

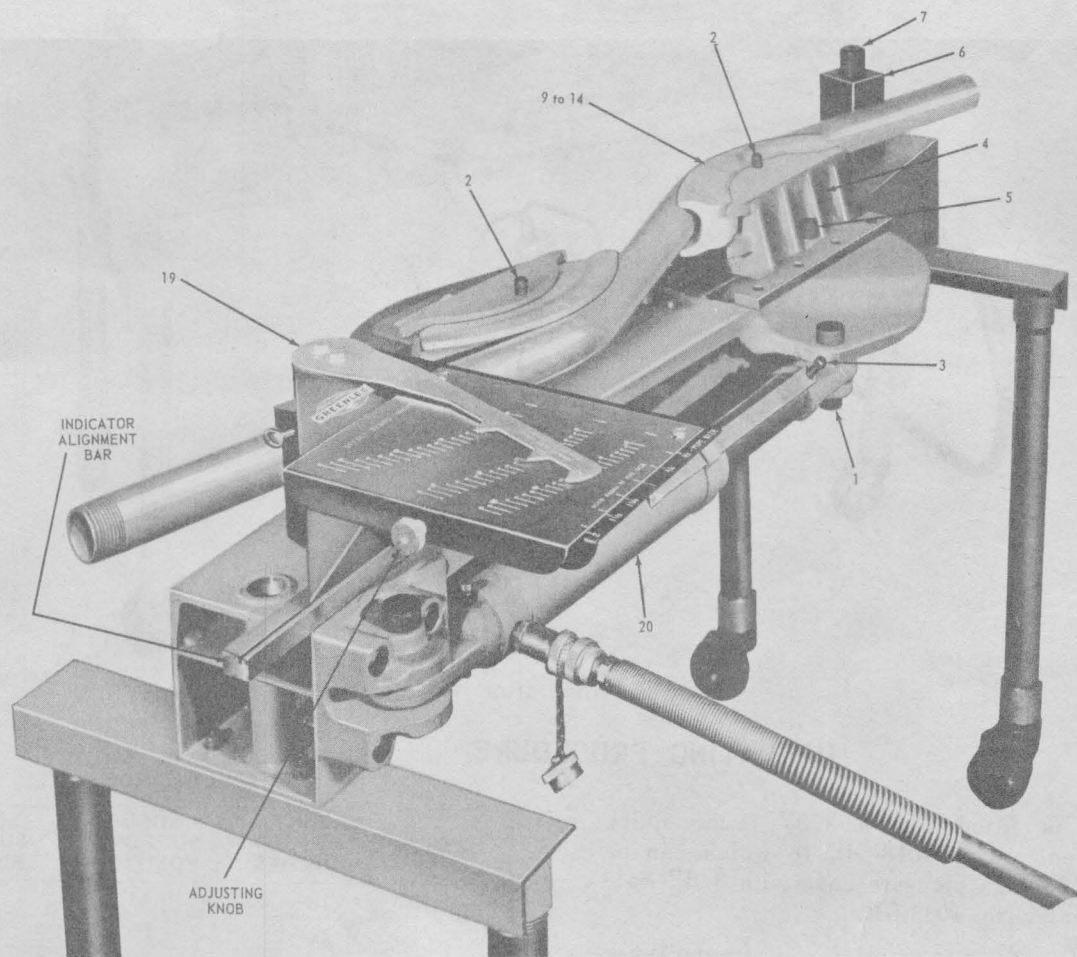


Illustration No. 1

Entire bender, except pump, is packed in wooden case with hinges and hasps. To open, lay flat on side with hinges up. Bender unit will roll out on four casters.

For convenient operating height, remove casters and screw in four pieces of 1-1/2" x 17" pipe, threaded on both ends.

Small tool box contains the following:

KEY	QTY.	PART NO.	DESCRIPTION
1	2	AV-794	Ram Pins, 1" dia. x 3-5/8"
2	3	888-18	Shoe Pins, 1/4" dia. x 3-1/4"
3	1	1-2582	Scale Pin, two diameter
4	2	1-2538	Shoe Supports, 1/2" x 2" I.P.S.
5	2	1-2545	Shoe Support Pins, 1/2" dia. x 2-7/8"
6	2	1-3541	Square Pipe Supports
7	2	1-2544	Pipe Support Pins, 1-1/4" x 1-3/8" dia. x 12"
8	1	1-2540	Center Pipe Support
9	2	1-0917	1/2" Shoe, 4" radius
10	2	1-0918	3/4" Shoe, 4-1/2" radius

KEY	QTY.	PART NO.	DESCRIPTION
11	2	1-0919	1" Shoe, 5-3/4" radius
12	2	1-0920	1-1/4" Shoe, 7-1/4" radius
13	2	1-0921	1-1/2" Shoe, 8-1/4" radius
14	2	1-0922	2" Shoe, 9-1/2" radius
15	1	1-2539	1/2" and 3/4" Shoe Support
16	1	1-1078	1/2" Saddle
17	1	AA-932	3/4" Saddle
18	1	1-2546	Saddle Pin for above
19	1	1-2992	Offset Indicator with alignment bar
20	1	1-3841	Ram with clevis on each end

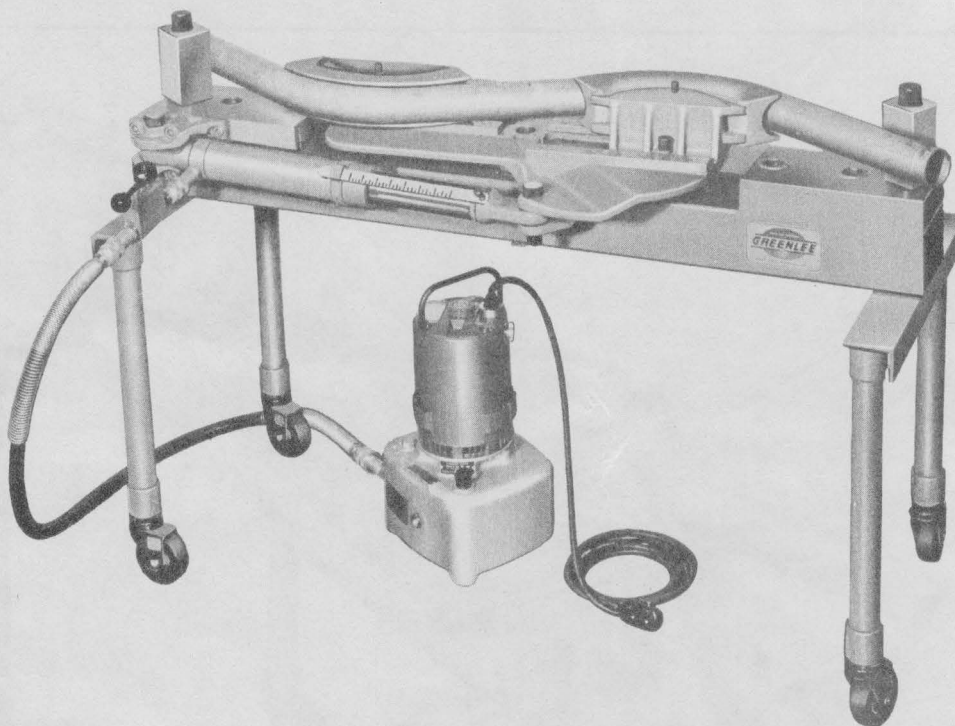


Illustration No. 2

OPERATING PROCEDURE

1. The ram is fitted with a 3/8" female quick coupler, Greenlee No. 4018-GB, to which can be coupled a 3/8" high pressure hose with 3/8" male coupler, Greenlee No. 4033-GB.

2. The bender can be powered with any 10,000 P.S.I. pump. We recommend Greenlee No. 798AC-SA. If remote control of pump is desired use Greenlee No. 798-PO Pump. When doing so a No. 1724-A Free Flow Metering Valve must be mounted on ram ahead of 3/8" hose. See illustration 2.

3. After the hose is coupled to pump and ram, operate pump and control levers to become familiar with movement of bending table and controls.

4. Determine size of conduit or pipe to be bent. Place two No. 4 shoe supports on ways of bending table. Locate both shoe support pins in one of positions marked A, B, C, D, E, or F in accordance with Chart A, depending upon size of material to be bent and needed offset. Insert two No. 5 shoe support pins. Mount bending shoes of correct size. Position with No. 2 shoe pins. See illustration 4.

5. Chart A indicates position of pins and square pipe support in frame on various bends. Number 1 positions are the two holes nearest center. Number 2 holes are the center holes. Number 3 are the end holes. The bright ground face of pipe supports should be toward the conduit to be bent.

SIZES	AMOUNT OF OFFSET IN INCHES	SHOE SUPPORT POSITION	SQUARE SUPPORT POSITION
1/2"	0 to 9	A	1
	9 to 11	B	1
3/4"	11 to 13	C	1
	13 to 15	D	1
1"	15 to 17	E	1
	17 to 20	F	2
1-1/4"	0 to 11	B	1
	11 to 13	C	1
	13 to 15	D	1
	15 to 17	E	2
1-1/2"	17 to 20	F	2
	0 to 11	C	2
	11 to 15	D	2
	15 to 17	E	2
2"	17 to 20	F	3
	0 to 11	C	2
	11 to 15	D	2
	15 to 20	E	3

Chart A

6. Remove three socket screw screws located in the frame above coupler and mount indicator alignment bar. You should now mount the No. 1-2992 Offset Indicator on pipe support nearest the ram. Slip the socket over the pin down onto the square support. Fasten in position with thumb screw when alignment leg is in alignment groove.

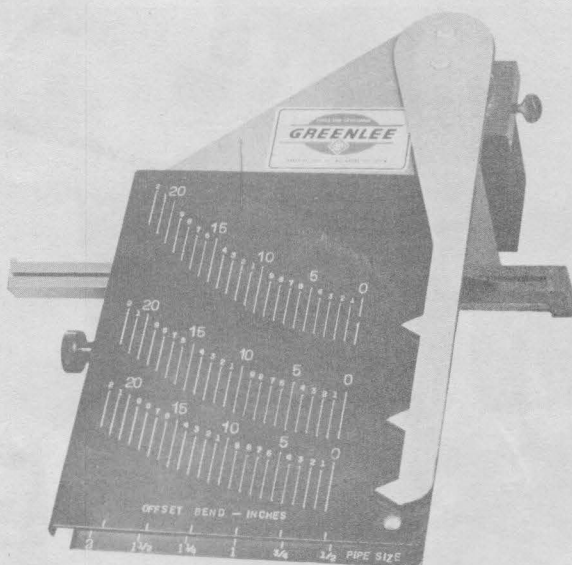


Illustration No. 3

7. Adjust dial plate so marks line up with conduit size to be bent. There are three pointers on the indicator. With the pipe supports in No. 1 position, read pointer mark 1 for offset needed. With pipe supports in No. 2 position, read pointer No. 2. In third position, read pointer No. 3. See illustration No. 3.

8. The figures on the indicator give you offset measurement in inches. The various positions of the shoe supports do not effect the pointer reading. Locate conduit to be bent in bending shoes. Hold in this position until pipe contacts pipe supports. Continue pressure until needed bend is made. Release pressure and pipe comes loose from shoes. You have to allow for the amount of springback.

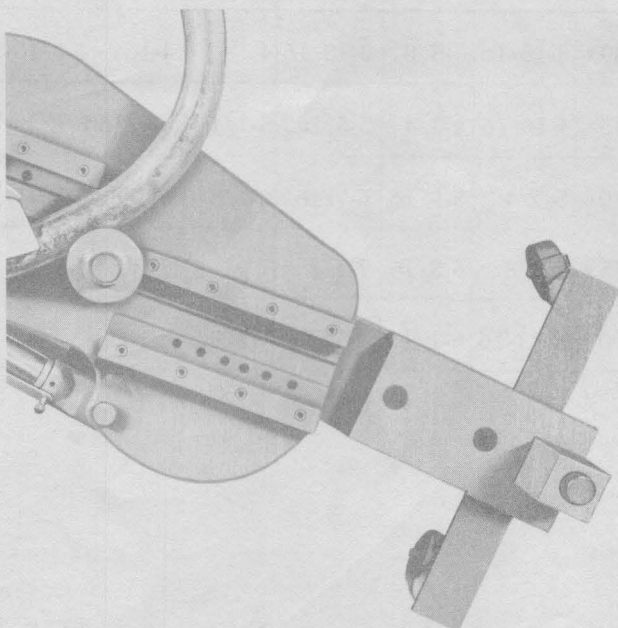
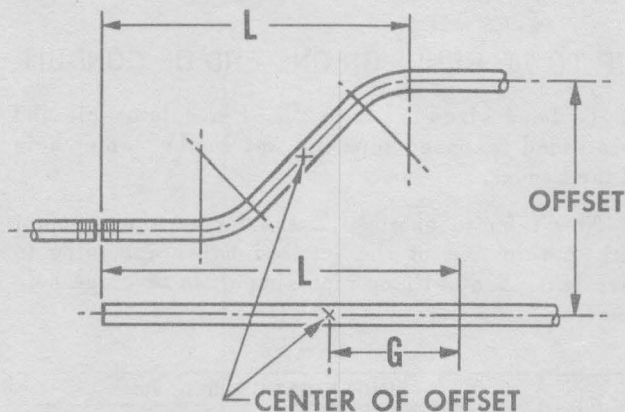


Illustration No. 4

To get an offset to have a certain distance from the end of conduit to end of second bend as shown in sketch 1 dimension "L" proceed as follows.

Measure "L" dimension on conduit and come back "G" as shown on chart "B" and make a mark. Locate this mark over center of rotating table and bend to required offset.

Read the indicator to get needed offset allow for springback. Dimensions on indicator and in charts A, B, & C are in inches.



Sketch No. 1

"G" DIMENSION EQUALS

OFF SET	PIPE AND CONDUIT SIZE					
	1/2	3/4	1	1-1/4	1-1/2	2
20	5-11/16	6-1/4	7-3/16	8-3/16	8-5/8	7-1/2
18	7-1/8	7-9/16	8-3/8	9-1/8	9-7/16	8-1/4
16	6-7/16	5-15/16	5-9/16	8-1/4	8-9/16	8-7/8
14	6	6-3/8	7	7-5/8	7-3/4	8
12	5-3/4	6-1/16	6-9/16	7-1/16	8-1/4	8-3/8
10	5-1/16	5-3/8	5-3/4	6-1/16	7-3/8	7-3/8
8	4-5/16	4-9/16	4-3/4	6-5/16	7-1/2	7-5/16
6	4-13/16	5	5-1/8	6-1/4	7-5/16	7
4	5	5-1/16	4-7/8	5-7/8	6-7/8	6-3/8
2	4-13/16	4-3/4	4-1/4	5-1/8	6-1/8	5-1/4

Chart B

No.888 BENDING INSTRUCTIONS

Single Bends 0 to 90°

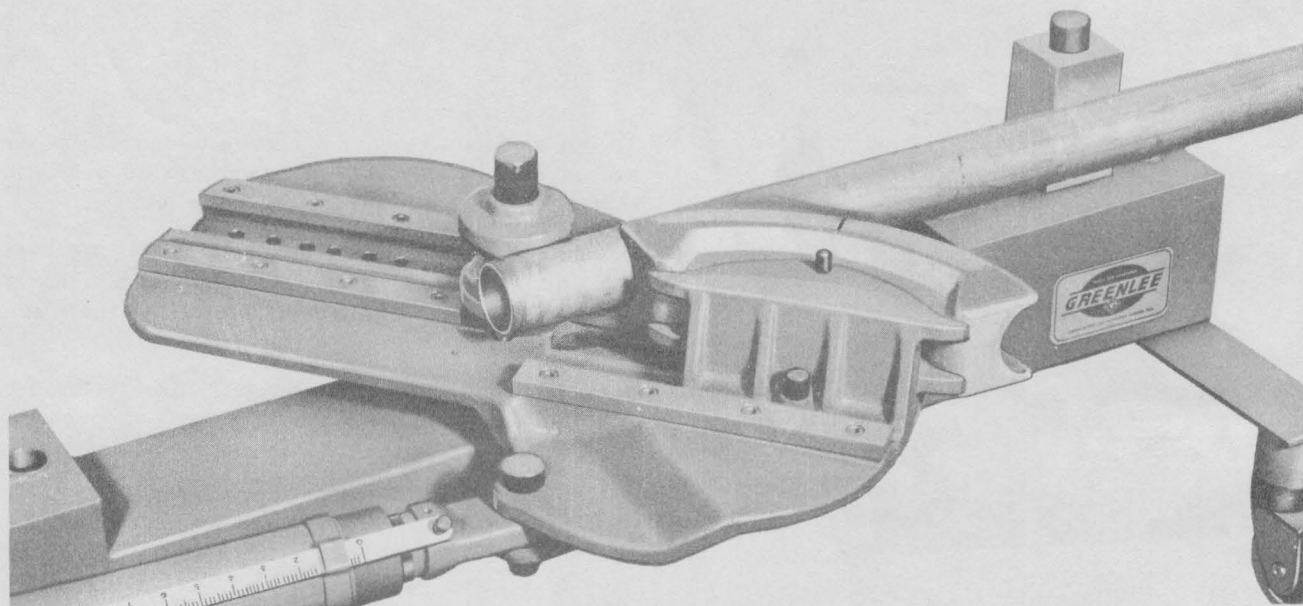


Illustration No. 5

UP TO 90° BENDS ON ONE END OF CONDUIT

1. To bend sizes 1" thru 2". Place large pin and four sided recessed pipe support in the center hole of the bender.

2. Now refer to chart "C" and locate shoe support with pin in one of the lettered holes according to size being bent. Place pipe support in leverage hole position 1 or 2 depending on size to be bent.

Chart C	SINGLE BENDS, 0° to 90°					
	Pipe or Conduit Size					
	1/2	3/4	1	1-1/4	1-1/2	2
RADIUS (R) OF BEND	4	4-1/2	5-3/4	7-1/4	8-1/4	9-1/2
SHOE POSITION	E	E	B	C	D	E
SUPPORT POSITION	1	1	1	1	2	2

On 1-1/2" and 2" aluminum conduit proceed as per chart "C" except use support position 1 for 5" ram travel on 1-1/2" and to 4-1/4" on 2" size. Release pressure part way and move pin to position 2 and finish bend. This reduces flattening. This method can also be used on rigid conduit or pipe.

3. Insert end of conduit between proper side of support and bending shoe. Hold pipe level and apply pressure until you get desired degree of bend. See ram travel chart "D" for ram travel for popular used degrees.

To make up 90 degree bends on 1/2" and 3/4" sizes, apply the 1-2539 Shoe Support, putting pin in hole "E". Add 1/2" or 3/4" bending shoe and correct saddle using saddle pin for leverage. Insert pipe using leverage position support No. 1. Apply ram pressure to needed degree bend. Release pressure and pipe comes loose from shoe. See illustration 7.

	APPROXIMATE RAM TRAVEL					
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
15°	2-11/16	2-3/8	2-7/16	2-7/16	2-3/4	2-1/2
30°	3-15/16	3-5/8	3-15/16	4	4-1/4	4-1/16
45°	4-15/16	4-3/4	5-5/16	5-1/4	5-9/16	5-1/4
60°	5-3/4	5-9/16	6-7/16	6-1/4	6-5/8	6-1/4
75°	6-3/8	6-3/16	7-1/2	7	7-5/8	7-1/8
90°	6-13/16	6-1/2	8-1/2	7-5/8	8-3/8	7-3/4

Chart D

No.888 BENDING INSTRUCTIONS

Making 90° Bends

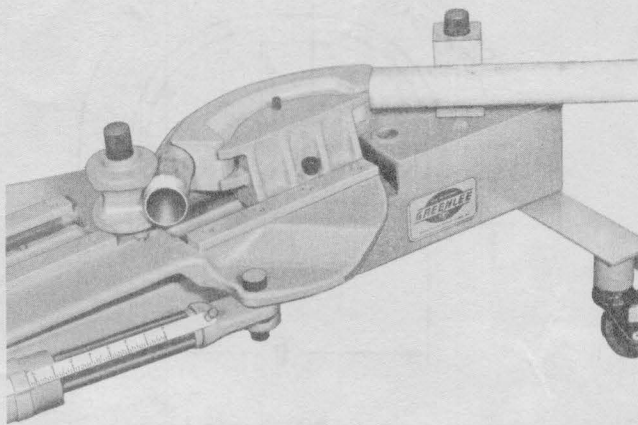


Illustration No. 6

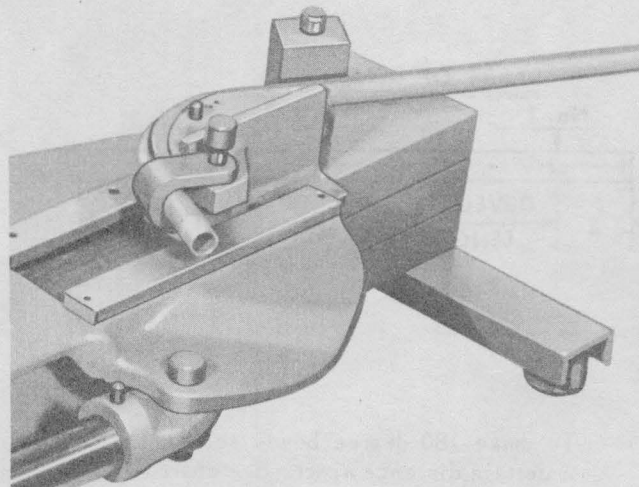
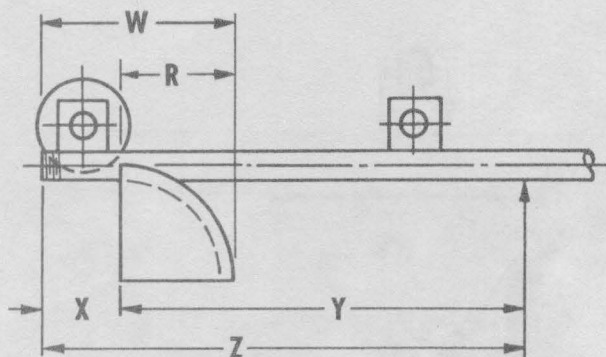
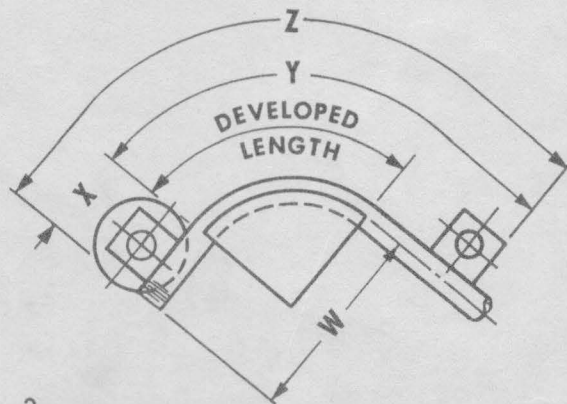


Illustration No. 7



Sketch No. 2



To get a certain leg length from end of conduit to center line of 90° bend as shown dimension W on sketch No. 2 measure length W on conduit and subtract dimension R (which is the center line radius of bending shoe see chart C) make a mark at this point, line this mark up with the face of the bending shoe.

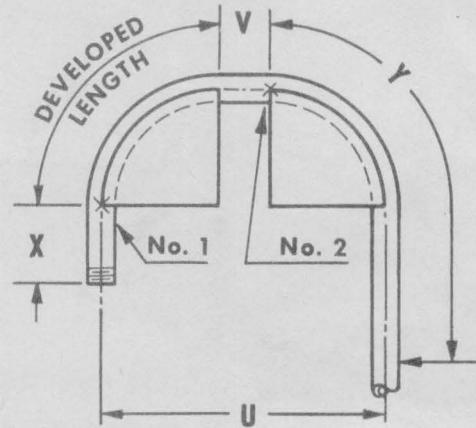
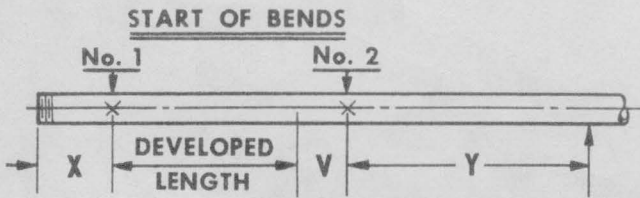
Note on chart that we show minimum length possible of dimensions U, V, W, X, Y, Z.

DEVELOPED LENGTH						
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
15°	1	1-3/16	1-1/2	1-7/8	2-1/8	2-1/2
30°	2-1/8	2-3/8	3	3-13/16	4-5/16	5
45°	3-1/8	3-9/16	4-1/2	5-11/16	6-1/2	7-1/2
60°	4-3/16	4-3/4	6	7-9/16	8-5/8	9-15/16
90°	6-5/16	7-1/16	9	11-3/8	13	14-15/16

Chart E

MINIMUM LENGTH POSSIBLE						
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
U	10-1/8	10-7/8	14-1/8	17-1/4	19-3/4	22-5/16
V	2-1/8	1-7/8	2-5/8	2-3/4	3-1/4	3-5/16
W	6-7/8	7-1/8	9-3/8	11	12-1/2	14-1/2
X	2-7/8	2-5/8	3-5/8	3-3/4	4-1/4	4-3/8
Y	15-1/4	15-5/8	17-7/8	17-1/8	23	25
Z	18-1/8	18-1/4	21-1/2	20-7/8	27-1/4	29-3/8

Chart F



Sketch No. 3

To make 180 degree bends see sketch No. 3. It is necessary to make two 90 degree bends a certain distance apart. See chart F.

First of all layout the location of the two bends. Note a minimum "V" dimension as shown in chart F. Proceed to make one 90° bend as indicated on page 5. Shift pipe forward to 2nd start of bend and bend to 90°. Set up shown below illustration No. 8.

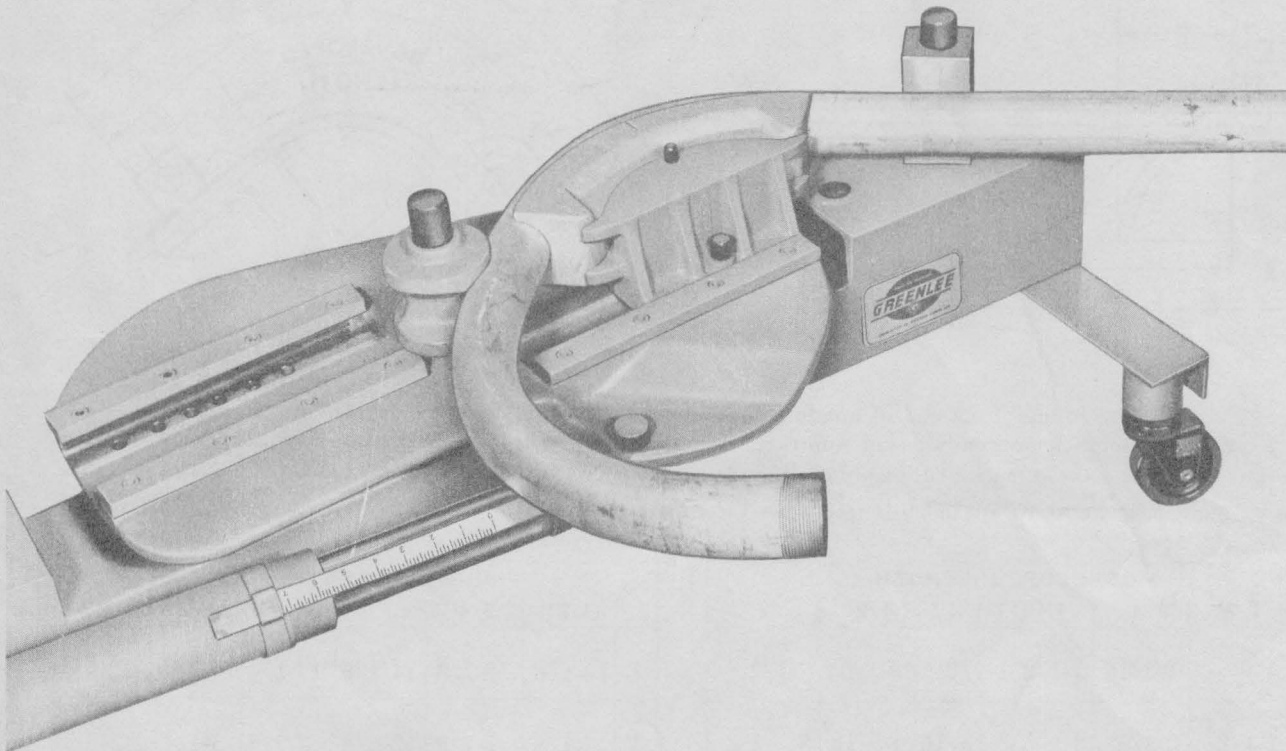


Illustration No. 8