

## **NOTE ON PERFORMANCE TESTING**

Performance Profile Sheet(s) are included in a format that can be easily photocopied for each trainee. Performance tests are designed to measure competency in the tasks taught in each module.

Please note the number of tasks to be tested while teaching each module. Each trainee should be tested on all the tasks listed on the Performance Profile Sheet(s). Before performance testing, the instructor should brief the trainees on:

- Test objectives and criteria
- Safety precautions
- Procedures for each task to be tested

The instructor administering the performance testing should also do the following:

- Ensure that all of the needed equipment is available and operating properly.
- Set up the testing stations.
- Organize and administer the test in a way that allows for optimal performance.
- Complete the Performance Profile Sheet(s) for each trainee by assigning a pass/fail score for each listed task. Also, include the testing date for each task in the rating box.
- Monitor adherence to all safety regulations and precautions.
- Provide adequate supervision to prevent injuries.
- Take immediate and effective action to remedy any emergency.

### **Performance Testing**

If Performance Testing is done as part of the National Center for Construction Education and Research Standardized Craft Training Program, the following conditions must be met:

1. The Craft Instructor must hold valid NCCER instructor certification for the craft being tested.
2. The training must be delivered through a Accredited Training Sponsor recognized by NCCER.
3. For every module, the specific performance testing must be completed to the satisfaction of the instructor.
4. The results of the testing must be recorded on the Training Report Form 200. This form must be provided to the local Accredited Training Sponsor to be forwarded to the NCCER National Registry.



**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40301-09**

**Module Title: Hazardous Locations**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
3, 5	1. Using two rigid metal conduit nipples, a sealing fitting, three pieces of No. 12 THHN conductors, and a packing fiber/sealing kit, perform the following operations:	
	<ul style="list-style-type: none"> <li>• Secure one conduit nipple in each end of the seal.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Make sure the required number of threads are engaged.</li> </ul>	

continued

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**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40301-09**

**Module Title: Hazardous Locations**



Contren® Learning Series

Objective	TASK	RATING
	<ul style="list-style-type: none"> <li>• Pull the three THHN conductors through the nipples and seal so that about 6" is protruding from each nipple.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Pack the fiber following the instructions furnished with the sealing kit.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Mix the sealing compound.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Position the unit in the required location and pour in the sealing compound.</li> </ul>	

**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40302-09**

**Module Title: Electronic Components**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to Training Program Sponsor.

<b>Objective</b>	<b>TASK</b>	<b>RATING</b>
6	1. Using a cross reference manual, identify a substitute for a selected electronic component.	
5	2. Build a simple bridge rectifier circuit and view the results.	
12	3. Check diodes.	

**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40303-09**

**Module Title: E & I Drawings**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to Training Program Sponsor.

Objective	TASK	RATING
2	1. Trace the circuit flow on a one-line diagram.	
3	2. Read and interpret an electrical raceway drawing.	
3	3. Read and interpret a piping and instrumentation drawing (P&ID).	
3	4. Read and interpret a loop sheet.	
1	5. Interpret component symbols on an electronic schematic diagram.	

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**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40304-09**

**Module Title: Motor Controls**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
6	1. Make all connections for a magnetic motor controller controlled by two pushbutton stations, including the connections for the holding circuit interlock.	
6	2. Disassemble, inspect, and reassemble a motor starter.	

**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40305-09**

**Module Title: Distribution Equipment**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to Training Program Sponsor.

Objective	TASK	RATING
4	1. Identify the following on a molded case circuit breaker:	
	<ul style="list-style-type: none"> <li>• Frame size</li> </ul>	
	<ul style="list-style-type: none"> <li>• Trip unit rating</li> </ul>	
	<ul style="list-style-type: none"> <li>• Pick up values</li> </ul>	



**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40306-09**

**Module Title: Transformer Applications**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to Training Program Sponsor.

Objective	TASK	RATING
2	1. Identify various specialty transformers.	
4	2. Using a clamp-on ammeter, demonstrate the principles of a current transformer. Identify the primary winding, then calculate and measure the effects of increasing the number of turns (loops) in the primary winding.	
3	3. Connect a buck-and-boost transformer to a single-phase circuit so that it will first be in the boost mode, and then in the buck mode. Record the voltage increase and decrease for each configuration.	

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**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40307-09**

**Module Title: Conductor Selection and Calculations**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
1	1. From a selection of conductors, identify the applications for which they can be used.	
1	2. Given an application, identify the conductors that can be used for it.	

**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40308-09**

**Module Title: Temporary Grounding**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to Training Program Sponsor.

Objective	TASK	RATING
4	1. Apply temporary grounding for a given application using the correct PPE, tools, and parts.	
4	2. Demonstrate inspection and storage of temporary grounding components.	

**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40309-09**

**Module Title: Layout and Installation of  
Tubing and Piping Systems**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Recognition:**

(1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.  
When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
1	1. Given a partial system equipment location diagram (one loop) and observing all considerations covered in this module, create an isometric drawing of the given loop.	
2, 3	2. Measure and bend the tubing sections in the loop and select the fittings needed to install the layout shown in the isometric drawing in Performance Task #1.	
7	3. Indicate the types and locations of minimal support needed for the tubing installation.	
8	4. Make up compression fittings on tubing.	

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**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40310-09**

**Module Title: Machine Bending of Conduit**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
3, 5	1. Use an electric or hydraulic bender to bend a conduit stub-up to an exact distance of 15¼" above the deck.	
3, 5	2. Make an offset in a length of conduit to miss a 10" high obstruction with a clearance between the obstruction and the conduit of not less than 1" and no more than 1½".	
3, 5	3. Make a saddle in a length of conduit to cross an 8" pipe with 1" clearance between the pipe and the conduit.	

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**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40311-09**

**Module Title: Hydraulic Controls**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
3, 4	1. Repair a solenoid valve.	
3, 4	2. Bleed down a system.	
3, 4	3. Clean and inspect a pressure regulator.	

**Module 40312-09 has no Performance Profile Sheet;  
no performance testing is required for this module.**

**Craft: Industrial Maintenance E & I Technician**

**Module Number: 40313-09**

**Module Title: Motor-Operated Valves**



Contren® Learning Series

TRAINEE NAME: \_\_\_\_\_

TRAINEE SOCIAL SECURITY NUMBER: \_\_\_\_\_

CLASS: \_\_\_\_\_

TRAINING PROGRAM SPONSOR: \_\_\_\_\_

INSTRUCTOR: \_\_\_\_\_

**Rating Levels:** (1) Passed: performed task (2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:** When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

Objective	TASK	RATING
4	1. Set up a MOV.	
5	2. Remove and replace a limit switch.	