

4 EASY STEPS FOR FIGURING OFFSET BENDS

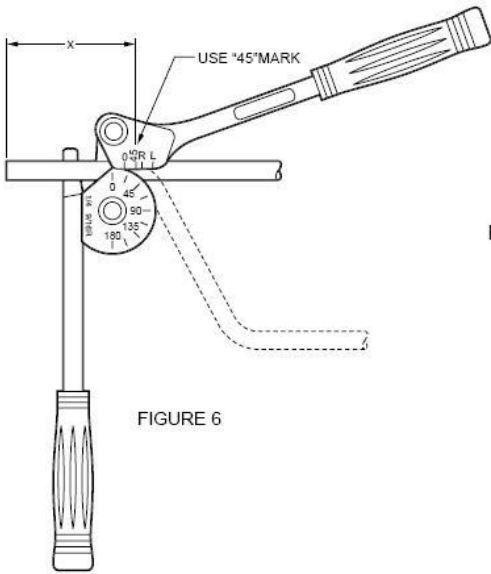


FIGURE 6

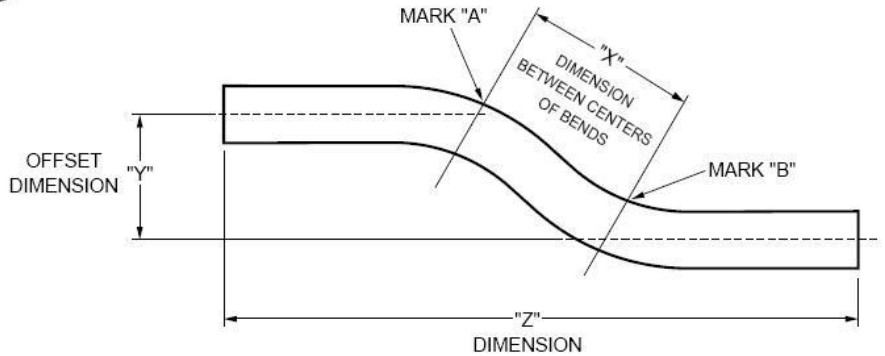


FIGURE 7

STEP 1 - Determine the total amount of offset required (dimension "Y" in diagram) and angle of offset. Wherever possible use 45 offset bends. This will enable you to figure the total amount of tubing required for a given application as explained in section on How to Figure Length of Tubing Required for 45° Offsets Applications

STEP 2 - Figure the length of the tube which is needed to meet your offset requirements (X in dimension diagram) from table below. For example: The amount of offset you require ("Y" dimension, Step 1) is 2-1/2" and the offset angle is 45°. Check the 45° column and find 2-1/2". The figure next to this is the amount of tubing required for the offset bend you want (X dimension). In this case it's 3-17/32".

STEP 3 - Determine where you want the center of the offset bend on the tube and make a reference mark (A). Now measure off the "X" dimension (determined in Step 2 example 3-17/32") starting from the reference mark and make a second mark (B). You are now ready to make the bends.

STEP 4 - Align mark (A) with reference mark 45° on bender and proceed with first bend. Then align (B) with reference mark 45° and make second bend in proper direction.

NOTE: When the amount of offset exceeds what is listed on the table, choose an offset from the table which is multiple of the offset you need. Look this up on the table and multiply the "X" dimension by the multiple you used. Example: For an offset of 20" for a 45° bend. Look up 5" offset on the table in the 45° column and multiply "X" dimension (7-1/16") by 4. The resulting "X" dimension you would use is 28-1/4".

OFFSET BEND CALCULATOR

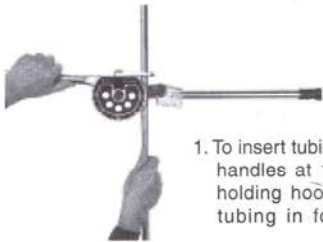
ANGLE OF OFFSET 30° AMOUNT OF OFFSET		ANGLE OF OFFSET 45° AMOUNT OF OFFSET	
(Y Dimension)	(X Dimension)	(Y Dimension)	(X Dimension)
1	2	1	1-13/32
	2-1/4	-1/8	1-19/32
-1/4	2-1/2	-1/4	1-25/32
-3/8	2-3/4	-3/8	1-15/16
-1/2	3	-1/2	2-1/8
-5/8	3-1/4	-5/8	2-5/16
-3/4	3-1/2	-3/4	2-15/32
-7/8	3-3/4	-7/8	2-21/32
2	4	2	2-13/16
-1/8	4-1/4	-1/8	3
-1/4	4-1/2	-1/4	3-3/16
-3/8	4-3/4	-3/8	3-11/32
-1/2	5	-1/2	3-17/32
-5/8	5-1/4	-5/8	3-23/32
-3/4	5-1/2	-3/4	3-7/8
-7/8	5-3/4	-7/8	4-1/16
3	6	2	4-1/4
-1/8	6-1/4	-1/8	4-13/32
-1/4	6-1/2	-1/4	4-19/32
-3/8	6-3/4	-3/8	4-25/32
-1/2	7	-1/2	4-15/16
-5/8	7-1/4	-5/8	5-1/8
-3/4	7-1/2	-3/4	5-1/16
-7/8	7-3/4	-7/8	5-15/32
4	8	4	5-21/32
-1/8	8-1/4	-1/8	5-27/32
-1/4	8-1/2	-1/4	6
-3/8	8-3/4	-3/8	6-3/16
-1/2	9	-1/2	6-3/8
-5/8	9-1/4	-5/8	6-17/32
-3/4	9-1/2	-3/4	6-23/32
-7/8	9-3/4	-7/8	6-29/32
5	10	5	7-1/16
-1/8	10-1/4	-1/8	7-1/4
-1/4	10-1/2	-1/4	7-7/16
-3/8	10-3/4	-3/8	7-19/32
-1/2	11	-1/2	7-25/32
-5/8	9-1/4	-5/8	7-31/32
-3/4	9-1/2	-3/4	8-1/8
-7/8	9-3/4	-7/8	8-5/16
6	12	6	8-15/16

NOTE: Keep bender and form handle grooves lubricated. Keep oil away from form wheel grooves.

INSTRUCTIONS FOR OPERATING

5/8" and 3/4" O.D. Lever Type Tube Bender

For bending annealed copper, temper drawn hard copper, aluminum, brass, steel and stainless steel tubing up to .065 wall.



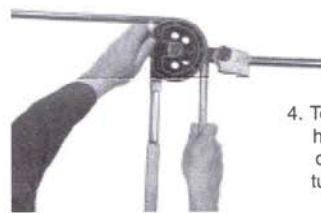
1. To insert tubing into bender, place handles at 180° and raise tube holding hook out of way. Place tubing in form wheel groove.



2. Place tube holding hook over tubing and bring form shoe handle into approximate right angle position, engaging form shoe over tubing. Note zero mark on form wheel will be even with front edge of form shoe.

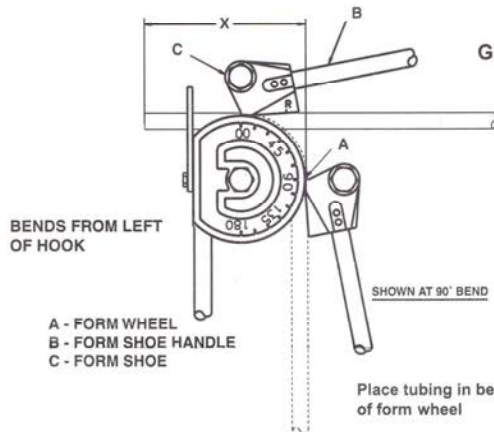


3. Proceed to bend desired angle as indicated by calibrations on forming wheel. Bends up to 180° can be made in one, smoothly continuous motion.

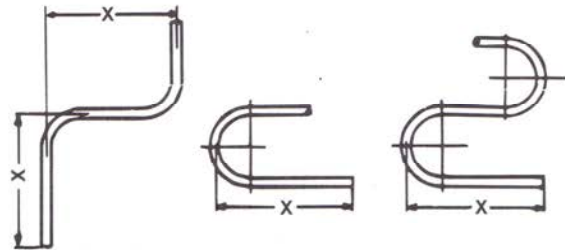


4. To remove tubing, pivot form shoe handle to right angle with tubing, disengaging forming shoe. Release tube holding hook and remove tubing.

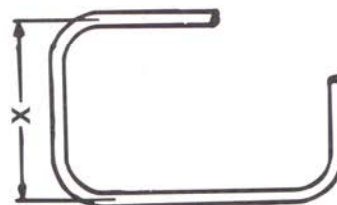
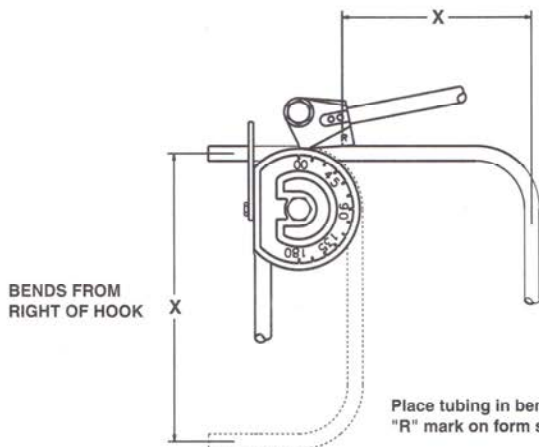
NOTE: Place oil occasionally on handle pins and handle form shoe for easier bending. The form wheel groove should be kept dry and clean to prevent tube slippage while bending. For hard to bend tubing, hold form wheel handle in vise. Lock vise jaws as near to form wheel as practical to make bend.



GUIDE FOR MAKING DIMENSIONAL BENDS



Place tubing in bender as shown. Line up "x" dimension mark with edge of form wheel



Place tubing in bender as shown. Line up "X" dimension mark with "R" mark on form shoe handle