



2018 HVAC Competition

FACT SHEET

Project Manager

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For questions related specifically to the HVAC competition, contact Mitch Clark, 2018 HVAC project manager, (602) 558-1618 or mclark@comfortsystemsusa.com For all event questions, contact Lisa Nardone, National Craft Championships director, (202) 595-1789 or nardone@abc.org.

Specific Competition Eligibility

The HVAC competition has no competition-specific eligibility requirements. Please refer to overall eligibility requirements listed on page 3 of the guidebook.

Written Exam

Every competitor should have a thorough understanding of the craft in which he/she is registered. All exams/tests are based on the standardized craft training process. In addition to the knowledge and skills required for each competition, all competitors should have completed the NCCER Contren® Learning Series Core Curriculum modules. Reference materials and calculators are not permitted in the written exam.

Practical Performance Test Description

The practical performance test involves reading of blueprints, removal of refrigerant, evacuation and leak test of air conditioning equipment, soldering and brazing techniques, installation of accessory equipment to air conditioning system and performing electrical troubleshooting techniques. All competitors should possess basic blueprint reading skills, air conditioning and heating systems experience, including startup and commissioning of air conditioning systems as well as knowledge of Rudd Programmable Thermostats RHC TST213 UNMS.

Special considerations for practical performance test: Working in the construction industry introduces technicians to collaboration with one another and other craft personnel to achieve common goals. At the discretion of the project manager, competitors may be grouped into teams during the practical performance period of the competition to make sure that all of the test criteria are met. Just like real construction projects, whether the competitors are working individually or in teams, the competitors are scored on an individual basis.

Knowledge and Skills Required

The knowledge and skills for this competition are based on all levels of the NCCER Contren® Learning Series HVAC curriculum. It is strongly recommended that competitors have a working knowledge equivalent to a third-year apprentice.

Tools Required

Each competitor shall bring the tools listed below and continued on the following page to the competition. Tools may be examined prior to the practical performance test any additional tools may be used in the competition but must meet required list below. If a tool, necessary to complete the practical performance test is not listed, the National Craft Championships Committee will provide it:

- Tubing cutter and tubing reamer

- Swedging tool (1/2-inch)
- Level
- Manifold gauge set (410 refrigerant)
- Digital thermometer
- Needle-nose pliers
- Wire strippers/crimpers and side cutters
- Adjustable wrenches (small and medium)
- Channel-lock pliers
- Screwdrivers (slotted and Phillips)
- Nut runners (1/4- to 5/16-inch)
- Tape measure
- Utility knife
- Voltmeter
- Ohmmeter
- Black electrical tape
- Small spray water bottle
- Hammer
- Striker
- Mirror
- Micron vacuum gauge with additional hoses if needed
- Tubing bender (3/8)
- Allen wrenches
- Rags (2)
- Small pocket screwdriver (straight tip)
- Micron vacuum gauge with additional hoses
- Small pocket screwdriver (straight tip) if needed
- Sheet metal seamers
 - Utilize gloves while in use
- Sheet metal folding tool
 - Utilize gloves while in use
- Allen wrenches
- Rags (2)
- Sheet metal tinner's hammer
 - Utilize gloves while in use

Tools and equipment supplied by National Craft Championships:

- Turbo torch kit
 - Utilize gloves while in use
 - Ear plugs at competitors discretion
- Vacuum pump
- Flaring tool
- Recovery machine with bottle
 - Utilize gloves while handling refrigerant
- Refrigerant scales
- Utility knife
 - Utilize gloves while in use

- Cordless drill gun with assorted bits

Sample Score Sheet

The following sample score sheet is provided to give competitors an **example** of the criteria that may be included in the practical performance test. **However, this score sheet is only a sample and not intended to act as a study guide in preparation or to imply specific criteria that will be judged during the actual practical performance test.**

ABC National Craft Championships HVAC Sample Score Sheet

Judging Criteria	Competitor Identification Numbers					
	Maximum Points					
Soldering and brazing						
Layout of work						
Leak check						
System components						
Diagram accuracy						
Troubleshooting						
System recovery, evacuation and recharge						
Sequence of work						
Care and use of tools						
General – ability to follow directions, quality of workmanship, neatness, best use of time and completion						
Project disassembly						
SUBTOTAL:	160					
Safety – housekeeping						
Use of hard hat						
Use of safety glasses						
Use of power tools						
Proper footwear						
SUBTOTAL:	40					
GRAND TOTAL:	200					
Tie Breaker #1						
Tie Breaker #2						
Tie Breaker #3						
Tie Breaker #4						