

**ROPER WHITNEY
OF ROCKFORD, INC.**



**Model CB3020
Cleat Bender Owner's Manual**

Table of Contents

Safety	2
Safety Conventions	2
Work Area Safety	2
Personal Safety	3
Machine Safety	3
Machine Description	4
Specifications	4
Machine Operation	6
Forming Cleats	6
Forming Cheeks	9
Parts Identification Chart	14
Parts List	16
Maintenance	18
Technical Support	18
Limited Warranty	19

CINCINNATI PRECISION MACHINERY 513-860-4133

Safety

This section describes the safety rules which must be followed when operating, and maintaining this machine. However, the information in this manual is not the final word on safety. You must also follow:

- Your companies safety rules.
- Safety laws and regulations written by your federal, state and local governments.

Safety Conventions

Throughout this manual the following conventions alert you to serious, safety-related issues:



DANGER

Alerts you to the likelihood of serious injury, including death, if the information is ignored.



WARNING

Describes the potential for minor, moderate, or serious injury.



CAUTION

Indicates a potential for damage to equipment.

Note: A suggestion on how to effectively carry out a task.

Work Area Safety

- Keep work areas clean. Cluttered areas and benches invite accidents.
- Keep the work area well lighted, clean, neat, and orderly. Oils, water, or debris on the floor can cause someone to slip and fall.
- Do not allow untrained or unauthorized personnel to operate or service the machine.
- Never use a crane, hoist, or other lifting device to lift more than its rated capacity.

Personal Safety

- Use safety equipment. Always wear approved eye and hearing protection. Wear safety-toe shoes with slip-proof soles. Keep this safety equipment in good condition.
- Don't overreach. Keep proper footing and balance at all times.
- Use hoists and cranes to lift heavy machine units, workpieces, or any other load too heavy for one person. Be sure loads are balanced.
- Do not use compressed air for cleaning debris or grit from yourself or the machine.
- Do not wear loose, hanging clothing or jewelry while operating or servicing the machine.
- If you wear gloves while you work, make sure that they are snug fitting so they won't be snagged by moving equipment.
- Notify your supervisor whenever you feel there is a hazard involving the equipment or the performance of your job.
- Report all injuries or illness, regardless of severity, to your supervisor.
- Do not place speed above safety.

Machine Safety

- Never use a machine or tool for anything other than its intended purpose. Use the proper tool and equipment for the task.
- Read, understand, and follow all warnings and instructions mounted on the machine.
- Do not remove, paint over, alter, or deface any machine-mounted warning and instruction plates and signs.
- Do not override the safety features of the equipment.
- Do not operate the machine in excess of its rated capacity.
- Beware of protruding machine elements or assemblies.
- Make sure safety guards, shields, barriers, covers, and protective devices are in place, connected, and functional before operating the machine.
- Avoid any pinch-points created by the movement of the machine's components.
- Inspect the machine before each use to ensure that it is in proper working condition. Check for cracks, chips, burrs, and other evidence of failure.
- Report any damage to the machine to your supervisor.
- Remove debris and grit with a rake or brush - not your hands.
- Use only approved cleaning fluids.

Machine Description

The model CB3020 Cleat Bender is a lever operated, ready standing, folding machine. The CB3020 forms cleats and cheeks (duct flanges) in a two-step motion of the bending jaw. It is designed to be functional, simple, safe, and easy to maintain. Also, the cleat bender's forward mounted beams accommodate the bending of flanges in duct work. The CB3020 cleat bender allows the forming of 7/16 and 1/2 inch flanges.

The machine is composed of a cast iron bending beam, lower beam (bed), and end housings (legs). The bending-blade is mounted to the bending beam by a series of flat head screws, and can be reversed to switch from 7/16 wide flanges to 1/2 wide flanges. The bending-blade is self-locating and requires no adjustments when changing flange sizes. The bending beam has a single, precision-machined, bending-blade attached to its top surface. The rotation of the bending beam is controlled by accurately located, self-lubricating bearings mounted within each of the end housings.

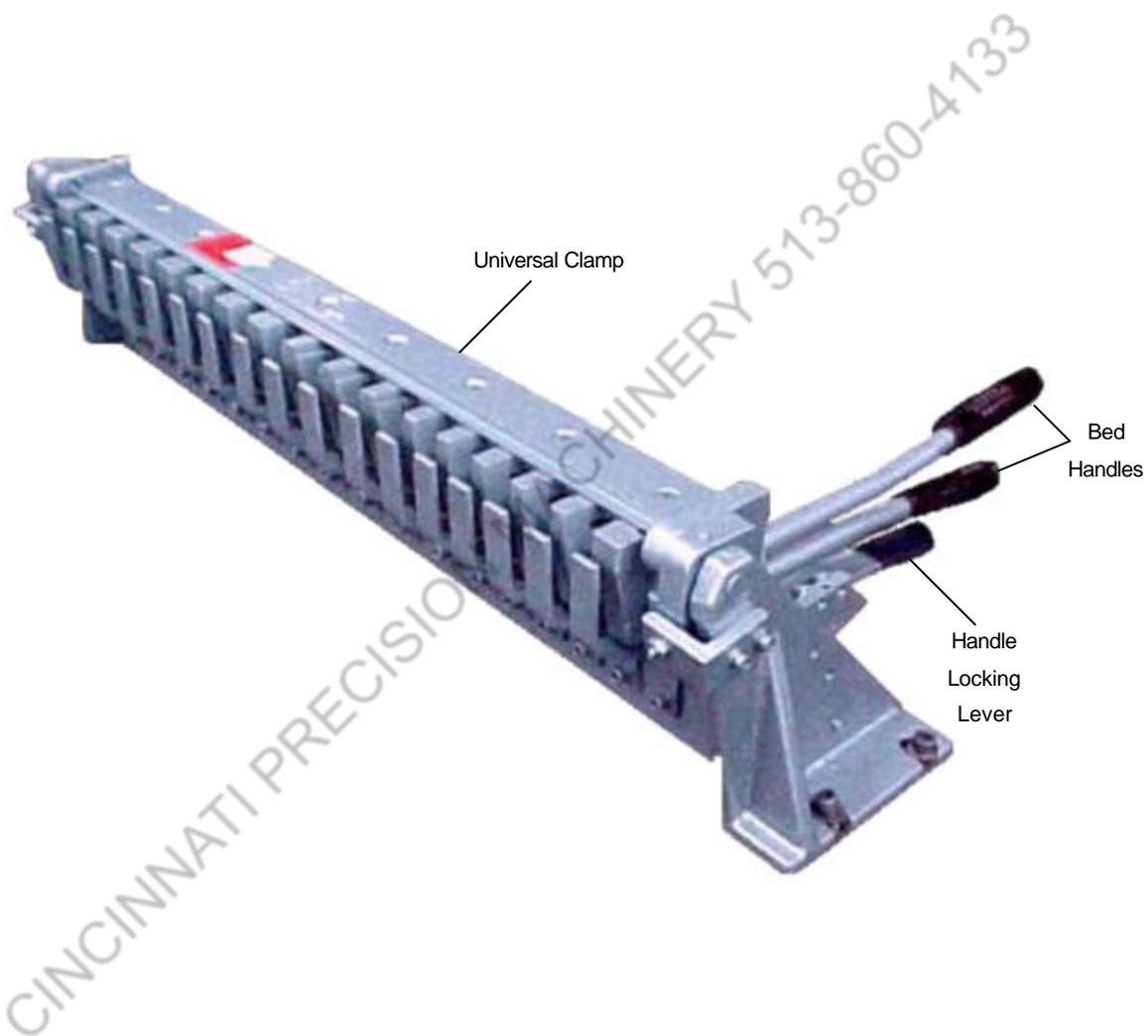
The lower beam rotates away from the bending beam to release the work material. The operating levers for the bending beam and lower beam are located at the right-hand end of the cleat bender, and are spaced to allow easy operation. The lower beam release lever is located beneath the operating levers. The operating and release levers can all be grasped with a single hand, allowing the operator to hold onto the work material at all times.

The recessed spaces along the front of the bending beam and lower beam make room for duct flanges, and allow cheeks to be formed on ducts.

The bar separating the end housings has support arms attached, aiding in the support of duct work while bends are being performed. Additionally, the bending and lower beams have machined notches to clear pre-formed seams.

Specifications

Capacity:	20 gauge
Height:	9 inches
Length:	39 inches
Width:	9 inches
Shipping Wt:	145 lb.



Machine Operation



Warning-Top Heavy

The cleat bender is top-heavy. It must be securely fastened to a work bench or floor stand. If mounted to a floor stand, make sure that the floor stand is securely lagged to the floor.

Forming Cleats

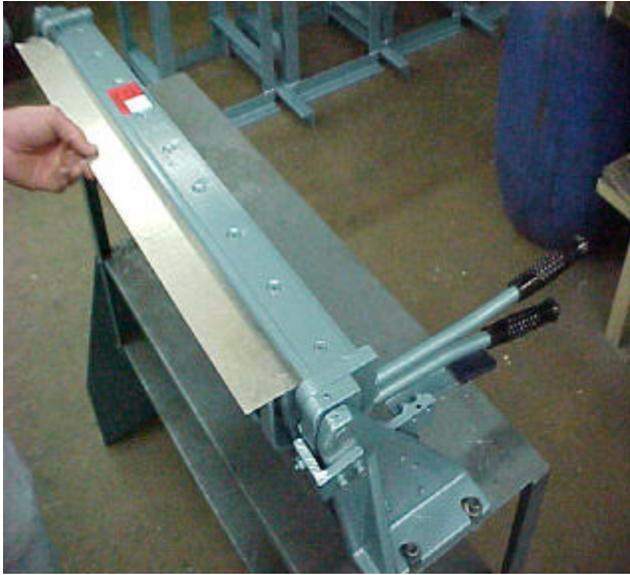
1. Before forming the cleat, it is best to cut the work piece to the desired length.



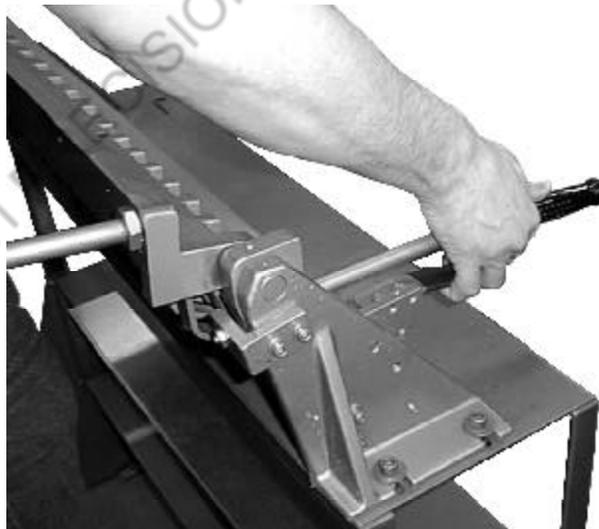
2. Load the material into the cleat bender.
3. Make sure that the work piece is inserted under the bending blade as far as it will go.



4. Pull the bending beam lever toward you until it stops.



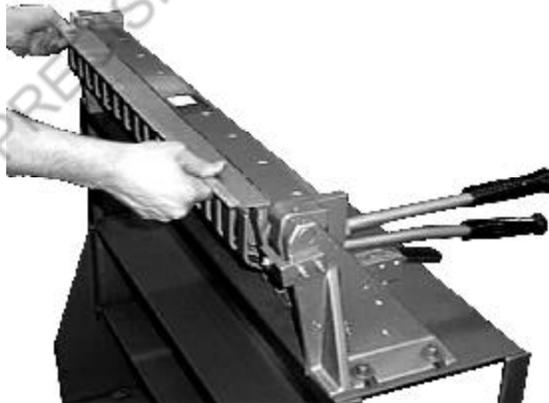
5. Return the bending lever to its original position at the rear of the machine. Place the partially formed part against the nose of the bending blade. Pull the bending beam lever toward you while holding the work material in the machine until the blade contacts the part. Push the lever down to finish forming the flange.



6. Grasp the lower beam lever and, with the last finger or two of your hand, pull up on the lower beam release.

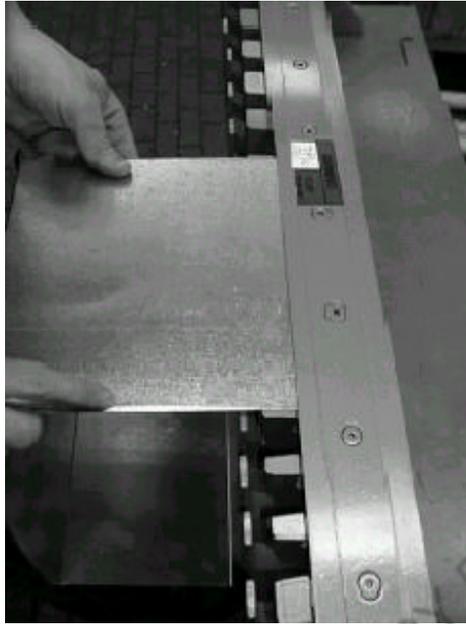


7. As you lift up on the lower beam lever the work piece will exit on the back side of the machine.



8. To finish forming the cleat, load the work piece back into the machine (flange side up). Repeat steps 3 through 7.

To Form Cheeks on a Duct



1. Load the work piece into the cleat bender.



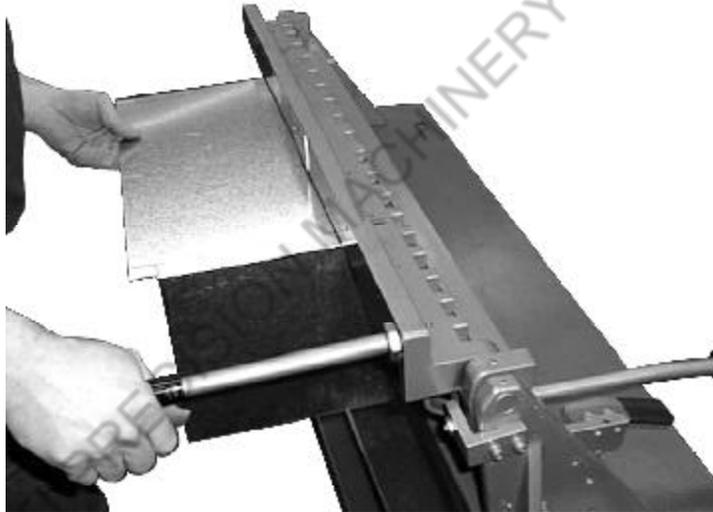
Note: The irregular spacing of the supports on the front of the lower beam accommodates ducts of various sizes. Match up the duct with supports that come closest to the corners of the duct.



2. Make sure that the work piece is inserted under the bending blade as far as it will go. Pull the bending beam lever toward you until it stops.



3. Grasp the lower beam lever and, with the last finger or two of your hand, pull up on the lower beam release until the part is released from the bending blade.



4. Place the partially formed part against the nose of the bending blade. Pull the bending beam lever toward you while holding the work material in the machine until the blade contacts the part. Push the lever down to finish forming the flange.



5. While you hold onto the work piece, return both of the beam levers to their starting position. Allow the work piece to rotate with the beams while supporting it with your free hand. The duct will slide free of the bending blade as the levers approach vertical.

CINCINNATI PRECISION MACHINERY 1-860-4133

CLEAT BENDER 3020

PARTS IDENTIFICATION CHART

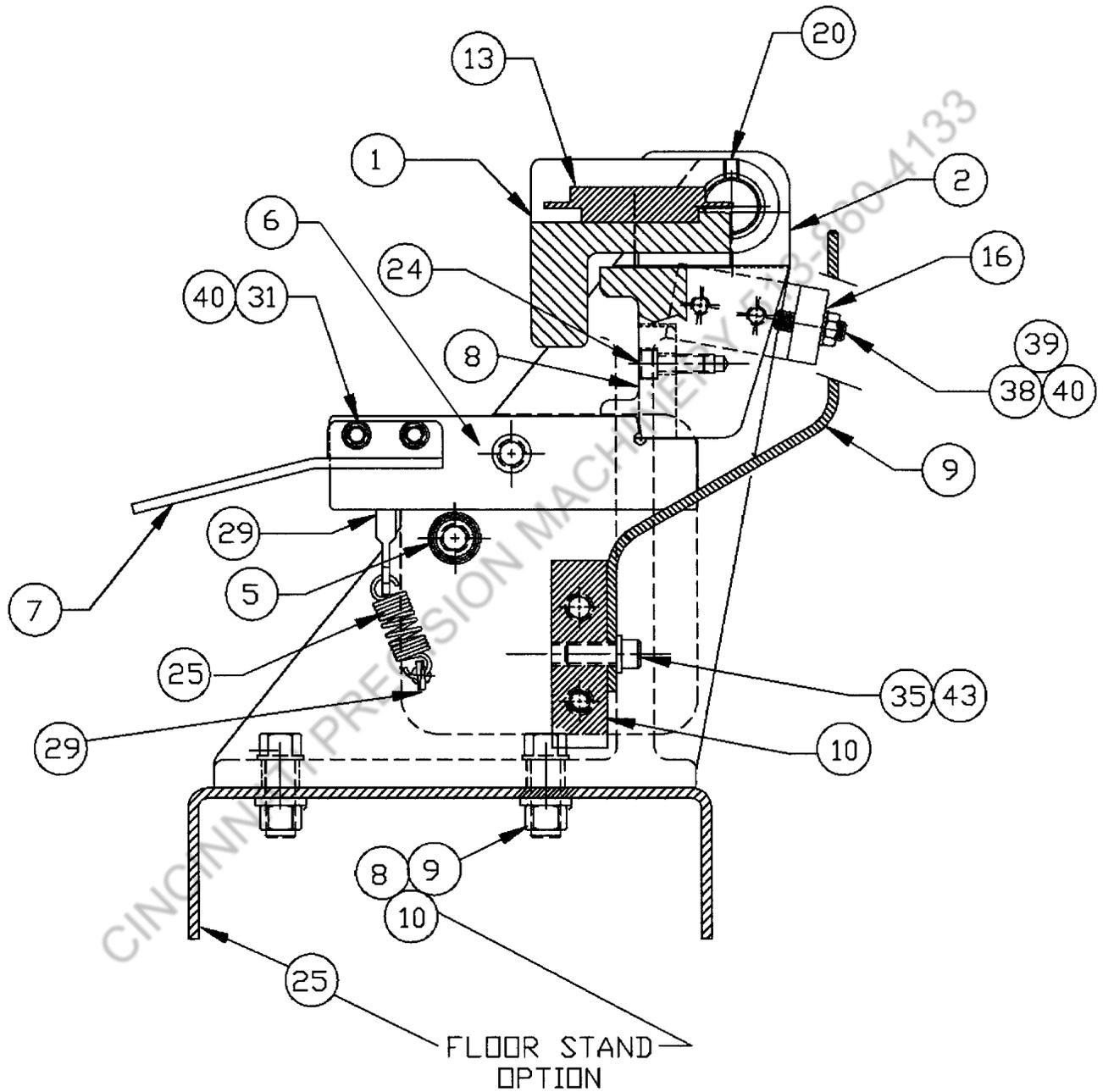


Figure 1

CLEAT BENDER 3020

PARTS IDENTIFICATION CHART

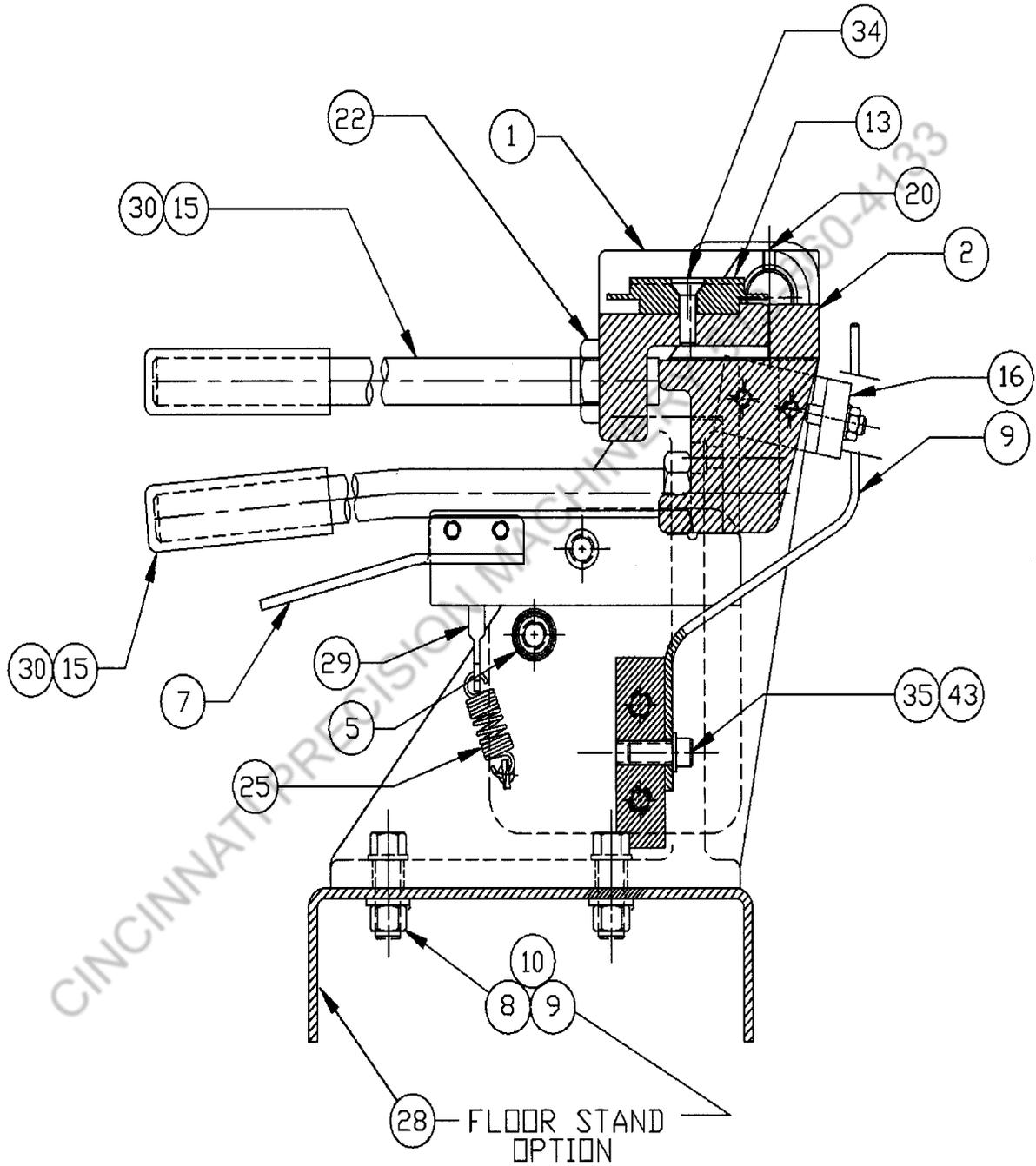


Figure 2

CLEAT BENDER 3020 PARTS IDENTIFICATION CHART

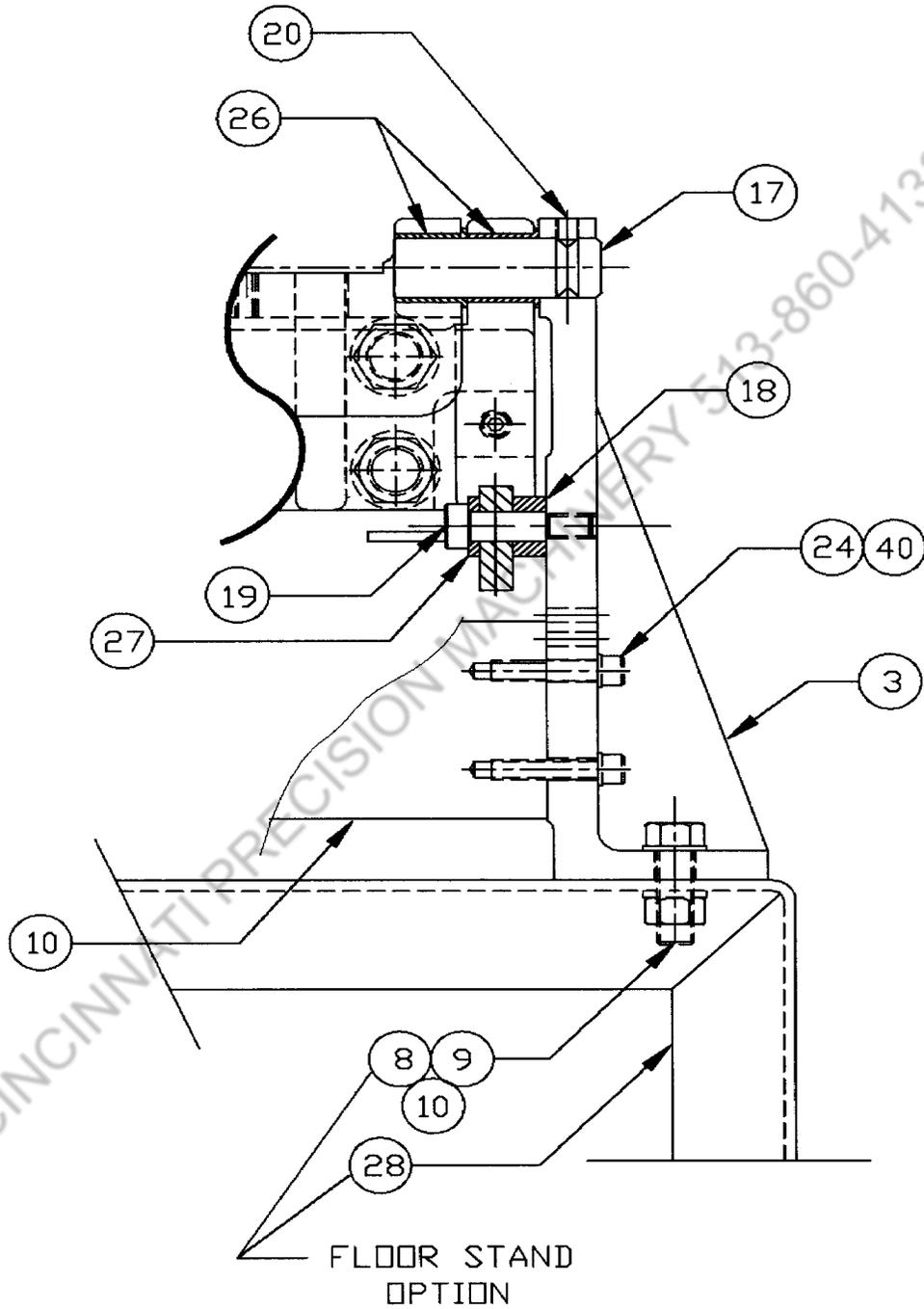


Figure 3

CLEAT BENDER 3020 PARTS IDENTIFICATION CHART

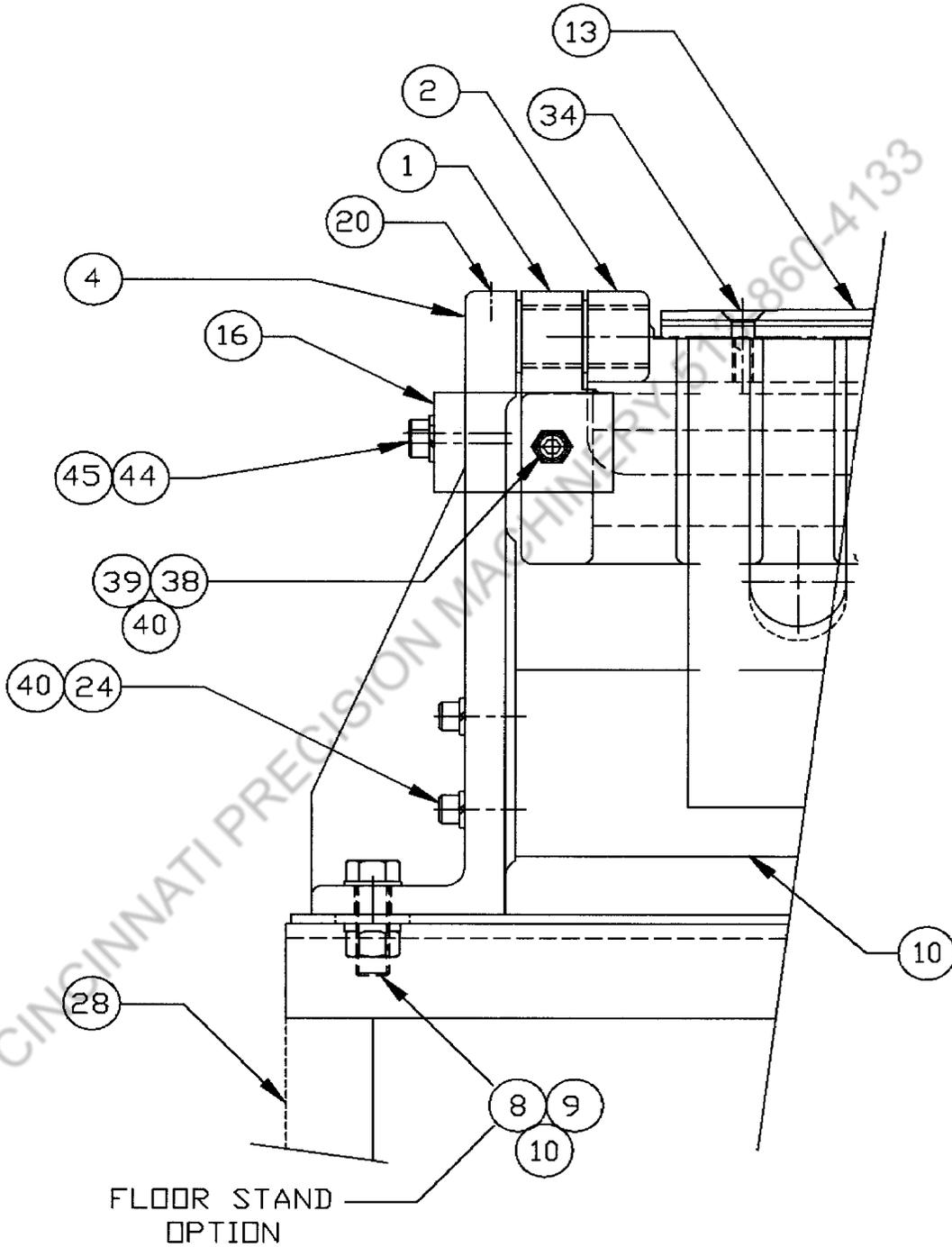


Figure 4

CLEAT BENDER MODEL 3020

PARTS LIST

INDEX	PART NO.	PART NAME	QTY.
1	768020000	Apron	1
2	768090001	Bed	1
3	768060002	End Plate (Right)	1
4	768060003	End Plate (Left)	1
5	768060004	Lock Lever Stop	1
6	768060005	Apron Locking Lever	1
7	768060006	Handle Locking Lever	1
8	768060007	Wearplate - Apron	1
9	768060008	Material Bar	1
10	768060009	Support Bar	1
11	600346273	Label - Top Heavy	1
13	768010022	Universal Clamp	1
15	768060014	Bed Handle	2
16	768130015	Stop	2
17	768160016	Hinge Pin	2
18	768630017	Bushing - Lever	1
19	642012269	Shoulder Cap Screw	1
20	623012049	SSCP Screw #10-24 x 3/8	2
21	613012084	SHF Screw 1/4-20 x 3/8	9
22	649023009	Hex Jam Nut 5/8-11	2
24	611012093	SHC Screw 1/4-20 x 1 1/4	4
25	668186354	Tension Spring 38 x .054 x 1.0	4
26	668194709	Bushing - Hinge	4
27	678194710	Washer (Bronze - SAE 841)	1
28	239060031	Floor Stand	0
29	668184615	Spring Hanger	2
30	668356353	Grips	2
31	623012084	SSCP Screw 1/4 x 20 x 3/8	2
32	611012086	SHC Screw 1/4-20 x 1/2	3
33	621012089	SSCP Screw 1/4-20 x 3/4	2

CLEAT BENDER MODEL 3020

PARTS LIST

INDEX	PART NO.	PART NAME	QTY.
34	613012086	SHF Screw 1/4-20 x 1/2	9
35	611012131	SHC Screw 5/16-18 x 3/4	2
36	611012179	SHC Screw 3/8-16 x 1 1/2	1
37	611012091	SHC Screw 1/4-20 x 1	4
38	621012095	SSCP Screw 1/4-20 x 1 1/2	2
39	649023003	Hex Jam Nut 1/4-20	2
40	679033103	Lock Washer 1/4	10
41	679033105	Lock Washer 3/8	1
42	678033103	Flat Washer	4
43	679033104	Lock Washer 5/16	17
44	611012051	SHC Screw	4
45	679033102	Lock Washer #10	4

CINCINNATI PRECISION MACHINERY 513-860-4133

Maintenance

Because the cleat bender uses self lubricating seals, there is no routine maintenance other than periodically cleaning the machine. Wipe it down occasionally with a brush and a shop rag and it should provide many years of reliable service.

Technical Support

If you have any unanswered questions, or if you would like to order repair parts, our Field Service Technicians and in-house Product Support staff can provide you with assistance. Before calling for assistance, service, or parts, please have the following available:

- the machine type and serial number - to which the cleat bender is attached.
- a description of the problem
- a description of the operating conditions and setup
- operating device, feature, and function status
- the manuals and prints provided with your system

To obtain assistance, service, or parts please contact:

Roper Whitney of Rockford, Inc.
2833 Huffman Boulevard, Rockford, IL 61103
PHONE: (815) 962-3011
FAX: (815) 962-2227

CINCINNATI PRECISION MACHINERY 513-860-1133

Limited Warranty

Coverage

All new Roper Whitney tools and machines are warranted, to the original purchaser for use, to be free of defects in material and workmanship for a period of one year from purchaser's date of purchase. Roper Whitney, at its option, will repair, replace, or refund the purchase price of any tool or machine which fails within the warranty period, and is found upon examination by Roper Whitney, to be defective in material or workmanship, or both. This warranty does not cover failures attributable to improper use or maintenance, exceeding rated capacity, alteration, accident, or normal wear of moving parts. Accessories, controls, and components not manufactured by Roper Whitney Company are excluded from this warranty. For services on such parts, refer to the applicable manufacturers' warranties.

Exclusions

There is no other express warranty to the extent permitted by law. Any and all implied warranties, including merchantability and fitness for a particular purpose are excluded; and implied warranties not excluded are limited in duration to one year from date of purchase. Incidental and consequential damages are expressly excluded from the remedies available to purchaser, and the remedies provided in this warranty shall be exclusive to the extent permitted by law. (Note: Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages; so the foregoing limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.)

Warranty Claims

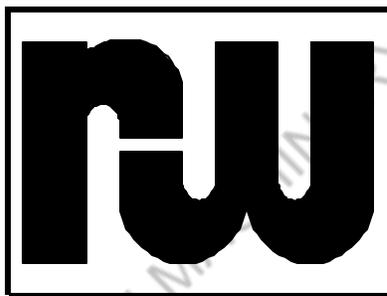
Purchaser must give written notice to Roper Whitney Company, at the address shown below, of any warranty claims, within thirty days after failure, and if so instructed, return to Roper Whitney Company the parts to be replaced or repaired, with all transportation charges prepaid by purchaser. Replacement parts will be invoiced to purchaser, with credit issued for parts covered by this warranty, and freight thereon. Removal and reinstallation of replacement parts shall be at the purchaser's expense.

Registration

Return of the warranty registration card furnished with the product purchased is necessary to obtain warranty coverage thereon. The card must be fully completed, signed by the purchaser, and, if applicable, signed by the distributor. Return the registration card to:

Roper Whitney of Rockford, Inc.
2833 Huffman Boulevard
Rockford, Illinois, 61103
info@roperwhitney.com

CINCINNATI PRECISION MACHINERY 513-860-4133



**2833 Huffman Boulevard
Rockford, Illinois 61103
Phone 815.962.3011
Fax 815.962.2227
info@roperwhitney.com
www.roperwhitney.com**

CINCINNATI PRECISION METALS 513-860-4133