2020 Pipefitting Competition
FACT SHEET

Project Manager
For questions related specifically to the pipefitting competition, contact Ronnie Balentine, 2020 NCC acting pipefitting project manager, (713) 845-7947 or rdbalentine@sbec.com. For all event questions, contact Lisa Nardone, National Craft Championships director, (202) 595-1789 or nardone@abc.org.

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

Written Exam
Exam details can be found at http://ncc.abc.org/General-Information/Written-Exam-Details.

Practical Performance Test Description
Competitors will perform three tasks utilizing various skills within the Pipefitting NCCER Contren® Learning Series curriculum. The tasks will be in the areas of threaded pipe fabrication, welded pipe fabrication and flanged pipe make-up.

Pipefitting Task: Threaded Pipe Fabrication
Each competitor will be given an isometric drawing from which to work and be required to calculate material take offs and cut lengths of pipe. The pipe will then be cut, threaded and fabricated to the drawing. They will utilize pipe threading skills, math calculating skills and threaded pipe make-up skills to complete this project. Each project will have a time limit in which it must be completed.

Pipefitting Task: Welded Pipe Fabrication
Each competitor will be given an isometric drawing from which to work and be required to use their math skills to calculate material take offs and cut lengths of pipe. There will be various types of fittings involved, such as welded fittings, socket weld fittings and slip-on fittings. The pipe will then be cut, cleaned and fabricated to the drawing specifications. Various hand tools and power tools will be used for this project. The project will be tacked together utilizing a provided tack welder. Each project will have a time limit in which it must be completed.

Pipefitting Task: Flanged Make-Up
Each competitor will bolt their fabricated pipe spools into a fixture per the fabrication iso provided so that flange alignment and bolt up skills can be assessed. Each project will have a time limit in which it must be completed.

Knowledge and Skills Required
The knowledge and skills for this competition are based on all levels of the NCCER Contren® Learning Series Pipefitting curriculum, with particular emphasis on the following modules:

- Pipefitting Hand Tools;
- Pipefitting Power Tools;
- Ladders and Scaffolds;
- Piping Systems;
- Drawings and Detail Sheets;
- Identifying and Installing Valves;
- Pipefitting Trade Math;
- Threaded Pipe Fabrication;
- Underground Pipe Installation;
- Rigging Equipment;
- Rigging Practices;
- Standards and Specifications;
Tools Competitors Are Required to Bring

Each competitor should bring **only the items listed below** to the competition. Items will be examined prior to the Practical Performance Test and additional tools will be stored until the competition has concluded. If a tool necessary to complete the Practical Performance Test is not listed, the National Craft Championships Committee will provide it:

- Pencil
- Minimum of 12’ measuring tape (25’ is acceptable)
- Leather work gloves
- 2 hole pins
- Torpedo level
- Speed square
- 7/8” combo wrench
- 1-1/16” combo wrench
- Channel Locks
- Long-sleeve work shirt (for grinding and tacking)
- Non-programmable construction calculator (such as Calculated Industries available at Lowes or Home Depot. Note: No Texas Instruments calculators will be allowed.)

Tools that will be supplied by the National Craft Championship Committee

**Welded Pipe Fabrication Project**

- 24” level
- 24” framing square
- Wrap around
- Soap stone
- 4” grinder w/ ¼” disc
- Bandsaw
- Face shield
- Ball peen hammer
- Tri-pod stand w/ chain vise
- Jack stand
- Welding leads/ground
- Tack welders to be shared by all competitors

**Threaded Pipe Fabrication**

- 14” Pipe wrench
- 14” chain wrench
- Tri-pod w/ yoke vise
- Jack stand
- Threading machine
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
Pipefitting Sample Score Sheet

<table>
<thead>
<tr>
<th>Judging Criteria</th>
<th>Competitor Identification Numbers</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange Alignment</td>
<td></td>
<td></td>
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<tr>
<td>Proper bolt-up</td>
<td></td>
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<tr>
<td>Configuration</td>
<td></td>
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<tr>
<td>Threaded engagement</td>
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<td></td>
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<tr>
<td>Dimension tolerance</td>
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<tr>
<td>Mock-up bolt-up fit</td>
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<tr>
<td>Bolt-Hole Orientation</td>
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<tr>
<td>Pipe end preparation</td>
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<tr>
<td>Butt-weld alignment</td>
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<tr>
<td>Sequence of work</td>
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<tr>
<td>Care and use of tools</td>
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<tr>
<td>General – ability to follow directions, quality of workmanship, neatness, best use of time and completion</td>
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<tr>
<td>Project disassembly</td>
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<tr>
<td><strong>SUBTOTAL:</strong></td>
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<td><strong>160</strong></td>
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<tr>
<td>Safety – housekeeping</td>
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<td>Safety Task Analysis</td>
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<tr>
<td>PPE usage</td>
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<tr>
<td>Use of hand tools</td>
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<tr>
<td>Use of power tools</td>
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<tr>
<td><strong>SUBTOTAL:</strong></td>
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<td><strong>GRAND TOTAL:</strong></td>
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<td>Tie Breaker #1</td>
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<tr>
<td>Tie Breaker #4</td>
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