



Manual Pipe Bender

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#s 49681 & 49682



Manual Pipe Bender OWNER'S MANUAL

Thank you very much for choosing a Klutch product. For future reference, please complete the owner's record below:
Serial Number/Lot Date Code: _____ Purchase Date: _____
Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

This manual pipe bender, with or without the base, is designed for certain applications only. Northern Tool and Equipment cannot be responsible for issues arising from modification or use of this product in 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

This KLUTCH manual bench-top pipe bender allows you to economically make a variety of bends in flat or solid round stock. It may be used to create sign letters, anchor bolts, Ubolts, pipe clamps, handles and more. It is light weight enough to be used as a portable bender on truck or trailers.

Item #49681 mounts on a workbench and item#49682 mounts to the floor. They are designed to efficiently make 1"-3" diameter bends in solid rod stock up to 1/2" diameter, or in flat stock up to 5/16" thick x 2" wide. They can be used to make duplicate or one-of-a-kind parts. Included are 1 in., 1 1/4in., 1 1/2in., 1 3/4in., 2in., 2 1/2in. and 3in., round dies plus a right-angle die, and uses a 44 in. telescoping handle.

Technical Specifications

Property	Specification
Height (floor model)	38"
Mild Steel Capacity	5/16" x 1-1/4" or 1/4" x 2"
Right Angle Bending	3/16" x 1-1/4" or 1/4" x 1-1/4"
Center Pin Capacity	1/4" thick (use 1" die)
Solid Rod Capacity	1/2" (use 3" die)
Die Sizes	1", 1-1/4", 1-1/2", 1-3/4", 2", 2-1/2", 3"

Important Safety Information

⚠️ WARNING:

- Read and understand all instructions. Failure to follow all instructions may result in serious injury.
- 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 this product until they have read this manual and have developed a thorough understanding of how the product works.
- DO NOT modify the 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 a 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 tool in confined work areas may put you dangerously close to other cutting tools and rotating parts.
- Do not use the tool where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The tool can create sparks, which may ignite the dust or fumes.
- Do not allow the tool to come into contact with an electrical source. Contact will cause shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the tool.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be below the work surface hidden from your view and may cause personal harm or property damage if unintentionally contacted.

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.
- Use ANSI-Z87.1 compliant safety goggles or safety glasses with side shields, or when needed, a face shield to prevent eye injury from potential flying metal parts. 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.
- 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

BENDER USE AND CARE

- Do not force the tool. Tools do a better and safer job when used in the manner for which they are designed. Plan your work, and use the correct tool for the job.
- Check for damaged parts before each use. Carefully check that the tool will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the tool with a damaged part.
- Store the tool 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 tool. Accessories that may be suitable for one tool 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.

Specific Operation Warnings

⚠️ WARNING:

- Always make sure the bender is firmly secured to a flat surface that can support the weight and forces during operation. Serious personal injury could result if the bender assembly should unexpectedly slip during a bending operation.
- AVOID MOVING PARTS DURING OPERATION. Keep fingers and hands away from moving parts.
- CHECK ALL PINS BEFORE USE. Make sure all pins are inserted all the way.
- MAKE SURE STOCK IS OF SUFFICIENT LENGTH. Stock must extend far enough by the stop block & forming die so as not to slip and cause injury.

Assembly

Inventory

The following is a description of the main components shipped with your machine. Lay the components out to inventory them.

Main Components (Figure 2)	Qty.
A. Base	1
B. yoke Arm	1
C. handle	1
D. Bending Bracket	1
E. Bending dies	
1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3"	1 Each
f. Stop pin M10 X 16	1
g. Block Support pin M9 X 11	1
h. Stop Block	1
I. long Spacer M10 x 69	1
J. Angle Bending Block	1

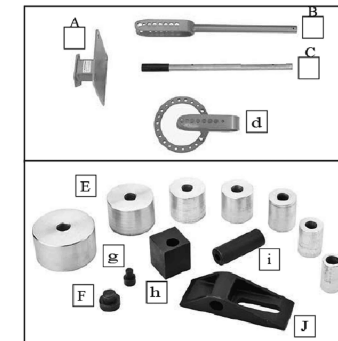


Figure 2. Main component shipping inventory.

This assembly procedure works for both the bench-top and floor-mounted benders.

1. When first unpacking the bender, check the contents of the shipping carton with the parts diagram to ensure all parts are present.
2. Bolt the base/stand (19) to a stable surface
3. Place the two short spacers (6) over two of the holes on the top of the base/stand as shown in figure 3 below.

- Place the bending bracket (4) over the short spacers and secure it using the screw (5), washers (3, 7) and nut (8) according to figure 3 and the parts diagram.
- Place the long spacer (1) between the back two holes of the bending bracket and secure the entire assembly to the base/stand using the bolt (2), washers (3, 7) and nut (8) according to figure 3 and the parts diagram.
- Place the yoke arm (15) between the flanges of the bending bracket and secure it in place using the long hinge pin (9).

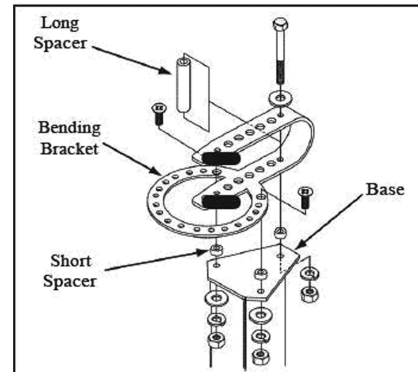


Figure 3. Attaching bending bracket to the base schematic.

Before Each Use

- Check the bender for wear or damaged parts and that it is debris-free to perform its function.
- Periodically, check that the shear is still securely held in place. Re-secure it as needed.
- Always make sure the bender is firmly secured to a flat surface that can support the weight and forces during operation.
- Make sure the handle (17) has been well assembled.

Operating Instructions

Performing a Basic Radius Bend:

- Select the bending die that most closely matches the radius you wish to bend, then install it as the center die on the hinge pin (9) that attaches the yoke arm (15) to the bending bracket (4). (See figure 4).

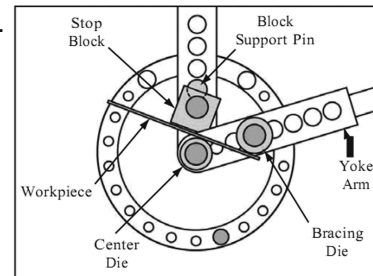


Figure 4. Basic radius bending setup.

- Mount the block support pin (13) and the stop block (10) with the remaining long hinge pin (9). **Note:** Make sure the offset hole of the stop block is farthest from the center die to ensure that the block does not turn during the bending operation.
- Select a bending die that will secure the workpiece against the center die without the workpiece slipping, then install it as the bracing die with the short hinge pin (14). Make sure the bracing die is as close to the workpiece as possible.
- Insert the workpiece between the dies and the stop block (10), as shown in figure 4.
- To limit the bending range, install the stoppin (11) in the appropriate hole in the outer ring of the bending bracket, as shown in figure 5.
- Bend the workpiece by pulling the handle towards you, as shown in figure 5.

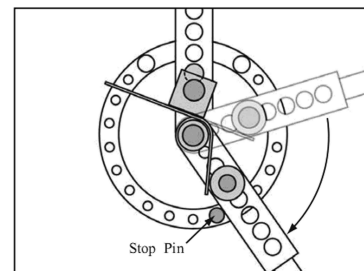


Figure 5. Making the basic radius bend.

Performing a Basic Angle Bend

- Mount the block support pin (13) and the angle bending block (18) onto the bending bracket (4), as shown in figure 6. Make sure the block support pin is mounted as close to the angle bending block as possible.

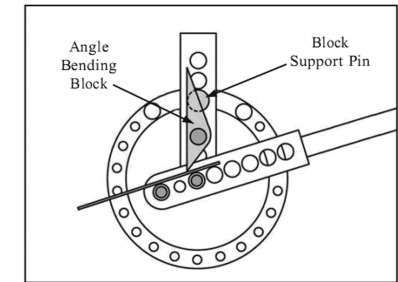


Figure 6. Basic angle bending setup.

- Depending upon the desired angle and the relationship between the angle bending block (18) and the yoke arm (15), select two dies that will properly brace the workpiece against the angle bending block, then install them, as shown in figure 7.

Note: The bracing die and the hinge pin that secures the yoke arm must be inserted at least in the third hole of the yoke arm. Otherwise, you will not be able to get enough leverage to make the angle bend properly.

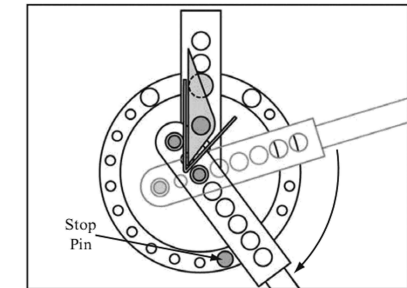


Figure 7. Making the basic angle bend.

- To limit the bending range, install the stoppin (11) in the appropriate hole in the outer ring of the bending bracket (4), as shown in figure 7.
- Pull the handle toward you to make the bend.

After Each Use

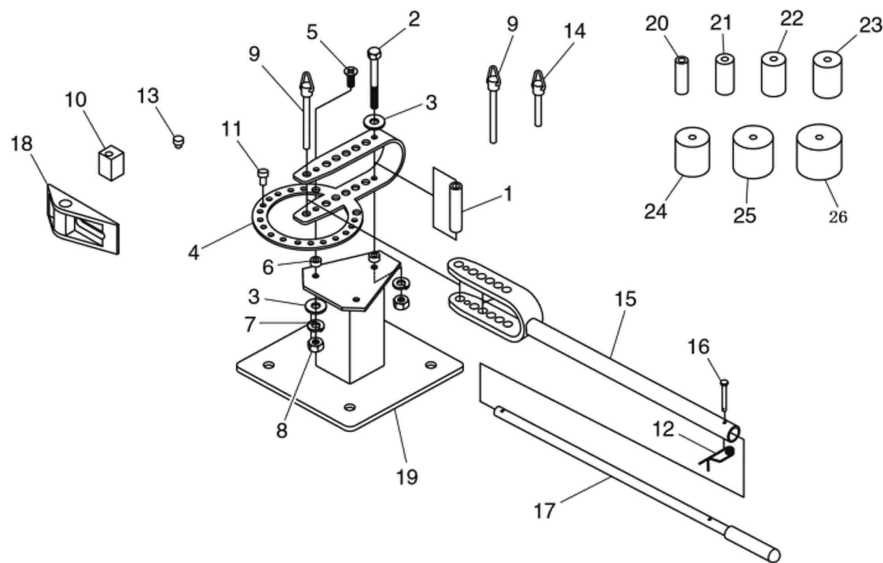
Clear debris from work before starting a new operation.

Maintenance

Maintain your tool. It is recommended that the general condition of any tool be examined before it is used. Keep your tool in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures found in this manual. Keep handles dry, clean, and free from oil and grease.

- Lubricate the rotating parts of the bender regularly.
- Inspect the bender regularly for worn or damaged parts. Replacement parts can be purchased through the distributor.

Parts Diagram



Parts List

Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	LONG SPACER M10X69	1	14	SHORT HINGE PIN M15X75	1
2	HEX BOLT M10-1.5X120	1	15	YOKE ARM	1
3	FLAT WASHER 10mm	1	16	CLEVIS PIN	1
4	BENDING BRACKET	1	17	HANDLE	1
5	FLAT HD SCR M10-1.5X35	1	18	ANGLE BENDING BLOCK	1
6	SHORT SPACER M11X6	1	19	BASE or STAND	1
7	LOCK WASHER 10MM	1	20	BENDING DIE 1"	1
8	HEX NUT M10-1.5	1	21	BENDING DIE 1-1/4"	1
9	LONG HINGE PIN M15X100	1	22	BENDING DIE 1-1/2"	1
10	STOP BLOCK	1	23	BENDING DIE 1-3/4"	1
11	STOP PIN M9X11	1	24	BENDING DIE 2"	1
12	SPRING COTTER PIN	1	25	BENDING DIE 2-1/2"	1
13	BLOCK SUPPORT PIN M10X16	1	26	BENDING DIE 3"	

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at 1-800-222-5381.
- Not all components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts.
- The following are required when ordering parts: model number, serial number/lot date code, and description.
- 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 Ironon Air Tool 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 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) accessories both consumable and durable; (c) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (d) damage from misapplication, overloading, or improper installation; (e) improper maintenance and repair; and (f) 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 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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