

SD State SkillsUSA contest: Automotive Technology

General Description: There are 8 hands-on stations and one written test. Each hands-on station is related to an ASE Technician category. The written test covers a range of all 8 categories. Each hands-on station has the same time limit (15 minutes per station) and the same number of points. Some highschool stations will be exactly the same as the college, and some will be different or reduced in material. Highschool stations which differ from college are noted in the descriptions below.

Tools and equipment requirements: Contestants will not need to bring any tools or equipment. All will be provided for the student.

Clothing and personal safety: Wear appropriate dress which you would normally wear at school. No school or manufacturer logo or name will be worn, unless identifying information is covered. Students need to bring safety glasses and a pen or pencil. Students should follow safety procedures. If a student is following an unsafe practice, the judge may ask the student to stop on that station.

Note: all stations are bugged and judged by industry, no instructor will be bugging or judging stations. Which vehicles will be used on a station will not be released, and no student, contestant or otherwise, will have information about a station. No instructor (other than the coordinators) will be allowed in the contest area before or during the contest. No communication is allowed between an instructor and their student during the contest.

Station #1: Engine repair	
Coordinator: Pat Amor	
Description- College Disassemble and re-assemble engine components. Use precision engine measurement tools required for measuring or inspecting.	Description- Highschool Identify engine components. Use precision engine measurement tools required for measuring or inspecting.
Equipment used Precision measuring tools.	Equipment used None

Station #2: Auto Transmissions	
Coordinator: Terry Prouty	
Description- College Diagnose electrical components of a transmission using provide DVOM inspect and measure clutch pack clearance with given precision measuring tools	Description- Highschool Students will Identify general automotive parts. (from any part of the vehicle, not just transmission.)
Equipment used DVOM, Percision measuring tools provided	Equipment used None

Station #3: Manual Drive Trains- College	
Coordinator: Terry Prouty	
Description- College measure ring gear run-out Measure four bearing preload, ring and pinion gear backlash with precision measuring tools	Description- Highschool Same
Equipment used Percision measuring tools provided	Equipment used Same

Station #4: Suspension and Steering	
Coordinator: Pat Amor	
Description- College Identify steering and suspension components. Explain alignment theory. Explain diagnosis of alignment conditions.	Description- Highschool Identify steering and suspension components.
Equipment used Hunter Hawkeye Alignment Equipment.	Equipment used None

Station #5: Brakes

Coordinator: Dave Heald

Diagnose ABS, measure parts, determine wear in a brake system

Parts ID, measure parts both on and off the car

Micrometers, dial indicator, brake lining guage, Snap-on scan tool

Equipment used

Station #6: Electrical

Coordinator: Jason Merritt

Description- College

Students will diagnose an electrical fault on a light system of vehicle. Wiring diagrams will be provided.

Description- Highschool: Same as college, but

students will be given one hint

Equipment used: Snap On Scan tool, DVOM, test light, Alldata service information

Equipment used: Same

Station #7: Heating Ventilation and Air Conditioning

Coordinator: Dave Heald

Diagnose A/C system problem.

High School: Utilize AllData service information to find information and specifications. (this will be for all parts of the vehicle, not just HVAC)

Snap-on scan tool, Robin Aire A/C machine, hand held guage sets

Equipment used: AllData service information

Station #8: Engine Performance

Coordinator: Jason Merritt

Description- College

Students will diagnose a driveability or emmission control issue. The vehicle may or may not have a check engine light trouble code stored.

Description- Highschool This station is the same as college although highschool students may be given one hint

Equipment used: Snap On Scan tool, DVOM, test light, Alldata service information

Equipment used: same