



## OPERATOR'S MANUAL

# SNOW PUSH & TRIP EDGE SNOW PUSH 107 Series

**FOR  
COMPACT TRACTORS**



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

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

Manual Number: 51-10035  
Part Number: 10707 & 10709  
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# PREFACE

## GENERAL COMMENTS

Congratulations on the purchase of your new product! This product was carefully designed and manufactured to give you many years of dependable service. Only minor maintenance (such as cleaning and lubricating) is required to keep it in top working condition. Be sure to observe all maintenance procedures and safety precautions in this manual and on any safety decals located on the product and on any equipment on which the attachment is mounted.

This manual has been designed to help you do a better, safer job. Read this manual carefully and become familiar with its contents.

**WARNING!** Never let anyone operate this unit without reading the "Safety Precautions" and "Operating Instructions" sections of this manual.



Always choose hard, level ground to park the vehicle on and set the brake so the unit cannot roll.

Unless noted otherwise, right and left sides are determined from the operator's control position when facing forward.

**NOTE:** The illustrations and data used in this manual were current (according to the information available to us) at the time of printing, however, we reserve the right to redesign and change the attachment as may be necessary without notification.

## BEFORE OPERATION

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

## SAFETY ALERT SYMBOL



This is the "Safety Alert Symbol" used by this industry. This symbol is used to warn of possible injury. Be sure to read all warnings carefully. They are included for your safety and for the safety of others working with you.

## SERVICE

Use only manufacturer replacement parts. Substitute parts may not meet the required standards.

Record the model and serial number of your unit on the cover of this manual. The parts department needs this information to insure that you receive the correct parts.

## SOUND AND VIBRATION

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

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

Based on the uncertainty of the prime mover, operator, and job site, it is not possible to get precise machine and operator sound pressure levels or vibration levels for this attachment.

**NOTE:** A list of all Paladin Patents can be found at <http://www.paladinattachments.com/patents.asp>.

## SAFETY STATEMENTS



THIS SYMBOL BY ITSELF OR WITH A WARNING WORD THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



### **DANGER**

THIS SIGNAL WORD INDICATES A HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.



### **WARNING**

THIS SIGNAL WORD INDICATES A HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.



### **CAUTION**

THIS SIGNAL WORD INDICATES A HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN MINOR OR MODERATE INJURY.

### **NOTICE**

NOTICE IS USED TO ADDRESS PRACTICES NOT RELATED TO PHYSICAL INJURY.

## 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 or 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 on blocks. Lower booms and attachments to the ground before leaving the cab or operator's station.

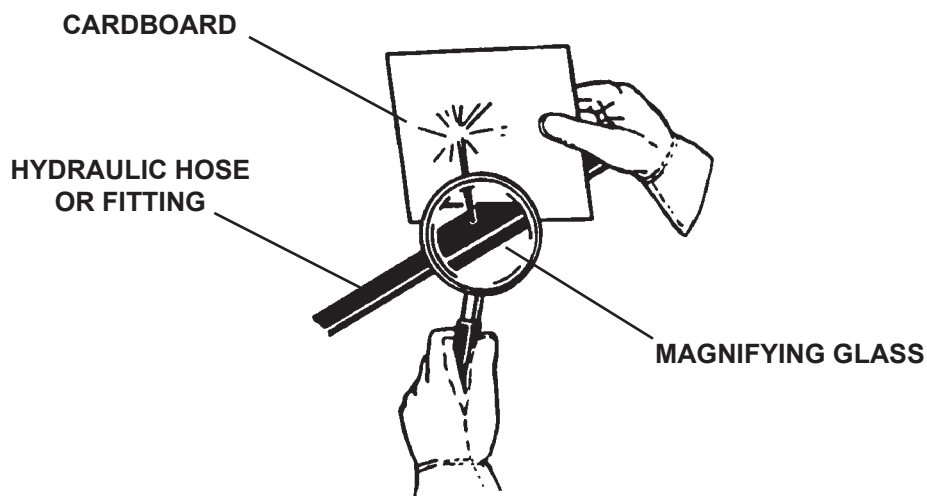
### WARNING!



### 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 mover's 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 it immediately to determine proper treatment.
- Wear safety glasses, protective clothing, and use a 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 Protective 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 tools 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.



#### 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 operator's 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!



#### CALIFORNIA PROPOSITION 65 WARNING

This product may contain a chemical known to the state of California to cause cancer, or birth defects or other reproductive harm. [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



## EQUIPMENT SAFETY PRECAUTIONS

### WARNING!



#### KNOW WHERE UTILITIES ARE

Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call your local utilities for location of buried utility lines, gas, water, and sewer, as well as any other hazard you may encounter.

### WARNING!



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

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

### WARNING!



#### REMOVE PAINT BEFORE WELDING OR HEATING

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

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

### WARNING!



#### END OF LIFE DISPOSAL

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



#### OPERATING THE ATTACHMENT

- Do not exceed the lifting capacity of your prime mover.
- Operate only from the operator's station.
- When operating on slopes, drive up and down, not across. Avoid steep hillside operation, which could cause the prime mover to overturn.
- Reduce speed when driving over rough terrain, on a slope, or turning, to avoid overturning the vehicle.
- An operator must not use drugs or alcohol, which can change his or her alertness or coordination. An operator taking prescription or over-the-counter drugs should seek medical advice on whether or not he or she can safely operate equipment.
- Before performing maintenance, lower the attachment to the ground, apply the brakes, turn off the engine and remove the key.

## EQUIPMENT SAFETY PRECAUTIONS



### TRANSPORTING THE ATTACHMENT

- Travel only with the attachment in a safe transport position to prevent uncontrolled movement. Drive slowly over rough ground and on slopes.
- When transporting on a trailer: Secure attachment at recommended tie down locations using tie down accessories that are capable of maintaining attachment stability.
- When driving on public roads use safety lights, reflectors, Slow Moving Vehicle signs etc., to prevent accidents. Check local government regulations that may affect you.
- Do not drive close to ditches, excavations, etc., cave in could result.
- Do not smoke when refueling the prime mover. Allow room in the fuel tank for expansion. Wipe up any spilled fuel. Secure cap tightly when done.



### MAINTAINING THE ATTACHMENT

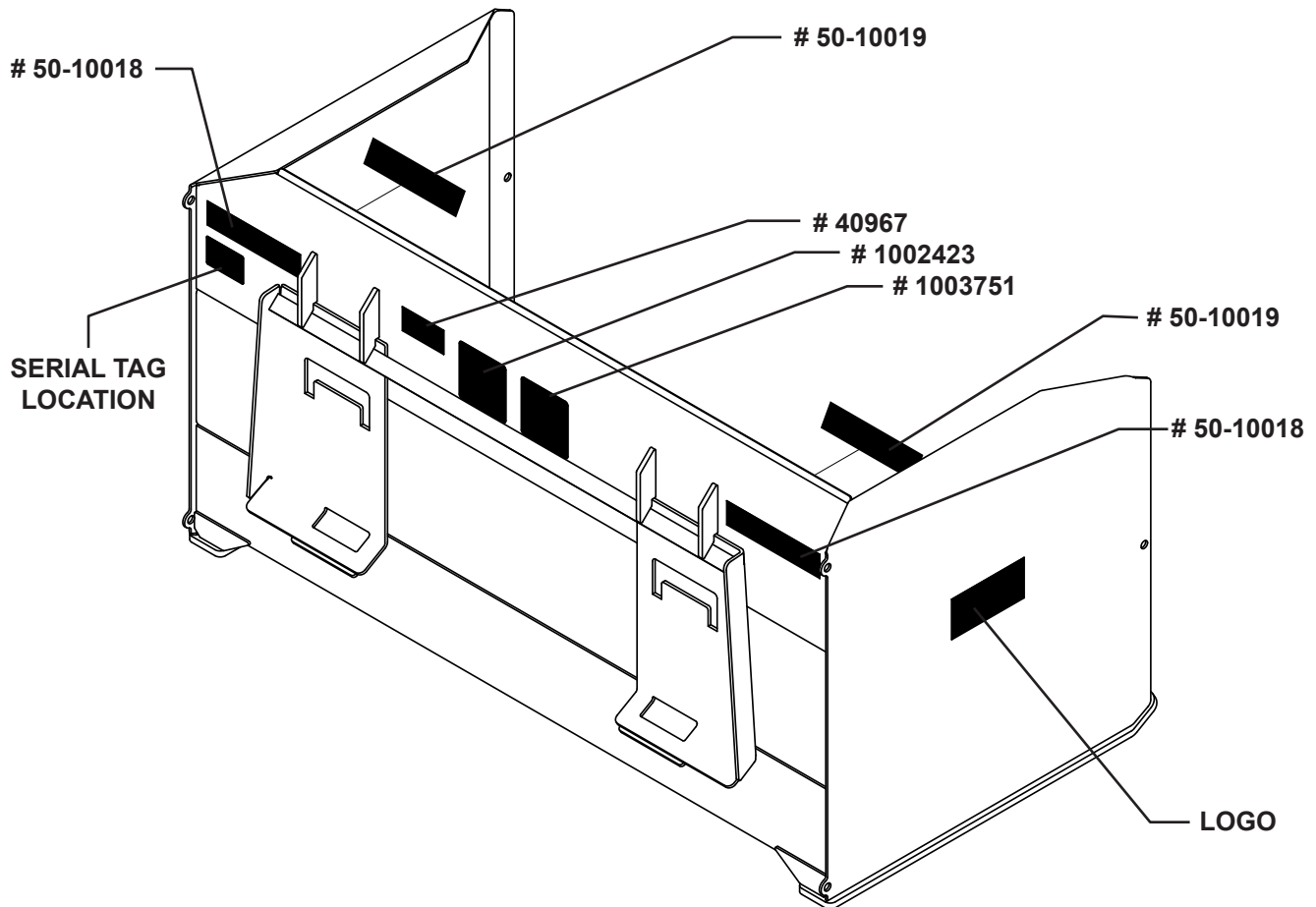
- Before performing maintenance lower the attachment to the ground, apply the brakes, turn off the engine and remove the key.
- Never perform any work on the attachment unless you are authorized and qualified to do so. Always read the operator service manuals before any repair is made. After completing maintenance or repair, check for correct functioning of the attachment. If not functioning properly, always tag "DO NOT OPERATE" until all problems are corrected.
- Worn, damaged, or illegible safety decals must be replaced. New safety decals can be ordered from Paladin.
- Never work under a raised attachment.

# DECALS

## DECAL PLACEMENT

### GENERAL INFORMATION

The diagram on this page shows the location of the decals used on your attachment. 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.



**IMPORTANT:** Keep all safety decals clean and legible. Replace all missing, illegible, or damaged safety decals. When replacing parts with safety decals attached, the safety decals must also be replaced. Safety decals are available, free of charge, from your local dealer or Paladin.

**REPLACING SAFETY DECALS:** Clean the area of application with nonflammable solvent, then wash the same area with soap and water. Allow the surface to fully dry. Remove the backing from the safety decal, exposing the adhesive surface. Apply the safety decal to the position shown in the diagram above and smooth out any bubbles.

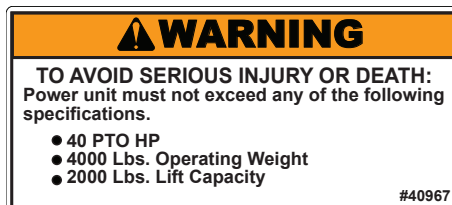
## DECALS



# 1002423 - WARNING! READ MANUAL



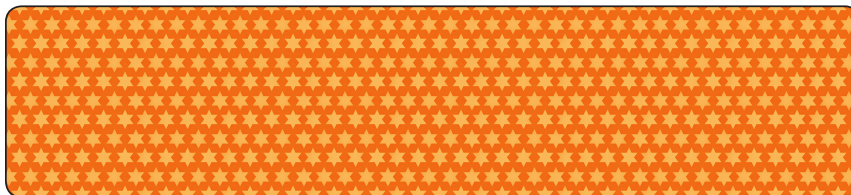
# 1003751 - WARNING! CRUSH HAZARD



# 40967 - WARNING! SPECIFICATIONS  
(10707 SERIES ONLY)



# 50-10018 - REFLECTIVE TAPE - RED



# 50-10019 - REFLECTIVE TAPE - AMBER

**NOTE: CONTACT YOUR LOCAL DEALER FOR MODEL NUMBER AND LOGO DECALS**

# INSTALLATION

## GENERAL INFORMATION

The following instructions will help you to mount your snow push onto your prime mover. The snow push uses the quick-attach system for ease of installation. Therefore, if you know how to attach your loader bucket, attaching the snow push should prove no problem.

Remember to read all safety warnings, decals and operating instructions before operating the attachment. If there is any portion of this manual that you do not understand, contact your dealer.

## INSTALLATION

1. Remove any attachment from the front of the prime mover.
2. Following all standard safety practices and the instructions for installing an attachment in your prime mover operator's manual, install the attachment onto your prime mover.

**WARNING!** To avoid serious personal injury, make sure the attachment is securely latched to the attachment mechanism of your unit. Failure to do so could result in separation of the attachment from the prime mover.



3. Attachment installation is complete.

## DETACHING

1. Before exiting the prime mover, lower the attachment to the ground, apply the brakes, turn off the engine, and remove the key.

**NOTICE:** Do not store the snow push with weight on the rubber edge. Weight will deform the edge, destroying the scraping effectiveness. To avoid this problem, place the snow push on blocks.

2. Follow your prime mover operator's manual for detaching (removing) an attachment.

## TRIP EDGE SET UP (10709 SERIES ONLY)

With the snow push properly attached to the prime mover and parked on a hard level surface, measure the springs from the inside of one hook to the inside of the other hook. See the chart below for the recommended spring set-up length for your attachment. Loosen or tighten eyebolt as required to obtain the required distance.

<u>Trip Edge Snow Push</u>	<u>Spring Set-Up Length</u>
10709-78.....	14.20"
10709-96.....	14.40"
10709-08.....	14.60"
10709-20.....	15.80"

Springs may be adjusted tighter if desired but do not exceed 15.12"

Test operate your snow push. If the edge trips too easily, tighten the spade (or eye) bolts to lengthen the springs. If in repeated tests the edge still trips too easily, contact Paladin.

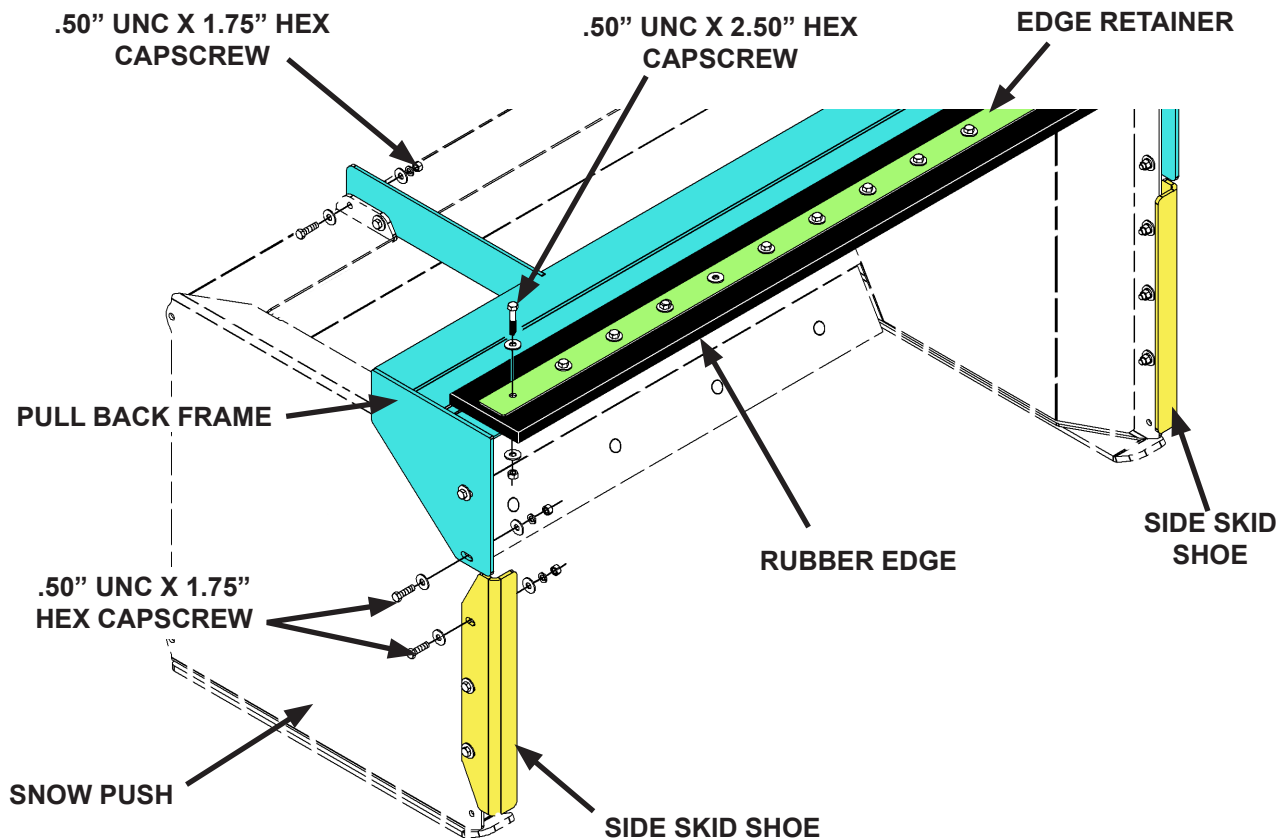
# INSTALLATION

## OPTIONAL PULL BACK INSTALLATION

The optional pull back assembly (for the 10709 Series) allows you to roll the snow push out and pull material back away from a wall or obstacle. The pull back assembly does not need to be removed to obtain maximum production of the snow push.

1. Park the prime mover, with snow push attached, on a hard level surface.
2. Lower the snow push, apply the brakes, turn off the engine and remove the key.
3. Install the rubber edge (if so equipped) onto the pull back frame using the edge retainer and 2.50" long capscrews, flat washers and hex nuts provided. Torque to 75 ft. lbs. See Figure #1
4. Position the pull back frame onto the top of the snow push aligning the side and back mounting holes. Secure in place using the 1.75" long capscrews, flat washers, lock washers and hex nuts provided. Torque to specification. See Figure #1
5. Install the side skid shoes to the front edge of the snow push with the remaining hardware. Torque to specification. See Figure #1

FIGURE #1



# OPERATION

## INTENDED USE

This snow push is designed to push loose material only. When equipped with the optional Pull Back Kit, loose material may also be pulled while backing with your prime mover. Use in any other way is considered contrary to intended use. Compliance with and strict adherence to operation, service and repair conditions as specified by the manufacturer, are also essential elements of the intended use.

## OPERATION

The snow push removes the heaviest snow or other loose material without leaving windrows. The optional pull back assembly that is available on the 10709 series allows you to get next to fences and buildings to pull the material away cleanly.

## PULL BACK KIT

1. Roll out the snow push until the front edge is parallel with the ground.
2. Lower the pull back frame next to the building or obstacle.
3. With the side skid shoes riding on the hard surface travel in reverse, pulling the loose material away from the obstacle.
4. Repeat until snow or loose material is removed from next to the building or obstacle.
5. Roll the snow push back and finish moving the material to your desired location.

## RUBBER EDGE KIT

The rubber edge kit is ideal for getting a cleaner surface when using for waste water, manure, feed lots and food cleanup. Flip or replace when only .12" of edge is exposed.

***NOTICE: Do not store the snow push with weight on the rubber edge. Prolonged pressure on the rubber edge will deform the rubber edge and decrease the effectiveness of the scraping action.***

## TRIP EDGE

The 10709 series snow push is equipped with a cutting trip edge. This system allows you to glide over manholes and curb obstructions without losing gathered material.

## STORAGE

The following storage procedure will help you to keep your product in top condition. It will also help you get off to a good start the next time your attachment is needed. We therefore strongly recommend that you take the extra time to follow these procedures whenever your unit will not be used for an extended period of time.

**IMPORTANT: When detaching your unit for short or long term storage be sure to follow the Detaching Instructions in the Installation Section of this manual.**

***NOTICE: Do not store the snow push with weight on the rubber edge. Weight will deform the edge, destroying the scraping effectiveness. To avoid this problem, place the snow push on blocks.***



## OPERATION

***Do not store rubber edge in direct sunlight. The material can deteriorate and crumble before the edge is worn out. Keep rubber material away from intense heat or flame.***

- Clean the unit thoroughly, removing all snow, mud, dirt, and grease.
- Inspect for visible signs of wear, breakage, or damage. Order any parts required and make the necessary repairs to avoid delays upon removal from storage.
- Tighten loose nuts, and capscrews.
- Replace decals that are damaged or in unreadable condition.
- Store unit in a dry and protected place. Leaving the unit outside will materially shorten its life.

### **Additional Precautions for Long Term Storage:**

- Touch up all unpainted surfaces with paint to prevent rust.


## REMOVAL FROM STORAGE

- Wash unit and replace any damaged and/or missing parts.

## LIFT POINTS

Lifting points are identified by lifting decals where required. Lifting at other points is unsafe and can damage attachment. Do not attach lifting accessories around cylinders or in any way that may damage hoses or hydraulic components.


- Attach lifting accessories to unit at recommended lifting points.
- Bring lifting accessories together to a central lifting point.
- Lift gradually, maintaining the equilibrium of the unit.

**WARNING!**  Use lifting accessories (chains, slings, ropes, shackles and etc.) that are capable of supporting the size and weight of your attachment. Secure all lifting accessories in such a way to prevent unintended disengagement. Failure to do so could result in the attachment falling and causing serious personal injury or death.

## TIE DOWN POINTS

Tie down points are identified by tie down decals where required. Securing to trailer at other points is unsafe and can damage attachment. Do not attach tie down accessories around cylinders or in any way that may damage hoses or hydraulic components.

- Attach tie down accessories to unit as recommended.
- Check unit stability before transporting.

**WARNING!**  Verify that all tie down accessories (chains, slings, ropes, shackles and etc.) are capable of maintaining attachment stability during transporting and are attached in such a way to prevent unintended disengagement or shifting of the unit. Failure to do so could result in serious personal injury or death.

## TRANSPORTING

Follow all local government regulations that may apply along with recommended tie down points and any equipment safety precautions at the front of this handbook when transporting your attachment.



# MAINTENANCE

## GENERAL INFORMATION

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

Procedure	Every 8 Hours (Daily)
Check for missing or loose hardware. Replace or tighten as necessary. See Bolt Torque Specifications	✓
Check for missing or damaged safety decals and replace as necessary.	✓
Inspect attachment for any worn parts or cracked welds. Repair as required.	✓

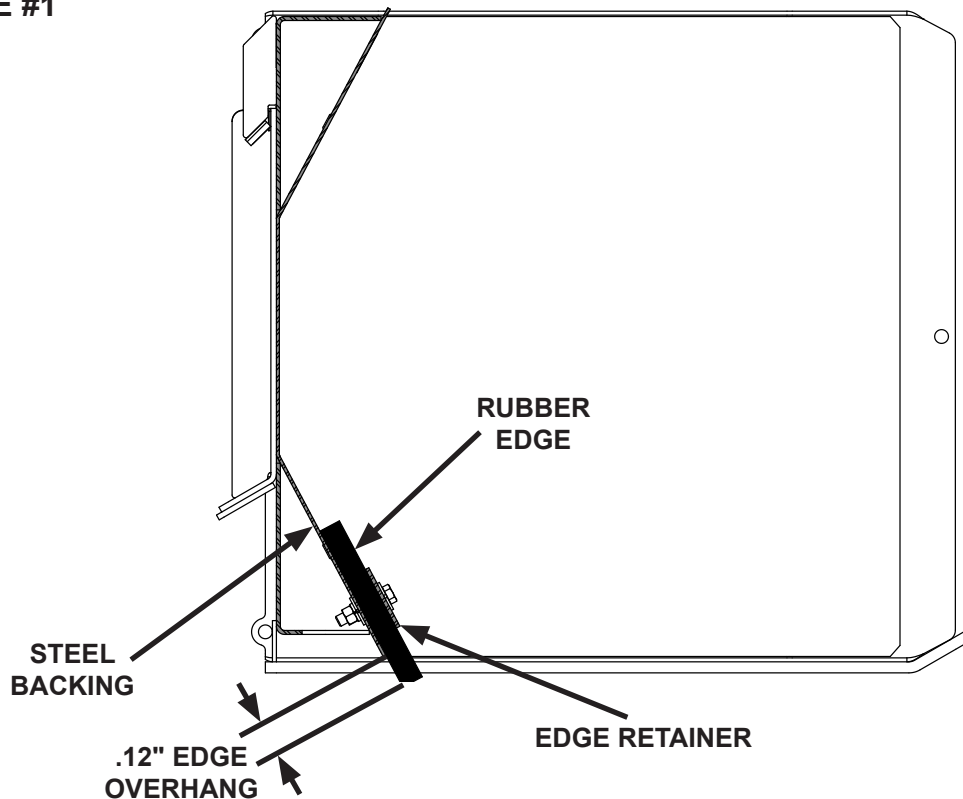
# MAINTENANCE

## REPLACING THE LOWER RUBBER EDGE

When the rubber edge wears down with approximately .12" exposed it should be adjusted, flipped or replaced.

1. Park the prime mover on a hard level surface.
2. Position blocks on the sides of the snow push so the rubber edge is approximately 6"-8" above the ground.
3. Lower the snow push onto the blocks making sure it is stable. Apply the brakes, turn off the engine and remove the key.
4. Remove hardware securing the rubber edge to the snow push.
5. Adjust the rubber edge down so it extends past the steel backing, flip the rubber edge over or replace with a new rubber edge if both sides are worn or damaged. See Figure #1
6. Replace the edge retainer and secure in place using the existing hardware. Torque to 75 ft. lbs. Begin by tightening the nuts in the center and then the outside edges.

**FIGURE #1**



**BLOCKS HAVE BEEN REMOVED  
FOR CLARITY PURPOSES.**

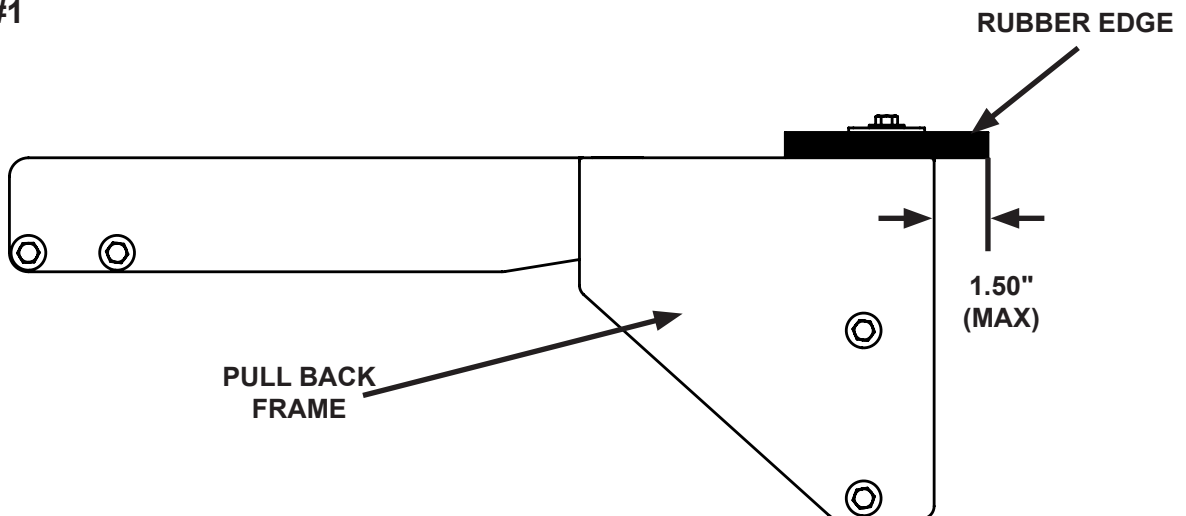
# MAINTENANCE

## PULL BACK RUBBER EDGE REPLACEMENT

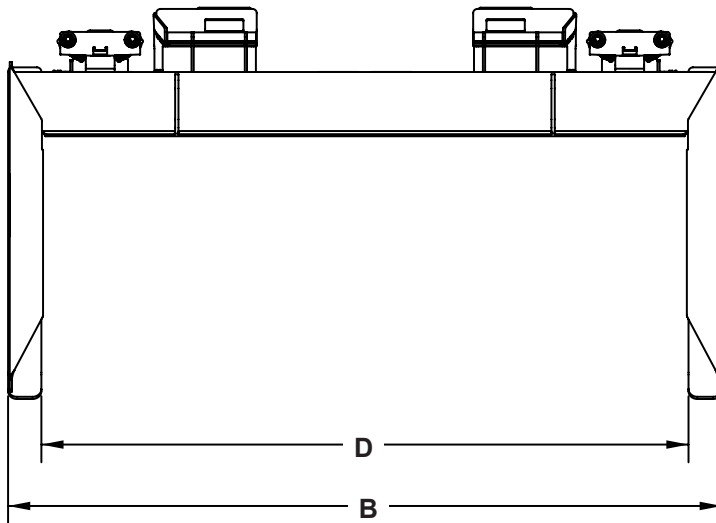
As the rubber edge wears down on the pull back assembly it should be inverted or replaced.

1. Park the prime mover on a hard level surface with the snow push properly attached.
2. Before exiting the prime mover, lower the attachment to the ground, apply the brakes, turn off the prime mover's engine, and remove the key.
3. Loosen all nuts and remove the edge retainer(s).
4. Remove the rubber edge and either flip over to utilize the second edge or replace with a new rubber edge if both of the original edges are worn or damaged.
5. Lay the new rubber edge on top of the pull back frame.
6. Lay the edge retainer on top of the new rubber edge and loosely secure both to the pull back frame using existing hardware.
7. Adjust the rubber edge so that the desired amount of rubber is exposed. Do not exceed 1.50". See Figure #1
8. Tighten all nuts to a snug fit to make sure that the edge retainers and rubber edge are properly seated. Torque to 75 ft.lbs.

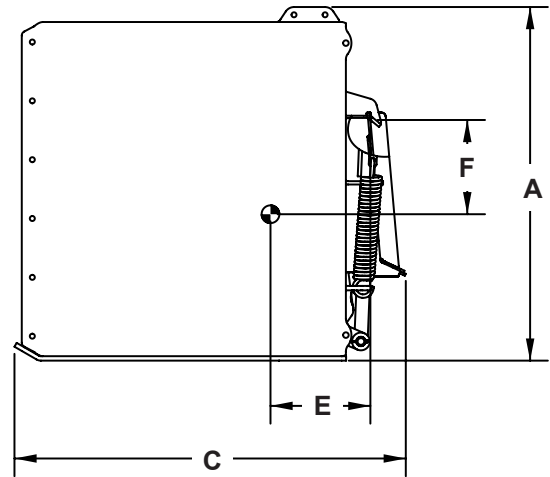
**FIGURE #1**



## SPECIFICATIONS



**10709 SERIES SHOWN**



**SPECIFICATIONS AND DESIGN ARE  
SUBJECT TO CHANGE WITHOUT NOTICE  
AND WITHOUT LIABILITY THEREFOR.**

### 10707 SERIES

DESCRIPTION	5'	6'	7'	8'
A. Overall Height .....	30.75"	30.75"	30.75"	30.75"
B. Overall Width .....	62.25"	74.25"	86.25"	98.25"
C. Overall Length.....	34.33"	34.33"	34.33"	34.33"
D. Cutting Width .....	55.75"	97.75"	79.75"	91.75"
E. Center of Gravity (Horizontal) .....	8.10"	7.75"	7.33"	6.90"
F. Center of Gravity (Vertical).....	10.80"	10.75"	10.75"	10.75"
Weight (lbs) .....	415#	450#	485#	520#
Maximum Prime Mover Horsepower (HP).....	40 HP			
Maximum Prime Mover Operating Weight (lbs).....	4,000#			

### 10709 SERIES

DESCRIPTION	6.5'	8'	9'	10'
A. Overall Height .....	39.80"	39.80"	39.80"	39.80"
B. Overall Width .....	80.38"	98.38"	110.38"	119.88"
C. Overall Length.....	44.10"	44.10"	44.10"	44.10"
D. Cutting Width .....	72.90"	90.90"	102.90"	112.40"
E. Center of Gravity (Horizontal) .....	11.33"	10.80"	10.50"	10.33"
F. Center of Gravity (Vertical).....	10.66"	10.75"	10.80"	10.80"
Weight (lbs) .....	850#	935#	990#	1030#
Maximum Prime Mover Horsepower (HP).....	50 HP			
Maximum Prime Mover Operating Weight (lbs).....	8,000#			

# BOLT TORQUE SPECIFICATION

## GENERAL TORQUE SPECIFICATION TABLES


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

## SAE BOLT TORQUE SPECIFICATIONS




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

Bolt Size		SAE GRADE 5 TORQUE				SAE GRADE 8 TORQUE				Bolt head identification marks as per grade. NOTE: Manufacturing Marks Will Vary
		Ft-lbs		Newton-Meter		Ft-lbs		Newton-Meter		
Inches	mm	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF	
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	
9/16	14,29	94	112	127	152	136	163	184	221	
5/8	15,88	128	153	174	207	187	224	254	304	
3/4	19,05	230	275	312	373	323	395	438	536	
7/8	22,23	340	408	461	553	510	612	691	830	
1	25,40	493	592	668	803	765	918	1037	1245	
1-1/8	25,58	680	748	922	1014	1088	1224	1475	1660	
1-1/4	31,75	952	1054	1291	1429	1547	1700	2097	2305	
1-3/8	34,93	1241	1428	1683	1936	2023	2312	2743	3135	
1-1/2	38,10	1649	1870	2236	2535	2686	3026	3642	4103	




Grade 2



Grade 5






Grade 8



## METRIC BOLT TORQUE SPECIFICATIONS

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

Bolt head identification marks as per grade.		
		

Bolt Size	Grade No.	Pitch (mm)	Ft-lbs	Newton-Meter	Pitch (mm)	Ft-lbs	Newton-Meter
M6	5.6	1,0	3.6-5.8	4.9-7.9	-	-	-
	8.8		5.8-4	7.9-12.7		-	-
	10.9		7.2-10	9.8-13.6		-	-
M8	5.6	1,25	7.2-14	9.8-19	1,0	12-17	16.3-23
	8.8		17-22	23-29.8		19-27	25.7-36.6
	10.9		20-26	27.1-35.2		22-31	29.8-42
M10	5.6	1,5	20-25	27.1-33.9	1,25	20-29	27.1-39.3
	8.8		34-40	46.1-54.2		35-47	47.4-63.7
	10.9		38-46	51.5-62.3		40-52	54.2-70.5
M12	5.6	1,75	28-34	37.9-46.1	1,25	31-41	42-55.6
	8.8		51-59	69.1-79.9		56-68	75.9-92.1
	10.9		57-66	77.2-89.4		62-75	84-101.6
M14	5.6	2,0	49-56	66.4-75.9	1,5	52-64	70.5-86.7
	8.8		81-93	109.8-126		90-106	122-143.6
	10.9		96-109	130.1-147.7		107-124	145-168
M16	5.6	2,0	67-77	90.8-104.3	1,5	69-83	93.5-112.5
	8.8		116-130	157.2-176.2		120-138	162.6-187
	10.9		129-145	174.8-196.5		140-158	189.7-214.1
M18	5.6	2,0	88-100	119.2-136	1,5	100-117	136-158.5
	8.8		150-168	203.3-227.6		177-199	239.8-269.6
	10.9		175-194	237.1-262.9		202-231	273.7-313
M20	5.6	2,5	108-130	146.3-176.2	1,5	132-150	178.9-203.3
	8.8		186-205	252-277.8		206-242	279.1-327.9
	10.9		213-249	288.6-337.4		246-289	333.3-391.6

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## PARTS

In order to provide you with the most UP-TO-DATE part information, all parts for this attachment have been moved to our website at [www.paladinattachments.com/Manuals](http://www.paladinattachments.com/Manuals). Please use these diagrams and parts lists to locate replacement parts.

When servicing your attachment, remember to use only original manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

To facilitate parts ordering when contacting the factory, please have the product control number (PCN or C/N) or model and serial number of your product ready to ensure that you receive the correct parts for your specific attachment.

The product control number, model and serial number for your attachment should be recorded in the space provided on the cover of this manual. This information may be obtained from the serial number identification plate located on your attachment.

**NOTE: Most daily and emergency parts orders (in stock) received by 10:30 A.M. (Eastern Standard Time) will be shipped UPS Ground the same day received. UPS Next Day orders must be received by 1:30 PM (Eastern Standard Time.)**

### SERVICE DEPARTMENT

(734) 996-9116

(800) 456-7100

### For Fax and E-mail Orders

PLC\_Sales@paladinattachments.com

(734) 996-9014

## WARRANTY

In order to provide you with the most UP-TO-DATE Warranty information, Paladin Warranty Statement and Warranty Procedures along with Warranty Registration and Claim Forms have been moved to our website at [www.paladinattachments.com](http://www.paladinattachments.com).