



**Pennsylvania - District 2**  
*Education . . . with a competitive side*



## Automotive Service Technology

### **Clothing Requirements**

Official SkillsUSA light blue work shirt and navy pants, black or brown leather work shoes, and safety glasses with side shields or goggles. (Prescription glasses can be used only if they are equipped with side shields. If not, they must be covered with goggles.)

*Note:* At the district level if a student is not able to wear the official SkillsUSA attire he/she may wear an outfit that would be acceptable in their specific field of study. *Please keep in mind that official SkillsUSA attire will be required at the state and national level.*

### **Eligibility**

Open to active SkillsUSA members enrolled in career and technical programs with automotive technician or automotive service technology as the occupational objective.

### **Equipment and Materials: Supplied by host school:**

1. All necessary tools and equipment for the contest
2. All necessary service publications for the contestants
3. All necessary information and furnishings for judges and technical committee

The following specialized equipment may be used in the **Automotive Service Specialization** District 2 Competition:

1. Snap on Solace edge
2. Hunter Road Force GSP 9700 balancer
3. Hunter TCX 50
4. Hunter Hawk Eye Alignment machine WA-480
5. Hunter RL lift 4 post
6. Alldata
7. Fluke DVOM
8. A-Tech Electronic Set Board 18002TR
9. Snap on VAT-45/ D-TAC Load Tester
10. Micrometer
11. Dial Indicator

### **Equipment and Materials: Supplied by contestant:**

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1. All students must have a one-page, typewritten résumé
2. Safety glasses
3. Work Boots (No Sneakers)

### **Safety Requirement:**

Both the instructor and the contestant certify by agreeing to enter this contest that the contestant has received instruction and has satisfactorily passed an examination on the safe use of all power tools. Proof of training form will be submitted. Further they agree that Skills USA, Eastern Center for Arts and responsibility relating to personal injuries resulting from their use. Contestants will be removed from competition if proper training has not been provided and/or they are using the equipment in an unsafe manner.

### **Scope of the Contest – (Defined by the National Competition Regulations)**

*(District Competitions are meant to be a scaled down version of National Competition. It is important for the students to participate in a competition that will reflect a cross-section of the industry skills needed to prepare them for the state and national levels)*

### **Knowledge**

Contestants will take a written test administered similar to the National Institute for Automotive Service Excellence.

### **Skill Performance**

The scope of the contest will be consistent with the automotive technician task list outlined in guidelines published by the National Institute for Automotive Service Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF).

Contestants will demonstrate their ability to perform jobs or skills selected from the standards mentioned above as determined by the SkillsUSA Championships technical committee, OAC Members Automotive Service Association, Chrysler Corp., Ford Motor Company, Snap-on Inc., Standard Motor Parts, and Toyota Motor Sales, USA. Contestants will be tested on a variety of vehicles commonly assembled in the United States. This will include both domestic and import vehicles.

Contestants will be judged on safety, quality, ability to follow instructions and procedures, accuracy (in comparison with factory specifications), workmanship and other skills representative of the trades identified by industry leaders. Time limits will be assigned for each task, but no bonus points will be awarded for early completion.

#### Major Areas of the Contest

1. Identifying, checking, servicing and repairing electrical systems and components including: charging, lighting, ignition, cranking accessories and electronic components
2. Measuring and adjusting wheel alignment
3. Wheels and tires.
4. Diagnosing, Measuring brakes for Inspection.
5. Identifying emissions/engine components and specialty tools.
6. Demonstrating ability to read and use service publications
7. Completing a written test developed by Automotive Service Excellence
8. Demonstrating safe and proper usage of industry equipment (scan tools, multi-meters, and hand tools)

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9. Demonstrating safe and proper use of tools and equipment Stations

## Workstations

1. Battery, starting, and charging test on prop vehicle.  
Student will test the battery, starting, and charging system for output, load, and draw readings.
2. Ground circuit Voltage drop on prop car.  
Student will perform voltage drop test on the ground circuit of the prop car.
3. Retrieving DTC'S.  
Student will retrieve Data Trouble Codes (DTC's) on prop car and identify the faulty components.  
Student will also need to identify all underhood emissions components
4. Written Test. Student will take a 25 question written ASE style test.
5. Electric circuit testing and repair.  
Student will use a Digital Volt Ohm Meter to test, diagnose and repair electrical circuits on an A-Tech test board.
6. Disc brake, rotor and brake shoe service.  
Student will measure and service disc and drum brakes.
7. Service a wheel and tire assembly.  
Student will change a tire on a steel rim and balance the assembly.
8. Alignment.  
Student will perform alignment adjustments on a vehicle.
9. Parts identification.  
Students will identify 20 assorted automotive parts.

<b>Items Evaluated</b>	<b>Possible Points</b>	<b>Contestant Points</b>
Station 1 - Voltage Output Test	15	
Station 2 - Ground Circuit Voltage Drop Test	15	
Station 3 - Retrieving DTC's	15	
Station 4 - Written	25	
Station 5 - Electrical Circuit Testing	15	
Station 6 - Brake Shoe, Pad and Rotor	15	
Station 7 - Tire Service	15	
Station 8 - Alignment	15	
Station 9 - Parts Identification	20	
Penalty Safety Deduction	25	
Penalty Resume Deduction	10	

Penalty Clothing Deduction	5	
<b>TOTAL</b>	<b>150</b>	

**Note:** Workstations consist of a vehicle, and/or simulators, components and service publications.

**See scoring rubric next page.**

**Note: Rubrics on the next page are the same. One offers the judge the rubric in chart form.**

**Rubric Scale**

0 – Below Basic

The contestant has no knowledge/experience in this area; failed to complete task; displayed an inadequate level of compliance with shop rules and work habits.

5 – Basic – The contestant did not meet knowledge/performance criteria and/or needed significant help to complete task; displayed a inconsistent level of compliance with shop rules and work habits

10 – Proficient– The contestant met knowledge / performance criteria without help at least on time; demonstrated the ability to complete some task to industry standards; consistently followed shop rules and displayed safe work habits.

15 – Advanced – The contestant met knowledge / performance criteria without help many times; completed all task to industry standards within industry timelines; independently displayed a high level of compliance with shop rules and displayed safe work habits.

<b>Rubric</b>				
<b>WORK SKILLS</b>				
	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
<b>Task Performance</b>	Failure to complete task	Demonstrated task completion to some degree but unable to meet industry standards	Demonstrated ability to complete task to industry standards	Demonstrated ability to complete task to industry standards within industry timelines
<b>Safety</b>	Displayed an inadequate level of compliance with classroom/shop rules and work habits	Displayed an inconsistent level of compliance with classroom/shop rules and work habits	Consistently followed classroom/shop rules and displayed safe work habits	Independently displayed a high level of compliance with classroom/shop rules and displayed safe work habits
<b>Points</b>	0	5	10	15

**Note: Judges may use their own discretion to assign points between the numerical values listed above in order to more accurately grade contestant performances.**

*Note: No cell phones or other electronic devices may be used at any time during a competition; this includes using a calculator function on a cell phone for competitions in which calculators are permitted.*

