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# INTRODUCTION

Congratulations on your purchase of a new FFC Snow Blade. This product has been designed and built to push snow forward only. In addition, light bulldozing may be performed with the 11400 series snow blades only (see SNOW BLADE OPERATION). 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): **11460**, **11472**, **11484**, **11496**, **11584**, **11596**, **11508**, **11520**, **11532**, **11544**, **LAF5784**, **LAF5796**, **LAF5708**, **LAF5720**, **LAF5732**, and **LAF5744**. The difference between the models is the width, construction, and operating features 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 Snow Blade. 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:

Prime Mover	The engine-driven machine to which this product must be attached.
Right, Left, Front,	Directions that are determined in relation to the operator of the equip-
Rear	ment when seated in the normal operation position.
IMPORTANT	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 surface of the loader attachment plate of your Snow Blade.

Reference I	nformation
Model Number	Loader Make
Serial Number	Loader Model
Date Purchased	Loader Serial Number

### 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.

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



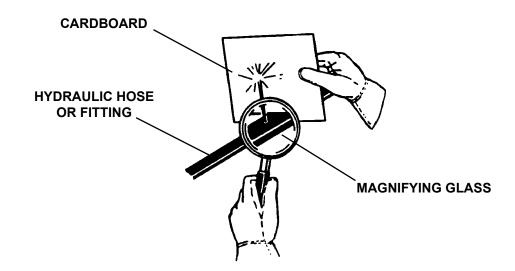
Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower booms to ground 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.

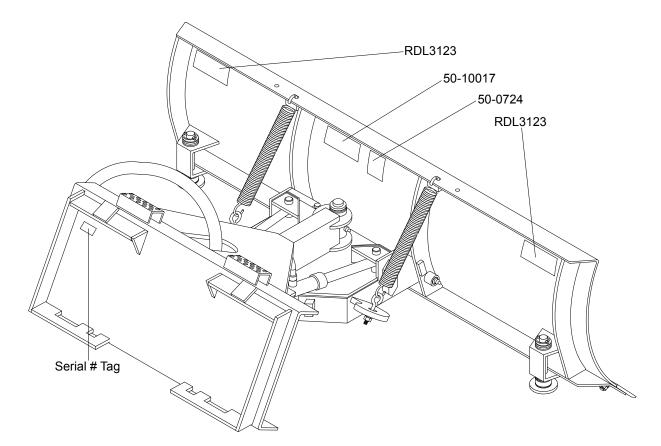
#### WARNING! KNOW WHERE UTILITIES ARE



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.

## SAFETY SIGN LOCATIONS

The diagram on this page shows the location of the decals used on the FFC Snow Blade. 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.



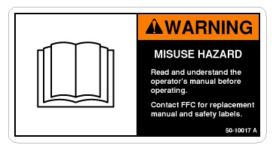
#### INSTRUCTIONS

- 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**



PART #50-10017 WARNING! READ MANUAL



PART #50-0724 WARNING! HIGH PRESSURE FLUID



PART #RDL3123 WARNING! PIVOTING ATTACHMENT

### PRIME MOVER SPECIFICATIONS

#### IMPORTANT

#### Exceeding any of the maximum recommended prime mover specifications CAN result in damage to this product and <u>WILL</u> void all FFC warranties.

DESCRIPTION		SPECIFICATIONS			
	11400 Series	11500 Series	5700 Series		
Weight of Prime Mover without Snow Blade	8,000 lbs. maximum	20,000 lbs. maximum	11,000 lbs maximum		
Hydraulic Pressure Output	4,000 psi maximum	3,500 psi maximum	4,000 psi maximum		
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				

### **SNOW BLADE SPECIFICATIONS**

Model	Overall	Overall	Overall	Cutting	g Width	Shipping
Number	Width	Height*	Depth	Straight	Max Angle	Weight
11400 SERIES	S**		-			
11460	59.75"	22.94"	33.44"	59.75"	51.75"	450 lbs.
11472	71.75"	22.94"	33.44"	71.75"	62.13"	475 lbs.
11484	83.75"	22.94"	33.44"	83.75"	72.50"	500 lbs.
11496	95.75"	22.94"	33.44"	95.75"	82.88"	525 lbs.
11500 SERIES	S***					
11584	83.88"	31.75"	54.13"	83.88"	68.69"	1,186 lbs.
11596	95.88"	31.75"	54.13"	95.88"	78.50"	1,232 lbs.
11508	107.88"	31.75"	54.13"	107.88"	88.38"	1,309 lbs.
11520	119.88"	31.75"	54.13"	119.88"	93.19"	1,393 lbs.
11532	131.88"	31.75"	54.13"	131.88"	108.00"	1,473 lbs.
11544	143.88"	31.75"	54.13"	143.88"	117.88"	1,558 lbs.
5700 SERIES <sup>3</sup>	**					
LAF5784	83.88"	31.75"	47.69"	83.88"	72.63"	690 lbs.
LAF5796	95.88"	31.75"	47.69"	95.88"	83.00"	760 lbs.
LAF5708	107.88"	31.75"	47.69"	107.88"	93.44"	830 lbs.
LAF5720	119.88"	31.75"	47.69"	119.88"	103.81"	905 lbs.
LAF5732	131.88"	31.75"	47.69"	131.88"	114.19"	975 lbs.
LAF5744	143.88"	31.75"	47.69"	143.88"	124.63"	1,045 lbs.

All replacement hydraulics must have a minimum rated working pressure of 4,000 psi. \* The overall height is also the height of the moldboard without the optional flap.

\*\* The maximum angle is 30 degrees.

\*\*\* The maximum angle is 35 degrees

### **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.

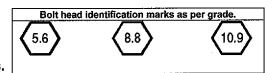
#### SAE BOLT TORQUE SPECIFICATIONS

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.

		SAE	GRAD	E 5 TO	RQUE	SA	E GRAD	DE 8 TOR	QUE	Delt hand identification marks on hor smoth
Во	It Size	Pound	s Feet	Newtor	n-Meters	Pound	ds Feet	Newto	n-Meters	Bolt head identification marks as per grade. NOTE: Manufacturing Marks Will Vary
Inches	Millimeters	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	GRADE 2
1/4	6.35	8	9	11	12	10	13	14	18	
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	GRADE 5
9/16	14.29	94	112	127	152	136	163	184	221	
5/8	15.88	128	153	174	207	187	224	254	304	1 <b>(') (') (')</b>
3/4	19.05	230	275	312	373	323	395	438	536	〕 レ リトレ レ
7/8	22.23	340	408	461	553	510	612	691	830	
1	25.40	493	592	668	803	765	918	1037	1245	GRADE 8
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	፲
1-3/8	34.93	1241	1428	1683	1936	2023	2312	2743	3135	」とゝ」して」とい」
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.



Size of Bolt	Grade No.	Pitch (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters
	5.6		3.6-5.8	4.9-7.9		-	-
M6	8.8	1.0	5.84	7.9-12.7	-	-	-
	10.9		7.2-10	9.8-13.6		-	-
	5.6		7.2-14	9.8-19		12-17	16.3-23
M8	8.8	1.25	17-22	23-29.8	1.0	19-27	25.7-36.6
	10. <del>9</del>		20-26	27.1-35.2		22-31	29.8-42
	5.6		20-25	27.1-33.9		20-29	27.1-39.3
M10	8.8	1.5	34-40	46.1-54.2	1.25	35-47	47.4-63.7
	10.9		38-46	51.5-62.3		40-52	54.2-70.5
	5.6		28-34	37.9-46.1		31-41	42-55.6
M12	8.8	1.75	51-59	69.1-79.9	1.25	56-68	75.9-92.1
	10.9		57-66	77.2-89.4		62-75	84-101.6
	5.6		49-56	66.4-75.9		52-64	70.5-86.7
M14	8.8	2.0	81-93	109.8-126	1.5	90-106	122-143.6
	10.9		96-109	130.1-147.7		107-124	145-168
	5.6		67-77	90.8-104.3		69-83	93.5-112.5
M16	8.8	2.0	116-130	157.2-176.2	1.5	120-138	162.6-187
	10.9		129-145	174.8-196.5		140-158	189.7-214.1
	5.6		88-100	119.2-136		100-117	136-158.5
M18	8.8	2.0	150-168	203.3-227.6	1.5	177-199	239.8-269.6
	10. <del>9</del>		175-194	237.1-262.9		202-231	273.7-313
	5.6		108-130	146.3-176.2		132-150	178.9-203.3
M20	8.8	2.5	186-205	252-277.8	1.5	206-242	279.1-327.9
	10.9	1	213-249	288.6-337.4		246-289	333.3-391.6

### SNOW BLADE MOUNTING

### 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).

- 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.

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

# SNOW BLADE HYDRAULIC CONNECTION



### READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals before beginning any Snow Blower 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.

- 1. You must purchase and install two hydraulic hoses that have fittings permanently attached to each end. These hoses and fittings must meet the following specifications: (NOTE: If your Snow Blade was supplied with hoses, skip to step 4.)
- Inside Diameter: ......0.375" (3/8")
- Minimum Operating Pressure: ..4,000 psi. •
- Hose End Fittings: .....One hose end must be a #6 female JIC fitting. The fitting for the other end can be whatever you determine to be the most beneficial to making the connection to your prime mover.
- Length: ......You must make this determination based upon recommendations provided in your prime mover's operator's manual. The hoses must be long enough to avoid applying any tension to them (i.e. stretching) in all operating positions of this product. The hoses must not be excessively long either, because this could cause the hoses to drag on the ground, be pinched in the equipment, become entangled in moving parts, etc., any of which will shorten the life of the hose and could cause injury to the operator or others near the equipment.
- 2. Remove all the protective plastic caps from the hose ends and this product's connection fittings.
- 3. Make certain that the male and female threads, as well as the inside of the hoses, are clean, then place the #6 hose ends on/in to the fittings on this product and tighten to 21 ft. lbs.,  $\pm$  1,9 ft, lbs. (#6 is 9/16" dia. with 18 tpi.)
- 4. Make the connection to your prime mover using the appropriate method below for your prime mover:
- If your prime mover has male or female threads for connecting the hydraulic hoses to the auxiliary hydraulic lines, make certain that the threads, as well as the inside of the fittings and hoses, are clean, then secure the hoses to the fittings using the torgue specified in your prime mover's operator's manual.
- If your prime mover has guick-couplers for connecting the hydraulic hoses to the auxiliary hydraulic • lines, you may need to purchase the proper quick-coupler fittings that you must install on the free ends of the two hoses. In most cases, the owner's manual for your prime mover will describe the exact type of fitting that is needed for your hydraulic coupling system, but in no case should any fitting have an allowable operating pressure of less than 4,000 psi. Once all the quick-coupler fittings are properly installed, then the hoses can be coupled to the prime mover's hydraulic valve body or auxiliary hydraulic lines as per the instructions found in your prime mover's operator's manual.
- 5. Carefully raise the loader and cycle the tilt cylinders to check hose clearances and to check for any interference. Operate the hydraulic cylinder(s) on this product to make the same checks.
- 6. Cycle the hydraulic cylinder(s) on this product several times from fully retracted to fully extended until all air has been completely removed from the cylinder(s).



#### 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.

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

# SNOW BLADE SETUP



### READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals before beginning any Snow Blower setup. 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.

#### SPRING SETUP

- 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 the level surface.
- 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. Make sure that the springs on your Snow Blade comply with the specifications listed in the appropriate table below.

FOR THE 11400 SERIES ONLY: RECO	MMENDED	SPRING SET		IS
Blade Width	5'	6'	7'	8'
Recommended Spring Setup Lengths*:				
(Max. Length Permitted: 16.25")	15"	15"	15"	15"

FOR THE 11500 & 5700 SERIES ONL	<u>Y:</u> RECO	MMENDE	D SPRIN	G SETUP		IS
Blade Width	7'	8'	9'	10'	11'	12'
Recommended Spring Setup Lengths*:						
(Max. Length Permitted: 15.13")	14.19"	14.38"	14.56"	14.75"	14.94"	15.13"

- \*NOTE: The "Spring Setup Lengths" are measured from the inside of one hook to the inside of the other hook. The relaxed length of a spring is 14".
- 6. Test operate your Snow Blade. If the moldboard trips too easily, perform the following steps as needed:
  - A. Repeat the preceding steps (1 through 4).
  - B. First, try tightening the spade (or eye) bolts to lengthen the springs.

**IMPORTANT** Lengthening the springs beyond the maximums listed in the "SPRING SETUP LENGTHS" table

CAN result in damage to this product and

WILL void all FFC warranties.

C. Test operate you Snow Blade again. If the moldboard still trips too easily, then contact FFC.

#### INSTALLATION OF OPTIONAL RUBBER EDGE

- 1. Remove the standard wear edge as per steps 1 through 7 on the "SNOW BLADE SERVICE (REPLACEMENT OF WEAR EDGE)" page and set aside the wear edge and all bolts.
- 2. Insert the bolts provided with the rubber edge through the steel strip, the rubber edge, and the base of the moldboard. Loosely secure the bolts with the lock washers and nuts that were removed in step 1.
- 3. <u>For the 11400 Series</u>: Position the rubber edge so that no more than 1" of the edge extends below the lowest point of the moldboard and tighten the nuts to 75 ft. lbs.

<u>For the 11500 & 5700 Series</u>: Position the rubber edge so that no more than 1.5" of the edge extends below the lowest point of the moldboard and tighten the nuts to 150 ft. lbs.

### SNOW BLADE OPERATION



#### 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.

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



- Never lift this product (a.) above the operator's eye level or (b.) to a height where visibility is obstructed, whichever is lower.
- Do not exceed 15 miles per hour while operating.

**IMPORTANT** Striking solid objects hidden in snow OR pushing materials other than snow CAN result in damage to this product and <u>WILL</u> void all FFC warranties.

Before any snowfall, inspect the site where your Snow Blade is to be used. Locate any obstructions (i.e. curbs, sidewalks, parking bumpers, pipes, shrubs, fences, etc.) and any variations in elevation (i.e. retaining walls, slopes, holes, etc.) so that these elements can be avoided during the snow plowing operation.

#### FOR THE 11400 SERIES ONLY:

This Snow Blade may be used for dozing light, loose materials if the springs and eye bolts are removed and replaced with the long eye bolts.

**IMPORTANT** Dozing of undisturbed soil, heavy materials, or similar items CAN result in damage to this product and <u>WILL</u> void all FFC warranties.

# SNOW BLADE MAINTENANCE



### **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.

### 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.)
- Replace any damaged parts and excessively worn parts.
- Make sure that the radius plate is level when your Snow Blade is in the operating position.

### AFTER EVERY 10 HOURS OF USE

• Grease all grease fittings: see Parts Illustrations and Parts Lists for reference.

# SNOW BLADE SERVICE



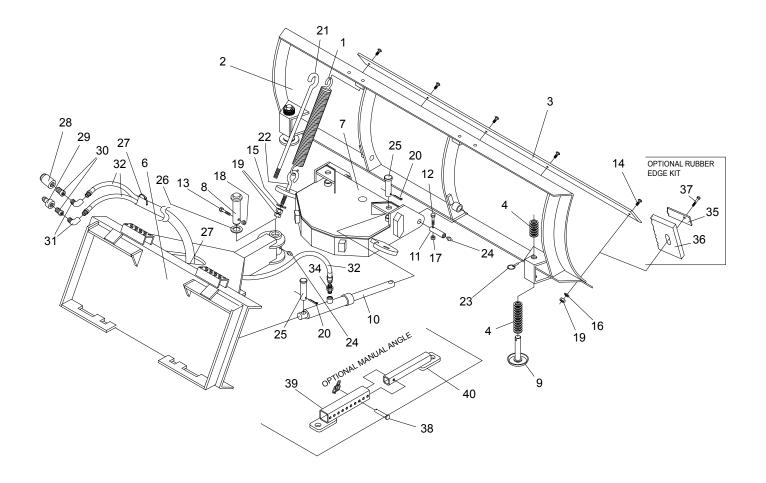
#### **READ AND UNDERSTAND ALL SAFETY STATEMENTS**

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.

### REPLACEMENT OF WEAR EDGE

- 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 blocking positioned immediately behind the moldboard. This blocking must be of sufficient height to hold the wear edge approximately 6" to 8" above the level surface.
- 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 nuts on all the wear edge bolts and remove all nuts and wear edge bolts except the bolts on ear end of the wear edge.
- 6. While holding up the end of the wear edge, remove the nut and bolt from that end and allow that end to pivot down to the level surface.
- Repeat step 6 for the other end of the wear edge. Properly dispose of the wear edge and all bolts and nuts. <u>FOR THE 11400 SERIES ONLY</u>: These edges are reversible and my be flipped top-tobottom for reinstallation.
- 8. Reinstall a new wear edge by reversing the procedures in steps 7 through 5 and tightening the nuts to 75 ft. lbs. **FOR THE 11500 & 5700 SERIES ONLY:** Tighten the nuts to 150 ft. lbs.

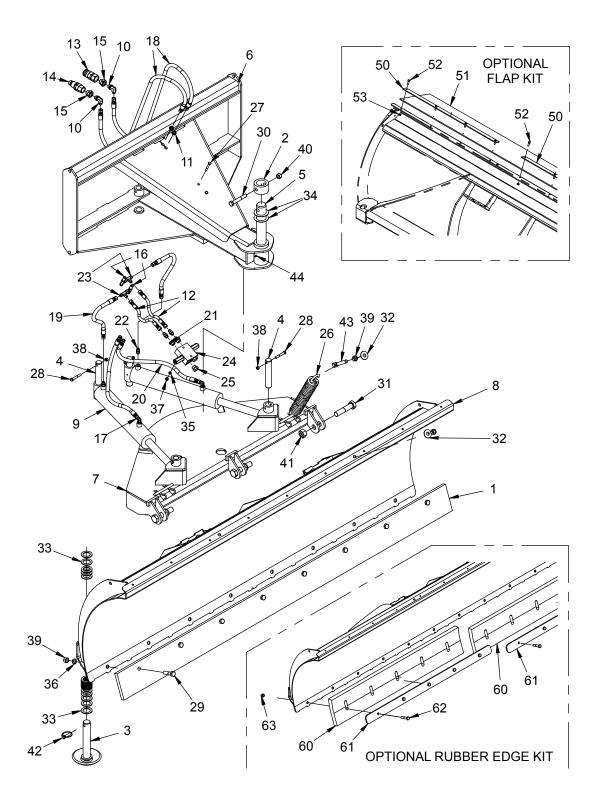
# 11400 SERIES SNOW BLADE PARTS ILLUSTRATION



### 11400 SERIES SNOW BLADE PARTS LIST

			TUUUL		NOW DEA	DE PARIS LIST
ITEM	QTY.	5' 11460	6' 11472	7' 11484	8' 11496	DESCRIPTION
1	2				DHF2018	Trip Spring 2" x 14"
2	1	LAF1402	LAF1403	LAF1404	LAF1419	Mold Board
3	1	LAF1406	LAF1407	LAF1408	LAF1420	Wear Edge
4	22				07-10126	Grade 5 Flat Washer 1.63" SAE
6	1				13-53215	Loader Attachment Plate
7	1				13-53214	Radius Plate
8	1				13-53223	Pivot Pin
9	2				LAF1485	Skid Shoe
10	2				LAF4563	Hydraulic Cylinder 1.5" piston, 11.5" stroke, 4000 psi. (Cylinder Seal Kit = LAF4613)
11	2				LAF9782	Pin 1" x 3.38"
12	2				07-3022	Grade 8 Hex Head Cap Screw .25" x 2"
13	1				P100810	Grade 5 Hex Head Cap Screw .5" x 2.5"
14	varies	(5)	(6)	(7)	(8) RHW2407	Grade 5 Carriage Bolt .5" x 2"
15	2				RHW5462	Grade 5 Flat Washer .5" USS
16	varies	(5)	(6)	(7)	(8) P851108	Grade 5 Lock Washer .5"
17	2				P158003	Grade 5 Lock Nut .25"
18	1				RHW7403	Grade 5 Lock Nut .5"
19	varies	(9)	(10)	(11)	(12) RHW7401	Grade 5 Hex Nut .5"
20	4				RHW8011	Grade 2 Cotter Pin .13" x 1.25"
21	2				RHW8062	Eyebolt .5" x 20.25" 13 tpi
22	2				RHW8063	Eyebolt .5 x 6.75" 13 tpi
23	2				RHW8064	Lynch Pin .44" x 1.63" (usable)
24	4				07-3112	Grease Zerk .25" 28 tip, self-tapping
25	4				RHW8227	Clevis Pin .75" x 3.5" (3.25 usable)
26	1-4	(as needed)			P855120	Machinery Bushing 1.25 ID x 1.88 OD, 10 ga thick
27	2				RMR5002	Nylon Cable Ties .25 x 11"
*28	1				03-3859	Hydraulic Coupler Female 12FB
*29	1				03-3860	Hydraulic Coupler Male 12FB
*30	2				LAF4271	Hydraulic Adapter (not required for all models)
*31	2				LAF4255	Hydraulic Elbow (not required for all models)
*32	2				LAF4343	Hydraulic Hose .38 x 78" 6FJ-8MB HS
*34	2				03-2140	Hydraulic Adapter (not required for all models)
ΟΡΤΙΟ		S - RUBBER I	EDGE LAF6	485, LAF64		F6488 and MANUAL ANGLE 10014
35	1	LAF6465	LAF6466	LAF6467	LAF6468	Flat Strip
36	1	LAF9995	LAF9998	LAF9996	LAF9992	Rubber Wear Edge
37	varies	(5)	(6)	(7)	(8) P100812	Grade 5 Hex Head Cap Screw .5" x 3"
38	2				07-10076	Bent Hitch Pin with Hair Pin Cotter
39	2				13-51258	Position Tube Female
40	2				13-51259	Position Tube Male
			L			

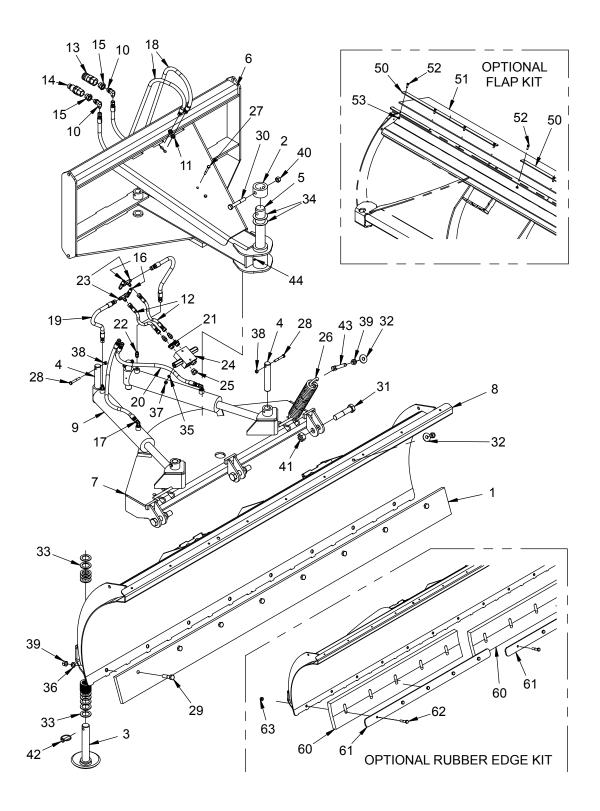
NOTE: All parts are the same as the 11496 except for those parts numbered under the other models. \*ITEM may vary per Skid Steer -- Contact FFC for correct item.



# 11500 SERIES (7', 8' & 9') SNOW BLADE PARTS LIST

ITEM	QTY.	7' 11584	8' 11596	9' 11508	DESCRIPTION
1	1	13-51823	13-51824	13-50727	Wear Edge .75" x 6" x length
2	1			LAF1483	King Pin Collar
3	2			LAF1485	Skid Shoe
4	4			LAF1487	Cylinder Pin
5	1			LAF1488	King Pin
6	1			LAF1509	Loader Attachment Plate
7	1			LAF1510	Radius Plate
8	1	LAF1512	LAF1513	LAF1514	Mold Board
9	2			LAF4044	Hydraulic Cylinder 3" piston, 16" stroke (Cylinder Seal Kit = LAF4005)
*10	2			LAF4255	Hydraulic Elbow 90° 8FB-8MB (not required for all models)
11	2			LAF4098	Bulkhead Jam Nut .56", #6 fitting, 18 tpi
*13	1			03-3859	Hydraulic Coupler Female 12FB
*14	1			03-3860	Hydraulic Coupler Male 12FB
*15	2			LAF4271	Hydraulic Adapter 8FB-12MB (not required for all models)
16	2			LAF4275	Bulkhead Run Tee 6MJ-6MJ-6MJ
17	2			P261350	Hydraulic Elbow 90° 6MB-6MJ
*18	2			LAF4343	Hydraulic Hose .38" x 78" 6FJ-8MB HS
19	2			LAF4332	Hydraulic Hose .38" x 16" 6FJ-6FJ
20	2			LAF4349	Hydraulic Hose .38" x 26" 6FJ-6FJ
21	2			LAF4405	Hydraulic Adapter 6FB-10MB
22	2			03-2140	Hydraulic Adapter 6MB-6MJ
26	4			LAF6405	Trip Spring
28	4			RHW1213	Grade 5 Hex Head Cap Screw .38" x 2.5"
29	varies	(7)	(8)	(9) P101010	Grade 5 Hex Head Cap Screw .63" x 2.5"
30	2			RHW1612	Grade 5 Hex Head Cap Screw .63" x 4"
31	3			RHW1912	Grade 5 Hex Head Cap Screw 1" x 4.5"
32	8			RHW5662	Grade 5 Flat Washer .63" USS
33	40			07-10126	Grade 5 Flat Washer 1.63" SAE
34	2			RHW5971	Machinery Bushing 2" ID, 3" OD, .075" thick
36	varies	(7)	(8)	(9) P851110	Grade 5 Lock Washer .63"
38	4			RHW7203	Grade 5 Lock Nut .38"
39	varies	(15)	(16)	(17) RHW7601	Grade 5 Hex Nut .63"
40	2			RHW7603	Grade 5 Lock Nut .63"
41	3			RHW7902	Grade 5 Retaining Nut 1" Nylock
42	2			RHW8064	Lynch Pin .44" x 1.63" (usable)
43	4			RHW8065	Grade 2 Spade Bolt .63" x 4.75"
44	8			07-3112	Grease Zerk .25", 28 tpi, self-tapping

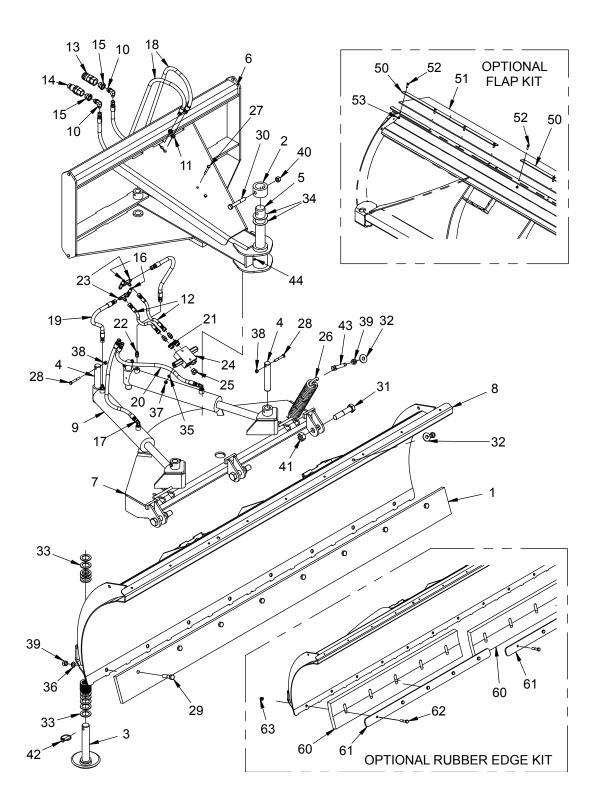
NOTE: All parts are the same as the 11508 except for those parts numbered under the other models. \*ITEM may vary per Skid Steer -- Contact FFC for correct item.



# 11500 SERIES (7', 8' & 9') SNOW BLADE PARTS LIST

ITEM	QTY.	7' 11584	8' 11596	9' 11508	DESCRIPTION
ορτιο		S			
		LAF6492	LAF6493	LAF6494	FLAP KITS
50	2	(2) 13-51708	(1) 13-51708 (1) 13-51709	(2) 13-51709	Flap Strip 4-Hole Flap Strip 5-Hole
51	1	LAF6477	LAF6478	LAF6479	Rubber Flab
52	varies	(8)	(9)	(10) RHW1105	Grade 5 Hex Head Cap Screw .31" x 1"
53	varies	(8)	(9)	(10) RHW7103	Grade 5 Lock Nut .31"
		LAF1551	LAF1552	LAF1553	RUBBER EDGE KITS
54	2	(1) LAF9407 (1) LAF9408	(2) LAF9408	(1) LAF9408 (1) LAF9409	Rubber Edge Strap 3' Rubber Edge Strap 4' Rubber Edge Strap 5'
55	2	(1) LAF9403 (1) LAF9404	(2) LAF9404	(1) LAF9404 (1) LAF9405	Rubber Wear Edge 3' Rubber Wear Edge 4' Rubber Wear Edge 5'
56	varies	(7)	(8)	(9) RHW1608	Grade 5 Hex Head Cap Screw .63" x 3"
57	varies	(7)	(8)	(9) RHW7603	Grade 5 Lock Nut .63"

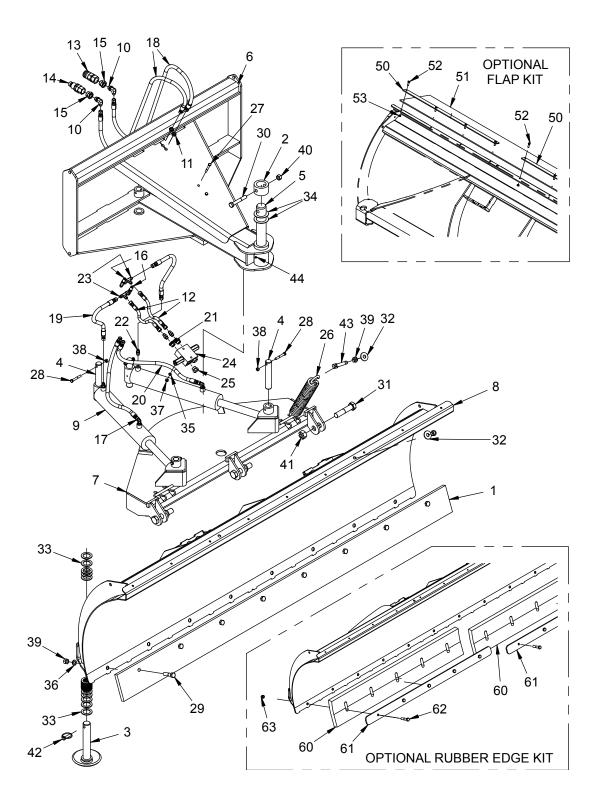
NOTE: All parts are the same as the 11508 except for those parts numbered under the other models.



### 11500 SERIES (10', 11' & 12') SNOW BLADE PARTS LIST

ITEM	QTY.	10' 11520	11' 11532	12' 11544	DESCRIPTION
1	1	13-50757	13-50086	13-50121	Wear Edge .75" x 6" x length
2	1			LAF1483	King Pin Collar
3	2			LAF1485	Skid Shoe
4	4			LAF1487	Cylinder Pin
5	1			LAF1488	King Pin
6	1			LAF1509	Loader Attachment Plate
7	1			LAF1510	Radius Plate
8	1	LAF1515	LAF1516	LAF1517	Mold Board
9	2			LAF4044	Hydraulic Cylinder 3" piston, 16" stroke (Cylinder Seal Kit = LAF4005)
*10	2			LAF4255	Hydraulic Elbow 90° 8FB-8MB (not required for all models)
11	2			LAF4098	Bulkhead Jam Nut .56", #6 fitting, 18 tpi
12	2			LAF4177	Hydraulic Hose .25" x 9.25" 6FJ-6FJ
*13	1			03-3859	Hydraulic Coupler Female 12FB
*14	1			03-3860	Hydraulic Coupler Male 12FB
*15	2			LAF4271	Hydraulic Adapter 8FB-12MB (not required for all models)
16	2			LAF4275	Bulkhead Run Tee 6MJ-6MJ-6MJ
17	2			P261350	Hydraulic Elbow 90° 6MB-6MJ
*18	2			LAF4343	Hydraulic Hose .38" x 78" 6FJ-8MB HS
19	2			LAF4332	Hydraulic Hose .38" x 16" 6FJ-6FJ
20	2			LAF4349	Hydraulic Hose .38" x 26" 6FJ-6FJ
21	2			LAF4405	Hydraulic Adapter 6FB-10MB
22	2			03-2140	Hydraulic Adapter 6MB-6MJ
23	2			03-4794	Run Tee 6MJ-6FJX-6MJ
24	1			LAF4513	Dual Relief Block Assembly 1500 psi
25	2			LAF4517	Plug 10MB
26	4			LAF6405	Trip Spring
27	2			RHW1112	Grade 5 Hex Head Cap Screw .31" x 2.5"
28	4			RHW1213	Grade 5 Hex Head Cap Screw .38" x 2.5"
29	varies	(10)	(11)	(12) P101010	Grade 5 Hex Head Cap Screw .63" x 2.5"
30	2			RHW1612	Grade 5 Hex Head Cap Screw .63" x 4"
31	3			RHW1912	Grade 5 Hex Head Cap Screw 1" x 4.5"
32	8			RHW5662	Grade 5 Flat Washer .63" USS
33	40			07-10126	Grade 5 Flat Washer 1.63" SAE
34	2			RHW5971	Machinery Bushing 2" ID, 3" OD, .075" thick
35	2			P851105	Grade 5 Lock Washer .31"
36	varies	(10)	(11)	(12) P851110	Grade 5 Lock Washer .63"
37	2			RHW7101	Grade 5 Hex Nut .31"
38	4			RHW7203	Grade 5 Lock Nut .38"
39	varies	(18)	(19)	(20) RHW7601	Grade 5 Hex Nut .63"
40	2			RHW7603	Grade 5 Lock Nut .63"
41	3			RHW7902	Grade 5 Retaining Nut 1" Nylock
42	2			RHW8064	Lynch Pin .44" x 1.63" (usable)
43	4			RHW8065	Grade 2 Spade Bolt .63" x 4.75"
44	8			07-3112	Grease Zerk .25", 28 tpi, self-tapping

NOTE: All parts are the same as the 11544 except for those parts numbered under the other models. \*ITEM may vary per Skid Steer -- Contact FFC for correct item.

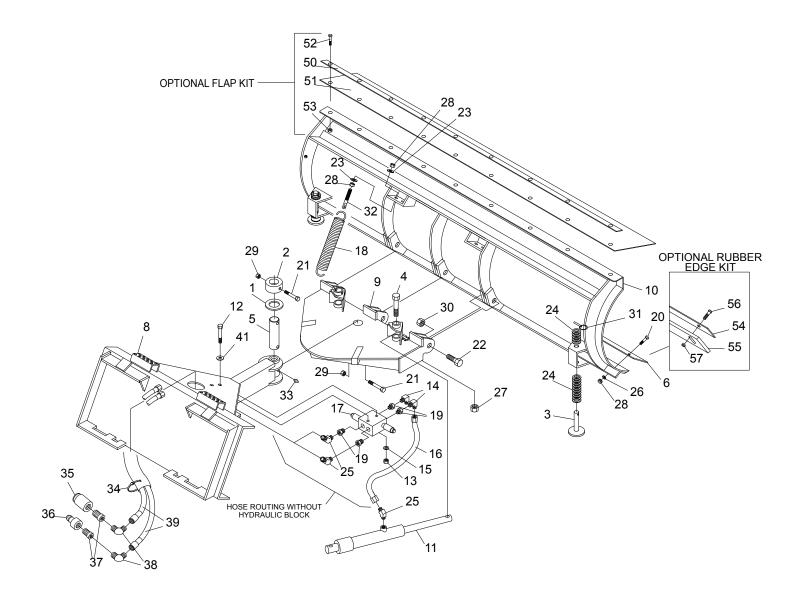


### 11500 SERIES (10', 11' & 12') SNOW BLADE PARTS LIST

ITEM	QTY.	10' 11520	11' 11532	12' 11544	DESCRIPTION
ΟΡΤΙΟ		S			
		LAF6495	LAF6497	LAF6498	FLAP KITS
50	3	(1) 13-51707 (2) 13-51708	(3) 13-51708	(2) 13-51708 (1) 13-51709	Flap Strip 3-Hole Flap Strip 4-Hole Flap Strip 5-Hole
51	1	LAF6480	LAF6443	LAF6444	Rubber Flab
52	varies	(11)	(12)	(13) RHW1105	Grade 5 Hex Head Cap Screw .31" x 1"
53	varies	(11)	(12)	(13) RHW7103	Grade 5 Lock Nut .31"
		LAF1554	LAF1555	LAF1556	RUBBER EDGE KITS
54	2	(2) LAF9409	(1) LAF9409 (1) LAF9410	(2) LAF9410	Rubber Edge Strap 5' Rubber Edge Strap 6'
55	2	(2) LAF9405	(1) LAF9405 (1) LAF9406	(2) LAF9406	Rubber Wear Edge 5' Rubber Wear Edge 6'
56	varies	(10)	(11)	(12) RHW1608	Grade 5 Hex Head Cap Screw .63" x 3"
57	varies	(10)	(11)	(12) RHW7603	Grade 5 Lock Nut .63"

NOTE: All parts are the same as the 11544 except for those parts numbered under the other models.

### **5700 SERIES SNOW BLADE PARTS ILLUSTRATION**

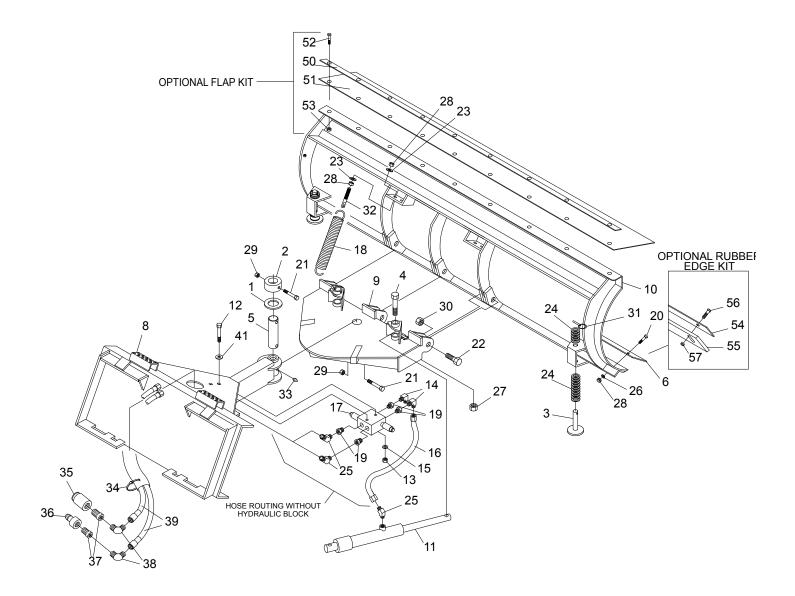


# 5700 SERIES (7', 8' & 9') SNOW BLADE PARTS LIST

	OTV	7'	8'	9'	DECODIDITION (
ITEM	QTY.	LAF5784	LAF5796	LAF5708	DESCRIPTION
1	1			RHW5970	Machinery Bushing 1.5" ID, 2.25" OD, .135" thick
2	1			LAF9008	Bushing 2.25" X 1.515" X 1.38" Hole .531
3	2			LAF1485	Skid Shoe
4	4			RHW1715	Grade 5 Hex Head Cap Screw .75" x 5"
5	1			13-53209	King Pin
6	1	13-51823	13-51824	13-50727	Wear Edge .75" x 6" x length
8	1			LAF9005	Loader Attachment Plate
9	1			13-53201	Radius Plate
10	1	LAF1512	LAF1513	LAF1514	Mold Board
11	2			LAF4563	Hydraulic Cylinder 1.5" piston, 11.5" stroke, 4000 psi (Cylinder Seal Kit = LAF4613)
18	4			LAF6405	Trip Spring
20	varies	(7)	(8)	(9) P101010	Grade 5 Hex Head Cap Screw .63" x 2.5"
21	2			P100812	Grade 5 Hex Head Cap Screw .5" x 3"
22	3			RHW1912	Grade 5 Hex Head Cap Screw 1" x 4.5"
23	8			RHW5662	Grade 5 Flat Washer .63" USS
24	40			07-10126	Grade 5 Flat Washer 1.63" SAE
25	2			LAF4246	Hydraulic Elbow 45° 6MB-6MJ
26	varies	(7)	(8)	(9) P851110	Grade 5 Lock Washer .63"
27	4			RHW7703	Grade 5 Lock Nut .75"
28	varies	(15)	(16)	(17) RHW7601	Grade 5 Hex Nut .63"
29	2			RHW7403	Grade 5 Lock Nut .5"
30	3			RHW7902	Grade 5 Retaining Nut 1" Nylock
31	2			RHW8064	Lynch Pin .44" x 1.63" (usable)
32	4			RHW8065	Grade 2 Spade Bolt .63" x 4.75"
33	1			07-3112	Grease Zerk .25", 28 tpi, self-tapping
34	2			RMR5002	Wiretie .25" x 6"
*35	1			03-3859	Hydraulic Coupler Female 12FB
*36	1			03-3860	Hydraulic Coupler Male 12FB
*37	2			03-4618	Hydraulic Adapter 10FB-12MB (not required for all models)
*38	2			03-4164	Hydraulic Elbow 90° 10FB-10MB (not required for all models)
*39	2			LAF4356	Hydraulic Hose .38" x 87" 6FJ-10MB HS
	<b>A</b> II		1		

NOTE: All parts are the same as the LAF5708 except for those parts numbered under the other models. \*ITEM may vary per Skid Steer -- Contact FFC for correct item.

### **5700 SERIES SNOW BLADE PARTS ILLUSTRATION**

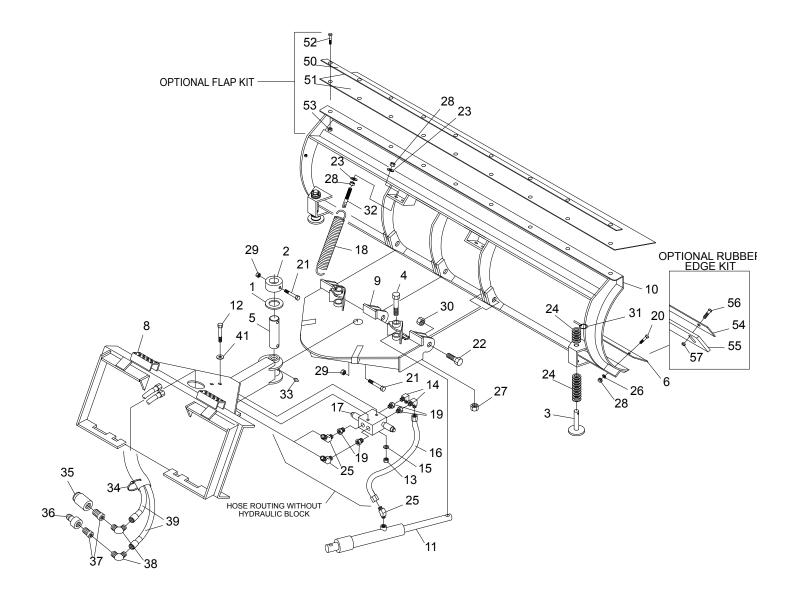


# 5700 SERIES (7', 8' & 9') SNOW BLADE PARTS LIST

ITEM	QTY.	7' LAF5784	8' LAF5796	9' LAF5708	DESCRIPTION
ορτιο		S			
		LAF6492	LAF6493	LAF6494	FLAP KITS
50	2	(2) 13-51708	(1) 13-51708 (1) 13-51709	(2) 13-51709	Flap Strip 4-Hole Flap Strip 5-Hole
51	1	LAF6477	LAF6478	LAF6479	Rubber Flab
52	varies	(8)	(9)	(10) RHW1105	Grade 5 Hex Head Cap Screw .31" x 1"
53	varies	(8)	(9)	(10) RHW7103	Grade 5 Lock Nut .31"
		LAF1551	LAF1552	LAF1553	RUBBER EDGE KITS
54	2	(1) LAF9407 (1) LAF9408	(2) LAF9408	(1) LAF9408 (1) LAF9409	Rubber Edge Strap 3' Rubber Edge Strap 4' Rubber Edge Strap 5'
55	2	(1) LAF9403 (1) LAF9404	(2) LAF9404	(1) LAF9404 (1) LAF9405	Rubber Wear Edge 3' Rubber Wear Edge 4' Rubber Wear Edge 5'
56	varies	(7)	(8)	(9) RHW1608	Grade 5 Hex Head Cap Screw .63" x 3"
57	varies	(7)	(8)	(9) RHW7603	Grade 5 Lock Nut .63"

NOTE: All parts are the same as the LAF5708 except for those parts numbered under the other models.

### **5700 SERIES SNOW BLADE PARTS ILLUSTRATION**

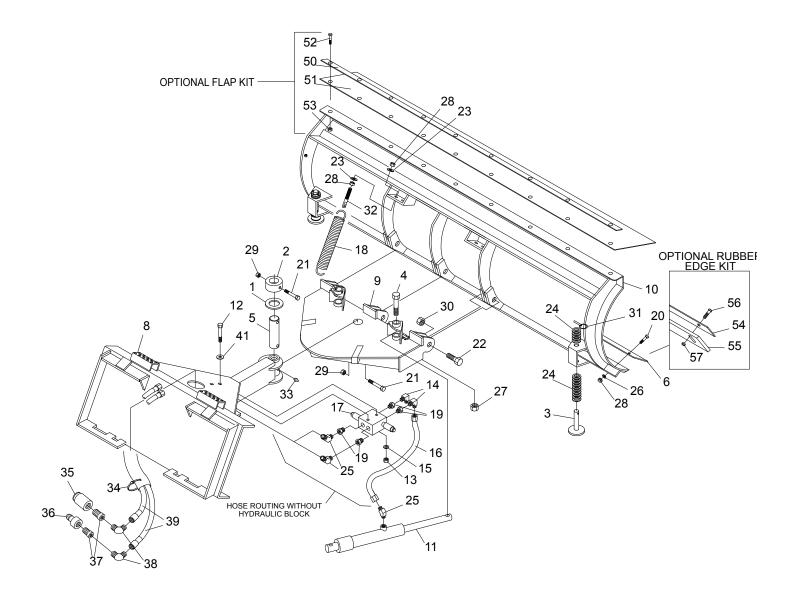


### 5700 SERIES (10', 11' & 12') SNOW BLADE PARTS LIST

ITEM	QTY.	10' LAF5720	11' LAF5732	12' LAF5744	DESCRIPTION
1	1			RHW5970	Machinery Bushing 1.5" ID, 2.25" OD, .135" thick
2	1			LAF9008	Bushing 2.25" X 1.515" X 1.38" Hole .531
3	2			LAF1485	Skid Shoe
4	4			RHW1715	Grade 5 Hex Head Cap Screw .75" x 5"
5	1			13-53209	King Pin
6	1	13-50757	13-50086	13-50121	Wear Edge .75" x 6" x length
8	1			LAF9005	Loader Attachment Plate
9	1			13-53201	Radius Plate
10	1	LAF1515	LAF1516	LAF1517	Mold Board
11	2			LAF4563	Hydraulic Cylinder 1.5" piston, 11.5" stroke, 4000 psi (Cylinder Seal Kit = LAF4613)
12	2			RHW1112	Grade 5 Hex Head Cap Screw .31" x 2.5"
13	2			RHW7101	Grade 5 Hex Nut .31"
14	2			P261350	Hydraulic Elbow 90° 6MB-6MJ
15	2			RHW6102	Grade 5 Lock Washer .31"
16	2			LAF4176	Hydraulic Hose .25" x 10.25" 6FJ-6FJ
17	1			LAF4513	Dual Relief Block Assembly
18	4			LAF6405	Trip Spring
19	4			LAF4405	Hydraulic Adapter 6FB-10MB
20	varies	(10)	(11)	(12) P101010	Grade 5 Hex Head Cap Screw .63" x 2.5"
21	2			P100812	Grade 5 Hex Head Cap Screw .5" x 3"
22	3			RHW1912	Grade 5 Hex Head Cap Screw 1" x 4.5"
23	8			RHW5662	Grade 5 Flat Washer .63" USS
24	40			07-10126	Grade 5 Flat Washer 1.63" SAE
25	2			LAF4246	Hydraulic Elbow 45° 6MB-6MJ
26	varies	(10)	(11)	(12) P851110	Grade 5 Lock Washer .63"
27	4			RHW7703	Grade 5 Lock Nut .75"
28	varies	(18)	(19)	(20) RHW7601	Grade 5 Hex Nut .63"
29	2			RHW7403	Grade 5 Lock Nut .5"
30	3			RHW7902	Grade 5 Retaining Nut 1" Nylock
31	2			RHW8064	Lynch Pin .44" x 1.63" (usable)
32	4			RHW8065	Grade 2 Spade Bolt .63" x 4.75"
33	1			07-3112	Grease Zerk .25", 28 tpi, self-tapping
34	2			RMR5002	Wiretie .25" x 6"
*35	1			03-3859	Hydraulic Coupler Female 12FB
*36	1			03-3860	Hydraulic Coupler Male 12FB
*37	2			03-4618	Hydraulic Adapter 10FB-12MB (not required for all models)
*38	2			03-4164	Hydraulic Elbow 90° 10FB-10MB (not required for all models)
*39	2			LAF4366	Hydraulic Hose .38" x 73" 6FJ-10MB HS
41	2			RHW5162	Grade 5 Flat Washer .31" USS

NOTE: All parts are the same as the LAF5708 except for those parts numbered under the other models. \*ITEM may vary per Skid Steer -- Contact FFC for correct item.

### **5700 SERIES SNOW BLADE PARTS ILLUSTRATION**



### 5700 SERIES (10', 11' & 12') SNOW BLADE PARTS LIST

ITEM	QTY.	10' LAF5720	11' LAF5732	12' LAF5744	DESCRIPTION
ορτιο		S			
		LAF6495	LAF6497	LAF6498	FLAP KITS
50	3	(1) 13-51707 (2) 13-51708	(3) 13-51708	(2) 13-51708 (1) 13-51709	Flap Strip 3-Hole Flap Strip 4-Hole Flap Strip 5-Hole
51	1	LAF6480	LAF6443	LAF6444	Rubber Flab
52	varies	(11)	(12)	(13) RHW1105	Grade 5 Hex Head Cap Screw .31" x 1"
53	varies	(11)	(12)	(13) RHW7103	Grade 5 Lock Nut .31"
		LAF1554	LAF1555	LAF1556	RUBBER EDGE KITS
54	2	(2) LAF9409	(1) LAF9409 (1) LAF9410	(2) LAF9410	Rubber Edge Strap 5' Rubber Edge Strap 6'
55	2	(2) LAF9405	(1) LAF9405 (1) LAF9406	(2) LAF9406	Rubber Wear Edge 5' Rubber Wear Edge 6'
56	varies	(10)	(11)	(12) RHW1608	Grade 5 Hex Head Cap Screw .63" x 3"
57	varies	(10)	(11)	(12) RHW7603	Grade 5 Lock Nut .63"

NOTE: All parts are the same as the LAF5744 except for those parts numbered under the other models.

# 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. <u>Excluded Products</u>. The following products are <u>excluded</u> 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. <u>Warranty Period</u>. The Limited Warranty is provided only to those defects that occur during the Warranty Period, which is the period that begins on the <u>first to occur</u> 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 "<u>Commencement Date</u>") and ends on the date that is <u>twelve (12) months</u> after the Commencement Date.

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

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

(b) <u>Timely Repair and Notice</u>. 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) <u>Return of Defective Part or Product</u>. 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.

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February 10, 2010