



Operator Manual

Box Scraper BS84



MADE IN THE USA 

Read, Understand, and Follow this manual which provides information and procedures to safely operate and maintain the Box Scraper



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1. Introduction



The Box Scraper is an attachment that mounts to a skid steer loader or small utility tractor with 3-Point quick hitch capabilities. It is designed for renovating hard-packed gravel parking lots and driveways, or dirt pathways.

Note: The specific term “Box Scraper” will be referred to simply as “scraper” throughout the rest of this manual. The term skid steer loader or small utility tractor will be referred to as “machine” throughout this manual.

Read, understand, and follow the manual carefully to become familiar with your new Norden Box Scraper. Ultimately it is our desire that you will be operating your scraper as a seasoned professional in very little time!

1.1 Intended Usage

Do not use this scraper for any other purpose than its intended use of grading and smoothing dirt and gravel surfaces.

Do not use an oversized machine; the BS84 scraper is intended to be used on machines rated up to 110 HP or a 3000 pound lift capacity.

1.2 Operator Orientation

The directions left, right, front, and rear, as mentioned throughout this manual, are as seen from the operator’s seat, facing in the direction of travel.

1.3 Specifications

Outfitted with the 3-Point Hitch Option

Overall Width	87.25"
Overall Length	43.25"
Overall Height	42.5"
Overall Weight	717 lbs

Outfitted with Skid Steer Plate Option

Overall Width	87.25"
Overall Length	53"
Overall Height	20"
Overall Weight	798 lbs

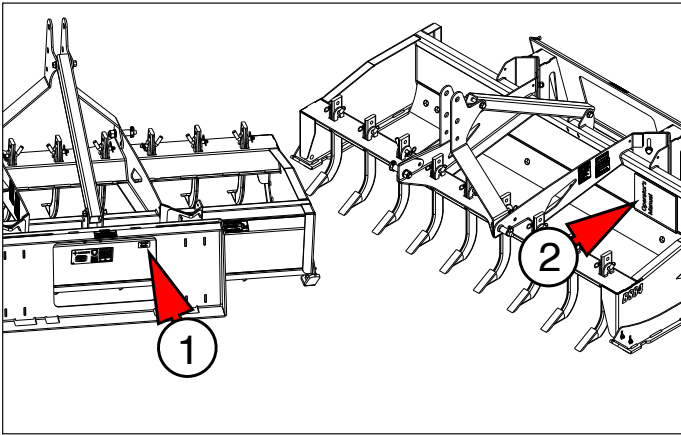
Outfitted with both Skid Steer Plate and 3-Point Hitch Options

Overall Width	87.25"
Overall Length	53"
Overall Height	42.5"
Overall Weight	844 lbs

Specifications subject to change without notice.

Serial Number Location

The scraper's serial and model number decal (1) is located on the rear, middle area of the scraper frame. Please use these numbers when requesting service, seeking information, or ordering parts.



Record the serial and model numbers in the space provided for easy reference when contacting Norden Mfg LLC with questions.

Serial Number _____

Date of Purchase _____

1.4 Owner/Operator Manual Storage

The Owner/Operator's Manual is placed inside the scraper frame (2), during shipping. Remove before use, read, and store in a safe place for future reference.

1.5 Product Improvements

Because Norden Mfg LLC maintains an ongoing program of product improvement, we reserve the right to make improvements in design or changes in specifications without incurring any obligation to install them on scrapers previously sold.

1.6 Disposal of Equipment at End of Useful Life

The Norden Mfg LLC Box Scraper is designed for the specific purpose of grading, and smoothing gravel and/or dirt surfaces, such driveways and pathways. When this scraper is no longer capable of performing its intended use, it should be dismantled and scrapped. Do not use any materials or components from this scraper for any other purpose.

1.7 Unanswered Questions

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

Norden Mfg LLC
4210 Kinsman Road NW
North Bloomfield, OH 44450

Phone: (877) 296-5851
Fax: (440) 693-4336
E-mail: parts@nordenmfg.com

The manual is also available for download at:
www.nordenmfg.com

2. Safety

2.1 General

Most work-related accidents are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you operate and maintain the scraper you must be alert to potential hazards.

Improper operation and/or maintenance of this scraper could cause a dangerous situation that results in property damage, personal injury, or death.

WARNING

Failure to follow these safety instructions could result in death or serious injury.



Do not use the scraper until you read, understand, and follow the information contained in this manual and all related equipment manuals. Do not use the scraper for anything other than its intended purpose.



Safety precautions and warnings are provided in this manual and on the scraper. If these precautions and warnings are not followed, bodily injury or death could occur to you or to other persons.

Norden Mfg LLC cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the product are, therefore, not all-inclusive. If a method of operation not specifically recommended by us is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that the scraper will not be damaged or be made unsafe by the operating or maintenance methods that you choose.

The information, specifications, and illustrations in this manual are based on the information that was available at the time this material was written and can change at any time.

2.2 Safety Alert Symbol



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. The symbol is followed by a signal word such as “WARNING” or “CAUTION” depending on the severity of the potential hazard. Obey all safety messages that follow this symbol to avoid possible injury or death.

This manual contains WARNINGS, CAUTIONS, NOTICES, SAFETY INSTRUCTIONS, and NOTES. Warnings, Cautions, and Safety Instructions must be followed to prevent the possibility of personal injury or death due to improper operation. Notices and Notes help prevent scraper or property damage.

WARNING

Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

NOTICE

Indicates that scraper or property damage can result if instructions are not followed.

SAFETY INSTRUCTIONS

Indicates specific safety-related instructions or procedures.

Note: Contains additional information important to operation or a procedure.



2.3 Safety Icons Nomenclature

This manual and the scraper has numerous safety icons. These safety icons provide important operating instructions which alert you to potential personal injury hazards.

2.3.1 Personal Protection / Important Information

-   *Read the manual*
-  *Maintenance procedure*
-  *Eye protection*
-  *Hearing protection*
-  *Hand protection*
-  *Foot protection*
-  *First aid kit*
-  *Use proper tools*
-  *Use OEM parts*
-  *Use ROPS and seat belt*
-  *Maintain safety signs*
-  *Place in park*
-  *Remove key*
-  *Stop engine*
-  *Visibility - slow moving vehicle (SMV)*
-  *Set parking brake*

2.3.2 Prohibited Actions

-  *Do not alter or modify*
-  *Do not leave out tools*

-  *Do not weld*
-  *No riders*
-  *No children*
-  *No alcohol*
-  *No drugs*

2.3.3 Hazard Avoidance

-  *Crushing hazard*
-  *Crushing hazard*
-  *Slipping hazard*
-  *Tripping hazard*
-  *Falling hazard*
-  *Hose damage hazard*
-  *Explosive separation hazard*
-  *Safety alert symbol*
-  *Release all pressure (zero pressure)*
-  *Trapped air pressure hazard*
-  *Trapped pressure hazard*
-   *High-pressure fluid hazard*
-  *Defective or broken part*
-  *Falling hazard*
-  *Maintain safe distance*
-   *Pinch point hazard*
-  *Crush hazard*
-  *Rollover hazard*

2.4 General Safety

WARNING

Failure to comply to these safety instructions **COULD** result in death or serious injury.



Read, Understand, and Follow Manual

To prevent personal injury or even death, be sure you read, understand, and follow all of the instructions in this manual, accessory, tractor and safety signs! This scraper was designed for a specific application; **DO NOT** modify or use this scraper for any application other than that for which it was designed. Scrapers operated improperly or by untrained personnel can be dangerous! Inexperienced operators should receive instruction from someone familiar with the scraper and the machine before being allowed to operate the scraper.



Do Not Operate

Do not use the scraper if it is in need of repair. If you believe the scraper has a defect which could cause injury or death, you should immediately stop using the scraper.



Fall Hazard

Do not use the scraper as a platform. Do not stand on top of the scraper at any time. Do not ride on the scraper or allow others to ride on it.



Pinch Point Hazard

Keep hands and feet away from any moving parts to prevent injury.



Impaired User Hazard

Do not attempt to operate or maintain the scraper under the influence of drugs or alcohol. Consult your doctor before using the scraper while taking prescription medications.



Falling Hazard

Do not allow riders on the machine or scraper at any time. Falling could result in severe injuries or death.



Stay Clear

Clear the area of people, especially small children, before using the scraper. Under no circumstances should young children be allowed to work with or around the scraper.

WARNING



Not A Lifting Device

Do not use the scraper to lift other objects.

2.5 Safety Signs

Refer to section “3. Safety Signs and Labels” on page 10 for safety recommendations related to using the scraper.

2.6 Operation Safety

Refer to section “5.1 User Safety” on page 13 for safety recommendations related to using the scraper. All applicable safety recommendations in other sections should also be followed.

2.7 Transporting Safety

Refer to “6. Transporting” on page 18 for safety recommendations related to transporting the scraper. All applicable safety recommendations in other sections should also be followed.

2.8 Storage Safety

Refer to section “7. Storage” on page 19 for safety recommendations related to storing the scraper. All applicable safety recommendations in other sections should also be followed.

2.9 Maintenance Safety

Refer to section “8. Maintenance” on page 20 for safety recommendations related to maintaining the scraper. All applicable safety recommendations in other sections should also be followed.

2.10 Training

Norden Mfg LLC follows the general Safety Standards specified by the Farm Equipment Manufacturers Association (F.E.M.A.), and the American National Standards Institute (ANSI). Anyone who will be using and/or maintaining the scraper must read and clearly understand ALL safety, operation, and maintenance information presented in this manual, accessory or tractor, and the safety signs.

If you do not understand any information in this manual, see your dealer or contact Norden Mfg LLC before proceeding.

Do not use or allow anyone else to use this scraper until all information has been reviewed. Annually review this manual before the season start-up.

Make periodic reviews of SAFETY and OPERATION a standard practice. An untrained operator is not qualified to use this scraper.

2.11 Authorization / Training Sign-Off Form

The authorization and training sign-off form is provided for your records to show that all personnel who will be working with the scraper have read and understand the information in this Operation Manual and have been trained in the operation of the scraper. The user and the owner should both sign and date the form to indicate acceptance of the risk of using the scraper.

Authorization / Training Sign-Off Form		
Date	User's Signature	Owner's Signature

3. Safety Signs and Labels

3.1 General Information

The types of safety signs (hazard labels) and instructional labels, along with their locations on the scraper, are shown in the following illustrations. Good safety practices require that you familiarize yourself with the various safety signs, the type of warning, and the area or particular operation related to that area that requires your SAFETY AWARENESS.



Think SAFETY!

Work SAFELY!

Pay close attention to the safety signs and instructional labels attached to the machine and scraper. The safety signs attached to the scraper are reproduced in this section. If the scraper is missing a label or one is unreadable, replace the label before using the scraper.

SAFETY INSTRUCTIONS



Safety Signs and Instructional Labels

1. Keep safety signs or instructional labels clean and legible at all times. Use a clean, damp cloth to clean safety decals.
2. Replace any missing or hard-to-read safety signs or instructional labels.
3. Use care when washing or cleaning the scraper not to remove or damage the labels. When using a pressure washer to clean the scraper, avoid spraying too close to decals; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.
4. Locations for the labels and replacement part numbers are shown in this section.
5. Replacement parts must have the correct replacement labels attached before the scraper is used.
6. Labels are available from your authorized dealer or from Norden Mfg LLC at no charge.

3.2 Contact Information

For replacement decals, contact:

Norden Mfg LLC
4210 Kinsman Road NW
North Bloomfield, OH 44450

Phone: 877-296-5851
Fax: 440-693-4336
E-mail: parts@nordenmfg.com

3.3 How to Install Replacement Safety Signs

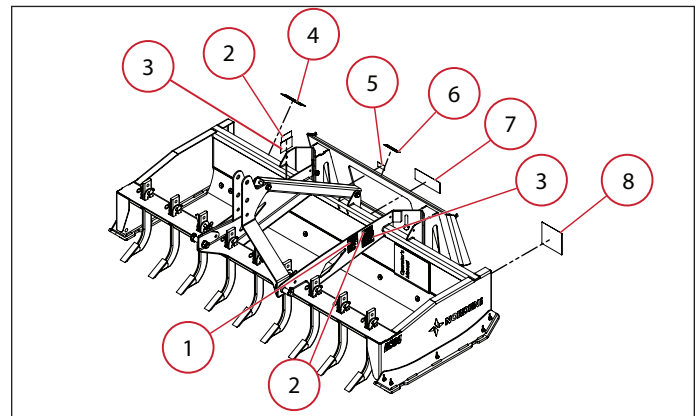
1. Clean and dry the installation area.

Note: Do not install the signs if the temperature is below 50°F.

2. Determine the exact position before you remove the backing paper.
3. Remove the backing paper.
4. Align the sign over the specified area and carefully press the sign to the part/frame.

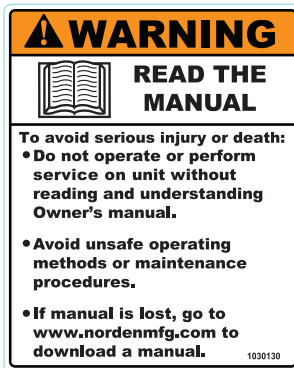
Note: Small air pockets can be pierced with a pin and smoothed out using the piece of backing paper.

3.4 Safety Sign Locations



Item	Type	Description	Qty.
1	WARNING	Read the Manual	1
2	WARNING	No Riders	2
3	WARNING	Falling Hazard	2
4	WARNING	SS Lock Warning	1
5	INFORMATIONAL	Serial and Model Number	1
6	WARNING	Pinch No Riders	1
7	INFORMATIONAL	Manufacturing	1
8	NOTICE	Important Adjustment Required	1

3.5 Safety Signs



1. 1030130 Decal - Warning Read Manual



2. 1028630 Decal - Warning No Riders



3. 1028640 Decal - Falling Hazard



4. 1027141 Decal - SS Lock Warning



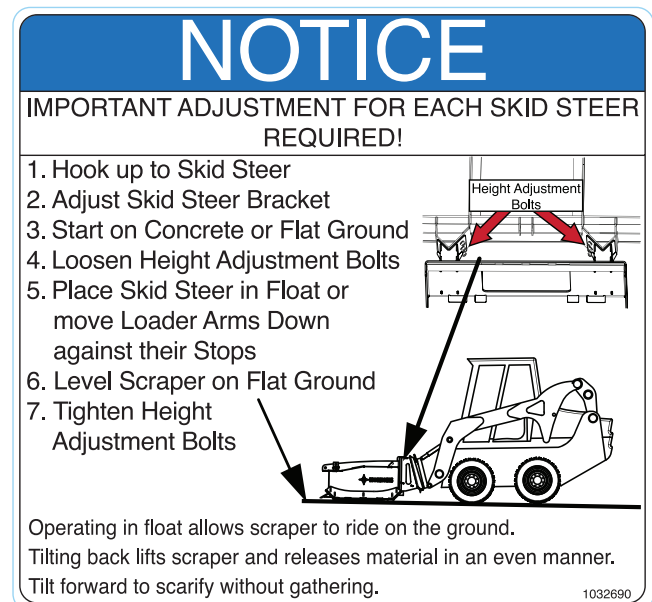
5. Serial and Model Number Identification Label



6. 1029530 Decal - Warning Pinch No Riders

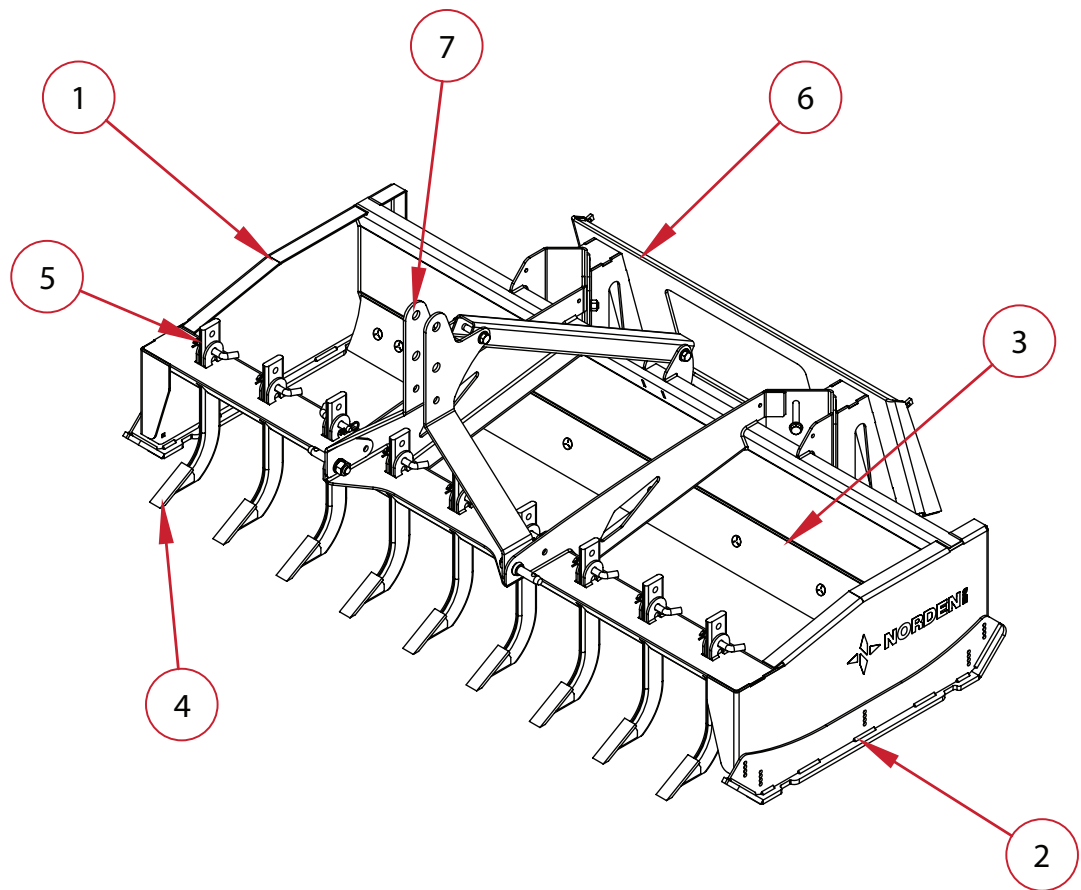


7. 1024360 Decal - Manufacturing 3.0



8. 1032690 Decal - Notice Important Adjustment Required

4. Terminology



Item	Description
1	Frame
2	Wear Shoes
3	Cutting Edge
4	Scarifier
5	Pin
6	Skid Steer Bracket
7	3 Point Hitch

5. Operation

5.1 User Safety

Refer to “2.4 General Safety” on page 8 for additional safety information.

WARNING

Failure to comply to these safety instructions **COULD** result in death or serious injury.



Roll Away Hazard

Before leaving the operator's seat, make

sure the engine is stopped, the transmission is placed in park, the key is removed, and the parking brake is set.



Crush Hazard

The weight of the machine, plus the scraper, if it rolls onto a person, could cause serious crushing injury or death.



Crush Hazard

If using a small compact or utility tractor, it must be equipped with a Roll Over Protective Structure (ROPS) (tractor cab or roll bar) and a seat belt. A crushing hazard could occur if the operator is ejected from the seat while the tractor is in motion. Only operate the tractor with the ROPS in the raised position and seat belt fastened.



Entanglement Hazard

If using a small compact or utility tractor, keep hands and clothing clear of any rotating parts. Stay clear of the scraper while it is moving.

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit scraper damage.



It is the owner's responsibility to make sure any person using the scraper, especially if it is loaned or rented, has been thoroughly trained on its proper and safe use.



Be certain only physically-able persons will use the scraper.



Users who have not read and understood all operating and safety instructions are not qualified to use the scraper.



If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.



Never allow children to operate the scraper.



Be especially observant of the operating area and terrain – watch for loose fill, holes, rocks or other hidden hazards. Always inspect the area prior to operation.



Be careful at the edge of ditches or gullies. Be careful when working on inclines.



Do not use excessive speed when grading.



Allow for scraper length when making turns.

5.2 Machine Requirements

WARNING



Machine Operator Manual

Always refer to the Machine's manual to ensure compatibility and maximum safety.

SAFETY INSTRUCTIONS



Do not use an oversized machine.



Operating the scraper with a machine that does not meet the specified requirements may cause machine or scraper damage and be a potential danger to the operator or bystanders.



Always review the “controls” section of the machine's Operator Manual to be familiar with the location, settings, and function of the controls. Be familiar with all controls before using this scraper.

5.2.1 Machine Specifications

The machine must be equipped with a universal quick-attach system on a skid steer loader or a tractor front-end loader with quick-attach adapter rated to lift the scraper which weighs up to 850 pounds.

The machine must be equipped with a Roll Over Protective Structure (ROPS) (cab or roll bar) and seat belt to protect the operator.

5.2.2 Tractor Specifications

WARNING



Rollover Hazard

To avoid serious injury or death from falling, runover, rollover, or crushing, the tractor must have an approved Roll-Over Protective Structure (ROPS) or ROPS cab and seat belt.

1. The tractor must be equipped with an approved Roll-Over Protective Structure (ROPS) or ROPS cab and seat belt.
 - a. Keep ROPS locked in the UP position.
 - b. Only operate the tractor when seated in the tractor seat.
 - c. Always fasten seat belt whenever the tractor is moving.
 - d. Use caution when transporting over uneven terrain and slow down for turns.
2. If working around dry grass or vegetation, to reduce the risk of fire, do not use a tractor with an under-frame exhaust.
3. Whenever traveling on a public roadway, the tractor must be equipped with proper warning lighting and a Slow Moving Vehicle (SMV) emblem which are clearly visible from the rear of the tractor.
4. Maintain all manufacturer's safety shields and guards.
 - a. Always replace shields and guards that were removed for access to connect the scraper.
 - b. Never operate the tractor PTO with the PTO master shield missing or in the raised position.

5.3 Initial Setup and Attachment

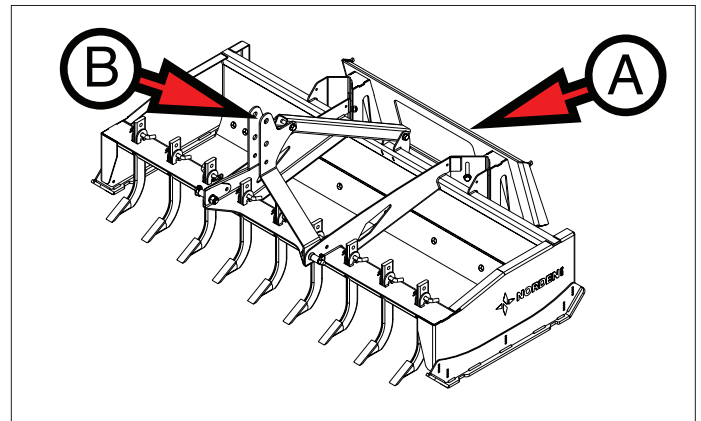
CAUTION



Pinch Point Hazard

Use caution when connecting the scraper to the machine. Keep hands and feet from under the scraper and clear of pinch points. Do not allow anyone to stand between the machine and scraper during attachment.

Attach the scraper to the machine using the Skid Steer Bracket quick-attach (A) or a 3-Point Hitch (B) (whichever option your scraper is equipped with)



5.3.1 Skid Steer Bracket Quick Attach

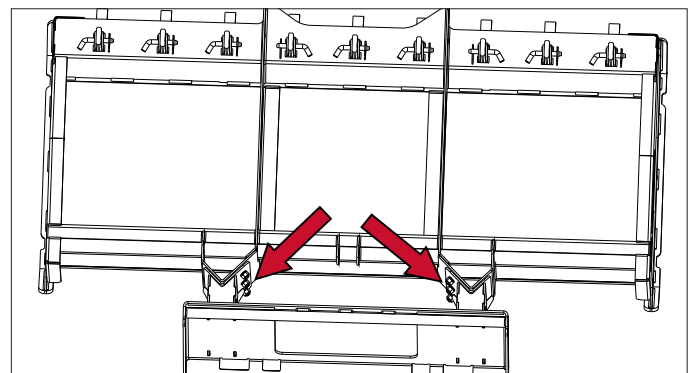
When hooking up to a skid steer the following instructions must be followed.

NOTICE

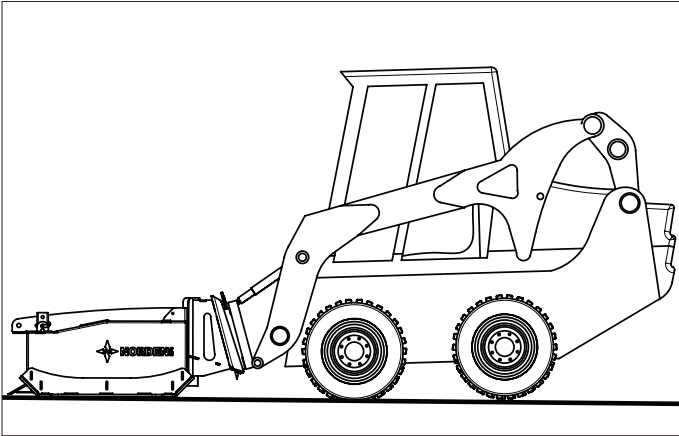
Important Adjustment for Skid Steer Required!

It is important to be on concrete or level ground when hooking up the scraper to a Skid Steer.

1. Once Skid Steer is hooked up to the scraper, loosen the (6) Height Adjustment Bolts.



2. Place skid steer in float position, or move loader arms down ensuring arms are against their stops allowing scraper to ride on the ground.
3. Level the scraper on flat ground.



4. Tighten Height Adjustment Bolts

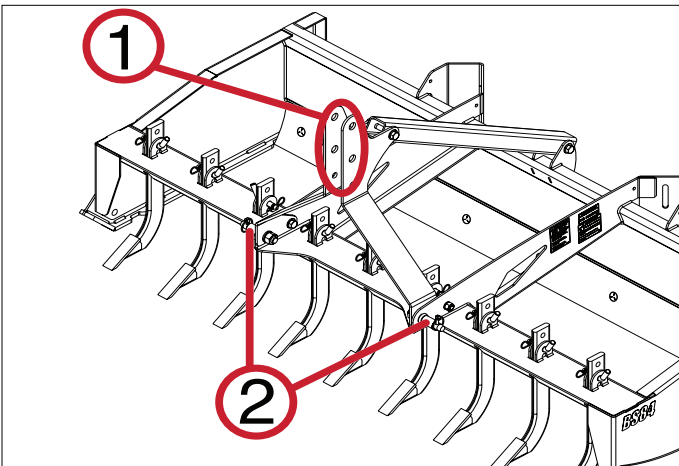
5.3.2 3-Point Hitch

NOTICE

It is important to be on concrete or level ground when hooking up the scraper to 3-Point Hitch.

Refer to tractor Operator's Manual for correct settings when attaching 3-point implements.

1. Lower tractor control arms.
2. Adjust arms outward to line up with the pins on the 3-Point Hitch (2).



3. Back tractor up to the 3-Point.

WARNING

Failure to comply to these safety instructions COULD result in death or serious injury.



Roll Away Hazard
Before leaving the operator's seat, make sure the engine is stopped, the transmission is placed in park, the key is removed, and the parking brake is set.

4. Remove lynch pin from lift arm pin. Lifting the 'fixed' arm first (usually the left side), insert control arm end hole onto the scraper lift arm pin (2). Secure with lynch pin. Walk around to the other side and repeat process.
5. Align 3-point top link end hole with holes in scraper top link (1). Secure with Hitch pin (not included).
6. Adjust stabilizers to prevent scraper from swaying back and forth making contact with tractor or tires.

CAUTION



Stay Clear

Stay clear of the scraper and the blade when it is raised and lowered.

5.4 Pre-Operation Checklist

Before each use of the scraper, the following areas should be checked.

Checklist Before Each Use	
✓	Task
	Make sure the scraper is positively attached to the machine. Refer to "5.3 Initial Setup and Attachment" on page 14
	If the machine uses tires, make sure they are inflated properly and the lug nuts are tight.
	Visually inspect the scraper for any loose bolts, worn parts, or cracked welds. Make necessary repairs before using the scraper.
	Make sure all retainer clips and pins are in place.
	Make sure the operating area is clear, especially of children and animals.

5.5 Operation

The Norden Box Scraper (scraper) works best on gravel or dirt surfaces. Scarifier shanks are used to tear down walls of potholes and loosen top material prior to leveling. The blade is used for smoothing or leveling out surfaces after tearing down potholes.

5.6 Scarifying

Tilting the scraper controls the amount of material inside the box scraper.

- Tilt forward to scarify without gathering material.
- Tilting back slightly lifts the scraper a small amount and releases material in an even manner.

If the scraper overfills with loose material, either raise the scraper or back drag the material back into place.

Once the scarifying is complete, the roadway material should be packed into place. Packing is important to prevent the surface material from quickly being moved, resulting in ripples, waves, or tire channels.

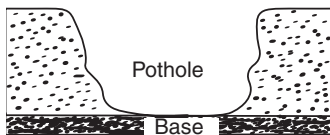
⚠ WARNING



Roll Away Hazard
Before leaving the operator's seat, make sure the engine is stopped, the transmission is placed in park, the key is removed, and the parking brake is set.

5.6.1 Setting Scarifier Shank Depth

When removing potholes, and restoring a consistent surface, it is important the scarifier shanks are set to the appropriate depth as not to disturb the base layer. If the pothole goes deeper than the base, a spot disturbance is recommended in order to avoid disturbing roadway base material.

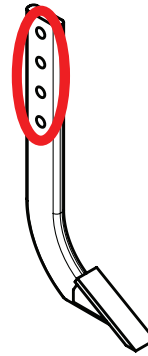


The unique design of the scraper allows the scarifier shanks to be set at different heights depending on roadway surface conditions. The nine scarifiers are spaced 9" apart, so several passes will be required.

NOTICE

Do not lower the ripper teeth too deeply on the first pass. Damage to the scraper can result in using excessive force to loosen packed materials.

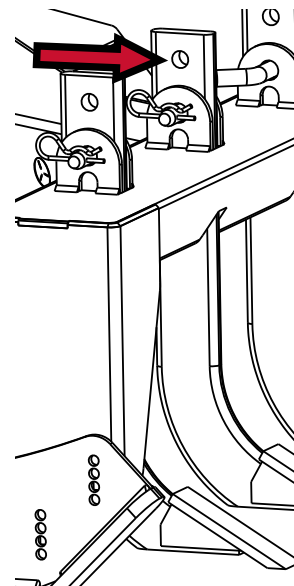
1. Each Scarifier has 4 adjustment holes that are 2" apart from each other.



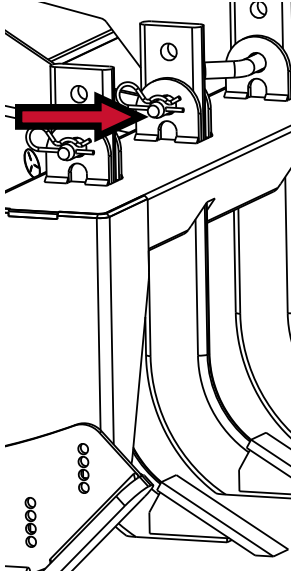
2. The scraper frame has 2 adjustment holes for each scarifier that are 1" apart.



3. Moving the scarifier up or down using the same hole on the scraper frame will adjust 2" at a time.



- Using the same hole on the scarifier while choosing a different hole on the scraper frame will adjust 1" at a time.



5.7 Detaching From Machine

CAUTION



Pinch / Crush Hazard

Use caution when disconnecting the scraper from the machine. Keep hands and feet from under the scraper and clear of pinch points. Do not allow anyone to stand between the machine and scraper during attachment.

- Move the scraper to a storage location.
- Lower the scraper to level ground or onto blocks.

WARNING



Roll Away Hazard

Before leaving the operator's seat, make sure the engine is stopped, the transmission is placed in park, the key is removed, and the parking brake is set.

- Extend the tractor 3-point hitch top link to remove tension on the hitch pin making it easy to remove. Remove top link control arm.
- Remove lower lift arm lynch pins and remove control arms.

6. Transporting

6.1 Highway and Transport Safety

Refer to “2.4 General Safety” on page 8 for additional safety information.

SAFETY INSTRUCTIONS

- SI** *Make sure the machine used is in good operating condition according to the OEM user's manual.*
- SI** *When transporting the scraper on the highway, make sure the machine has a clearly visible “Slow Moving Vehicle” placard.*
- SI** *Use approved accessory lighting, flags, or other necessary warning devices to protect operators of other vehicles on the highway during daylight and nighttime transport. Various safety lights and devices are available from your dealer.*
- SI** *Make sure that the area is clear of children, animals, and other obstacles before moving the scraper. This is particularly important with higher noise levels and quiet cabs, as you may not hear people shouting.*
- SI** *Do not allow anyone to ride on the machine or the scraper.*
- SI** *Always drive at a safe speed relative to conditions, and ensure that the speed is low enough for an emergency stop. Keep speed to a minimum.*
- SI** *Reduce speed prior to turns to avoid the risk of overturning.*
- SI** *Always keep the machine in gear to provide engine braking when going downhill. Do not coast.*
- SI** *Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Plan your route to avoid heavy traffic.*
- SI** *Watch for overhead obstructions and side clearances while transporting.*

SI *Always operate scraper in a position to provide maximum visibility at all times. Make allowances for increased length and weight of the scraper when making turns, stopping, etc.*

6.2 Pre-transport Checklist

1. Before transporting, make sure the maintenance on the machine is current.
2. Check the tire pressures on the machine, and correct if necessary.
3. Make sure the scraper is securely attached to the machine. Always inspect the scraper for damage or abnormal wear before detaching.
4. Prior to transporting on a public road, have an observer confirm all running lights, brake lights, turn signals, and hazard lights are working on the machine.
5. Verify the brakes are operating correctly.

7. Storage

Refer to “2.4 General Safety” on page 8 for additional safety information.

SAFETY INSTRUCTIONS

SI *Do not store the scraper where it will be exposed to livestock. Damage and livestock injury could result*

CAUTION



Stay Clear

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

7.1 Placing in Storage

6. Thoroughly wash the scraper with a pressure washer or water hose to remove all loose dirt, mud, or debris.
7. Select an area that is dry, level, and free of debris (inside a building is ideal). Move the scraper to its storage area.
8. Lower the scraper to the ground or onto blocks.

7.2 Removing from Storage

9. Attach the scraper to the machine following the procedure in section “5.3 Initial Setup and Attachment” on page 14.
10. Before placing the scraper back into service, replace any worn or defective parts and perform the Pre-Operation Checklist.

8. Maintenance

Good maintenance is the owner's and operator's responsibility. Poor maintenance shortens scraper life and is an invitation for problems.

Norden Mfg LLC will not claim responsibility for use of unapproved parts and/or accessories and other damages as a result of their use.

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

8.1 Maintenance Safety

WARNING



Roll Away Hazard

Before working on this scraper, make sure the

engine is stopped, the transmission is placed in park, the key is removed, and the parking brake is set.



Personal Protection Equipment

Wear proper fitting and

belted clothing to avoid getting caught in moving parts. Wear personal protection equipment (PPE), which may include safety glasses, safety shoes, gloves, etc. appropriate for the work site and working conditions.



Damaged Parts Hazard

Do not use the scraper if any parts are damaged. If the scraper is believed to have a defect which could cause it to work improperly, immediately stop using it and remedy the problem before continuing.



No Unauthorized Modifications

Do not modify the scraper or safety devices. Do not weld on the scraper.

Unauthorized modifications may impair the scraper's function, or create safety hazards, and will void the warranty. If the scraper has been altered in any way from the original design, the manufacturer does not accept any liability for injury or warranty.



Crush Hazard

Always set the scraper on blocks or on the ground when performing maintenance.

WARNING



Good Working Condition

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts.



OEM Replacement Parts

If replacement parts are necessary, genuine factory replacement parts must be used to restore the scraper to its original specifications. Unapproved parts could create a safety hazard. The manufacturer will not accept responsibility for damages as a result of the use of unapproved parts.

8.2 Practice Safe Service Procedures

CAUTION



Understand service procedures before doing any work. Keep the work area clean and dry.



Keep all parts in good working condition and properly installed. Replace worn or broken parts immediately.



A first aid kit should be readily accessible while performing maintenance on the scraper.



Do not leave tools lying around the work area. Follow good shop practices. Keep service area clean and dry. Be sure electrical outlets and tools are properly grounded. Use adequate light. After servicing, be sure all tools, parts and service equipment are removed.



Use the correct tools, jacks, hoists, or other tools that have the capacity for the job.

8.3 Bolt Torque Requirements

WARNING



Equipment Failure

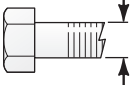


The proper torque value for bolts and cap screws is identified by their head markings. Replacing higher “grade” bolts (Grade 5) with lower grade bolts will lead to equipment failure and could result in injury or death. Always use replacement bolts with the same grade markings as the removed bolt.

It is extremely important to apply and maintain proper torque on all bolts. Use a torque wrench to assure the proper amount of torque is being applied to the fastener.

Start all bolts or nuts by hand to prevent cross-threading.

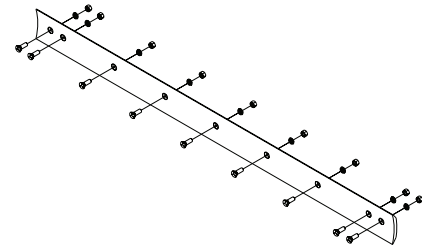
Torque figures indicated in the chart are used for non-greased or non-oiled threads unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

The chart gives correct torque values for various bolts and cap screws. Tighten all bolts to the torque specified in the chart unless otherwise noted. Check tightness of bolts periodically, using the bolt torque chart as a guide. Always replace hardware with the same grade bolt.

 Bolt Diameter	English Bolt Torque Specifications			
	Grade 5  3 Radial Lines		Grade 8  6 Radial Lines	
	ft. lbs.	N·m	ft. lbs.	N·m
1/4"	9	12	12	17
5/16"	19	25	27	36
3/8"	33	45	45	63
7/16"	53	72	75	100
1/2"	80	110	115	155
9/16"	115	155	165	220
5/8"	158	215	220	305
3/4"	290	390	398	540
7/8"	420	570	650	880
1"	630	850	970	1320

8.3.1 Blade Mounting Bolts

The blade is mounted with nine plow bolts, washers, and hex nuts. Refer to “9.4 Parts Detail” on page 24 and “9.1 Ordering Parts” on page 23 when ordering replacement parts.



8.4 Welding Repairs



Before performing any type of welding repair to the scraper, contact Norden Mfg LLC for approval. Repair welding must be done with care and with procedures that may be beyond the capabilities of the ordinary welder.

WARNING



Personal Injury Hazard

Repairs or modifications to the scraper could result in serious injury or death to the operator or bystander should these repairs fail.

NOTICE

Anyone performing a welding repair should be certified in accordance to the American Welding Society (AWS) standards.

8.5 Service Record

The service period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent service.

Copy this page to continue record.

<div> <div>Hours and Serviced By</div> <div>Maintenance</div> </div>													
Every 8 Hours of Use													
Make sure all retainer clips and pins are in place.													
Visually inspect the blade bolts for wear and damage.													
Every 40 Hours of Use													
Inspect scarifier shanks for wear, replace if needed.													
Inspect skid bars for wear.													
Inspect the mounting points of the main blade for damage.													
Annually													
Make sure all fasteners are tightened to proper torque. Refer to "8.3 Bolt Torque Requirements" on page 21.													
Wash the scraper.													
Inspect frame for cracking or damage.													

9. Parts Section

9.1 Ordering Parts

Norden Mfg LLC manufactures a quality product that requires very little maintenance or repair. However, should a part break or become damaged, our knowledgeable staff can make sure you receive the part(s) to put your scraper back into operation.

9.2 Contact Information

For replacement decals, questions, or to order parts, contact:

Norden Mfg LLC
4210 Kinsman Road NW
North Bloomfield, OH 44450

Phone: 877-296-5851
Fax: 440-693-4336
E-mail: parts@nordenmfg.com

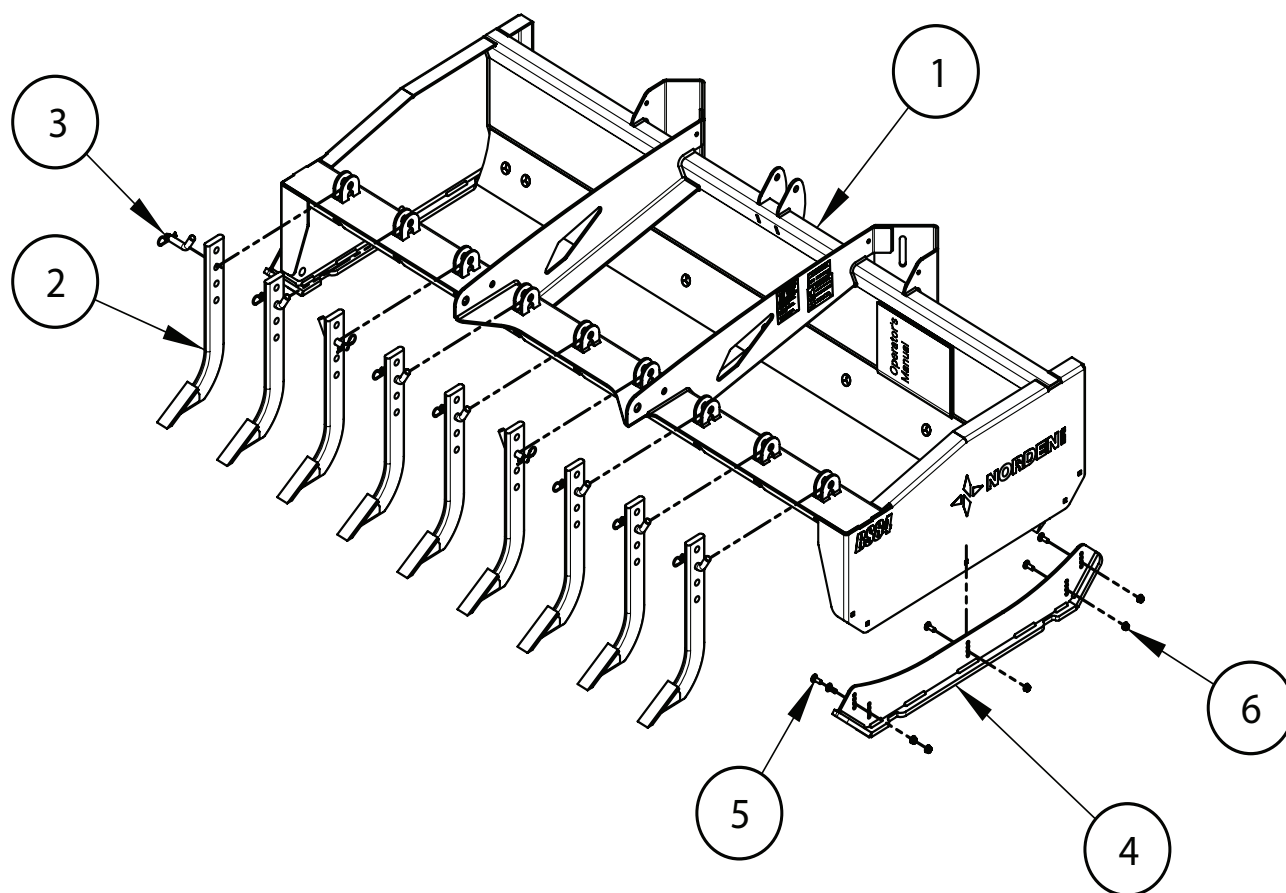
9.3 Decals

Safety decals provide a vital role in helping to reduce injuries and/or possibly even death. To ensure the greatest level of safety, all decals must be in place and legible or all warranties are void. Remember, it is the user's responsibility to maintain these decals.



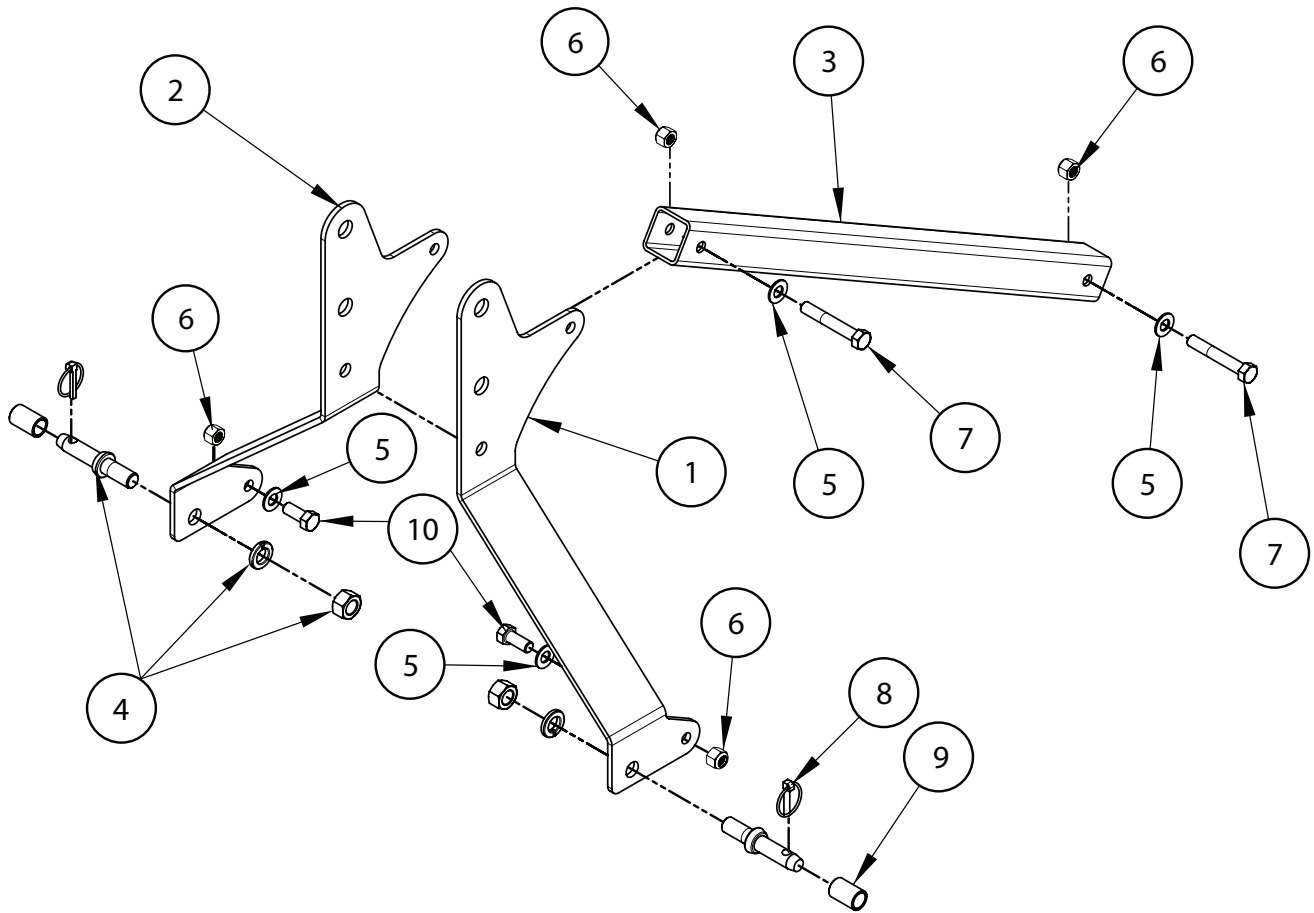
To prevent serious injury or death which could result from not following posted safety instructions, make sure the correct safety sign is attached to all replacement parts.

9.4 Parts Detail



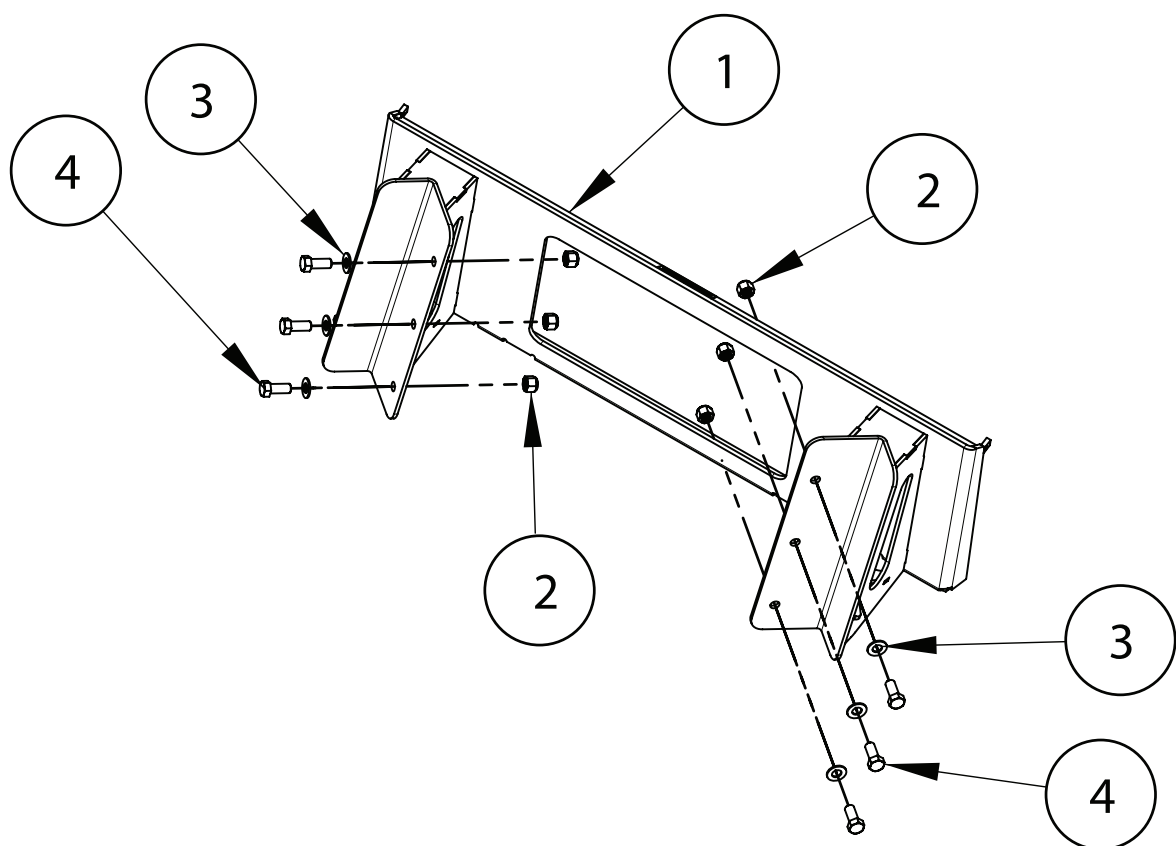
Item	Part Number	Name	Quantity
1	1033030	Box Scraper Frame Weldment	1
2	1023250	Scarifier Shank 3/4" x 2.5" x 18" with HT Point	9
3	1032310	Pin & Clip, 5/8" x 2"	9
4	1033050	Wear Shoes, BS84	2
5	1006310	Carriage Bolt 3/8"-16 x 1"	10
6	1006190	Hex Flange Nut 3/8"-16	10

9.5 3 Point Hitch Parts Detail



Item	Part Number	Name	Quantity
1	1032080	3-Point Frame Left	1
2	1032090	3-Point Frame Right	1
3	1032100	3-Point Bar	1
4	1023390	Lift Arm Pin, Forged Universal Draw Pin, Cat. 1 Adjustable	2
5	1006180	Type A Flat Washer 5/8"	4
6	1006120	Nylock Nut 5/8"	4
7	1033150	Hex Bolt 5/8"-11 x 4.25"	2
8	1006850	Lynch Pin 5/16"	2
9	1023990	Lift Arm Bushing, 1-1/8" x 7/8" x 1.75"	2
10	1006400	Hex Bolt 5/8"-11 x 1.5	2

9.6 Skid Steer Plate



Item	Part Number	Name	Quantity
1	1033040	Box Scraper Skid Steer Weldment	1
2	1006120	Nylock Nut 5/8"	6
3	1006180	Type A Flat Washer 5/8"	6
4	1006400	Hex Bolt 5/8"-11 x 1.5"	6



NORDEN MFG

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