

## **NOTE ON PERFORMANCE TESTING**

Performance Profile Sheet(s) are included in a format that can be easily photocopied for each trainee. This examination is 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. Include the testing date and start and end times for each task in the rating boxes.
- 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 NCCER Standardized Craft Training Program, the following conditions must be met:

1. The Craft Instructor must hold valid NCCER instructor certification.
2. The training must be delivered through an Accredited Training Sponsor recognized by NCCER.
3. The specific performance testing must be completed successfully.
4. The results of the testing must be recorded and submitted to the local Accredited Training Sponsor for approval through NCCER's Registry system.

# PERFORMANCE PROFILE SHEET



**Craft: HVAC**

**Module: 03206**

**Module Title: Alternating Current**

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
1	1. Point out the components used in a functional AC power supply circuit and explain their functions.				
4	2. Following applicable safety practices, test AC components, including transformers, capacitors, and motor windings.				

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# PERFORMANCE PROFILE SHEET



**Craft: HVAC**

**Module: 03302**

**Module Title: Compressors**

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
3	1. Use an acid/moisture test kit to test a refrigerant circuit.				
5	2. Measure and record the electrical and mechanical operating parameters of an operational compressor.				

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# PERFORMANCE PROFILE SHEET



**Craft: HVAC**

**Module: 03301**

**Module Title: Refrigerants and Oils**

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
3	1. Install refrigerant gauges on afunctional system and calculate superheat and subcooling using the appropriate PT chart.				
1, 3	2. Identify unknown refrigerants by temperature and pressure using a refrigerant gauge manifold.				

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# PERFORMANCE PROFILE SHEET



**Craft: HVAC**

**Module: 03205**

**Module Title: Leak Detection, Evacuation, Recovery, and Charging**

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
1	1. Use a mixture of nitrogen with traces of HCFC-22 refrigerant to pressurize a refrigerant system in preparation for leak testing.				
1	2. Using at least two of the following methods, leak test a pressurized refrigerant circuit: – Electronic leak detection – Ultrasonic leak detection – Liquids – Ultraviolet/fluorescent systems				
2	3. Use a recovery unit to recover the refrigerant from a system.				
3	4. Evacuate a system using the deep vacuum method and perform a vacuum leak test.				
3	5. Evacuate a system using the triple evacuation method.				

*continued*

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# PERFORMANCE PROFILE SHEET

Craft: HVAC

Module: 03205

Module Title: Leak Detection, Evacuation, Recovery, and Charging



NCCER TRAINING

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
4	6. Demonstrate how to properly charge a refrigerant circuit by the following methods: <ul style="list-style-type: none"><li>– By weight</li><li>– By superheat (fixed orifice metering device)</li><li>– By subcooling (thermostatic expansion valve metering device)</li></ul>				

# PERFORMANCE PROFILE SHEET



**Craft:** HVAC

**Module:** 03303

**Module Title:** Metering Devices

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
2	1. Replace the orifice piston in a piston type metering device.				
4	2. Install an externally equalized expansion valve, correctly placing the sensing bulb and equalizer tube.				
4	3. Calculate superheat and adjust ab expansion valve to obtain the correct superheat.				

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# PERFORMANCE PROFILE SHEET



**Craft: HVAC**

**Module: 03211**

**Module Title: Heat Pumps**

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
3	1. Install a heat pump and complete a proper startup.				



# PERFORMANCE PROFILE SHEET



**Craft: HVAC**

**Module: 03215**

**Module Title: Basic Maintenance**

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
2	1. Lubricate a bearing using a grease gun.				
3	2. Properly install, align, and adjust a drive belt.				
4	3. Perform an inspection and periodic maintenance on a gas furnace and document the inspection results on a checklist.				
4	3. Perform an inspection and periodic maintenance on a cooling or heat pump system and document the inspection results on a checklist.				

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**Module 03202 has no Performance Profile Sheet;  
performance testing is not required for this module.**

**Module 03213 has no Performance Profile Sheet;  
performance testing is not required for this module.**

**Module 03214 has no Performance Profile Sheet;  
performance testing is not required for this module.**

**Module 03201 has no Performance Profile Sheet;  
performance testing is not required for this module.**

**Module 03204 has no Performance Profile Sheet;  
performance testing is not required for this module.**

# PERFORMANCE PROFILE SHEET



**Craft:** HVAC

**Module:** 03203

**Module Title:** Introduction to Hydronic Systems

**NCCER TRAINING**

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

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

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

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

**Recognition:** When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
2	1. Disassemble a hydronic circulating pump and identify its internal components.				

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