



3-Pt. Plow

Owner's Manual



! **WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #51443 & #51444

SAVE THESE INSTRUCTIONS

Thank you very much for choosing a Nortrac™ product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: _____

Purchase Date: _____

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This 3-Pt. Plow is designed for certain applications only. Northern Tool & Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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Intended Use

The Single Bottom (#51443) and Double Bottom (#51444) plows are designed for soil turn-over.

Important Safety Information

⚠ WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the plow is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

⚠ WARNING

WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well lit. Cluttered, wet, or dark work areas can result in injury. Using the plow in confined work areas may put you dangerously close to other cutting tools and rotating parts.
- Do not use the plow where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The plow can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the plow to come into contact with an electrical source. The plow is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the plow. Do not allow children to handle the plow.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

⚠ WARNING

PERSONAL SAFETY

- Stay alert, watch what you are doing, and use common sense when operating the plow. Do not use it while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the plow may result in serious personal injury.

- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Do not use the plow when tired or under the influence of drugs, alcohol or medication.
- Remove keys or wrenches before connecting the plow to an air supply, power supply, or turning on the plow. A wrench or key that is left attached to a rotating part of the plow may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper plow operation using both hands.

⚠ CAUTION

PRODUCT USE AND CARE

- Do not force the plow. You will be safer and the plow will do a better job using it at the capacity for which it was designed. Plan your work and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the plow will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the plow with a damaged part.
- Store the plow when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the plow for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your plow. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the plow itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.

Specific Operating Instructions

⚠ WARNING

To prevent serious injury or death:

- Read and understand the Owner's Manual before operating, servicing, or repairing equipment.
- Stop the engine, remove the key, and set the brake before dismounting the tractor.
- Operate from the tractor seat only.
- Never allow riders on equipment.
- DO NOT stand between the implement and the tractor.
- Keep hands and feet clear from the shovel while the engine is on.
- Keep bystanders at least 50 feet away while operating.
- DO NOT operate or transport on steep inclines.
- DO NOT exceed this implement's maximum speed of 5 MPH. Exceeding this speed may result in loss of control during transport or braking.

- DO NOT use if the implement is damaged. Repair it before continuing use.
- Park and store on a hard, level surface.
- Store out of reach of children. Never use this equipment around children.
- To prevent property damage, watch for and avoid catching the shovel on stumps, large rocks, and other immovable objects.

FALLING OFF CAN RESULT IN IMPALEMENT OR BEING RUN OVER.

- The tractor must be equipped with Roll Over Protection Structure (or ROPS CAB) and a seat belt.
- Keep foldable ROPS system in “locked up” position at all times.
- Keep the seat belt securely fastened.
- Never allow riders on equipment.

RAISED EQUIPMENT CAN DROP AND CRUSH.

- Before servicing, follow all instructions and safety rules in the Owner’s Manual and securely block all corners of the equipment with jack stands.
- Securely blocking prevents equipment dropping from mechanical component failures.

FALLING OFF OR FAILING TO BLOCK SECURELY CAN RESULT IN SERIOUS INJURY OR DEATH.

Before Each Use

Working with unfamiliar equipment can lead to careless injuries. Read this manual and the manual for your tractor before assembling or operating, to acquaint yourself with both units. It is the Owner/Operator’s responsibility, if this implement is used by any person other than you (or is loaned or rented), to make certain that prior to operating:

1. The Owner’s Manual is read and understood.
2. Safety issues are understood and followed, and proper usage is understood. Improper use can occur on implements that are loaned to or rented to someone who has not read the Owner’s manual and is not familiar with this plow.

Transportation Guidelines

When transporting this plow, it should be lifted as high as the tractor will allow, being sure the unit is clear of the ground. Care should be taken that at least 20% of the tractor weight should be on the front tires. A safe speed should be maintained during transportation. The tractor weight ballast may be needed to even out the weight to maintain proper steering.

Do NOT lower this plow to pavement, blacktop, or a gravel road while transporting. Damage to the unit can occur. When transporting on roadways always use a safety sign, and drive in a manner to allow other vehicles to pass you safely.

▲ WARNING

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

⚠ WARNING

Stop the power unit and equipment IMMEDIATELY upon striking an obstruction. Turn off the engine, remove the key, inspect the unit, and repair any damage before resuming operation. Never leave the seat of the tractor while the engine is on.

Operating Instructions

Tractor Requirements and Preparation

The Single Bottom and the Double Bottom plows fit category 1 hitches. Generally they require 1 HP for each 1" of mold board plow width (i.e., a 12" plow would require 12 HP; a 14" plow requires 14 HP). Small, compact tractors may need to be larger than this general rule.

Check the tractor's 3-point hydraulic lift system. It should operate up and down smoothly and have enough power to lift the plow. Refer to your tractor's Operator's Manual or dealer for any adjustments necessary to put the 3-point hydraulic lift system in good working order.

Check the tires and rims to make sure they are in good condition. Inflate tires to proper recommended air pressure. Smaller sized tractors may need front counter weights to counter-balance the weight of the implement. Mounted plows normally require added weight to the tractor to maintain proper stability and traction during operation and transport.

⚠ WARNING

Be sure your tractor is in good working condition. Read all the safety procedures and make sure all tractor operators are familiar with the safety rules of operation.

Mounting Instructions

These Plows are shipped assembled. Make sure the lower draw pins (pull pins) are installed correctly for your tractor. Draw pins should be assembled inward for category 0 hitch applications and on the outside for category 1 hitches.

Insert the draw pins into the ball sockets in the lower lift arms of the tractor 3-point hitch. Lock into place with linch pins. Attach the mast of the 3-point main frame by installing the tractor top link with the top link pin.

Adjust the top link assembly to obtain the correct angle of the implement. Check the tractor 3-point lift arms and adjust to level the implement from side to side.

⚠ WARNING

Never allow anyone to ride or sit on the plow or tractor while in operation. Keep bystanders at a safe distance.

Preparation Procedure

- Thoroughly read and understand your Owner's Manual.
- UNDERGROUND UTILITIES — Contact appropriate agencies to determine if hazardous items are buried under the work area BEFORE OPERATING! Be certain underground utilities have been called to locate underground electric, gas, telephone and other lines. Be sure the operator is properly informed. WHEN IN DOUBT, DO NOT PLOW!

- Check for ditches, stumps, holes, or other obstacles that could cause the tractor to roll.
- Be sure tractor tires and rims are in good condition. Inflate tires to proper air pressure.
- All persons should be at least twenty-five feet (25') away during operation. Clear the area of helpers, bystanders, and especially children.
- Do NOT allow anyone to stand between the hitch and implement.
- It is recommended that only tractors with wide front axles use the plow. Tricycle front wheel arrangements are inherently unstable and can cause rollover accidents.
- Make sure all safety stickers are installed and in good condition. Replace if damaged.
- Check that all equipment is properly installed and securely attached to the tractor.

Operation

If you have any questions regarding the proper operation of this plow, contact your dealer or the manufacturer.

1. Set the plow on the ground. Plow about twenty feet, or until you can see what adjustment the plow needs.
2. Adjust tractor's top link and rear landslide heel to set the plow frame level end-to-end.
3. The frame should also be level when in the ground for in-furrow operation depending on the furrow depth.

Front End Ballast

Front end ballast may be required for stability and steering control when weight is transferred to the back tires as the plow is raised. As a general guide: ballast the tractor (less plow) so that approximately 1/3 of the tractor weight is on the front tires.

When a mounted plow is raised, the resulting load on the front wheels should be less than 20% of the tractor's weight. Add additional ballast as required for stability during operation and transportation.

⚠ WARNING

A heavy load can cause instability in driving a tractor. Make sure the front of the tractor is properly counterbalanced with weights. The tractor front end ballast may not always maintain the tractor stability if the tractor is operated on rough terrain at high speeds. In such cases, reduce speed and exercise caution especially around turns. An unstable tractor could steer badly and possibly tip over, causing injury or death.

It is essential that everyone involved in the operation, transportation, maintenance, and storage of this equipment be aware, concerned, prudent, and properly trained in safety.

After Each Use

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc., from the plow.
- Inspect the plow and replace worn or damaged parts

- Replace safety decals that are missing or not readable.

Before Extended Storage

Follow these instructions:

- Wash the plow using low-pressure water spray. Be careful when spraying near scratched or torn safety decals, or near edges of decals, because water spray can peel decals off surfaces. Spraying near chipped or scratched paint can also cause paint to peel.
- Inspect the plow for worn or damaged parts, replace any missing safety stickers.
- Sand down scratches and edges where paint is missing and repaint to prevent rust.
- Store the unit in a shed or under a tarp to protect it from the weather. The plow should be resting on boards or some other object to keep it off the soil when storing. This will reduce rusting.
- Store in clean, dry place away from human activity or livestock.

Maintenance

Before servicing the plow, engage the parking break or place the transmission in park, shut off the tractor and remove the key.

1. Make certain the safety and instruction decals are attached to the plow's 3-point hitch.
2. Clean any dirt and debris off the unit to minimize rusting and wear.
3. Keep all shields in place. Order new shields if they are damaged or missing.
4. Keep the cutting edges sharp. Sharp cutting edges work better and require less horsepower. Check more frequently if working in rocky soil conditions.
5. Replace any worn or damaged parts immediately.
6. Check all bolts and nuts to make sure they are tight.
7. NEVER GO UNDERNEATH THE PLOW. Never place any part of the body underneath the equipment or between movable parts, even when the engine is turned off. Servicing this plow does not require going underneath.

Troubleshooting

Problem: Poor penetration into soil

Possible Solutions

- Soil is too hard and dry. Increase the depth of the plow setting. Wait for rain to improve conditions.
- Blade is too dull. Replace the blade.
- Insufficient suction. Shorten the tractor's top link.

- Incorrect hitch setting. Increase the setting on the hitch. Refer to the tractor's Owner's Manual for proper settings.

Problem: Plow crowding (not running straight)

Possible Solutions

- Plow is running on the nose. Lengthen the tractor's top link.
- Plow is crowding to the left. The front bottom is too deep. Shorten the right-hand leveling screw or lengthen the tractor's top link.
- Plow is crowding to the right. The front bottom is too deep. Lengthen the right-hand leveling screw or shorten the tractor top link.
- Rear landslide heel needs adjustment. Lower the heel of the landslide. The landslide should contact the bottom of the furrow.
- Plow goes too deep. Lengthen the top link to reduce suction.
- Front bottom is cutting too narrow or too wide. Using adjustable link pinholes, adjust the plow to the right or the left so the front bottom cuts to the proper width. Note: This adjustment should not be used to compensate for improper wheel and cross shaft adjustments.
- Worn share, replace.
- Improper wheel and cross shaft setting. Set the wheels and the cross shaft properly.

Problem: Plow ridging

Possible Solutions

- Front bottom too deep. Shorten right-hand leveling screw or lengthen tractor top link.
- Front bottom too shallow. Lengthen right-hand leveling screw or shorten tractor top link.
- Front bottom cutting too wide or too narrow; Adjust plow properly by correcting wheel and cross shaft settings.

Problem: Bottoms won't scour

Possible Solutions

- New bottoms. Clean surfaces with kerosene or fuel oil.
- Plow running on nose. Lengthen top link.
- Plow running crooked. Place the right-hand link pin in the cross shaft's center adjustment hole. Obtain the proper width of cut for the front bottom at this setting by making the cross shaft and the tractor wheel adjustments. The wheel track should be adjusted so that the inside of the right-hand front tire is in line with the inside of the right hand rear tire.

Problem: Plow pulls heavy

Possible Solutions

- Plow running on nose. Lengthen top link.
- Bottoms not scouring; See above: Bottoms won't scour.

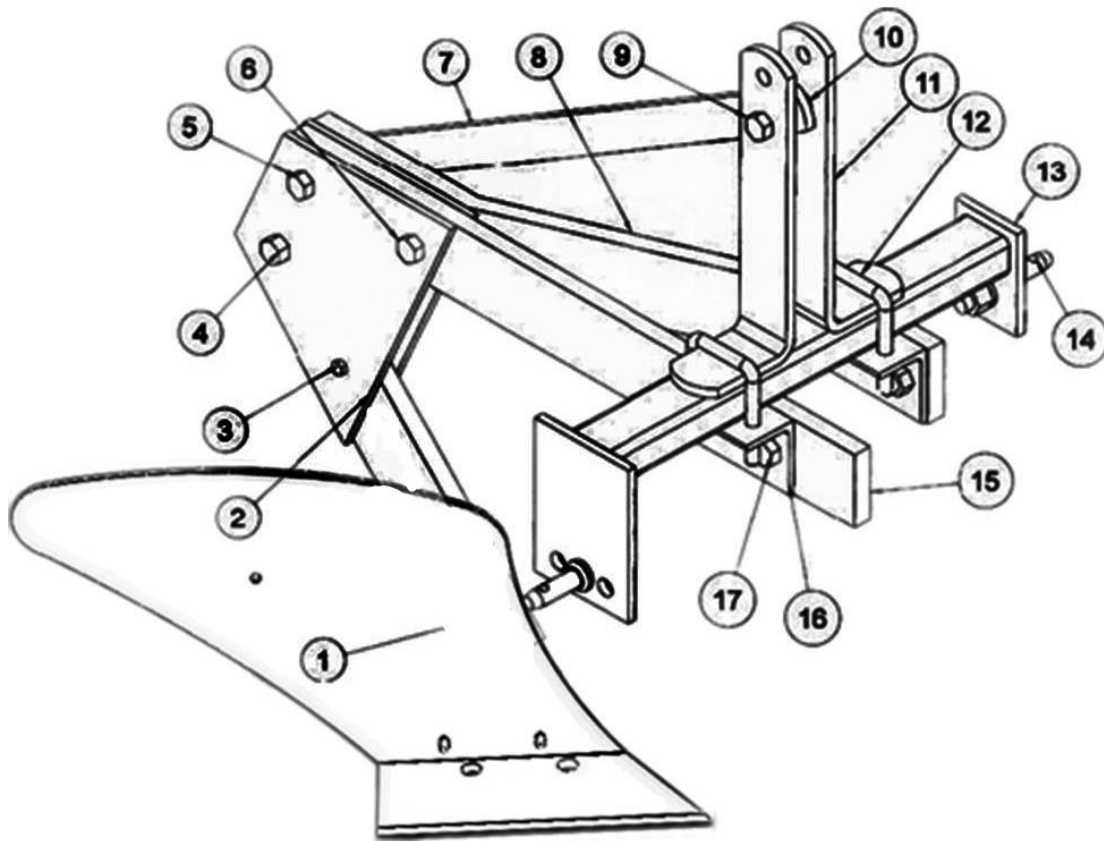
- Excessive landslide pressure. Incorrect tractor heel or cross shaft setting. Rear landslide should run approximately 1/4" to 1/2" from furrow wall.
- Cover board (if being used) pushing too much soil. Raise the outer ends but keep the point down against top of moldboard.
- Excessive tractor wheel slippage. Refer to the tractor's Owner's Manual for correct operation of depth control or tractor control and add weight to the tractor if necessary. Reduce air pressure in the rear tires. If the tractor is too small, use a larger tractor.

Problem: Bent plow beam or frame

Possible Solutions

- Hitting hidden objects. Know the soil conditions. Use slow speed when soil conditions are unknown.
- Using too large of a tractor or one that is heavily weighted and has four wheel drive. Use a tractor of recommended horsepower, slow down, and use extra care.
- Replace bent parts.

Parts Diagram for #51443

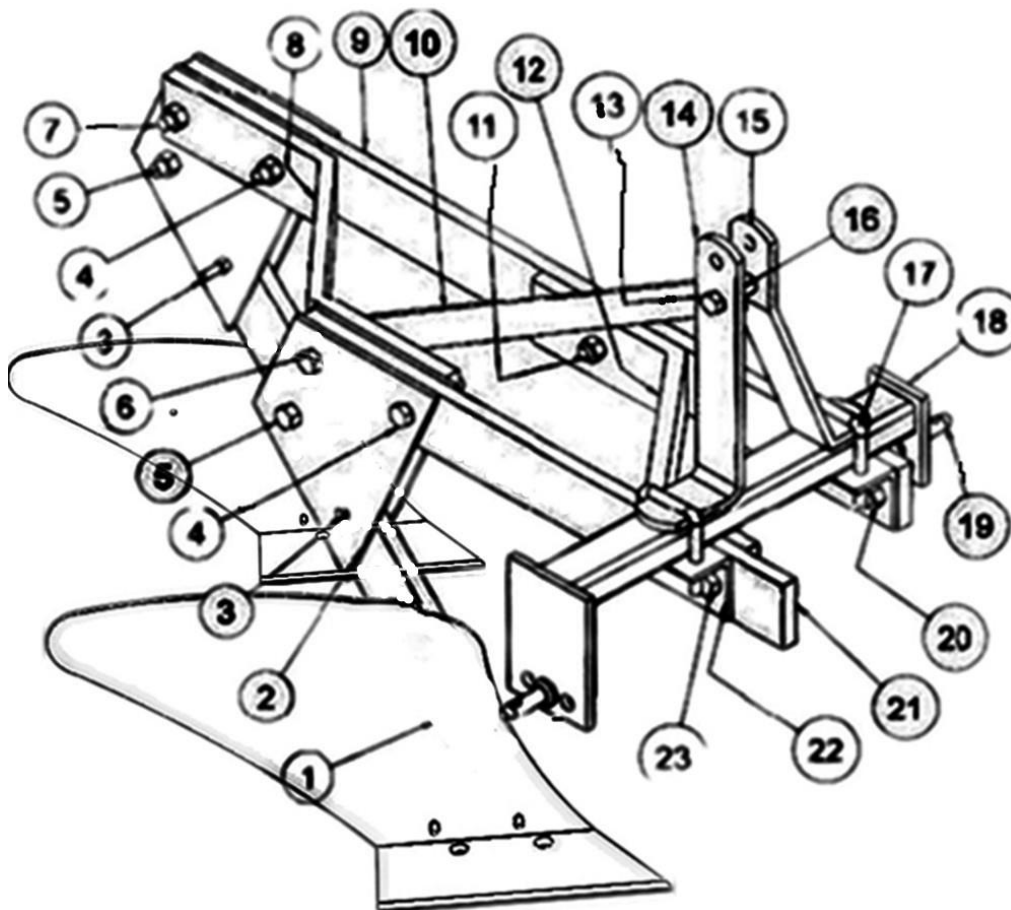


Parts List for #51443

Reference	Part Description	Quantity
1	blades assembly	1
2	plate side shank	2

Reference	Part Description	Quantity
3	bolt, flat washer, spring washer, nut	1
4	bolt, flat washer, spring washer, nut	1
5	bolt, flat washer, spring washer, nut	1
6	bolt, flat washer, spring washer, nut	1
7	brace pull	1
8	S-bar brace	1
9	S-bolt, flat washer, spring washer, nut	1
10	sleeve	1
11	A-frame	2
12	U-bolt, flat washer, spring washer, nut	1
13	drawbar, weldment	1
14	link pin, flat washer, spring washer, nut	2
15	beam, inner	1
16	angle	2
17	bolt, flat washer, spring washer, nut	4

Parts Diagram for #51444



Parts List for #51444

Reference	Part Description	Quantity
1	blades assembly	2
2	plate side shank	4
3	bolt, flat washer, spring washer, nut	2

Reference	Part Description	Quantity
4	bolt, flat washer, spring washer, nut	2
5	bolt, flat washer, spring washer, nut	2
6	bolt, flat washer, spring washer, nut	1
7	bolt, flat washer, spring washer, nut	2
8	brace cross, 2 bottom	1
9	outer beam, 2 bottom	1
10	brace pull	1
11	bolt, flat washer, spring washer, nut	2
12	brace cross, 2 bottom	1
13	bolt, flat washer, spring washer, nut	1
14	A-frame, right side	1
15	A-frame, left side	1
16	sleeve	1
17	U-bolt, flat washer, spring washer, nut	2
18	drawbar, weldment	1
19	link pin, washer flat, washer spring, nut	2
20	bolt, washer flat, washer spring, nut	2
21	beam, inner	1
22	angle	2
23	bolt, flat washer, spring washer, nut	2

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and or improvements to product lines and manuals without notice.

Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Nortrac product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **one year** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



Distributed by:

Northern Tool & Equipment Company, Inc.

Burnsville, Minnesota 55306

www.northerntool.com

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