

# UTAH ATE SKILL CERTIFICATION

## AUTOMOTIVE SERVICE TECHNICIAN

### STUDENT PERFORMANCE EVALUATION

#### ELECTRONICS/ELECTRICAL

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

The performance evaluation is a required component of the Skill Certification process. Each student **must be evaluated** on the required performance standards. Performance standards may be completed and **evaluated anytime during the course**.

- Students should be aware of their progress throughout the course, so that they can concentrate on the objectives that need improvement.
- Students should be encouraged to repeat the objectives until they have performed at a minimum of a number 1 or 2 on the rating scale (moderately to highly competent level).
  - 1= highly competent Successfully demonstrated without supervision
  - 2= moderately competent Successfully demonstrated with limited supervision
  - 3= limited competence Demonstrated with close supervision
  - 4= not competent Demonstration requires direct instruction and supervision
- When a standard has been achieved at a minimum of 80% (moderately to highly competent level). "Y" (Y=YES) is recorded on the last line of that standard, on the performance evaluation sheet. If a student does not achieve a 1 or a 2 (moderately to highly competent level), then "N" (N=NO) is recorded on the last line of that standard.
- All performance standards **MUST** be completed and evaluated prior to the written test.
- The **teacher** will bubble in "A" on the answer sheet for item #81 for students who have achieved "Y" on **ALL** performance standards.
- The **teacher** will bubble in "B" on the answer sheet for item #81 for students who have **ONE or more "N's"** on the performance standards.
- The signed performance evaluation sheet(s) **MUST** be kept in the teachers' file for two years.
- A copy is also kept on file with the school's ATE Skill Certification testing coordinator for two years.

Students who achieve a 1 or a 2 (moderately to highly competent) on **ALL** performance standards and 80% on the written test will be issued an ATE Skill Certificate.

<u>470654-01 Students will be able to understand general shop safety</u>	1	2	3	4
<input type="checkbox"/> Pass the safety test with a score of 100%.				
<input type="checkbox"/> Identify the different types and hazards of solvents used in automotive.				
<input type="checkbox"/> Identify the different types, purposes, and hazards of automotive greases, oils, and additives.				
<input type="checkbox"/> Identify precautions in the use, handling, and storage of various automotive solvents, cleaners, oils, greases, and additives.				
<input type="checkbox"/> Identify the gasses encountered in the automotive field and the hazards they present.				
<input type="checkbox"/> Identify the hazards and control of asbestos dust.				
<input type="checkbox"/> Comply with safety rules for working with automotive chemicals (MSDS).				

**The instructor must retain a copy of this Student Performance Evaluation for two years after the student has left the program.**

Instructor Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

School: \_\_\_\_\_

Revised 11 August, 2009

<u>470654- Students will be able to understand, identify, and properly diagnosis general electrical system problems</u>	1	2	3	4
<input type="checkbox"/> Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction. P-1				
<input type="checkbox"/> Identify and interpret electrical/electronic system concern; determine necessary action. P-1				
<input type="checkbox"/> Research applicable vehicle and service information, such as electrical/electronic system operation, vehicle service history, service precautions, and technical service bulletins. P-1				
<input type="checkbox"/> Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels, and calibration decals). P-1				
<input type="checkbox"/> Diagnose electrical/electronic integrity of series, parallel and series-parallel circuits using principles of electricity (Ohm's Law). P-1				
<input type="checkbox"/> Use wiring diagrams during diagnosis of electrical circuit problems. P-1				
<input type="checkbox"/> Demonstrate the proper use of a digital multi-meter (DMM) during diagnosis of electrical circuit problems, including: <u>source voltage, voltage drop, current flow, and resistance</u> . P-1				
<input type="checkbox"/> Check electrical circuits with a test light; determine necessary action. P-2				
<input type="checkbox"/> <del>Check electrical/electronic circuit waveforms; interpret readings and determine needed repairs. P-2</del>				
<input type="checkbox"/> Check electrical circuits using fused jumper wires; determine necessary action. P-2				
<input type="checkbox"/> Locate shorts, grounds, opens, and resistance problems in electrical/electronic circuits; determine necessary action. P-1				
<input type="checkbox"/> Measure and diagnose the cause(s) of excessive <del>parasitic draw</del> ; determine necessary action. P-1				
<input type="checkbox"/> Inspect and test fusible links, circuit breakers, and fuses; determine necessary action. P-1				
<input type="checkbox"/> Inspect and test switches, connectors, relays, solenoid solid state devices, and wires of electrical/electronic circuits; perform necessary action. P-1				
<input type="checkbox"/> Remove and replace terminal end from connector; <u>replace connectors and terminal ends</u> . P-1				
<input type="checkbox"/> Repair connectors and terminal ends. P-1				
<input type="checkbox"/> Repair wiring harness (including CAN/BUS systems). P-1				
<input type="checkbox"/> Perform solder repair of electrical wiring. P-1				
<input type="checkbox"/> Identify location of hybrid vehicle high voltage circuit disconnects (service plug) location and safety procedures. P-2				

<u>470654- Students will be able to understand, identify, and properly diagnosis repair gauges, warning devices, and driver information systems.</u>	1	2	3	4
<input type="checkbox"/> <u>Inspect and test gauges and gauge sending units for cause of abnormal gauge readings; determine necessary action. P-1</u>				
<input type="checkbox"/> <u>Inspect and test connectors, wires, and printed circuit boards of gauge circuits; determine necessary action. P-3</u>				
<input type="checkbox"/> <u>Diagnose the cause of incorrect operation of warning devices and other driver information systems; determine necessary action. P-1</u>				
<input type="checkbox"/> <u>Inspect and test sensors, connectors, and wires of electronic (digital) instrument circuits; determine necessary action. P-3</u>				

Deleted: ¶  
Deleted: 470604  
Formatted Table

Deleted: Measure source voltage and perform voltage drop tests in electrical/electronic circuits using a voltmeter; determine necessary action

Deleted: 1  
... [1]

Deleted: key-off battery drain (  
Deleted: )  
Deleted: 470604

Deleted: 3

Formatted Table

Deleted: 30 July, 2009

<del>470654- Students will be able to understand, identify, and properly diagnosis the battery problems.</del>	<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>
<del>Perform battery state of charge test; determine needed action. P-1</del>				
<del>Perform battery capacity tests. Confirm proper battery capacity for vehicle application; determine necessary action. P-1</del>				
<del>Maintain or restore electronic memory functions. P-1</del>				
<del>Inspect, clean, fill, and/or replace battery, battery cables, connectors, clamps and hold-downs. P-1</del>				
<del>Perform battery charge. P-1</del>				
<del>Start a vehicle using jumper cables or auxiliary power supply. P-1</del>				
<del>Identify high voltage circuits of electric or hybrid electric vehicle and related safety precautions. P-3</del>				
<del>Identify electronic modules, security systems, radios and other accessories that require reinitialization or code entry following battery disconnect. P-1</del>				
<del>Identify hybrid vehicle auxiliary (12v) battery service, repair and test procedures. P-3</del>				

<del>470654- Students will be able to understand, identify, and properly diagnosis and repair starting systems.</del>	<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>
<del>Perform starter current draw tests; determine necessary action. P-1</del>				
<del>Perform starter circuit voltage drop tests; determine necessary action. P-1</del>				
<del>Inspect and test starter relays and solenoids; determine necessary action. P-2</del>				
<del>Remove and install starter in a vehicle. P-1</del>				
<del>Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action. P-2</del>				
<del>Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition. P-2</del>				

<del>470654- Students will be able to understand, identify, and properly diagnosis and repair charging system.</del>	<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>
<del>Perform charging system output test; determine necessary action. P-1</del>				
<del>Diagnose charging system for the cause of undercharge, no charge, or overcharge condition. P-1</del>				
<del>Inspect, adjust, or replace generator (alternator) drive belts, pulleys, and tensioners; check pulley and belt for alignment. P-1</del>				
<del>Remove, inspect, and install generator (alternator). P-2</del>				
<del>Perform charging circuit voltage drop tests; determine necessary action. P-1</del>				

<del>470654- Students will be able to understand, identify, and properly diagnosis and repair lighting systems.</del>	<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>
<del>Diagnose the cause of brighter than normal, intermittent, dim, or no light operation; determine necessary action. P-1</del>				
<del>Inspect, replace, and aim headlights and bulbs. P-2</del>				
<del>Inspect and diagnose incorrect turn signal or hazard light operation; perform necessary action. P-2</del>				
<del>Identify system voltage and safety precautions associated with high intensity discharge headlights. P-2</del>				

<del>470654- Students will be able to understand, identify, and properly diagnosis and repair horn and wiper/washer.</del>	<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>
<del>Diagnose incorrect horn operation; perform necessary action. P-1</del>				
<del>Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; perform necessary action. P-1</del>				
<del>Diagnose incorrect washer operation; perform necessary action. P-2</del>				

<del>470654- Students will be able to understand, identify, and properly diagnosis and repair accessories.</del>	<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>
<del>Diagnose incorrect operation of motor-driven accessory circuits; determine necessary action. P-1</del>				
<del>Diagnose incorrect heated glass, mirror, or seat operation; determine necessary action. P-3</del>				
<del>Diagnose incorrect electric lock operation (including remote keyless entry); determine necessary action. P-1</del>				
<del>Diagnose incorrect operation of cruise control systems; determine necessary action. P-3</del>				
<del>Diagnose supplemental restraint system (SRS) concerns; determine necessary action. P-1</del>				
<del>Disarm and enable the airbag system for vehicle service. P-1</del>				
<del>Diagnose radio static and weak, intermittent, or no radio reception; determine necessary action. P-3</del>				
<del>Remove and reinstall door panel. P-1</del>				
<del>Diagnose body electronic system circuits using a scan tool; determine necessary action. P-2</del>				
<del>Check for module communication (including CAN/BUS systems) errors using a scan tool. P-2</del>				
<del>Diagnose the cause of false, intermittent, or no operation of anti-theft systems. P-3</del>				

<del>470654-09 Students will be able to understand the importance of employability and work habits.</del>	<del>1</del>	<del>2</del>	<del>3</del>	<del>4</del>
<del>Integrity</del>				
<del>Punctuality</del>				
<del>Staying on task</del>				
<del>Productive team worker</del>				
<del>Leadership</del>				

- Deleted: 30 July, 2009
- Deleted: ¶
- Deleted: 470604
- Deleted: 470604
- Deleted: ...
- Deleted: test (or conductance te ... [2]
- Deleted: 3
- Deleted: 470604- Students will ... [3]
- Formatted Table
- Deleted: slow/fast ... ...2 ... [4]
- Deleted: 470604
- Deleted: and a battery, or
- Deleted: ....2 ... [5]
- Deleted: and/or ...2 ... [6]
- Deleted: 2
- Deleted: 1
- Deleted: 470604
- Deleted: 470604
- Deleted: 2
- Deleted: 2
- Deleted: 2
- Deleted: (Note: Follow manu ... [7]
- Deleted: 3
- Deleted: 470604
- Deleted: 2
- Deleted: problems that ... ...2 ... [8]
- Deleted: 470604
- Deleted: and ... replace as nec ... [9]
- Deleted: replace/rei
- Deleted: Disassemble, clean, if ... [10]
- Deleted: ¶
- Deleted: . ¶

Page 1: [1] Deleted USOE 7/30/2009 3:51:00 PM

Measure current flow in electrical/electronic circuits and components using an ammeter; determine necessary action. P-1  
Check continuity and measure resistance in electrical/electronic circuits and components using an ohmmeter; determine necessary action. P-1

Page 2: [2] Deleted USOE 7/30/2009 5:36:00 PM

Page 2: [3] Deleted USOE 7/30/2009 3:56:00 PM

Page 2: [3] Deleted USOE 7/30/2009 3:56:00 PM

Page 2: [4] Deleted USOE 7/30/2009 3:58:00 PM  
test (or conductance test

Page 2: [4] Deleted USOE 7/30/2009 3:57:00 PM  
);

Page 2: [5] Deleted USOE 7/30/2009 5:27:00 PM

Page 2: [6] Deleted USOE 7/30/2009 3:59:00 PM  
slow/fast

470604- Students will be able to understand, identify, and properly diagnosis repair gauges, warning devices, and driver information systems.				
	1	2	3	4
	Inspect and test gauges and gauge sending units for cause of intermittent, high, low, or no gauge readings; determine necessary action.. P-1			
	Inspect and test connectors, wires, and printed circuit boards of gauge circuits; determine necessary action. P-3			
	Diagnose the cause of incorrect operation of warning devices and other driver information systems; determine necessary action. P-1			
	Inspect and test sensors, connectors, and wires of electronic (digital) instrument circuits; determine necessary action. P-3			

Page 2: [6] Deleted USOE 7/30/2009 3:59:00 PM

Page 2: [6] Deleted USOE 7/30/2009 3:59:00 PM  
2

Page 2: [7] Deleted USOE 7/30/2009 3:59:00 PM

Inspect and clean battery cables, connectors, clamps, and hold downs; repair or replace as needed. P-1

Page 2: [8] Deleted

USOE 7/30/2009 4:11:00 PM

Page 2: [8] Deleted USOE 7/30/2009 4:11:00 PM

2

Page 2: [9] Deleted USOE 7/30/2009 4:00:00 PM

and/or

Page 2: [9] Deleted USOE 7/30/2009 4:01:00 PM

2

Page 2: [10] Deleted USOE 7/30/2009 4:13:00 PM

(Note: Follow manufacturer's safety procedures to prevent accidental deployment.)

Page 2: [11] Deleted USOE 7/30/2009 4:04:00 PM

problems that

Page 2: [11] Deleted USOE 7/30/2009 4:04:00 PM

Page 2: [11] Deleted USOE 7/30/2009 4:04:00 PM

2

Page 2: [12] Deleted and	USOE	7/30/2009 4:05:00 PM
Page 2: [12] Deleted replace as needed	USOE	7/30/2009 4:05:00 PM
Page 2: [12] Deleted 2	USOE	7/30/2009 4:06:00 PM
Page 2: [13] Deleted <input type="checkbox"/> Inspect and test voltage regulator; replace as needed. P-2	USOE	7/30/2009 4:07:00 PM
Page 2: [14] Deleted Disassemble, clean, inspect, and test generator components; replace as needed	USOE	7/30/2009 4:07:00 PM
Page 2: [14] Deleted 2	USOE	7/30/2009 4:08:00 PM
Page 2: [15] Deleted	USOE	7/30/2009 4:16:00 PM