

# GREEN APPLE LABS EDUCATION CATALOG

Real World Tools. Real World Experience.



GREENAPPLELABS

Powered by  Greenlee



# REAL WORLD TOOLS. REAL WORLD EXPERIENCE.

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## COMMERCIAL & RESIDENTIAL ELECTRICAL CERTIFICATIONS

**NC3 AND GREENLEE HELP SHAPE TOMORROW'S WORKFORCE THROUGH CERTIFICATION PROGRAMS, INDUSTRY SUPPORTED CURRICULUM AND HANDS-ON TRAINING.**

These certifications have been developed and administered by NC3 (National Coalition of Certification Centers) and are compatible with other industry recognized certifications.



Receive an official NC3 certificate for proof of achievement providing third party stackable credentials that can offer enhanced employment potential and higher productivity on the job, in industries such as:

- Information Technologies
- Residential & Commercial Construction
- Building Maintenance
- HVAC

# CENTER OF EXCELLENCE (COE) LABS



## COE Labs Facilitate an Effective & Interactive Learning Environment

CAT. NO.	DESCRIPTION	QTY.
3548SLL	Mobile Work Bench 36" x 60" Top	1
07217	5" Vise with Hardware	1
10987	Stool	2
<b>ALSO AVAILABLE</b>		
3548SLS	Mobile Work Bench 36" x 48" Top	1
3548SLXL	Mobile Work Bench 36" x 72" Top	1

07217

5" Vise with  
Hardware

3548SLL

Mobile Work Bench



10987

Stool



# WIRE PATHWAYS LAB



## Pathways Rotary Certification

### Objectives

- Introduce the key theories behind rotary hole making.
- Explain the benefits of tool designs and materials when choosing rotary cutting tools and their effect on workmanship and productivity.
- Demonstrate the safety, proper use and maintenance of professional rotary pathways tools.
- Evaluate the student's ability to choose and safely use the proper tool for creating pathways in various materials using lab activities.

### Outcomes (For both Pathways Certifications)

- Students that earn the Pathways certifications will demonstrate their ability to choose and safely operate appropriate rotary cutting tools and knockout punches.

## Pathways Knockouts Certification

### Objectives

- The history of the knockout punch and its applications will be explained.
- Compare the various knockout punch drive methods available and their influence on productivity, ergonomics and tool life.
- Demonstrate safe and proper use of manual, hydraulic and battery powered knockout punch systems.
- Evaluate the student's ability to select and properly use manual, hydraulic and battery powered knockout punch systems to create accurate panel layouts.



660



LS100X11A



866



DBITKIT

# WIRE PATHWAYS LAB

KIT NO. 52082905

CAT. NO.	DESCRIPTION	QTY.
660	Cutter Kit Hole - Carbide	6
LS100X11A	Intelli-Punch 11-Ton w Cs/Bat/Chgr	1
866	Expander Assembly 866	6
MA3	12-24 Machine Screw Anchors	200
DBITKIT	Dversibit Kit - Type B Auger	1
720	Punch-Keyway Nibbler 720	6
7646	Driver-Punch Hyd 7646	1
744	HD Punch Set	1
712A100	Bushing Bag/100 712A100	1
0156-11	Hammer Electrician's 18 oz	6
0451-10M	Pliers Pump 10 Molded - POP	6
52088475	Knockout Tray	6

CAT. NO.	DESCRIPTION	QTY.
710	Punch Assembly Stud Metal 710	6
7238SB	Punch and Die Set 1/2-2 Slug-Buster	12
724	Punch Assembly BX Stud 724	6
11170	Tool Deburr	6
34AR-6	Bitspade-SF Corded 6 pc Kit - POP	6
35884C	Cobalt Step Bit Set	6
830Q	Holesaw Kit 830Q	6
DDKIT-1-68	68 Pc Electrician's Drill/Driver Kit	6
149H2KIT	E-Z Bore Contractor Kit 1" - 2-9/16"	6
63RT-7/8	Repl Tip Nail Eater 7/8" Dia. 8-5/8 Lg	6
52088476	Rotary Tray	6



720



7646



744



712A100



0156-11



0451-10M



710



7238SB



724



11170



34AR-6



35884C



830Q



DDKIT-1-68



149H2KIT



63RT-7/8



52088475



52088476

# BASIC BENDING LAB



## Basic Bending Certification

### Objectives

- Introduce the types of conduit and their bending characteristics as well as the regulations concerning conduit bending.
- Explain the trigonometry required to be used when laying out conduit bends.
- Demonstrate the safe and proper use of hand benders, ratchet mechanical benders and hand threading equipment to perform common bends such as:
  - 90-degree
  - Offset
  - 3-point saddle in various sizes
- Evaluate the student's ability to perform conduit bends and thread rigid conduit using lab activities.

## Outcomes

- Students will complete a series of instructor graded labs using trigonometry with hand benders and ratchet mechanical benders to make the bends in conduit that are listed in objectives.
- Students will also use hand threading equipment to cut, ream and thread rigid conduit.



# BASIC BENDING LAB

KIT NO. 52082903

CAT. NO.	DESCRIPTION	QTY.
508	Hickey-Bending 1/2 Rigid 508	1
512	Hickey-Bending 3/4 Rigid 512	1
840AH	Benderhand-1/2 w/Handle	12
841AH	Benderhand-3/4 w/Handle	1
842AH	Benderhand-1 w/Handle	1
L77	Level Bubble - POP	12
333A	Hacksaw	12
0155-25A	Rulepower Return 25 - POP	12
1818	Bender - Mechanical	1
460-6	Tri-Bench w/Chain Vise	1

CAT. NO.	DESCRIPTION	QTY.
9753-11C	DriverReamer 1/23/41EMT	12
36475	1/2 - 2" Hand Threading Kit	1
418	Bucket Oiler	1
34945	Ratchet Reamer	1
32820	Steel Pipe Cutter 1/8 - 2" OD	1
2460	24 x 24 x 60 Storage Box B	1
503	Caster Set 503 Optional On 668	1
20972*	Hand Bender Storage Rack <i>*Product shown not included</i>	1
668	Conduit Tree	1
52088476	Bending Tray	6



842AH



L77



333A



0155-25A



1818



460-6



9753-11C



36475



418



34945



32820



2460



503



20972\*

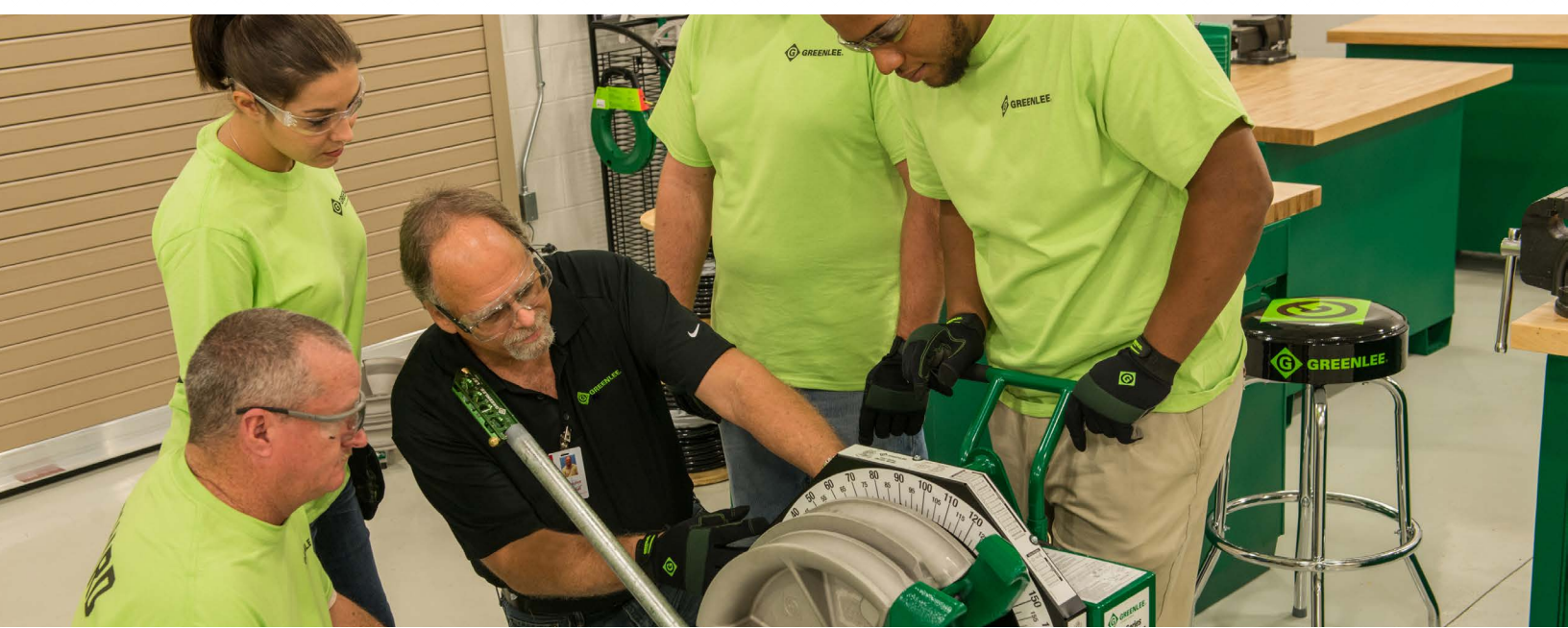


668



52088476

# ADVANCED BENDING



## Advanced Bending Certification

### Objectives

- Explain and demonstrate the safe operation and maintenance of the electric powered conduit bender.
- Explain the trigonometry required to be used when laying out concentric, multi-shot conduit bends.
- Demonstrate the safe and proper use of hydraulic benders on a bending table to perform a segmented, large radius bend in the rigid conduit.
- Demonstrate the proper setup and use of PVC heaters to bend PVC electrical conduit.
- Evaluate the student's ability to perform conduit bend and segment bend rigid conduit using lab activities.

## Outcomes

- Complete a series of instructor graded labs using trigonometry and manufacturer reference tables to make:
  - 90-degree bends
  - Offset bends
  - Saddle bends in conduit of various sizes
- Students will also demonstrate their ability to layout and accurately segment bend a large radius sweep using hydraulic powered conduit benders mounted on a bending table.



# ADVANCED BENDING LAB

KIT NO. 52082904

CAT. NO.	DESCRIPTION	QTY.
555CXES	Electric Bender CX w/Single EMT Shoes	1
849	Heater - Elec 1/2 - 2 PVC 849	1
864	Cutter PVC 864	1
865	Cutter 2 PVC	1
860-1-1/2	Blanket PVC 1/2 - 1-1/2	1
880	Cond Hyd Bender 1/2 x 2	1
1802	Pipe Bending Table	1
21357	Pipe Supp 3/4"	2
975	PumpHyr Power 975	1

Note: To complete setup as shown, two 10-foot (3.04 m) lengths of 2" rigid conduit and bender are required (purchased separately).



555CXES



849



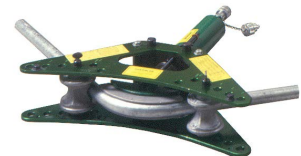
864



865



860-1-1/2



880



1802

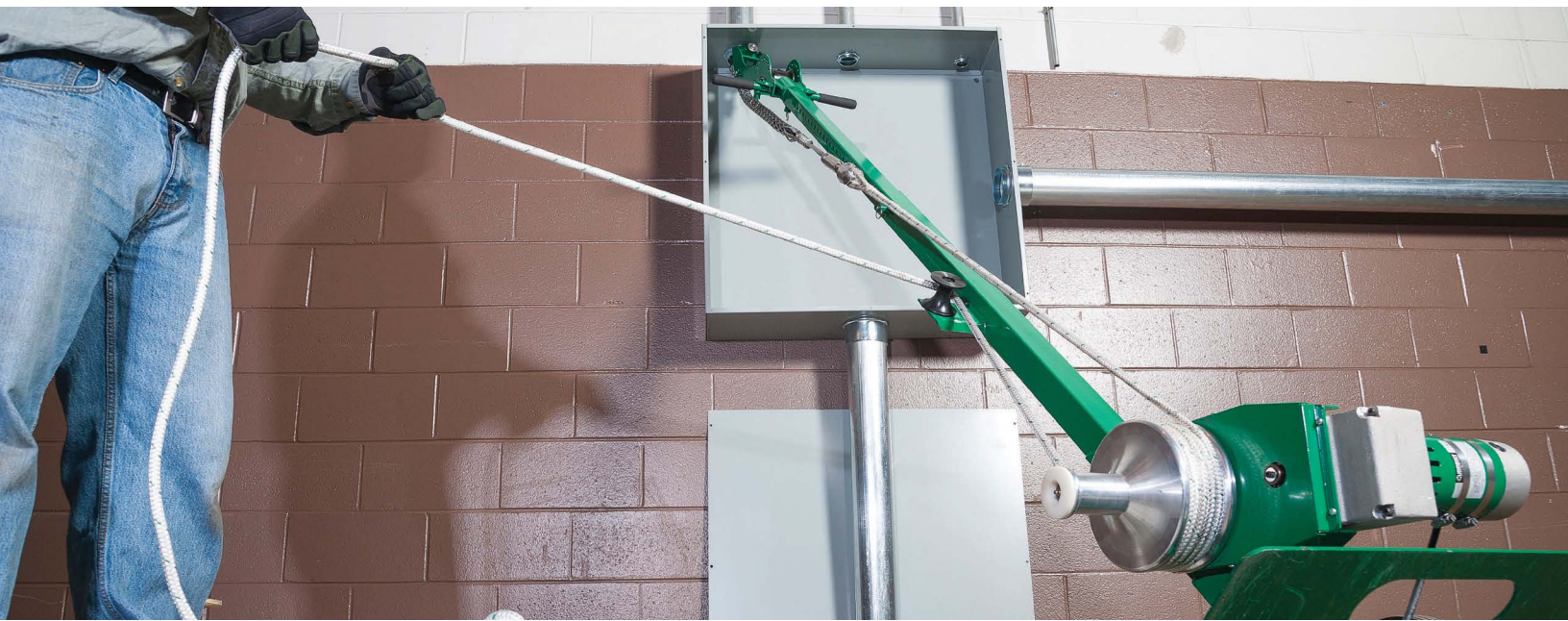


21357



975

# FISHING AND CABLE PULLING LAB



## Cable Pulling Certification

### Objectives

- Introduce the components of a cable pulling system.
- Explain how to calculate the expected cable pulling force.
- Introduce the concepts and safety procedures associated with manual and powered cable pulling, including sheave and capstan theory.
- Explain the differences between pulling in conduit, cable tray and other support methods common to electrical and VDV cabling.
- Evaluate the student's ability to calculate pull forces and correctly set up and safely operate professional cable pulling equipment using graded lab activities and tests.

### Outcomes (For both Certifications)

- Students that complete the Cable Pulling certification will demonstrate their understanding of cable pulling systems and concepts.
- Students will correctly set up and safely operate powered cable pulling equipment and other lab activities related to the task of cable pulling.

## Raceway Fishing Certification

### Objectives

- Introduce the tools used by professional trades workers for fishing conductors through various raceways.
- Explain the applications for manual and power fishing systems.
- Evaluate the student's ability to select and safely use the appropriate tool using graded lab activities and tests.



# FISHING AND CABLE PULLING LAB

KIT NO. 52086599

## Fishing

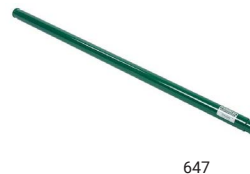
CAT. NO.	DESCRIPTION	QTY.
430	Polyline 6500'	1
540-24	24' Fish Stix	3
FP18	18' Fish Pole	1
FTF540-100	MagnumPRO Fiberglass Fishtape	1
FTN536-100	MagnumPRO Nylon Fishtape	1
FTS438DL-150	SMART MARK Laser Etched Fishtape	1
9525	Caddy Basket Cable Dispenser	1
9520	Data Cable Caddy	1

## Pulling

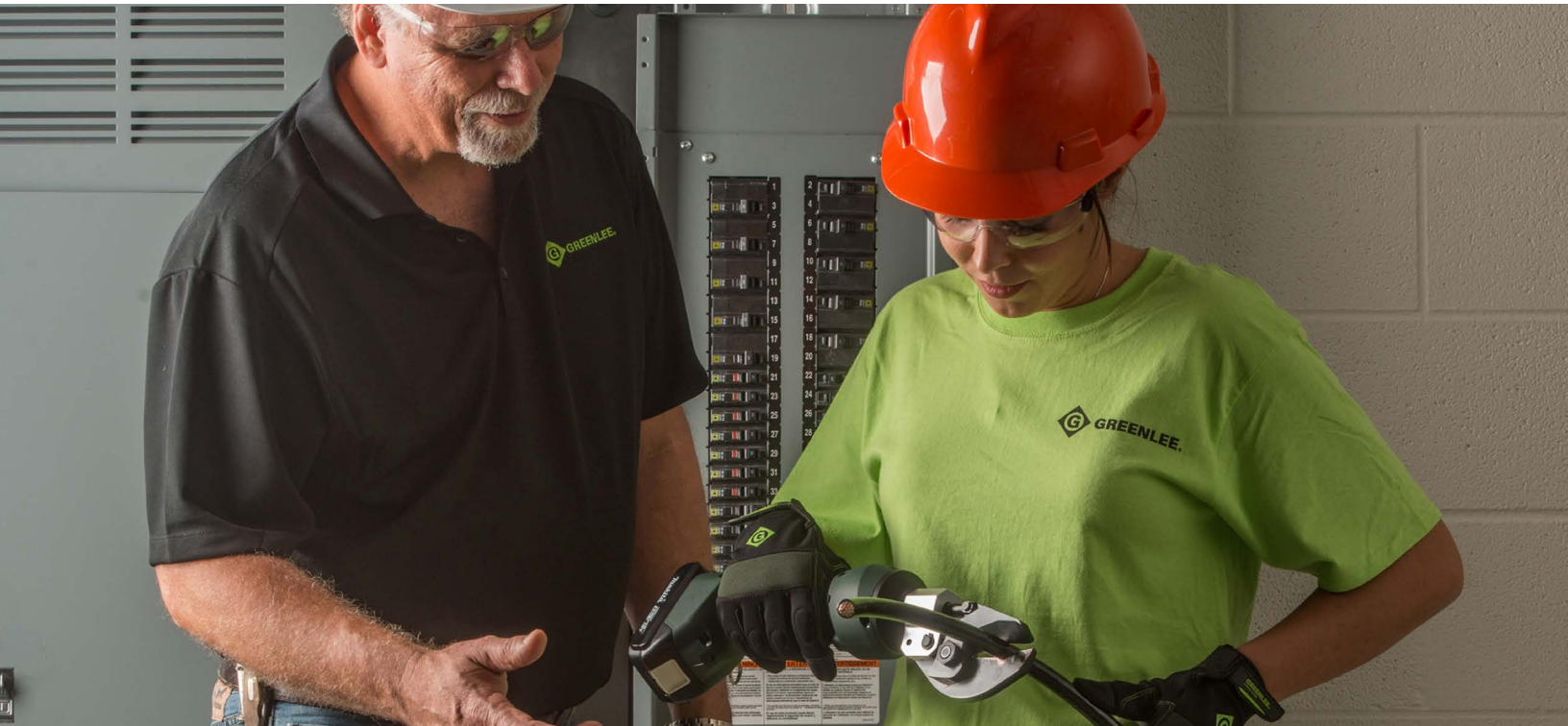
CAT. NO.	DESCRIPTION	QTY.
390	Lil Fisher Power Fishing System	1
392	Power Fishing System Accessory Kit	1
435	Conduit Measuring Tape	1
39265	2" Mandrel	1
39274	2" Wire Duct Brush	1
PF8	Estimator CD-Cable Puller	1
444	Footswitch for Cable Pullers	1
455	1/2" Dbl Braided Pulling Rope	1
644	Rope Stand	1
647	Spindle	1
30857	T-Basket Pulling Grip	1
39107	5000 lb Rated Pulling Swivel	1
39905	Rope to Swivel Connector	1
441-2	2" Feeding Sheave	1
G3	2000 lb Cable Puller	1
RXM	Hand Crank Reel Stand	2

## Additional Goods

CAT. NO.	DESCRIPTION	QTY.
5660L	Storage Box	1
503	Caster Set	1



# WIRE TERMINATION LAB



## Wire Termination Branch/Series and Service Level Certification

### Objectives

- Identify the different circuit levels and types and sizes of electrical conductors used in those circuits.
- Introduce the applicable regulations concerning cutting and terminating branch/series and service level electrical wire and cables.
- Evaluate the student's ability to safely and correctly use professional wire termination tools to terminate electrical conductors.

### Outcomes

- Students will utilize professional wire termination tools to demonstrate their ability to safely and correctly cut, strip and terminate electrical conductors for branch/series and service level circuits with labs/activities.



0252-11



1955-SS



G2090



52088477

# WIRE TERMINATION LAB

## Branch/Signal Level Termination KIT NO. 52085955

CAT. NO.	DESCRIPTION	QTY.
0252-11	NM Ripper	6
1955-SS	Pro Stainless Wire Stripper	6
G2090	Pocket Cable Stripper	6
52088477	Wire Termination Tray	6
K05-SYNCR0	Crimper 8-1/0	6
727M	Cable Cutter	6
0153-42C	6-in-1 Screw Driver	6
EK50ML13811	EK50ML Micro Crimping Tool	6
45509	Insulated Terminal Die Set	6
3548SLS	Storage Box	1
503	Caster Set	1

## Service Level Termination KIT NO. 52085956

CAT. NO.	DESCRIPTION	QTY.
796	Ratchet Cable Bender	2
452071	Insulated Ratchet Cable Cutter	2
CJ-CUAL	Cutting Jaw	1
Gator-EKG	Gator Eye Interface	2
KC22-250	250 kcmIL Aluminum Die Set	1
KC22-4	4 AWG Copper Die Set	1
EK628LX11	6-Ton Crimper w/Batteries, Charger and Case	1
EK6IDLX11	6-Ton Dieless Crimping Tool	1



K05-SYNCR0



727M



0153-42C



EK50ML13811



45509



3548SLS



503



796



452071



CJ-CUAL



Gator-EKG



KC22-250



KC22-4



EK629LX11



EK6IDLX11

# 3 PHASE SEQUENCING AND MOTOR ROTATION LAB



## 3 Phase Sequence/Motor Rotation

### Objectives

- Introduce the principles of 3 phase electricity and rotary field direction as it applies to motors. Understand and perform calculations using various electrical principles and laws. Interpret category ratings for meters and test leads. Evaluate the student's ability to safely and correctly use a digital clamp-on multimeter to perform various electrical measurements using graded lab activities and tests.

### Outcomes

- The students that complete the 3 Phase Sequence/Motor Rotation certification will demonstrate their ability to safely and correctly use a digital clamp-on multimeter to perform various electrical measurements within the context of graded, hands-on labs and activities.



CMI-600

CAT. NO.	DESCRIPTION	RECOMMENDED QTY.
CMI-600	AC/DC Clamp-On Meter	12

# STUDENT TOOL PROGRAMS

## REAL WORLD TOOLS. REAL WORLD EXPERIENCE.

Green Apple labs is dedicated to providing new electricians with professional Greenlee tools.

For more information, please contact  
800-435-0786 • GreenAppleED@emerson.com



0159-28BPKP



0159-12



0159-13



0159-14



0159-36



0158-16



# GREENAPPLE LABS

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