



Electric Metal Cutting Shear

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 #61482

READ & SAVE THESE INSTRUCTIONS

Thank you very much for choosing an Ironton™ 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 cutting shear is designed for certain applications only. Northern Tool and 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 Ironton Electric Metal Cutting Shear is a powerful tool with a 3.5 Amp and 120V motor. It smoothly cuts sheet metal, aluminum, and plastic up to 14 gauge. It cuts a radius as small as 1 ½ inches and has a 1700 SPM cutting speed.

Technical Specifications

Property	Specification
Motor	110V / 60Hz
Amperage	3.5A
Speed	1700 SPM

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 tool 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. This product will be safer and do a better job 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 product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use the product where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow

children to handle the product.

- 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 tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool 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. Air vents on the tool often cover moving parts and should be avoided.
- 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 tool when tired or under the influence of drugs, alcohol or medication.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

⚠CAUTION

METAL SHEAR USE AND CARE

- Do not force the metal shear. Products are safer and do a better job when used in the manner for which they are designed. Plan your work, and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the product will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the product with a damaged part.
- Do not use a product with a malfunctioning switch. Any power tool that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the product and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store the metal shear when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.

- Use only accessories that are recommended by the manufacturer for use with your product. 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 tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.
- Do not leave the tool running unattended.

Specific Operation Warnings

⚠WARNING

- Do not use to cut sheet metal that is thicker than 14 gauge.
- To reduce the risk of injury, always wear eye protection.
- Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.
- Never leave the tool unattended when it is plugged into an electrical outlet.
- Never lay the tool down until the motor has come to a complete stop.

Grounding

⚠WARNING

- This machine must be grounded while in use to protect the operator from electrical shock. This unit is equipped with an electrical cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.
- **DO NOT MODIFY THE PROVIDED PLUG.** If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.
- **CHECK** with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

Grounded Tools: Tools with 3-Prong Plugs

Tools marked with **Grounding Required** have a 3-wire cord and 3-prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. (See Figure A.)

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically live terminal.

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration.

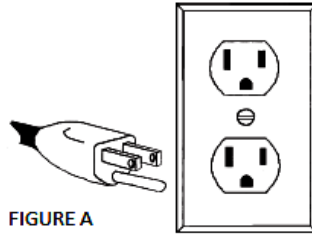


FIGURE A

Double Insulated Tools: Tools with Two-Prong Plugs

Tools marked **Double Insulated** do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code. (See Figure B.)

Double insulated tools may be used in either of the 120 volt outlets shown in the following illustration.

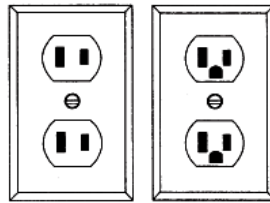


FIGURE B

Extension Cords

⚠ WARNING

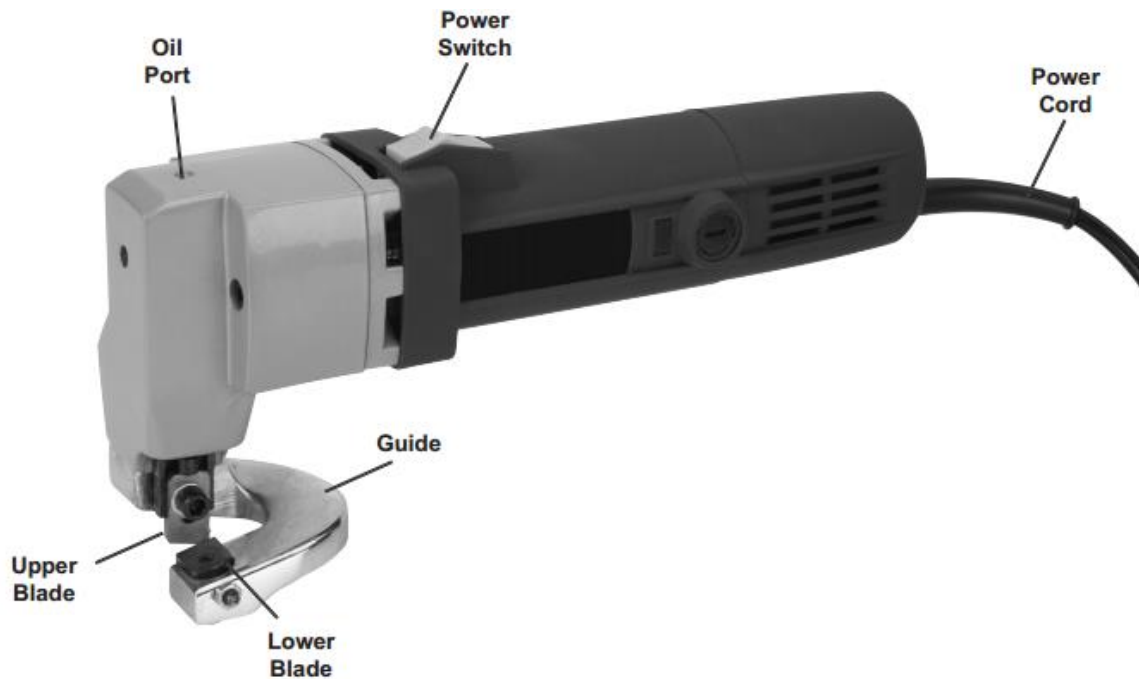
- **USE A PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and cause overheating.
- Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

- Grounded tools require a 3-wire extension cord. Double Insulated tools can use either a 2- or 3-wire extension cord.
- As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.
- The smaller the wire's gauge number, the greater the capacity of the cord. For example, a 14-gauge cord can carry a higher current than a 16-gauge cord. Minimum extension cord wire size is shown in the following table:

Minimum Wire Size Of Extension Cords				
Nameplate AMPS	Cord Length			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	NOT RECOMMENDED	

- When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required.
- If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size.
- If you are using an extension cord outdoors, make sure it is marked with the suffix **W-A** (**W** in Canada) to indicate it is acceptable for outdoor use.
- Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
- Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

Main Parts of Metal Shear



Subassembly
Oil Port
Upper Blade
Lower Blade
Guide
Power Switch

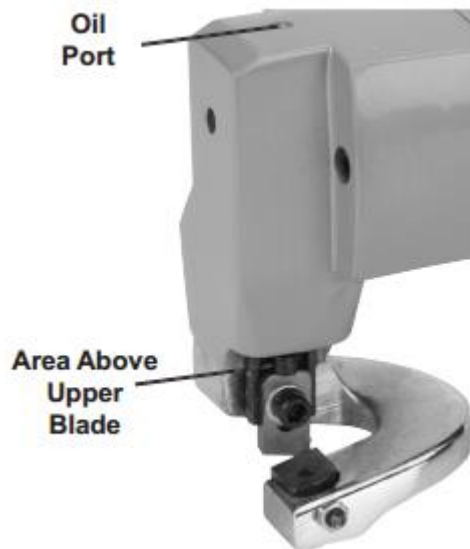
Before Each Use

⚠WARNING

- Use clamps (not included) or other practical ways to secure and support the work piece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.
- Designate a work area that is clean and well-lit. To prevent distraction and injury, the work area must not allow access by children or pets.
- Check for loose and damage parts.

Lubricating the Metal Shear

1. Make sure that the power switch is in the OFF position and plug in the metal shear.
2. Turn on the metal shear and run for one minute.
3. Turn off the metal shear and unplug from the outlet.
4. Place 3-4 drops of light machine oil in the oil port.
5. Turn the metal shear on its side and place 1-2 drops of light machine oil above the upper blade.



Note: Make a few practice cuts on scrap material before cutting your workpiece.

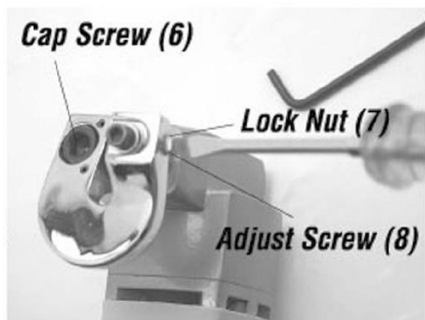
Operating Instructions

⚠WARNING

- Do not use to cut sheet metal that is thicker than 14 gauge.
- To reduce the risk of injury, always wear eye protection.
- Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring or its own cord.
- Never leave the tool unattended when it is plugged into an electrical outlet.
- Never lay the tool down until the motor has come to a complete stop.
- The edge of sheet metal is very sharp. Always wear protective gloves when handling sheet metal.
- DO NOT touch, change, or adjust the angle grinder until it is cool. Blades heat up dramatically while in use and can burn you.
- Do not use with the trigger locked on.

Adjusting the Cutting Blades

1. Using a probe through the motor vents in the side of the cover, turn the fan until the cutting blades are open to the maximum amount. You can measure the gap between the blades using an automotive feeler gauge (not included).

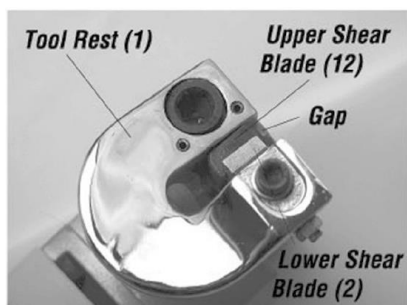


2. To determine the best spacing, use the following formula:

$$\text{Distance in mm (L)} = 0.2 \times \text{thickness of steel plate in mm.}$$

This is the same as the gap being equal to the material thickness divided by 5. For example, a thin steel plate which is 1 mm thick should be cut with a metal shear blade setting of 0.2 mm. This assumes a hardness of the material of 390N/mm. For softer material, reduce the gap. For harder material, increase the gap.

3. Loosen the socket head screw (6) that holds the upper shear blade (12) in place. Adjust the upper shear blade until the space between the upper and lower cutting edge is between 0.1 mm and 0.6 mm. Then tighten the socket head screw (6) to move the upper shear blade (12) in position.



Note: Hold the metal shear by the insulated gripping surfaces when performing an operation where the cutting accessory may contact hidden wiring or its own cord.

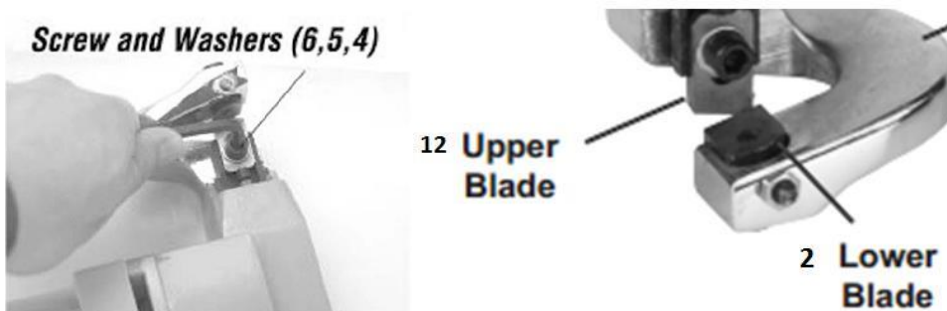
After Each Use

⚠WARNING

- Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.
- Do not touch the metal shear right after use.

Replacing the Blades

1. Remove the screw and washer (6, 5, 4) holding the upper shear blade (reference area 12) and remove it as shown in the image below, using the included hex key.
2. Remove the screw and washer (6, 5, 4) holding the lower shear blade (reference area 2) and remove it as in image below.



3. To reinstall sharpened blades or new blades, first reinstall the lower shear blade (2) and tighten it. Then install the upper shear blade (12) but leave it just loose enough to slide.
4. The upper shear blade (12) has an adjusting screw (8) and second screw (6) that are used to adjust the blade's position. The screw (6) should be loosened with a wrench. Then the lock nut (7) should be loosened and held using a box-end wrench (not included) and the adjusting screw can be adjusted. The upper shear blade (12) should be adjusted for different material types or thicknesses.

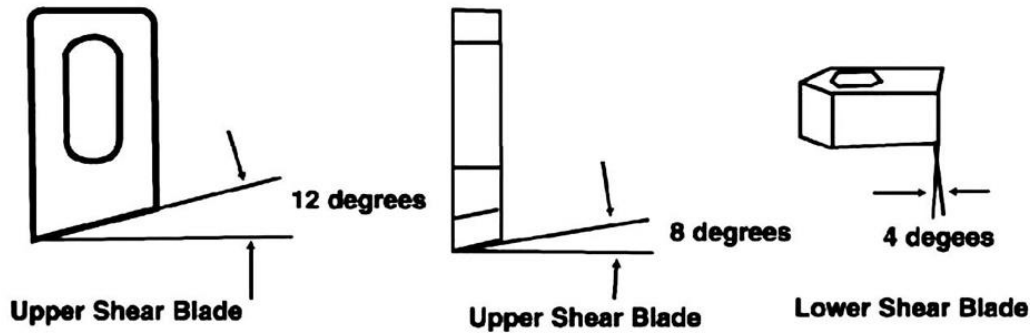
Adjusting the Upper Shear Blade (12)

For sheet steel the formula is: $Gap = steel\ thickness\ divided\ by\ 5$.

The gap will be slightly smaller for rubbery or soft materials. The gap should be slightly larger for hard materials.

When the two blades line up with the proper gap, tighten and hold the adjusting screw (8) while you tighten the lock nut (7). Then, tighten the screw (6).

5. Check that the blades will operate properly before use. The machine should always be tested on scrap material before use on final work material.
6. If you sharpen the blades, maintain the original dimensions of a 12° angle on the upper shear blade (12) with an 8° angle across its thickness. Maintain a 4° angle on the butt of the lower shear blade (2) as shown in the illustration on the following page.



Maintenance

⚠WARNING

- Maintain and clean tools. Properly maintained tools are less likely to bind and are easier to control. Do not use a damaged metal shear.
- Use only accessories that are recommended by the manufacturer for your model.

Maintain the shear by adopting a program of conscientious repair and maintenance in accordance with the following recommended procedures. It is recommended that the general condition of any tool be examined before it is used. Keep your tool in good repair. Keep all cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control. Keep handles dry, clean, and free from oil and grease. The following chart is based on a normal operation schedule.

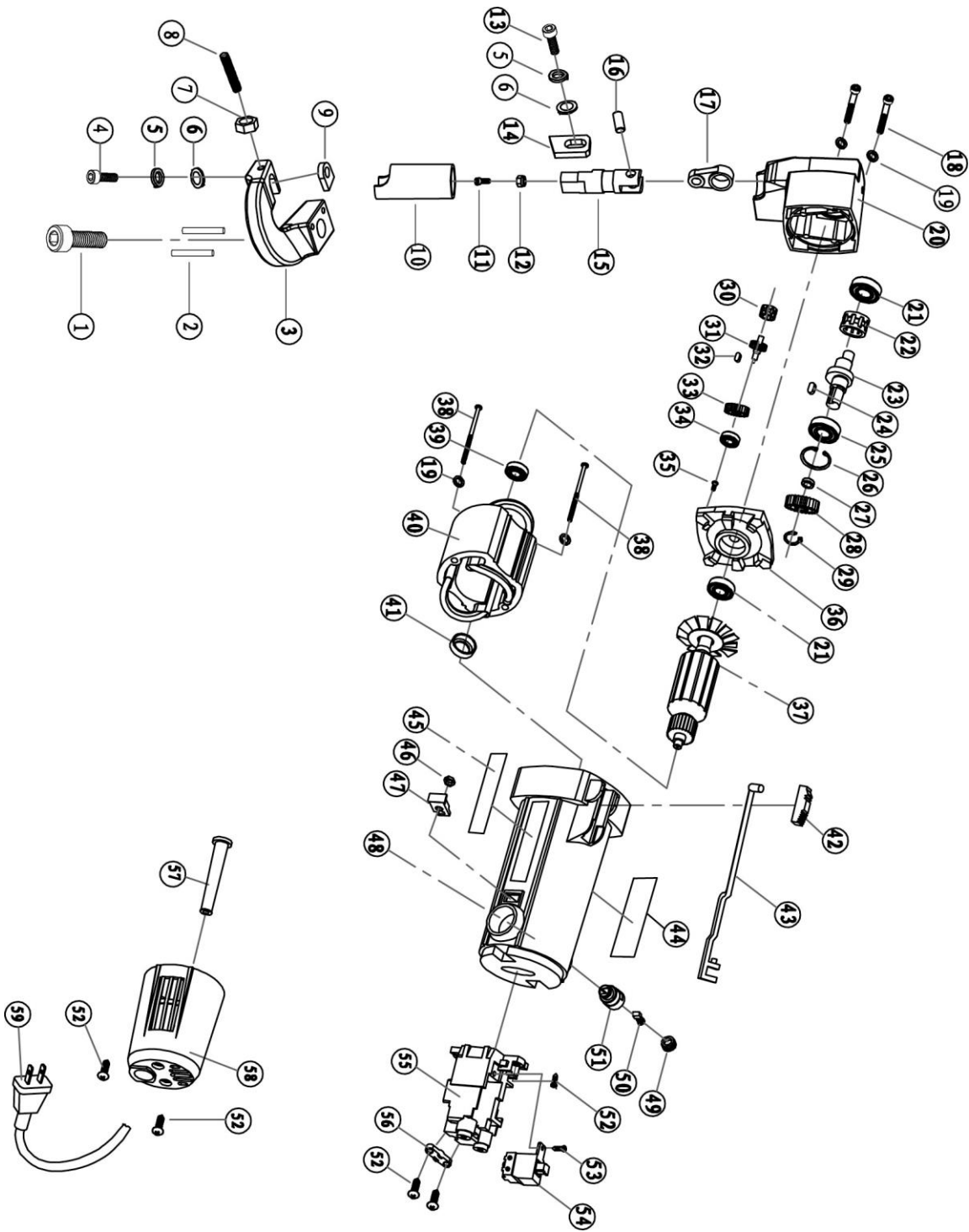
Maintenance Interval	Maintenance Point
Daily before operating	Lubricate the metal shear. Sharpen the blades.

Troubleshooting

Use the table below to troubleshoot problems before contacting service personnel or your local dealer. If the problem continues after troubleshooting, call your local dealer for assistance.

Failure	Possible Cause	Corrective Action
Shear operates slowly.	Forcing shear to work too fast.	Allow shear to work at its own rate.
Performance decreases over time.	Carbon brushes are worn or damaged.	Replace the carbon brushes.
	Blades are dull or damaged.	Keep blades sharp. Replace as needed.
Overheating.	Forcing shear to work too fast.	Allow shear to work at its own rate.
	Blades dull or damaged.	Keep blades sharp. Replace as needed.
	Blocked motor housing vents.	Unblock the vents.

Parts Diagram



Parts List

Reference	Part Description	Quantity
1	Socket Head Screw	1
2	Spring Pin M4x30	2
3	Tool Rest	1
4	Socket Head Screw M6x16	1
5	Spring Washer 6	2
6	Plain Washer 6	2
7	Lock Nut M5	1
8	Adjusting Flat Head Screw M5x16	1
9	Lower Shear Blade (fixed)	1
10	Shaft Sleeve	1
11	Lock Screw M4x12	1
12	Nut M4	1
13	Socket Head Screw M6X13	1
14	Upper Shear Blade	1
15	Arbor	1
16	Straight Pins	1
17	Connecting Bar	1
18	Socket Head Screw M5X50	2
19	Spring Washer 4	4
20	Gear Cover	1
21	Ball Bearing 628	1
22	Needle Bearing K121610	1
23	Eccentric Shaft	1
24	Straight Key 4x8	1
25	Ball Bearing 6201	1
26	Clip Ring 32	1
27	Bearing	1
28	Gear	1
29	Clip Ring 10	1
30	Needle Bearing HK0709	1
31	Stem Gear	1
32	Key 3x8	1
33	Gear	1
34	Ball Bearing 626	1
35	Screw ST 3.9X18	4
36	Intermediate Cover	1
37	Armature	1
38	Socket Lead Screw M4x58	2
39	Ball Bearing 607	1
40	Stator	1
41	Rubber Washer	1
42	Switch Push Button	1
43	Drawbar	1
44	Description Plate	1
45	Nameplate	1
46	Nut M4	2
47	Support	2
48	Housing	1
49	Brush Cap	2
50	Carbon Brush	2
51	Brush Holder	2
52	Screw ST3.9X16	6

Reference	Part Description	Quantity
53	Screw ST3.9X9.5	1
54	Power Switch	1
55	Switch Holder	1
56	Strain Relief	1
57	Cord Holder	1
58	Cover	1
59	Power Cord	1

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 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 Ironton 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.



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www.northerntool.com

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