



# OPERATOR'S AND PARTS MANUAL

## PREPARATOR<sup>®</sup> PATENTED



SERIAL NUMBER: \_\_\_\_\_

MODEL NUMBER: \_\_\_\_\_

Manual Number: MR95512

Models: LAF3554, LAF3566 & LAF3576  
with serial numbers greater than E042020

Rev. 3

## NOTES

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# NOTES

# PREFACE

## GENERAL INFORMATION

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.

**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 equipment falls to the operator. Make sure the equipment is operated only by trained individuals that have read and understand this manual. If there is any portion of this manual or function you do not understand, contact your local authorized dealer or manufacturer to obtain further assistance. Keep this manual available for reference. Provide this manual to any new owners and/or operator’s

## 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 the safety of others working with you.

## SERVICE

Use only manufacturer replacement parts. Substitute parts may not meet the required standards. Record the model and serial number of your unit on the cover of this manual. The parts department needs this information to insure that you receive the correct parts.

## SOUND AND VIBRATION

“Sound pressure levels and vibration data for this attachment are influenced by many different parameters; some items are listed below (not inclusive):

- prime mover type, age, condition, with or without cab enclosure and configuration
- operator training, behavior, stress level
- job site organization, working material condition, environment

Based on the uncertainty of the prime mover, operator, and job site, it is impossible to get precise machine and operator sound pressure levels, or vibration levels for this attachment.”

# 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 and 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



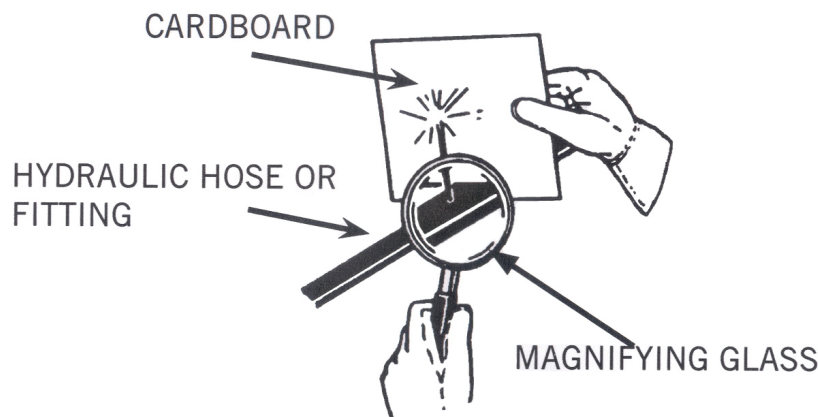
Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower booms to ground level or onto 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 movers 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 to research immediately to determine proper treatment.
- Wear safety glasses, protective clothing, and use a sound piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS!** **SEE ILLUSTRATION.**



# 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 tool 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.

## **WARNING! 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 operators 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.



# GENERAL 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.

## **WARNING! EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA DUST ALONG WITH OTHER HAZARDOUS DUSTS MAY CAUSE SERIOUS OR FATAL RESPIRATORY DISEASE.**



It is recommended to use dust suppression, dust collection and if necessary personal protective equipment during the operation of any attachment that may cause high levels of dust.

## **WARNING! REMOVE PAINT BEFORE WELDING OR HEATING.**



Hazardous fumes/dust can be generated when paint is heated by welding, soldering or using a torch. Do all work outside or in a well ventilated area and dispose of paint and solvent properly. Remove paint before welding or heating.

When sanding or grinding paint, avoid breathing the dust. Wear an approved respirator. If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

## **WARNING! END OF LIFE DISPOSAL.**



At the completion of the useful life of the unit, drain all fluids and dismantle by separating the different materials (rubber, steel, plastic, etc.). Follow all federal, state and local regulations for recycling and disposal of the fluid and components.

## **WARNING! Failure to obey this warning could result in death or serious injury.**



- Never lift the lowest portion of the attachment plate higher than 5' above the ground.
- Do not lock the auxiliary hydraulics of your prime mover in the "ON" position.
- Keep everyone at least nine feet away from this product when operating.

## **CAUTION! NOT A STEP!**

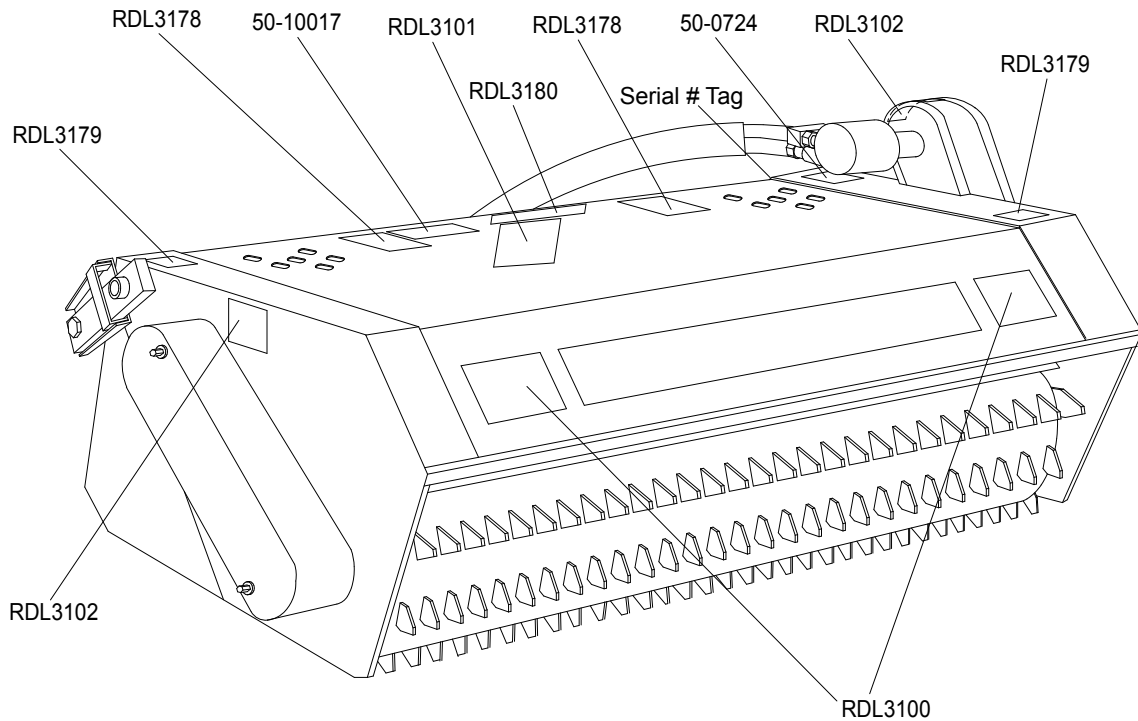


### **Failure to obey this warning MAY result in personal injury.**

- Do not use the top of this product as a step. Under certain conditions, this area can be slippery.

# SAFETY SIGNS & DECAL LOCATIONS

The diagram on this page shows the location of the decals used on the FFC Preparator<sup>®</sup>. The decals are identified by their part numbers, with reductions of the actual decals located on the following page. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the attachment. They contain information you need to know for both safety and product longevity.



## 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.

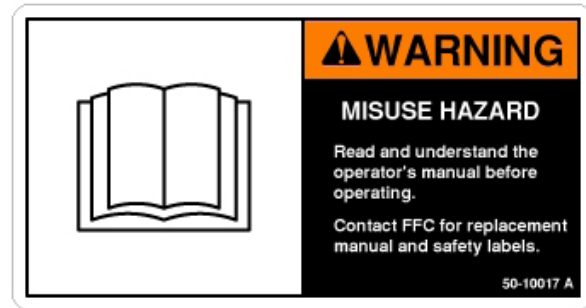
## PLACEMENT OR REPLACEMENT OF SAFETY SIGNS

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.

# SAFETY SIGNS & DECALS



PART #50-0724  
WARNING! HIGH PRESSURE FLUID



PART #50-10017  
WARNING! READ MANUAL



PART #RDL3100  
WARNING! STAND CLEAR



PART #RDL3101  
WARNING! ROLLOVER HAZARD



PART #RDL3102  
WARNING! SHIELDS



PART #RDL3178  
CAUTION! NOT A STEP



PART #RDL3179  
LIFT POINT (HOOK)



PART #RDL3180  
IMPORTANT! CHAIN TENSION

# INSTALLATION & SET-UP

## **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).**

### **Loaders**

1. Place this product on a firm, level surface that is large enough to safely accommodate this product, your prime mover and all workers involved in the mounting process.
2. Refer to the operator's manual(s) for your prime mover, loader, and quick-attach and follow the mounting instructions contained therein.
3. Carefully raise the loader and cycle the rollback/dump cylinders to check clearances and to verify that all mounting procedures have been successfully completed.

**IMPORTANT** Lubricate all grease fittings before connecting this product to your prime mover's hydraulic system. Refer to MAINTENANCE page and follow the instructions.

### **3 Point Hitch Category 1 or 2**

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. Making sure this product is in the operating position and level will facilitate in selecting the proper mounting holes.
2. Read and understand the Operation and Maintenance manual for your tractor before installing this product.
3. Remove the top link on your tractors' 3 point and drive the tractor backwards in to position to connect the lower links to the attachment mounting ears. The ears have a combination category 1 & 2 hitch pin installed so you need to make sure the outer pin matches your tractors' category. Select a hole position on the mounting ears that aligns or is a little above the lower link points with the tractor link arms fully lowered and connect the arms.
4. The upper link cylinder provided with this product requires a category #2, 1" diameter pin to attach to the tractors' upper link point. If you have a category #1 tractor you will have to bush the pin up to category #2. **It is important that when you pin the rod end of the cylinder to the tractors' upper link point there is between 4" and 5" of exposed cylinder rod.** If you have less the bucket will not roll back enough and if you have more the bucket will not dump properly. Move the cylinder pin hole position on the mounting ears until you attain the recommended amount of exposed cylinder rod.

**NOTICE!** *Lubricate all grease fittings before connecting this product to your prime mover's hydraulic system. Refer to MAINTENANCE page and follow the instructions.*

# INSTALLATION & SET-UP



## **READ AND UNDERSTAND ALL SAFETY STATEMENTS**

Read all safety decals and safety statements in all manuals before beginning any Preparator<sup>®</sup> hydraulic connection. 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.

### **Loaders**

1. Disconnect the hydraulic hose quick couplers from one another and attach the quick couplers to your prime mover as per the instructions in your prime mover's operator's manual.
2. Carefully raise the loader and cycle the tilt cylinders to check hose clearances and to check for any interference.

### **3 Point Hitch Category 1 or 2**

1. This product requires two sets of auxiliary hydraulics. Purchase proper couplers and hoses for the upper link cylinder locally and attach to the tractor per the instructions in your tractors' operators manual.
2. Carefully raise the link arms and cycle the upper link cylinder to check hose clearances, interferences, and acceptable range of motion to roll back and dump the bucket.

**WARNING!** Do not lock the auxiliary hydraulics of your prime mover in the "ON" position. Failure to obey this warning could result in death or serious injury.



# INSTALLATION & SET-UP



## READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals before beginning any Preparator® setup.

### SKID SHOE ADJUSTMENT

Before adjusting the skid shoes, determine what the soil conditions are and what type of operation is to be performed. Remember that each time the soil conditions or operation type changes, the skid shoes may need to be repositioned.

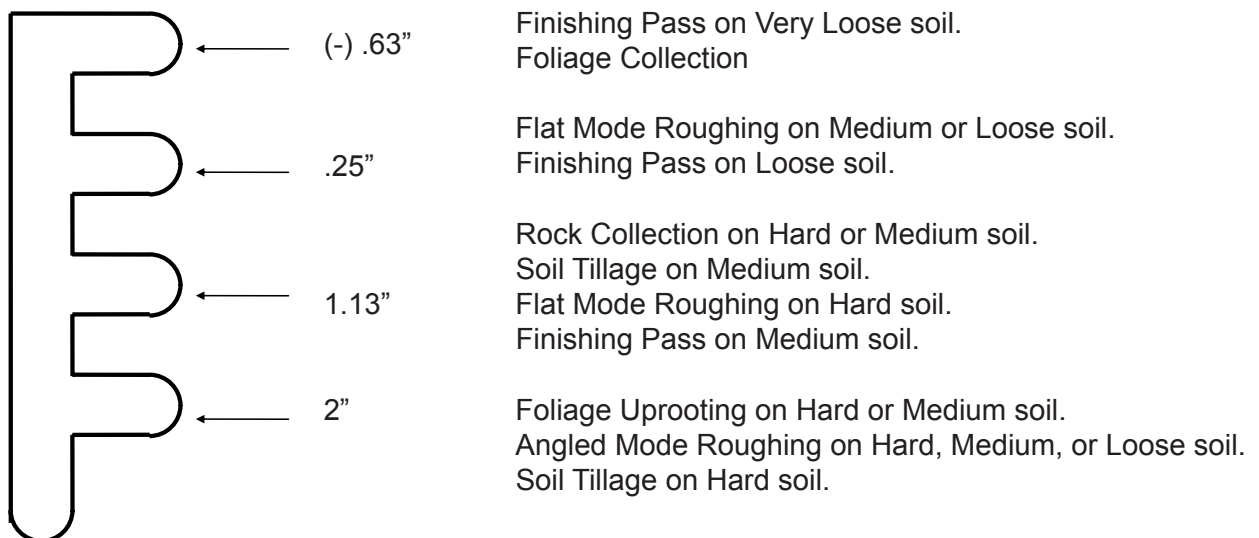
#### Soil Conditions

- **HARD:** This is highly compacted soil, usually inorganic (clay). Any soil that has been subject to vehicle or construction traffic would also be considered this soil condition.
- **MEDIUM:** This is untilled soil that has not been subject to compaction devices or traffic.
- **LOOSE:** This soil that has received a rough tillage pass of some type, but is still lumpy and coarse.
- **VERY LOOSE:** This soil that has been tilled to a fine texture.

#### Operation Type

- **ROCK COLLECTION:** Collecting large rocks and debris that are resting on the soil surface.
- **FOLIAGE REMOVAL:** Uprooting and collecting foliage that is growing or has been growing on the soil surface.
- **SOIL TILLAGE:** Tilling the soil to create a looser soil condition.
- **ROUGHING:** Scarifying, raking rocks, debris, & foliage, and filling depressions in tilled or untilled soil.
- **FLAT MODE ROUGHING:** Roughing with the shroud parallel to the ground.
- **ANGLED MODE ROUGHING:** Roughing with the shroud at an angle to the ground surface.
- **FINISHING PASS:** Collecting small rocks and debris that are in or on the soil surface.

<b>Skid Shoe Adjustment Slots</b>	<b>Rotor Tooth Depth Below Skid Shoe</b>	<b>Operation on Soil Condition</b> (Initial settings only. Workability, moisture, experience, etc. affect settings.)
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# INSTALLATION & SET-UP

## Adjust the skid shoes as follows:

1. Park your prime mover on a level surface with this product properly attached.
2. Place your prime mover's transmission in "Park" and engage the parking brake.
3. Lower this product onto preplaced blocking.

**WARNING!** 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. Failure to obey this warning could result in death or serious injury.



4. Shut off your prime mover'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. Loosen the two .5" hex nuts that secure the shoe.
6. Move the shoe to the proper slot for the appropriate soil conditions and for the operation being performed. See the chart on the previous page for recommended starting points for various soil and operating combinations.

**NOTICE!** **If, after conducting test passes, the operator determines that the best skid shoe setting for the conditions being encountered is between two of those listed, then the rear of the skid shoe may be set one slot above the front of the skid shoe.**

7. Retighten the two .5" hex nuts to 84 ft. lbs. + or - 6.0 ft. lbs. of torque.
8. Repeat SKID SHOE ADJUSTMENT steps 5 through 7 for the other skid shoe.

## TRACK SCRATCHER SPRING ADJUSTMENT

1. With this product positioned as directed by steps 1 through 4 for SKID SHOE ADJUSTMENT, loosen the two 3/8" hex nuts that secure the track scratcher to the skid shoe.
2. Slide the track scratcher down until the tips of the lowest spring are .25" below the lowest surface of the skid shoe when the skid shoe is at the selected operating angle.

**NOTICE!** **Operating this product with the spring tips extending more than .25" into the soil CAN result in damage to this product and WILL void all FFC warranties.**

3. Retighten the two .38" hex nuts to 34 ft. lbs. + or - 2.0 ft. lbs. of torque.
4. Loosen the single .38" hex nut that secures the front spring to the track scratcher.
5. Slide the spring outward until the outer tine of the spring is .5" beyond the outer edge of the skid shoe. (Specific soil conditions may require an increase or a decrease in that distance.)
6. Retighten the 3/8" hex nut to 34 ft. lbs. + or - 2.0 ft. lbs. of torque.
7. Repeat TRACK SCRATCHER SPRING ADJUSTMENT steps 1 through 6 for the other track scratcher.

# OPERATION

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



- Never lift the lowest portion of the attachment plate higher than 5' above the ground.
- Do not lock the auxiliary hydraulics of your prime mover in the "ON" position.
- Keep everyone at least nine feet away from this product when operating.

**CAUTION! NOT A STEP!**



**Failure to obey this warning MAY result in personal injury.**

- Do not use the top of this product as a step. Under certain conditions, this area can be slippery.

**NOTICE!** *Operating this product continuously at hydraulic pressures greater than 2,500 psi*

***CAN result in damage to this product and WILL void all FFC warranties.***

**NOTICE!** **On certain prime movers equipped with counter weights, the use of the "float" position on the loader arm lift control can affect overall performance.**

The descriptions on the next page are for different operations that can be performed with this product. Please keep in mind that:

- Before using this product, the application area must be free of all boulders larger than 20" in diameter, all logs and branches, all wire, all lumber, and any other item that is too large for the bucket or could get wrapped around the rotor.
- Other equipment must be used to obtain a reasonable starting grade. That means removing any large mounds of soil and filling in any large or deep holes.
- Multiple passes requiring different skid shoe settings, different rotor speeds and rotation directions, and different ground speeds and directions may be needed to achieve the desired results depending on what those results are and what the initial conditions are.
- The wide variety of soil types, moisture conditions, compaction levels, foliage densities, and rock and debris quantities that can be encountered mean that the operator may need to make adjustments from the descriptions on the next page based upon the operator's experience.

## **To operate this product:**

1. Make sure that the skid shoes are in the correct position. (See PREPARATOR<sup>®</sup> SETUP for the recommended settings.)
2. Make sure that the track scratchers are in the correct position. (See PREPARATOR<sup>®</sup> SETUP for the recommended settings.)
3. Use the hydraulics on your prime mover to properly position the rotor and bucket. (See the next page for the recommended positions and the float/non-float loader arm settings.)
4. Activate the auxiliary hydraulics on your prime mover to rotate the rotor in the correct direction. (See the next page for the recommended direction.)
5. Increase your engine speed to the desired level and slowly move your prime mover in the correct direction. (See the next page for the recommended direction.)
6. Gradually increase the ground speed until the desired balance between operating results and efficiency is achieved.

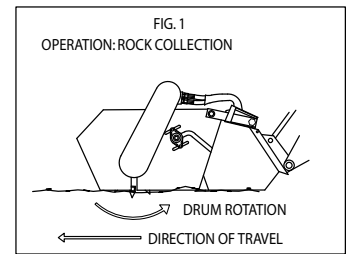


# OPERATION

## ROCK COLLECTION (Fig. 1)

This operation is where surface rocks (5" to 20" dia.) are collected in the bucket.

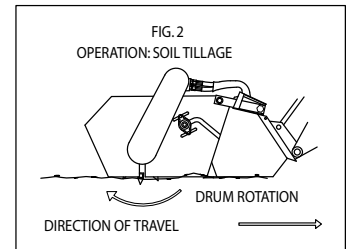
- The teeth should move toward the bucket when contacting the soil.
- The prime mover should move in a forward direction when mounting the attachment in front of the prime mover and backward for 3 point mountings.
- The larger the rocks, the slower the ground speed.
- The loader should be in the float position. (Dumping of the bucket is required.)



## SOIL TILLAGE & FOLIAGE UPROOTING (Fig. 2)

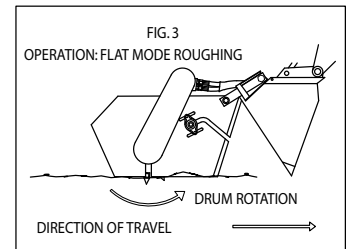
This operation is for loosening undisturbed soil and uprooting foliage.

- The teeth should move away from the bucket when contacting the soil.
- The prime mover should move in a reverse direction when mounting the attachment in front of the prime mover and forward for 3 point mountings.
- The loader should not float. (Dumping of the bucket is not required.)



## FLAT MODE ROUGHING (Fig. 3) or ANGLED MODE ROUGHING (Fig. 4)

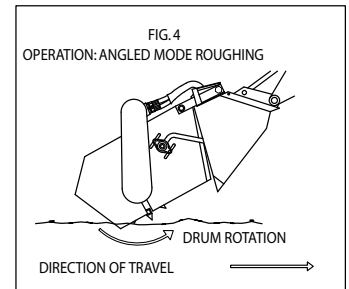
- These operations scarify, rake materials into piles or windrows and fill depressions.
  - The teeth should move toward the bucket when contacting the soil.
  - The prime mover should move in a reverse direction when mounting the attachment in front of the prime mover and forward for 3 point mountings.
  - The loader should not float. (Dumping of the bucket is not required.)
- (If the bucket is closed at the end of a Flat Mode pass, then dumping is required.)



## FOLIAGE COLLECTION (Fig. 5)

This operation is where foliage is uprooted and collected in the bucket.

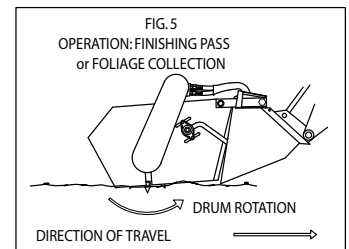
- The teeth should move toward the bucket when contacting the soil.
- The prime mover should move in a reverse direction when mounting the attachment in front of the prime mover and forward for 3 point mountings.
- The loader should be in the float position. (Dumping of the bucket is required.)



## FINISHING PASS (Fig.5)

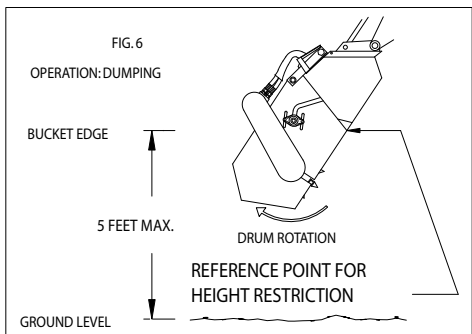
This operation is for the collection of rocks (less than 5" dia.) and debris in the soil.

- The teeth should move toward the bucket when contacting the soil.
- The prime mover should move in a reverse direction when mounting the attachment in front of the prime mover and forward for 3 point mountings.
- The loader should be in the float position. (Dumping of the bucket is required.)



## DUMPING OF THE BUCKET (Fig.6)

1. Shut off the auxiliary hydraulics.
2. Raise the unit about four feet above the ground.
3. Dump the bucket.
4. If some materials do not slide out, engage the auxiliary hydraulics so that the teeth on the bottom of the rotor move away from the bucket.



## ADDITIONAL OPERATING TIPS

- In certain conditions, if the rotor carries rocks past the brush and drops them back on the ground, reducing the rotor speed will correct this situation.
- The bucket will hold more material if, when the bucket starts to get full, the bucket is rolled back to shift the material further back into the bucket. Some unwanted soil can also be removed at this time if the roll-back/dump cylinder(s) on the loader are used to "shake" the unit.

# MAINTENANCE

## GENERAL INFORMATION

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

## MAINTENANCE SCHEDULE

Procedure	Before Each Use	Every 10 Hours of Use	Every 40 Hours of Use
Replace any damaged or excessively worn parts	✓		
Grease 4 fittings on shaft bearings		✓	
Grease 2 parallel link bars		✓	
Check roller chains for tightness (See Maintenance Section)		✓	
Hand check 4 taper lock adapter assemblies, if loose, retighten. (See Maintenance Section)			✓
Roller Chains - Check for Tightness (See Maintenance Section)			✓
Fittings/Hoses, Hydraulic - Check for leaks, Damage	✓		
Hardware - Check for Tightness	✓		
Picks - Check for rotation, flat spots & wear	✓		
Safety/Warning Decals - Check for missing or illegible	✓		

**WARNING!** Make certain that all protective guards, canopies, doors, etc. are in place and secure. Failure to obey this warning could result in death or serious injury.



# MAINTENANCE

## MAINTENANCE RECORD

Use this log to record maintenance performed on the attachment.

<b>Date</b>	<b>Maintenance Procedure Performed</b>	<b>Performed by</b>	<b>Comments</b>

# MAINTENANCE

**NOTICE!**     *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.*

## BEARING LOCK ADJUSTMENT

If a taper lock adapter assembly is found to be in need of tightening after checking the bearing locknut by performing steps 1 and 2 of the 40 hour maintenance schedule on the previous page, then the following action must be taken:

1. Bend the locking tang of each bearing lock washer out to free the bearing locknut.
2. Loosen the bearing locknut with the spanner wrench included with this product.
3. Retighten the bearing locknut until finger tight.
4. Use the spanner wrench to tighten the locknuts an additional 1-1/4 turns and, if necessary, continue tightening until the first time when one tang of the bearing lock washer is aligned with a notch on the locknut.
5. Bend that tang of the bearing lock washer back into the notch on the locknut.
6. Replace and properly secure the appropriate drive shield(s).

## CHAIN TENSION ADJUSTMENT

If the chain is found to be in need of tightening after checking the chain tension by performing steps 1 and 3 of the 40 hour maintenance schedule on the maintenance page, then the following action must be taken:

1. Shut off your prime mover's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
2. Remove cover over rotor drive chain.
3. Check chain to see if adjustment is needed: Remove (1) link if possible (It may be necessary to add back in 1/2 link). There should be at least .25" of movement in the chain. The height of the motor mount weldment may also be adjusted to change chain tension.
4. Replace and properly secure the appropriate drive shield(s).

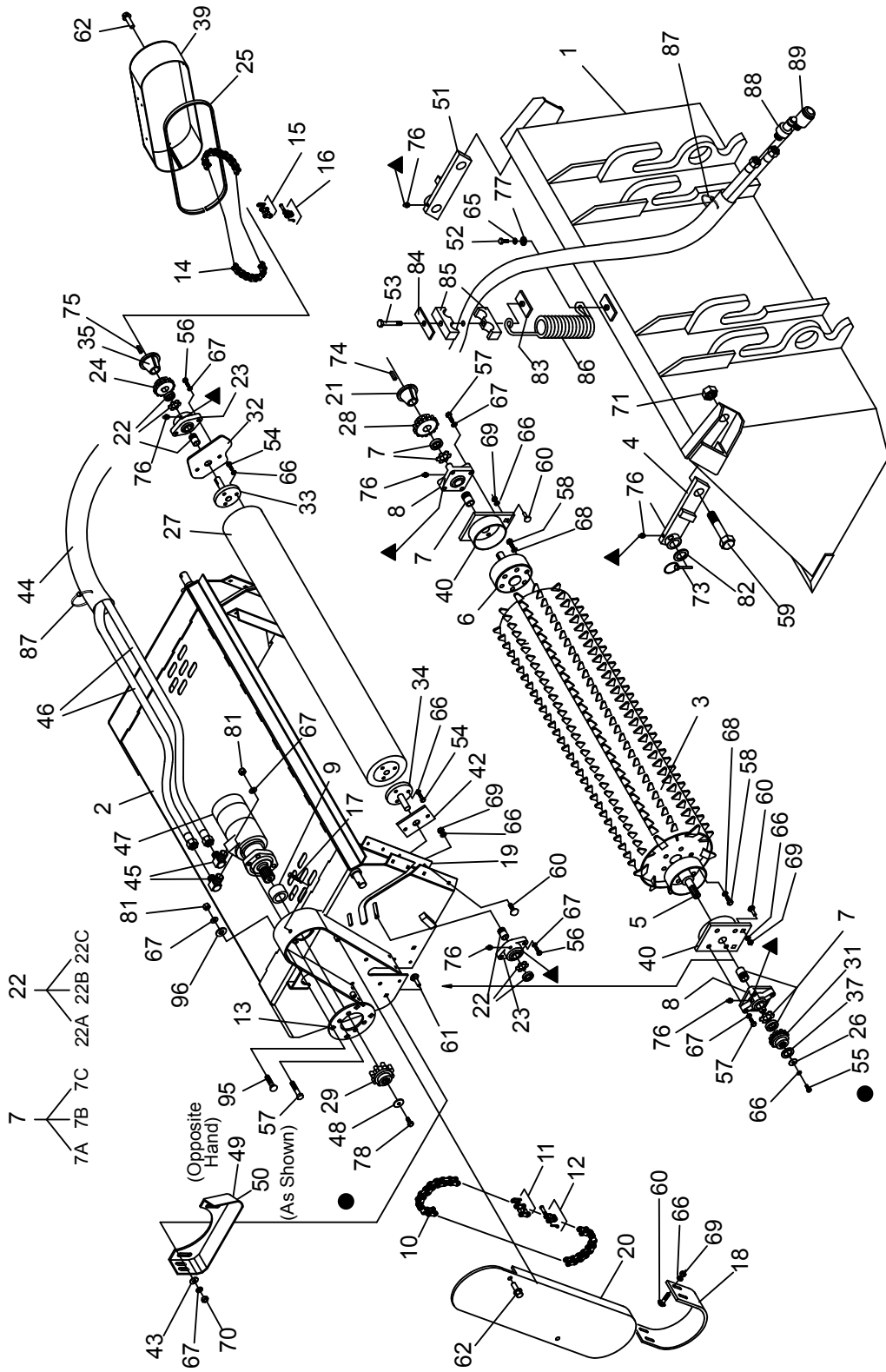
## Brush Drive Side

1. Shut off your prime mover's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
2. Remove cover over brush drive chain and completely remove the snap idler.
3. Check chain to see if adjustment is needed: Remove (1) link if possible (It may be necessary to add back in 1/2 link).
4. Adjust the brush leaving a 1/4" of movement in the chain and a maximum of .31" between the brush and the drum. If the is more than .31" between the brush and the drum, then remove a 1/2 link from the chain. Be sure to adjust both ends of the brush so it remains parallel to the drum.
5. Replace and properly secure the appropriate drive shield(s).

# TROUBLESHOOTING

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>POSSIBLE REMEDY</b>
Rotor does not turn.	Rotor drive chain is loose.	Adjust the chain tension.
	Rotor drive chain is broken.	Repair or replace the drive chain.
	Rotor drive sprocket is off the shaft.	Reinstall the drive sprocket.
	Rotor idler sprocket is off the shaft.	Reinstall the idler sprocket.
	Rotor bearing is seized.	Replace the bearing.
	Obstruction (i.e. rock, etc.) is lodged against the rotor.	Remove the obstruction. Make sure that all safety procedures are followed.
	Low level of hydraulic fluid in the prime mover.	Add hydraulic fluid to the prime mover.
	Defective hydraulic valve on the prime mover.	Repair or replace the hydraulic valve on the prime mover.
	Defective hydraulic pump on the prime mover.	Repair or replace the hydraulic pump on the prime mover.
Loss of power to rotor.	Hydraulic fitting is leaking.	Tighten or replace the hydraulic fitting.
	Hydraulic motor seal is leaking.	Replace the hydraulic motor seal.
	Low level of hydraulic fluid in the prime mover.	Add hydraulic fluid to prime mover.
	Air in the prime mover's hydraulic system.	Bleed the prime mover's hydraulic system.
Rotor turns erratically.	Air in the prime mover's hydraulic system.	Bleed the prime mover's hydraulic system.
	Rotor drive chain is slipping on the sprocket.	Adjust the chain tension.
Brush does not sweep against the rotor.	Brush drive chain is loose.	Adjust the chain tension.
	Brush drive chain is broken.	Repair or replace the drive chain.
	Sprocket square key is missing or broken.	Replace the sprocket square key.
Skid shoes dig in or slide with excessive resistance on the ground.	Float circuit on the prime mover is not activated or is not properly operating.	Activate or repair, as needed, the prime mover's hydraulic controls.

# PREPARATOR® PARTS ILLUSTRATION



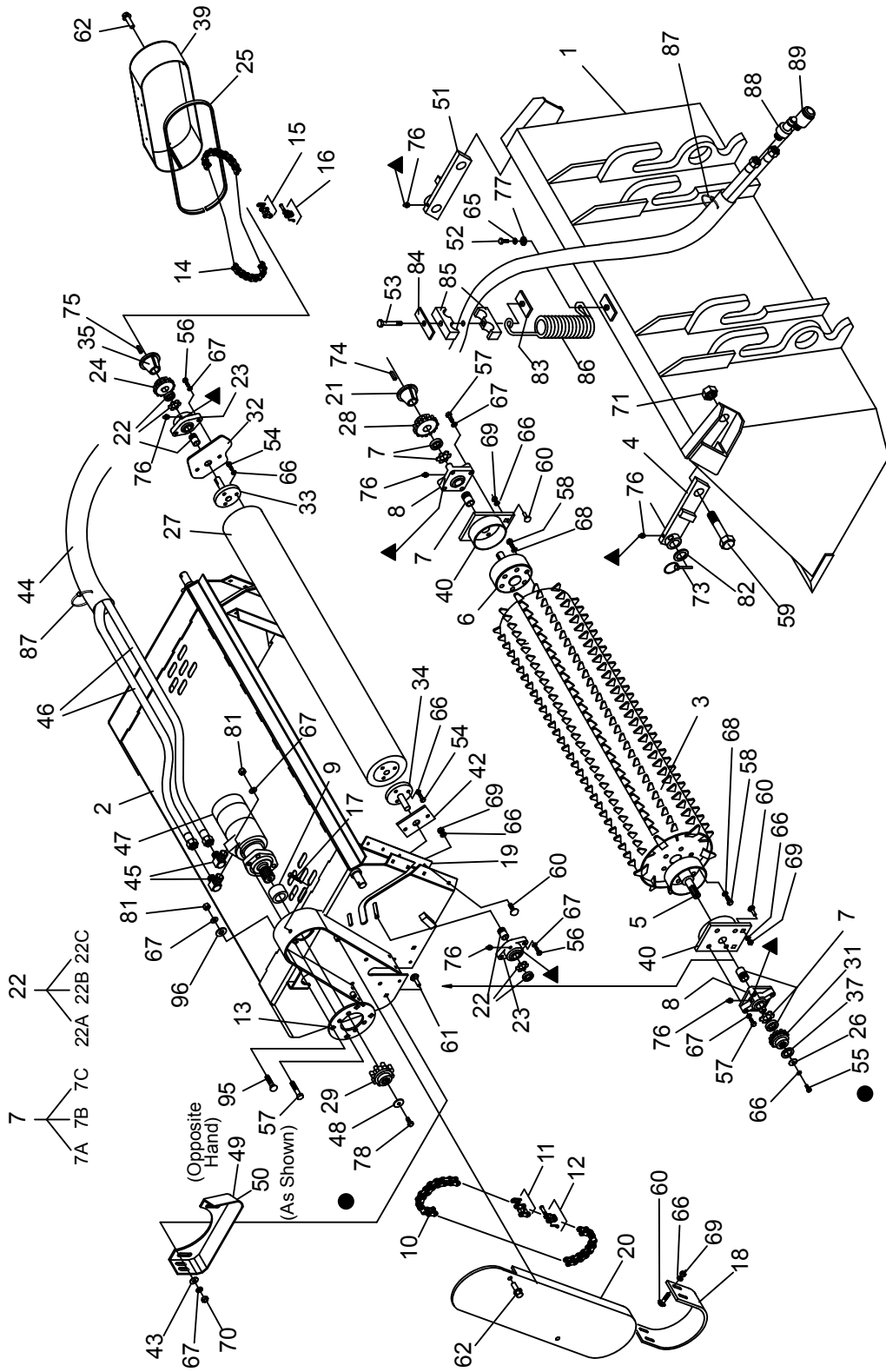
▲ INDICATES GREASE ZERK LOCATION ● APPLY 262 LOCTITE® TO THREADS

## PREPARATOR<sup>®</sup> PARTS LIST

ITEM	QTY.	LAF3554 54"	LAF3566 66"	LAF3576 76"	DESCRIPTION
1	1	LAF3590	LAF3501	LAF3502	Bucket
2	1	LAF3586	LAF3503	LAF3504	Shroud
3	1	LAF3591	LAF3505	LAF3506	Drum
4	1			LAF3507	Parallel Linkage Bar Left
5	1			LAF3509	Rotor Drive Shaft (on left end of Drum)
6	1			LAF3510	Rotor Idler Shaft (on right end of Drum)
7	2			LAF3512	Taper Lock Adapter Assembly -- Includes: 7A -- Bearing Lock Nut 1.75" 7B -- Bearing Lock Washer 1.75" 7C -- Bearing Taper (male) 1.88" OD
8	2			LAF3513	Flange Mount Bearing 1.75" / 1.88" Taper Bore w/ Grease Zerk
9	1			LAF3514	Motor Shaft Spacer
10	1			LAF3516	Roller Chain #80H x 59 Links
11	1			LAF3517	Connecting Link #80H
12	1			LAF3518	Offset Connecting Link #80H
13	1			LAF3530	Motor Mount
14	1			LAF3520	Roller Chain #50H x 65 Links
15	1			LAF3521	Connecting Link #50H
16	2			LAF3522	Offset Connecting Link #50H
17	1			P100606	Grade 5 Hex Head Cap Screw .38" x 1.5"
18	1			LAF3524	Rotor Drive Shield Lower Cover
19	2			LAF3525	Brace Angle
20	4			LAF3526	Rotor Drive Shield Side Cover
21	1			LAF3532	Sprocket Bushing 1.5" Quick Disconnect -- Includes: (1) Bushing 1.5" ID (3) Hex Head Cap Screw .25" x 1.38" (3) Lock Washer .25" (1) Socket Set Screw .25" x .38"
22	2			LAF3533	Taper Lock Adapter Assembly -- Includes: 22A -- Bearing Lock Nut 1.125" 22B -- Bearing Lock Washer 1.125" 22C -- Bearing Taper (male) 1.25" OD
23	2			LAF3534	Flange Mount Bearing 1.125" / 1.25" Taper Bore w/ Grease Zerk
24	1			LAF3536	Sprocket 17 Tooth #50 w/ 1" Bore and .25" Key
25	1			LAF3537	Brush Drive Shield Gasket
26	1			LAF3540	Drive Sprocket Retainer .41" ID
27	1	01-9315	01-9316	01-9317	Brush 13" Diameter
28	1			LAF3544	Sprocket 26 Tooth #50 w/ 1.5" Bore and .38" Key
29	1			LAF3546	Sprocket 12 Tooth #80 w/ 17 Tooth SAE Spline
31	1			LAF3549	Sprocket 20 Tooth #80 w/ 17 Tooth SAE Spline
32	1			LAF3550	Brush Baffle Plate Right
33	1			LAF3564	Brush Drive Shaft (on right end of Brush)

**NOTE: All parts are the same as the LAF3576 except for those parts numbered under the other models.**

# PREPARATOR® PARTS ILLUSTRATION



▲ INDICATES GREASE ZERK LOCATION ● APPLY 262 LOCTITE® TO THREADS

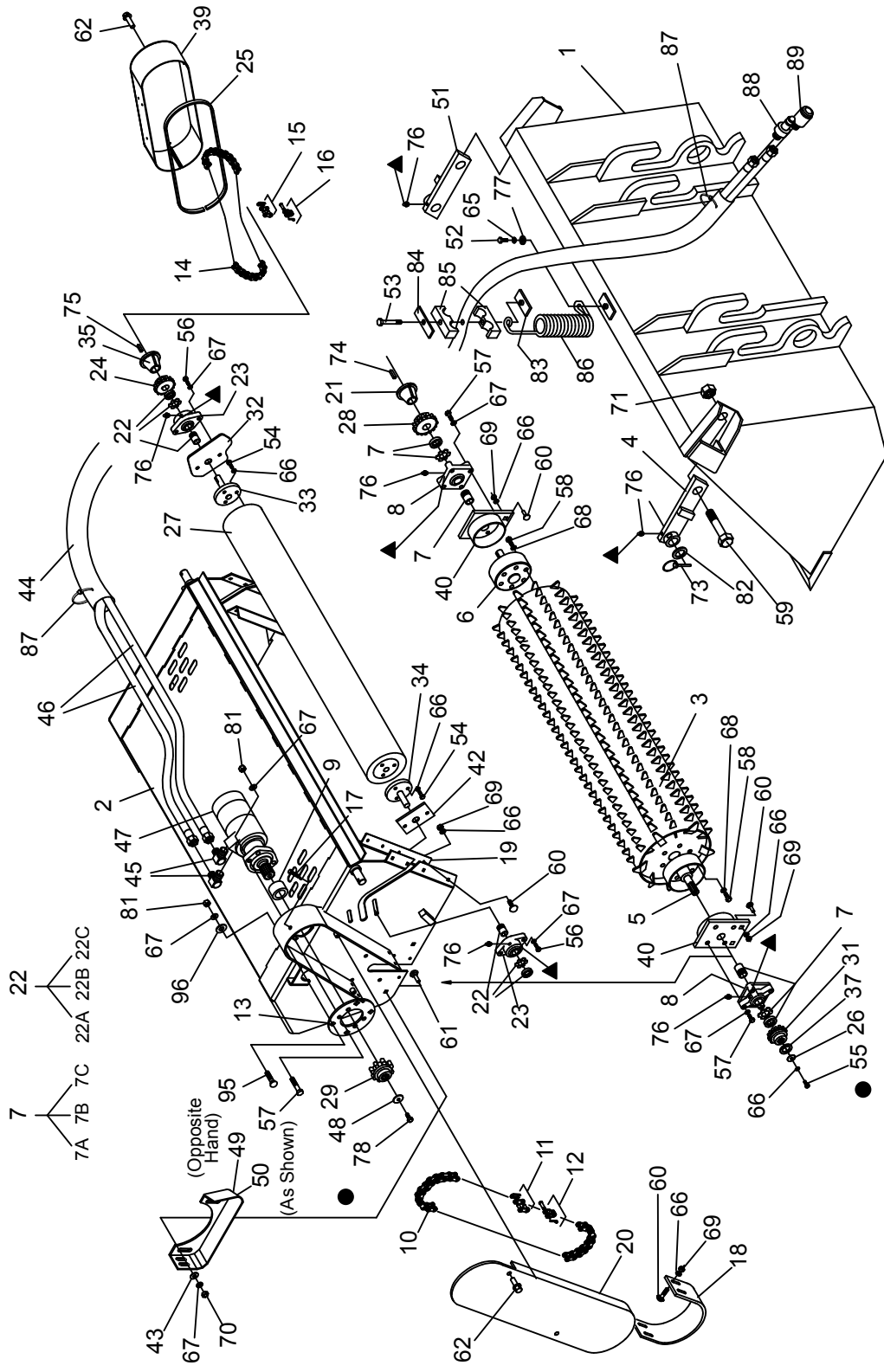


## PREPARATOR® PARTS LIST

ITEM	QTY.	LAF3554 54"	LAF3566 66"	LAF3576 76"	DESCRIPTION
34	1			LAF3565	Brush Idler Shaft (on left end of Brush)
35	1			LAF3567	Sprocket Bushing 1" Quick Disconnect -- Includes: (1) Bushing 1" ID (3) Hex Head Cap Screw .25" x 1.38" (3) Lock Washer .25" (1) Socket Set Screw .25" x .38"
37	1			RHW5970	Sprocket Spacer (use only as required to keep sprocket tight)
39	1			LAF3584	Brush Drive Shield
40	2			LAF3585	Rotor Mounting Plate
42	1			LAF3588	Brush Baffle Plate Left
43	4			LAF3597	Skid Shoe Retainer
44	1			LAF4033	Hydraulic Hose Protector 1.88" x 72"
45	2			LAF4278	Hydraulic Elbow 90° 10MB-10MJ
46	2			LAF4321	Hydraulic Hose .5" x 104" 10MB-10FJ Sheathed
47	1			LAF4772	Hydraulic Motor
48	1			LAF9965	Drive Sprocket Retainer .64" ID
49	1			LAF9982	Skid Shoe Right
50	1			LAF9983	Skid Shoe Left
51	1			LAF9990	Parallel Linkage Bar Right
52	1			RHW1101	Grade 5 Hex Head Cap Screw .31" x .5"
53	1			RHW1112	Grade 5 Hex Head Cap Screw .31" x 2.5"
54	6			P100604	Grade 5 Hex Head Cap Screw .38" x 1"
55	1			07-0018	Grade 8 Hex Head Cap Screw .38" x 1"
56	4			P100806	Grade 5 Hex Head Cap Screw .5" x 1.5"
57	12			RHW1406	Grade 5 Hex Head Cap Screw .5" x 1.75"
58	12			RHW1603	Grade 5 Hex Head Cap Screw .63" x 1.75"
59	2			RHW1912	Grade 5 Hex Head Cap Screw 1" x 4.5"
60	16			RHW2205	Grade 5 Carriage Bolt .38" x 1"
61	4			RHW2406	Grade 5 Carriage Bolt .5" x 1.75"
62	4			RHW4025	Grade 5 Flange Head Bolt .38" x 1"
65	1			P851105	Grade 5 Lock Washer .31"
66	22			P851106	Grade 5 Lock Washer .38"
67	24			P851108	Grade 5 Lock Washer .5"
68	12			P851110	Grade 5 Lock Washer .63"
69	17			RHW7201	Grade 5 Hex Nut .38"
70	4			RHW7401	Grade 5 Hex Nut .5"
71	2			RHW7902	Grade 5 Lock Nut 1"
73	2			RHW8061	Lynch Pin .31" x 1.38" (usable)
74	1			RHW8071	Square Key .38" x 1.5"
75				RHW8072	Square Key .25" x 1.5"

**NOTE: All parts are the same as the LAF3576 except for those parts numbered under the other models.**

# PREPARATOR® PARTS ILLUSTRATION



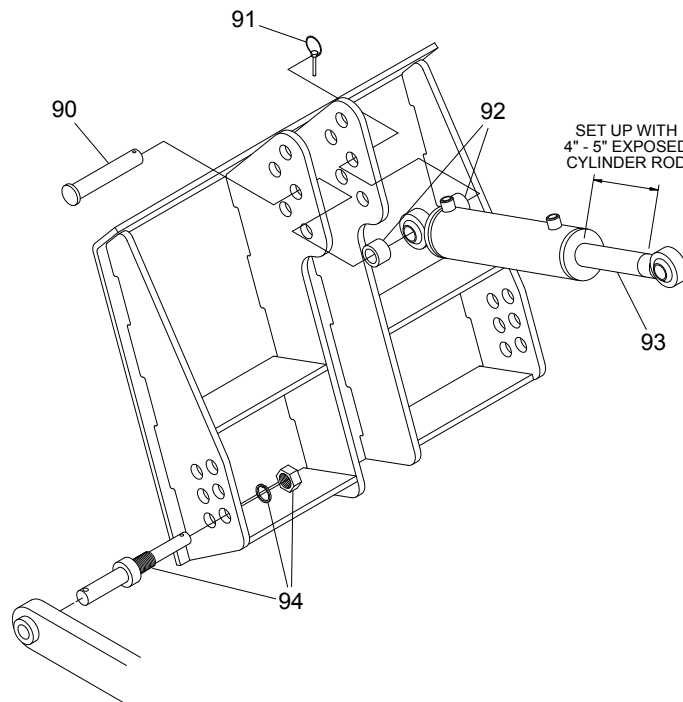
▲ INDICATES GREASE ZERK LOCATION ● APPLY 262 LOCTITE® TO THREADS

## PREPARATOR® PARTS LIST

ITEM	QTY.	LAF3554 54"	LAF3566 66"	LAF3576 76"	DESCRIPTION
76	6			07-3112	Grease Zerk .25" 28 tpi Self-Tapping
77	1			RHW8098	Grade 2 Fender Washer .31" ID x 1.5" OD (0.08" thick)
78	1			RHW8113	Grade 5 Hex Head Cap Screw .63" x 1.25"
81	8			RHW7403	Grade 5 Lock Nut .5"
82	2			RHW8602	Machinery Bushing 1.25" ID x 1.75" OD (0.06" thick)
83	1			RHW8613	Weld Plate f/ .88" OD
84	1			RHW8614	Cover Plate f/ .88" OD
85	2			RHW8616	Hose Cradle f/ .88 OD (2 hoses)
86	1			RHW8618	Hose Spring
87	2			RMR5002	Wiretie
*88	1			03-3860	Hydraulic Hose Quick Coupler Male Connection
*89	1			03-3659	Hydraulic Hose Quick Coupler Female Connection
95	4			RHW2404	Grade 5 Carriage Bolt .5" x 1.5"
96	4			07-1762	Grade 8 Flat Washer .5" SAE (hardened)

\*ITEM may vary per Prime Mover -- Contact FFC for correct item.

### 3 POINT HITCH MOUNTINGS PARTS ILLUSTRATION & LIST

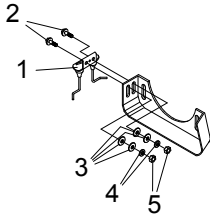


90	1			RHW8048	Clevis Pin 1" x 6"
91	1			RHW8042	Lynch Pin .19" x 1.56"
92	2			ILA1032	Bushing
93	1			LAF4515	Hydraulic Cylinder 3" x 1.75"
94	2			RHW8401	Draw Pin Category 1 & 2

**NOTE:** All parts are the same as the LAF3576 except for those parts numbered under the other models.

## OPTIONAL KITS

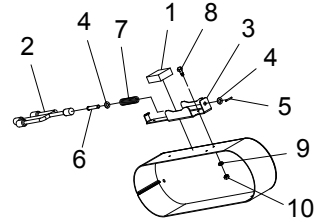
### TRACK SCRATCHER KIT



### SPANNER WRENCH



### LUG WRENCH KIT

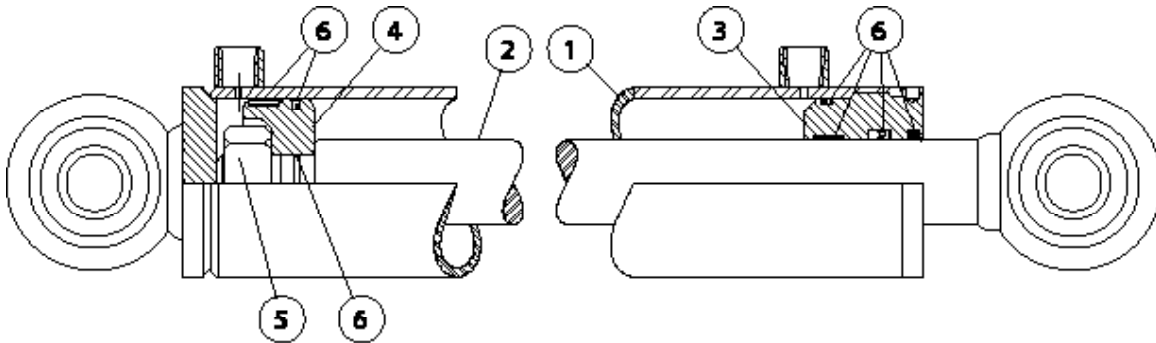


ITEM	QTY	PART NO.	DESCRIPTION
		<b>LAF3531</b>	<b>TRACK SCRATCHER KIT</b>
1	2	LAF3547	Rubber Mount Track Scratcher
2	4	P100604	Grade 5 Hex Head Cap Screw .38" x 1"
3	8	RHW5262	Grade 5 Flat Washer .38"
4	4	P851106	Grade 5 Lock Washer .38"
5	4	RHW7201	Grade 5 Hex Nut .38"

1	1	<b>LAF3587</b>	<b>SPANNER WRENCH</b>
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		<b>LAF3581</b>	<b>LUG WRENCH KIT</b>
1	1	LAF3578	Foam Rubber 1" x 2.5" x 3"
2	1	LAF3580	Folding Lug Wrench
3	1	LAF3582	Wrench Holder
4	2	RHW5332	Grade 5 Flat Washer .44" SAE
5	1	RHW8037	Roll Pin .16" x 1.25"
6	1	RHW8219	Clevis Pin .44" x 2.25" (usable)
7	1	RHW8502	Spring .63" x 2.25" (.055 wire)
8	3	P100403	Grade 5 Hex Head Cap Screw .25" x .75"
9	3	RHW6002	Grade 5 Split Lock Washer .25"
10	3	RHW7001	Grade 5 Hex Nut .25"

## HYDRAULIC CYLINDER PARTS ILLUSTRATION & LIST



ITEM	QTY.	LAF4515	DESCRIPTION
1	1	LAF4688	Barrel 3" ID x 13" Stroke with Ball End
2	1	LAF4687	Shaft 1.75" Dia.
3	1	LAF4610	Head 1.75" ID Nominal
4	1	LAF4609	Piston 3" OD x 1.13" ID Nominal
5	1	LAF4608	Nut 1.13" 12 tpi. Top Lock
6	1	LAF4607	Seal Kit (includes all seals, o-rings, etc.)

## PRIME MOVER SPECIFICATIONS

**NOTICE!** Exceeding any of the maximum recommended prime mover specifications **CAN** result in damage to this product and **WILL** void all FFC warranties.

DESCRIPTION	SPECIFICATIONS
Hydraulic Flow Output	25 gpm maximum
Hydraulic Pressure Output	2,500 psi maximum (continuous) 3,500 psi maximum (intermittent: no more than 6 seconds per minute)
Rear Ballast	As required to maintain full prime mover stability. (Note the Shipping Weight on the specifications page, then see the operator's manual(s) for your prime mover, loader, and quick-attach for ballasting needs.)

## PREPARATOR<sup>®</sup> SPECIFICATIONS

Model Number	Overall Width	Overall Height	Overall Depth	Working Width	Quantity of Teeth	Bucket Capacity*	Shipping Weight
LAF3554	63.25"	34.88"	53"	54"	250	8.86 cu. ft.	1,031 lbs.
LAF3566	75.25"	34.88"	53"	66"	310	10.32 cu. ft.	1,340 lbs.
LAF3576	85.25"	34.88"	53"	76"	360	12.5 cu. ft.	1,520 lbs

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

\* Struck capacity.




# BOLT TORQUE SPECIFICATIONS

## GENERAL TORQUE SPECIFICATION TABLES

Use the following charts when determining bolt torque specifications when special torques are not given. Always use grade 5 or better when replacing bolts.




## SAE BOLT TORQUE SPECIFICATIONS

**NOTE:** The following torque values are for use with extreme pressure lubricants, plating or hard washer applications. Increase torque 15% when using hardware that is unplated and either dry or lubricated with engine oil.

Bolt Size		SAE GRADE 5 TORQUE				SAE GRADE 8 TORQUE				Bolt head identification marks as per grade. NOTE: Manufacturing Marks Will Vary
		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters		
Inches	Millimeters	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	
1/4	6.35	8	9	11	12	10	13	14	18	<p>GRADE 2</p>  <p>GRADE 5</p>  <p>GRADE 8</p> 
5/16	7.94	14	17	19	23	20	25	27	34	
3/8	9.53	30	36	41	49	38	46	52	62	
7/16	11.11	46	54	62	73	60	71	81	96	
1/2	12.70	68	82	92	111	94	112	127	152	
9/16	14.29	94	112	127	152	136	163	184	221	
5/8	15.88	128	153	174	207	187	224	254	304	
3/4	19.05	230	275	312	373	323	395	438	536	
7/8	22.23	340	408	461	553	510	612	691	830	
1	25.40	493	592	668	803	765	918	1037	1245	
1-1/8	25.58	680	748	922	1014	1088	1224	1475	1660	
1-1/4	31.75	952	1054	1291	1429	1547	1700	2097	2305	
1-3/8	34.93	1241	1428	1683	1936	2023	2312	2743	3135	
1-1/2	38.10	1649	1870	2236	2535	2686	3026	3642	4103	

## METRIC BOLT TORQUE SPECIFICATIONS

**NOTE:** The following torque values are for use with metric hardware that is unplated and either dry or lubricated with engine oil. Reduce torque 15% when using hardware that has extreme pressure lubricants, plating or hard washer applications.

Bolt head identification marks as per grade.		
		

Size of Bolt	Grade No.	Pitch (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters
M6	5.6	1.0	3.6-5.8	4.9-7.9	-	-	-
	8.8		5.8-4	7.9-12.7		-	-
	10.9		7.2-10	9.8-13.6		-	-
M8	5.6	1.25	7.2-14	9.8-19	1.0	12-17	16.3-23
	8.8		17-22	23-29.8		19-27	25.7-36.6
	10.9		20-26	27.1-35.2		22-31	29.8-42
M10	5.6	1.5	20-25	27.1-33.9	1.25	20-29	27.1-39.3
	8.8		34-40	46.1-54.2		35-47	47.4-63.7
	10.9		38-46	51.5-62.3		40-52	54.2-70.5
M12	5.6	1.75	28-34	37.9-46.1	1.25	31-41	42-55.6
	8.8		51-59	69.1-79.9		56-68	75.9-92.1
	10.9		57-66	77.2-89.4		62-75	84-101.6
M14	5.6	2.0	49-56	66.4-75.9	1.5	52-64	70.5-86.7
	8.8		81-93	109.8-126		90-106	122-143.6
	10.9		96-109	130.1-147.7		107-124	145-168
M16	5.6	2.0	67-77	90.8-104.3	1.5	69-83	93.5-112.5
	8.8		116-130	157.2-176.2		120-138	162.6-187
	10.9		129-145	174.8-196.5		140-158	189.7-214.1
M18	5.6	2.0	88-100	119.2-136	1.5	100-117	136-158.5
	8.8		150-168	203.3-227.6		177-199	239.8-269.6
	10.9		175-194	237.1-262.9		202-231	273.7-313
M20	5.6	2.5	108-130	146.3-176.2	1.5	132-150	178.9-203.3
	8.8		186-205	252-277.8		206-242	279.1-327.9
	10.9		213-249	288.6-337.4		246-289	333.3-391.6

# WARRANTY

## 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 Construction<sup>1</sup>, 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.**

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

February 10, 2010



