

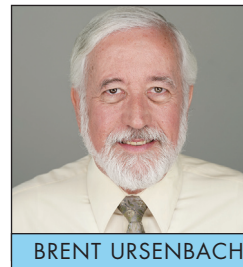
MECHANICAL CODE DISCUSSION

2021 IRC/IMC - APPLIANCE ACCESS – Update

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DESPITE WRITING ABOUT APPLIANCE ACCESS issues four years ago, ongoing problems and questions necessitate another review. In the early 1970s, at the beginning of my HVAC career, crawlspace installations often required disassembling furnaces to fit through small openings, resulting in old, abandoned furnaces scattered around in the crawlspace. Today, professionals frequently face similar challenges: removing other furnaces or water heaters to replace an appliance, cutting access opening in permanent construction, working in attics without proper platforms, using flashlights or extension cords due to poor lighting, and struggling with insufficient clearance for maintenance tasks. Mechanical codes address these issues to ensure safe and efficient work conditions. These quoted relevant IRC sections mirror those in the IMC and IPC. **PLEASE study these code sections, paying particular attention to underlined text.**

2021-M1305.1 Appliance access for inspection service, repair and replacement. *Appliances shall be located to allow for access for inspection, service, repair and replacement without removing permanent construction, other appliances, or any other piping or ducts not connected to the appliance being inspected, serviced, repaired or replaced. A level working space not less than 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an appliance.*



I shot these photos in a multi-million dollar home located in one of the ski resort areas. The back furnace is 24" wide, with a 12 1/2" wide space for access and furnace removal.

2021 M1305.1.1 Appliances in rooms. *Appliances installed in a compartment, alcove, basement or similar space shall be accessed by an opening or door and an unobstructed passageway measuring not less than 24 inches (610 mm) wide and large enough to allow removal of the largest appliance in the space, provided there is a level service space of not less than 30 inches (762 mm) deep and the height of the appliance, but not less than 30 inches (762 mm), at the front or service side of the appliance with the door open.*

M1305.1.2 Appliances in attics. *Attics containing appliances shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be not less than 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow the removal of the largest appliance.*

Exceptions:

1. The passageway and level service space are not required where the appliance can be serviced and removed through the required opening.

2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not more than 50 feet (15 250 mm) long.

→→→ **M1305.1.2.1 Electrical requirements.** A luminaire controlled by a switch located at the required passageway opening and a receptacle outlet shall be installed at or near the appliance location in accordance with Chapter 39. Exposed lamps shall be protected from damage by location or lamp guards.

M1305.1.3 Appliances under floors. Underfloor spaces containing appliances shall be provided with an unobstructed passageway large enough to remove the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the appliance. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry extending 4 inches (102 mm) above the adjoining grade in accordance with Chapter 4. The rough-framed access opening dimensions shall be not less than 22 inches by 30 inches (559 mm by 762 mm), and large enough to remove the largest appliance.

Exceptions:

1. The passageway is not required where the level service space is present when the access is open, and the appliance can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall not be limited in length.

M1305.1.3.1 Ground clearance. Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 3 inches (76 mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions. Appliances suspended from the floor shall have a clearance of not less than 6 inches (152 mm) from the ground.

Please see **M1305.1.3.2 Pit locations**, for details where a pit is dug out for an appliance.

Summarizing:

- Each appliance must be installed with an access opening allowing removal and replacement of the largest appliance. Another appliance cannot block replacement access or removal.
- Space must be provided as defined, from the appliance to the access, for travel and appliance removal.
- These travel spaces do not include exceptions for crawling over and under ducts, pipe, wires, etc. These and other obstacles must be installed where they do not encroach into service access and service spaces.
- 30" wide and deep service spaces, with level platforms or surfaces must be provided in front of all sides of an appliance requiring service. See manufacturer's installation instructions.
- Where service platforms are located within insulated attics, the platform and passageways must be installed above the required insulation. Walkways above the insulation MUST be provided to the appliance.
- Have you ever been tempted to leave a pull chain light on, rather than navigate back across the trusses in an attic to turn it off, then work your way back to the access in the dark? A light and receptacle are required at each appliance location, with the light switch at the access opening.

The IRC does not require updating other codes, (other than mechanical and fuel gas codes) with an appliance replacement; however, if you are working on a remodel

project, do not hesitate to remind the general contractor or inspector of these important code requirements. If you are installing systems in a new construction home or addition, these are mandatory in every situation. Additionally, you cannot create a code violation in a new installation, blocking access to an existing appliance, when adding a new furnace or water heater.

Please feel free to contact me with your questions or comments on this or other code subjects. Thanks — **Brent** ■

