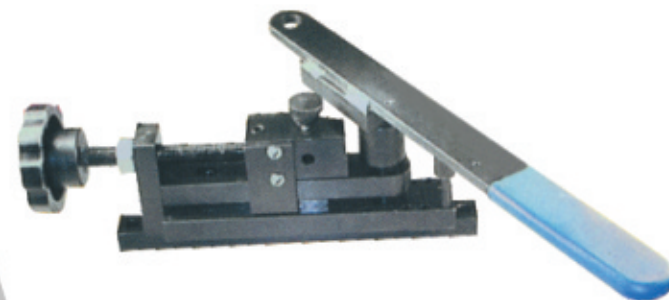




**Before Operating Your Tools,
Please Read This Instruction Carefully**



Universal Bender

**ITEM NO.99-060-001
MODEL NO . #T5040**

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Specifications

Capacities:	5/16" Diameter Wire
	1" x 1-1/8"
Weight:	8 lbs.

♦ IMPORTANT SAFETY PRECAUTIONS

1. Keep Work Area Clean.
Cluttered areas invite injuries.
2. Keep Children Away.
All children should be kept away from the work area. Don't let them handle the bender.
3. Store Idle Equipment.
When not in use, tools should be locked up in a dry location to inhibit rust. If possible, store in an area out of reach of children.
4. Don't Force The Bender.
Do not use "cheater" bars. This may damage the tool, cause injury, and will void the warranty.
5. Use Eye Protection.
Wear ANSI approved impact safety goggles. Goggles are available from Harbor Freight Tools.
6. Don't Overreach.
Keep proper footing and balance at all times.
7. Maintain Tools With Care.
Keep tool clean for better and safer performance. Keep handle dry, clean, and free from oil and grease.
8. Stay Alert.
Watch what you are doing, use common sense. Don't operate any tool when you are tired.
9. Check Damaged Parts.
Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and other conditions that may affect its operation. Any part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in the instruction manual..
10. Replacement Parts And Accessories.
When servicing, use only identical replacement parts. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight tools.
11. Do Not Operate Tool If Under The Influence Of Alcohol Or Drugs.
Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate machine..

UNPACKING

Check against the list below to make sure all parts and accessories are included with your shipment. If any parts are missing, contact Harbor Freight Tools Customer Satisfaction at the phone number on the cover of this manual.

- Universal Metal Bender • Handle • Short Shaft • 1/2" Shaft • Gauge
- Angle Die • Stop pin • 3/16" Shaft • 1/4" Shaft • 1" Circle

OPERATING PROCEDURES

NOTE: The Universal Metal Bender must be clamped to a solid workbench or affixed in the T-shot of a stable machine tool.

Eyes and Centered Eyes:

1. Attach the handle(17) to the working plate(2) using the 1/2" shaft(10) with or without the 1" circle(14), the 1/4" shaft(11), or the 3/16" shaft depending upon your desired result. Secure the shaft with the hex head screw(22). When you are standing opposite the vise control knob (13), the handle should be to your right and as far as possible against the body of the bender.
2. Put the material you wish to bend in between the selected shaft and the vise (22) and clamp it down.
3. Put the short shaft (9) into one of the handle's holes. Use the hole as close to the bender as the material will permit.
4. Hold the material lightly with your thumb to ensure parallel results (if desired).
5. Pull the handle clockwise a 1/4 turn. This should result in a 90° bend. If desired, you may insert the stop pin (16) at the appropriate hole for repetitive bends. Typically, this will be the hole at the front of the bender (furthest away from the vise control knob), second from the right.
6. Loosen the vise. Position the material so that your bend is opposite the handle when it is in the starting position. The straight part of the material should be extending out towards the handle; a slight amount of the bend should be clamped when the vise is tightened.
7. Reclamp the material. Continue the above process until the material makes one full revolution. A slight overbending on the final step is required due to springback.
8. If you are working with heavy gauge wire, it may be necessary to use the sharp angle plate(15) to prevent slipping. If this becomes necessary, it should be put on its side with the angle portion facing up with one side of the hole facing the vise and the other the shaft being used.
9. If you wish to center the eye, position the handle so that the material is on the opposite side of the handle. This will allow the handle to be moved counterclockwise.
10. Reclamp the material in such a way that the straight section is at right angles to the vise.

11. Move the handle counterclockwise until it meets the bender.

Coils and Loops:

1. Repeat the top seven steps.
2. For loops and coils, you must lift the material slightly on the third bend to allow it to raise above the already bent material.
3. If you are doing coils, you may want to use a spacer for the repetitive bends to ensure that the spaces between the loops are even and regular.

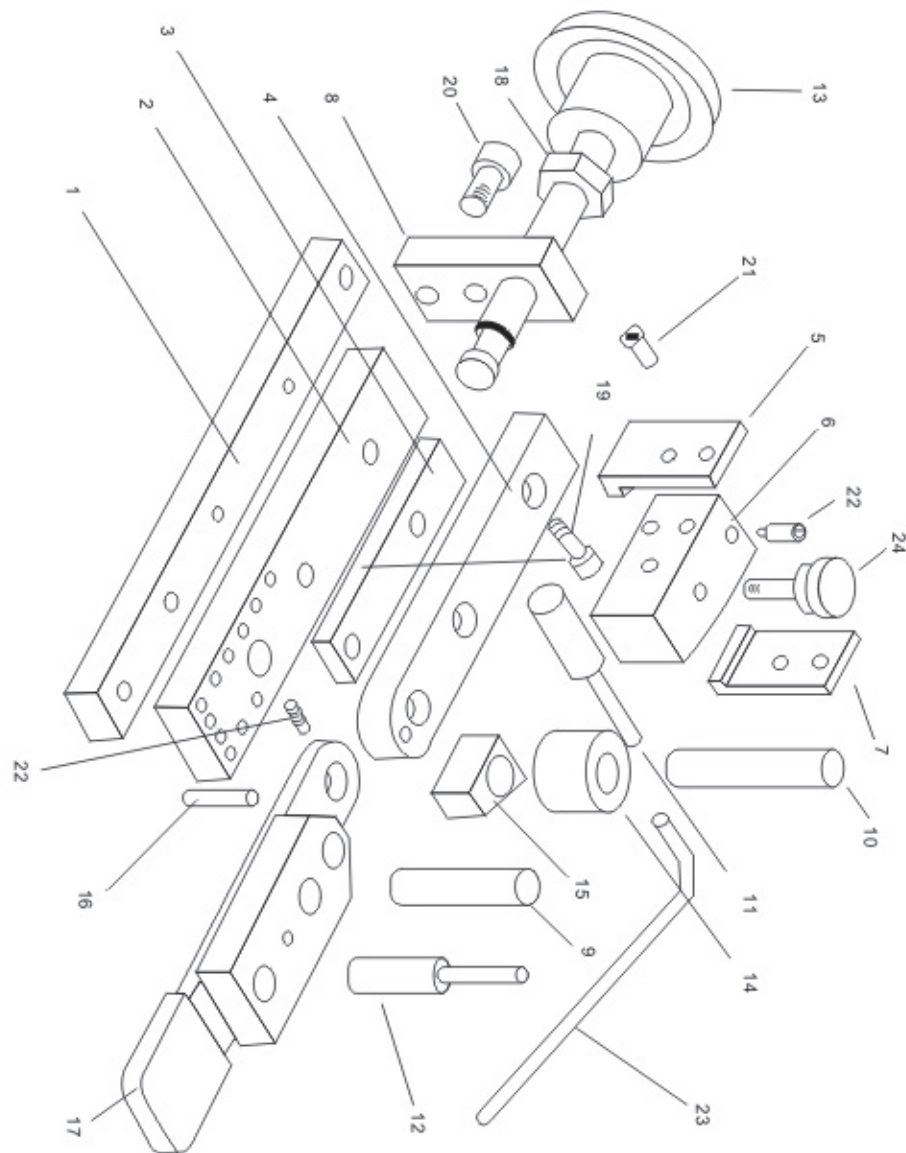
"S" Shapes:

1. Use the 1" circle with the 1/2" shaft on the body as described in step 1 of "Eyes and Centered Eyes".
2. Put the sharp angle plate onto the short shaft on the handle.
3. Use a short section of stock approximately 2-3/4" to 3" in length. Clamp your stock in the vise so that the edge of the material is even with the edge of the circle.
4. Make a complete clockwise bend.
5. Leaving the handle in the left most position, move the material so that the first loop is on the angled side of the vise's jaw and the edge of the stock is even with the edge of the circle.
6. Make a complete counterclockwise bend.

Using the Gauge:

1. The gauge (23) is used when you need more than one piece bent at precisely the same length.
2. Simply insert the gauge into the side of the bender so that the end of it is the exact distance away from the bender for the length of stock you need. Tighten the gauge clamp (24).
3. Use the gauge and the stop pin when you need to make squares. It will enhance your final results immensely.

Parts Drawing



PARTS LIST

NO.	Qty.	Description
1	1	Base
2	1	Working Plate
3	1	Small Plate
4	1	Slide Track
5	1	Vise Body
6	1	RIGHT Vise Plate
7	1	Left Vise Plate
8	1	Connecting Plate
9	1	Short Shaft
10	1	1/2"Shaft
11	1	1/4"Shaft
12	1	3/16"Shaft
13	1	Vise Control Knob
14	1	Circle
15	1	Angle Plate
16	1	Stop Pin
17	1	Handle
18	1	M12 Cap Nut
19	1	M6 x 35 Screw
20	2	Connecting Screw
21	4	M5 x 12 Screw
22	2	M8 x 9 Hex Head Screw
23	1	Gauge
24	1	Gauge Clamp