



## 4.5 Basic Propane Appliance Service and Troubleshooting Performance-Based Skills Assessment 2020



<b>Section One</b>	<b><u>Review of Safety Responsibilities and the Systematic Approach to Troubleshooting Propane Appliances</u></b>
Task 1	Review Safety Responsibilities
Task 2	Explain the Systematic Approach to Troubleshooting Propane Appliances
<b>Section Two</b>	<b><u>Identify Troubleshooting Methods for Common Sensing Devices in Propane Appliances</u></b>
Task 1	Identify Troubleshooting Methods for Temperature Sensors
Task 2	Identify Troubleshooting Methods for Additional Sensors
<b>Section Three</b>	<b><u>Identify and Troubleshoot Electrical Components in Propane Appliances</u></b>
Task 1	Size and Troubleshoot a Transformer
Task 2	Identify and Test Relays
Task 3	Identify and Test Motors and Capacitors
<b>Section Four</b>	<b><u>Troubleshoot Wall Thermostats and Wireless Controls for Hearth Products</u></b>
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Task 2	Troubleshoot the Operation of Limit and Fan Controls
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Task 2	Troubleshoot Gas Control Valves
<b>Section Eight</b>	<b><u>Identify and Troubleshoot Burners and Orifices</u></b>
Task 1	Identify Components of Burners and Orifices
Task 2	Troubleshoot Burners and Orifices
<b>Section Nine</b>	<b><u>Demonstrate Understanding of Electrical Control Circuits</u></b>
Task 1	Explain the Sequence of Operation
Task 2	Troubleshoot Electrical Control Circuits
<b>Section Ten</b>	<b><u>Explain Appliance Service and Preventative Maintenance Procedures</u></b>
Task 1	Explain Appliance Startup and Shutdown Methods
Task 2	Explain Preventative Maintenance Procedures
<b>Section Eleven</b>	<b><u>Troubleshoot Propane Leaks, and Odor and Carbon Monoxide Complaints</u></b>
Task 1	Troubleshoot Propane Leaks
Task 2	Troubleshoot Odor and Carbon Monoxide Complaints

**NOTICE:** The Skills Evaluator must be the candidate's supervisor or another qualified person who has:

1. Completed CETP 4.5 "Basic Propane Appliance Service and Troubleshooting" **or** is familiar with the subject matter, **and**
2. Is an PERC Registered Skills Evaluator.

**CETP Certification requires that the employee seeking certification cannot act as his/her own evaluator.**

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Propane Education and Research Council 2020

## **Instructions for Use:**

The Performance Based Skill Assessment Evaluation is designed to standardize conditions under which the candidate demonstrates performance of tasks to meet the requirements for PERC CETP Certification.

The Skills Assessment should be supplemented with company policies and procedures related to each task being evaluated as needed.

1. The candidate has 12 months from the date of successfully passing the CETP Certification exam to train and successfully complete the tasks within the evaluation.
2. The affidavits and a final checklist are provided on the last two pages of the skills packet.
  - Affidavits must be signed by both the candidate and the skill evaluator
  - The final checklist must be fully completed within 12 months of passing the exam (Candidates may use this time to practice skills as often as necessary)
  - Make a copy for the training records when the skills assessment is completed for future audits
  - Send the affidavit page and final checklist (last two pages) to the testing center within 12 months of passing the exam
3. All requirements and prerequisites must be met before certification will be granted.

### **4.5 “Basic Propane Appliance Service and Troubleshooting” Certification Requirements**

- Passing exam score on 4.5 “Basic Propane Appliance Service and Troubleshooting” exam
- Completed and signed 4.5 “Basic Propane Appliance Service and Troubleshooting” Skills Assessment Affidavit and Final Checklist returned to the testing center within 12 months of passing the exam.
- 1.0 *Basic Principles and Practices* certification completed within 12 months of passing the exam
- It is recommended that the candidate be familiar with the materials and skills covered in the 4.4 CETP program Basic Electricity for Propane Appliance Service, in order to successfully complete this skills evaluation.

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Users of this material should consult the law of their individual jurisdictions for codes, standards and legal requirements applicable to them. This material is not intended to be an exhaustive treatment of the subject, and should not be interpreted as precluding other procedures that would enhance safe LP-gas operations. This training material merely suggests methods the user may find useful in implementing applicable codes, standards, and legal requirements. This publication is not intended nor should it be construed to (1) set forth procedures which are the general custom or practice in the propane industry; (2) to establish the legal standards of care owed by propane distributors to their customers; or (3) to prevent the reader from using different methods to implement applicable codes, standards or legal requirements. This material was designed to be used as a resource only to assist expert and experienced supervisors and managers in training personnel in their organizations and does not replace federal, state, local, or company safety rules. The user of this material is solely responsible for the method of implementation. The Propane Education and Research Council, the National Propane Gas Association and Industrial Training Services, Inc. assume no liability for reliance on the contents of this training material.

Issuance of this material is not intended to nor should it be construed as an undertaking to perform services on behalf of any party either for their protection or for the protection of third parties.

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### **PERC 4.5 Basic Propane Appliance Service and Troubleshooting Skills Assessment (2020)**

Return to: INDUSTRIAL TRAINING SERVICES, INC.

Page 2  120 Max Hurt Dr.  Murray, KY 42071  TELEPHONE: 270/753-2150  
v121515

## **Instructions for Candidate:**

Practice the operations as many times as needed to become confident and proficient with the documents or equipment necessary to complete each task. Your evaluator will check and observe your performance, using the steps to complete each hands-on operation and/or company procedures.

The candidate must adhere to all safety precautions. If a safety precaution is violated, then the demonstration shall be stopped and the skills evaluator must instruct the candidate on the proper safety procedures that apply before allowing the candidate to continue.

After completing the skills evaluation, the candidate must fill out the Employee Information section and sign the Affidavit.

**Required information includes the candidate's last four digits of the SSN to assist the testing center in locating the correct records.**

## **Instructions to the Skills Evaluator:**

The candidate must adhere to all safety precautions. If a safety precaution is violated, then the demonstration shall be stopped and the skills evaluator must instruct the candidate on the proper safety procedures that apply before allowing the candidate to continue.

- Review the tasks within the Skills Evaluation with the candidate.
- Review all of the instructions, answering any questions and explaining how the skills assessment will be used.
- Demonstrate and/or talk the candidate through each of the steps required to perform each task.
- Allow the candidate time to ask questions and/or study the steps.
- Observe the candidate performing the required steps, providing corrections as needed
- Allow the candidate to practice until he/she is confident. *Remember:* the candidate has 12 months from the date of passing the exam to complete and return the skills assessment
- Evaluate the candidate when ready
- After completing the final checklist, complete the Skills Evaluator information and sign the affidavit.
- Ensure that the Affidavit and final Checklist are copied for the Employee Training Records and then sent to the testing center.

Each task is divided into one or more operations upon which the candidate's performance is evaluated. All tasks must be completed unless the "Not Applicable" option is both available for the task and applicable to the candidate or the marketer's present situation.

**Satisfactory** - When all the operations within a task are successfully performed by the candidate according to the criteria provided, the evaluator will check off the box marked "Satisfactory."

\* **Not Applicable** – Certain tasks have the "Not Applicable" option available. The Skills Evaluator must ensure the circumstances described under the option are applicable to either the candidate or marketer's present situation.

## Section One: Review of Safety Responsibilities and the Systematic Approach to Troubleshooting Propane Appliances

### Task 1: Review of Safety Responsibilities

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Explain the meaning of the following safety precautions in the event of a propane leak or release:
  - Always place personal safety first
  - No flames or sparks
  - Leave the area immediately
  - Shut off the gas, if able to do so
  - Report the Leak
  - Do not return to the building or area until safe to do so
  - Do not re-enter a hazardous environment
2. Explain the following electrical safety procedures used while servicing an appliance:
  - Work on de-energized circuits whenever possible, unless troubleshooting
  - Unplug small appliances from the power outlet
  - For large appliances, use service shutoff switch located at the appliance. If no shutoff switch is available, determine which electrical circuit is involved and turn off the power to the circuit at the electrical panel.
3. Explain company policies and procedures regarding lockout / tagout procedures.
4. Identify the following safety responsibilities according to company policies and procedures:
  - Personal Protective Equipment (PPE) and tools
  - Safe Work Habits
  - Working in wet areas

**Satisfactory**

### Task 2: Explain the Systematic Approach to Troubleshooting Propane Appliances

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

2. Explain what is meant by "Actively Listening" to customer concerns.
3. Explain the following steps in the systematic approach to troubleshooting an appliance problem:
  - Observe with all your senses
  - Follow initial basic troubleshooting steps
  - Isolate the problem
  - Clean or replace components
  - Retest the system
3. Explain company policies and procedures for documenting the following:
  - Safety issues
  - Recording systems tests and checks
  - Verifying system is working order prior to leaving customer location
  - Logging the work complete
  - Initiating proper invoicing

**Satisfactory**

## Section Two: Identify Troubleshooting Methods for Common Sensing Devices in Propane Appliances

### Task 1: Identify Troubleshooting Methods for Temperature Sensors

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Identify the following temperature-responsive sensing devices designed to work in a propane appliance, and then explain the troubleshooting technique(s) used to verify the operational condition:
  - Bimetals used as temperature sensors
  - Rod and tube sensors
  - Hydraulic and pneumatic bulbs
  - Fusible links
  - Flame rollout sensors
2. Explain the following for an Energy cutoff (ECO) sensor in a water heater:
  - How the safety device is designed to work
  - How to test when used with a gas control valve
  - What to do if the ECO is no longer working properly
3. Explain how a temperature and pressure (T&P) valve is designed to work in a propane appliance, and then provide examples for troubleshooting techniques used to verify the operational condition.

**Satisfactory**

### Task 2: Identify Troubleshooting Methods for Additional Sensors

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Identify the following sensing devices designed to work in a propane appliance, and then explain the troubleshooting technique(s) used to verify the operational condition:
  - Pressure switches
  - Vacuum switches
  - Air flow
  - Current
  - Low-water cutoff
  - Float-type
  - RPM Centrifugal switches
2. Identify the following flame sensors *when used as part of a safety shutoff device to detect the presence of a pilot flame*, and then explain the troubleshooting technique(s) used to verify the operational condition:
  - Thermocouples
  - Thermopiles
  - Oxygen depletion sensors
  - Bimetals used as flame sensors
  - Hydraulic vaporization flame sensors

**Satisfactory**

## Section Three: Identify and Troubleshoot Electrical Components in Propane Appliances

### Task 1: Size and Troubleshoot a Transformer

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Size a transformer for a circuit with the following ratings:
  - Gas valve with a 24V load and 0.24A
  - Zone valve with a 24V load and 0.6A
2. Explain possible causes for the following transformer issues, and then explain how the problem would be resolved:
  - Transformer burns out with possible short circuit somewhere in the 24V circuit
  - Transformer burns out with possible too high voltage to the primary side
  - Transformer burns out with possible too large of a load connected to the secondary side

**Continued**

**Task 1 continued**

3. Correctly test the following on a transformer:

- Output voltage
- Input voltage
- Resistance

**Satisfactory**

**Task 2: Identify and Test Relays**

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Provide examples of when the following relays would be used, and then explain how they work within the appliance circuit:

- General relays
- Isolation relays
- Time delay relays
- Fan center relays
- Circulator relays
- Zone control relays

2. Correctly perform the following:

- Voltage check of a coil
- Resistance test of a coil
- Voltage test of relay contacts
- Resistance check of relay contacts

**Satisfactory**

**Task 3: Identify and Test Motors and Capacitors**

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Identify the following components, and then explain their general function/purpose within the motor:

- Rotor
- Stator
- Overload switch
- Ball bearings or bushings

2. Provide examples of how each of the following motor issues might be resolved through the troubleshooting process:

- Motor does not start
- Motor stalls or does not reach full speed
- Motor is noisy or vibrating
- Motor overheats and shuts down/Overload switch trips

3. Demonstrate how to correctly test a motor for the following:

- Voltage
- Amperage

4. Explain the purpose of a capacitor and the differences between a start and run capacitor

5. Explain the safety precautions, hazards, and company policies and procedures for the following:

- Handling a capacitor
- Discharging a capacitor
- Removing a capacitor from an appliance
- Testing a capacitor
- Replacing a capacitor

6. Provide examples of signs that may indicate there is a problem with a capacitor

7. Demonstrate how to safely remove a capacitor from an appliance.

**Satisfactory**

## Section Four: Troubleshoot Wall Thermostats and Wireless Controls for Hearth Products

### Task 1: Identify Characteristics of Wall Thermostats

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Provide examples of how electronic, electromechanical, and millivolt wall thermostats are different in the following categories:
  - Components
  - Operation
  - Installation
2. Provide examples of how the location of a wall thermostat can affect the operation of the system.
3. Explain the wiring in electrical circuits for thermostats with the following system functions:
  - Heat only
  - Fan ON/AUTO control
  - Cooling
  - Heating and cooling

**Satisfactory**

### Task 2: Troubleshoot Wall Thermostats

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Explain the following for a heat anticipator:
  - How problems with the heat anticipator can affect the cycling of an appliance
  - How to determine the total current draw of the heating circuit
  - How to properly adjust/set the heat anticipator
2. Demonstrate how to properly calibrate a wall thermostat.
3. Provide examples of how each of the following thermostat issues might be resolved through the troubleshooting process:
  - No call for heat
  - Thermostat does not maintain desired temperature
4. Explain company policies and procedures for the following:
  - Replacing thermostats
  - Handling and recycling mercury thermostats

**Satisfactory**

### Task 3: Troubleshoot Wireless Controls for Hearth Products

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Explain what or how the following should be checked when troubleshooting wireless controls for hearth products:
  - Batteries
  - Wiring
  - Synchronization
  - Settings
  - Gas supply

**Satisfactory**

## Section Five: Explain and Troubleshoot the Operation of Limit and Fan Controls

### Task 1: Explain the Operation of Limit and Fan Controls

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Provide examples of situations when the following might be used, and then explain how they work within the appliance circuit:
  - High limit switch
  - Bimetal snap discs
  - Combination fan and limit control
  - Time delay fan control
  - Aquastat
  - Circulator relays
2. Demonstrate how to adjust settings on an aquastat.

**Satisfactory**

### Task 2: Troubleshoot the Operation of Limit and Fan Controls

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Provide examples of how each of the following limit and/or fan control issues might be resolved through the troubleshooting process:
  - No heat
  - Cold air blowing out of vents
2. Demonstrate how to verify that a high limit switch is operating properly
3. Explain the process for replacing a limit control, to include verification of size for any associated parts.
4. Explain how to adjustable time-based fan controls.

**Satisfactory**

## Section Six: Demonstrate Understanding of Ignition Systems for Basic Propane Appliances

### Task 1: Identify the Components of Ignition Systems for Basic Propane Appliances

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Explain the following for Ignition Systems found in basic propane appliances:

#### **Standing Pilot Ignition System**

- Components
- Sequence of Operation

#### **Ignition Systems for Ranges (Electric Spark and Hot Surface Ignitions for Ranges)**

- Components
- Sequence of Operation

**Satisfactory**

## Task 2: Troubleshoot Ignition Systems for Basic Propane Appliances

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Provide examples of how each of the following Standing Pilot Ignition System issues might be resolved through the troubleshooting process:
  - Pilot flame does not light
  - Pilot flame flickers or goes out
  - Pilot flame is weak or irregular
  - Pilot flame does not stay lit
  - Pilot flame is noisy or blowing
  - Ignition problems with surface burners
  - Oven not heating
2. Demonstrate the following on a Standing Ignition System:
  - Test a thermocouple
  - Test a thermopile
  - Adjust a pilot flame
3. Provide examples of how each of the following Ignition System for Range issues might be resolved through the troubleshooting process:

<u>Electric Spark Ignition Range</u>	<u>Hot Surface Ignition Range</u>
<input type="checkbox"/> Oven not heating	<input type="checkbox"/> Ignitor does not glow
<input type="checkbox"/> Surface burner ignition problem	<input type="checkbox"/> Ignitor glows, but no ignition
<input type="checkbox"/> Sparking, but no ignition	

**Satisfactory**

## Section Seven: Demonstrate Understanding of Pressure-Regulated Gas Control Valves

### Task 1: Identify the Components of Pressure-Regulated Gas Control Valves

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Review the components of a gas control valve and explain their function
2. Explain how to select a gas control valve for compatibility with appliance design/applications based on the following:
  - Type of gas
  - Gas flow capacity
  - Ignition system compatibility
  - Types of operators or actuators
  - Speed of opening and closing
  - Number of valves
3. Explain the function of the following:
  - Manual gas shutoff
  - Automatic valve operation
  - Pressure regulation
  - Pilot safety shutoff devices
  - Oven safety valve
  - Water heater gas control valve

**Satisfactory**

## Task 2: Troubleshoot Gas Control Valves

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Provide examples of how each of the following gas control valve issues might be resolved through the troubleshooting process:
  - Pilot flame does not light
  - Pilot goes out when the gas control knob is released
  - Main burner does not come on with a call for heat
  - Main burner continues to burn after a call for heat ends
2. Explain the conditions that indicate when a gas control valve should be replaced.
3. Explain the procedures for verifying the 100% pilot safety system is working after replacing the gas control valve.
4. Explain company policies and procedures for converting an appliance from Natural Gas to Liquid Propane.

**Satisfactory**

## Section Eight: Identify and Troubleshoot Burners and Orifices

### Task 1: Identify Components of Burners and Orifices

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Identify the components of burners and explain the primary functions of each.
2. Explain the inspection and maintenance processes for the following types of burners:
  - Racks
  - Trays
  - Ports
  - Pilots
3. Demonstrate how to make a correct adjustment on a primary air shutter.
4. Identify the components of the following orifices, and the application they are typically used for:
  - Fixed
  - Universal
5. Explain how the following appliance information affects the selection of the orifice size and configuration:
  - Fuel gas used
  - Burner input rating
  - Appliance altitude

**Satisfactory**

### Task 2: Troubleshoot Burners and Orifices

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Provide examples of how each of the following flame abnormalities might be resolved through the troubleshooting process:
  - Flashback
  - Extinction pop
  - Yellow flame on appliance designed for blue flame
  - Fluctuating flame
  - Flame lifting
  - Flame roll out
  - Floating flame
  - Unstable or wavering flame
2. Explain company policies and procedures for cleaning and/or replacing the following:
  - Main burners
  - Pilot orifice and burner
  - ODS burner
  - Burners and orifices

**Satisfactory**

## Section Nine: Demonstrate Understanding of Electrical Control Circuits

### Task 1: Explain the Sequence of Operation

**Evaluator:** Please use a ladder diagram for a propane appliance designed to heat air or water, and with a standing pilot or simple spark ignition system for the following task.

**Preparation Guide:** Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

- Using a ladder diagram, follow the sequence of operations and identify the following, as applicable:
  - Number of relays
  - Switches
  - Transformer
  - Motors
  - Capacitor
  - Thermostat
- Interpret the sequence of operation in the ladder diagram, describing the action taking place through each step beginning with the call for heat.

**Satisfactory**

### Task 2: Troubleshoot Electrical Control Circuits

**Preparation Guide:** Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

- Explain how the following tests of an electrical circuit assist during the troubleshooting process, and when they should be used:
  - Measure Voltage
  - Measure Resistance
  - Measure Current
  - Measure Continuity
- Explain how measuring a millivolt circuit is different than other circuits.
- Provide examples of common problems with millivolt systems and associated corrective actions.
- Explain company policies and procedures for the following troubleshooting processes:
  - Visually inspect the appliance
  - Verify the propane and power supply
  - Visually inspect Pilot Flame and Burners
  - Verify the call for heat
  - Follow the sequence of operation
  - Measure Voltage to Gas Valve
  - Verify the fault in the circuit
  - Fix the problem and document

**Satisfactory**

## Section Ten: Explain Appliance Service and Preventative Maintenance Procedures

### Task 1: Explain Appliance Startup and Shutdown Methods

**Preparation Guide:** Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:

- Explain how the following issues should be addressed if they arise during appliance startup:
  - Main burner not burning properly
  - Burner not burning properly
  - Inadequate draft or spillage present
  - Appliance not designed for current altitude
- Explain normal appliance shutdown procedures.
- Explain company policies and procedures for removing an appliance from service.

**Satisfactory**

## **Task 2: Explain Preventative Maintenance Procedures**

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Explain company policies and procedures for the following preventative maintenance procedures:
  - Test safety shut-off devices and operational controls
  - Inspect and clean appliance burner and pilot assemblies
  - Clean and inspect appliance heat exchangers
  - Lubricate appliance motor bearings
  - Replace defective components
  - Verify adequate gas pressure
  - Verify appliance burner operation

**Satisfactory**

## **Section Eleven: Troubleshoot Propane Leaks, and Odor and Carbon Monoxide Complaints**

### **Task 1: Troubleshoot Propane Leaks**

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Explain how and where the following methods are used to conduct a leak check:
  - Water or electronic manometer method
  - Test-block gauge method
  - High-pressure gauge method
  - Vapor meter method
  - Isolated testing of piping
2. Explain what action should be taken if an odor is found to be caused by a defective appliance or gas distribution system that cannot be immediately repaired.

**Satisfactory**

### **Task 2: Troubleshoot Odor and Carbon Monoxide Complaints**

*Preparation Guide: Wear appropriate Personal Protective Equipment (PPE) for the skills assessment task evaluation:*

1. Describe the characteristics of carbon monoxide, and describe the conditions that might indicate carbon monoxide is present.
2. Identify specific locations in a house or building to test for carbon monoxide.
3. Explain how to test an appliance and an appliance vent for carbon monoxide.
4. Provide examples or reasons why an appliance might produce carbon monoxide and possible corrective measures for each.

**Satisfactory**

## CETP Certification Performance Evaluation / Candidate Record (4.5)

### **Completing your PERC CETP Certification:**

- 1: Successfully pass the exam.
- 2: Complete and return the *CETP Performance Evaluation / Employee Record* to the testing center below within 12 months of passing the exam.
- 3: Complete any necessary prerequisites within 12 months of passing the exam.

*Make a copy for your training records and then send to:*

**Industrial Training Services, Inc.**

120 Max Hurt Drive ● Murray, KY 42071 ● PH: 270-753-2150 ext. 2 ● EMAIL: [skills@its-training.com](mailto:skills@its-training.com)

The information requested below will be used to assist in locating your records in the CETP database.  
Please make sure to complete all requested information; we thank you in advance for your assistance.

**Candidate Information:** (print or type) Test Group Number (if known): \_\_\_\_\_

Name: \_\_\_\_\_ Last four digits of SSN (only): \_\_\_\_\_

Employer: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_ Daytime Phone#: \_\_\_\_\_

City, State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

### ***Affidavit***

I affirm that I am the person who has performed those items checked on this checklist. I acknowledge that the performance checklists used are solely for the purpose of skills assessment for the CETP Certification requirements, and are not intended to replace or modify company operating or safety procedures, and may not be appropriate for use in all circumstances. I acknowledge that I am responsible for recognizing hazards and abnormal conditions in my workplace and must exercise care and good judgment, always using appropriate equipment, procedures and tools for the tasks I perform. The Propane Education and Research Council, the National Propane Gas Association and Industrial Training Services, Inc. assume no liability for my actions, or for my application of the skills assessment performance guides used in this evaluation checklist.

**Candidate Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

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### **Skills Evaluator Information:** (print or type)

Name: \_\_\_\_\_

Organization/Employer: \_\_\_\_\_

### ***Affidavit***

I affirm that I am the person who has administered this checklist, and that I have conducted this Performance-Based Skills Assessment Evaluation with integrity. I also affirm that the above named Candidate is the person whose performance I evaluated, and that the above named person performed the checked tasks at the indicated level without assistance from me or any other person.

**Skill Evaluator's Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Registered Skills Evaluator Number** \_\_\_\_\_

**Final Checklist for: 4.5 "Basic Propane Appliance Service and Troubleshooting"**

Name: \_\_\_\_\_ Last four digits of SSN (only): \_\_\_\_\_

The candidate has been evaluated on the following tasks at the following level:  
 (The N/A option is available only as listed in the Not Applicable column/available box(s)  below. All other tasks must be completed.)

Satisfactory	Not Applicable	Section One: Review of Safety Responsibilities and the Systematic Approach to Troubleshooting Propane Appliances
<input type="checkbox"/>		Review Safety Responsibilities
<input type="checkbox"/>		Explain the Systematic Approach to Troubleshooting Propane Appliances
Section Two: Identify Troubleshooting Methods for Common Sensing Devices in Propane Appliances		
<input type="checkbox"/>		Identify Troubleshooting Methods for Temperature Sensors
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Section Three: Identify and Troubleshoot Electrical Components in Propane Appliances		
<input type="checkbox"/>		Size and Troubleshoot a Transformer
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Section Four: Troubleshoot Wall Thermostats and Wireless Controls for Hearth Products		
<input type="checkbox"/>		Identify Characteristics of Wall Thermostats
<input type="checkbox"/>		Troubleshoot Wall Thermostats
<input type="checkbox"/>		Troubleshoot Wireless Controls for Hearth Products
Section Five: Explain and Troubleshoot the Operation of Limit and Fan Controls		
<input type="checkbox"/>		Explain the Operation of Limit and Fan Controls
<input type="checkbox"/>		Troubleshoot the Operation of Limit and Fan Controls
Section Six: Demonstrate Understanding of Ignition Systems for Basic Propane Appliances		
<input type="checkbox"/>		Identify the Components of Ignition Systems for Basic Propane Appliances
<input type="checkbox"/>		Troubleshoot Ignitions Systems for Basic Propane Appliances
Section Seven: Demonstrate Understanding of Pressure-Regulated Gas Control Valves		
<input type="checkbox"/>		Demonstrate an Understanding of Pressure-Regulated Gas Control Valve Components
<input type="checkbox"/>		Troubleshoot Gas Control Valves
Section Eight: Identify and Troubleshoot Burners and Orifices		
<input type="checkbox"/>		Identify Components of Burners and Orifices
<input type="checkbox"/>		Troubleshoot Burners and Orifices

***Continued on next page***

**Final Checklist for: 4.5 "Basic Propane Appliance Service and Troubleshooting" continued**

Name: \_\_\_\_\_ Last four digits of SSN (only): \_\_\_\_\_

The candidate has been evaluated on the following tasks at the following level:  
 (The N/A option is available only as listed in the Not Applicable column/available box(s)  below. All other tasks must be completed.)

Satisfactory	Not Applicable	Section Nine: Demonstrate Understanding of Electrical Control Circuits
<input type="checkbox"/>		Explain the Sequence of Operation
<input type="checkbox"/>		Troubleshoot Electrical Control Circuits
Section Ten: Explain Appliance Service and Preventative Maintenance Procedures		
<input type="checkbox"/>		Explain Appliance Startup and Shutdown Methods
<input type="checkbox"/>		Explain Preventative Maintenance Procedures
Section Eleven: Troubleshoot Propane Leaks, and Odor and Carbon Monoxide Complaints		
<input type="checkbox"/>		Troubleshoot Propane Leaks
<input type="checkbox"/>		Troubleshoot Odor and Carbon Monoxide Complaints

**Make a copy for your training records and then send to:**

***Industrial Training Services, Inc.***

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Email: [skills@its-training.com](mailto:skills@its-training.com)