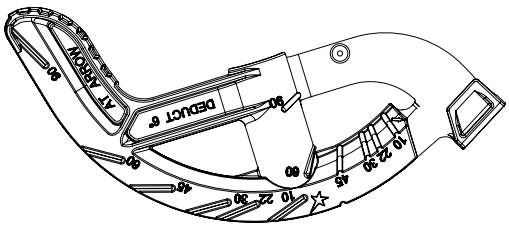
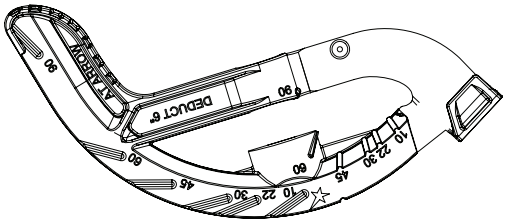
INSTRUCTION MANUAL

GREENLEE®
A Textron Company





ALUMINUM SITE-RITE® HAND BENDERS

840A, 841A, 842A, 843A, 840AH, 841AH and 842AH

AND

IRON SITE-RITE® HAND BENDERS

840F, 841F, 842F, 843F, 840FH, 841FH, and 842FH

Read and **understand** this material before operating or servicing this equipment. Failure to understand how to safely operate this tool could result in an accident causing serious injury or death.

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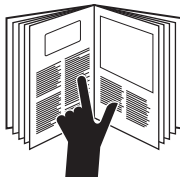
Description

The Greenlee aluminum SITE-RITE® and iron SITE-RITE® benders are manually powered tools intended to bend 1/2" through 1-1/4" EMT (electrical metallic tubing) and 1/2" through 1" rigid and IMC conduit.

Purpose

This instruction manual is intended to familiarize operators and maintenance personnel with the safe operation of the Greenlee SITE-RITE® Manual Benders. This manual should be kept available to all operating personnel.



⚠CAUTION

A person who has not read and does not understand all operating instructions is not qualified to operate this tool.

Failure to read and understand safety instructions may result in injury or property damage.

⚠CAUTION

Inspect the tool for wear or damage. Replace worn, damaged, or missing components with Greenlee replacement parts. A worn, damaged, or improperly assembled component may fail, resulting in injury or property damage.

⚠CAUTION

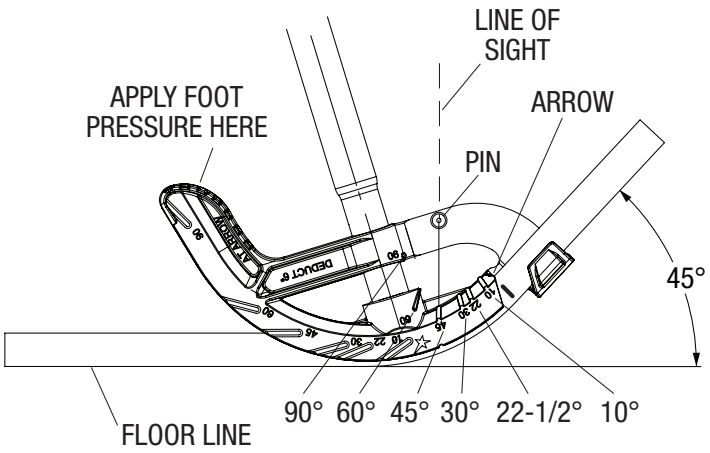
Use this tool for manufacturer's intended use only. Use other than that for which the tool was intended may result in injury.

All specifications are nominal and may change as design improvements occur. Greenlee Textron Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

KEEP THIS MANUAL

Additional copies of this manual are available upon request at no charge.

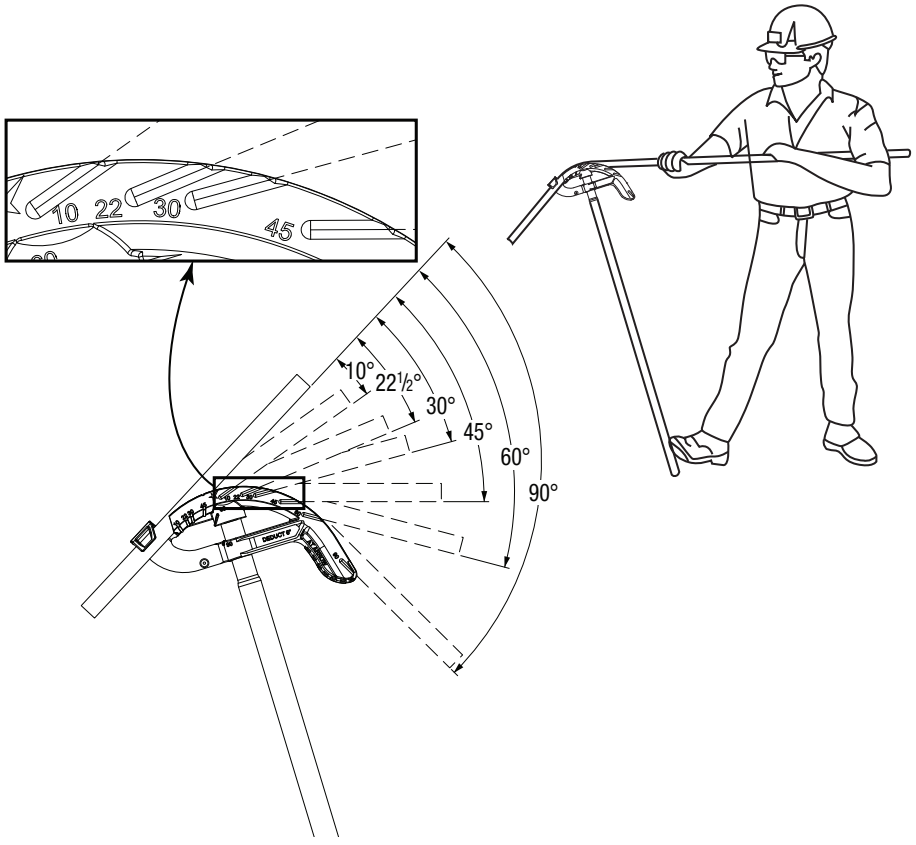
Bending — Handle Up



1. Mark the conduit.
2. Insert the conduit into the bender so that the **arrow** is aligned with the bending mark.
3. Place one foot on the bender as illustrated. Use **heavy foot pressure** on the bending shoe; maintain this pressure throughout the bend.
4. Look down the line of sight as illustrated. Stop bending when the pin is in line with the appropriate angle mark.

   Note: Overbend rigid conduit slightly to compensate for springback.

Bending — Handle Down



Bending — Handle Down (cont'd)

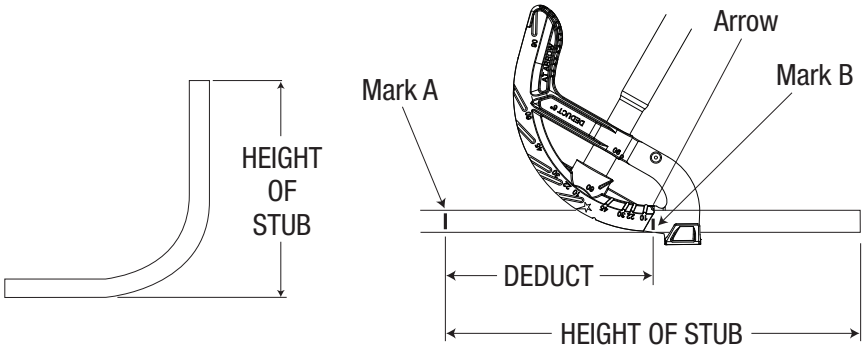
1. Mark the conduit.
2. Insert the conduit into the bender so that the **arrow** is aligned with the bending mark.
3. Position the bender as shown, with your body as close to the bender as possible.
4. With the handle angled to prevent slipping, apply constant pressure against the conduit throughout the bend.
5. Bend until the edge of the conduit is in line with the degree scale as illustrated.

   Note: Overbend rigid conduit slightly to compensate for springback.

Bending Tips:

- Line up all bends in the same plane.
- Bend 1/2" and 3/4" EMT with the handle down.
- Bend 1" and 1-1/4" conduit with the handle up.
- When bending with the handle up, work at a stairwell or loading dock so that previously made bends hang over the edge.

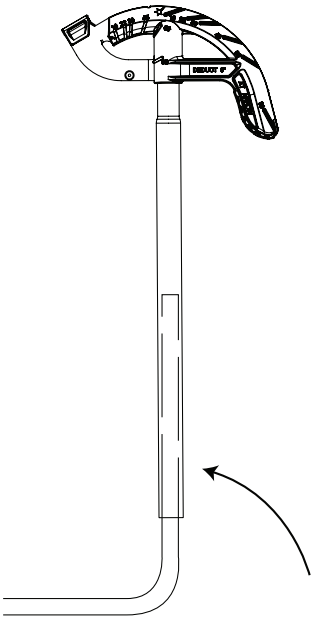
Marking the Conduit for 90° Stubs



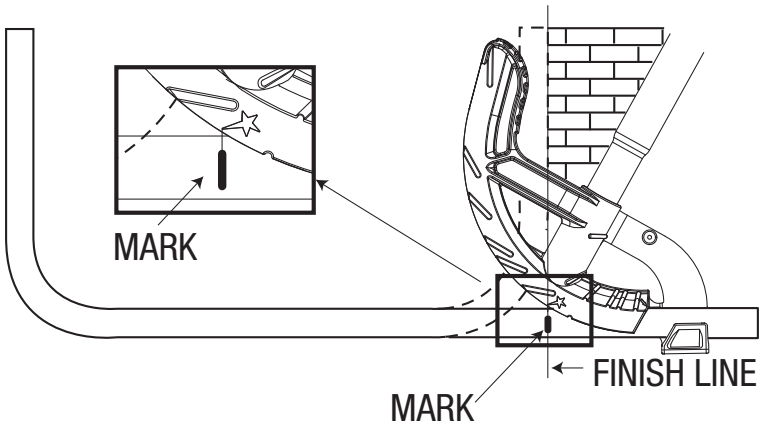
1. Measure the length of the required stub.
2. Measure and mark the stub length on the conduit. This is Mark A.
3. **See the Deduct length shown on the bender.** Subtract the Deduct length from Mark A and make a new mark. This is Mark B.
4. Align Mark B with the arrow on the bender and bend the conduit to 90°.

Correcting Overbends

If a stub-up is accidentally overbent, place the open end of the bender handle over the conduit and manipulate to desired angle.



Back-to-Back 90° Stubs



1. Make the first 90° stub.
2. Fit the bent conduit into its final position and mark the Finish Line on the conduit, as shown. The Finish Line on the conduit is the bending mark.
3. Align the bending mark with the tip of the star and bend the conduit to 90°.

Offset Bends

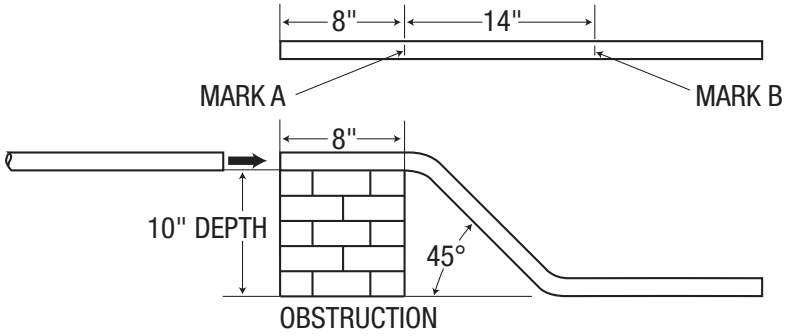
An offset is used to re-route the conduit to avoid an obstruction. An offset consists of two equal opposing bends.

Two factors must be considered when selecting the offset angle. First, a steeper bend angle will require more pulling force. Second, a shallower bend angle will require more space.

Greenlee Offset Table
(applies to any size conduit)

Offset Angle	Multiplier	Shrink Per Inch of Offset Depth
10° x 10°	6.0	1/16" per inch
22-1/2° x 22-1/2°	2.6	3/16" per inch
30° x 30°	2.0	1/4" per inch
45° x 45°	1.4	3/8" per inch
60° x 60°	1.2	1/2" per inch

Working Past an Obstruction



Example 1: Working Past an Obstruction
45° x 45°, 10 inches of offset

1. Determine the center-to-center distance. Use one of these two methods:
   - Find the appropriate multiplier in the Offset Table, Column 2. *(For 45° x 45°, the multiplier is 1.4).* Multiply the height of the obstruction by the multiplier *(10" x 1.4 = 14)*.
   - See the Greenlee Speed Guide for Offsets. In the Offset Depth Inches column, find the row with the appropriate amount of offset. Find the Center-to-Center column under the appropriate OFFSET ANGLE. The distance shown at the intersection of the appropriate row and column is the center-to-center distance. *(Under Offset Depth Inches, see the row labeled "10". Read to the right to find the Center-to-Center distance under 45° x 45°. The number shown is 14".)*
2. Mark the conduit as shown.
3. See the bending instructions.

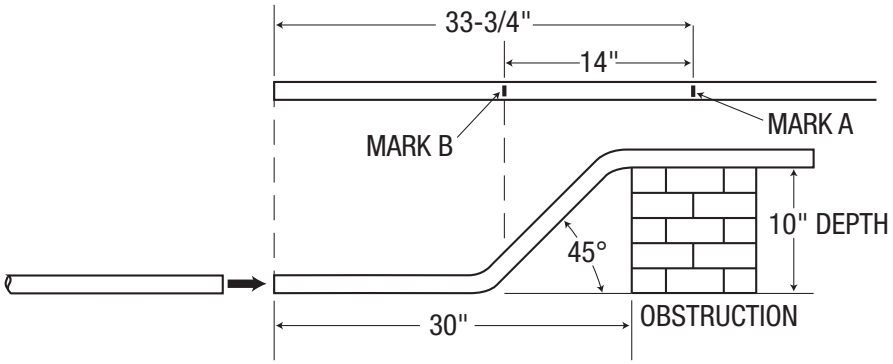
Working Toward an Obstruction

When working toward an obstruction, the conduit will appear to "shrink." To compensate for shrinkage, use the shrink per inch of offset as shown in the Offset Table, Column 3 or the Shrink Amount shown in the Greenlee Speed Guide for Offsets.

Greenlee Speed Guide for Offsets
(applies to any size conduit)

Offset Depth Inches	Offset Angle							
	22-1/2° x 22-1/2°		30° x 30°		45° x 45°		60° x 60°	
	Center -to- Center	Shrink Amount	Center -to- Center	Shrink Amount	Center -to- Center	Shrink Amount	Center -to- Center	Shrink Amount
2	5-1/4"	3/8"						
3	7-3/4"	9/16"	6"	3/4"				
4	10-1/2"	3/4"	8"	1"				
5	13"	15/16"	10"	1-1/4"	7"	1-7/8"		
6	15-1/2"	1-1/8"	12"	1-1/2"	8-1/2"	2-1/4"	7-1/4"	3"
7	18-1/4"	1-5/16"	14"	1-3/4"	9-3/4"	2-5/8"	8-3/8"	3-1/2"
8	20-3/4"	1-1/2"	16"	2"	11-1/4"	3"	9-5/8"	4"
9	23-1/2"	1-3/4"	18"	2-1/4"	12-1/2"	3-3/8"	10-7/8"	4-1/2"
10	26"	1-7/8"	20"	2-1/2"	14"	3-3/4	12"	5"

Working Toward an Obstruction (cont'd)



Example 2: 45° x 45°, Working Toward an Obstruction
10 inches of offset

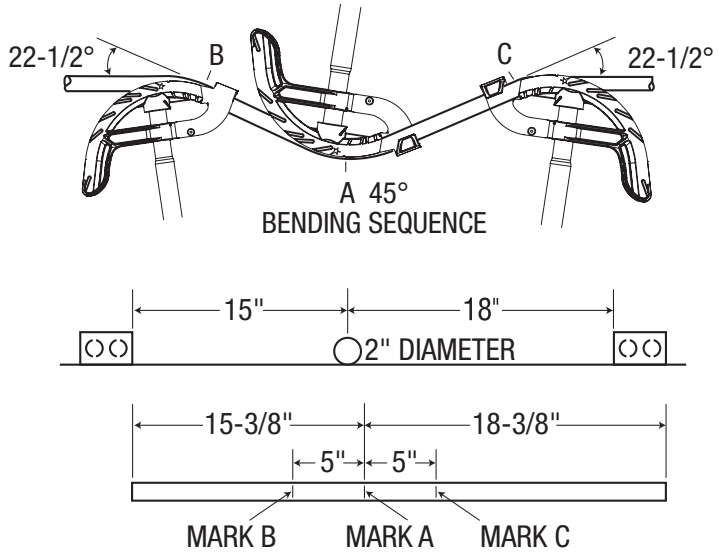
1. Calculate the shrinkage. See the Offset Table, Column 3. *(The amount of shrink for 45° x 45° offsets is 3/8" per inch of offset depth. 3/8 x 10 = 3-3/4")*
2. Measure the distance to the obstruction. Add the shrinkage to this distance. *(See the illustration. The distance to the obstruction is 30". 30" + 3-3/4" = 33-3/4)*
3. Determine the center-to-center distance. Use one of these two methods:
   - Find the appropriate multiplier in the Offset Table, Column 2. *(For 45° x 45°, the multiplier is 1.4).* Multiply the height of the obstruction by the multiplier *(10" x 1.4 = 14)*.
   - See the Greenlee Speed Guide for Offsets. In the Offset Depth Inches column, find the row with the appropriate amount of offset. Find the Center-to-Center column under the appropriate OFFSET ANGLE. The distance shown at the intersection of the appropriate row and column is the center-to-center distance. *(Under Offset Depth Inches, see the row labeled "10". Read to the right to find the Center-to-Center distance under 45° x 45°. The number shown is 14".)*
4. Mark the conduit as shown.
5. See the bending instructions.

3-Bend Saddles

Like an offset, a saddle is used to avoid an obstruction. In this case, three bends are used. The first and last bends are of the same degree; the center bend is *twice* the number of degrees of the other two bends. See the illustrations.

3-Bend Saddles (cont'd)

Table for 45° Saddles (applies to any size conduit)		
Saddle Depth	**Place center Mark "A" ahead of actual center by**	**Place Marks "B" & "C" each way from center**
1"	3/16"	2-1/2"
2"	3/8"	5"
3"	9/16"	7-1/2"
4"	3/4"	10"
5"	15/16"	12-1/2"
6"	1-1/8"	15"
For each additional inch add:	3/16"	2-1/2"



Example 3: 3-Bend Saddle 45° center bend, 2" obstacle

1. Calculate the shrinkage. See the Greenlee Offset Table, Column 3. *(The amount of shrink for a 22-1/2° bend is 3/16" per inch of obstacle. 3/16" x 2 = 3/8").*
2. Measure the distance to the center of the obstruction. Mark with this distance on the conduit – this is point "A". Add the amount of shrink to this distance. *(Place the mark 15-3/8" from the end of the conduit.)*
3. Refer to the Table for 45° Saddles for the locations of Mark B and Mark C. *(Place both marks, Mark B and Mark C, 5 inches from Mark A.)*
4. Use the bending sequence as illustrated. Align Mark A with the **notch near the star**. Align Marks B and C with the *arrow*.

USA

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