attachment operation.

SIDE TILT FORK CARRIAGE

When using the tilt feature keep the load as level as possible, using extreme caution when driving off of a slope to reposition the forks, to prevent the load from sliding off of the forks or pallet.

NOTE: If the carriage tilts or drifts due to oil leakage within the cylinder assembly, discontinue use until the problem has been corrected.

When using the shift feature to pick up a load, be sure to return the forks and load to the center position as soon as possible. Do NOT travel with loaded forks shifted to the side.

MAINTENANCE & SERVICE

GENERAL INFORMATION

Regular maintenance is the key to long equipment life and safe operation. Maintenance requirements have been kept to an absolute minimum. However, it is very important that these maintenance functions be performed as described in this section.

DAILY

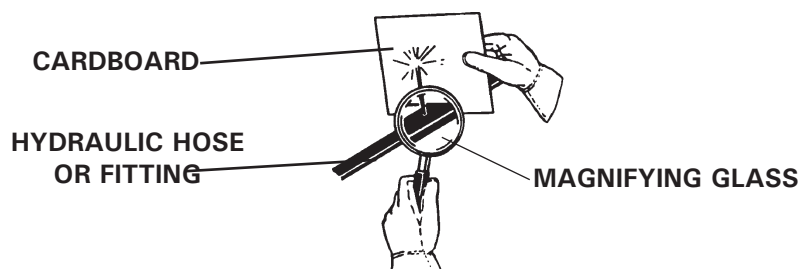
- Check all bolts and nuts for tightness.
- Replace any missing bolts or nuts with approved replacement parts.
- Check hydraulic system for hydraulic oil leaks. See procedure below.
- Visually inspect the machine for worn parts or cracked welds, and repair as necessary.

WARNING! Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.



Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.

If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him or her to research it immediately to determine proper treatment.



IMPORTANT: When replacing parts, use only factory approved replacement parts. Manufacturer will not claim responsibility for use of unapproved parts or accessories and/or other damages as a result of their use.

EVERY 40 HOURS

Lubrication is an important part of maintenance. It is recommended that all grease fittings be lubricated after the initial 8 hours of operation, and then after every 40 hours of use.

MAINTENANCE AND SERVICE

CYLINDER SEAL REPLACEMENT

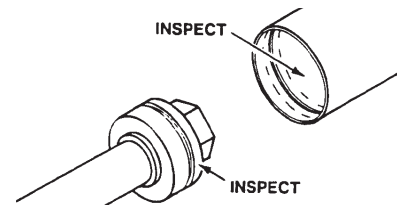
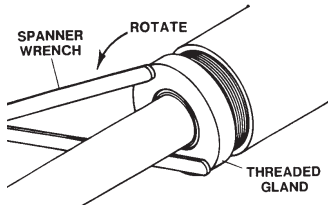
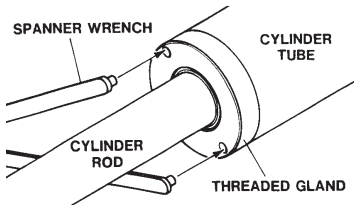
The following information is provided to assist you in the event you should need to repair or rebuild a hydraulic cylinder. When working on hydraulic cylinders, make sure that the work area and tools are clean and free of dirt to prevent contamination of the hydraulic system and damage to the hydraulic cylinders. Always protect the active part of the cylinder rod (the chrome section). Nicks or scratches on the surface of the rod could result in cylinder failure. Clean all parts thoroughly with a cleaning solvent before reassembly.

DISASSEMBLY PROCEDURE

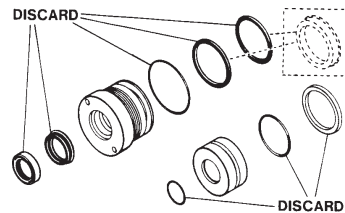
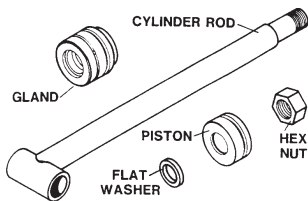
IMPORTANT: Do not contact the active surface of the cylinder rod with the vise. Damage to the rod could result.

THREADED TYPE GLAND

1. Rotate the gland with a spanner wrench counterclockwise until the gland is free of the cylinder tube.
2. Pull the cylinder rod from the cylinder tube and inspect the piston and the bore of the cylinder tube for deep scratches or galling. If damaged, the piston AND the cylinder tube must be replaced.



3. Remove the hex nut, piston, flat washer or spacer tube (if so equipped), and gland from the cylinder rod. If the cylinder rod is rusty, scratched, or bent, it must be replaced.
4. Remove and discard all the old seals.

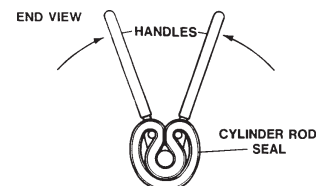
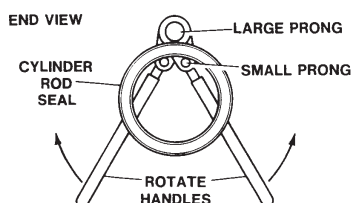
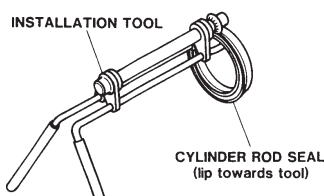


ASSEMBLY PROCEDURE

IMPORTANT: Replace all seals even if they do not appear to be damaged. Failure to replace all seals may result in premature cylinder failure. **NOTE:** Seal kits will service most cylinders of similar bore size and rod diameter.

1. Install the cylinder rod seal in the gland first. Be careful not to damage the seal in the process, as it is somewhat difficult to install.

NOTE: A special installation tool (Part #65349) is available to help with installing the seal. Simply fit the end of the tool over the seal so that the large prong of the tool is on the outside of the seal, and the two smaller prongs on the inside. The lip of the seal should be facing towards the tool. Rotate the handles on the tool around to wrap the seal around the end of the tool.



10356 10-13-05

MAINTENANCE AND SERVICE

Now insert the seal into the gland from the inner end. Position the seal in its groove, and release and remove the tool. Press the seal into its seat the rest of the way by hand.

2. Install the new piston ring, rod wiper, O-rings and backup washers, if applicable, on the piston.

Be careful not to damage the seals. Caution must be used when installing the piston ring. The ring must be stretched carefully over the piston with a smooth, round, pointed tool.

3. After installing the rod seal inside the gland, as shown in step #1, install the external seal.

NOTE: Threaded glands may have been equipped with a separate O-ring and backup washer system or a polypak (all in one) type seal. Current seal kits contain a polypak (all in one) type seal to replace the discarded seal types on ALL THREADED GLANDS.

4. Slide the gland onto the cylinder rod, being careful not to damage the rod wiper. Then install the spacer, or flat washer (if so equipped), small o-ring, piston, and hex nut onto the end of the cylinder rod.
5. Secure the cylinder rod (mounting end) in a vise with a support at its center. Torque the nut to the amount shown for the thread diameter of the cylinder rod (see chart).

Thread Diameter	POUNDS - FEET
7/8"	150-200
*1"	230-325
1-1/8"	350-480
1-1/4"	490-670
1-3/8"	670-900
* 1" Thread Diameter WITH 1.25" Rod Diameter	
Min. 230 ft. lbs. Max. 250 ft. lbs.	

IMPORTANT: Do not contact the active surface of the cylinder rod with the vise. Damage to the rod could result.

6. Apply a lubricant (such as Lubriplate #105) to the piston and teflon ring. Insert the cylinder rod assembly into the cylinder tube.

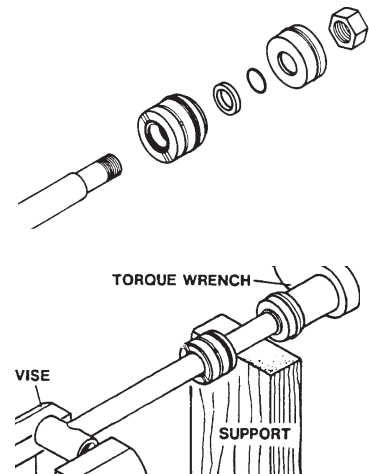
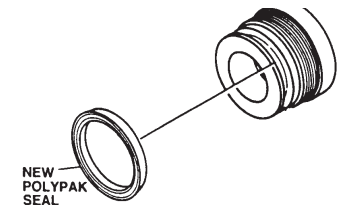
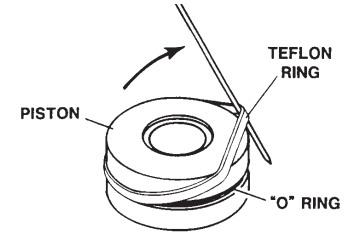
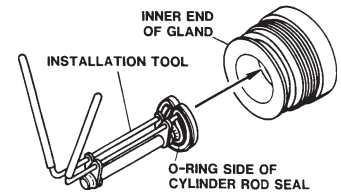
IMPORTANT: Ensure that the piston ring fits squarely into the cylinder tube and piston groove, otherwise the ring may be damaged and a leak will occur.

7. Use a spanner wrench to rotate the gland clockwise into the cylinder. Continue to rotate the gland with the spanner wrench until it is tight.

WARNING!



Cylinders serviced in the field are to be tested for leakage prior to the attachment being placed in work. Failure to test rebuilt cylinders could result in damage to the cylinder and/or the attachment, cause severe personal injury or even death.



STORAGE

GENERAL INFORMATION

The following storage procedure will help you to keep your attachment in top condition. It will also help you get off to a good start the next time your equipment is needed. We therefore strongly recommend that you take the extra time to follow these procedures whenever your attachment will not be used for an extended period of time.

PREPARATION FOR STORAGE

1. Clean the attachment thoroughly, removing all mud, dirt, and grease.
2. Inspect for visible signs of wear, breakage, or damage. Order any parts required, and make the necessary repairs, to avoid delays when starting next season.
3. Tighten all loose nuts, capscrews, and hydraulic connections.
4. Lubricate all grease fittings.
5. Coat the exposed portions of the cylinder rods with grease.
6. Connect the hydraulic couplers together, or install covers, to protect the hydraulic system from contaminants.
7. Touch up all unpainted and exposed areas with paint, to prevent rust.
8. Replace decals, if damaged or in unreadable condition.
9. Store the attachment in a dry and protected place, with a cover, if possible. Leaving the attachment outside will materially shorten its life.

REMOVING FROM STORAGE

1. Remove all protective coverings.
2. Check hydraulic hoses for deterioration, and replace if necessary.

Limited Warranty

Except for the Excluded Products as described below, all new products are warranted to be free from defects in material and/or workmanship during the Warranty Period, in accordance with and subject to the terms and conditions of this Limited Warranty.

1. Excluded Products. The following products are excluded from this Limited Warranty:

(a) Any cable, part that engages with the ground (i.e. sprockets), digging chain, bearing, teeth, tamping and/or demolition head, blade cutting edge, pilot bit, auger teeth and broom brush that either constitutes or is part of a product.

(b) Any product, merchandise or component that, in the opinion of Paladin Light Construction¹, has been (i) misused; (ii) modified in any unauthorized manner; (iii) altered; (iv) damaged; (v) involved in an accident; or (vi) repaired using parts not obtained through Paladin Light Construction.

2. Warranty Period. The Limited Warranty is provided only to those defects that occur during the Warranty Period, which is the period that begins on the first to occur of: (i) the date of initial purchase by an end-user, (ii) the date the product is first leased or rented, or (iii) the date that is six (6) months after the date of shipment by Paladin Light Construction as evidenced by the invoiced shipment date (the "Commencement Date") and ends on the date that is twelve (12) months after the Commencement Date.

3. Terms and Conditions of Limited Warranty. The following terms and conditions apply to the Limited Warranty hereby provided:

(a) Option to Repair or Replace. Paladin Light Construction shall have the option to repair or replace the product.

(b) Timely Repair and Notice. In order to obtain the Limited Warranty, (i) the product must be repaired within thirty (30) days from the date of failure, and (ii) a claim under the warranty must be submitted to Paladin Light Construction in writing within thirty (30) days from the date of repair.

(c) Return of Defective Part or Product. If requested by Paladin Light Construction, the alleged defective part or product shall be shipped to Paladin Light Construction at its manufacturing facility or other location specified by Paladin Light Construction, with freight PRE-PAID by the claimant, to allow Paladin Light Construction to inspect the part or product.

Claims that fail to comply with any of the above terms and conditions shall be denied.

LIMITATIONS AND EXCLUSIONS.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING OR USAGE OF TRADE.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR ANY LOSS OR CLAIM IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE, OR, AT THE OPTION OF PALADIN LIGHT CONSTRUCTION, THE REPAIR OR REPLACEMENT, OF THE PARTICULAR PRODUCT ON WHICH ANY CLAIM OF LOSS OR DAMAGE IS BASED. THIS LIMITATION OF LIABILITY APPLIES IRRESPECTIVE OF WHETHER THE CLAIM IS BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHER CAUSE AND WHETHER THE ALLEGED DEFECT IS DISCOVERABLE OR LATENT.

¹Attachment Technologies Inc., a subsidiary of Paladin Brands Holding, Inc. (PBHI) is referred to herein as Paladin Light Construction.

February 10, 2010

**THIS PAGE
IS INTENTIONALLY
BLANK**

PARTS

The following section contains detailed diagrams and parts lists which include your attachment. Please use these diagrams and parts lists to locate replacement parts, prior to contacting the parts department.

When servicing your attachment, remember to use only original manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering, have the model and serial number of your product ready, to ensure that you receive the correct parts for your specific attachment.

The model and serial number for your attachment should be recorded in the space provided on the cover of this manual. This information may be obtained from the serial number identification plate located on your attachment. **See the parts diagram for your attachment for the location.**

NOTE: Most daily and emergency orders received by 2:00 P.M. will be shipped the same day received, with “Emergency-Machine-Down” orders receiving first priority.



PALADIN LIGHT CONSTRUCTION

PARTS DEPARTMENT

(734) 996-9116

(800) 456-7100

We Encourage Fax Orders

(734) 996-9014

SIDE TILT FORK CARRIAGE

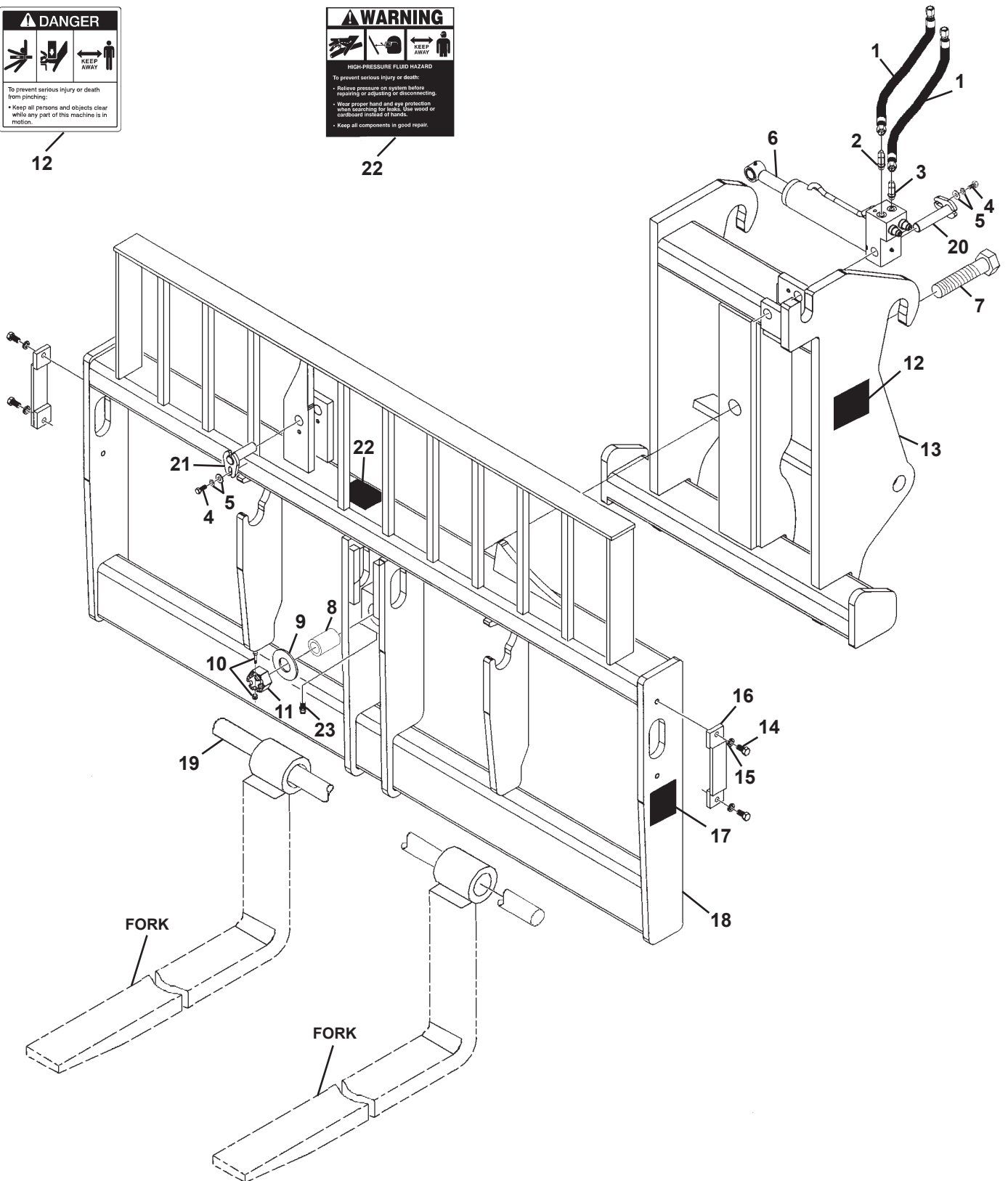
72" WIDE - ASSEMBLY #11492



12



22



FORK

FORK

M-1579 1-28-10-2

SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #11492

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	14397	Hose .38" X 69" 6FJX-6FJX
2	1	3434	90° Elbow, 6MBo-6MJ
3	1	14067	90° Elbow, With .027 Orifice, 6MBo-6MJ
4	2	1043	.38" UNC x 1.00" Hex Capscrew
5	2	1503	.38" Lock Washer
	2	1514	.38" Flat Washer
6	1	89113	Cylinder Assembly
7	1	10013	1.50" UNF x 7.00" Hex Capscrew, Grade 8
8	1	14099	Tube, 2.25" x 1.53" x 3.31"
9	1	1522	1.50" Flat Washer
10	1	1050	.38" UNC x 2.75" Hex Capscrew
	1	1837	.38" UNC Deformed Lock Nut
11	1	10019	1.50" UNF Castle Nut
12	2	40149	Pinch Point Danger Decal
13	1	31821	Rear Frame
14	4	1339	.50" UNF x 1.25" Hex Capscrew
15	4	1505	.50" Lock Washer
16	2	14002	Fork Pin Retainer
17	1	-----	Serial Number Identification Tag Location
18	1	31830	Front Frame
19	1	31837	Fork Pin, 1.75" x 72.75"
20	1	14070	Pin, 1.00" x 4.72"
21	1	14071	Pin, 1.00" x 3.31"
22	1	40151	High Pressure Warning Decal
23	2	6616	Grease Zerk

SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #11709



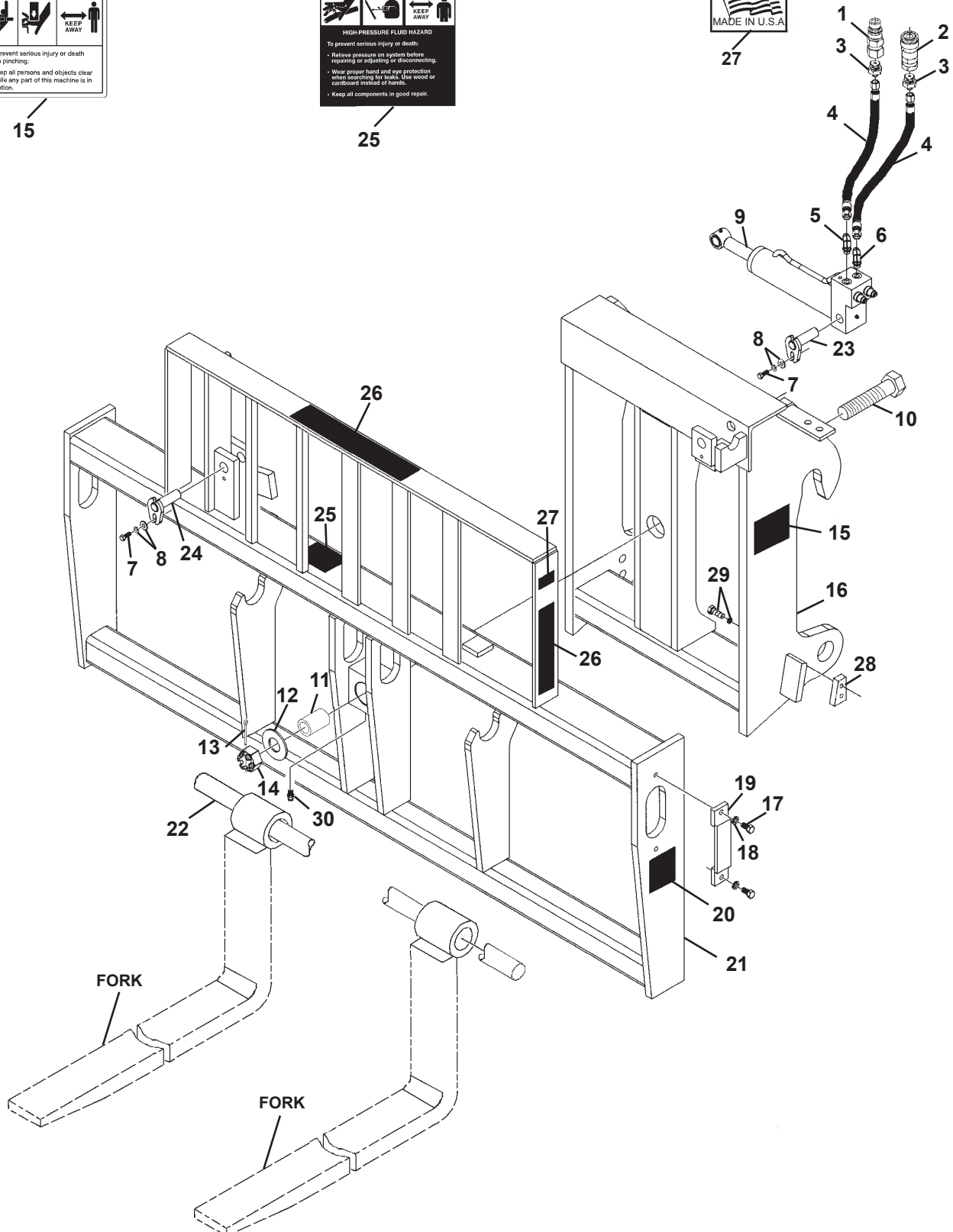
15



25



27



M-1577 1-28-10-2

SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #11709

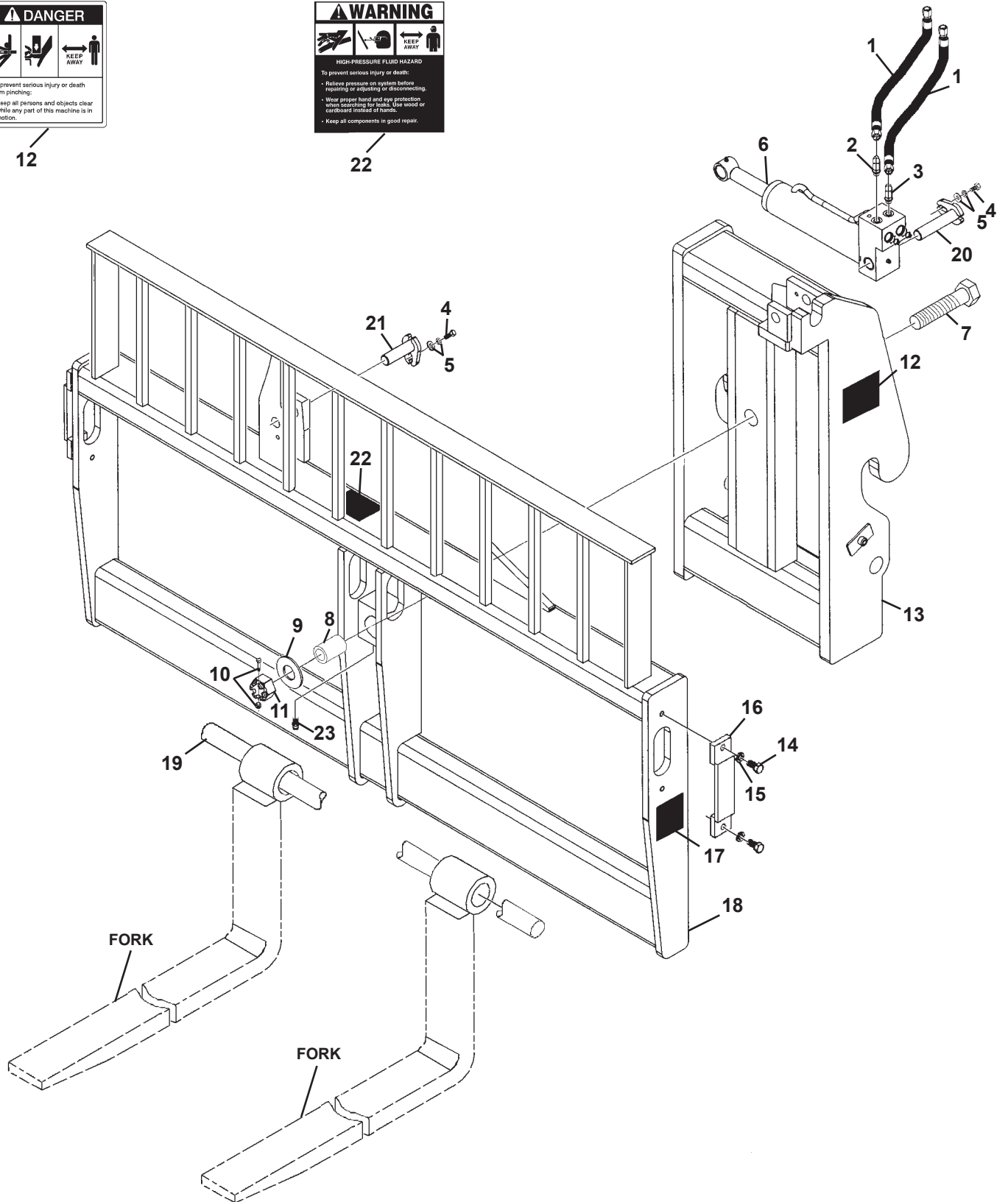
<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	22519	Male Quick Coupler
2	1	22518	Female Quick Coupler
3	2	30201	Straight Connector, 12MBo-6MJ
4	2	37796	Hose .38" X 65" 6FJX-6FJX
5	1	3434	90° Elbow, 6MBo-6MJ
6	1	14067	90° Elbow, With .027 Orifice, 6MBo-6MJ
7	2	1043	.38" UNC x 1.00" Hex Capscrew
8	2	1503	.38" Lock Washer
	2	1514	.38" Flat Washer
9	1	89117	Cylinder Assembly
10	1	10013	1.50" UNF x 7.00" Hex Capscrew, Grade 8
11	1	14099	Tube, 2.25" x 1.53" x 3.31"
12	1	1522	1.50" Flat Washer
13	1	1729	.25" x 2.50" Cotter Pin
14	1	10019	1.50" UNF Castle Nut
15	2	40149	Pinch Point Danger Decal
16	1	14236	Rear Frame
17	2	1338	.50" UNF x 1.00" Hex Capscrew
18	2	1505	.50" Lock Washer
19	1	14002	Fork Pin Retainer
20	1	-----	Serial Number Identification Tag Location
21	1	14821	Front Frame
22	1	14227	Fork Pin, 60MM x 74.50"
23	1	14070	Pin, 1.00" x 4.72"
24	1	14071	Pin, 1.00" x 3.31"
25	1	40151	High Pressure Warning Decal
26	2	Varies	Logo
	1	Varies	Logo
27	1	4338	Made in USA Decal
28	2	14228	Stop Block
29	4	10012	.75" UNC x 2.25" Hex Capscrew, Grade 8
	4	1507	.75" Lock Washer
30	2	6616	Grease Zerk



12



22



M-1587 1-28-10-2

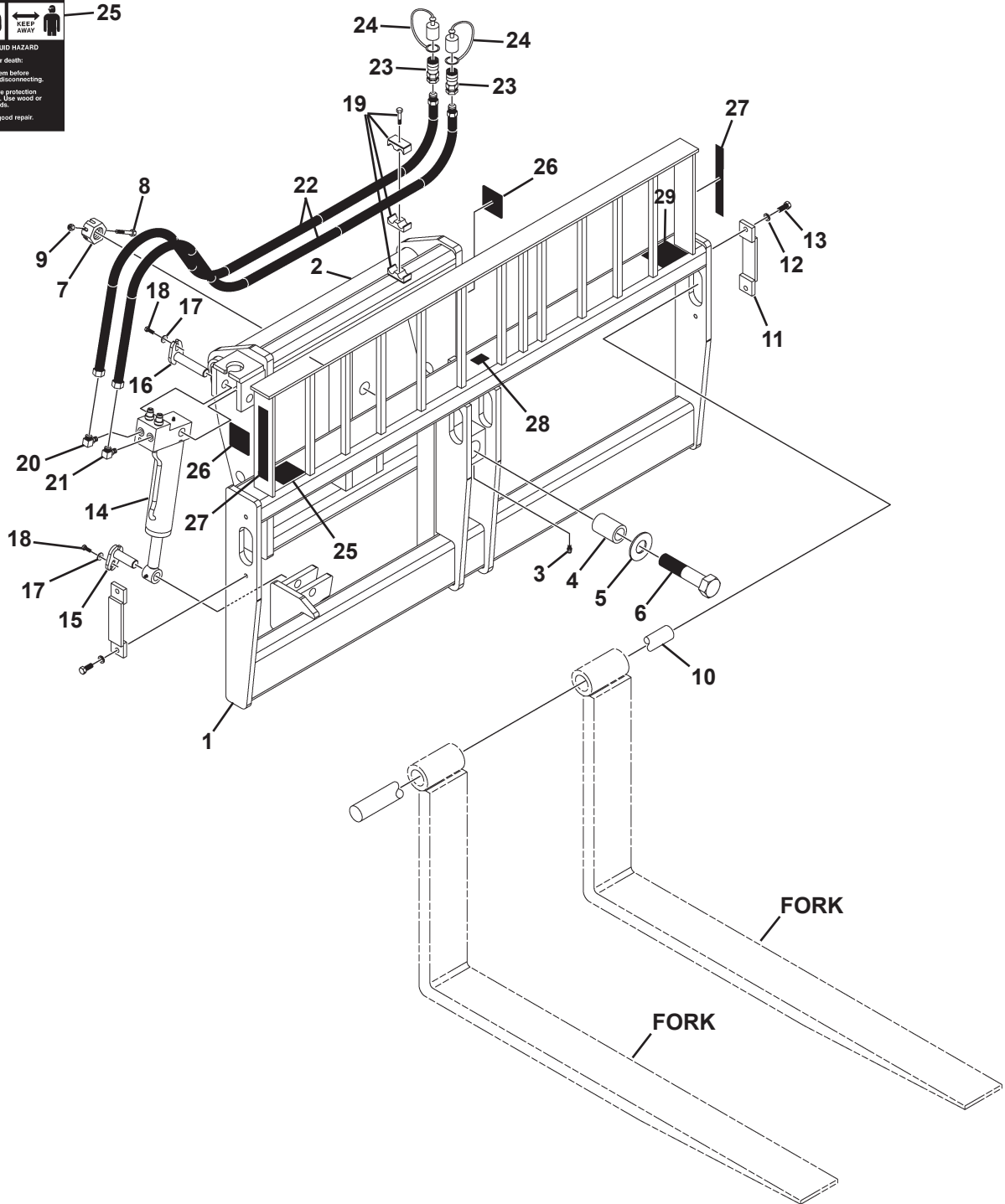
SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #12288

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	2	14397	Hose .38" X 69" 6FJX-6FJX
2	1	3434	90° Elbow, 6MBo-6MJ
3	1	14067	90° Elbow, With .027 Orifice, 6MBo-6MJ
4	2	1043	.38" UNC x 1.00" Hex Capscrew
5	2	1503	.38" Lock Washer
	2	1514	.38" Flat Washer
6	1	89113	Cylinder Assembly
7	1	10013	1.50" UNF x 7.00" Hex Capscrew, Grade 8
8	1	14099	Tube, 2.25" x 1.53" x 3.31"
9	2	1522	1.50" Flat Washer
10	1	1050	.38" UNC x 2.75" Hex Capscrew
	1	1837	.38" UNC Deformed Lock Nut
11	1	10019	1.50" UNF Castle Nut
12	2	40149	Pinch Point Danger Decal
13	1	14398	Rear Frame
14	2	1339	.50" UNF x 1.25" Hex Capscrew
15	2	1505	.50" Lock Washer
16	1	14002	Fork Pin Retainer
17	1	-----	Serial Number Identification Tag Location
18	1	32231	Front Frame
19	1	14780	Fork Pin, 2.00" x 74.75"
20	1	14070	Pin, 1.00" x 4.72"
21	1	14071	Pin, 1.00" x 3.31"
22	1	40151	High Pressure Warning Decal
23	2	6616	Grease Zerk

SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #12515



M-1142 1-28-10-2

SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #12515

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	18208	Front Frame
2	1	18303	Rear Frame
3	1	6616	Grease Zerk
4	1	14099	Tube, 2.25" x 1.53" x 3.31"
5	1	1522	1.50" Flat Washer
6	1	10013	1.50" UNF x 7.00" Hex Capscrew, Grade 8
7	1	10019	1.50" UNF Castle Nut
8	1	1050	.38" UNC x 2.75" Hex Capscrew
9	1	1837	.38" UNC Deformed Lock Nut
10	1	14780	Fork Pin, 2.00" x 74.25"
11	2	14002	Pin Retainer
12	4	1505	.50" Lock Washer
13	4	1339	.50" UNF x 1.25" Hex Capscrew
14	1	89113	Cylinder Assembly
15	1	14071	Pin, 1.00" x 3.31"
16	1	14070	Pin, 1.00" x 4.72"
17	2	1513	.31" Flat Washer
18	2	10023	.31" UNF x 1.00" Hex Capscrew
19	1	81358	Clamp
20	1	3434	90° Elbow, 6MBo-6MJ
21	1	14067	90° Elbow, With .027 Orifice, 6MBo-6MJ
22	2	38033	Hose .38" X 87" 6FJX-8MBo
23	2	84928	Female Quick Coupler
24	2	32548	Female Quick Coupler Cover
25	1	40151	High Pressure Warning Decal
26	2	40149	Pinch Point Danger Decal
27	2	Varies	Logo
28	1	4338	Made in USA Decal
29	1	-----	Serial Number Identification Tag Location

SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #12784



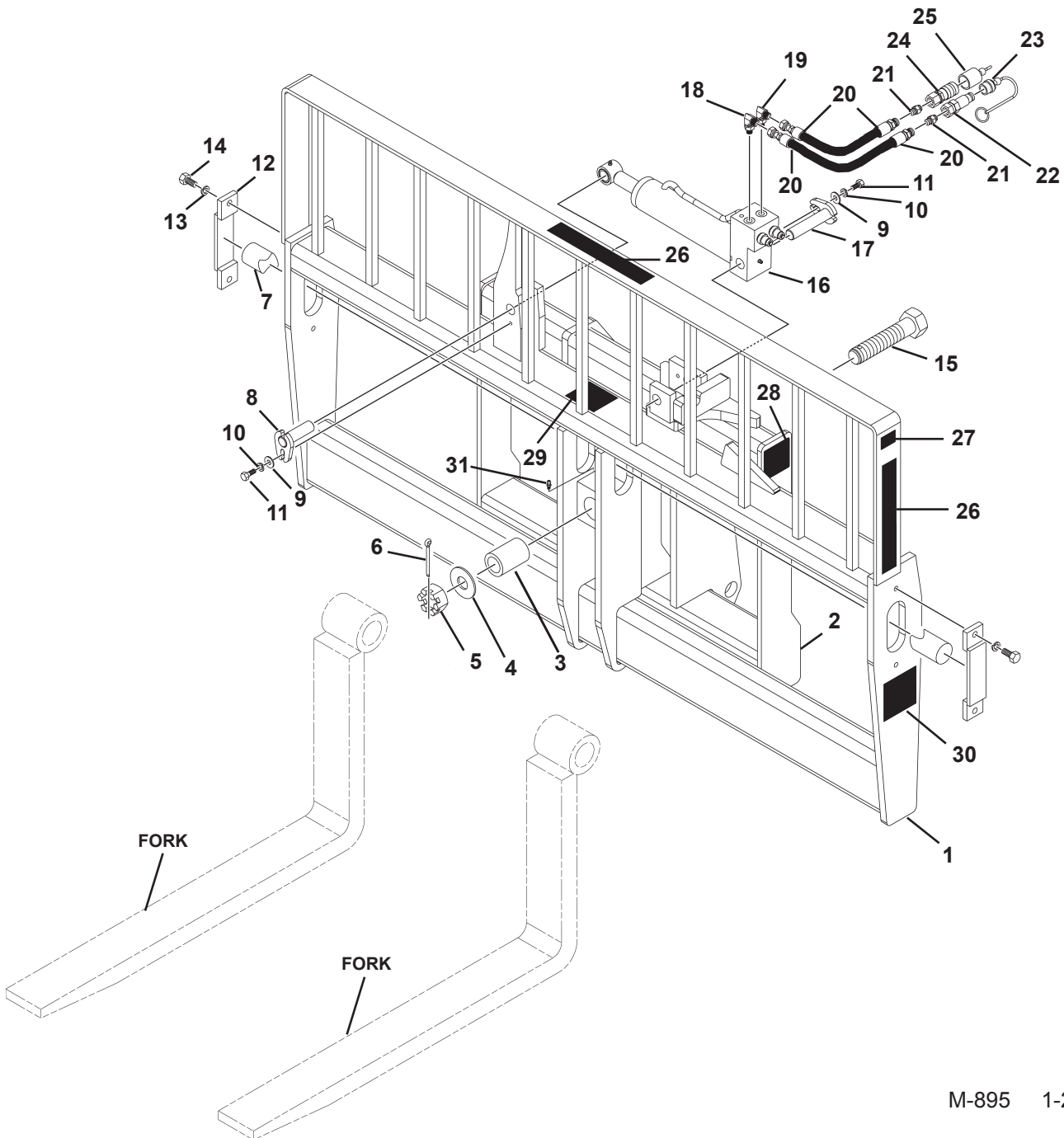
27



28



29



SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #12784

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	100071	Front Frame
2	1	100064	Rear Frame
3	1	14099	Tube, 2.25" x 1.53" x 3.31"
4	1	1522	1.50" Flat Washer
5	1	10019	1.50" UNF Castle Nut
6	1	1729	.25" x 2.50" Cotter Pin
7	1	14780	Fork Pin, 2.00" x 74.25"
8	1	31991	Pin, 1.00" x 3.00"
9	2	1514	.38" Flat Washer
10	2	1503	.38" Lock Washer
11	2	1043	.38" UNC x 1.00" Hex Capscrew
12	2	14002	Fork Pin Retainer
13	4	1505	.50" Lock Washer
14	4	1339	.50" UNF x 1.25" Hex Capscrew
15	1	10013	1.50" UNF x 7.00" Hex Capscrew, Grade 8
16	1	89113	Cylinder Assembly
17	1	14070	Pin, 1.00" x 4.72"
18	1	14067	90° Elbow, With .027 Orifice, 6MBo-6MJ
19	1	3434	90° Elbow, 6MBo-6MJ
20	2	37782	Hose .38" X 70" 6FJX-6FJX
21	2	3269	Straight Connector, 8MBo-6MJ
22	1	84923	Male Quick Coupler
23	1	32549	Male Quick Coupler Cover
24	1	84928	Female Quick Coupler
25	1	32548	Female Quick Coupler Cover
26	2	Varies	Logo
	1	Varies	Logo
27	1	4338	Made in USA Decal
28	2	40149	Pinch Point Danger Decal
29	1	40151	High Pressure Warning Decal
30	1	----	Serial Number Identification Tag Location
31	1	6616	Grease Zerk

SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #12789



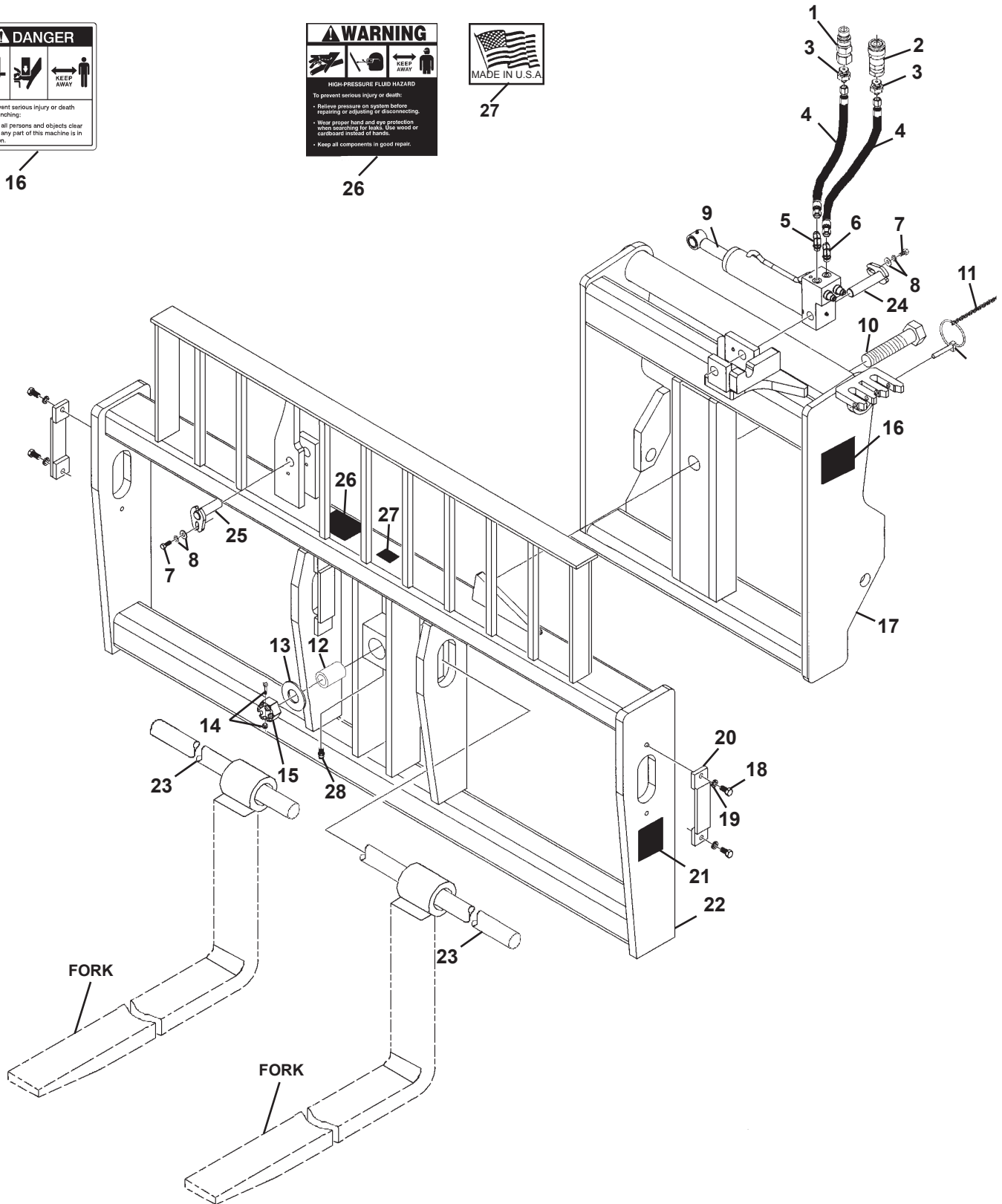
16



26



27



SIDE TILT FORK CARRIAGE

72" WIDE - ASSEMBLY #12789

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	22519	Male Quick Coupler
2	1	22518	Female Quick Coupler
3	2	30201	Straight Connector, 12MBo-6MJ
4	2	14397	Hose .38" X 69" 6FJX-6FJX
5	1	3434	90° Elbow, 6MBo-6MJ
6	1	14067	90° Elbow, With .027 Orifice, 6MBo-6MJ
7	2	1043	.38" UNC x 1.00" Hex Capscrew
8	2	1503	.38" Lock Washer
	2	1514	.38" Flat Washer
9	1	89113	Cylinder Assembly
10	1	10013	1.50" UNF x 7.00" Hex Capscrew, Grade 8
11	1	31796	Lynch Pin With Chain
12	1	14099	Tube, 2.25" x 1.53" x 3.31"
13	1	1522	1.50" Flat Washer
14	1	1050	.38" UNC x 2.75" Hex Capscrew
	1	1837	.38" UNC Deformed Lock Nut
15	1	10019	1.50" UNF Castle Nut
16	2	40149	Pinch Point Danger Decal
17	1	31909	Rear Frame
18	4	1339	.50" UNF x 1.25" Hex Capscrew
19	4	1505	.50" Lock Washer
20	2	14002	Fork Pin Retainer
21	1	-----	Serial Number Identification Tag Location
22	1	104587	Front Frame
23	2	18864	Fork Pin, 2.25" x 29.19"
24	1	14070	Pin, 1.00" x 4.72"
25	1	31991	Pin, 1.00" x 3.00"
26	1	40151	High Pressure Warning Decal
27	1	4338	Made in USA Decal
28	2	6616	Grease Zerk

SIDE TILT FORK CARRIAGE

74" WIDE - ASSEMBLY #12427

(DIAGRAM 1 of 2)



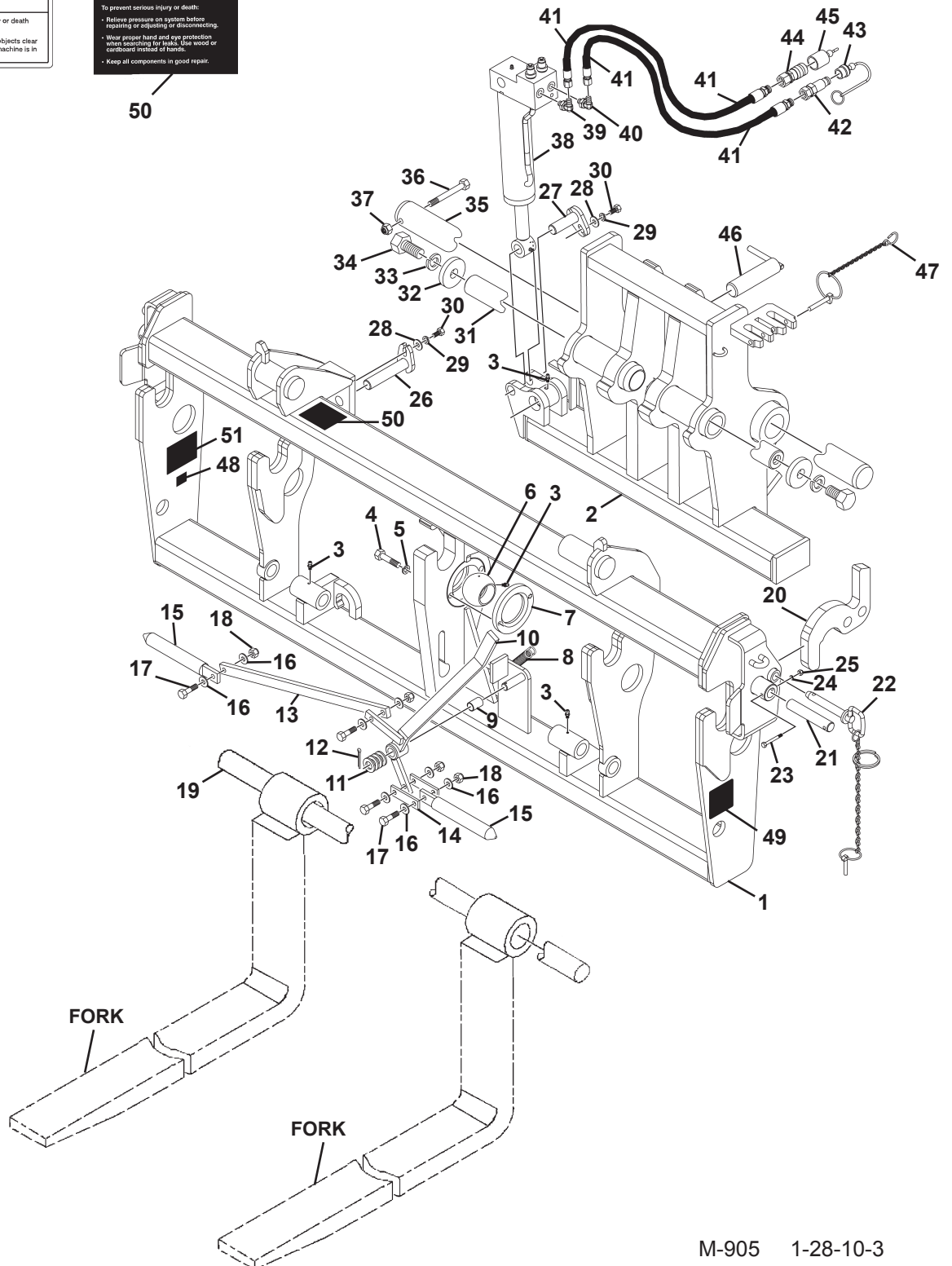
48



49



50



M-905 1-28-10-3

SIDE TILT FORK CARRIAGE

74" WIDE - ASSEMBLY #12427

(LIST 1 of 2)

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	16910	Front Frame
2	1	31882	Rear Frame
3	4	9371	Grease Zerk
4	2	22330	.50" UNF x 2.50" Hex Capscrew
5	2	1505	.50" Lock Washer
6	1	32122	Bearing
7	1	31775	Bearing Retainer
8	1	31795	Spring
9	2	31794	Bushing
10	1	31793	Handle
11	4	1518	.75" Flat Washer
12	1	1614	.16" x 2.00" Cotter Pin
13	1	11740	Linkage
14	2	31798	Attaching Strap
15	2	31801	Pin, .63" x 10.00"
16	8	1514	.38" Flat Washer
17	4	1069	.44" UNC x 1.75" Hex Capscrew
18	4	1745	.44" UNC Nylock Hex Nut
19	1	16913	Fork Pin, 2.25" x 79.00"
20	2	31776	Fork Pin Locking Handle
21	2	31996	Drilled Pin, 1.00" x 5.50"
22	2	31797	Locking Pin With Chain
23	2	1258	.25" UNF x 2.25" Hex Capscrew
24	2	1501	.25" Lock Washer
25	2	1474	.25" UNF Hex Nut
26	1	32392	Pin, 1.00" x 5.06" (Cylinder Tube Pin)
27	1	31991	Pin, 1.00" x 3.00" (Cylinder Rod Pin)
28	2	1513	.31" Flat Washer
29	2	1502	.31" Lock Washer
30	2	10023	.31" UNF x 1.00" Hex Capscrew

SIDE TILT FORK CARRIAGE

74" WIDE - ASSEMBLY #12427

(DIAGRAM 2 of 2)



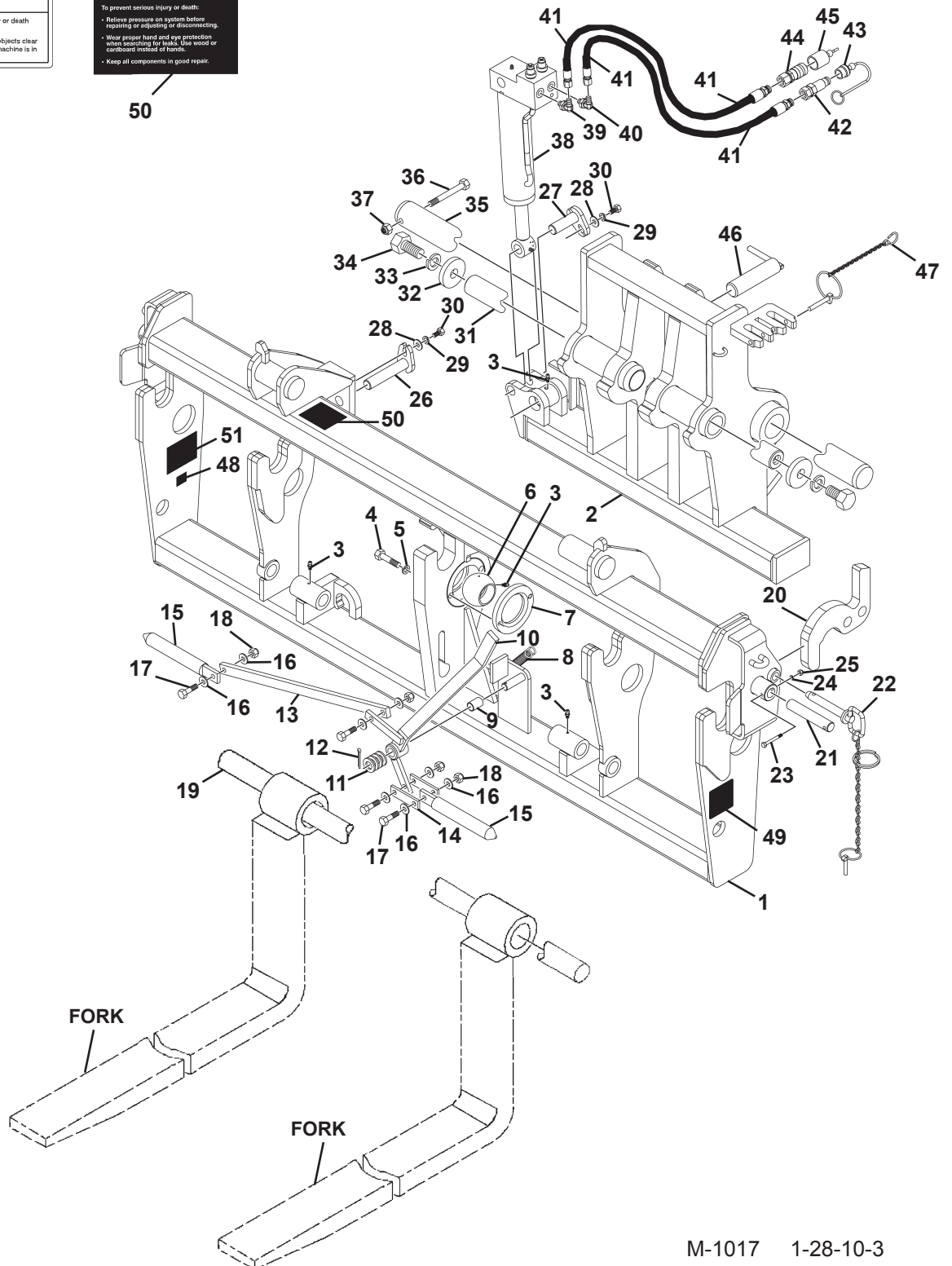
48



49



50



M-1017 1-28-10-3

SIDE TILT FORK CARRIAGE

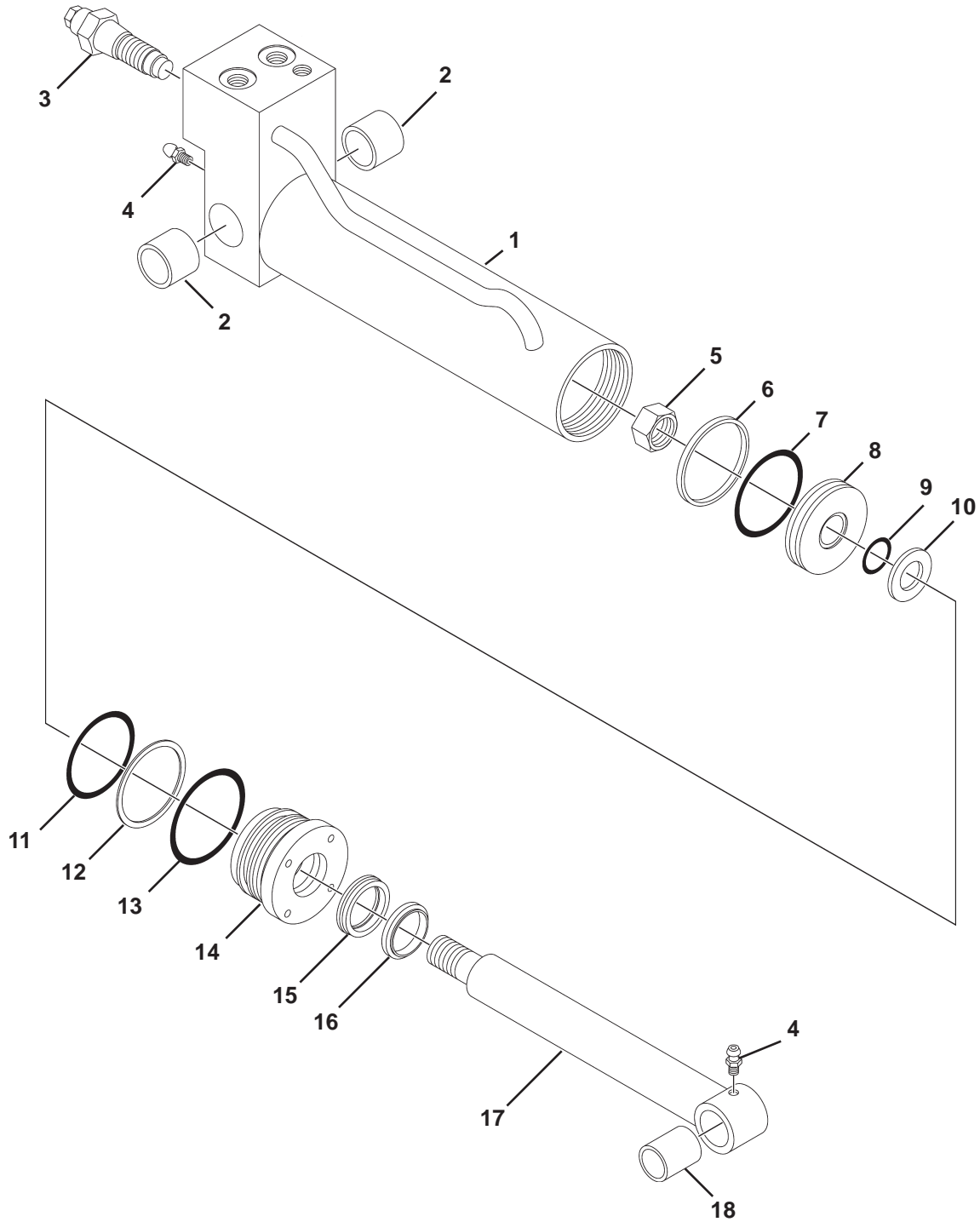
74" WIDE - ASSEMBLY #12427

(LIST 2 of 2)

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
31	1	31840	Pivot Pin, 50mm x 18.50"
32	2	32105	1.00" Special Washer
33	2	1509	1.00" Lock Washer
34	2	1185	1.00" UNC x 2.00" Hex Capscrew
35	1	33054	Mounting Pin, 2.50" x 20.63"
36	1	1101	50" UNC x 4.50" Hex Capscrew
37	1	1542	50" UNC Nylock Hex Nut
38	1	89113	Cylinder Assembly
39	1	14067	90° Elbow, With .027 Orifice, 6MBo-6MJ
40	1	3434	90° Elbow, 6MBo-6MJ
41	2	37861	Hose .38" X 75" 6FJX-8MBo
42	1	84923	Male Quick Coupler
43	1	32549	Male Quick Coupler Cover
44	1	84928	Female Quick Coupler
45	1	32548	Female Quick Coupler Cover
46	1	31926	Tilt Locking Pin
47	2	31796	Lynch Pin With Chain
48	1	4338	Made in USA Decal
49	2	40149	Pinch Point Danger Decal
50	1	40151	High Pressure Warning Decal
51	1	-----	Serial Number Identification Tag Location

CYLINDER ASSEMBLY

ASSEMBLY #89113



CYLINDER ASSEMBLY

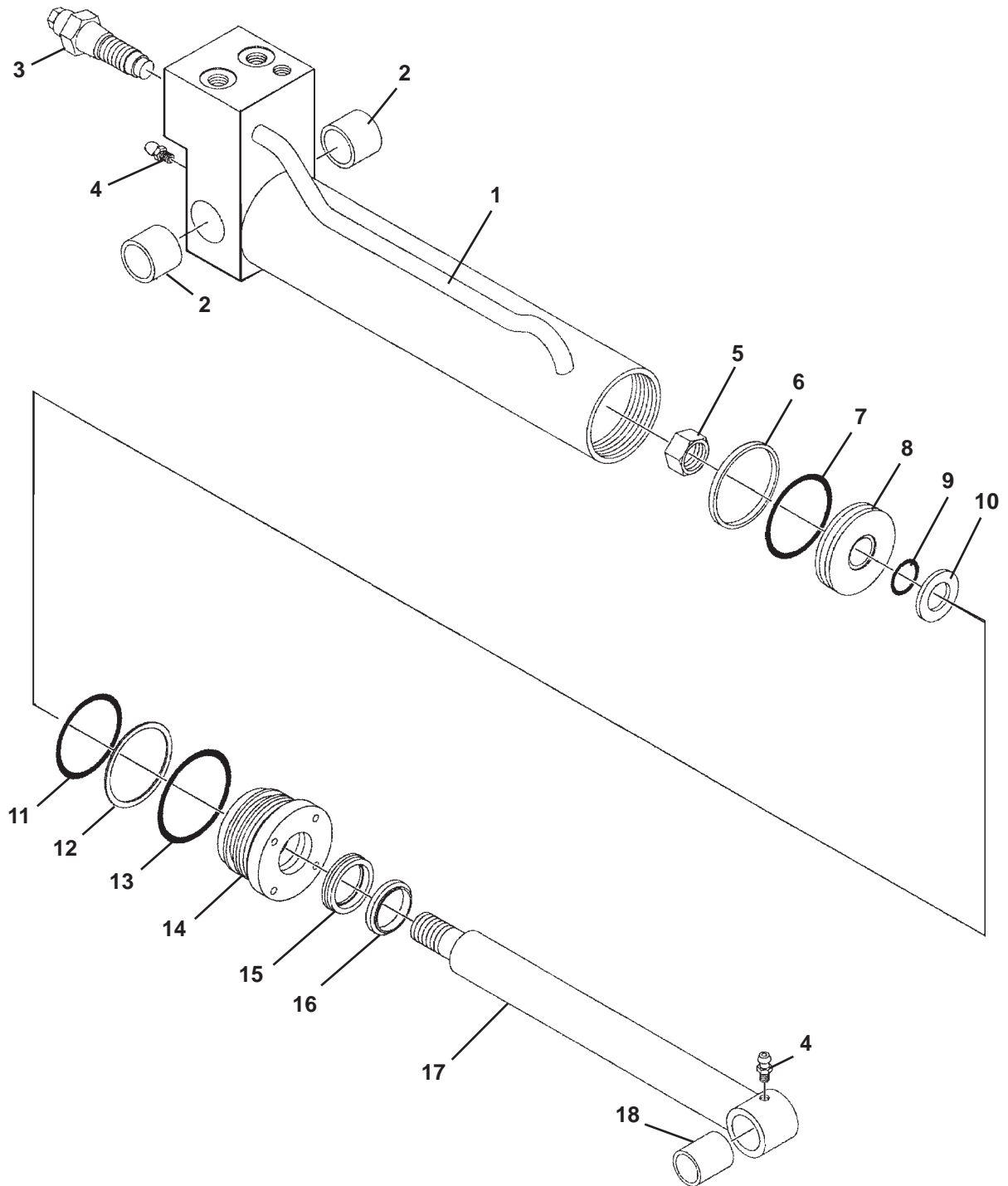
ASSEMBLY #89113

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	89114	Cylinder Tube, With Valve
2	2	88919	Bronze Bushing
3	2	89120	Valve Cartridge - Over Center
4	2	6616	Grease Zerk
5	1	1483	Hex Nut
6	1	4644*	Piston Ring
7	1	4645*	O-Ring
8	1	50252	Piston
9	1	4641*	O-Ring
10	1	5421	Washer
11	1	4509*	O-Ring
12	1	4510*	Back-Up Washer
13	1	45250*	O-Ring
14	1	77458	Cylinder Gland
15	1	45219*	Poly-Pak Seal
16	1	45389*	Rod Wiper
17	1	88927	Piston Rod
18	1	88918	Bronze Bushing

NOTE: Seal Kit #45617 includes all parts marked with an asterisk (*). Parts are not sold separately.

CYLINDER ASSEMBLY

ASSEMBLY #89117



M-640 10-17-05-2

CYLINDER ASSEMBLY

ASSEMBLY #89117

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
1	1	89118	Cylinder Tube with Valve
2	2	88919	Bronze Bushing
3	2	89120	Valve Cartridge - Over Center
4	2	6616	Grease Fitting
5	1	1483	Hex Nut
6	1	4644*	Piston Ring
7	1	4645*	O-Ring
8	1	50252	Piston
9	1	4641*	O-Ring
10	1	5421	Washer
11	1	4509*	O-Ring
12	1	4510*	Back-Up Washer
13	1	45250*	O-Ring
14	1	77458	Cylinder Gland
15	1	45219*	Polypak Seal
16	1	45389*	Rod Wiper
17	1	88915	Piston Rod
18	1	88918	Bronze Bushing

NOTE: Seal Kit #45617 includes all parts marked with an asterisk (*). Parts are not sold separately.



PALADIN LIGHT CONSTRUCTION

**503 Gay Street
Delhi, IA 52223**

**(563) 922-2981
(800) 456-7100**

www.paladinlcg.com