

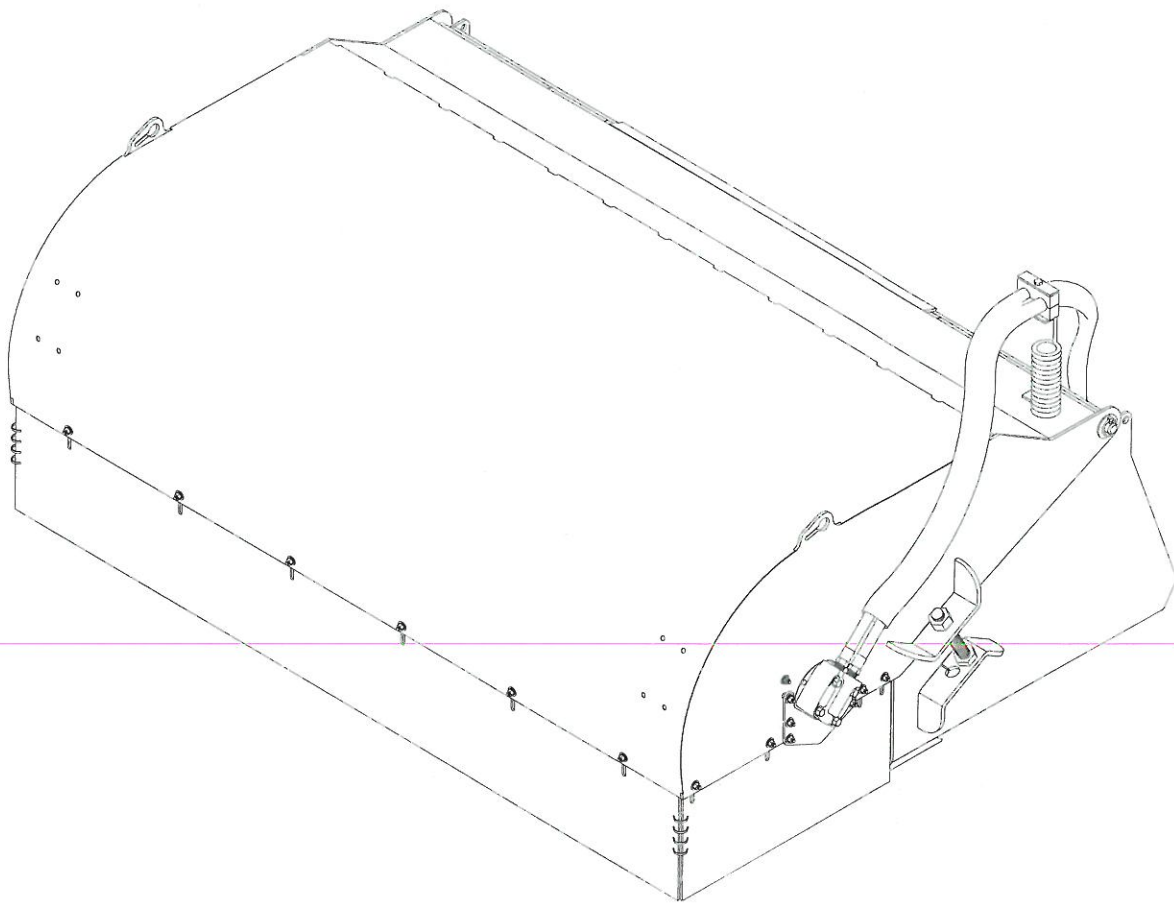


A SWEEPSTER COMPANY

PATENTED

HOPPER BROOM

OWNERS & OPERATORS MANUAL



Models covered:

LAF8360, LAF8370, and LAF8380

OWNERS & OPERATORS MANUAL

FFC PART # **MR05654**

FFC Attachments
100 EAST LEE ROAD
LEE, IL 60530
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INTRODUCTION

Congratulations on your purchase of a new FFC Attachments Hopper Broom. This product has been designed and built to sweep up and collect loose, dry debris and other light materials from relatively hard, flat surfaces while moving forward. This product can also be used for picking up small amounts of material near a wall or other obstruction while reversing the brush rotation for a short distance. 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) LAF8360, LAF8370, and LAF8380. The difference between the models is the width 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 Hopper Broom. 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:

- Power Unit 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 top left rear corner of your Hopper Broom.

Reference Information

Model Number _____
Serial Number _____
Date Purchased _____

Loader Make _____
Loader Model _____
Loader Serial # _____

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** Hopper Broom.

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.

- 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.)

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 *power unit, loader, and quick-attach.***
- Read and understand all safety signs on this product and on your power unit, loader, and quick-attach.
- Know all your controls and know how to quickly stop all power unit movement, the Hopper Broom 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 power unit, loader, and quick-attach 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.

WHEN YOUR POWER UNIT 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 power unit'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 power unit's operator's manual for instructions on how to relieve hydraulic pressure in lines.
- Know your loader'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 power unit's and your loader's operator's manuals for safe operating limits. Lift capacity may be reduced if using a quick-attach.
- Never allow anyone, except the operator, to be around the power unit 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 power unit.
- Do not stand or climb on this product when raised.
- Never lift the lowest portion of the bucket higher than 5'-0" above the ground.
- Do not place any part of your body under any part of **this product unless this product is securely resting on adequate 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 loader.
- Be aware of the added weight and width of this product. Reduce travel speeds accordingly, especially when traveling over rough ground.
- Keep this product close to the ground 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 power unit'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 loader and cycle the rollback / dump cylinders 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-attach mechanism.
 - Make certain that hoses will not be pinched, or get tangled, in any equipment.
- Do not lock the auxiliary hydraulics of your power unit in the "ON" position.
- Refer to your power unit'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 POWER UNIT:

- Refer to the operator's manuals of your power unit, your loader, and your quick-attach for special or detailed mounting instructions.
- This product should fit onto the quick-attach or loader arms of your power unit the same as the original products that were designed by your loader / quick-attach manufacturer.
- If this product does not fit properly, contact FFC before operating.
- Never place your finger into the mounting plate or loader holes. A slight movement of the power unit 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.

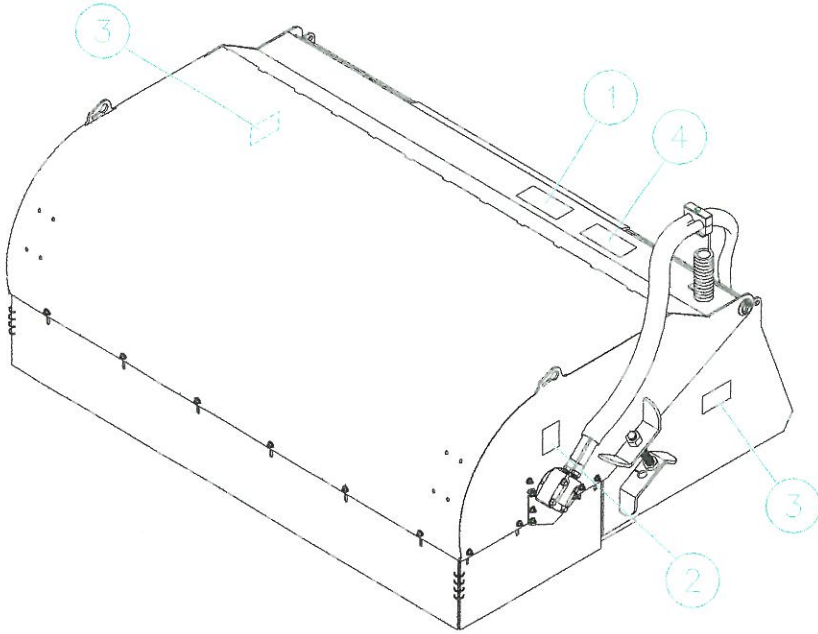
WHEN OPERATING THIS PRODUCT IN ACCORDANCE WITH DESIGN INTENTIONS:

- Do not sweep toward others. Flying debris may cause serious injury.
- Minimize flying debris by operating at the slowest brush speed needed to achieve the desired results.

WHEN ADJUSTING, SERVICING OR REPAIRING THIS PRODUCT:

- Make no modifications to your Hopper Broom.
- 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.

SAFETY SIGN LOCATIONS



ITEM	QTY.	PART # - DESCRIPTION
1	1	RDL3141-Read Manual
2	1	RDL3129-Hydraulics
3	2	RDL3127-Pinch Point
4	1	RDL3162-Flying Objects

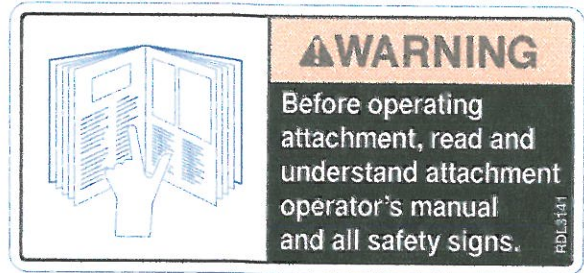
INSTRUCTIONS

- 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



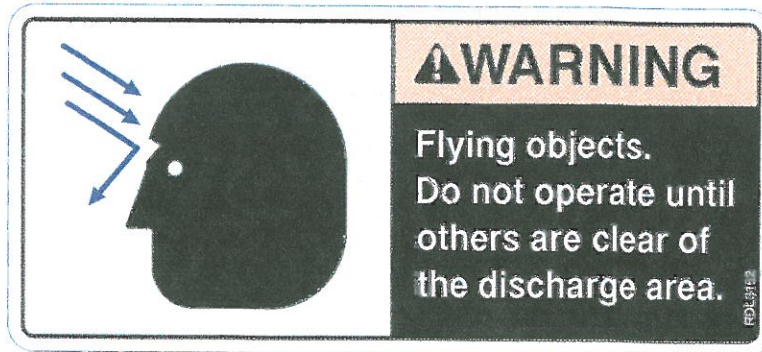
ITEM 2



ITEM 3



ITEM 4



POWER UNIT SPECIFICATIONS

IMPORTANT

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

DESCRIPTION

Hydraulic Pressure Output
Hydraulic Flow
Rear Ballast

SPECIFICATIONS

2,500 psi. maximum continuous
25 gpm maximum continuous
As required to maintain full power unit stability.
(Note the Shipping Weight on page 15, then see the operator's manual(s) for your power unit, loader, and quick-attach for ballasting needs.)

HOPPER BROOM MOUNTING



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

1. Place this product on a firm, level surface that is large enough to safely accommodate this product, your power unit and all workers involved in the mounting process.
2. Refer to the operator's manual(s) for your power unit, loader, and quick-attach and follow the mounting instructions contained therein.

HOPPER BROOM HYDRAULIC CONNECTION



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

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



WARNING

Do not lock the auxiliary hydraulics of your power unit in the "ON" position. Failure to obey this warning could result in death or serious injury.

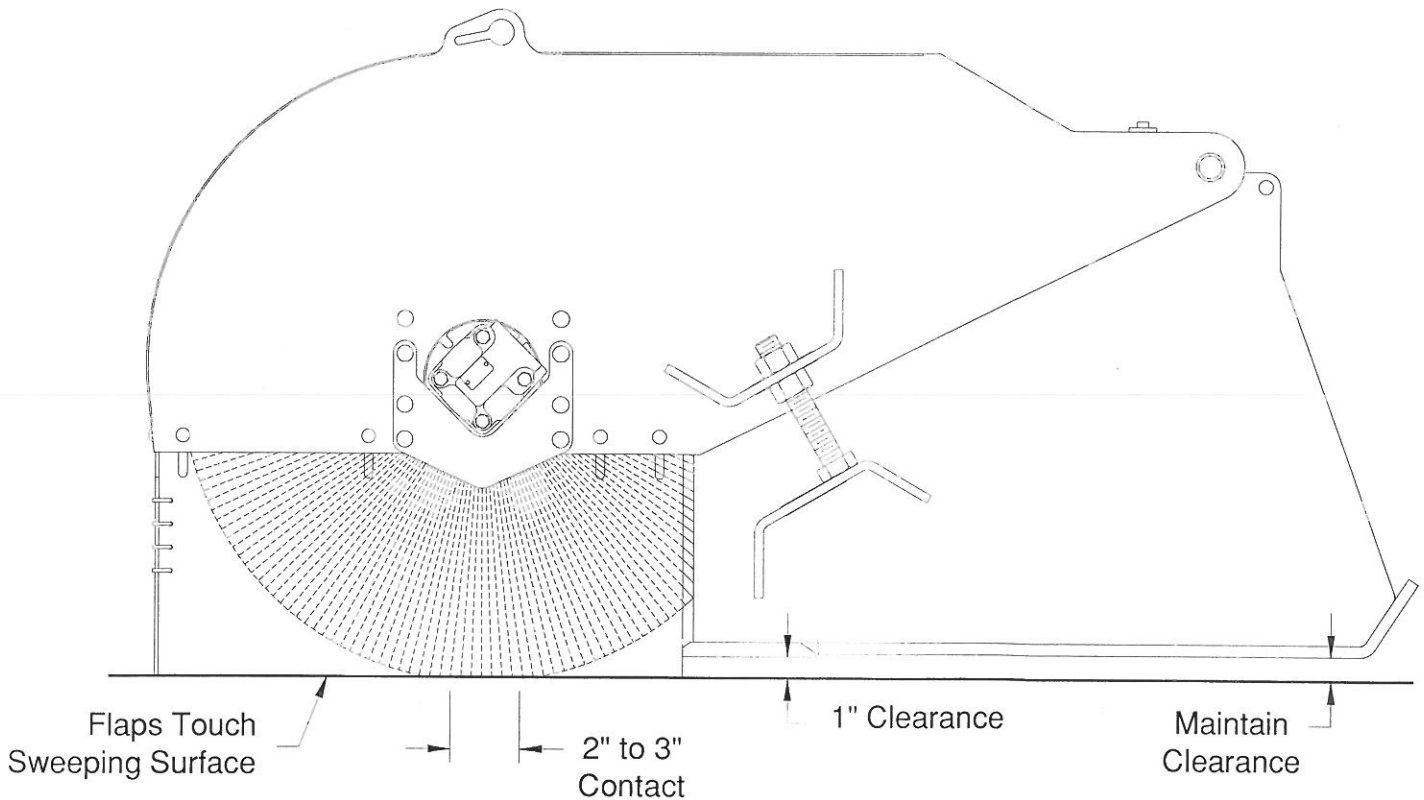
HOPPER BROOM SETUP



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

ADJUSTING THE BRUSH HEIGHT (Refer to the Setup Illustration below)

1. Place this product on a dusty, smooth surface that is large enough to safely accommodate the Hopper Broom, your power unit, and all workers involved in the mounting process.
2. Apply your power unit's parking brake, but leave the engine running.
3. Start the sweeper at a slow speed.
3. Lower the bucket until there is 1" of clearance under the bucket.
4. Run the sweeper for approximately 10 seconds, then raise the sweeper, release the parking brake, and back the power unit away.
5. Stop and fully lower the sweeper, apply your power unit's parking brake, stop the engine, remove the starter key, wait for all moving parts to stop, and relieve all pressure in the hydraulic lines before leaving the operator's position.
6. Measure the brush pattern in the dust. The desired pattern should be a consistent 2" to 3" wide for the full length of the brush.
 - If the pattern is too narrow, loosen the bottom 1" diameter nut and tighten down the top 1" diameter nut on the two height adjustment bolts, as required.
 - If the pattern is too wide, loosen the top 1" diameter nut and tighten up the bottom 1" diameter nut on the two height adjustment bolts, as required.
7. Repeat Steps 1 through 6 until the desired pattern is achieved.
8. Loosen the nuts holding the front and side flaps in position, then adjust the height of the flaps until the bottom of the flaps just make contact with the sweeping surface. Resecure the flaps by tightening the appropriate nuts.



HOPPER BROOM OPERATION



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



WARNING

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

- Never lift the lowest portion of the bucket higher than 5'-0" above the ground.
- Do not lock the auxiliary hydraulics of your power unit in the "ON" position.
- Do not sweep toward others. Flying debris may cause serious injury.
- Minimize flying debris by operating at the slowest brush speed needed to achieve the desired results.

IMPORTANT

Starting or stopping the hydraulic flow to the brush motor at high engine speed **CAN** result in damage to this product and **WILL** void all FFC warranties.

GENERAL

- The brush is activated by the use of your power unit's auxiliary hydraulic control.
- Normal operation requires that the sweeper move forward while the brush rotates away from the operator at the sweeping surface and toward the operator on the top of the brush, bringing the swept material up over the brush.
- If the material is too coarse to be brought over the top of the brush, then the rotation may be reversed to have the bristles kick that material directly into the bucket.
- The bucket should never touch the sweeping surface during normal operations.
- If the surface has a layer of dried or packed mud that the bristles do not remove, the bucket edge can be used to scrape that mud while sweeping.

IMPORTANT

Using the bucket for standard bucket operations (i.e. digging, scraping, etc.) **CAN** result in damage to this product and **WILL** void all FFC warranties.

CLEAN-UP

- To collect the small ridge of material that forms in front of the brush during normal operation:
 1. Slow the power unit's engine and stop the brush rotation.
 2. Dump the bucket slightly so that the bucket edge drags on the sweeping surface.
 3. Slowly activate the brush in the opposite direction of rotation. (i.e. The bristles move toward the operator at the **sweeping surface** and away from the operator on the top of the brush.)
 4. Move forward until the brush has swept the ridge of material directly back into the bucket.
 5. To complete the process, move your power unit backward across the same area to sweep up any material that may have slid under the bucket edge during the forward pass.
- Using the clean-up mode for normal sweeping will provide less than satisfactory results. Some of the material that should be picked up will be missed when such material is carried over the top of the brush or is thrown under the bucket and out of the range of the sweeper.

HOPPER BROOM MAINTENANCE



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY HOPPER BROOM 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 and that there are no leaks in any fittings or hoses.
- 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.

IF DEBRIS (Wire, Banding, etc.) BECOMES WRAPPED AROUND THE BRUSH

1. Park your power unit on a level surface with this product properly attached.
2. Place your power unit's transmission in "Park" and engage the parking brake.
3. Lower this product (the bucket portion) onto preplaced 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.

Compressive Strength of Each Blocking Unit	1,000 psi or the capability to support 1,000 lbs. without crushing or collapsing when the load is applied
Quantity and Location of Blocking Units	Two: one under each end of the bucket.
Direction of Placement	Place the blocks parallel to the direction of travel just inside the end plates of the bucket.
Length of Each Blocking Unit	2'-0" minimum
Height of Each Blocking Unit	5-1/2" maximum
Base Width of Each Blocking Unit	Equal to or greater than that Blocking Unit's Height

If blocking units are made up of smaller pieces:

these pieces must be stacked in a pyramid that must adhere to all the blocking unit specifications above, the width of each piece, 3-1/2" minimum, must be equal to or greater than the height of that same piece, there should never be a larger piece stacked on top of a smaller piece, every piece in a given layer must be the same height, and each piece should be centered over the line where two pieces in the layer below are in contact.

4. Shut off your power unit's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.

IMPORTANT Allowing dirt or other foreign material into the motor or hydraulic hoses **CAN** result in damage to this product and **WILL** void all FFC warranties.

5. Disconnect the hydraulic hoses from your power unit and connect the couplers together.
6. With proper safety equipment on (i.e. eye protection, gloves, protective clothing, etc.), rotate the brush in the reverse direction while pulling on the debris. In some cases, a wrench or bar can be used to assist in rotating the brush.

HOPPER BROOM SERVICE



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

REPLACING BRUSH SECTIONS

Repeat steps 1 - 5 from the "IF DEBRIS..." section on page 9.

6. Loosen the appropriate nuts and bolts and remove the two side flaps.
7. Remove the nuts and bolts that secure the Bearing Mounting Plate and the lower Hydraulic Motor Clamping Plate.
8. Restart your power unit and raise the sweeper housing up off the brush assembly.
9. Back your power unit up just enough for the brush assembly to clear the front of the sweeper housing and then lower the sweeper housing back down to the level surface.
10. Place your power unit's transmission in "Park" and engage the parking brake.
11. Shut off your power unit's engine, remove the starter key, wait for all moving parts to come to a stop, and relieve all pressure in the hydraulic lines.
12. Slide the Bearing Cover Plate, both Core Shaft Bearing Flanges, the Core Shaft Bearing, and the Bearing Mounting Plate off the shaft of the core as a unit.
13. Remove the Brush Section Retainer from the core.
14. Set a block under the motor on the core while standing the other end of the core up vertically.
15. Slide all the old brush sections off the core.
16. Install a polypropylene section first on the core so that the drive pins on the section straddle one tube on the core. When correctly installed, the drive pins will prevent the section from being able to rotate on the core.

IMPORTANT **Failure to install a polypropylene section on each end of the core (first and last) CAN result in damage to this product and WILL void all FFC warranties.**

17. Rotate a second section 120 degrees and then install that section with the drive pins straddling a tube that is next to the tube straddled by the drive pins of the first section.
18. Rotate a third section an additional 120 degrees and then install that section with the drive pins straddling the only tube that was not straddled by either the first or second section.
19. Continue installing sections, rotating each section 120 degrees until the core is full. If the last section will take more space than what remains and there is more than 1/2" of the core yet to be filled, set the last section in without rotating 120 degrees so that the drive pins are on the same tube as the previous section. This last section will then nest into the next-to-last section.
20. Replace the Brush Section Retainer and secure with the bolts removed in Step 13 above. Tighten the bolts to 17 ft. lbs.
21. Lay the core down in a horizontal position and then slide the bearing assembly removed in Step 12 above onto the core shaft.
22. Restart your power unit, raise the sweeper housing, move forward, and lower the sweeper housing down on to the brush assembly.
23. Resecure the Bearing Mounting Plate and the lower Hydraulic Motor Clamping Plate using the nuts and bolts that were removed in Step 7 above. Tighten the nuts to 17 ft. lbs.
24. Replace the side flaps removed in Step 6 above and reinstall the hydraulic hoses removed in Step 5 on page 9.
25. Readjust the height of the brush assembly by performing the nine steps listed under "Brush Height Adjustment" on page 7.

HOPPER BROOM STORAGE



SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY HOPPER BROOM STORAGE

NOTICE Allowing the brush to rest on the ground and deform during periods of storage will result in erratic performance and reduced sweeping effectiveness.

Disconnect from this product after performing the six steps below:

1. Park your power unit on a level surface with this product properly attached.
2. Place your power unit's transmission in "Park" and engage the parking brake.
3. Lower this product with your loader's tilt cylinders dumped enough that when the Hopper Broom and bucket edge are resting on the level surface, there is at least a two-inch gap between the heads of the full-threaded 1" diameter bolts and stop plates that are welded on each side of the bucket.
4. Shut off your power unit's engine, remove the starter key, and wait for all moving parts to come to a stop.
5. Lay a 2x4x 1'-0" (minimum) of sound wood on each of the two stop plates under the two bolt heads.
6. Restart your power unit and roll back your loader's tilt cylinders so that the 2x4s are squeezed between the bolt heads and the stop plates.

HOPPER BROOM TROUBLE SHOOTING



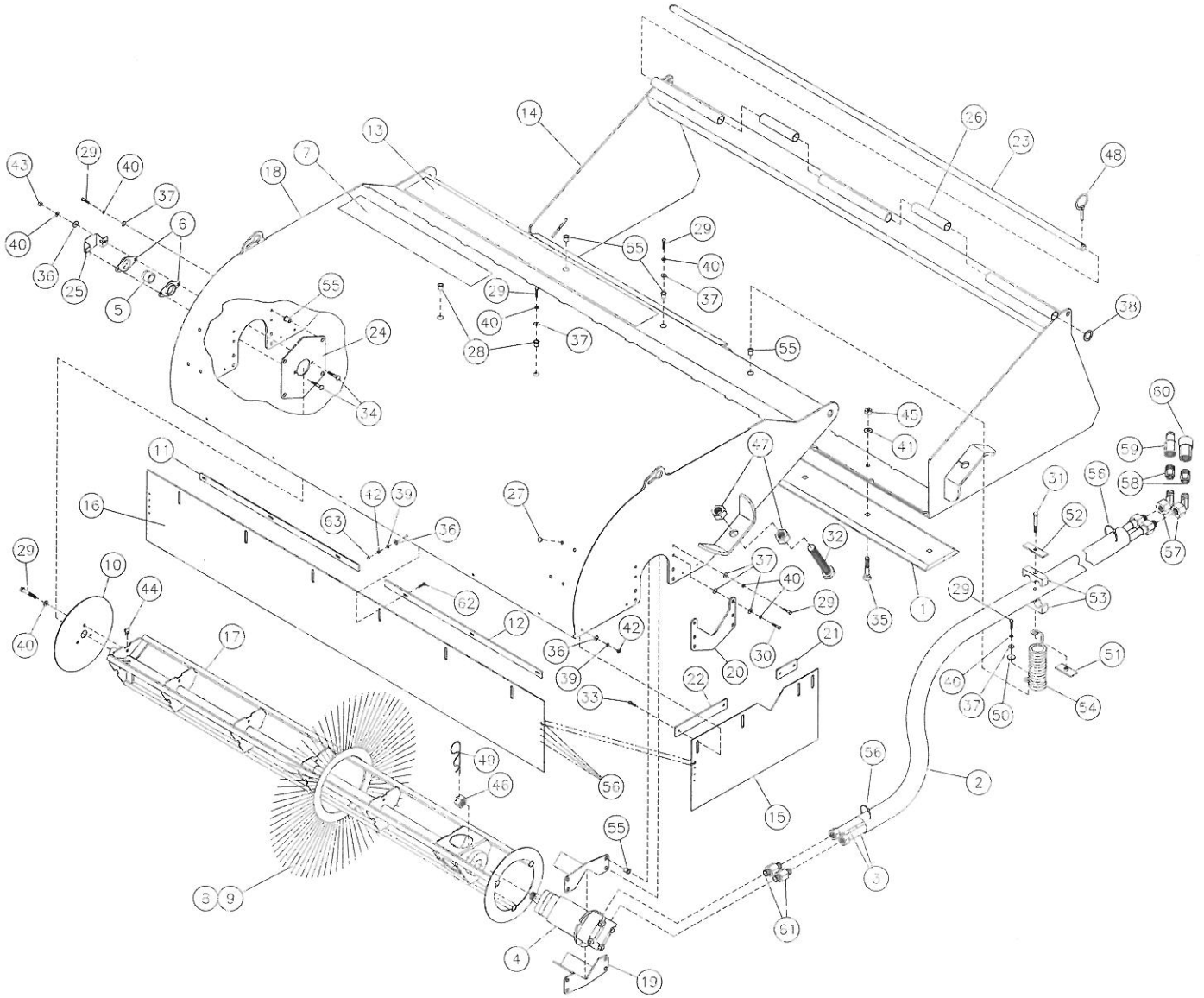
SAFETY FIRST!! READ AND UNDERSTAND THE SAFETY INSTRUCTIONS (pages 2-5 of this manual) BEFORE BEGINNING ANY HOPPER BROOM TROUBLE SHOOTING

NOTICE

See the Owner's / Operator's Manual of your power unit for any adjustment or service of your power unit that is listed as a POSSIBLE REMEDY below.

<u>PROBLEM</u>	<u>POSSIBLE CAUSE</u>	<u>POSSIBLE REMEDY</u>
Brush does not turn.	Brush bearing is seized.	Replace the bearing.
	Obstruction (i.e. rock, etc.) is lodged against the brush.	Remove the obstruction. Make sure that all safety procedures are followed. (Similar to removing debris that is wrapped around the brush on page 9.)
	Low level of hydraulic fluid in the power unit.	Add hydraulic fluid to the power unit.
	Defective hydraulic valve on the power unit.	Repair or replace the hydraulic valve on the power unit.
	Defective hydraulic pump on the power unit.	Repair or replace the hydraulic pump on the power unit.
	Defective motor.	Replace motor.
Loss of power to brush.	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 power unit.	Add hydraulic fluid to power unit.
	Air in the power unit's hydraulic system.	Bleed the power unit's hydraulic system.
Brush turns erratically.	Air in the power unit's hydraulic system.	Bleed the power unit's hydraulic system.
Swept material not being collected in bucket.	Front or side flaps not properly adjusted.	Adjust the flap height. (See SETUP on page 7.)
	Brush rotating in the wrong direction.	Reverse the brush rotation. (See GENERAL on page 8.)
	Material falling back out of bucket.	Empty or roll back bucket.

PARTS ILLUSTRATION



HOPPER BROOM PARTS LIST

ITEM	QTY.	LAF8360 60"	LAF8370 72"	LAF8380 84"	DESCRIPTION
1	1	LAF8361	LAF2803	LAF8337	Bucket Edge: 5/8" x 6" x Nominal Broom Width
2	1			LAF4243	Hydraulic Hose Protector: 1-7/8" Dia. x 7'-9" Long
3	2			LAF4190	Hydraulic Hose: 1/2" I.D. x 10'-0" Long with #10 Male O-Ring Boss x #10 Female JIC
4	1			LAF4654	Hydraulic Motor
5	1			LAF8225	Core Shaft Bearing
6	2			LAF8226	Core Shaft Bearing Flange
7	1			LAF8231	Anti-Slip Abrasive Tape: 4" x 2'-0" Black
8	Varies	35, 18, 2	41, 21, 2	49, 25, 2 LAF8249	Brush Section: 2'-2" O.D. With Poly Bristles
9	Varies	0, 17,33	0, 20, 39	0, 24,47 LAF8250	Brush Section: 2'-2" O.D. With Wire Bristles
10	1			LAF8259	Brush Section Retainer
11	1	LAF8346 1'-6 1/2"	LAF8301 2'-4 1/2"	LAF8301 2'-4 1/2"	Flap Retainer: Length Noted
12	1	LAF8301 2'-4 1/2"	LAF8301 2'-4 1/2"	LAF8302 3'-4 1/2"	Flap Retainer: Length Noted
13	1			LAF8303	Anti-Slip Abrasive Tape: 4" x 3'-6" Black
14	1	LAF8321	LAF8322	LAF8323	Bucket Weldment
15	2			LAF8324	Side Flap
16	1	LAF8338	LAF8325	LAF8342	Front Flap
17	1	LAF8339	LAF8326	LAF8343	Core Weldment
18	1	LAF8340	LAF8327	LAF8344	Sweeper Housing
19	2			LAF8328	Hydraulic Motor Cradle Weldment
20	1			LAF8329	Hydraulic Motor Clamping Plate
21	2			LAF8330	Side Flap Retainer: 3-5/8" Long
22	2			LAF8331	Side Flap Retainer: 9-1/8" Long
23	1	LAF8341	LAF8332	LAF8345	Sweeper Housing Pivot Pin
24	1			LAF8333	Bearing Mounting Plate
25	1			LAF8334	Bearing Cover Plate
26	2	Not Used	LAF8335 (5-7/8")	LAF8336 (11-7/8")	Pipe Spacer: Length Noted.
27	8			LAF9853	Plug: 3/8" Dia., Black
28	2			RHW8645	Rivet Nut: 5/16" Dia. x 18 TPI, 0.027-0.150 Grip Range
29	Varies	(12)	(13)	(13) RHW1105	Hex Head Cap Screw: 5/16" Dia. x 1" Long, Grade 5
30	6			RHW1107	Hex Head Cap Screw: 5/16" Dia. x 1-1/4" Long, Grade 5
31	1			RHW1112	Hex Head Cap Screw: 5/16" Dia. x 2-1/2" Long, Grade 5
32	2			RHW1915	Hex Head Cap Screw: 1" Dia. x 6" Long, Full Thread, Grade 5
33	8			RHW2003	Carriage Bolt: 1/4" Dia. x 1" Long, Grade 5
34	2			RHW2202	Carriage Bolt: 5/16" Dia. x 1" Long, Grade 5
35	Varies	(6)	(7)	(8) RHW2465	Plow Bolt: 1/2" Dia. x 1-1/2" Long, Grade 8
36	Varies	(15)	(16)	(17) RHW5062	Flat Washer: 1/4" Dia. USS, Grade 5
37	Varies	(21)	(22)	(22) RHW5162	Flat Washer: 5/16" Dia. USS, Grade 5
38	2			RHW5862	Flat Washer: 7/8" Dia. USS, Grade 5
39	Varies	(13)	(14)	(15) RHW6002	Lock Washer: 1/4" Dia. Medium Split
40	Varies	(21)	(22)	(22) RHW6102	Lock Washer: 5/16" Dia. Medium Split
41	Varies	(6)	(7)	(8) RHW6402	Lock Washer: 1/2" Dia. Medium Split

NOTE: All parts are the same as the LAF8380 except for those parts numbered under the other models.

HOPPER BROOM PARTS LIST (Continued)

ITEM	QTY.	LAF8360 60"	LAF8370 72"	LAF8380 84"	DESCRIPTION
42	Varies	(13)	(14)	(15) RHW7001	Hex Nut: 1/4" Dia. With 20 Threads Per Inch
43	2			RHW7101	Hex Nut: 5/16" Dia. With 18 Threads Per Inch
44	3			RHW7110	U-Style Clip Nut: 5/16" Dia. With 18 Threads Per Inch
45	Varies	(6)	(7)	(8) RHW7401	Hex Nut: 1/2" Dia. With 13 Threads Per Inch
46	1			RHW7708	Slotted Hex Nut: 1" Dia. With 20 TPI, Grade 5
47	4			RHW7901	Hex Nut: 1" Dia. With 8 Threads Per Inch
48	2			RWH8042	Lynch Pin: 3/16" Dia. x 1-1/4" Long (Useable)
49	1			RHW8075	Hairpin Cotter Pin: 1/8" Dia. x 2-3/8" Long
50	1			RHW8098	Fender Washer: 5/16" I.D. x 1 1/2" O.D. x 0.08" Thick
51	1			RHW8613	Weld Plate: 5/16" Dia. Threaded Hole
52	1			RHW8614	Cover Plate For Hose Clamp Cradles
53	1			RHW8616	Clamp Cradle For (2) 7/8 O.D. Hoses
54	1			RHW8618	Spring: 1-1/2" O.D. x 11-5/8" Long With 7-1/4" Coil
55	15			RHW8642	Rivet Nut: 5/16" Dia. With 18 TPI, 0.150-0.312 Grip Range
56	10			RMR5002	Nylon Cable Ties: 1/4" x 11" Long, Black, Outdoor Use
57	2	Contact FFC to obtain the correct item.			Hydraulic Elbow (Not required on some models.)
58	2	Contact FFC to obtain the correct item.			Hydraulic Adapter (Not required on some models.)
59	1	Contact FFC to obtain the correct item.			Hydraulic Hose Quick Coupler: With Male End
60	1	Contact FFC to obtain the correct item.			Hydraulic Hose Quick Coupler: With Female End
61	2			LAF4414	Hydraulic Adapter: Straight #10 Male O-Ring Boss x #10 Male JIC
62	Varies	(5)	(6)	(7) RHW2004	Carriage Bolt: 1/4" Dia. x 1-1/4" Long, Grade 5
63	Varies	(5)	(6)	(7) RHW8611	Vinyl Cap: 1/4" Dia. x 1/2" Long

NOTE: All parts are the same as the LAF8380 except for those parts numbered under the other models.

HOPPER BROOM SPECIFICATIONS

Model Number	Overall Width	Overall Height	Overall Depth	Shipping Weight
LAF8360	65-3/4"	27-3/4"	53-7/8"	806 lbs.
LAF8370	77-3/4"	27-3/4"	53-7/8"	910 lbs.
LAF8380	89-3/4"	27-3/4"	53-7/8"	1,023 lbs.
All replacement hydraulic hoses and fittings must have a minimum rated working pressure of 3,500 psi.				



Policies

Prices shown in this catalog are list prices unless otherwise stated. All prices are subject to change without notice. Prices will be those in effect at time of shipment. Quotations are based on prices prevailing at the time of inquiry and are good for a period of 30 days. All prices are subject to any Federal, State and Local tax that is now in effect or may be put into effect. All prices are F.O.B. nearest warehouse.

Claims for shortages of inaccurate filling of orders will not be allowed after 10 days from receipt of goods. Check merchandise immediately upon receipt. If merchandise is damaged or there is a shortage of boxes or pieces, be sure to note this on the carrier's receipt. You must file a claim immediately on the carrier. The responsibility for filing claims on the carrier for shortages or damaged merchandise is strictly yours, the consignee.

Special orders require a 50% down payment and cannot be returned or canceled. When ordering, please specify part numbers, sizes, description and any other necessary information.

Return Goods Agreement

Dealers may return merchandise back to FFC Attachments FOR CREDIT. Written authorization must be given prior to return. Merchandise returned for credit must be prepaid and accompanied with return goods authorization as well as invoice date and invoice number. If there is an error on our part in filling your order, we will accept the merchandise freight collect if returned by lowest cost transportation. For orders that were filled correctly, credit will be based on either the original purchase price or the current catalog price, whichever is lower, less 20% restocking charge and reworking charges. In the event it is necessary to replace missing parts or to repaint and package these goods, this rework will be charged back on a time and material basis. WARNING: Reworking of merchandise in rusty or damaged condition is extremely costly. Goods must be returned within 30 days after authorization is given.

Limited Warranty Agreement

The following warranties with respect to new FFC Attachments products, excepting as hereafter provided, is made by FFC Attachments to Dealers ("Dealers") authorized by FFC Attachments to sell the products involved and each selling Dealer, in turn, make such warranties to the original retail purchaser (the "Purchaser").

A. Duration and Extent of Warranty

1. Products, except all working, moving and all or any parts subject to wear, except as hereafter provided, which are defective in materials or workmanship as delivered to the Purchaser by a Dealer will be repaired or replaced, by FFC Attachments, only, as FFC Attachments elects, without charge for materials or labor, if such defect appears in not more than twelve months, or 2,000 working hours, whichever is first, from and after the date of delivery to the Purchaser by the Dealer.

2. Those working and moving parts consisting of cylinders, pivot pins, bushings, bosses and bearings are warranted for repair or replacement as FFC Attachments elects for a period not to exceed six months or 1,000 working hours, whichever is first, from date of delivery to the Purchaser by Dealer. Teeth, cutting edges and wear bars are not warranted.

3. Liability of FFC Attachments for defective parts of materials is specifically limited to the value of the parts or materials, only.

4. All parts or materials requiring warranty work MUST be returned by delivery to the selling Dealer for delivery to FFC Attachments within thirty (30) days of occurrence of the defect or failure of the part or material, all freight prepaid by the Purchaser. Upon completion of the warranty work, FFC Attachments will ship parts and material to Purchaser, freight prepaid by FFC Attachments.

5. All decisions by FFC Attachments pertaining to warranty work are final.

B. Dealer Responsibilities

The following responsibilities are to be performed when the dealer delivers a product to the purchaser or otherwise places it into warranty service:

1. Complete the Warranty Registration Form and forward to FFC Attachments within 30 days of the sale of the product. Warranty reimbursement is contingent upon product registration.

2. Review warranty statement, operator's manual and complete delivery report with purchaser to assure understanding of purchaser's responsibilities as related to warranty, service and the proper and safe operation of the product. Purchasers should be advised to have failed parts repaired or replaced immediately upon failure and that continued use will result in additional damage and excessive wear.

3. Contact manufacturer prior to beginning repair or replacement of failed parts to make certain that the cost of repairs are consistent with the value of the product when sold. Warranty requests for units in dealer's inventory may be submitted to FFC Attachments when defects are noted in products prior to the retail sale of that unit.

4. Provide warranty and service repairs as directed by FFC Attachments' Service Repair Bulletins or other instructions.

5. All warranty work must be completed within 30 days of failure. Notify FFC Attachments' Warranty Department if repairs will require more than 30 days after failure for an extension. No claim will be accepted for warranties that exceed this 30 day period.

6. No warranty will be allowed on units delivered to the retail customer prior to the full payment of that unit to the manufacturer by the dealer.

7. If diagnostic time is required, contact FFC Attachments prior to beginning the warranty repair for approval. Travel time reimbursement must be approved by FFC Attachments prior to beginning the warranty repair.

C. FFC Attachments' Responsibilities

1. Reimbursement for parts used in warranty repair will be credited only when the parts are purchased from FFC Attachments. Parts will be credited at dealer's net cost. No warranty will be allowed on parts that are past due.
2. Dealer should use parts from their parts inventory first. In the event that parts must be shipped from FFC Attachments, freight will be paid by FFC Attachments Dealer and will be shipped by the most economical means to arrive in the shortest possible time. Air, Next Day Air, Priority and other special shipment methods requested by the dealer will be at customer's expense.
3. Warranty Labor Reimbursement for labor expense to the dealer is made by payment of the retail labor rate, or as regulated by state statutes. Repair times will be reviewed by FFC Attachments and may be adjusted to average repair time required by other dealers to make similar repairs. Labor is not paid on the warranty associated with repair parts purchased by the retail customer that are used on a product that is not currently in warranty time frame.
4. Reimbursements for repairs made by outside sources (not dealer personnel) will be made for those services deemed necessary for the resolution of the warranty by FFC Attachments' Warranty Department. Outside repair invoices must have prior approval from FFC Attachments' Service Department and must be attached to the warranty claim after approval.

D. Other Warranty Provisions

The following guidelines are to be followed when performing warranty repairs:

1. In all cases, the most economical repair should be performed unless otherwise directed. Credit will not be allowed for assemblies, or groups, if it is practical to make the repair with individual parts. In some cases, the assembly, or group price may be less than the total of the parts and labor required to complete the repair. In those cases, an assembly, or group, may be used.
2. Only those parts provided by FFC Attachments are covered under Warranty. The use of parts from other sources will not be eligible for warranty consideration.
3. All parts removed during warranty repair should be held for a period of 60 days after the warranty claim has been submitted to FFC Attachments. These parts can be discarded if disposition or return request hasn't been made during this period. Parts that are returned to FFC Attachments for which credit has not been issued can be returned upon dealer request within 30 days of claim disposition. These parts will be discarded after the 30 day period.
4. FFC Attachments reserves the right to deny or reverse any and all warranty claims for parts, labor, or miscellaneous charges when errors are found or warranty provisions are abused or fraudulent claims are submitted.

E. Warranty Exclusions

FFC Attachments will not be responsible for any of the following:

1. Defects or damage resulting from use, repairs or service performed in a manner not approved by FFC Attachments or from repairs or service performed by someone other than FFC Attachments to repair or replace the Product involved.
2. Defects, damage or failure resulting from any alteration or additions, done in a manner not approved by FFC Attachments.
3. Defects, damage or failure or depreciation resulting from wear and tear, accident, misuse, negligence, improper maintenance or improper protection and storage; or
4. INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS, LOSS OF TIME, LOSS OF CROPS, INCONVENIENCE, LOSS OF USE OF THE PRODUCT OR OTHER MACHINERY, EQUIPMENT OR VEHICLES USED WITH THE PRODUCTS, COST OF RENTALS REPLACEMENT OF THE PRODUCTS OR OTHER COMMERCIAL LOSS.

F. Remedies Exclusive: No Other Warranties

The obligation of FFC Attachments and the Dealers are limited to the obligations set forth in this Limited Warranty. THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF FFC ATTACHMENTS, AND THE DEALERS, EXPRESS OR IMPLIED. WARRANTIES BY FFC ATTACHMENTS OR THE DEALERS OF CONDITION QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED, AS ARE ALL OTHER REPRESENTATIVES BY FFC ATTACHMENTS AND THE DEALERS TO THE PURCHASER OR USER AND ALL OTHER OBLIGATIONS OR LIABILITIES OF FFC ATTACHMENTS AND THE DEALERS. NO OTHER PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR TO ASSUME ANY OTHER LIABILITY ON BEHALF OF FFC OR THE DEALERS.

THE LIMITED WARRANTY MAY NOT BE TRANSFERRED BY THE PURCHASER TO ANY SUBSEQUENT OWNER.

1. The instruction manual supplied with the Product contains important maintenance and service information. Read the manual and follow recommendations contained therein. Please remember that failures due to improper maintenance or service are not covered by the Limited Warranty.

FFC Attachments reserves the right to make changes in Design or specifications at any time without Obligation to purchasers or equipment and Components previously sold. This warranty May not be altered or changed in any way.