Bend an Offset in Conduit Using a Power Bender 26204

Students to set up only, Instructor to bend for demonstration

Program: Electrician Technician

Course: EL130 Flexible Cables/Conduit Bending and Raceways

Objectives: Under the supervision of your instructor, you should be able to do the following:

After completing this lab, you will be able to:

- Describe the process of conduit bending using power tools
- Identify all parts of electric and hydraulic benders
- Bend offsets, kicks, saddles, segmented, and parallel bends
- Explain the requirements of the National Electrical Code® (NEC®) for bending conduit
- Compute the radius, degrees in bend, developed length, and gain for conduit up to six inches

Lab Equipment:

- Power conduit bender

Required Tools:

- Tape measure
- Torpedo level
- Marker

Materials:

- 10’ - 1” inch EMT conduit
- 3 – 8-inch masonry blocks

Safety (PPE):

- Safety glasses/goggles
- Hard Hat
- *Students to set up only, Instructor to bend for demonstration*

Resources:

- Ugly’s Electrical References Book

Required Time: 60 minutes

Shop Maintenance:

- All work will cease 20 minutes prior to the end of class.
- All work areas must be cleaned.
- Tools and equipment must be cleaned and returned to the designated areas (cage, tool room, cabinets etc.)
- Any broken or missing tools must be reported immediately.
- Tools and equipment are students' responsibility

Procedures: *(Eye Protection must always be worn)*

This performance project requires the instructor to bend an 8-inch offset in a 10-foot section of 1-inch rigid metal conduit using a power bender.

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Safety Warning: Extreme caution must be used when using a power bender because serious injuries can result due to projectile-like shrapnel being released should the shoe or other parts of the bender explode due to high pressure exerted at points not intended for such pressure. It is of the utmost importance that anyone using a power bender be extensively schooled in its assembly and use.

1. Make sure you are familiar with and know how to use the power bender, and that your instructor has inspected the power bender and verified that it is assembled correctly.
2. Make sure all safety equipment is in place on you, the equipment, and the surrounding areas.
3. Measure and mark the conduit for back-to-back angle bends according to the instructions of the power bender and what you have learned in this module.
4. Make the first angle bend, remove the conduit from the bender, reposition the conduit in the bender, and make the second angle bend.
5. Remove the conduit from the bender and check its clearance over the obstacle (*figure 2*).
6. Adjust the bends as needed, making sure that both ends finish parallel to one another.

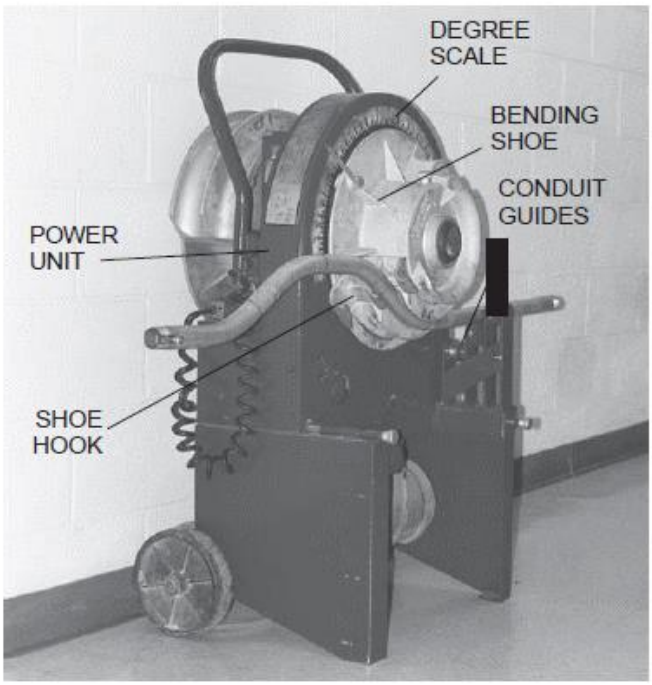

Figure 1 ■ Typical Electric Power Bender

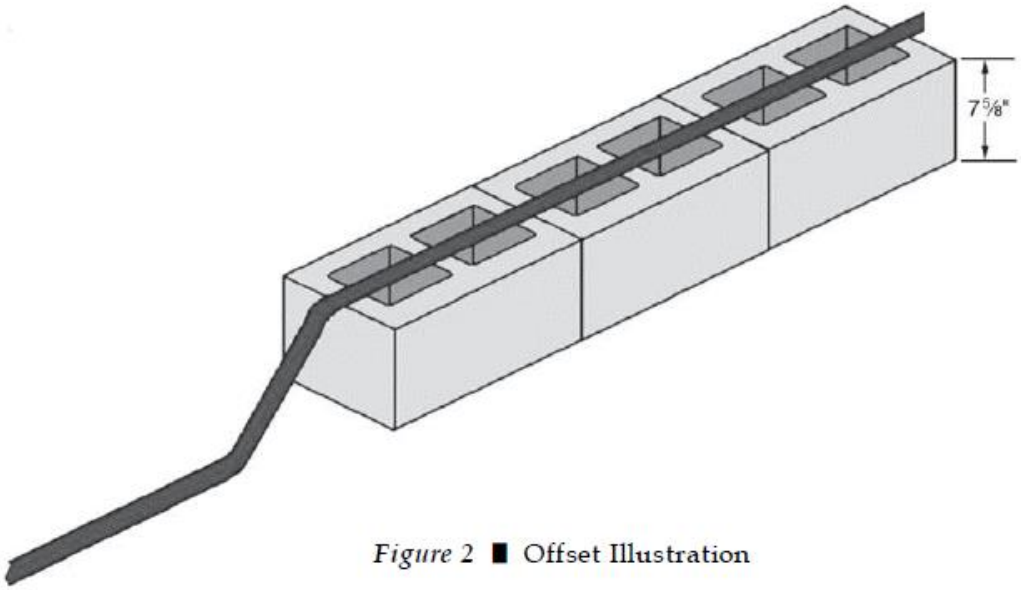

Figure 2 ■ Offset Illustration