



MANUFACTURED HOUSING Field Guide

Standards of Reference: [Technical Standards for the Manufactured Housing Professional](#)

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Health and Safety

Inspected wiring and correctly identified type, specifying certified electrician if aluminum
Demonstrated electrical inspection for operation of outlets, lights, polarity and ground
Inspected plumbing for leaks, specifying repairs
Demonstrated scaffold set-up
Demonstrated proper use of personal protective equipment
Inspected for moisture issues in the interior wall and roof cavities
Identified source of moisture and specified treatment including mechanical ventilation where sources exist and cannot be removed

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Belly

Completed thorough inspection of belly including belly board
Completed thorough inspection of belly including vapor barrier
Completed thorough inspection of belly including insulation
Completed thorough inspection of belly including ductwork
Completed thorough inspection of belly including framing type
Identified and prioritized belly treatment
Inspected interior areas where insulation may enter home during belly blow
Identified proper materials and procedures for treatment (dense pack wings, prioritized belly patches over insulation)
Explained procedures for insulating with both longitudinal and cross-wise framing

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Sidewalls

Identified construction type, including interior obstructions
Identified existing insulation
Identified any issues/obstructions to blowing walls (weak paneling, interior holes, electrical)
Demonstrated proper procedures for drilling opening and plugging/sealing holes after installation
Demonstrated proper tubing technique for blowing fiberglass for at least one example (explained procedures for remaining two)
Demonstrated wall stuffing technique

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Windows and Doors

Inspected for proper fit, operation, and performance
Identify appropriate replacement if needed
Demonstrate procedure to accurately measure for replacement

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Roof / Ceiling

Demonstrate roof inspection (drill hole visual or photograph, measure cavity and insulation)
Identify framing type and condition of roof / ceiling
Identify type, location, and effectiveness of insulation and vapor barrier
Identify proper materials and procedures for treatment
Demonstrate or explain procedures for each of the following techniques: top access
Demonstrate or explain procedures for each of the following techniques: side access
Demonstrate or explain procedures for each of the following techniques: interior drill and blow
Inspected for proper terminations of plumbing, flues
Demonstrate or explain procedures for blocking around large penetrations (flues, swamp coolers)
Demonstrate proper techniques to seal opening when installation is complete
Identified strong back and procedure for getting around it

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Air Sealing / Ventilation

Demonstrate or explain procedure to prepare Manufactured Home for blower door test
Air seal ceiling for moisture mitigation and seal any large penetrations to prep for insulation
Prioritized insulation/air sealing measures based on results (<2000 CFM50: insulate before air sealing, 1500 CFM50 cutoff for air sealing)
Below 800 CFM50 made sure bath fan has at least 75 CFM rated capacity (use pressure pan or pressure drop across door to verify operation)
Made sure kitchen fan operates if gas range is present

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Mechanical Systems

Identified venting type of furnace, specified replacement if not sealed combustion
Identified venting type of DHW, specified replacement if interior closet and not sealed combustion
Inspected water heater for switchable gas valve
Inspected water heater closet for connections to other areas
Identified proper materials and procedures for air sealing DHW closet
Demonstrate pressure differential test to verify separation of closet from living space
Demonstrate pressure test to verify DHW is separate from furnace
Demonstrate CO testing procedures for furnace, water heater and closet area
Demonstrate pipe insulation for water heaters
Woodstove? (demonstrate CAZ depressurization test, calculate make-up air, inspect for code violations)

Combustion Safety Tests

Correctly identified heating / cooling system types
e.g., Atmospheric, sealed combustion, power vented, etc

Correctly identified basic heating / cooling system operating components
e.g., burner, valves, supply, return, etc

Visual inspection of venting system for problems
Determined condition accurately

Identified existing heating/cooling system components safety concerns
e.g. P&T valve, blow off discharge, fire hazards, exposed wires

Set up for natural conditions
Proper manometer setup

Correctly measured baseline pressure differential

Correctly setup home in worst case condition
All exhaust appliances running
Correct door closures - measured quantitatively or qualitatively
Air handler operation impact checked

Correctly measured worst-case CAZ depressurization

Took into account baseline pressure differential

Calculated minimum draft pressure based on existing weather conditions

Checked for worst case spillage in heating system
method used_e.g., mirror, smoke, etc

Checked for worst case spillage in DHW
method used_e.g., mirror, smoke, etc

Correctly identified time limits for spillage based on BPI Standards – Ask candidate

Correctly determined if the appliance passes the spillage test

What steps should be taken if it does not pass

Performed worst case draft test on heating system
Proper probe placement

Performed worst case draft test on DHW
Proper probe placement

Candidate performed testing under natural conditions (use sections above to assess)
(only necessary if spillage detected under worst case)

Made appropriate recommendations according to BPI standards (using right table)

Compared diagnostic results to appropriate table in the standards

Identified the need for further evaluation when other combustion sources exist
(fireplace, space heater, etc)

CO Testing

Tested ambient CO outdoors
Properly interpreted measurements

Tested ambient CO indoors
Properly interpreted measurements

Measured heating system flue gas CO during combustion safety testing
- Proper probe placement, before mixing with ambient air, appropriate to venting type

Measured DHW flue gas CO during combustion safety testing
- Proper probe placement, before mixing with ambient air

Appropriate application of BPI action levels based on test results for CO in flue

Correctly identified Action Levels based on worst case CO results – Ask candidate

Monitored ambient CO levels in the CAZ during entire combustion safety tests

Tested for CO in oven

Checked for items, excessive debris inside oven

Oven test sampling location appropriate

Appropriate application of BPI action levels based on test results for CO in oven

Ductwork

Demonstrate proper inspection techniques (visual, flashlight, mirror)

Demonstrate pressure pan test and properly interpret results

Identify areas for safe treatment

Identify proper materials and procedures for treatment (cleaning prior to mastic, securing to avoid sagging)

Demonstrate room to room pressure test

Identify treatments to relieve pressure imbalances between rooms