



2020 State Contest

POWER EQUIPMENT TECHNOLOGY

Description

Tests the student's skills in all areas of this technology. They must know and understand both 2 & 4 cycle engines, electrical, troubleshooting, and customer service. The work stations are based on what a repair technician would encounter on a daily basis.

Note: Please check the SkillsUSA National website for updated contest information and the SkillsUSA National Technical Standards

<https://www.skillsusa.org/competitions/skillsusa-championships/contest-updates/>

Eligibility

Open to active SkillsUSA members enrolled in programs with small air-cooled engine repair or power equipment-related repair programs with that as its occupational objective.

Clothing Requirements

Class D: Contest Specific — Blue Attire

- Official SkillsUSA light blue work shirt
- Navy pants
- Black, brown or tan leather work safety shoes **(with protective toe cap)**
- Safety glasses with side shields or goggles (prescription glasses may be used only if they are equipped with side shields. If not, they must be covered with goggles).
- These regulations refer to clothing items that are pictured and described at: www.skillsusastore.org.
- If you have questions about clothing or other logo items, call 1-888-501-2183.
- Contestants must wear their official contest clothing to the contest orientation meeting.

[Clothing Classifications](#)

Knowledge Performance

This station will test students on knowledge as an entry-level apprentice and should know and reflect what a student will encounter at the national level.

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Skill Performance

The contest will include a series of testing stations to assess skill performance.

Contest Guidelines

1. **Written Test:** This station will test the student's knowledge of various power equipment systems. The test will cover 2-stroke theory, 4-stroke theory, carburetion, speed control, and electrical systems.
2. **Parts and Tool Identification:** This station will test the student's ability to identify different parts and tools associated with power equipment. The station will include parts from the internal engine, external engine, fuel, ignition, and lubrication systems.
3. **Electrical Systems:** This station will test the student's ability to wire up a series or parallel circuit. Students will have to follow a wiring diagram, wire a simple circuit using a relay, switch, fuse, and loads. Measure voltage drop and load resistance. Tools used will be a DVOM and an ATech Electrical Training Board.
4. **Fuel Injection:** This station will test the student's ability to diagnose a fuel injection system on a Briggs & Stratton Electronic Fuel Injection Training Board. The students will use an Extech DVOM with Amp-Clamp, back probe leads, and a Tiny-Scan Code Reader.
5. **Valve Adjustment:** This station will test the student's ability to perform a valve adjustment on a Kohler OHV Engine. Students will also answer questions pertaining to the valve train and 4-stroke engine theory.
6. **Precision Measuring:** This station will test the student's ability to perform precision measurements on internal engine parts. Students will be asked to measure inside and outside diameter. Tools included will be telescoping gauges, outside micrometers, and feeler gauges.
7. **After the lunch break, the students with the top 5 point totals will compete in a diagnostic and repair round. The top 5 final scores will be based on the preliminary round (stations and written test) 60% and the diagnostic and repair round (final round) 40%.**

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ALL STATIONS AND CONTENT ARE SUBJECT TO CHANGE

Equipment and Materials Supplied by contestants

1. Resume - must be turned in during orientation
2. Safety glasses
3. Writing utensil

Equipment and Materials Supplied by SkillsUSA California

- 12 tables and 30 chairs
- 110V power with a power strip for electrical trainer and 2 computer chargers
- ATech Electrical Training Board
- Auto-Ranging DVOM
- Briggs & Stratton Electronic Fuel Injection Training Board
- Extech DVOM with Amp-Clamp
- Tiny-Scan Code Reader
- Briggs & Stratton OHV Intek Engine
- 2-Feeler gauge sets
- 5/8" combination wrench
- 3/16" T-handle Allen wrench
- Telescoping gauge set
- 0-1" outside micrometer
- 1"-2" outside micrometer
- 2"-3" outside micrometer

Tools for diagnostic and repair round will be provided

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