

OWNER'S/
OPERATOR'S
MANUAL

MODEL NO.'s

SPS-2048

SPS-2060

SPJD-2048

SPJD-2060

SPS-2460

SPS-2472

SPS-2484

SPJD-2460

SPJD-2472

SPJD-2484

SPC-3696

SPS-3696

SPG-3696

SPJD-3696

SPC-36120

SPS-36120

SPG-36120

SPJD-36120

 **CAUTION**

For Safe Operation
Read Rules And
Instructions Carefully

Snow Pushers

for Skid Steer and Tractor Front Loaders

Safety Instructions

Tractor Preparation

Operating Instructions

Assembly & Mounting

Maintenance

Repair Parts

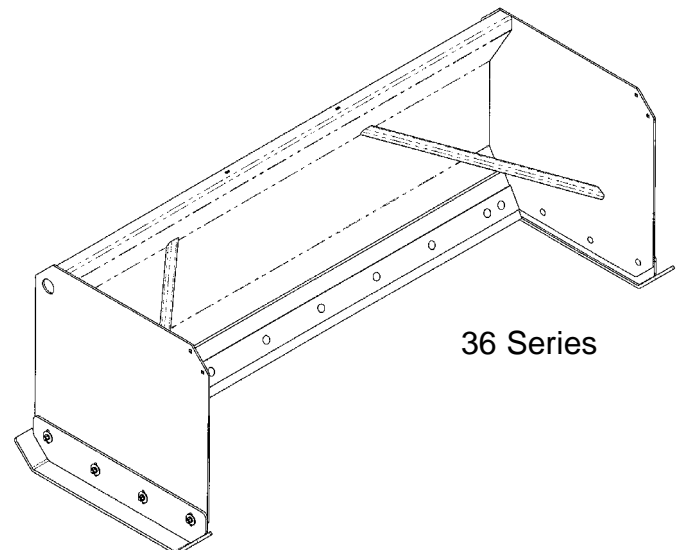
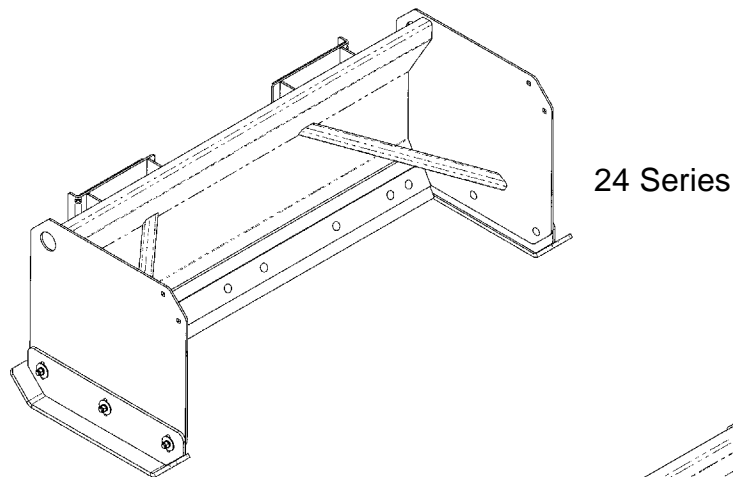
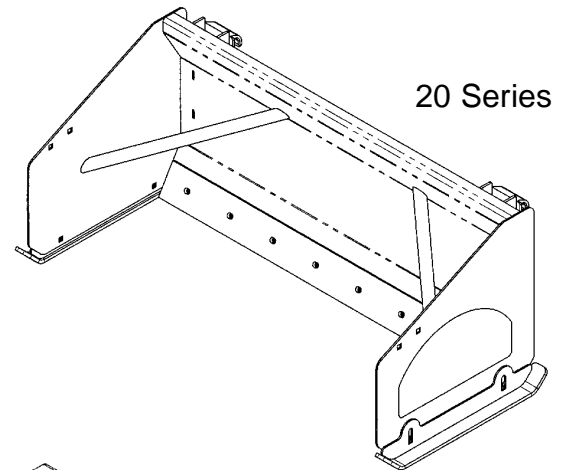


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SI NO LEEINGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA PARA QUE LE TRADUZCA LAS MEDIDAS DE SEGURIDAD.

STATEMENT OF POLICY

It is the policy of Worksaver, Inc. to improve its products where it is possible and practical to do so. Worksaver, Inc. reserves the right to make changes or improvements in design and construction at any time, without incurring the obligation to make these changes on previously manufactured units.

TO THE OWNER:

Read this manual before using your Snow Pusher. This manual is provided to give you the necessary operating and maintenance instructions for keeping your Snow Pusher in top operating condition. Please read this manual thoroughly. Understand what each control is for and how to use it. Observe all safety signs on the machine and noted throughout the manual for safe operation of implement. Keep this manual handy for ready reference.

Like all mechanical products, it will require cleaning and upkeep.

Use only genuine Worksaver, Inc. service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model and serial number of your Snow Pusher here:

Model: _____ Serial Number: _____

RETAIL CUSTOMER'S RESPONSIBILITY

It is the Retail Customer and/or Operator's responsibility to read the Operator's Manual, to operate, lubricate, maintain, and store the product in accordance with all instructions and safety procedures. Failure of the operator to read the Operator's Manual is a misuse of this equipment.

It is the Retail Customer and/or Operator's responsibility to inspect the product and to have any part(s) repaired or replaced when continued operation would cause damage or excessive wear to other parts or cause a safety hazard.

It is the Retail Customer's responsibility to deliver the product to the authorized Worksaver Dealer, from whom he purchased it, for service or replacement of defective parts which are covered by warranty. Repairs to be submitted for warranty consideration must be made within forty-five (45) days of failure.

It is the Retail Customer's responsibility for any cost incurred by the Dealer for traveling to or hauling of the product for the purpose of performing a warranty obligation or inspection.

LIMITED WARRANTY

Worksaver warrants to the original purchaser of any new Snow Pusher (Series 20, 24 and 36), that the equipment be free from defects in material and workmanship for a period of twelve (12) months for non-commercial, state, and municipalities. Use sixty (60) days for commercial use from date of retail sale.

Replacement or repair parts installed in the equipment covered by this warranty are warranted for sixty (60) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later.

Such parts shall be provided at no cost to the user during regular working hours. Worksaver reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Worksaver's obligation under this warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Worksaver; duty; taxes; charges for normal service or adjustments; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery of equipment or parts resulting from acts beyond the control of Worksaver.

THIS WARRANTY SHALL NOT APPLY:

1. To vendor items which carry their own warranties, such as hydraulic cylinders, tires, and tubes.
2. If the unit has been subjected to misapplication, abuse, misuse, negligence, fire or other accident.
3. If parts not made or supplied by Worksaver have been used in connection with the unit, if, in sole judgement of Worksaver such use affects its performance, stability, or reliability.
4. If the unit has been altered or repaired outside of an authorized Worksaver dealership in a manner which, in the sole judgement of Worksaver affects its performance, stability or reliability.
5. To normal maintenance service and normal replacement items such as gearbox lubricant, hydraulic fluid, worn blades, or to normal deterioration of such things as belts and exterior finish, due to use or exposure.
6. To expendable or wear items such as bushings, cutting edge, belts, skid shoes and other items that in the company's sole judgement is a wear item.

NO EMPLOYEE OR REPRESENTATIVE OF WORKSAVER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY WORKSAVER'S SERVICE MANAGER, POST OFFICE BOX 100, LITCHFIELD, ILLINOIS 62056-0100.

To the Owner/Operator/Dealer

All implements with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!!

**Read the safety messages on the implement and shown in your manual.
Observe the rules of safety and common sense!**





THIS SYMBOL MEANS


- ATTENTION!**
- BECOME ALERT!**
- YOUR SAFETY IS INVOLVED!**

THIS SAFETY ALERT SYMBOL IDENTIFIES IMPORTANT SAFETY WARNING MESSAGES. CAREFULLY READ EACH WARNING MESSAGE THAT FOLLOWS. FAILURE TO UNDERSTAND AND OBEY A SAFETY WARNING, OR RECOGNIZE A SAFETY HAZARD, COULD RESULT IN AN INJURY OR DEATH TO YOU OR OTHERS AROUND YOU. THE OPERATOR IS ULTIMATELY RESPONSIBLE FOR THE SAFETY OF HIMSELF, AS WELL AS OTHERS, IN THE OPERATING AREA OF THE TRACTOR AND EQUIPMENT.

UNDERSTAND SIGNAL WORDS

 **DANGER** Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.

 **WARNING** Indicates a imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.

 **CAUTION** Indicates a imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

IMPORTANT Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.*

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or the manufacturer directly.

IMPORTANT SAFETY INFORMATION!

Working with equipment can lead to injuries. Read this manual, and the manual for your power unit, before assembly or operating, to acquaint yourself with the machine. It is the equipment owner's responsibility, if this equipment is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:

1. Reads and understands the operator's manuals.
2. Is instructed in safe and proper use.

The use of this equipment is subject to certain hazards which cannot be protected against by mechanical means or product design. All operators of this equipment must read and understand this entire manual, paying particular attention to safety and operating instructions, prior to using. If there is something in this manual you do not understand, ask your supervisor, or your dealer, to explain it to you.

SAFETY INSTRUCTIONS (continued)



EQUIPMENT SAFETY GUIDELINES



Safety of the operator is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them.



In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.



Replace any CAUTION, WARNING, DANGER or instruction safety sign that is not readable or is missing. Location of such safety signs is indicated in this booklet.



Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.



Review the safety instructions with all users annually.



This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. **Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.**



To prevent injury or death, use a tractor equipped with a Roll-Over Protective System (ROPS). Keep foldable ROPS systems in "locked up" position at all times. Do not paint over, remove or deface any safety signs or warning signs on your equipment. Observe all safety signs and practice the instruction on them.



Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question – **DON'T TRY IT.**



Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.





In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and Operation Instructions in each of the appropriate sections of the Tractor, Skid Steer, and Implement Manuals. Pay close attention to the Safety Signs affixed to the Tractor, Skid Steer, and the Implement.


SAFETY INSTRUCTIONS (continued)




OPERATIONAL SAFETY


 Start power unit only when properly seated in the operator's seat. Starting a power unit in gear can result in injury or death. Do not mount or dismount while the power unit is moving. Mount or dismount only when the power unit and all moving parts are completely stopped.

 Keep all helpers and bystanders fifty feet (50') from an operating power unit and attached equipment. Only properly trained people should operate this machine. It is recommended the power unit be equipped with a Rollover Protection System (ROPS) and a seat belt that is used. Always stop the tractor or skid steer, set brake, shut off the engine, remove the ignition key, and lower loader and attachment to the ground before dismounting. Never leave equipment unattended with the engine running.


 Please remember it is important that you read and heed the safety signs on the front loader attachment and loader, and the safety rules set forth. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety as well as the safety of others. The safe use of this machine is strictly up to you, the operator.


 Be sure power unit is in good condition. Read all the safety precautions and make sure all operators are familiar with the safety rules of operation. Working with unfamiliar equipment can lead to careless injuries. It is the equipment owner's responsibility, if this machine is used by any person other than yourself, is loaned or rented, to make certain that the operator, prior to operating:

1. Reads and understands the operator's manuals.
2. Is instructed in safe and proper use.


 Train all new personnel and review instructions frequently with existing workers. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.

 Do not allow children to operate this machine.

 Know your controls and how to stop the power unit and engine quickly in an emergency. READ THIS MANUAL AND THE ONE PROVIDED WITH YOUR TRACTOR AND LOADER, OR SKID STEER.

 Be especially observant of the operating area and terrain – watch for holes, poles, rocks, curbs or other hazards.

 Personal protection equipment including safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving the attachment.

 Always use two people or power equipment to handle heavy, unwieldy components during assembly, installation, removal, or moving the loader attachment.

SAFETY INSTRUCTIONS (continued)



OPERATIONAL SAFETY



Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintaining, repairing, removal, or moving the implement.



Stop power unit and implement immediately upon striking an obstruction. Dismount using proper procedure. Inspect and repair any damage before resuming operating.



A heavy load can cause instability in driving a power unit. Make sure the front or rear of the power unit is properly counter-balanced with weights. Always drive slowly – especially around turns. An unstable power unit could steer badly and possibly tip over, causing injury or death.



Do not allow others to ride on the power unit with an operator. Riders are subject to injury such as being struck by foreign objects or being thrown off. Riders obstruct the operator's view resulting in unsafe operation. **Never allow anyone to ride on the implement!** Keep all bystanders at a safe distance.



Before you operate any equipment, check over all pins, bolts and connections to be sure all are securely in place. Replace any damaged or worn parts immediately.



Check that this attachment is securely mounted to the loader. Failure to install lock pins or have the latching mechanism engaged could result in injury or death.



Do not work under a raised loader unless it is securely blocked or held in position. Do not depend on the power unit hydraulic system to hold the implement in place.



Operate the loader controls smoothly, avoiding jerky operation. Stop loader gradually when lowering or lifting loads.



Beware of low electrical wires when loader is raised. Serious injury or death can result if contact is made.



Only use a power unit equipped with a ROPS cab or rollover protective structure. Keep foldable ROPS systems in "locked up" position at all times. Keep seat belt fastened.



Be certain the power unit is in neutral or park position before starting engine.



Always shut off power unit and shift to "Park" or set brakes when leaving unit. Always lower bucket or attachment to ground, relieve all hydraulic pressure. Remove key when leaving equipment unattended. Park in level area.
















Keep alert and watch the rear as well as the front when working with the loader. Beware of lift clearance when raising loader to maximum height.

SAFETY INSTRUCTIONS (continued)

















OPERATIONAL SAFETY (continued)

-  When maneuvering close to buildings or passing through narrow areas, be sure to allow sufficient clearance for the power unit, loader, and attachment. Drive slowly.
-  Operate loader from operator's seat only. Remain at controls until operating cycle is complete.
-  Use extreme care when working on inclines and hillsides.
-  Do not operate close to ditches, creeks or holes. Slow down when operating over rough surface. Use extreme caution when backfilling deep holes or trenches.
-  Allow for additional length of loader and attachment on power unit while turning.
-  Do not lift or carry anyone on loader or in bucket or on attachment.
-  Make adjustments only when the snow pusher is attached to the power unit.
-  Do NOT exceed 10 miles per hour when operating. Avoid excessive speed during operation.
-  Never lift blade above the operator's eye level or to a height where visibility is obstructed.
-  When using the pusher, use extra care. **Do not ram pusher** into piles of dirt or packed snow. **Ramming** can also dislodge operator from seat and/or power unit controls, resulting in possible serious injury or death.
-  Always ease the power unit into the load. It may be necessary to reposition and take less "bite" on the material to move it safely.
-  ALWAYS lower loader to the ground or block securely before performing any maintenance work.
-  Inspect the entire machine periodically. Look for loose fasteners, worn or broken parts, pinched hydraulic hoses, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order.

SAFETY INSTRUCTIONS (continued)



TRANSPORT SAFETY


-  Comply with state and local laws governing highway safety and movement of machinery on public roads.
-  The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
-  When driving the power unit and equipment on the road or highway under 20 mph (32 kph) at night or during the day, use flashing amber warning lights and a slow moving vehicle (SMV) identification emblem.
-  Always be sure the implement is in the proper raised position for transport.
-  Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.
-  Plan your route to avoid heavy traffic.
-  Always operate equipment in a position to provide maximum visibility at all times. Make allowances for increased width and weight of the equipment when making turns, stopping the unit, etc.
-  Do not drink and drive!
-  Watch for traffic when operating near or crossing roadways.
-  Turn curves or go up or down hills only at a low speed and at a gradual steering angle. Slow down on rough or uneven surfaces, and loose gravel.
-  Use extreme care and maintain minimum ground speed when transporting on hillside, over rough ground and when operating close to ditches or fences. Be careful when turning sharp corners.
-  Never allow riders on either power unit or implement. Falling off can kill.
-  Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, inter-sections, etc.
-  Do not exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.


SAFETY INSTRUCTIONS (continued)





MAINTENANCE SAFETY


Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.


-  Before working on this machine, drive to a level area, disengage the PTO, lower implement or loader (or if working underneath, raise and block securely), shut off the engine, relieve all hydraulic pressure, set the brakes, and remove the ignition keys.


-  Never work under equipment unless it is blocked securely. Never depend on hydraulic system to keep implement in raised position.


-  Do not use blocking made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Use only good quality blocking material.


-  Never operate controls from the ground. Operate the controls only from the operator's station.

-  Keep all persons away from operator control area while performing adjustments, service, or maintenance.

-  Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance.

-  Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure unit is in a safe condition.

-  When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

-  Openings in the skin and minor cuts are susceptible to infection from hydraulic fluid. If injured by escaping hydraulic fluid, see a doctor at once. Gangrene and death can result. Without immediate medical treatment, serious infection and reactions can occur.

SAFETY INSTRUCTIONS (continued)



MAINTENANCE SAFETY (continued)



After servicing, be sure all tools, parts and service equipment are removed.



Check to ensure all safety signs are installed and in good condition.



Do not allow grease or oil to build up on any deck or platform.



Never replace hex bolts with less than grade five bolts unless otherwise specified, i.e. shear bolts. Refer to bolt torque chart for head identification marking.



A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.

If equipment has been altered in any way from original design, the manufacturer does not accept any liability for injury or warranty.



STORAGE SAFETY



Following operation or when unhooking, stop the power unit, set the brakes, shut off the engine, relieve all hydraulic pressure and remove the ignition keys.



Make sure all parked machines are on a hard, level surface and engage all safety devices. Storage location should be level and solid to make connecting and unconnecting to power unit easy.



Store the unit in an area away from human activity. Do not permit children to play on or around the stored unit.



Do not park equipment where it will be exposed to livestock for long periods of time. Damage and livestock injury could result.



If blocking is used, make sure it is solid and secure before leaving area.

SAFETY INSTRUCTIONS (continued)



SAFETY SIGNS

Keep safety signs clean and legible at all times.

Replace safety signs that are missing or have become illegible.

Replaced parts that displayed a safety sign should also display the current sign.

Safety signs are available from your Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs:

Be sure that the installation area is clean and dry. Be sure temperature is above 50°F (10°C).

Decide on the exact position before you remove the backing paper.

Remove the smallest portion of the split backing paper. Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.

Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place. Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

SAFETY SIGNS


WARNING

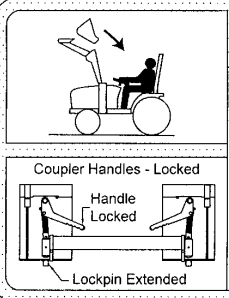
TO AVOID SERIOUS INJURY OR DEATH:

- Read Operator's Manual before operating, servicing or repairing equipment. Follow all safety rules and instructions. (Manuals are available from your selling dealer.)
- Never allow riders.
- Keep bystanders away from equipment during operation.
- Operate from operator's seat only.
- Keep all shields in place and in good condition.
- Lower equipment to ground, stop engine, remove key and set brake before dismounting power unit.
- Never allow children or untrained persons to operate equipment.

FAILURE TO FOLLOW THESE INSTRUCTIONS
CAN RESULT IN INJURY OR DEATH.

101289

 **WARNING**



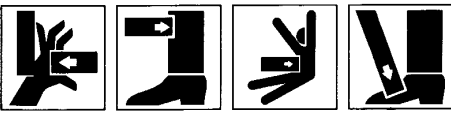
To avoid injury or death caused by falling attachment: Lockpins must completely engage attachment plate slots.

101313

**On SPS Models
20, 24 and 36 Series**

SAFETY SIGNS

⚠ WARNING



CRUSHING AND PINCHING HAZARD

- Be extremely careful with various parts of the machine. Pivoting blade can crush or pinch body parts.
- Operate controls from operator's seat only.
- Make sure parking brake is engaged before leaving operator's seat.
- Stand clear of machine while in operation or when it is being raised or lowered.

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.

101288

⚠ WARNING

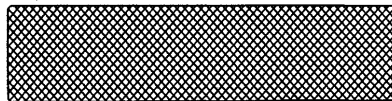


To avoid injury or death caused by falling attachment:

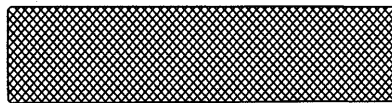
- Quick lock pins must be installed at all times.

101296

Above Safety Sign ONLY for SPJD Models




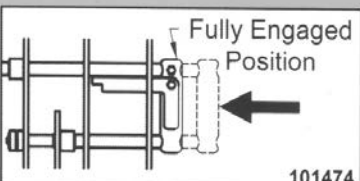
Red Reflector #101260
on 36 Series Models only



Amber Reflector #101261
Front-36 Series only

⚠ WARNING

To avoid injury or death caused by falling attachment: Lockpins must completely engage through attachment and both adaptor plates.

101474

On Models SPG-3696 and SPG-36120 only

⚠ CAUTION

NO STEP

Enter from right side

For
SPS Models only
24 and 36 Series

⚠ CAUTION

When getting on and off unit:

- Always face unit.
- Use hand holds on skid steer and steps with at least three points of support.
- Always mount and dismount from this side.

101290

REMEMBER: If Safety Signs have been damaged, removed, become illegible or parts replaced without Signs, new Safety Signs must be applied. New Safety Signs are available from your authorized distributor or factory.

INSTRUCTIONS

TRACTOR AND SKID STEER REQUIREMENTS AND PREPARATION

APPLICATION

The 20, 24 and 36 Series Snow Pushers are available in popular widths to fit your skid steer or tractor loader that is equipped with either the universal skid steer type quick-attach or the John Deere 100/200/300/400/500 type quick-attach.

The 36 Series Snow Pushers are also available with the Euro/Global loader connection.

They are designed to push snow and other loose materials without leaving windrows or damaging the pavement when using the rubber snow blade.

All models are equipped with AR steel skid shoes that are adjustable, reversible and replaceable. The customer can select either the rubber snow blade or an alloy steel blade (20 and 24 Series only). The rubber snow blade is recommended to minimize pavement damage and damage to painted striping on most surfaces. Optional Poly Skid Shoes are available for the 20 and 24 series only. They are recommended to minimize pavement damage when paired with units that have rubber snow blades.

The customer can also choose to add the optional pull back feature for removing snow close to garage doors or other structures. Optional fiberglass sight indicators are available to assist in locating the outer ends of the snow pushers.

20 SERIES SNOW PUSHERS

The 20 Series Snow Pushers are designed for sub-compact tractors under 32 hp.

The SPS (20 Series) Models will fit front tractor loaders equipped with the universal skid steer type quick-attach connection.

The SPJD (20 Series) Models are designed for John Deere sub-compact tractor front 100/200/300 series loaders with quick attach.

The 20 Series Snow Pushers are available in 4 ft. and 5 ft. widths. The minimum recommended horsepower for these snow pushers is:

WIDTH	MIN. HP.
4 FT.	18 HP
5 FT.	22 HP

The maximum operating weight of the tractor and loader for use with the 20 Series Pusher is 1,800 lbs.

24 SERIES SNOW PUSHERS

The 24 Series Snow Pushers are designed for compact and sub-compact tractors under 50 hp.

The SPS (24 Series) Models will fit front tractor loaders equipped with the universal skid steer type quick-attach connection. They will also fit smaller skid steer models up to 35 hp.

The SPJD (24 Series) Models are designed for John Deere compact and sub-compact tractor front 200/300/400 series loaders with quick attach.

The 24 Series Snow Pushers are available in 5 ft., 6ft. and 7 ft. widths. The minimum recommended horsepower for these snow pushers is:

WIDTH	MIN. HP.
5 FT.	25 HP
6 FT.	30 HP
7 FT.	35 HP

The maximum operating weight of the tractor and loader for use with the 24 Series Pusher is 3,500 lbs.

36 SERIES SNOW PUSHERS

The 36 Series Snow Pushers are designed for Skid Steer Loaders and utility tractors from 50 to 120 horsepower.

The SPC Series Snow Pushers are designed for power units where the attachment is clamped on to the bucket. This allows the operator to quickly attach/detach the pusher and use the bucket to pile or load the snow.

The SPS (36 Series) Models will fit front tractor loaders equipped with the universal skid steer type quick-attach connection.

The SPJD (36 Series) Models will fit John Deere 400 and 500 Series quick-attach loaders.

The SPG (36 Series) Models will fit tractor loaders equipped with the Euro/Global type front connection.

The 36 Series Snow Pushers are available in 8 ft. and 10 ft. widths. The minimum required horsepower for these is:

WIDTH	MIN. HP.
8 FT.	50 HP
10 FT.	50 HP

INSTRUCTIONS (continued)

TRACTOR AND SKID STEER REQUIREMENTS AND PREPARATION (continued)

ALL MODELS

Check the power unit's hydraulic system. Be sure the hydraulic oil and filter have been serviced according to manufacturer's recommendations. Refer to your tractor or loader operator's manual or dealer for any adjustments necessary to put the hydraulic system in good working order.

CAUTION

Be sure your tractor and loader, or skid steer is in good condition. Read all the safety precautions and make sure all equipment operators are familiar with the safety rules of operation.

The operator is responsible for the safe operation of this equipment. The operator must be properly trained. Operators should be familiar with the power unit, loader and loader attachment, and all safety practices before starting operation. Read the safety rules and safety signs on pages 3-12.

Remove the bucket from your front end loader or skid steer. Check your loader to make sure it is in good working order. Check all frame mounting bolts to make sure they are tight.

WARNING

■ Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in "locked up" position at all times.

■ Snow Pushers are back heavy and can tip backward easily when not connected to prime mover. Always disconnect unit on level ground with support blocks at the back to tip the unit forward. Never disconnect unit with the back of unit facing downhill.

OPTIONS

PULL BACK KITS

There are optional pull back blade kits complete with mounting hardware for all models of snow pushers. This kit will allow operator to pull snow away from garage doors or buildings while backing up. See page 31 for the 20 Series Snow Pushers and page 32 for the 24 and 36 Series Snow Pushers.

PART NO.	DESCRIPTION
358200	2048 PULL BACK KIT
358205	2060 PULL BACK KIT
358095	2460 PULL BACK KIT
358105	2472 PULL BACK KIT
358115	2484 PULL BACK KIT
358120	3696 PULL BACK KIT
358125	36120 PULL BACK KIT

With pull back supported with a hoist or other lifting device, attach the pull back frame on to the snow pusher end panels using the 1/2" x 1 1/2" carriage head bolts. Leave bolts loose until all bolts are installed.

CAUTION

Support pull back securely with a hoist or other lifting device until bolts on each side have been inserted and secured. Be careful not to pinch fingers, hands, or other body parts during installation.

SIGHT INDICATOR KIT (Optional) Part No. 360235

The sight indicator kit has two fiberglass rods that can be bolted to the front corners of the snow pusher end panels. These assist the operator in knowing the location of the front outer ends of the snow pusher when approaching buildings, trees, poles and other obstacles that could damage the unit and/or obstructions.

NOTE: The sight indicator package cannot be used with Pull Back Option. See page 29 for how to mount the sight indicators on the snow pusher.

INSTRUCTIONS (continued)

ALL SPS SERIES MODELS (SKID STEER TYPE) ATTACHMENT TO PRIME MOVER

WARNING

Improper attachment of the Snow Pusher could result in injury or death. Do not operate this product until you have positive indication that the attachment is securely mounted.

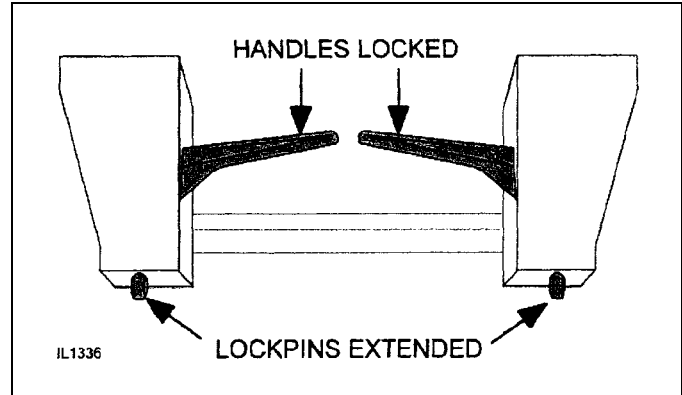


Figure 3. Attachment Coupler Handles - Locked

1. Position the attachment on a level surface.
2. The quick attach coupler handles should be in the unlocked position with lock pins retracted, Figure 2.

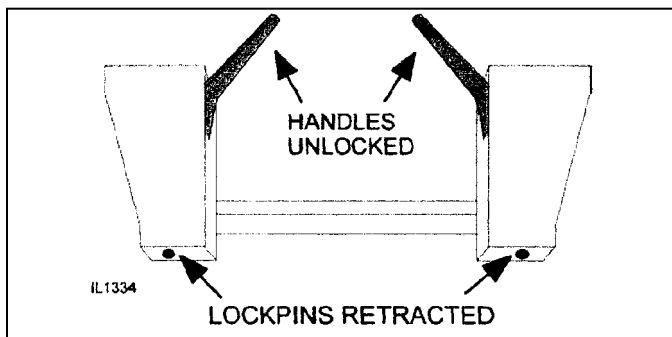


Figure 2. Quick Attach Coupler Handles - Unlocked

3. Enter the prime mover. Fasten seatbelt, start engine. Disengage the parking brake.
4. Follow the attaching procedure in the prime mover owner's manual. Align the attachment mechanism with the mounting on the Snow Pusher, attach to the prime mover or loader.
5. Engage the parking brake and shut down the prime mover. Be sure to relieve pressure to the auxiliary hydraulic lines.
6. Unfasten safety restraints and exit the prime mover.
7. Engage the latching mechanism to secure attachment to loader. The lockpins must be completely extended and secured into the retaining slots.
8. Re-enter the prime mover. Fasten seatbelt and re-start engine.

WARNING

Attachment coupler handles must always be rotated to LOCK POSITION to prevent coupler latch from disengaging and attachment from falling off.

9. Carefully raise the loader and cycle the rollback/tilt cylinders to check clearances and to ensure that the attachment is securely mounted.

REMOVING THE SNOW PUSHER

1. If possible, find a level solid location to place the attachment. This makes it easier to disconnect and re-connect later on.
2. Lower the attachment to the ground.
3. Engage the parking brake and shut down the prime mover. Be sure to relieve pressure to the auxiliary hydraulic lines.
4. Unfasten safety restraints and exit prime mover.
5. Disengage attachment-locking mechanism (mechanical type).
6. Enter prime mover, fasten safety restraints and start the prime mover.
7. Disengage attachment-locking mechanism (hydraulic type).
8. Disengage the parking brake, and back away from the attachment.

INSTRUCTIONS (continued)

INSTALLATION – MODELS FOR JOHN DEERE LOADERS ATTACHING AND DETACHING EQUIPMENT (100/200/300/400/500 SERIES)

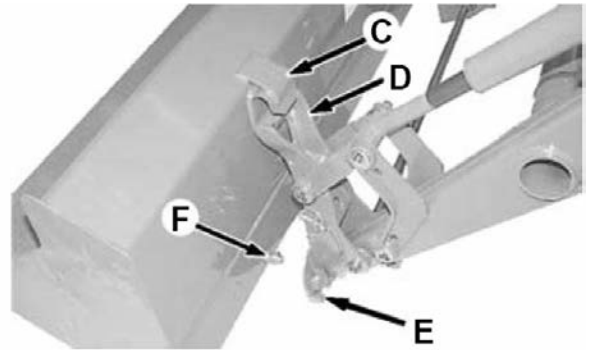
NOTE: Procedure is the same for all attachments. Bucket attachment shown.

ATTACHING

1. Extend bucket tilt cylinders to angle attaching brackets forward.

NOTE: Angle must be greater than that of the brackets on the rear of the attachment.

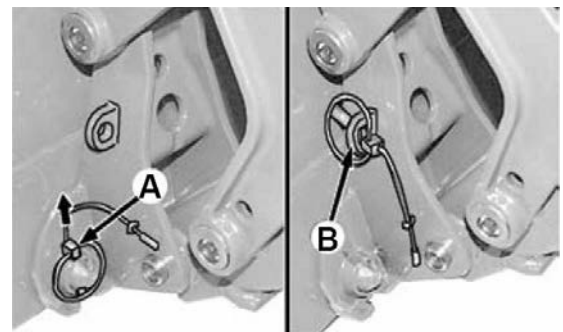
2. Drive forward, adjusting loader height and position until the top of the loader bracket engages the hooks (C) on the Snow Pusher.
3. Slowly retract the bucket tilt cylinders and raise the loader so the lower lock pins (F) engage the hole in the holder strap (E).
4. Continue to retract the tilt cylinders and raise the loader until the main frame of the Snow Pusher is vertical.
5. Engage tractor parking brake and/or place transmission in PARK. Shut off tractor engine and remove key.
6. Install the quick-lock-pin (A) into the pins (F) on each side of the Snow Pusher.
7. Start the tractor. Installation is now complete.



NOTE: On attachments with two pins (F), the 200, 300 and 400 series loaders will utilize the upper pin and the 500 series loader will utilize the lower pin.

DETACHING

1. Place transmission in neutral and start engine.
2. Roll attachment back slightly and raise boom approximately 18" (460 mm) above ground level.
3. Engage tractor parking brake and/or place transmission in PARK. Shut off tractor engine and remove key.
4. Remove the quick lock-pin (A) from each side of attachment. Store pins in storage position (B).
5. Start engine and lower the attachment to the ground. Extend bucket tilt cylinders until pin (F) releases from holder strap (E) on each side of attachment. Lower the loader until holder brackets are free from the hooks. Back tractor away from attachment.
6. Set parking brake and/or place transmission in PARK. Shut off engine and remove key.



INSTRUCTIONS (continued)

ATTACHMENT OF 36 SERIES CLAMP-ON SNOW PUSHERS TO PRIME MOVER

ASSEMBLY – CLAMP-ON UNITS

Check your loader to make sure it is in good working order.

Refer to the exploded parts views in this manual for proper orientation of the chain, bolt, and washer.

Install the chain on the clamp-on attachment with the 1/2" hex bolt and locknut provided. Make sure that the flat washer is next to the chain link to provide more support for the chain.

Install the turnbuckle on the bucket attachment with the pin and cotter pins. Check the turnbuckle to make sure that it operates easily. Spreading some grease on the threads will help insure that it will remain free and easy to use.

Slide the front cutting edge of your loader bucket into the bucket attachment.

Raise the loader slightly so that the bottom of clamp-on attachment is about three or four inches off the ground. Engage tractor parking brake and shut off the engine.

Place some solid blocking under the bottom of the snow pusher attachment for safety.

Install the chain around the loader bucket and into the keyhole slot on the upper end of the turnbuckle. Slide the chain through the keyhole slot until the chain around the bucket is fairly tight – then tighten by turning the turn-buckle body. Tighten the chain so that the loader attachment and chain are securely fastened to the loader bucket.

If necessary, loosen the turnbuckle and relocate the keyhole slotted end to another chain link and retighten the turnbuckle.

Turn the locknut on the turnbuckle up tight against the end of the turnbuckle barrel and tighten with a wrench.



BUCKET MOUNT

The distance between the bucket supports is 3". This takes into account the bucket cutting edge variance, making installation to a wide choice of buckets fast and easy.



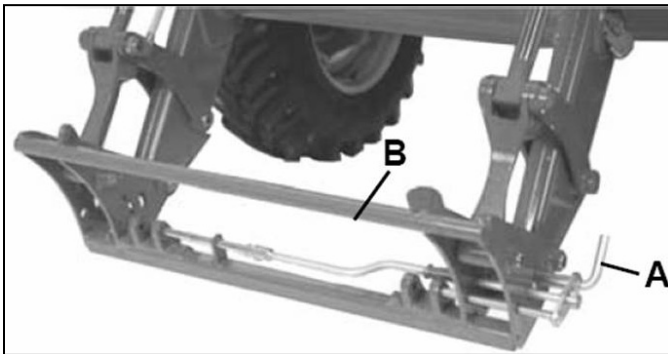
DO NOT operate loader and attachment if it is not securely fastened to the loader bucket. If loose, the bale and attachment could come off the loader bucket creating a dangerous situation that could lead to personal injury or death.

INSTRUCTIONS (continued)

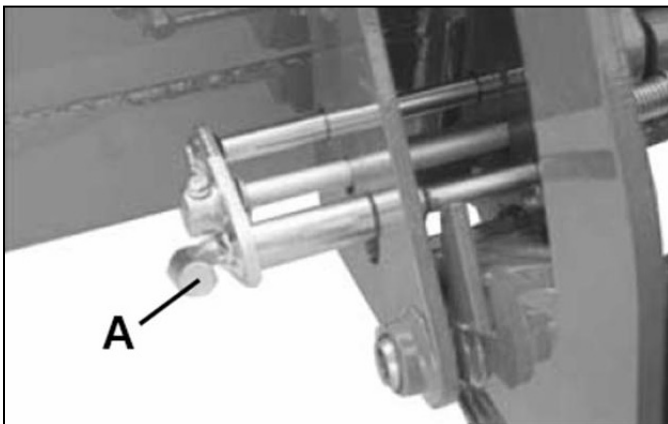
ATTACHMENT OF 36 SERIES SNOW PUSHERS (EURO/GLOBAL) TO PRIME MOVER

ATTACHING

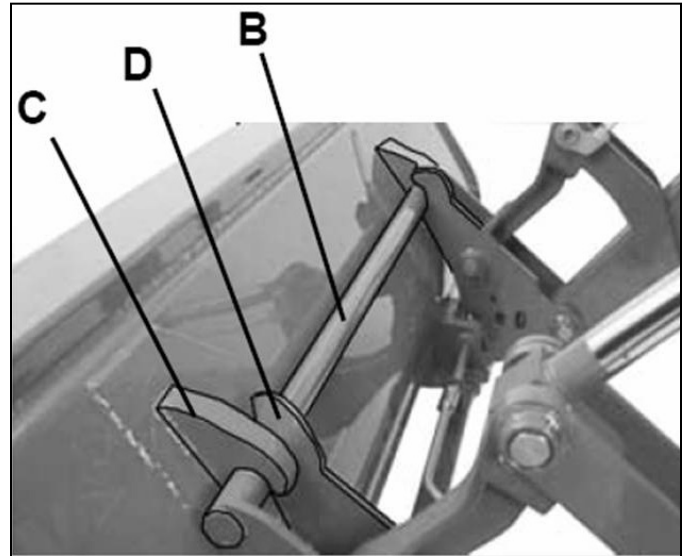
1. To prepare the loader for attachment, pull and rotate handle to open latch (A).
2. Extend attachment cylinders to angle attaching brackets forward.
3. Drive forward, adjusting loader height and position until the bar (B) is under hooks (C) and tabs (D) are on the center side of the hooks.



NOTE: Most latches automatically close on global carrier.



4. Raise loader and retract tilt cylinders until latch closes.
5. Lower attachment and shut off engine. Installation is now complete.



CAUTION!



**ALWAYS CHECK LATCH PINS
BEFORE TILTING OR OPERATING
ANY ATTACHMENT.**

DETACHING

1. Lower attachment to ground. Place the transmission in PARK and shut off engine and remove key.
2. Pull and rotate handle to open latch (A).
3. Start tractor and lower attachment to ground. Slowly extend bucket tilt cylinders until loader clears the latch plate. Lower loader until bar clears the hooks.
4. Drive tractor in reverse until loader is clear of the attachment.

OBEY ALL SAFETY WARNINGS!

OPERATING INSTRUCTIONS

PRE-OPERATION CHECKLIST

(OWNER/OPERATOR RESPONSIBILITY)

- ____ Review and follow safety rules and safety signs on pages 3 through 12.
- ____ Check that Snow Pusher is properly and securely attached to tractor loader or skid steer.
- ____ Lubricate all grease fitting locations.
- ____ Check that all hardware is properly installed.
- ____ Check that no one enters the area of machine operation. Always work at a safe distance from bystanders.
- ____ Know your controls and how to stop power unit, engine and PTO quickly in an emergency. **READ THIS MANUAL AND THE ONE PROVIDED WITH YOUR POWER UNIT.**
- ____ To avoid accident or injury, do not allow anyone to operate this equipment without proper instructions. Any person who operates this equipment must be instructed in and be capable of the safe operation of the tractor, skid steer, attachment and all controls.

OPERATION

Be sure tractor is properly counter-balanced with weights before attempting to operate the Snow Pusher. It is recommended to attach a heavy implement or weight box on the 3 pt. hitch of the tractor for counter weight.

Make sure all operators have read the Owner's Manual and are familiar with the instructions and the safety rules of operation.



WARNING

- **Do not operate this product until you have positive indication that this attachment is securely mounted to the loader. Failure to install lock pins or have the latching mechanism engaged could result in injury or death.**
- **Do not exceed 10 miles per hour while operating.**
- **A heavy load can cause instability in driving a power unit. Make sure the rear of the tractor is properly counterbalanced with weights. Always drive slowly – especially around turns. An unstable power unit could steer badly and possibly tip over, causing injury or death.**



OPERATE SAFELY

- Become familiar with controls.
- Operate from operator's seat only. Remain at controls until operating cycle is complete.
- Never lift attachment to a height where visibility is obstructed.
- Avoid holes, ditches, and obstructions which may cause tractor/loader to tip.
- Allow for additional length of loader and attachment on power unit while turning.
- Never allow anyone to walk or work under a raised loader.
- Be sure that people, livestock, or pets are not standing near the machine while operating.
- Carry the attachment slowly and as low as possible to the ground.
- Operate the loader hydraulic controls smoothly, avoiding jerky operation. Stop loader gradually.
- Only use a tractor or power unit equipped with a ROPS cab or roll-over protective structure.
- Travel slowly over rough surface or when making turns.
- Lower bucket or attachment to ground when power unit is unattended.

IMPORTANT

Striking solid objects hidden in snow OR pushing materials other than snow (other than soft materials) CAN result in damage to this product and WILL void all warranties.

Before any snowfall, inspect the site where your Snow Pusher 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 removal operation.

NOTE: For most snow moving applications, operate with the loader in the FLOAT position. (See your power unit/loader manual for details on the FLOAT position.)

OPERATING INSTRUCTIONS (continued)

TRANSPORTING

CAUTION

When traveling on public roads, whether at night or during the day, use accessory light and devices for adequate warnings to operators of other vehicles. Comply with all federal, state and local laws.

Transport with Snow Pusher low to the ground to maintain stability of the tractor/skid steer.

Reduce tractor/skid steer ground speed when turning; and leave enough clearance so the Snow Pusher does not contact obstacles such as buildings, trees, or fences.

Keep away from electrical power lines. Place an orange warning sign under overhead power lines indicating type of danger above.

Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass you safely.

When traveling over rough or hilly terrain or when making turns, slow down and use extra care.

Read all the safety warnings in the front of this manual and in the manual of power unit.

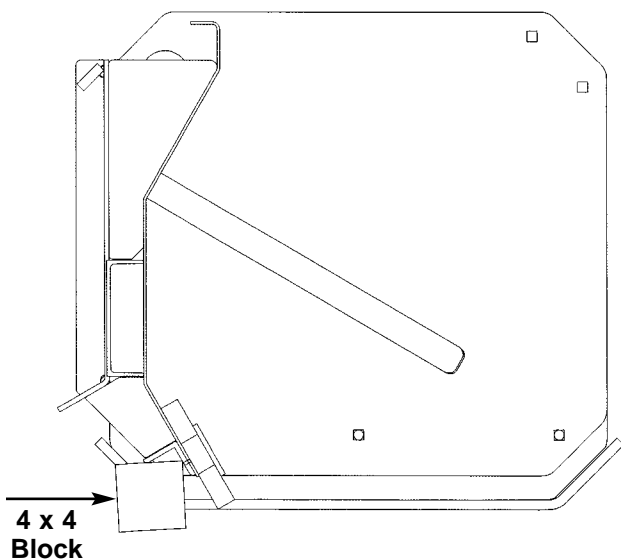


Figure 4. Recommended Storage Position

STORAGE

Clean, inspect, service, and make necessary repairs to the Snow Pusher when parking it for long periods and when parking it at the end of a working season. This will help ensure that the Snow Pusher is ready for field use next time you connect to it.

WARNING

Snow Pushers are back heavy and can tip backward easily when not connected to prime mover. Always disconnect unit on level ground with support blocks at the back to tip the unit forward. Never disconnect unit with the back of unit facing downhill.

1. Clean off any dirt that may have accumulated on the Snow Pusher. Scrape off compacted dirt and then wash surfaces thoroughly with a garden hose.
2. Inspect Snow Pusher for loose, damaged, or worn parts. Adjust and tighten loose parts.
3. Touch-up any bare areas with paint.
4. Replace all damaged or missing safety signs.
5. Store Snow Pusher on a level surface in a clean dry place. Inside storage will make for longer Snow Pusher life. If inside storage is not available, then store unit tarped or away from direct sunlight.
6. Always store in a location away from children or livestock.
7. Always store in a safe position with support blocks at the rear under the angel iron bar. (See Figure 4.)

OPERATING INSTRUCTIONS (continued)



CAUTION

Beware of lift clearance when raising loader to maximum height.



DANGER

Beware of low electrical wires when loader is raised. Serious injury or death can result if contact is made.

Do not leave the operator's seat if any part of the power unit or implement contacts electric lines.

Once you have familiarized yourself with the Operator's Manual, completed the operating checklist, and properly attached your Snow Pusher to your tractor/skid steer, you are about ready to begin work. The Snow Pusher is ideal for pushing snow off of parking lots or any other areas you want cleared of snow. They also can be used to help clear soft materials from areas such as feed lots, grain floors, or waste water.

You have checked out your work site for any obstructions that you do not want to damage or to encounter. Remove or flag any obstructions before beginning your work. Also, check skid shoe adjustment to make sure they are carrying the blade at grade level or above small surface obstructions such as raised concrete surfaces at joint lines and other uneven surfaces.

Once the Snow Pusher is properly attached to your machine it **MUST** be leveled **BEFORE** plowing.

To level the unit set it down and adjust the curl of your bucket, making sure that **BOTH** skid shoes are resting squarely on your plowing surface.

To ensure proper contact, drive your machine forward approximately 20', check surface area under your machine to ensure that plowing area is clean. If your plowing area is not completely clear, check skid shoes and blade height.

The Snow Pusher equipped with a rubber cutting edge will not remove hard packed snow. To remove hard packed snow, a steel cutting edge is required.

OPERATING TIP: Operate Snow Pusher with skid shoes making full contact with the ground from front to back. Don't apply a lot of down pressure on the skid shoes. This will considerably shorten the life of the skid shoes. It is not necessary for proper plowing.

The Snow Pusher's primary purpose is to move snow or other soft material and pile it up. This function is best done at an approximate 2 to 4 MPH ground speed. Simply lower the Snow Pusher until it is resting on the skid shoes and proceed forward. The blade should immediately begin collecting snow or other soft materials between the side panels and clearing an area in front of you. You can transfer this material by pushing it forward to a nearby location and then raising the Snow Pusher to deposit your load. As the discharge pile builds, you will want to tilt the top to the hitch back to push the product up and onto the pile.

If using the pull back option, extend the loader tilt cylinders until the bottom edge of the pull back frame is parallel with the paved surface. Lower the Snow Pusher down to carry the pull back blade slightly above the snow. Slowly approach the snow close to a wall or garage door making sure you stop before getting too close. Lower the pull back down until its blade and frame are resting on the paved surface. Making sure no one is behind you, start backing up to pull snow away. Keep backing up until you have pulled the snow far enough that you can now remove the pile by pushing the pile forward with the Snow Pusher.

Achieving the desired effect will require a little experimentation and experience for your given condition. With a little practice, you should become a good operator consistently achieving the desired results you expect with your Snow Pusher.

IMPORTANT

Dozing of undisturbed soil, hard packed snow heavy materials, or similar items **CAN** result in damage to this product and WILL void all warranties.

SKID SHOE ADJUSTMENT

The skid shoes provide cutting height adjustment to reduce the chance of blade or surface damage during snow removal.

The Snow Pusher should be operated with skid shoes and blades set at the same height or with skid shoes set to carry the blade off the ground.

Setting skid shoes and blade at the same height is good for clearing snow and other loose materials close to the ground or paved surfaces. Adjusting skid shoes lower than the blades will carry the blade above the ground which is good for pushing snow over gravel, concrete surfaces with uneven joints, and other uneven surfaces.

IMPORTANT: Do not unhook Snow Pusher from the loader to make adjustments. Unhooking can allow the unit to tip over while making adjustments.

Following instructions for skid shoe adjustment on page 22.

OWNER SERVICE

SKID SHOE ADJUSTMENT

1. Park tractor/skid steer with Snow Pusher attached on level ground.
2. Lower Snow Pusher down until blade is resting 4" to 6" off the ground on support blocks.
3. Shut down tractor/skid steer properly before dismantling to adjust skid shoes.
4. Loosen all bolts fastening the skid shoe to the unit.

IMPORTANT: Skid shoes are very heavy, please use caution during the removal and installation.

5. Reposition skid shoe on left side and right side. To set the skid shoes on a snow pusher with a new metal or rubber cutting edge – measure the distance from the bottom of the side plates to the top of the skid shoe runner. This distance should be .75" for rubber cutting edge and 1.25" for metal cutting edge. (See Fig. 5)
6. Tighten bolts slightly so you can move the skid shoe up/down and it will remain in desired position. Check height to make sure it is the same front to rear.
7. For removing snow from a gravel or uneven surface, position skid shoes $\frac{1}{2}$ " to $\frac{3}{4}$ " below cutting edge.
8. Tighten bolts-torque to (120 ft-lb.)

The information in this section is written for operators who possess basic mechanical skills. If you need help, your dealer has trained service technicians available. For your protection, read and follow the safety information in this manual.



WARNING

NEVER GO UNDERNEATH EQUIPMENT. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death.

- Service work does not require going underneath.
- Read Manual for service instructions or have service performed by a qualified dealer.



WARNING

Do not work under a raised loader unless it is securely blocked or held in position. Do not depend on the hydraulic system to hold loader and attachment in place.



WARNING

- Before dismantling power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower loader and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt. Never leave equipment unattended with engine running.
- Keep all persons away from operator control area while performing adjustments, service, or maintenance.

REPLACEMENT OF STEEL CUTTING EDGE

1. Park your power unit on a level surface with snow pusher properly attached.
2. Place your power unit's transmission in "Park" and engage the parking brake
3. Lower snow pusher onto blocking positioned immediately behind the moldboard. This blocking must be of sufficient height to hold the steel edge approximately 6" to 8" above the level surface.
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.
5. Loosen the nuts on all the steel edge bolts and remove all nuts and wear edge bolts except the bolts on each end of the steel edge.
6. While holding up the end of the steel edge, remove the nut and bolt from that end and allow that end to pivot down to the level surface.
7. Repeat step 6 for the other end of the steel edge. Properly dispose of the steel edge and all bolts and nuts. These edges are reversible and may be flipped top-to-bottom for reinstallation.
8. Reinstall a new steel edge by reversing the procedures in steps 7 through 5 and tightening the nuts to 85 ft. lbs.

SERVICE INSTRUCTIONS (continued)

RUBBER CUTTING EDGE

IMPORTANT: Do not unhook Snow Pusher from the loader to make adjustments. Unhooking can allow the unit to tip over while making adjustments.

1. Park tractor/skid steer and Snow Pusher on level smooth, flat surface. Lower Snow Pusher until skid shoes are resting on 4" to 6" high support blocks to hold the snow blade off the ground.
2. Shut down tractor/skid steer properly before dismounting to adjust blade
3. Adjust the skid shoes so that the bottom edge of the side plates are $\frac{3}{4}$ " above the top of the skid shoe runner. Make sure the skid shoe(s) are even from front to back.
4. Loosen all bolts fastening the rubber to Snow Pusher. It is NOT necessary to completely remove the bolts.

The heavy duty rubber cutting edge on every Snow Pusher has a symmetric design that is able to be adjusted for height, rotated and flipped. This provides (4) unique cutting edges ensuring long lasting performance. On the 36 Series models the rubber edge is $1\frac{1}{2}$ " x 8" thick and on the 20 and 24 Series models the rubber is 1" x 6". To ensure several years of service perform periodic inspections and adjustments following these simple guidelines:

IMPORTANT: A warm piece of rubber is much easier to adjust than one that is cold. It is highly recommended that your machine be placed in a warm place whenever making adjustments.

Use a large mallet or pry bar to adjust the rubber blade.

NEW RUBBER SNOW BLADE ADJUSTMENT

Refer to Figure 5:

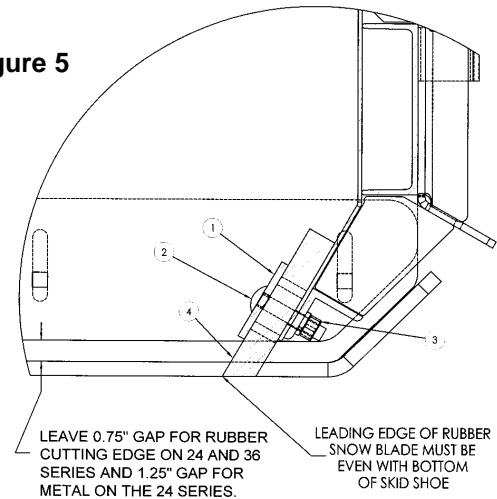
The new rubber snow blade (#4) should be adjusted down until the leading edge is even with bottom of skid shoes.

Once rubber is properly positioned begin tightening the bolts. Starting in the center, work toward the side plates tightening the bolts enough to create a substantial bow in the 4" flatstock hold down.

IMPORTANT: We recommend using a impact gun to ensure proper bolt torque (85 ft-lb).

Back drag unit 50 yards on dry concrete to level trailing edge of snow blade with bottom of skid shoe.

Figure 5



SNOW BLADE ADJUSTMENT

WORN RUBBER SNOW BLADE ADJUSTMENT

Refer to Figure 5:

A worn snow blade (#4) can be adjusted down until the leading edge is even with bottom of skid shoes.

1. Follow the directions listed at the beginning of the rubber cutting edge instructions.
2. After you loosen the nuts, adjust the rubber blade (#4) down until the leading edge is even with the bottom of the skid shoe runner(s). Make sure the rubber blade edge is straight and even across the width of the snow pusher.
3. Tighten all the hex nuts. Start in the center and work toward the side plates.

REVERSE RUBBER SNOW BLADE

Refer to Figure 5:

The snow blade (#4) can be reversed (rotated upside down) and reused to extend its life. Replace rubber snow blade when both edges can no longer be adjusted down.

1. Follow the directions listed at the beginning of the Rubber Edge instructions.
2. Remove all the nuts (#3), carriage bolts (#2) blade support bar (#1) and the rubber snow blade (#4).
3. Rotate snow blade upside down and reattach with existing hardware. Do not tighten nuts at this time.
4. Adjust rubber snow blade (#4) until leading edge of snow blade is even with bottom of skid shoe(s) runner. Tighten all the hex nuts. Start in the center and work toward the side plates.
5. Back drag the unit 50 yards on dry concrete to level the trailing edge of the snow blade with the bottom of the skid shoes.

The heavy duty rubber cutting edge minimizes potential damage to your machine by enabling the Snow Pusher to move over raised manhole covers, low curbs and other obstructions. At the same time you will maintain surface contact close enough for snow, grain, flood and waste water removal purposes.

SERVICE INSTRUCTIONS (continued)

PULL-BACK BLADE ADJUSTMENT

IMPORTANT: Do not unhook Snow Pusher from the loader arms to make adjustments. Unhooking can allow the unit to tip over while making adjustments.

1. Park tractor/skid steer and Snow Pusher on level ground.
2. Shut down tractor/skid steer properly before dismounting to adjust blade

The heavy duty rubber cutting edge on every Snow Pusher has a symmetric design that is able to be adjusted for height, rotated and flipped. This provides (4) unique cutting edges ensuring long lasting performance. On the 36 Series models the rubber edge is 1½" x 8" thick and on the 20 and 24 Series models the rubber is 1" x 6". To ensure several years of service perform periodic inspections and adjustments following these simple guidelines:

IMPORTANT: A warm piece of rubber is much easier to adjust than one that is cold. It is highly recommended that your machine be placed in a warm place whenever making adjustments.

Use a large mallet or pry bar to adjust the rubber blade.

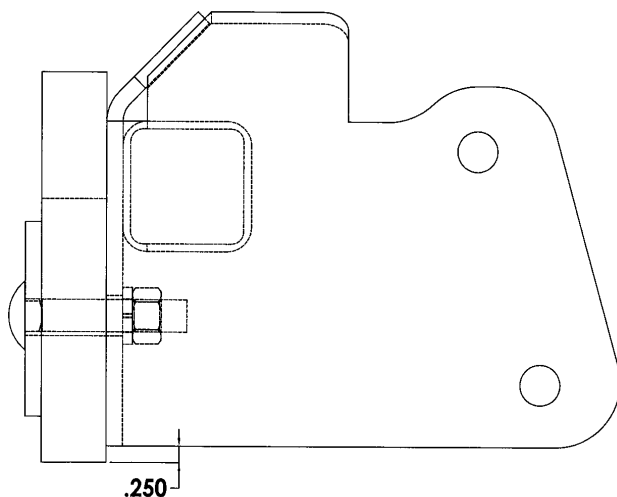


Figure 6

ADJUST PULL BACK RUBBER BLADE

Refer to Figure 6:

The new pull back rubber blade should be adjusted to be even with bottom edge of pull back frame.

1. Loosen all hex nuts and adjust rubber blade until rubber blade is even with bottom edge of pull back frame or up to ¼" beyond the edge.
2. Tighten hex nuts.

REVERSE PULL BACK RUBBER BLADE

Refer to Figure 6:

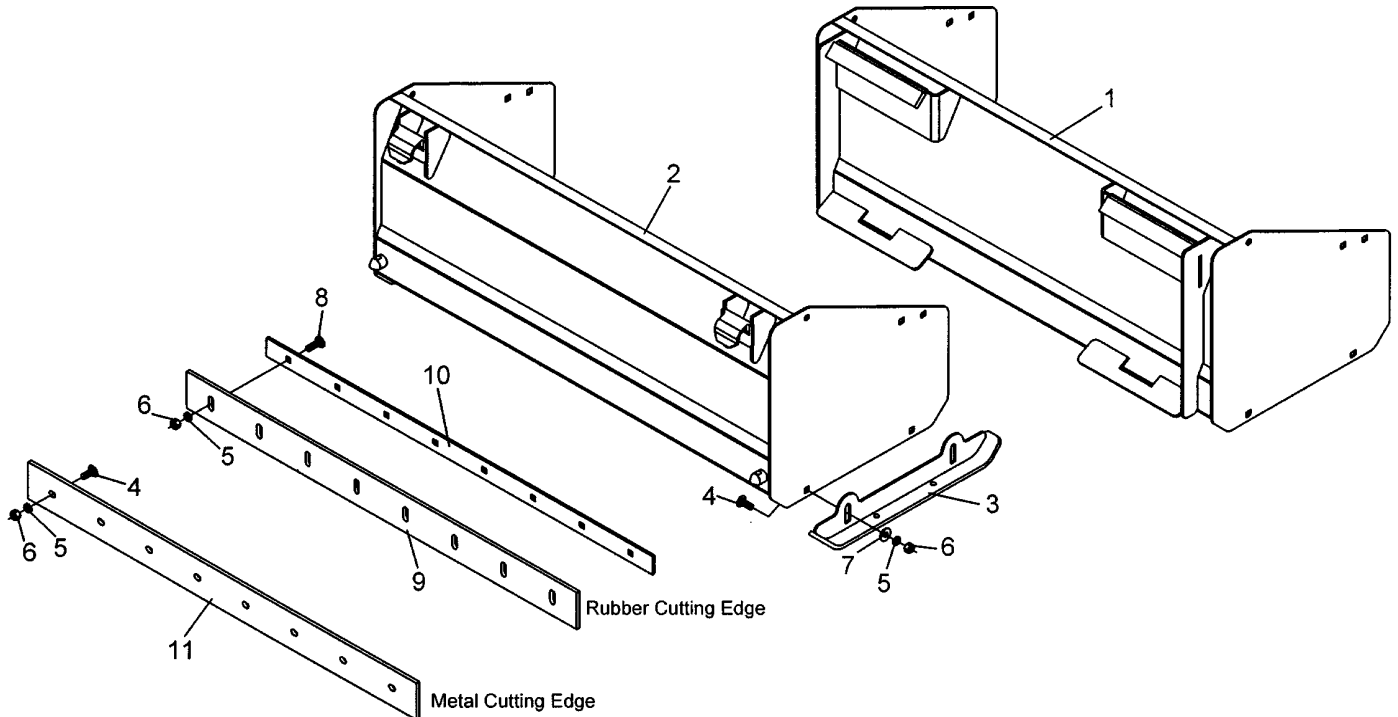
The pull back rubber blade can be reversed (rotated upside down) to extend its life. Replace rubber blade when both edges can no longer be adjusted to be even with bottom edge of pull back frame

1. Remove hex nuts, carriage bolts, and rubber blade.
2. Rotate rubber blades upside down and reattach with existing ½"-13 x 1½" GR5 carriage bolts, rubber blade, and hex nuts.
3. Tighten hex nuts to the correct torque.

TROUBLESHOOTING GUIDE

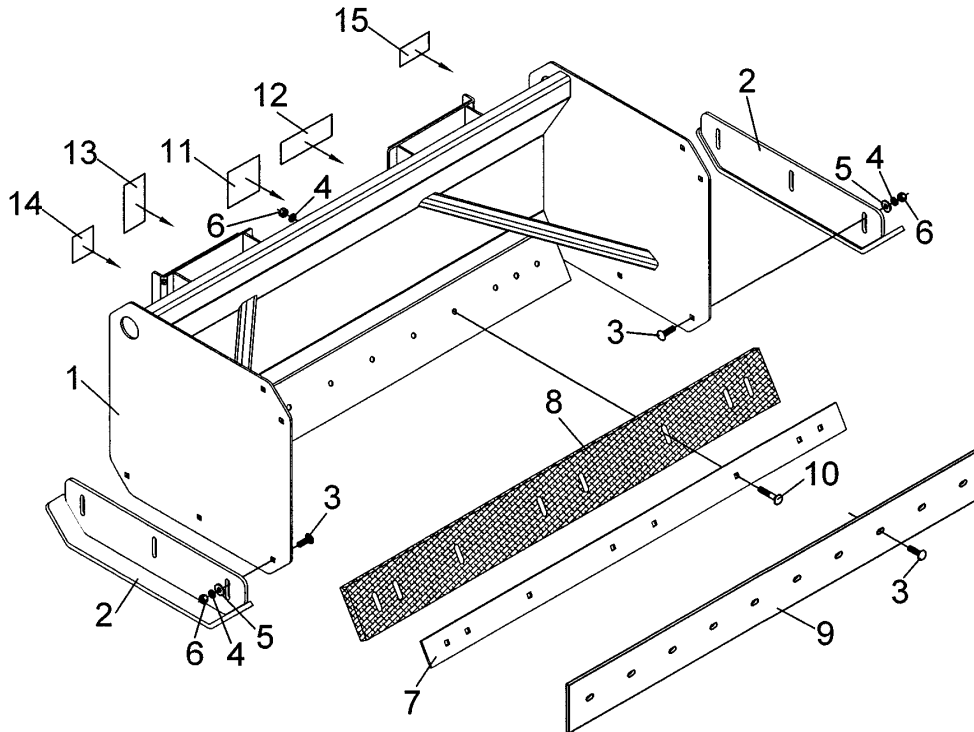
PROBLEM	POSSIBLE CAUSE	POSSIBLE REMEDY
Snow pusher mounting frame does not seat properly to the machine's attachment mounting plate.	1. Mud, ice or stones are lodged between the snow pusher mounting frame and the machine's attachment mounting plate.	Remove debris.
	2. Machine's attachment locking levers are not fully retracted before installation.	Retract levers fully.
	3. Frame is twisted from hitting solid object.	Repair or replace.
Snow pusher leaving snow behind.	1. Cutting edge worn or damaged.	Replace or reverse the cutting edge.
	2. Cutting edge not properly adjusted.	Adjust the cutting edge (rubber). Adjust skid shoes (metal blade).
	3. Snow Pusher tilted too far forward.	Adjust Snow Pusher.
Cutting edge digging into surface.	1. Excessive down pressure on loader hydraulics.	Set hydraulics in "float" position if possible.
	2. Soft surface or tipped forward too far.	Tip blade back to ride on skid shoes.
	3. Cutting edge not properly adjusted.	Adjust the cutting edge (rubber). Adjust skid shoes (metal blade).
Premature wear of cutting edge.	1. Excessive down pressure on loader hydraulics.	Set hydraulics in "float" position if possible.
	2. Skid shoes not properly adjusted.	Adjust skid shoes.
	3. Cutting edge not correctly adjusted.	Properly adjust cutting edge.
Skid shoes wearing more on front or rear.	1. Snow Pusher not level during operation.	Level Snow Pusher and retrain operator. Switch skid shoes to evenly wear.

20 SERIES SNOW PUSHER PARTS DRAWING



Ref. No.	Part No.	Description	No. Req'd.
1	358161	Snow Pusher Weldment 4 Ft. Skid Steer	1
	358171	Snow Pusher Weldment 5 Ft. Skid Steer	1
2	358181	Snow Pusher Weldment 4 Ft. John Deere	1
	358191	Snow Pusher Weldment 5 Ft. John Deere	1
3	358164	Skid Shoe Weldment	2
4	2503166	Bolt 1/2"-13NC x 1 1/4" Carriage Head Gr 2	Var.
5	2502002	Washer 1/2" Springlock	Var.
6	2500003	Nut 1/2"-13NC Full Hex	Var.
7	2501003	Washer 1/2" Flat	4
8	2503102	Bolt 1/2"-13NC x 1 1/2" Carriage Head Gr 5 ('R' Models only)	Var.
9	358186	Cutting Edge, 4 Ft. Rubber ('R' Models only)	1
	358196	Cutting Edge, 5 Ft. Rubber ('R' Models only)	1
10	358187	Retainer Bar, 4 Ft. ('R' Models only)	1
	358202	Retainer Bar, 5 Ft. ('R' Models only)	1
11	358166	Cutting Edge, 4 Ft. Metal ('M' Models only)	1
	358176	Cutting Edge, 5 Ft. Metal ('M' Models only)	1

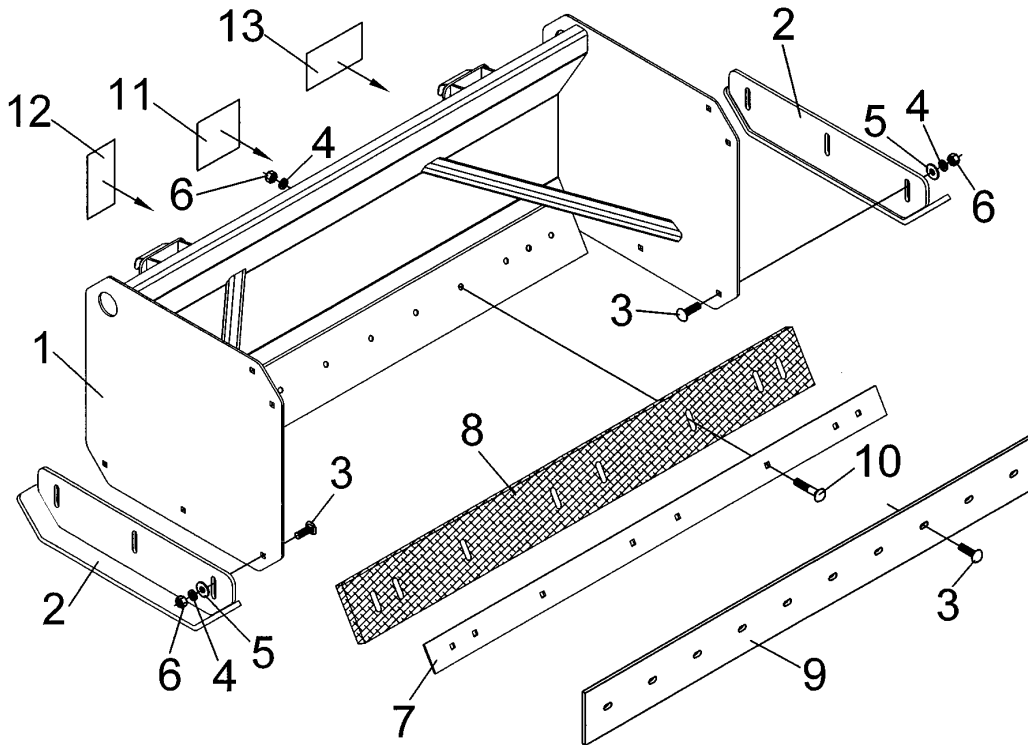
24 SERIES SKID STEER MOUNT SNOW PUSHER PARTS DRAWING



Ref. No.	Part No.	Description	No. Req'd.
1	358001	Main Frame Weldment (5 Ft. Skid Steer)	1
	358016	Main Frame Weldment (6 Ft. Skid Steer)	1
	358027	Main Frame Weldment (7 Ft. Skid Steer)	1
2	358006	Skid Shoe Weldment	2
3	2503102	Bolt 1/2"-13NC x 1 1/2" Carriage Head Gr. 5	Var.
4	2502002	Washer 1/2" Spring Lock	Var.
5	2501003	Washer 1/2" Flat	6
6	2500003	Nut 1/2"-13NC Full Hex	Var.
7	358031	Retaining Bar, 5 Ft. Cutting Edge (Rubber only)	1
	358024	Retaining Bar, 6 Ft. Cutting Edge (Rubber only)	1
	358022	Retaining Bar, 7 Ft. Cutting Edge (Rubber only)	1
8	358023	Cutting Edge, Rubber - 5 Ft (1" x 6")	1
	358026	Cutting Edge, Rubber - 6 Ft (1" x 6")	1
	358032	Cutting Edge, Rubber - 7 Ft (1" x 6")	1
9	360104	Cutting Edge, Metal - 5 Ft. (3/8" x 6")	1
	360110	Cutting Edge, Metal - 6 Ft. (3/8" x 6")	1
	358039	Cutting Edge, Metal - 7 Ft. (3/8" x 6")	1
10	2503165	Bolt 1/2"-13NC x 2 1/2" Carriage Head Gr. 2	Var.
11	101289	Safety Sign - Warning (Injury)	1
12	101313	Safety Sign - Warning (Lockpins)	1
13	101288	Safety Sign - Warning (Crushing/Pinching)	1
14	101290	Safety Sign - Caution (Handholds/Steps)	1
15	101291	Safety Sign - Caution (No Step)	1

24 SERIES

FRONT LOADER JOHN DEERE MOUNT SNOW PUSHER PARTS DRAWING

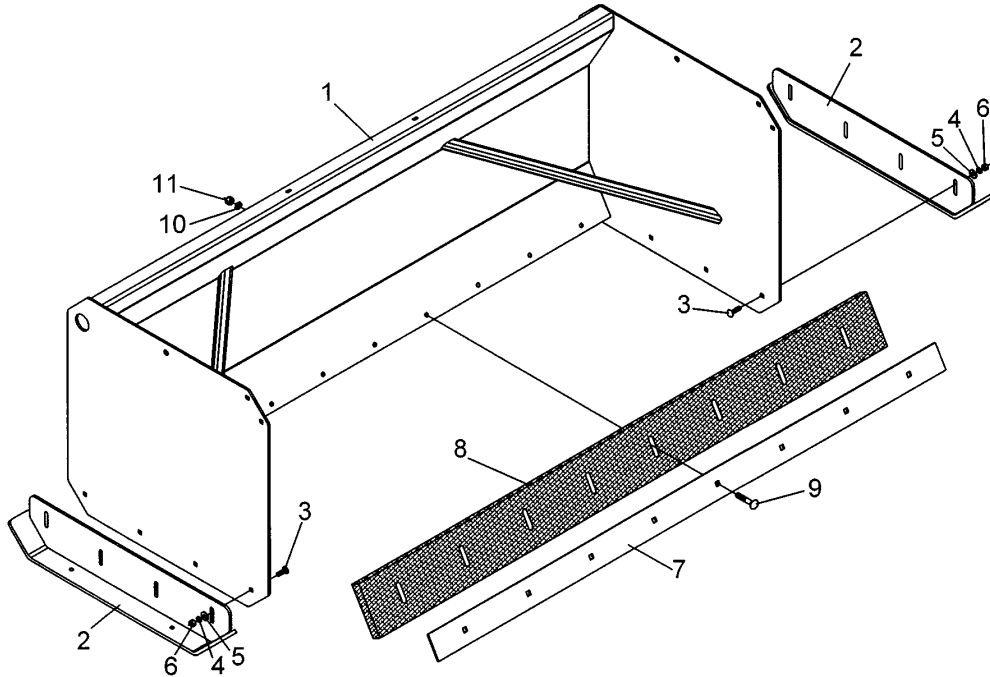


Ref. No.	Part No.	Description	No. Req'd.
1	358047	Main Frame Weldment (5 Ft. John Deere)	1
	358048	Main Frame Weldment (6 Ft. John Deere)	1
	358049	Main Frame Weldment (7 Ft. John Deere)	1
2	358006	Skid Shoe Weldment	2
3	2503102	Bolt 1/2"-13NC x 1 1/2" Carriage Head Gr. 5	Var.
4	2502002	Washer 1/2" Spring Lock	Var.
5	2501003	Washer 1/2" Flat	6
6	2500003	Nut 1/2"-13NC Full Hex	Var.
7	358031	Retaining Bar, 5 Ft. Cutting Edge (Rubber only)	1
	358024	Retaining Bar, 6 Ft. Cutting Edge (Rubber only)	1
	358022	Retaining Bar, 7 Ft. Cutting Edge (Rubber only)	1
8	358023	Cutting Edge, Rubber - 5 Ft (1" x 6")	1
	358026	Cutting Edge, Rubber - 6 Ft (1" x 6")	1
	358032	Cutting Edge, Rubber - 7 Ft (1" x 6")	1
9	360104	Cutting Edge, Metal - 5 Ft. (3/8" x 6")	1
	360110	Cutting Edge, Metal - 6 Ft. (3/8" x 6")	1
	358039	Cutting Edge, Metal - 7 Ft. (3/8" x 6")	1
10	2503165	Bolt 1/2"-13NC x 2 1/2" Carriage Head Gr. 2	Var.
11	101289	Safety Sign - Warning (Injury)	1
12	101288	Safety Sign - Warning (Crushing/Pinching)	1
13	101296	Safety Sign - Warning (Lock Pins)	1

36 SERIES

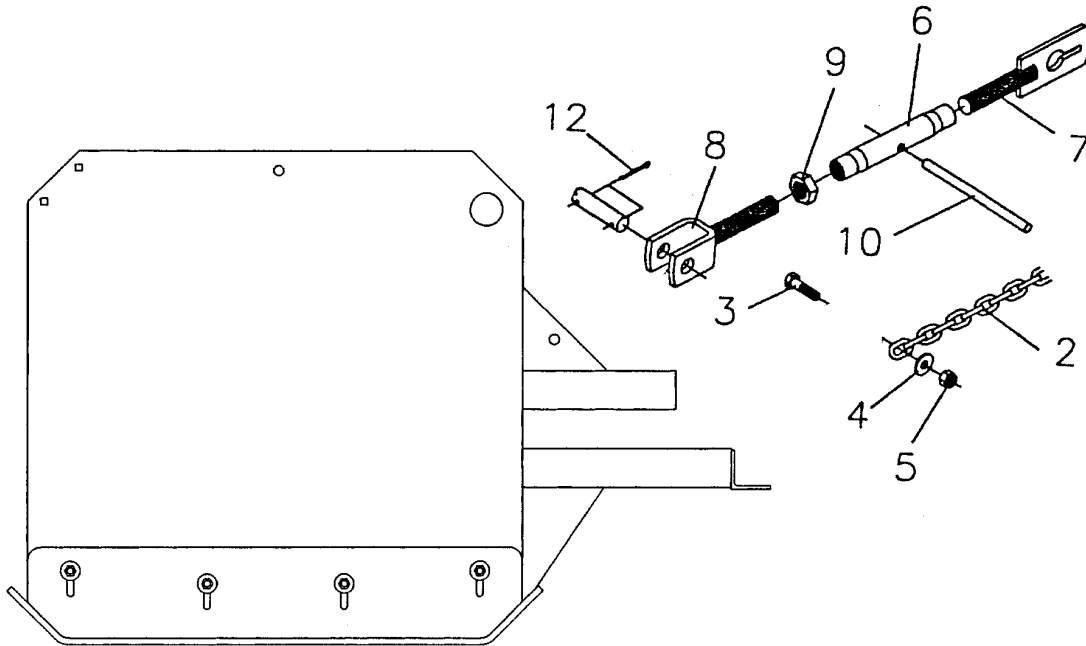
8 FT. & 10 FT. SNOW PUSHER

PARTS DRAWING



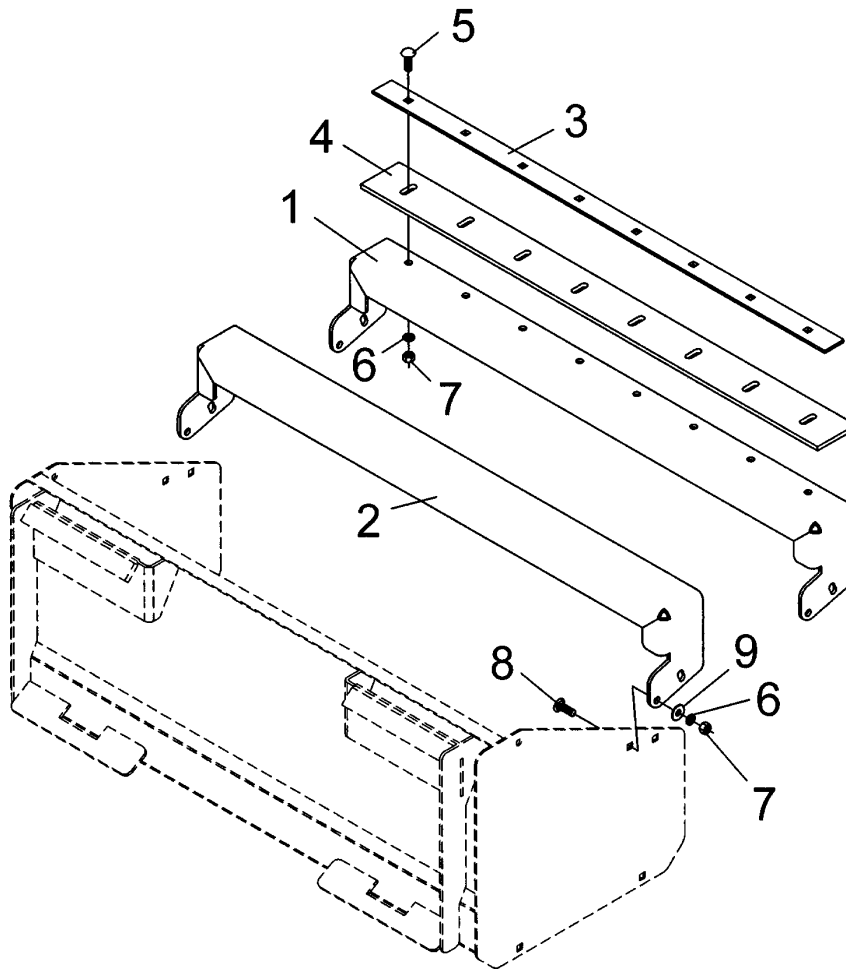
Ref. No.	Part No.	Description	No. Req'd.
1	358062	Main Frame Weldment (8 Ft. Skid Steer)	1
	358093	Main Frame Weldment (8 Ft. John Deere)	1
	358088	Main Frame Weldment (8 Ft. Euro)	1
	358084	Main Frame Weldment (10 Ft. Skid Steer)	1
	358094	Main Frame Weldment (10 Ft. John Deere)	1
	358089	Main Frame Weldment (10 Ft. Euro)	1
2	358063	Skid Shoe Weldment	2
3	2503102	Bolt 1/2"-13NC x 1 1/2" Carriage Head Gr. 5	8
4	2502002	Washer 1/2" Spring Lock	8
5	2501003	Washer 1/2" Flat	8
6	2500003	Nut 1/2"-13NC Full Hex	8
7	358076	Retaining Bar, 8 Ft. Cutting Edge	1
	358082	Retaining Bar, 10 Ft. Cutting Edge	1
8	358074	Cutting Edge, Rubber - 8 Ft (1 1/2" x 8")	1
	358083	Cutting Edge, Rubber - 10 Ft (1 1/2" x 8")	1
9	2503286	Bolt 5/8"-11NC x 3" Carriage Head Gr. 5	Var.
10	2502007	Washer 5/8" Spring Lock	Var.
11	2500013	Nut 5/8"-11NC Full Hex	Var.
N/S	101289	Safety Sign - Warning (Injury)	1
N/S	101260	Safety Sign - Red Reflective Tape (2 x 9)	2
N/S	101261	Safety Sign - Amber Reflective Tape (2 x 9)	1
N/S	101313	Safety Sign - Warning (Lockpins) Skid Steer Model Only	1
N/S	101288	Safety Sign - Warning (Crushing/Pinching)	1
N/S	101296	Safety Sign - Warning (Lockpins) John Deere Model Only	1
N/S	101474	Safety Sign - Warning (Lockpins) Euro Model Only	1
N/S	101290	Safety Sign - Caution (Hand Holds/Steps) Skid Steer Model Only	1
N/S	101291	Safety Sign - Caution (No Step) Skid Steer Model Only	1

36 SERIES CLAMP-ON 8 FT. & 10 FT. SNOW PUSHER PARTS DRAWING



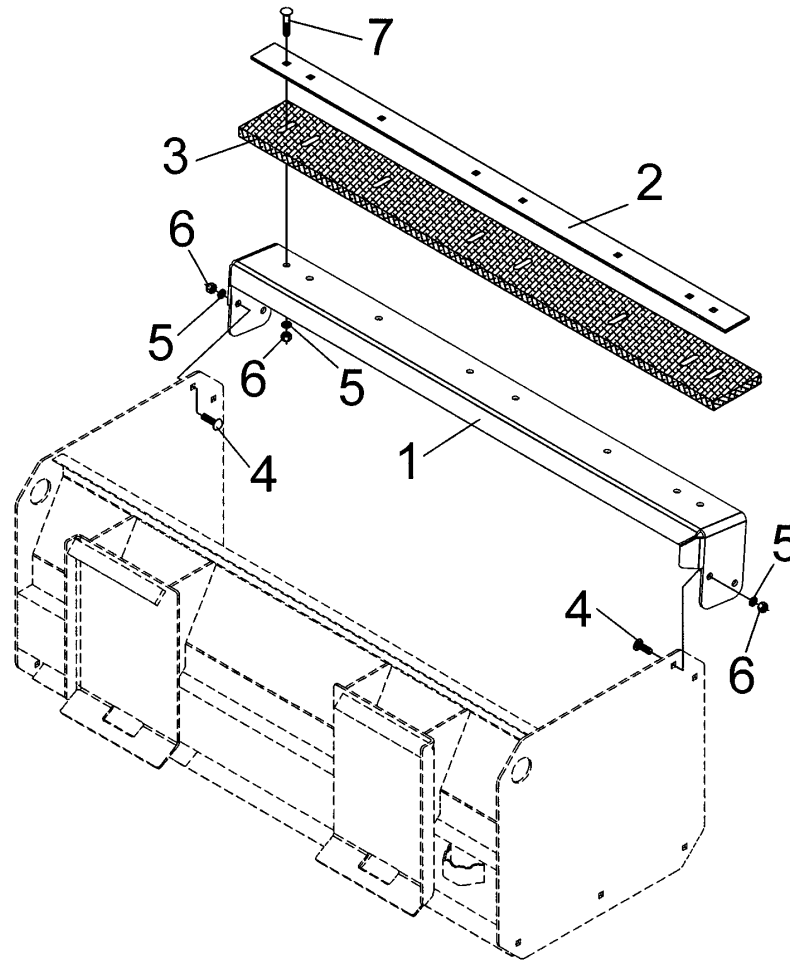
REF NO.	PART NO.	DESCRIPTION	NO. REQ.
1		For Main Frame Parts – See Page 29	
2	830406	Chain, $\frac{5}{16}$ " Proof Coil x 5 ft.	2
3	2503265	Bolt $\frac{1}{2}$ " – 13 NC x $1\frac{3}{4}$ " Hex Head Gr. 5	2
4	2501003	Washer $\frac{1}{2}$ " Flat	2
5	2500039	Nut $\frac{1}{2}$ " – 13 NC Nylock Hex	2
	831215	Complete Turnbuckle Assem. (#6 thru #10)	2
6	590277	Barrel	1
7	830412	Threaded Stub, LH	1
8	830410	Threaded Stub, RH	1
9	2500024	Nut 1" – 8 NC Jam Hex	1
10	590145	Handle	1
11	831229	Pin, Turnbuckle	2
12	2504121	Cotter Pin $\frac{3}{16}$ " x $1\frac{1}{2}$ "	2

20 SERIES SNOW PUSHER PULL BACK KIT PARTS DRAWING



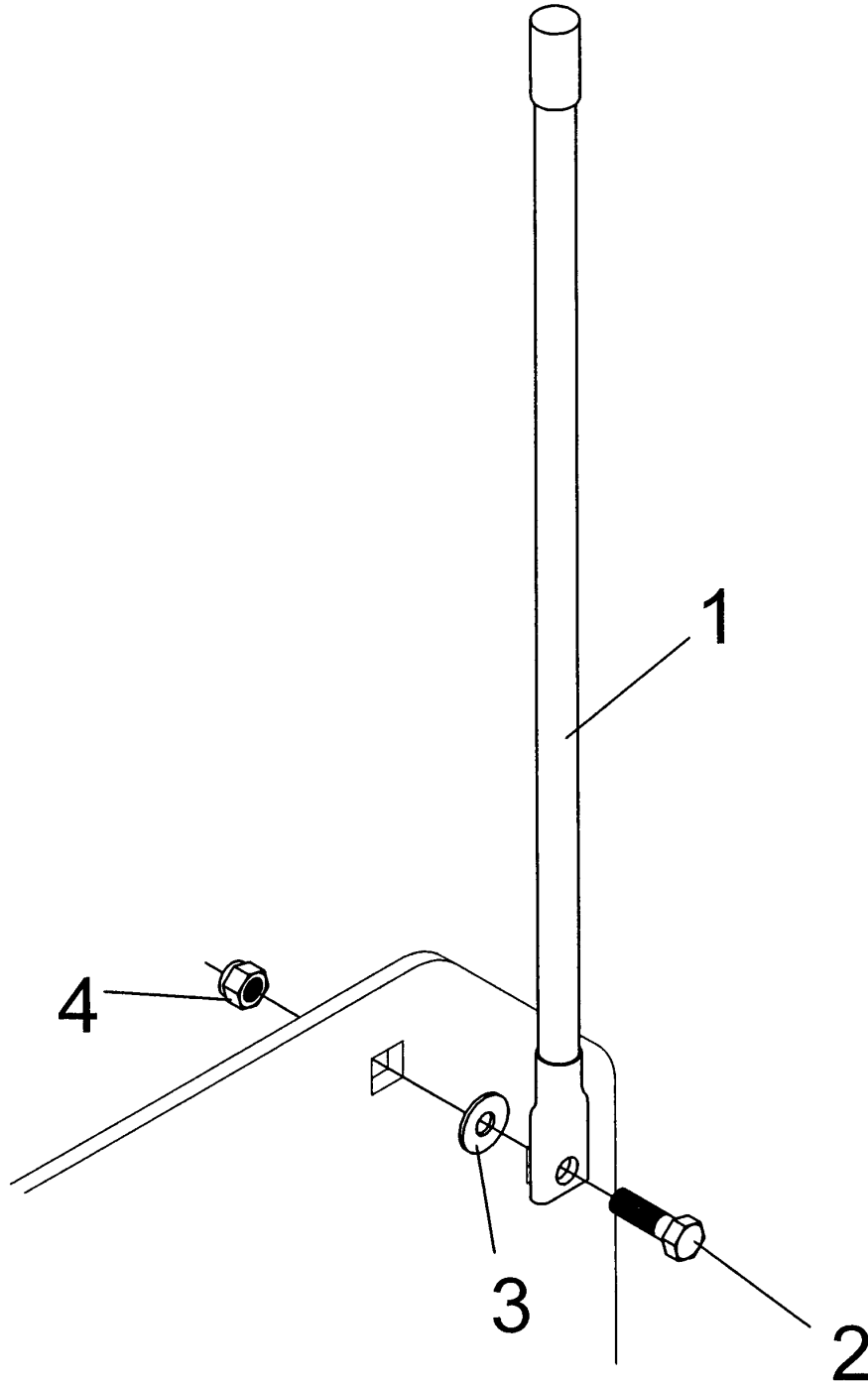
Ref. No.	Part No.	Description	No. Req'd.
1	358201	Pull Back Frame Weldment (4 Ft. Rubber)	1
	358206	Pull Back Frame Weldment (5 Ft. Rubber)	1
2	358231	Pull Back Frame Weldment (4 Ft. Steel)	1
	358236	Pull Back Frame Weldment (5 Ft. Steel)	1
3	358187	Retaining Bar, 4 Ft. Cutting Edge (Rubber Edge only)	1
	358202	Retaining Bar, 5 Ft. Cutting Edge (Rubber Edge only)	1
4	358186	Cutting Edge, Rubber - 4 Ft (1" x 4")	1
	358196	Cutting Edge, Rubber - 5 Ft (1" x 4")	1
5	2503102	Bolt 1/2"-13NC x 1 1/2" Carriage Head Gr. 5	Var.
6	2502002	Washer 1/2" Spring Lock	Var.
7	2500003	Nut 1/2"-13NC Full Hex	Var.
8	2503166	Bolt 1/2"-13NC x 1 1/4" Carriage Head Gr. 2	4
9	2501003	Washer 1/2" Medium Flat	4

24 and 36 SERIES SNOW PUSHER PULL BACK KIT PARTS DRAWING



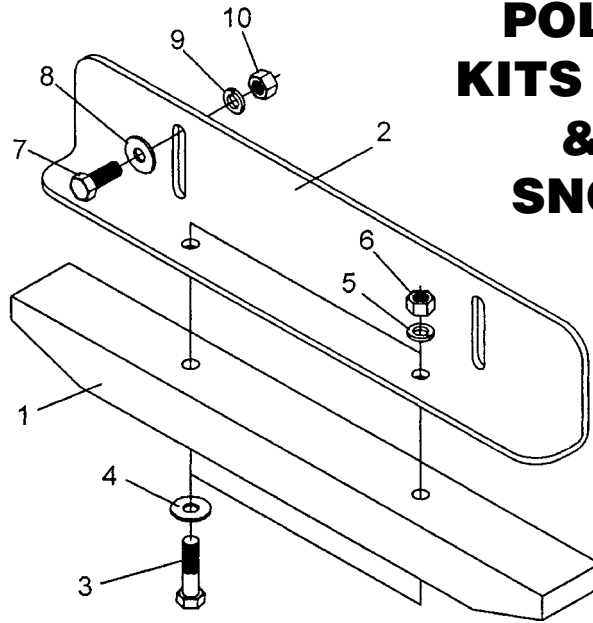
Ref. No.	Part No.	Description	No. Req'd.
1	358001	Pull Back Frame Weldment (5 Ft.)	1
	358016	Pull Back Frame Weldment (6 Ft.)	1
	358027	Pull Back Frame Weldment (7 Ft.)	1
	358123	Pull Back Frame Weldment (8 Ft.)	1
	358128	Pull Back Frame Weldment (10 Ft.)	1
2	358031	Retaining Bar, 5 Ft. Cutting Edge	1
	358024	Retaining Bar, 6 Ft. Cutting Edge	1
	358022	Retaining Bar, 7 Ft. Cutting Edge	1
	358076	Retaining Bar, 8 Ft. Cutting Edge	1
	358082	Retaining Bar, 10 Ft. Cutting Edge	1
3	358023	Cutting Edge, Rubber - 5 Ft (1" x 6")	1
	358026	Cutting Edge, Rubber - 6 Ft (1" x 6")	1
	358032	Cutting Edge, Rubber - 7 Ft (1" x 6")	1
	358074	Cutting Edge, Rubber - 8 Ft (1 1/2" x 8")	1
	358083	Cutting Edge, Rubber - 10 Ft (1 1/2" x 8")	1
4	2503102	Bolt 1/2"-13NC x 1 1/2" Carriage Head Gr. 5	Var.
5	2502002	Washer 1/2" Spring Lock	Var.
6	2500003	Nut 1/2"-13NC Full Hex	Var.
7	2503165	Bolt 1/2"-13NC x 2 1/2" Carriage Head Gr. 2	Var.

OPTIONAL MARKER KIT (#360235)

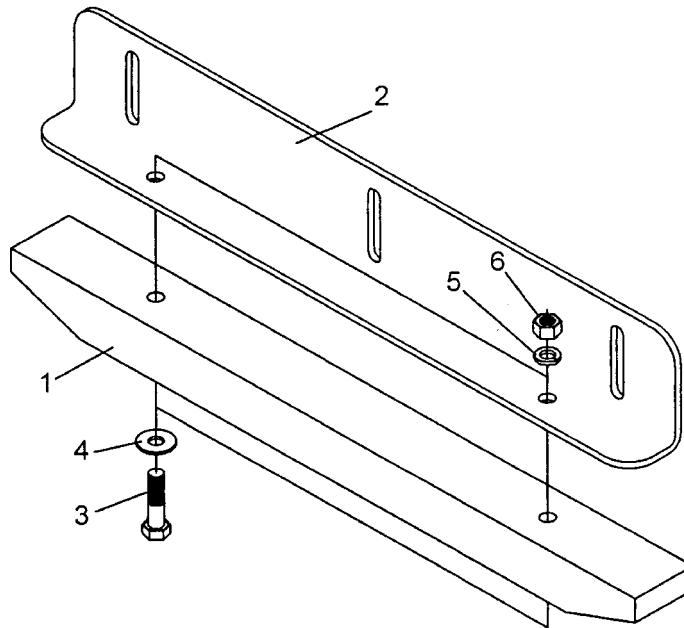


Ref. No.	Part No.	Description	No. Req'd.
1	360236	Marker (Pair)	1
2	2503038	Bolt 5/16"-18NC x 1" Hex Head Gr. 2	2
3	2501012	Washer 5/16" Flat	2
4	2500046	Nut 5/16"-18NC Nylock Hex	2

POLY SKID SHOE KITS FOR 20 SERIES & 24 SERIES SNOW PUSHERS



Ref. No.	Part No.	Description	No. Req'd.
1	358241	UHMW Skid Shoe (20 Series)	2
2	358242	Skid Shoe Mount (20 Series)	2
3	2503007	Bolt 1/2"-13NC x 2" Hex Head Gr. 2	4
4	2501003	Flat Washer 1/2"	4
5	2502002	Spring Lock Washer 1/2"	4
6	2500003	Nut 1/2"-13NC Full Hex	4
The following items are for pushers that need holes hand drilled			
7	2503026	Bolt 1/2"-13NC x 1 1/4" Hex Head Gr. 2	4
8	2501003	Flat Washer 1/2"	4
9	2502002	Spring Lock Washer 1/2"	4
10	2500003	Nut 1/2"-13NC Full Hex	4



Ref. No.	Part No.	Description	No. Req'd.
1	358246	UHMW Skid Shoe (24 Series)	2
2	358247	Skid Shoe Mount (24 Series)	2
3	2503007	Bolt 1/2"-13NC x 2" Hex Head Gr. 2	4
4	2501003	Flat Washer 1/2"	4
5	2502002	Spring Lock Washer 1/2"	4
6	2500003	Nut 1/2"-13NC Full Hex	4

BOLT TORQUE CHART

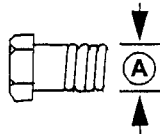
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 & J1701M JUL96.



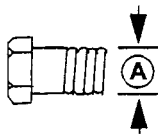
SAE SERIES TORQUE CHART



SAE Bolt Head Identification



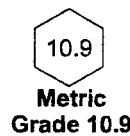
A Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART

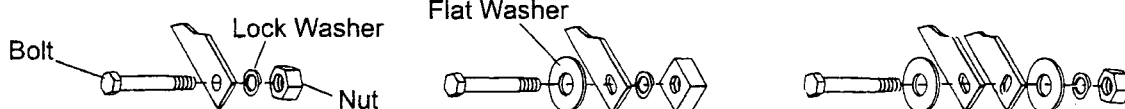


Metric Bolt Head Identification



A Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				A Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD				MARKING ON HEAD				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

Typical Washer Installations



8/9/00

SAFETY REQUIREMENTS

AVOID ACCIDENTS BY FOLLOWING ALL OF THE SAFETY REQUIREMENTS LISTED BELOW.

- Machinery should be operated only by those who are responsible and are authorized to do so.
- Stop the engine, lower all equipment, lock the brakes, and remove the ignition key before dismounting from the power unit.
- Loose fitting clothing should not be worn, to avoid catching on various parts.
- Detach implement in area where children normally do not play.
- When performing adjustments or maintenance on an implement, first lower it to the ground or block it securely at a workable height.
- Only a qualified operator should be permitted on power unit when in operation; no riders allowed.
- Make certain everyone is in the clear before starting power unit or raising or lowering equipment.
- Operate the power unit and attachment only while seated in the driver's seat.
- Reduce speed when transporting mounted implements to avoid bouncing and momentary loss of steering control.
- A heavy load can cause instability of the power unit. Use extreme care during road travel. Slow down on turns and watch out for bumps. Power unit may need counterweights to counter-balance the weight of the implement.
- Reduce speed on hillsides or curves so there is no danger of tipping.
- Avoid driving too close to the edge of ditches or creeks.
- Do not transport implement on public roads without reflectors and slow moving vehicle emblem in daylight and with approved warning lights at night and other periods of poor visibility.
- Due to the width of some implements, use extra caution on highways, farm roads, and when approaching gates.
- Always be sure the implement is in the proper position for transport.
- Keep alert and watch the front as well as the rear when working with the implement.

OWNER'S/ OPERATOR'S MANUAL

MODEL NO.'s

2048

2060

2460

2472

2484

3696

36120

**WHEN ORDERING REPAIR
PARTS, ALWAYS GIVE THE
FOLLOWING INFORMATION:**

1. PART NUMBER
2. PART DESCRIPTION
3. MODEL NUMBER
4. NAME OF ITEM

JULY 2019

Snow Pushers for Skid Steer and Tractor Front Loaders

Models – 2048, 2060

Sub-Compact Tractor/Loaders up to 50 hp

Models – 2460, 2472, 2484

Compact Tractor/Loaders up to 50 hp
Skid Steers rated up to 35 hp

Models – 3696, 36120

Tractor/Loaders from 50 hp - 90 hp
Skid Steers rated from 50 hp - 90 hp

**SI NO LEEINGLES, PIDA AYUDA A AIGUIEN QUE SI LO LEA
PARA QUE LE TRADUZCA LAS MEDIDAS DE SEGURIDAD.**

WORKSAVER, INC.

P.O. BOX 100 LITCHFIELD, IL 62056-0100 (217) 324-5973
WEB: <http://www.worksaver.com> E-MAIL: sales@worksaver.com