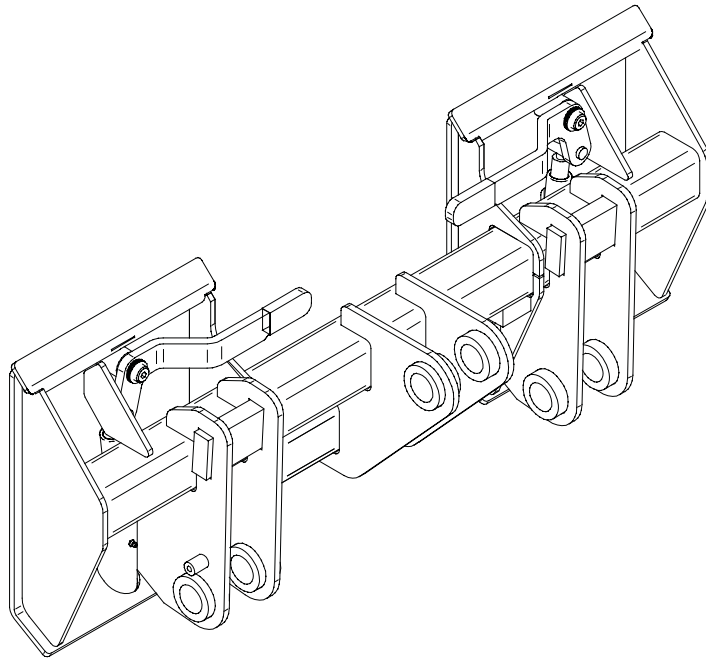




UNIVERSAL SSL QA



PALADIN LIGHT CONSTRUCTION



SERIAL NUMBER: _____

MODEL NUMBER: _____

Manual Number: 51-10011

Model: 10020

Date: February 13, 2006

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Operation and Maintenance

UNIVERSAL SSL QA

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Introduction

Importance of this Manual



Read this manual before attempting to operate the equipment.

This operator's manual should be regarded as part of the attachment. Suppliers of both new and secondhand attachments are advised to keep documentation indicating that this manual was provided with the attachment.

The manual contains information regarding installation, operation and maintenance required for this attachment. It also includes detailed parts lists.

Purpose of UNIVERSAL SSL QA

This product is designed solely for the purpose of adapting a *prime mover* to allow connection to an attachment with a SAE J2513 mounting. The *prime mover* must conform to the weight limitation guidelines in SAE J2513 standard to use this product. Use in any other way is considered contrary to the intended use of this product. Strict adherence to operation, service and repair conditions, as specified by the manufacturer, are essential elements of the intended use of this product.

This attachment should be operated, serviced and repaired only by persons who are familiar with its characteristics and acquainted with relevant safety procedures.

Accident prevention regulations, all other generally recognized safety regulations, and all road traffic regulations must be observed at all times.

Any modifications made to this attachment may relieve the manufacturer of liability for any resulting damage or injury.

Safety Alert Symbol



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury. Carefully read the message that follows and inform other operators.

Warranty

To validate the warranty for this unit, fill out the warranty card or warranty pages located at the back of this manual. Then, send this information to FFC.

Contacting FFC

If you have any questions about information in this manual or need to order parts, please call, write, fax or e-mail FFC:

FFC
100 East Lee Road
Lee, Illinois 60530
Phone: (800) 747-2132
FAX: (815) 824-2071
www.paladinbrands.com

For help with installation, operation or maintenance procedures, contact our Technical Service Department. Direct product questions and parts orders to our Sales Department.

When ordering parts or accessories, be prepared to give the following information:

- Attachment model number, serial number and date of purchase
 - Prime mover, make and model
 - Part number, description and quantity
-

Terms Used in Manual

Right-hand, left-hand, front and *rear* are determined from the operator's perspective (either the operator's seat or standing behind a walk-behind unit), facing forward in the normal operating position.

Prime mover refers to the vehicle on which this attachment is mounted.

Optional Equipment

Installation instructions for optional equipment, if applicable, appear in the Service Manual Section.

Specifications & Features

Due to continuous product improvement, specifications and features may change without notice.

Safety Information

Read this manual

Read all safety information in this manual. All operators must read and understand the entire contents of this manual before using this attachment. General safety practices are listed on Safety Information pages and specific safety information is located throughout this manual.

Hazard Definitions

Four hazard classifications are used in this manual.



DANGER - Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



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



CAUTION - Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

CAUTION - Used for instructions when machine damage may be involved.

Operation



CAUTION - Universal SSL QA connection and disconnection can result in potentially hazardous situations. Only fully trained operators under the close supervision of a fully trained person should use this attachment.

Before operating the Universal SSL QA:

- Learn the prime mover controls.
- Check all hardware holding the Universal SSL QA to the prime mover, making sure it is tight.
- Make certain that all locking pins, latches, and connection devices are properly installed and secured.

- Replace any damaged or fatigued hardware with properly rated fasteners. See Maintenance Section.
- Replace any damaged or excessively worn parts.
- Check tire ratings to be sure they match the prime mover load. Weigh the attachment end of the prime mover with a maximum load, if necessary, to insure proper tire ratings.
- Be sure all persons not operating the attachment are clear of the work area.
- Always wear proper apparel such as safety glasses, goggles or a face shield.

While operating Universal SSL QA:

- When operating Universal SSL QA, adhere to all government rules, local laws and other professional guidelines for your material handling application.
- Before leaving the operator's area for any reason - lower the Universal SSL QA to the ground, stop the prime mover engine, set the parking brake and remove the key from the ignition.
- Only operate the Universal SSL QA while you are in the operator's position of the prime mover. The safety restraints must be fastened while you operate the prime mover.
- Failure to fully latch the connection pins can result in allowing the attached equipment to fall off the loader on to the operator or others.
- The loader arms, the Universal SSL QA, and/or the attached equipment could drop down when released. Keep out of all potential drop paths when repositioning the release handles.
- Keep clear of the area between the loader arms and the tilt cylinders or linkages when positioning the release handles. Any loader or cylinder movement could result in crushing or shearing anything between those components.
- Leave all shields and safety equipment in place when operating the Universal SSL QA and prime mover.
- Be aware of the extra weight of a load and reduce travel speed accordingly.
- Do not lift or transport personnel on Universal SSL QA.

SAFETY SECTION
GENERAL SAFETY INFORMATION

Service & Repair - General

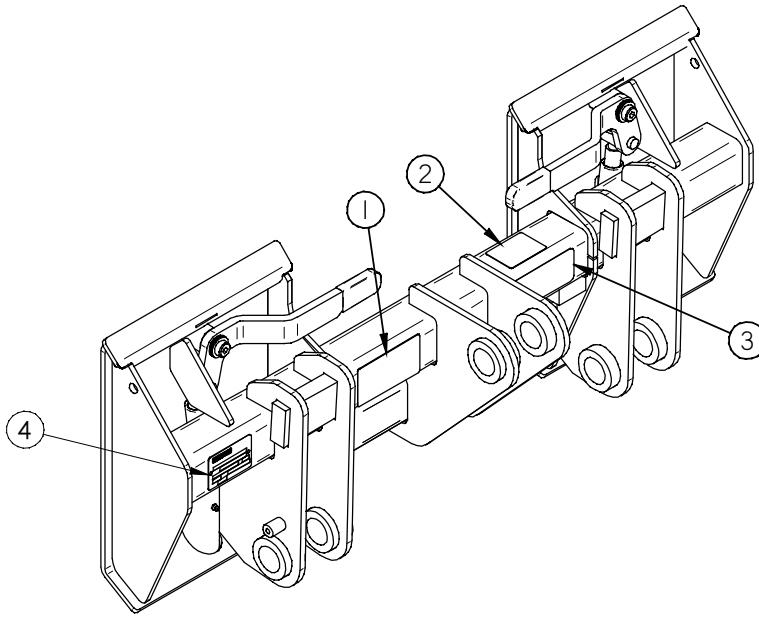


CAUTION - Do not modify the Universal SSL QA in any way. Personal injury could result. If you have questions, contact your dealer or FFC.

Repair or adjust the Universal SSL QA in a safe area, away from traffic and other hazards.

Before adjusting or servicing - lower the Universal SSL QA to the ground, set parking brake, shut down the prime mover and remove the key from the ignition.

When working on or around the Universal SSL QA, safely secure it from falling or shifting.



ITEM	QTY	PART #	DESCRIPTION
1	1	50-0723	Read Manual
2	1	50-0739	Operating Weight
3	1	RDL3251	Secure Latch
4	1	RDL3254	Serial Tag

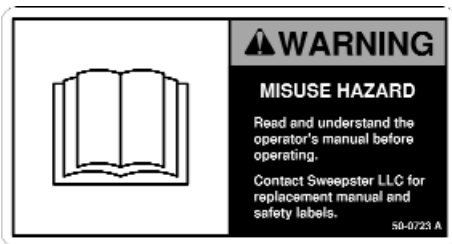
Placement or Replacement of Safety Signs

1. Clean the area of application with nonflammable solvent, and then wash the same area with soap and water.
2. Allow the surface to fully dry.
3. Remove the backing from the safety sign, exposing the adhesive surface.
4. Apply the safety sign to the position shown in the diagram above and smooth out any bubbles.

Instructions

- Keep all safety signs clean and legible.
- Replace all missing, illegible, or damaged safety signs.
- Replacement parts, for parts with safety signs attached, must also have safety signs attached.
- Safety signs are available, free of charge, from your dealer or from FFC.

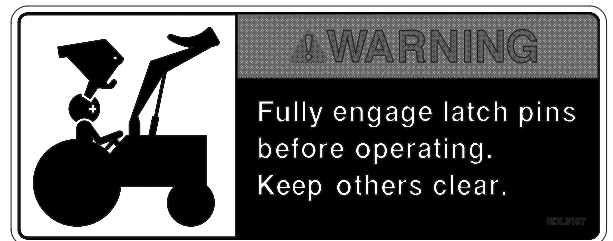
Item 1



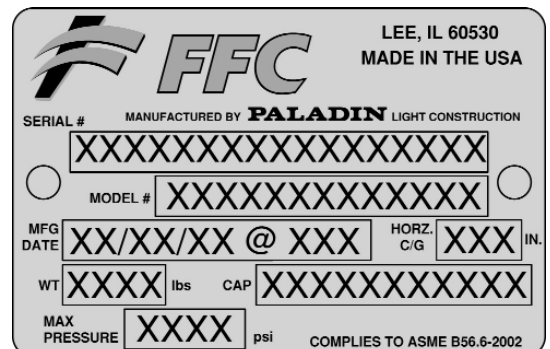
Item 2



Item 3



Item 4



OPERATION SECTION
MOUNTING & OPERATING TIPS

Operating Tips

Before each Use

Perform daily maintenance as indicated in the Maintenance Schedule.

During Use



WARNING - Avoid serious injury.

- Failure to fully latch the connection pins can result in allowing the attached equipment to fall off the loader on to the operator or others.
 - The loader arms, the Universal SSL QA, and/or the attached equipment could drop down when released. Keep out of all potential drop paths when repositioning the release handles.
 - Keep clear of the area between the loader arms and the tilt cylinders or linkages when positioning the release handles. Any loader or cylinder movement could result in crushing or shearing anything between those components.
 - Carry the Universal SSL QA low to the ground so that the operator has good visibility and stability. Avoid any sudden movements.
-

Universal SSL QA Installation

(QA to Prime Mover)



WARNING - Improper attachment of Universal SSL QA could result in injury or death. Do not operate this product until you have positive indication that the attachment is securely mounted.

1. Position the Universal SSL QA on a level surface.
2. Enter the prime mover.
3. Fasten the safety restraints.
4. Start the engine.
5. Disengage the parking brake.
6. Align the attachment mechanism with the mounting on the QA, attach to the prime mover. Follow the attaching procedure in the prime mover owners manual.
7. Engage the parking brake and shut down the prime mover.
8. Unfasten safety restraints and exit the prime mover.
9. While the loader arms are lowered, visually inspect the attachment mechanism to ensure that it is securely mounted.
10. Carefully raise the loader and cycle the rollback/dump cylinders to check clearances, that limiting stops make proper contact and verify that all mounting procedures have been successfully completed. Contact FFC for instructions if the limiting stops do not contact properly.

IMPORTANT - Lubricate all grease fittings before connecting any attachment to this product. Refer to MAINTENANCE page and follow the instructions.

Removing the Universal SSL QA



WARNING - Serious injury or death may result from disengaging the Universal SSL QA when the Universal SSL QA is in an unstable position or carrying a load. Place the Universal SSL QA in a stable position before disengaging.

1. Lower the Universal SSL QA to the ground.
2. Engage the parking brake and shut down the prime mover. Be sure to relieve pressure to the auxiliary hydraulic lines.
3. Unfasten safety restraints and exit prime mover.
4. Disengage attachment locking mechanism (mechanical type).
5. Enter prime mover, fasten safety restraints and start the prime mover.
6. Disengage the attachment mechanism (prime mover's hydraulic type).
7. Disengage the parking brake, and back away from the Universal SSL QA.

Product Information

Specifications

UNIVERSAL SSL QA	
Overall Length (No Mounting Ears)	6.06" (Mounting Ears Add Approx. 8")
Overall Width	44.25"
Allowable Load	9,000 lbs.
Machine Operating Weight	4500 kg (9,920 lbs.) or Less*

*As defined in SAE J2513 JUN00.

MAINTENANCE SECTION
MAINTENANCE SCHEDULE

Maintenance Schedule

Procedure	Before Each Use	After Each Use	100 Hours	500 Hours	See Prime Mover Manual
Fittings, zerk - Grease	✓				
Hardware - Check for tightness	✓				

Service

UNIVERSAL SSL QA

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SERVICE MANUAL
TROUBLESHOOTING

Troubleshooting

Problem	Possible Cause	Possible Solution
Handles do not stay in unlatched position.	Belleville springs are worn out or broken.	Replace Belleville springs.
Handles do not stay in latched position.	Debris preventing complete handle rotation.	Remove debris.

Parts

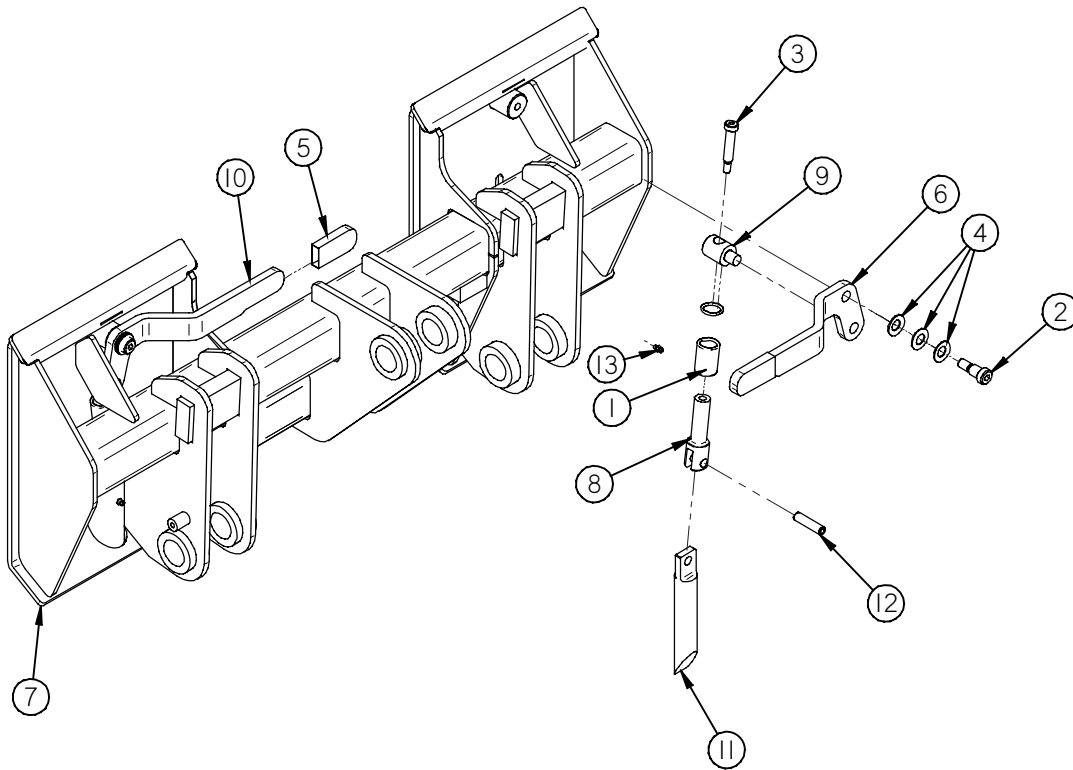
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UNIVERSAL SSL QA 10020

<u>Ref.</u>	<u>Qty.</u>	<u>Part's</u>	<u>Description</u>
1.	2	07-10008	Spring, Compression, 1-1/4 x 4 x 0.148
2.	2	07-10058	Screw, Shoulder, 5/8 x 3/4 (1/2-13) ZDC
3.	2	07-10059	Screw, Shoulder, 5/8 x 2 (1/2-13) ZDC
4.	6	07-10060	Spring, Belleville, 5/8 x 1-1/4 x .062
5.	2	07-5051	Grip Handle, 1/2 x 1.24 x 2.88
6.	1	13-50572	Right Handle
7.	1	13-50577-*	Mounting Weldment (* = mounting specific number)
8.	2	13-50586	Rod, 1-1/4 x 4.312, Spring Pin
9.	2	13-50587	Rod, 1-1/4 x 2.19, Latch Handle Linkage
10.	1	13-50588	Left Handle
11.	2	13-50589	Rod, 1-1/4 x 8.12 w/ features YDC
12.	2	RHW8034	Roll Pin 1/2 x 2.00
13.	2	RHW8090	Grease Zerk, 1/4-28, Self Tap



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APPENDIX
TORQUE SPECS.

Bolt Torque Specifications

Body Size Grade 5	Ft-lbs		Body Size Class 8.8	Ft-lbs
1/4 - 20	6 ± 1		M6 - 1.0	5 ± 1
- 28	7 ± 1		n/a	-
5/16 - 18	13 ± 3		n/a	-
- 24	14 ± 3		n/a	-
3/8 - 16	23 ± 5		M8 - 1.25	14 ± 3
- 24	26 ± 5		- 1.0	-
7/16 - 14	37 ± 8		M1 - 1.5	29 ± 6
- 20	41 ± 9		- 0.75	-
1/2 - 13	56 ± 11		M12 - 1.75	50 ± 10
- 20	63 ± 12		- 1.0	-
9/16 - 12	82 ± 14		M14 - 2.0	80 ± 14
- 18	91 ± 16		- 1.5	-
5/8 - 11	113 ± 20		M16 - 2.0	125 ± 22
- 18	127 ± 23		- 1.5	-
3/4 - 10	201 ± 26		n/a	-
- 16	223 ± 29		n/a	-
7/8 - 9	321 ± 41		M20 - 2.5	244 ± 31
- 14	355 ± 46		- 1.5	-
1 - 8	483 ± 62		M24 - 3.0	422 ± 54
- 12	528 ± 68		- 2.0	-

Body Size Grade 8	Ft-lbs		Body Size Class 10.9	Ft-lbs
1/4 - 20	9 ± 2		M6 - 1.0	8 ± 1
- 28	10 ± 2		n/a	-
5/16 - 18	18 ± 4		n/a	-
- 24	20 ± 4		n/a	-
3/8 - 16	32 ± 7		M8 - 1.25	20 ± 4
- 24	37 ± 8		- 1.0	-
7/16 - 14	52 ± 11		M1 - 1.5	40 ± 8
- 20	58 ± 12		- 0.75	-
1/2 - 13	80 ± 16		M12 - 1.75	69 ± 14
- 20	90 ± 18		- 1.0	-
9/16 - 12	115 ± 20		M14 - 2.0	110 ± 20
- 18	128 ± 23		- 1.5	-
5/8 - 11	159 ± 28		M16 - 2.0	173 ± 31
- 18	180 ± 32		- 1.5	-
3/4 - 10	282 ± 36		n/a	-
- 16	315 ± 41		n/a	-
7/8 - 9	454 ± 59		M20 - 2.5	337 ± 44
- 14	500 ± 65		- 1.5	-
1 - 8	681 ± 88		M24 - 3.0	583 ± 75
- 12	746 ± 97		- 2.0	-

Foot-pounds may be converted to Newton Meters by multiplying by 1.35582.

Foot-pounds may be converted to Inch-pounds by multiplying by 12.

If the nut and screw are not the same grade, the lower grade will always be used.

NOTE - Nylock nuts are utilized when greater resistance to vibrating loose is required, and greater operating temperatures are not a factor. In addition, like lock nuts, nylock nuts have a safety feature that if the bolt does vibrate loose, the nut will remain on the screw. Install nylock nuts to the standard torque shown above.

attachment - a tool or machine that attaches to the prime mover to perform a special function.

caution - indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

danger - indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

F - female.

front - side that is in front when facing the normal forward direction of travel of the machine.

gpm - gallons per minute.

important - used for instructions when machine damage may be involved.

in. - inches.

kph - kilometers per hour.

lb - pounds.

left-hand - side that is on the left when facing the normal forward direction of travel of the machine.

load center - the point of a load where the maximum gravitational force occurs. Also called center of gravity.

M - male.

mph - miles per hour.

mounting assembly - portion of the Universal SSL QA that attaches to the prime mover; designed specifically for each prime mover.

note - indicates supplementary information.

OR - o-ring.

psi - pounds per square inch.

prime mover - refers to the tractor, truck, loader or other vehicle to which a Universal SSL QA is attached.

qty - quantity.

rpm - revolutions per minute.

rear - side that is in rear when facing the normal forward direction of travel of the machine.

right-hand - side that is on the right when facing the normal forward direction of travel of the machine.

warning - indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

zerk - grease fitting.



PALADIN LIGHT CONSTRUCTION

Warranty Registration Form and Delivery Inspection Report

IMPORTANT! Warranty **Void** if card is not returned with 10 days.
All Applicable sections **must** be filled in.

This section to be filled out and signed by Dealer at time of delivery.

Warranty Registration

Customer's Name _____	Dealer's Name _____
Address _____	Address _____
City _____ State _____ Zip _____	City _____ State _____ Zip _____
Phone _____	CHECK ONE:
Loader / Tractor Model _____	Construction Use _____
Delivery Date _____	Agricultural Use _____
Model or Part # _____	Landscape Use _____
Serial # _____	Other: _____

Dealer Inspection *(check items applicable)*

- | | |
|---|---|
| <input type="checkbox"/> All Decals installed (see operator's manual) | <input type="checkbox"/> Review Operating and Safety Instructions |
| <input type="checkbox"/> Hydraulic fittings tight and free of leaks | <input type="checkbox"/> Guards and covers in place and secure |
| <input type="checkbox"/> Fasteners tight | <input type="checkbox"/> Does Product Function Properly |

I have thoroughly instructed the buyer on the above described equipment. This review included: The Operator's manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____ Dealer's Rep. signature _____

This section to be completed and signed by the customer

	1 Excellent	2 Good	3 Average	4 Unsatisfactory	5 Poor
QUALITY ASSURANCE RATING					
Question:					
Quality of Product: Appearance					
Construction					
Quality of Service					
Value (Priced Fairly)					
Does it perform as claimed					

The above described equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date: _____ Owner's signature _____

NOTE! Make one copy each for the dealer's and owner's records. Mail original to FFC Attachments.



PALADIN LIGHT CONSTRUCTION

FFC LIMITED 12 MONTH WARRANTY

Thank you for purchasing a FFC product. Warranty protection is valid only when this Warranty Registration is completed and signed by the customer and dealer, and mailed to FFC. I hereby acknowledge that I have received a copy of the owners Limited Warranty and I accept the terms therein.

For a period of 12 months from date of delivery of product to the original user, FFC, warrants each product to be free from manufacturing defects, subject to the limitations contained in this policy.

This warranty does not apply to defect caused, in whole or in part, by unreasonable use while in the possession of the user, including, but not limited to: failure to properly set up product; failure to provide reasonable and necessary maintenance; normal wear; routine tune ups or adjustments; improper handling or accidents; operation at speed or load conditions contrary to published specification; improper or insufficient lubrication; improper storage. This warranty is also not a guarantee that the performance of each product will meet the expectations of the purchaser.

FFC shall not be liable for consequential damages of any kind, including, but not limited to: consequential labor costs or transportation charges in connection with the replacement or repair of defective parts; lost time or expense which may have accrued because of said defects. In no event shall FFC, Inc.'s total liability hereunder exceed the product purchase price.

FFC makes no warranty with respect to trade accessories or any component or accessory of the product which was not manufactured by FFC, including any purchased components on any kind. These are subject to the warranties of their respective manufacturers. The warranty will be considered void if the product or any part of the product is modified or repaired in any way not expressly authorized by FFC, or if closed components are disassembled prior to return. Closed components include, but are not limited to: gearboxes, hydraulic pumps, motors, cylinders, and actuators.

Our obligation under the warranty is expressly limited, at our option, to the replacement or repair at FFC, of Lee, Illinois, or at a service facility designated by us, or such part or parts as inspection shall disclosed to have been defective. We are not responsible for unauthorized repairs or replacements. Any implied or statutory warranties, including any warranty of merchantability or fitness for a particular purpose, are expressly limited to the duration of this written warranty. We make no other express or implied warranty, nor is anyone authorized to make any in our behalf. This warranty cannot be extended, broadened, or changed except in writing by an authorized officer of FFC.