NMFFA Weld-Off

Welding Team Tool Checklist

The following is a recommended tool and equipment checklist for teams competing in the NMFFA Weld-Offs. All tools and equipment must be in safe working condition.

1. Personal Protective Equipment (PPE)

- Welding helmet with appropriate shade lens
- Welding safety glasses
- Welding gloves (SMAW)
- Flame-resistant welding jacket
- Leather welding sleeves (optional)
- Leather work boots
- Long pants made from appropriate flame-resistant material
- Hearing protection
- Face shield for grinding
- Approved respiratory protection, if required by the venue's safety assessment

2. ARC Welding Tools

- Chipping hammer
- Wire brush
- Welding pliers
- Vice-grip locking pliers
- C-clamps (various sizes)
- Welding magnets
- Welding square
- Welding rod storage container

3. Welding Electrodes

- E7018 welding rods
- E6011 welding rods
- Whatever the host is specifying

4. Measuring and Layout Tools

- 25-foot tape measure
- Combination square
- Speed square
- Framing square
- Soapstone and holder
- Permanent markers
- Metal scribe
- Steel ruler
- Center punch

5. Grinding and Metal Preparation Tools

- Angle grinder with manufacturer-approved guard installed
- Grinding wheels
- Flap discs
- Wire wheels or brushes approved for the grinder
- Cutoff wheels, if permitted by contest rules
- Spare grinder accessories

Safety requirement: All angle grinders must have guards properly installed. Damaged or unsafe tools will not be permitted.

6. Additional Shop Tools

- Ball-peen hammer
- Adjustable wrench
- Combination wrench set
- File set
- Clamps for holding project materials
- Tool bag or toolbox

7. Portable Welding Equipment

- Portable ARC welding machine (SMAW)
- Welding leads and electrode holder
- Ground/work clamp and cable
- Appropriate power connections
- Welding electrode storage container
- Welding extension cables rated for the equipment

8. Oxy-Fuel Cutting Equipment

- Oxy-acetylene cutting torch setup
- Oxygen and acetylene cylinders
- Regulators and hoses
- Cutting torch handle and cutting attachment
- Approved flashback arrestors and check valves
- Spark striker
- Tip cleaning kit
- Cylinder cart with securing chains

9. Portable Metal Cutting Equipment

- Portable metal-cutting band saw
- Portable chop saw or abrasive cutoff saw
- Portable horizontal band saw (optional)
- Appropriate metal-cutting blades
- Manufacturer-required guards and safety equipment

10. Portable Welding Tables and Supports

- Portable welding table
- Portable metal workbench
- Adjustable welding jack stands
- Pipe stands or roller stands
- Heavy-duty metal sawhorses
- Welding table clamps
- Welding squares and positioning tools

11. Equipment Safety Inspection

- All welding machines are in working condition
- Welding leads and electrical connections are undamaged
- Cutting torch equipment has been inspected for leaks and damage
- Gas cylinders are properly secured
- All metal saws have required guards
- All angle grinders have guards installed
- Portable tables are stable and properly secured
- Jack stands are rated for the supported load and inspected
- All participants have required PPE

Important Reminders for Coaches and Competitors

- Inspect all equipment before arriving.
- Ensure all angle grinders have proper safety guards.
- Bring sufficient E7018 and E6011 electrodes.
- Make sure all required PPE is available and in good condition.
- Follow all contest safety rules and supervisor instructions.
- Confirm which equipment, such as welding machines, leads, work clamps, and cutting equipment, is in working condition.
- Make sure to have all your paperwork with you on hand including team roster and check information and maps.

Contest reminder:
This is a recommended checklist, not a finalized mandatory equipment list. Tools involving cutting or grinding should only be used under the contest's established safety procedures and supervision. All powered and gas-cutting equipment must be operated under approved contest safety procedures.