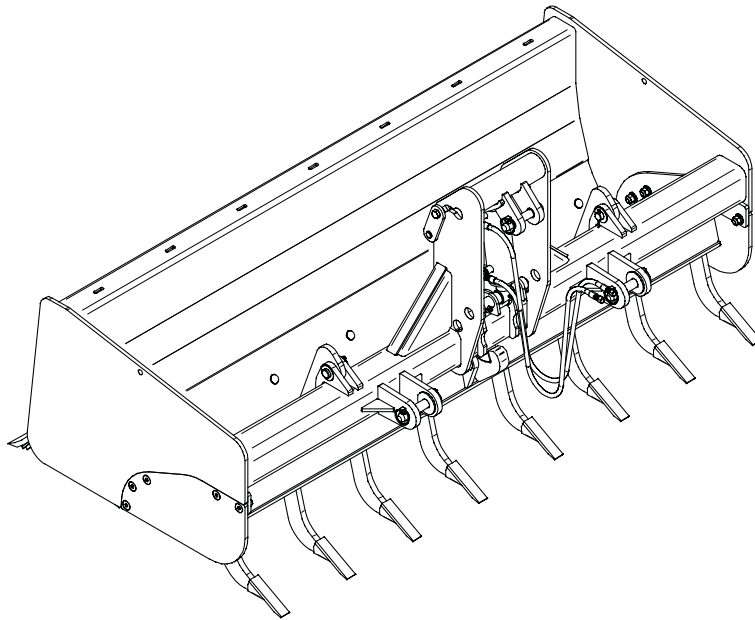




BOX SCRAPER



PALADIN LIGHT CONSTRUCTION



SERIAL NUMBER: _____

MODEL NUMBER: _____

Manual Number: MR15554

Models: 240 LAF3884, 240HD LAF3888;

440 LAF3889, 440HD LAF3866,

LAF3872, LAF3885, and

LAF3892 with bolt-on end plates

Date: February 13, 2006

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INTRODUCTION

Congratulations on your purchase of a new **FFC Attachments Box Scraper**. This product has been designed and built to excavate, backfill, grade, and scarify soil materials. You or any other person who will be assembling, operating, maintaining, or working with this product are required to read and completely understand the information and instructions contained in this manual. If anyone does not fully understand every part of this manual, please obtain further assistance by contacting the dealer from which this product was purchased or by contacting FFC at the telephone number or address listed on the cover of this manual. Keep this manual available for reference whenever this product is being handled or used. Provide this manual to any new owners and/or operators.

This manual covers model(s) **240 LAF3884**, **240HD LAF3888: Utility Grade** and **440 LAF3889, 440HD LAF3866, LAF3872, LAF3885, and LAF3892: Construction Grade**. The difference between the models is the grade of the main frame materials and the cutting edge of the product, details of which are covered on the parts list and specifications page(s).

GENERAL INFORMATION

The purpose of this manual is to assist in assembling, mounting, operating, and maintaining your Box Scraper. Read this manual carefully to obtain valuable information and instructions that will help you achieve years of safe and dependable service.

The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and/or production changes, this product may vary slightly in detail. FFC reserves the right to redesign and/or change components as may be necessary without notification to anyone.

Throughout this manual, references may be made to:

Tractor	The engine-driven machine to which this product must be attached.
Right, Left, Front, Rear	Directions that are determined in relation to the operator of the equipment when seated in the normal operating position.
IMPORTANT NOTICE	Precautions that must be followed to prevent damage to equipment.
	Precautions that must be followed to prevent substandard performance.

SERIAL NUMBER LOCATION

Always refer to the model and serial number when ordering parts or requesting information from your dealer. The serial number plate for this product is located **on the left side of the top surface of the moldboard portion** of your **Box Scraper**.

Model Number _____
Serial Number _____
Date of Purchase _____

DEFINITION OF SAFETY TERMS AND SYMBOLS

Throughout this manual, the terms **DANGER**, **WARNING**, and **CAUTION** are used to indicate the degree of hazard to personnel if proper safety procedures are not followed. These words will be used in conjunction with the Safety Alert Symbol: a dark triangle containing a white exclamation mark.



The Safety Alert Symbol means:
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

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 minor or moderate injury;

OR

may also be used to alert against unsafe practices that may result in personal injury.

ACCIDENTS CAN BE PREVENTED WITH **YOUR HELP !**

No accident prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment.

To read equipment accident reports from all over the country is to be convinced that a large number of accidents can be prevented only by operators who consistently anticipate the results of their actions and thus prevent accidents from ever occurring. No power-driven equipment, whether it is on the highway, in a farm field, or in an industrial plant, can be any safer than is allowed by the person who is at the controls.

If accidents are to be prevented (and accidents can be prevented), that prevention will come from equipment operators who accept their complete responsibility.

The designer, the manufacturer, and the safety engineer all help create a safe product, but the operator of that product can wipe out their combined efforts with a single careless act.

The best safety device is a careful operator. FFC and your dealer ask that **YOU** be that careful, responsible equipment operator.

YOU ARE THE KEY TO SAFETY BECAUSE:

YOU are responsible for the SAFE operation and maintenance of **YOUR** Box Scraper.

YOU are responsible to familiarize yourself, and anyone else who will assemble, operate, maintain, or work around this product, with the SAFETY information contained in this manual.

YOU are responsible to read ALL information contained in this manual to any operators or maintenance personnel who are not fully able to read the written English language. Whether **YOU** read the manual as written or translate it into another language, **YOU** must make certain that all operators and maintenance personnel have a complete understanding of the full and exact contents of this manual. Translations of this manual into other languages are available by submitting an order to FFC.

YOU can reduce the risk of injury or death by following all safety precautions and by using good safety practices.

SAFETY INSTRUCTIONS

WORK SAFELY - A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST ACCIDENTS !!

WARNING SECTION



WARNING

Obey all the safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.

BEFORE ATTEMPTING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE, OR OTHER WORK ON OR NEAR THIS PRODUCT:

- **READ AND COMPLETELY UNDERSTAND THIS MANUAL.**
- **READ AND COMPLETELY UNDERSTAND THE MANUALS PROVIDED WITH YOUR tractor, 3-point hitch, and quick hitch.**
- Read and understand all safety signs on this product and on your tractor, 3-point hitch, and quick hitch.
- Know all your controls and know how to quickly stop all tractor movement, the Box Scraper movement, and the engine in case of an emergency.
- Know and obey all applicable government rules, O.S.H.A. regulations, local laws and other professional guidelines for your operation.
- Make sure that anyone who will be assembling, mounting, maintaining, repairing, removing, and/or storing this product:
 - has been instructed in the safe operation of this product and of the tractor, 3-point hitch, and quick hitch to which this product is attached.
 - is physically and mentally capable of the safe operation of this type of equipment.
 - is not under the influence of drugs or alcohol.
 - is carefully supervised from a safe distance, especially if such person is inexperienced.
 - wears appropriate protective equipment (i.e. hardhat, safety glasses, work gloves, protective shoes, respirator, ear protection, etc.).
 - does not wear loose fitting clothing, loose or uncovered hair, or any accessories (jewelry, necktie, scarf, wrist watch, etc.) that can catch in moving parts.
 - has annually reviewed all safety instructions.
- Know and follow good work practices when assembling, mounting, maintaining, repairing, removing, and storing this product:
 - Work on a level surface in a well-lit area.
 - Keep the area clean and dry.

- Use properly grounded electrical outlets & tools.
- Use the right tool for the job at hand.
- Make sure that your tools are in good condition for performing the desired function.
- When using tools, wear the protective equipment specified by the tool manufacturer. (i.e. hardhat, safety glasses, work gloves, protective shoes, etc.)

WHEN YOUR TRACTOR IS USED DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE, OR OTHER WORK ON OR NEAR THIS PRODUCT:

- Before leaving the operator's station or before beginning any type of work on this product, lower this product to the ground, apply your tractor's parking brake, stop the engine, remove the starter key, wait for all moving parts to stop, and then relieve all pressure in the hydraulic lines. Refer to your tractor's operator's manual for instructions on how to relieve hydraulic pressure in lines.
- Know your 3-point hitch's safe lifting and operating capacity and the weight of this product. See the specifications in this manual for the weight of this product and refer to your tractor's and your 3-point hitch's operator's manuals for safe operating limits. Lift capacity may be reduced if using a quick hitch.
- Never allow anyone, except the operator, to be around the tractor or this product when either is in motion. Do not startup unless others are clear of the work area.
- Do not allow riders on this product or the tractor.
- Do not stand or climb on this product when raised.
- Do not place any part of your body under any part of this product unless this product is securely resting on specified blocking or on the ground.
- Do not use blocking made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Do not use wood or steel blocking that shows any signs of material decay. Do not use blocking that is warped, twisted, or tapered.
- Never operate controls from the ground. Operate the controls only from the operator's station.
- Never leave equipment unattended with the engine running or with this product raised on the 3-point hitch.
- Be aware of the added weight and width of this product. Reduce travel speeds accordingly, especially when traveling over rough ground.
- Keep this product at the full 3-point hitch raised height and under control when transporting.

SAFETY INSTRUCTIONS

WORK SAFELY - A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST ACCIDENTS !!

WARNING SECTION (CONTINUED)



WARNING

Obey all the safety instructions listed in this section and throughout this manual. Failure to obey instructions in this section could result in death or serious injury.

WHEN DEALING WITH HYDRAULICS DURING ANY TYPE OF ASSEMBLY, OPERATION, MAINTENANCE, OR OTHER WORK ON OR NEAR THIS PRODUCT:

- Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible!
- If any fluid penetrates the skin, GET IMMEDIATE MEDICAL ATTENTION!!
- Wear safety glasses, protective clothing, and use a sound piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS!**
- Before connecting or disconnecting hydraulic hoses, read your tractor's operator's manual for detailed instructions on connecting and disconnecting hydraulic attachments.
- Make certain that all parts meet the specifications for this product when installing or replacing hydraulic hoses or fittings.
- After connecting hydraulic lines:
 - Slowly and carefully raise the 3-point hitch to check hose clearances and to check for any interference.
 - Operate the hydraulics on this product to check hose clearances and to check for any interference.
 - Make certain that the hoses cannot interfere with or actuate the quick hitch mechanism.
 - Make certain that hoses will not be pinched, or get tangled, in any equipment.
- Refer to your tractor's operator's manual and this manual for procedures and intervals, then inspect and maintain the entire hydraulic system to insure that the fluid remains clean, that all devices function properly, and that there are no fluid leaks.

WHEN MOUNTING THIS PRODUCT TO YOUR TRACTOR:

- Refer to the operator's manuals of your tractor, your 3-point hitch, and your quick hitch for special or detailed mounting instructions.
- This product should fit onto the quick hitch or 3-point hitch arms of your tractor the same as all other 3-point hitch mounted products.
- If this product does not fit properly, contact FFC before operating.
- Never place your finger into the mounting plate or 3-point hitch holes. A slight movement of the tractor or this product could cause serious injury.

BEFORE EACH USE, THOROUGHLY INSPECT THIS PRODUCT AND:

- Make certain that all safety signs are in place and legible. Refer to the safety sign page in this manual for the placement of safety signs for this product.
- Replace all damaged or excessively worn parts and hardware only with genuine FFC parts or with properly rated fasteners, hydraulic hoses, or fittings.
- Make certain that all locking pins, latches, and connection devices are properly installed and secured.
- Make certain that all protective guards, canopies, doors, etc. are in place and secure.

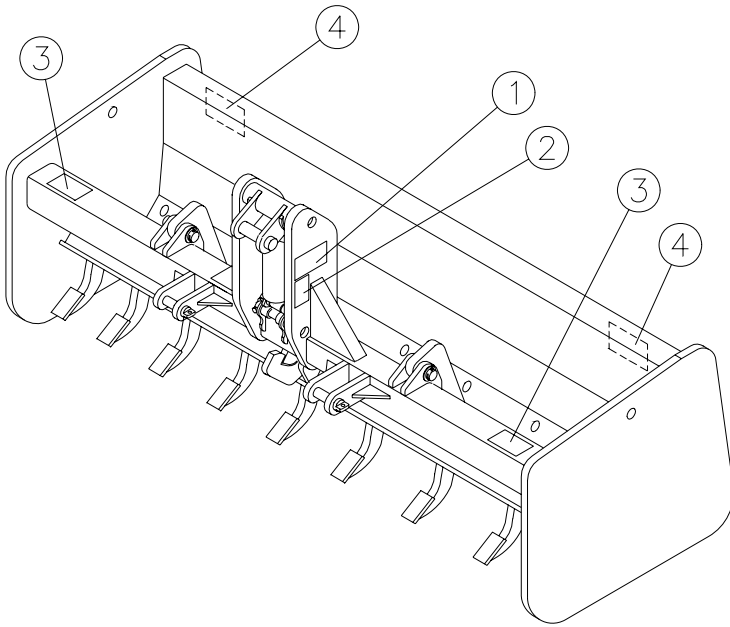
WHEN OPERATING THIS PRODUCT IN ACCORDANCE WITH DESIGN INTENTIONS:

- Make sure that a qualified individual or firm that specializes in locating underground utilities has inspected the work area. Do not operate this product where contact with a utility line of any kind is possible.
- Operate at a very slow ground speed where objects that are not easily movable (i.e. stumps, concrete foundations, etc.) may be present.

WHEN ADJUSTING, SERVICING OR REPAIRING THIS PRODUCT:

- Make no modifications to your Box Scraper.
- When making repairs, use only genuine FFC parts or, for fasteners, hydraulic hoses, or hydraulic fittings, use only properly rated parts.
- Replacement parts, for parts with safety signs attached, must also have safety signs attached.
- Read and understand the operator's manuals that came with your cutting torch and compressed gases before starting any work. Never operate a cutting torch near any flammable objects or fluids.

SAFETY SIGN LOCATIONS



ITEM	QTY.	PART # - DESCRIPTION
1	1	50-0723 -Read Manual
2	1	50-0724 -Hydraulics
3	2	50-0737 -Pinch Point
4	2	RDL3155-Reflective Red

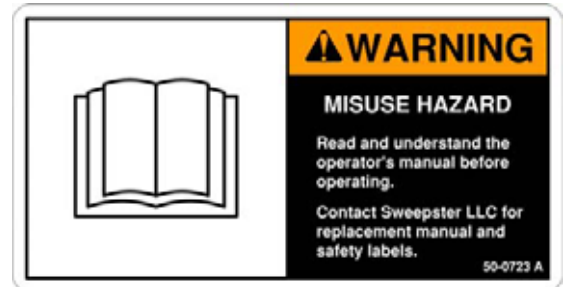
INSTRUCTIONS

- 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.

PLACEMENT OR REPLACEMENT OF SAFETY SIGNS

1. Clean the area of application with non-flammable 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.

ITEM 1



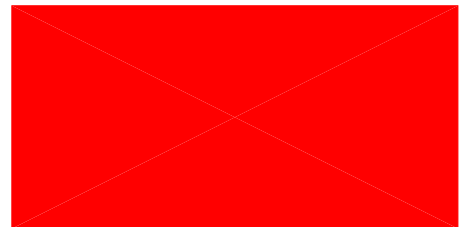
ITEM 2



ITEM 3



ITEM 4



TRACTOR SPECIFICATIONS

IMPORTANT Exceeding any of the maximum recommended tractor specifications **CAN result in damage to this product and WILL void all FFC warranties.**

DESCRIPTION	SPECIFICATIONS
Weight of Tractor without Box Scraper	20,000 lbs. maximum
Category of Tractor's 3-Point Hitch	Category II only
Hydraulic Pressure Output	4,000 psi. maximum
Front Ballast	As required to maintain full tractor stability. (Note the Shipping Weight on page 13, then see the operator's manual(s) for your tractor, 3-point hitch, and quick hitch for ballasting needs.)

IMPORTANT Attaching a 240 or a 240HD to a 4-wheel drive tractor **CAN result in damage to this product and WILL void all FFC warranties.**

BOX SCRAPER MOUNTING



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER MOUNTING

1. Place this product on a firm, level surface that is large enough to safely accommodate this product, your tractor and all workers involved in the mounting process.
2. Refer to the operator's manual(s) for your tractor, 3-point hitch, and quick hitch and follow the mounting instructions contained therein. **NOTE: All models can be mounted on a 2-wheel drive tractor meeting the specifications above, but only the 440 Series should be mounted on a 4-wheel drive tractor that meet those specifications.**
3. Carefully raise the 3-point hitch to check clearances and to verify that all mounting procedures have been successfully completed.
4. **IMPORTANT** Lubricate all grease fittings before connecting this product to your tractor's hydraulic system. Refer to **BOX SCRAPER MAINTENANCE** on page 9 and follow the instructions.

BOX SCRAPER HYDRAULIC CONNECTION



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER HYDRAULIC CONNECTION

1. Remove the protective plastic caps from the hose ends.
2. Make the connection to your tractor using the appropriate method below for your tractor:
 - If your tractor has female threads for connecting the hydraulic hoses to the valve body, make certain that the male and female threads, as well as the inside of the hoses and possibly fittings, are clean. Insert the male o-ring ends of the hoses or fittings into the threaded valve body and tighten to 48 ft. lbs., + or - 2.0 ft. lbs.
 - If your tractor uses quick-couplers for connecting the hydraulic hoses to the valve body, you must purchase the proper male quick-coupler fittings that you must install on the free ends of the two hoses. These male fittings, or adapters for these fittings, must have #8 female JIC threads in order to properly connect to the male hose ends provided with this product and must be tightened to 48 ft. lbs., + or - 2.0 ft. lbs. In most cases, the owner's manual for your tractor will describe the exact type of fitting that is needed for your hydraulic coupling system, but in no case should any fitting have an allowable operating pressure of less than 4,000 psi. Once all the quick-coupler fittings are properly installed, then the hoses can be coupled to the tractor's hydraulic valve body as per the instructions found in your tractor's operator's manual.
3. Carefully raise the 3-point hitch to check hose clearances and to check for any interference. Operate the hydraulic cylinder(s) on this product to make the same checks. (Continued on page 7)



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER HYDRAULIC CONNECTION

4. Cycle the hydraulic cylinder(s) on this product several times from fully retracted to fully extended until all air has been completely removed from the cylinder(s).

NOTICE: When shipped, the hydraulic cylinder(s) on this product contained air or an air-fluid mixture. Also, there are orifices beneath the port(s) in the hydraulic cylinder barrel(s) that will restrict the exit of that air. Failure to remove all the air from the hydraulic cylinder(s) can cause uneven, jerky cylinder movement when the hydraulic controls are being operated and unwanted cylinder movement when those controls are not being operated.

BOX SCRAPER SETUP



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER SETUP

EXCAVATING, GRADING, AND BACKFILLING

1. Park your tractor on a level surface with this product properly attached.
2. Place your tractor's transmission in "Park" and engage the parking brake.
3. Lower this product onto the level surface.
4. Make sure that the hydraulic cylinder is fully extended so that the ripper shanks are in the fully raised position.
5. Shut off your tractor's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
6. Check to see that the cutting edges of this product are parallel to the level surface. If they are not parallel, make the edges and the level surface parallel by following the instructions for adjustment of the 3-point hitch as found in the operator's manual(s) for your tractor and 3-point hitch.
7. Check to see that the bases of the main frame end plates are parallel to the level surface. If they are not parallel, make the bases and the level surface parallel by adjusting the 3-point hitch's top link as described in the operator's manual(s) for your tractor and 3-point hitch.

SCARIFYING

1. Perform steps 1 through 6 above.
2. Check to see that the bases of the main frame end plates are leaning forward approximately 15 degrees relative to the level surface. If this is not the case, adjust the 3-point hitch's top link as described in the operator's manual(s) for your tractor and 3-point hitch. Leaning this product forward 15 degrees will lift the cutting edges up a few inches off the level surface and will result in the straight upper portion of the ripper shanks being perpendicular (90 degrees) to the ground surface during operation.
3. Verify that the ripper shanks are set in the proper slot for performing the desired work. When the front edges of the main frame end plates are flush with ground level, then:
 - positioning the ripper shanks in the lower slot will produce a 3-3/4" deep cut and
 - positioning the ripper shanks in the upper slot will produce a 6-1/4" deep cut.See RIPPER SHANK ADJUSTMENT AND REPLACEMENT in the Service section of this manual for instructions on how to reposition the ripper shanks.

IMPORTANT Operating this product with the ripper shanks only partially extended into the ground **CAN result in damage to this product and WILL void all FFC warranties.**

4. Restart your tractor and raise the 3-point hitch. Completely retract the hydraulic cylinder to extend the ripper shanks to their lowest and locked position. Failure to lower the ripper shanks until the locking mechanism engages will result in excessive hydraulic cylinder strain and could cause permanent hydraulic cylinder damage.

BOX SCRAPER OPERATION



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER OPERATION



WARNING

Failure to obey the following procedures could result in death or serious injury.

- Make sure that a qualified individual or firm that specializes in locating underground utilities has inspected the work area. Do not operate this product where contact with a utility line of any kind is possible.
- Operate at a very slow ground speed where objects that are not easily movable (i.e. stumps, concrete foundations, etc.) may be present.

IMPORTANT

Striking objects that are not easily moveable (i.e. stumps, concrete foundations, etc.) at an excessive ground speed
CAN result in damage to this product and WILL void all FFC warranties.

IMPORTANT

Backing up with any portion of the ripper shanks below the ground surface
CAN result in damage to this product and WILL void all FFC warranties.

Before beginning any work, have a qualified individual or firm inspect the entire work area for underground utility lines. The operator should carefully inspect the entire area for stumps, concrete foundations, large rocks, posts, or any other solid object that would not easily move when struck by any part of this product. Remember that your Box Scraper is not your bulldozer and is not designed to remove pavement, uproot trees, etc.

When excavating, grading, or back filling, the performance of this product can be fine-tuned by adjusting the length of the upper arm of your tractor's 3-point hitch to increase or decrease digging capabilities. Changes can also be made by varying your tractor's speed and by changing control settings for your tractor's 3-point hitch.

When scarifying, the best method for achieving a desired digging depth is to perform several test passes. With there being so many variables in operators and ground conditions, this is the best way to select the correct ripper shank depth slot, the correct speed, and the correct 3-point hitch control settings.

BOX SCRAPER MAINTENANCE



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER MAINTENANCE

BEFORE EACH USE

- Make sure that all nuts and bolts are in place and properly tightened.
- Make sure that all other fasteners are in place and are performing their specified function.
- Make sure that all hydraulic fittings are tightened to specifications and that there are no leaks in any fittings or hoses. (SEE THE HYDRAULIC CONNECTION SECTION ON PAGE 6.)
- Make sure that all safety signs are in place, are clean, and are legible. (SEE THE SAFETY SIGN SECTION ON PAGE 5.)
- Replace any damaged parts and excessively worn parts.

AFTER EVERY 10 HOURS OF USE

- Grease 4 fittings: one on the rear face of the pivot tube of the lift linkage weldment
three on the hydraulic cylinder cross tubes: one on the rod end, two on the barrel end

BOX SCRAPER SERVICE



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER SERVICE

RIPPER SHANK ADJUSTMENT, RE-POINTING, AND REPLACEMENT

1. Park your tractor on a level surface with this product properly attached.
2. Place your tractor's transmission in "Park" and engage the parking brake.
3. Lower this product onto the ground with the ripper shanks fully raised.
4. Shut off your tractor's engine, remove the starter key, and wait for all moving parts to come to a stop.
5. Lock the scarifier tube in the fully raised position. While standing behind the center of the rear cutting edge, slide the lockout links to the top of the slot in the mast of the main frame. Remove the hairpin cotter pin and the clevis pin from the lockout links. Place one lockout link on each side of the of the tab on the scarifier tube and secure the lockout links to the tab with the clevis pin and the hairpin cotter pin.
6. While still standing behind the rear cutting edge, reach forward across the scarifier tube and remove the rue ring cotter pin, the clevis pin, and the shank block that secures the ripper shank.
7. With one hand, grasp the portion of the ripper shank that extends to the front side of the scarifier tube and lift up while pushing down with the other hand on the opposite end of the ripper shank. When clear of the ripper shank slot, slide the ripper shank to the other slot or completely out to the rear of the scarifier tube, whichever is the desired option.
(For ripper shank adjustment or replacement, skip to step 11. To replace the shank point, continue with step 8.)
- 8.



WARNING

Failure to obey the following procedures could result in death or serious injury.

- **Read and understand the operator's manuals that came with your cutting torch and compressed gases before starting any work. Never operate a cutting torch near any flammable objects or fluids.**

9. Cut open the existing shank point using a cutting torch. Make sure that the shank is not being damaged while the shank point is being cut. Remove and properly dispose of the existing shank point.
10. Slide a new point on to the ripper shank. Make sure that the cutting face of the shank point is on top of the hooked end of the ripper shank when the ripper shank is held in the normal scarifying position.
11. Crimp the shank point onto the ripper shank by pressing the sides of the shank point into the depressions on each side face of the ripper shank tip. Make sure that the deforming force is applied directly over the ripper shank depressions and that sufficient deformation occurs for the shank point to be securely attached to the ripper shank.
12. Reinsert the ripper shank into the scarifier tube and seat the ripper shank in the desired slot.
13. Replace the shank block and then the clevis pin. Secure the clevis pin with the rue ring cotter pin.



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY BOX SCRAPER SERVICE

REPLACEMENT OF CUTTING EDGES

1. Park your tractor on a level surface with this product properly attached.
2. Place your tractor's transmission in "Park" and engage the parking brake.
3. With the ripper shanks fully lowered and locked into position, lower end plates of the main frame of this product onto pre-placed blocking as specified below:



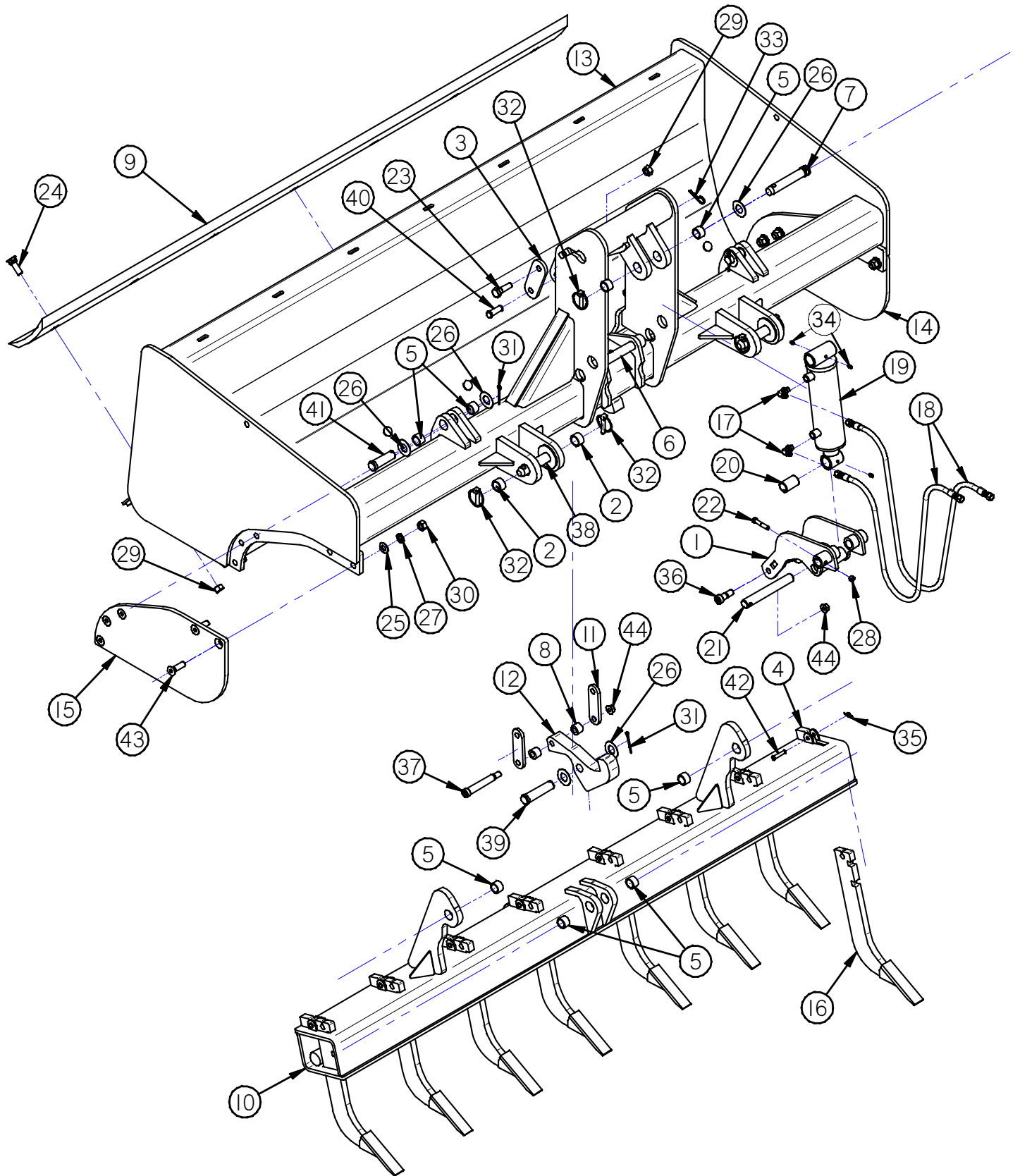
WARNING

Failure to obey the following procedures could result in death or serious injury.

- Do not use blocking made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Do not use wood or steel blocking that shows any signs of material decay. Do not use blocking that is warped, twisted, or tapered.

4. Shut off your tractor's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
5. Make sure that this product is completely stable on the blocking. If the blocking appears to be unstable or is even of questionable stability, restart your tractor, raise this product off the blocking, and move away from the blocking. After the blocking has been repositioned in a more stable fashion, repeat steps 1 through 5 until a completely stable condition exists.
6. **TWO WORKERS ARE REQUIRED** to remove a cutting edge. From the rear of this product, reach under the rear cutting edge, loosen and remove the center five nuts, then remove the corresponding bolts.
7. Loosen the remaining two nuts. While the first worker holds up one end of the cutting edge, the second worker must remove the nut and bolt from that end so that the first worker can lower that end of the cutting edge to the surface below. Repeat this process for the remaining bolt.
8. The cutting edge can then be turned end for end and be reinstalled or, if both edges are worn out, the old cutting edge should be properly discarded. Whether reversing the cutting edge or installing a new one, replacement of all bolts is recommended. Replacement of all locknuts and any damaged or worn bolts is required.
9. Reverse the removal process in Step 7 and loosely secure the cutting edge with two bolts: one in each end hole. Install the other five bolts, then gradually and uniformly tighten all the bolts to 100 ft. lbs. + or - 6.0 ft. lbs., drawing the cutting edge into the proper operating position.
10. If necessary, repeat steps 6 through 9 for the second for the second cutting edge.

PARTS ILLUSTRATION



BOX SCRAPER PARTS LIST

		MODEL 240	MODEL 440	
ITEM	QTY.	LAF3884 STD LAF3888 HD	LAF3889 STD LAF3885 HD	DESCRIPTION
1	1		13-50343	Lift Linkage Weldment
2	4		LAF3857	Hardened Sleeve: 1-3/8" x 1-1/8" x 0-3/4"
3	2		LAF3858	Lockout Link
4	8		LAF3859	Shank Block
5	10		LAF3862	Spring Bushing: 1-1/4" x 1" x 0-3/4"
6	1		LAF3867	Lift Linkage Pivot Pin: 1" Dia. x 8-1/2" Long
7	1		LAF3868	Category II Pin: 1" Dia. x 4" Long (Useable), Zinc Plated
8	2		LAF3870	Latch Hook Bushing: 1-1/8" O.D. x 5/8" I.D. x 13/16" Long
9	2	(1/2" x 6") (5/8" x 8")	LAF3895 LAF3871 (HD Models)	Reversible Cutting Edge: 84" Long
10	1		LAF3880	Scarifier Tube Weldment: 84"
11	2		LAF3883	Lift Linkage Bar
12	1		LAF3886	Latch Hook
13	1	LAF3864	LAF3881	Main Frame Weldment: 84"
14	1		Not Used	Bolt-On End Plate LH
15	1		Not Used	Bolt-On End Plate RH
16	8		LAF3896	Ripper Shank (With Shank Point Attached)
17	2		LAF4298	Hydraulic Elbow: 90° #6 Male JIC x #6 Male O-Ring
18	2		LAF4460	Hydraulic Hose : 1/4" Dia. x 48.5" Long W/ #6 Female JIC x #6 Female JIC Fittings
19	1		LAF4639	Hydraulic Cylinder: 3" Dia. Piston x 6" Stroke x 1-3/4" Dia. Shft.
20	1		LAF9401	Bushing: 1-1/4" O.D. x 1" I.D. x 2" Lng with Ext. Grease Grv.
21	2		LAF9798	Cylinder Pins: 1" Dia. x 7-1/2" Long
22	3		RHW1211	Hex Head Cap Screw: 3/8" Dia. x 2" Long, Grade 5
23	1		RHW1604	Hex Head Cap Screw: 5/8" Dia. x 2" Long, Grade 5
24	14		RHW2664	Plow Bolt: 5/8" Dia. x 2" Long, Grade 8
25	10		Not Used	Flat Washer: SAE 5/8" Dia. Grade 5
26	7		RHW5973	Machinery Bushing: 2" O.D. x 1" I.D. x 0.048" Thick
27	10		Not Used	Lock Washer: 5/8" Dia. Grade 5
28	3		RHW7203	Locknut: 3/8" Dia. Center Dent Grade 5
29	15		RHW7603	Locknut: 5/8" Dia. Center Dent Grade 5
30	10		Not Used	Hex Nut: 5/8" Dia. Grade 8
31	3		RHW8017	Cotter Pin: 3/16" Dia. x 2" Long
32	5		RHW8064	Lynch Pin: 7/16" Dia. x 1-5/8" Long (Useable)
33	1		RHW8075	Hairpin Cotter Pin: 1/8" Dia. x 2-3/8" Long
34	4		RHW8090	Grease Zerk: 1/4" Dia. W/ 28 Threads / Inch Self-Tapping
35	8		RHW8114	Rue Ring Cotter Pin: 3/8" Dia. Shaft
				Socket (Allen) Head Alloy Shoulder Screws:
36	2		07-10058	5/8" Dia. x 3/4" Long Shoulder + 1/2" Dia. x 3/4" Long Threads
37	1		RHW8207	5/8" Dia. x 4" Long Shoulder + 1/2" Dia. x 3/4" Long Threads
38	2		RHW8209	Category II Pin: 1-1/8" Dia. x 6-5/16" Long (Useable) Zinc Pltd
39	1		RHW8216	Clevis Pin: 1" Dia. x 4" Long (Useable) Zinc Plated
40	1		RHW8218	Clevis Pin: 5/8" Dia. x 1-1/2" Long (Useable) Zinc Plated
41	2		RHW8222	Clevis Pin: 1" Dia. x 2-5/8" Long (Useable) Zinc Plated
42	8		RHW8225	Clevis Pin: 3/8" Dia. x 1-1/2" Long (Useable) Zinc Plated
43	10		Not Used	Socket Flat Head Cap Screw: 5/8" Dia. x 2"
44	3		RHW8601	Locknut: 1/2" Dia. Flanged Top Lock, High Strength

NOTE: All parts are the same as the LAF3889 except for those parts numbered under the other models.

BOX SCRAPER PARTS LIST (Continued)

	66"	72"	84"	ALL MODELS: 440 HD	
ITEM	QTY.	LAF3866	LAF3872	LAF3892	DESCRIPTION
1	1			13-50343	Lift Linkage Weldment
2	4			LAF3857	Hardened Sleeve: 1-3/8" x 1-1/8" x 0-3/4"
3	2			LAF3858	Lockout Link
4	varies	(6)	(6)	(8) LAF3859	Shank Block
5	10			LAF3862	Spring Bushing: 1-1/4" x 1" x 0-3/4"
6	1			LAF3867	Lift Linkage Pivot Pin: 1" Dia. x 8-1/2" Long
7	1			LAF3868	Category II Pin: 1" Dia. x 4" Long (Useable), Zinc Plated
8	2			LAF3870	Latch Hook Bushing: 1-1/8" O.D. x 5/8" I.D. x 13/16" Long
9	2	LAF3855	LAF3856	LAF3871	Reversible Cutting Edge
10	1	LAF3853	LAF3854	LAF3880	Scarifier Tube Weldment
11	2			LAF3883	Lift Linkage Bar
12	1			LAF3886	Latch Hook
13	1	LAF3851	LAF3852	LAF3891	Main Frame Weldment
14	1	Not Used	Not Used	LAF3893	Bolt-On End Plate LH
15	1	Not Used	Not Used	LAF3894	Bolt-On End Plate RH
16	varies	(6)	(6)	(8) LAF3896	Ripper Shank (With Shank Point Attached)
17	2			LAF4298	Hydraulic Elbow: 90° #6 Male JIC x #6 Male O-Ring
18	2			LAF4460	Hydraulic Hose : 1/4" Dia. x 48.5" Long W/ #6 Female JIC x #6 Female JIC Fittings
19	1			LAF4639	Hydraulic Cylinder: 3" Dia. Piston x 6" Stroke x 1-3/4" Dia. Shft.
20	1			LAF9401	Bushing: 1-1/4" O.D. x 1" I.D. x 2" Lng with Ext. Grease Grv.
21	2			LAF9798	Cylinder Pins: 1" Dia. x 7-1/2" Long
22	3			RHW1211	Hex Head Cap Screw: 3/8" Dia. x 2" Long, Grade 5
23	1			RHW1604	Hex Head Cap Screw: 5/8" Dia. x 2" Long, Grade 5
24	varies	(12)	(12)	(14) RHW2664	Plow Bolt: 5/8" Dia. x 2" Long, Grade 8
25	10	Not Used	Not Used	RHW5632	Flat Washer: SAE 5/8" Dia. Grade 5
26	7			RHW5973	Machinery Bushing: 2" O.D. x 1" I.D. x 0.048" Thick
27	10	Not Used	Not Used	RHW6602	Lock Washer: 5/8" Dia. Grade 5
28	3			RHW7203	Locknut: 3/8" Dia. Center Dent Grade 5
29	varies	(13)	(13)	(15) RHW7603	Locknut: 5/8" Dia. Center Dent Grade 5
30	10	Not Used	Not Used	RHW7651	Hex Nut: 5/8" Dia. Grade 8
31	3			RHW8017	Cotter Pin: 3/16" Dia. x 2" Long
32	5			RHW8064	Lynch Pin: 7/16" Dia. x 1-5/8" Long (Useable)
33	1			RHW8075	Hairpin Cotter Pin: 1/8" Dia. x 2-3/8" Long
34	4			RHW8090	Grease Zerk: 1/4" Dia. W/ 28 Threads / Inch Self-Tapping
35	varies	(6)	(6)	(8) RHW8114	Rue Ring Cotter Pin: 3/8" Dia. Shaft
					Socket (Allen) Head Alloy Shoulder Screws:
36	2			07-10058	5/8" Dia. x 3/4" Long Shoulder + 1/2" Dia. x 3/4" Long Threads
37	1			RHW8207	5/8" Dia. x 4" Long Shoulder + 1/2" Dia. x 3/4" Long Threads
38	2			RHW8209	Category II Pin: 1-1/8" Dia. x 6-5/16" Long (Useable) Zinc Pltd
39	1			RHW8216	Clevis Pin: 1" Dia. x 4" Long (Useable) Zinc Plated
40	1			RHW8218	Clevis Pin: 5/8" Dia. x 1-1/2" Long (Useable) Zinc Plated
41	2			RHW8222	Clevis Pin: 1" Dia. x 2-5/8" Long (Useable) Zinc Plated
42	varies	(6)	(6)	(8) RHW8225	Clevis Pin: 3/8" Dia. x 1-1/2" Long (Useable) Zinc Plated
43	10	Not Used	Not Used	RHW8268	Socket Flat Head Cap Screw: 5/8" Dia. x 2"
44	3			RHW8601	Locknut: 1/2" Dia. Flanged Top Lock, High Strength

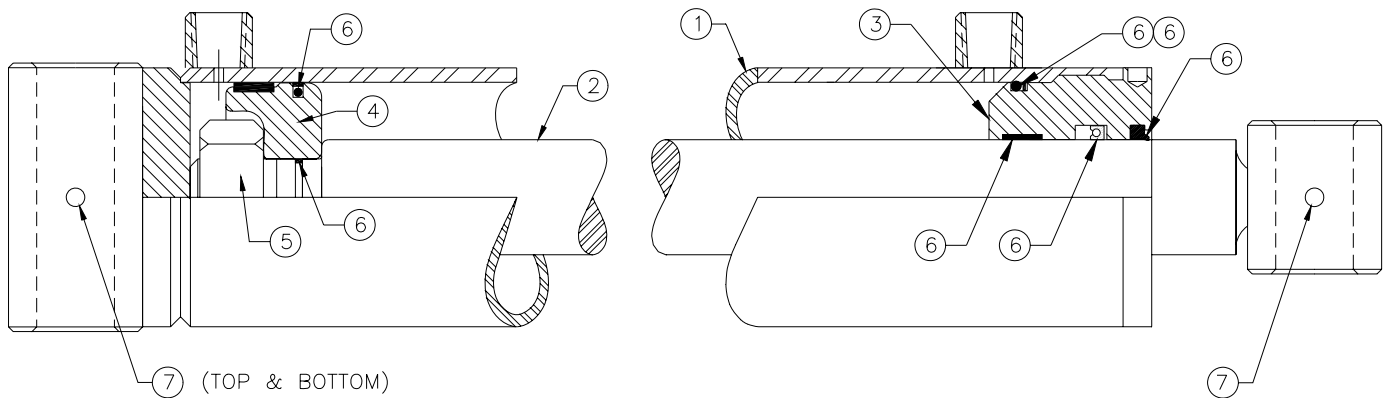
NOTE: All parts are the same as the LAF3892 except for those parts numbered under the other models.

BOX SCRAPER PARTS LIST (Continued)

ITEM	QTY.	DESCRIPTION	
NUMBERS FROM HYDRAULIC CYLINDER ILLUSTRATION BELOW: (LAF4639)			
1	1	LAF4644	Barrel: 3" I.D. x 6" Stroke With Cross Tube End
2	1	LAF4645	Shaft: 1-3/4" Dia. With Cross Tube End
3	1	LAF4610	Head: 3" O.D. x 1-3/4" I.D., Nominal
4	1	LAF4646	Piston: 3" O.D. x 1-1/8" I.D., Nominal
5	1	LAF4608	Nut: 1-1/8" Dia., 12 TPI, Grade 8
6	1	LAF4607	Seal Kit (Includes All Seals, O-Rings, Etc.)
7	3 (Included in item 29)	LAF8090	Grease Zerk: 1/4" Dia. W/ 28 Threads / Inch Self-Tapping

NOTE: All parts are the same for all models.

HYDRAULIC CYLINDER ILLUSTRATION: LAF4639



BOX SCRAPER SPECIFICATIONS

Model Number	Overall Width	Overall Height	Overall Depth	Cutting Width	Excavation Capacity	Shipping Weight
LAF3866	67"	39-5/8"	45-1/2"	66"	30.2 cu. ft.	1,360 lbs
LAF3872	73"	39-5/8"	45-1/2"	72"	32.9 cu. ft.	1,420 lbs
LAF3884	85"	39-5/8"	45-1/2"	84"	37.3 cu. ft.	1,400 lbs.
LAF3888	85"	39-5/8"	45-1/2"	84"	38.4 cu. ft.	1,456 lbs.
LAF3889	85"	39-5/8"	45-1/2"	84"	37.3 cu. ft.	1,509 lbs.
LAF3885	85"	39-5/8"	45-1/2"	84"	38.4 cu. ft.	1,565 lbs.
LAF3892	85"	39-5/8"	45-1/2"	84"	38.4 cu. ft.	1,575 lbs.

All replacement hydraulic hoses and fittings must have a minimum rated working pressure of 4,000 psi.



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:		FFC		Local Dealer	
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.