

IMPORTANT: RECEIVING INSTRUCTIONS: Visually inspect all components for shipping damage. If any shipping damage is found, notify carrier at once. Shipping damage is NOT covered by warranty. The carrier is responsible for all repair or replacement costs resulting from damage in shipment.

SAFETY FIRST

IMPORTANT USER SAFETY AND PROTECTION: In setting up systems to fit your operations, care must be taken to select the proper components and design to insure appropriate integration with your operations and existing equipment and that all safety measures have been taken to avoid the risk of personal injury and property damage from your application or system.

GB GARDNER BENDER CANNOT BE HELD RESPONSIBLE FOR DAMAGE OR INJURY CAUSED BY UNSAFE USE, MAINTENANCE OR APPLICATION OF ITS PRODUCTS. Please contact GB's technical service department for assistance if you are in doubt as to the proper safety precautions essential to designing and setting up your particular application.

⚠ WARNING Do not use bender blankets on wet surfaces or if blankets are wet.

⚠ WARNING Always wear protective gloves (thermal insulated) when handling bender blankets and heated PVC pipe. Bender Blankets operate at temperatures of 250° to 300°.

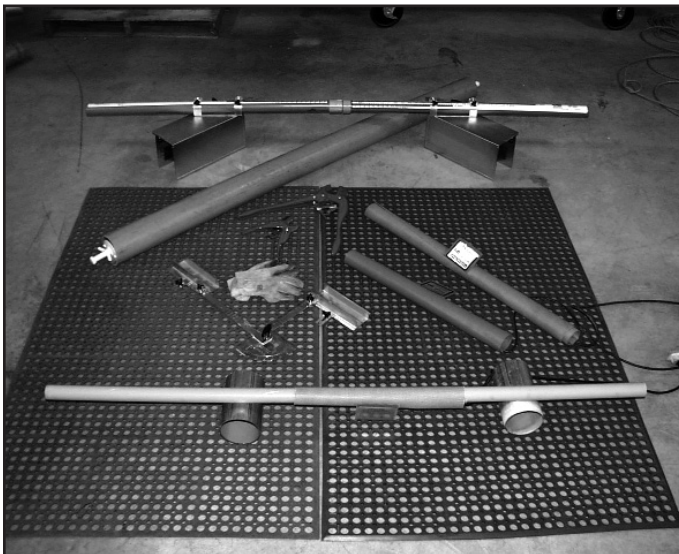
Important: Read the caution and identification labels attached to each blanket.

⚠ CAUTION Do not bend, fold or crush the bender blankets. Each blanket tends to have a natural curl which allows for rolling and storage.

⚠ CAUTION PVC Bender Blankets are rated for PVC conduit through schedule 40. Do not attempt to use on other materials. Inner blanket temperatures may exceed 300°F.

⚠ CAUTION Cooling PVC pipe should be done while wearing gloves and using cool, wet rags. Do not touch the pipe with your bare skin.

Important: The entire length of the bender blanket must be in contact with the pipe. Do not use for heating on bent areas of pipe.



Note: Wait for blankets to cool. Store the blankets carefully to avoid damage when not in use.

PVC Bender Blankets are used for making offset, kick and 90° bends on PVC conduit through schedule 40. Three models of blankets are available to bend ½" through 4" pipe. Smaller, ½" through 2" pipe, will bend to 90° in one bend. Larger sizes, 2" through 4", require a series of smaller bends to reach a full 90°. See table "A" for maximum bend angles in one bend.

Table A

Blanket Model No.	Pipe Size	Bend Angles
BB5150	½" - 1½"	90° in one bend
BB2030	2"	90° in one bend
BB3040	2½" - 3"	45° in one bend
	3"	90° in one bend
	3½"	60° in one bend
	4"	30° in one bend

Time required to heat pipe to bendable temperatures will vary with air temperature, wind conditions and line voltage. Typical warm-up times are shown in table "B". During warm-up nothing should touch the blanket surfaces. Support PVC off the ground on each end. Do not allow blanket to touch supports.

When bending pipe outdoors, plug both ends to prevent wind from entering and cooling pipe. Wrap the blanket around the pipe with the open edges on the bottom and overlapped or butted together.

Support each PVC end off the ground. Temperatures below 72° F. will lengthen heating time. Check pipe flexibility every few minutes to determine when pipe is soft enough to bend.

Note: To achieve optimum blanket life, remove blanket carefully by using metal tab to lift blanket. Allow blanket to cool for 10 minutes before using again. Bender blankets are primarily designed as a custom bending tool, not as a high production tool. Life cycles of 150 bends are average. Depending on how carefully the blankets are used and handled, more or less cycles may result.

Bending ½" through 1½" PVC

1. Select pipe length and determine location for bend, and degree of bend needed. Bending pipe on wood sheets prevents rapid cool-down.
2. Open the blanket and place it around the pipe. Be sure the exact area to be bent is covered. Very little heat is conducted beyond the edge of the blanket. Position the cord (thermostat end) on bottom of pipe.



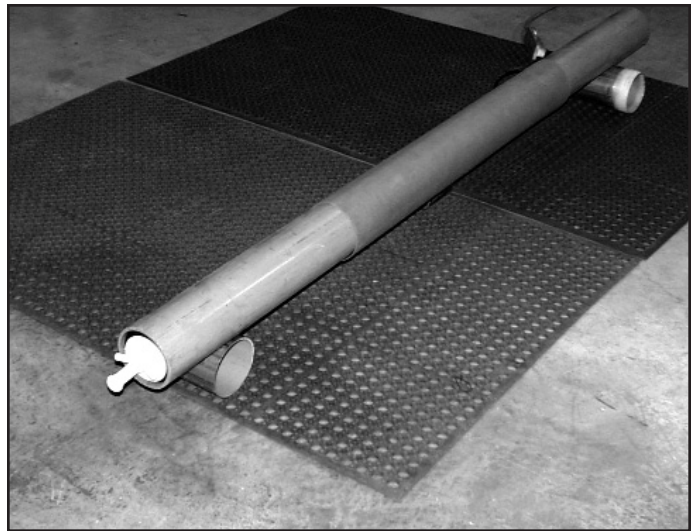
3. Plug power cord in a 120V AC outlet. Wait 4 or 5 minutes, then check pipe flexibility by trying to bend it. If pipe resists bending, leave blanket on for 2 or 3 minutes longer. When the pipe bends easily, remove and unplug the blanket.

WARNING Wear protective gloves when handling the blanket and PVC pipe.

Table B

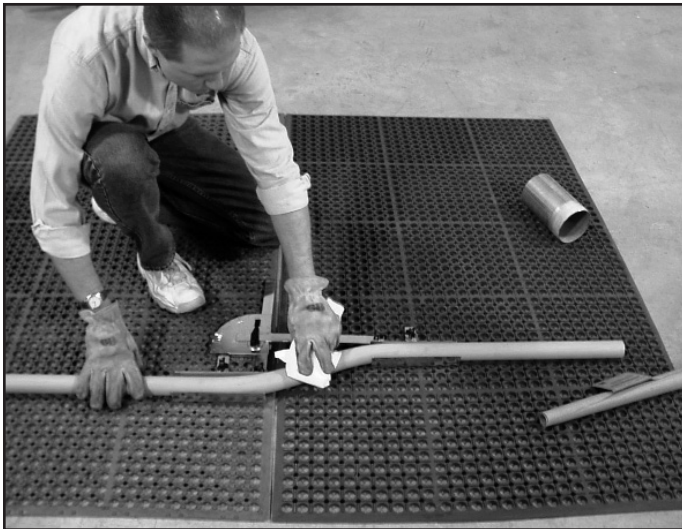
Pipe Size	Electrical Required	Pipe Support	Approximate Warm-up Time
½" through 1½"	120V - 310 W	Wood Blocks - each end	4 to 10 min.
2"	120V - 690 W	Wood Blocks - each end	7 to 10 min.
3"	120V - 690 W	Wood Blocks - each end	12 to 17 min.
3½"	120V - 1120 W	Wood Blocks - each end	15 to 18 min.
4"	120V - 1120 W	Wood Blocks - each end	18 to 22 min.

4. Bend pipe to the desired angle. Remove kinks or ripples by pressing them flat then applying pressure to the side of the flattened area. Work pipe until smooth bend is complete. Use bend guide (BG-520) for more precise control of angular and offset bends.



3. Plug blanket cord in a receptacle. Check table "B" for correct electrical source by blanket size. Allow 10 to 15 minutes for pipe to warm up. Check pipe flexibility by pressing area within the blanket. When pipe feels very soft, it is hot enough to form the bend.

5. Hold the pipe in the bent position until the bend is set and the pipe has cooled enough to handle without gloves. Wipe pipe with a wet rag to set the bend and cool the pipe.



Note: When bending pipe outdoors, cap or plug both ends to prevent wind from entering and cooling pipe while blanket is trying to heat. Use PVC pipe plugs while heating and bending PVC sizes over 1½".

4. When pipe reaches maximum flexibility, remove and unplug the blanket. Place pipe on wood sheet, not on concrete floor. Begin forming the bend working from the start of the bend and gradually completing the entire angle. Large diameter PVC may be difficult to handle and may require two people to make the desired bend.

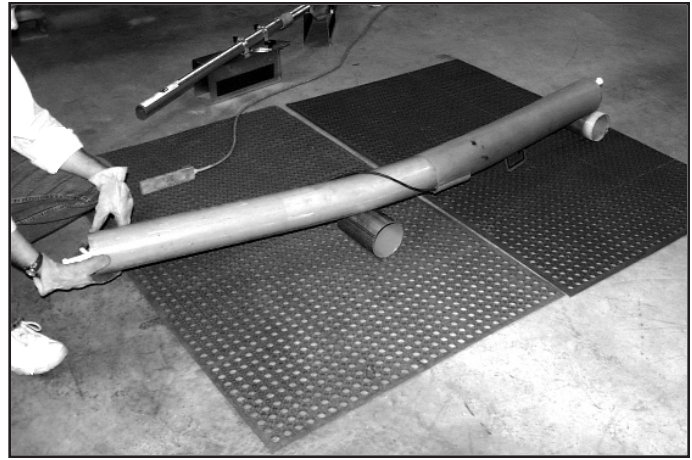
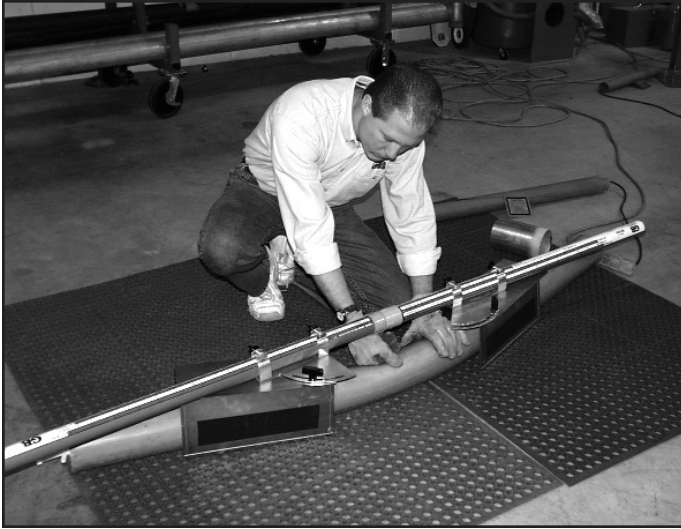
Note: Remove kinks or ripples prior to cooling pipe. After the pipe is cool the bent area cannot be heated again and reformed.

Bending 2" through 4"

1. Wrap blanket around pipe. On large diameter pipe, position blanket overlap on bottom of the pipe.
2. Support PVC on each end to lift off of the ground. Be sure the blanket is not touching the supports. Any object touching the blanket will produce a hot spot and scorch the pipe.

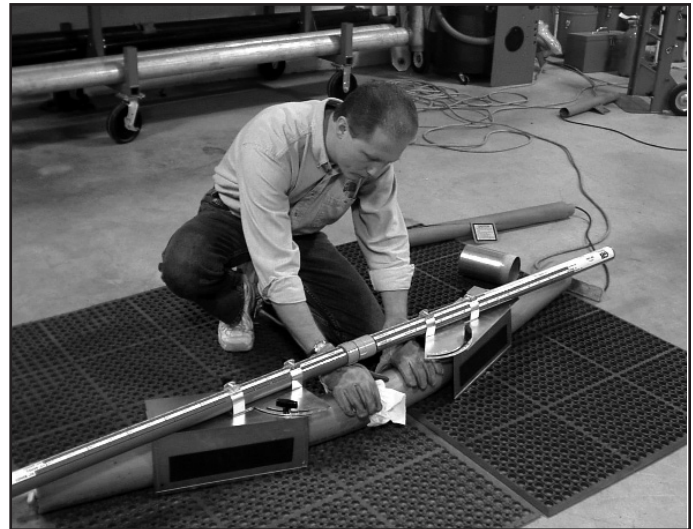


5. Use of a bending guide (BG-560) is recommended for more precise control of the bend angle.



7. Cool pipe and set bends by wiping exterior surfaces with a cool wet rag. Do not install pipe until completely cooled to permit handling without gloves.

6. Do not attempt to form the entire bend in one motion. Large pipe tends to kink and ripple during a bend. As the bend is formed, remove kinks immediately by pressing them flat and reshaping the pipe to maintain a round, smooth bend. If pipe begins to cool and set, complete as much of the bend as possible. Reheat the pipe portion for the remaining bend and proceed to finish the bend. (Each operator will develop a technique after a few bends.) Check table "A" for maximum bend angles obtainable in one attempt. Most larger pipe will require a series of bends to obtain 45° or larger bends.



Note: Once a bend is set and cooled, the bent portion cannot be reheated and reformed. The blanket is only effective on straight pipe.

REPAIR AND SERVICE INSTRUCTIONS: For repair service and parts contact your nearest GB ELECTRICAL Service Center. The Service Center will provide complete and prompt service on all GB ELECTRICAL products.

PARTS AND SERVICE: For quality workmanship and genuine GB ELECTRICAL parts, select an Authorized GB Service Center for your repair needs. Only repairs performed by an Authorized Service Center displaying the official GB Authorized sign are backed with full factory warranty. Contact GB Electrical (414) 352-4160 for the name of the nearest GB Authorized Service Center.

WARRANTY: GB ELECTRICAL, INC. warrants its products against defects in workmanship and materials for 1 year from date of delivery to user. Chain is not warranted. Warranty does not cover ordinary wear and tear, abuse, misuse, overloading, altered products or use of improper fluid.

WARRANTY RETURN PROCEDURE: When question of warranty claim arises, send the unit to the nearest GB Authorized Service Center for inspection, transportation prepaid. Furnish evidence of purchase date. If the claim comes under the terms of our warranty the Authorized Service Center will REPAIR OR REPLACE PARTS AFFECTED and return the unit prepaid.

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