

SkillsUSA

2012 Contest Projects

Aviation Maintenance Technology

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2012 Aviation Maintenance Technology Contest

2012 SkillsUSA Championships

The 2012 National SkillsUSA Aviation Maintenance Technology Championships were held on June 26, 2012 at Bartle Hall in downtown Kansas City, Missouri. This year the contest had twenty-four (24) different stations. Twelve stations for the secondary division and twelve station for post secondary division.

On Tuesday, June 26, 2012, our contest had twenty-seven (27) combined secondary thirteen (12) and post secondary fifteen (15) contestants. Judges looked for safety consciousness, troubleshooting skills, general knowledge, and the contestant's quickness in determining or fixing the related problem.

General Section (Secondary)

Precision Measuring

Contestants were required to measure the provided set of machined components. Contestants use the drawings to identify a set of different types of measurements for each of the machined components. Contestants use the provided precision measuring tools to make a variety of different types of measurements. These measurements including but not limited to inside dimensions, outside dimensions, depth and tolerance.

Hardware ID

Contestants were required to identify various pieces of aviation hardware. Contestants are provided with a set of aviation hardware, measuring tools and reference material. Contestants use the reference material and measuring tools to identify specific pieces of aviation hardware by part number.

Electrical

Contestant are required to compare circuit board wiring with the electrical diagram, make corrections as required, check continuity, measure and record circuit electrical values, and calculate electrical values using Ohms Law.

Tube Bending and Flare

Contestants were required to fabricate a fluid line to specific specifications. The contestant will make bends, install fittings, and fabricate flares. The flares will be fabricated to a specific size.

TCDS/AD's

Contestants were required to answer questions pertaining to Type Certificate Data Sheets or Airworthiness Directives. The answers will be obtained by using microfiche/microfiche reader OR computer software.

Aircraft Parts Identification

Contestants were required to identify aircraft and instrument panel components using the appropriate diagrams.

Safety

Contestants were required to answer a series of multiple-choice questions pertaining to safety in the aviation maintenance field.

FAR's

Contestants were required to answer questions pertaining to Federal Aviation Regulations (FAR's) by indicating the correct number for the specific Code of Federal Regulations (CFR's).

Weight and Balance

Contestants were required to solve different problems relating to aircraft weight and balance. Problems include computing various weights, moment, center of gravity (CG), forward and aft CG and shifting CG.

Safety Wire

Contestants were required to complete a combination of any of the following. Safety wire turnbuckles using various methods, safety wire different types of bolts and/or install cotter pins.

Forms, Records and Log Entries

Contestants were required to make a various logbook entries and complete 337 Form.

Flexible Hose Fabrication

Contestants were required to fabricate flexible hose to specific standards. The contestant will fabricate the hose, including installation of end fittings, made to proper length.

2012 Aviation Maintenance Technology Contest

Airframe/Powerplant Section (Postsecondary)

Composite

Contestants were required to answer questions on proper procedures and repair techniques for composite material and to determine the delaminated area of composite material.

Visible Dye Penetrant Inspection

Contestants were required to perform a visible dye penetrant inspection. The necessary references and materials are supplied.

Sheet Metal

Contestants were required to fabricate a sheet metal project by cutting, bending and/or installing fasteners. All tools and materials required for the project are provided. Contestant will be scored on proper dimensions, rivet spacing and rivet installation.

Aircraft Tires and Wheel Maintenance and Inspection

Contestants were required to disassemble, clean, inspect and reassemble an aircraft wheel and tire according to maintenance and servicing instructions found in the aircraft Maintenance Manual. The necessary tools references and materials have been supplied.

Aileron Rigging

This task were require the contestant to remove and replace a flight control cable and rig flight control using the aircraft and manufacturer's maintenance manual. The necessary tools, references, and materials have been supplied.

Electrical Troubleshooting

Contestants were required to troubleshoot circuit board wiring, make corrections as required, check continuity, measure and record circuit electrical values, and calculate electrical values using Ohms Law.

Fluid Line Fabrication

Contestants were required to fabricate a fluid line to specific specifications. The contestant will make bends, install fittings, and fabricate flares. The flares will be fabricated to a specific size.

Cable Fabrication and Tensioning

Contestants were required to fabricate a cable with a Nicopress thimble splice on each end and tension the cable according to the appropriate rigging chart. All the necessary tools references and materials have been supplied.

Propeller

Contestants were required to measure the blade angles, blade track, inspect propeller and/or read and determine conformity of propeller specification using references provided. All the necessary tools, references and materials have been supplied.

Magneto

Contestants were required to remove and install the contact points, cam, inspect and internally time a magneto. All the necessary tools, references and materials have been supplied.

Safety

Contestants were required to answer a series of multiple-choice questions pertaining to safety in the aviation maintenance field.

Turbine Parts Identification

Contestants were required to identify by part number and complete nomenclature of Pratt and Whitney JT8D turbine engine parts. All the necessary tools, references and materials have been supplied.