

HAWAII ADMINISTRATIVE RULES

TITLE 12

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

SUBTITLE 8

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

CHAPTER 240

ELEVATOR REQUIREMENTS FOR INDIVIDUALS WITH DISABILITIES

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§12-240-1 General. Passenger elevators which have had their architectural plans reviewed for installation permit after December 6, 1990, shall have accessible elevators on an accessible route and shall comply with American National Standards Institute specifications for making buildings and facilities accessible to and usable

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by persons with disabilities (ANSI A117.1-1986) and with the American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks, ASME A17.1 1996. This standard does not preclude the use of residential or fully enclosed wheelchair lifts when appropriate and approved by administrative authorities. Freight elevators shall not be considered as meeting the requirements of this section, unless the only elevators provided are used as combination passenger and freight elevators for the public and employees. [Eff 12/6/90; am 11/5/93; am 7/6/98; am 6/30/14; comp FEB ↑ 5 2019] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-2 Automatic operation. Elevator operation shall be automatic. Each car shall be equipped with a self-leveling feature that will automatically bring the car to floor landings within a tolerance of one-half (1/2) inch or thirteen (13) millimeters under rated loading to zero loading conditions. This self-leveling feature shall be automatic and independent of the operating device and shall correct the overtravel or undertravel. [Eff 12/6/90; am and comp FEB ↑ 5 2019] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-3 Hall call buttons. Call buttons in elevator lobbies and halls shall be centered at approximately forty-two (42) inches (1065 millimeters) above the floor. When situations prohibit mounting at forty-two (42) inches, in conjunction with ICC A117.1-2009, hall buttons may be mounted between fifteen (15) inches and forty-eight (48) inches for unobstructed forward reach, and between twenty-five (25) inches and forty-eight (48) inches for obstructed forward reach. Such call buttons shall have visual signals to indicate when each call is registered and when each call is answered. Call buttons shall be a minimum of three-fourths (3/4) inch or nineteen (19) millimeters in the smallest dimension. The button designating the up direction shall be on top as shown in Figure 240-1, titled, "Hoistway and

Elevator Entrances", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. Buttons shall be raised or flush. Objects mounted or placed beneath hall call buttons shall not project into the elevator lobby more than four (4) inches or 100 millimeters. [Eff 12/6/90; am and comp **FEB 15 2019**] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-4 Hall lanterns. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call. Audible signals shall sound once for the up direction and twice for the down direction or shall have verbal annunciators that say "up" or "down." Visible signals shall have the following features:

- (1) Hall lantern fixtures shall be mounted so that their centerline is at least seventy-two (72) inches or 1830 millimeters above the lobby floor;
- (2) Visual elements shall be at least two and a half (2.5) inches or sixty-four (64) millimeters in the smallest dimension; and
- (3) Signals shall be visible from the vicinity of the hall call button. In-car lanterns located in cars, visible from the vicinity of hall call buttons, and confirming to the above requirements, shall be acceptable as shown in Figure 240-1, titled, "Hoistway and Elevator Entrances," dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. [Eff 12/6/90; am and comp **FEB 15 2019**] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-5 Raised characters on hoistway entrances. All elevator hoistway entrances shall have raised floor

designations provided on both jambs. The centerline of the characters shall be sixty (60) inches (1525 millimeters) from the floor. Such characters shall be two (2) inches or fifty (50) millimeters high and shall comply with ANSI A117.1-1986 Rule 1.30. Permanently applied plates are acceptable if they are permanently fixed to the jambs as shown in Figure 240-1, titled, "Hoistway and Elevator Entrances", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. [Eff 12/6/90; am and comp FEB 15 2019] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-6 Door protective and reopening device.

Elevator doors shall open and close automatically. They shall be provided with a reopening device that will stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person. The device shall be capable of completing these operations without requiring contact for an obstruction passing through the opening at heights of five (5) inches and twenty-nine (29) inches or 125 and 735 millimeters, respectively, from the floor as shown in Figure 240-1, titled, "Hoistway and Elevator Entrances", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. Door reopening devices shall remain effective for at least twenty (20) seconds. After such an interval, doors may close in accordance with the requirements of ANSI A17.1b-1989. [Eff 12/6/90; am and comp FEB 15 2019] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-7 Door and signal timing for hall calls.

The minimum acceptable time from notification that a car is answering a call until the doors of that car start to close shall be calculated from the following equation:

$$T = \frac{D}{1.5 \text{ ft./s}} \quad \text{or} \quad T = \frac{D}{455 \text{ mm/s}}$$

where T = total time in seconds and D = distance (in feet or millimeters) from a point in the lobby or corridor sixty (60) inches or 1525 millimeters directly in front of the farthest call button controlling that car to the centerline of its hoistway door as shown in Figure 240-2, titled "Graph of Timing Equation", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. For cars with in-car lanterns, T begins when the lantern is visible from the vicinity of hall call buttons and an audible signal is sounded. The minimum acceptable notification time shall be five (5) seconds. [Eff 12/6/90; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4) **FEB 15 2019**

§12-240-8 Door delay for car calls. The minimum time for elevator doors to remain fully open in response to a car call shall be three (3) seconds. [Eff 12/6/90; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4) **FEB 15 2019**

§12-240-9 Floor plan of elevator cars. The floor area of elevator cars shall provide space for wheelchair users to enter the car, maneuver within reach of controls, and exit from the car. Acceptable door opening and inside dimensions shall be as shown in Figure 240-3, titled "Minimum Dimensions of Elevator Cars", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. The clearance between the car platform sill and the edge of any hoistway landing shall be no greater than one and one-fourth inch or thirty-two (32) millimeters. [Eff 12/6/90; am 7/6/98; am and comp] (Auth: HRS §397-4) (Imp: HRS §397-4) **FEB 15 2019**

§12-240-10 Floor surfaces. Floor surfaces shall comply with ANSI A117.1-1980 Rule 4.5. [Eff 12/6/90;

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comp **FEB 15 2019**] (Auth: HRS §397-4) (Imp: HRS
§397-4)

§12-240-11 Illumination levels. The level of illumination at the car controls, platform, and car threshold and landing sill shall be at least five (5) footcandles (53.8 lux). [Eff 12/6/90; am and comp **FEB 15 2019**] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-12 Car controls. Elevator control panels shall have the following features:

- (1) Buttons. All control buttons shall be at least three fourths (3/4) inch or nineteen (19) millimeters in their smallest dimension. They may be raised or flush;
- (2) Tactile and visual control indicators. All control buttons shall be designated by raised standard alphabet characters for letters, Arabic characters for numerals, or standard symbols as shown in Figure 240-4(a), titled "Car Controls", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter, and as required in ANSI A17.1-1989. Raised characters and symbols shall comply with ANSI A17.1-1986 Rule 4.30. The call button for the main entry floor shall be designated by a raised star at the left of the floor designation as shown in Figure 240-4(a), titled "Car Controls", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. All raised designations for control buttons shall be placed immediately to the left of the button to which they apply. Applied plates, permanently attached, are an acceptable means to provide raised control designations. Floor

- buttons shall be provided with visual indicators to show when each call is registered. The visual indicators shall be extinguished when each call is answered;
- (3) Height. All floor buttons shall be no higher than fifty-four (54) inches or 1220 millimeters, above the finish floor for side approach and forty-eight (48) inches for front approach. Emergency controls, including the emergency alarm and emergency stop, shall be grouped at the bottom of the panel and shall have their centerlines no less than thirty-five (35) inches or 890 millimeters above the floor as shown in Figures 240-4(a) and (b), entitled "Car Controls", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. The emergency alarm bell shall be operable under normal power as well as for a minimum of one (1) hour on auxiliary power in the event of the loss of normal power; and
- (4) Location. Controls shall be located on a front wall if cars have center opening doors, and at the side wall or at the front wall next to the door if cars have side opening doors as shown in Figures 240-4(c) and (d), entitled "Car Controls", dated December 6, 1990, which is made a part of this chapter, and located at the end of this chapter. [Eff 12/6/90; am 11/5/93; am and comp FEB 15 2019] (Auth: HRS §397-4) (Imp: HRS §397-4)

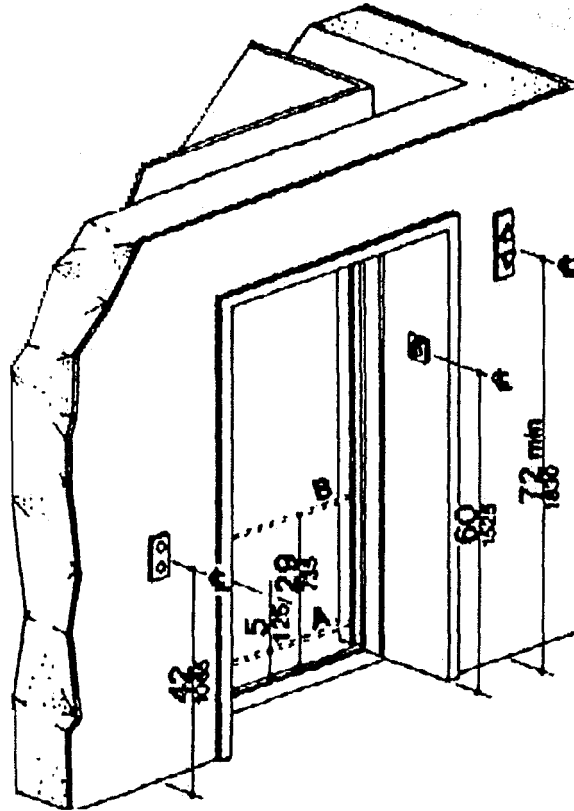
§12-240-13 Car position indicators. In elevator cars, a visual car position indicator shall be provided above the car control panel or over the door to show the position of the elevator in the hoistway. As the car passes or stops at a floor served by the elevators, the corresponding numerals shall illuminate, and an audible signal shall sound. Numerals shall be a minimum of one-half (1/2) inch or thirteen (13) millimeters high. The

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audible signal shall be no less than twenty (20) decibels with a frequency no higher than 1500 Hertz. An automatic verbal announcement of the floor number at which a car stops or which a car passes may be substituted for the audible signal. [Eff. 12/6/90; am and comp FEB 15 2019] (Auth: HRS §397-4) (Imp: HRS §397-4)

§12-240-14 Emergency communications. If provided, emergency two-way communication systems between the elevator and a point outside the hoistway shall comply with ANSI A17.1-1989. The highest operable part of a two-way communication system shall be a maximum of forty-eight (48) inches or 1220 millimeters from the floor of the car. It shall be identified by a raised or recessed symbol and lettering complying with ANSI A117-1986 Rule 4.30 and located adjacent to the device. If the system uses a handset, then the length of the cord from the panel to the handset shall be at least twenty-nine (29) inches or 735 millimeters. If the system is located in a closed compartment, the compartment door hardware shall conform to ANSI A117.1-1980 Rule 4.27, Controls and Operating Mechanisms. The emergency intercommunication system shall not require voice communication. [Eff. 12/6/90; am and comp FEB 15 2019] (Auth: HRS §397-4) (Imp: HRS §397-4)

Figure 240-1
Holstway and Elevator Entrances
December 6, 1990



NOTE: The automatic door reopening device is activated if an object passes through either line A or line B. Line A and Line B represent the vertical locations of the door reopening device not requiring contact.

Figure 240-2
Graph of Timing Equation
December 6, 1990

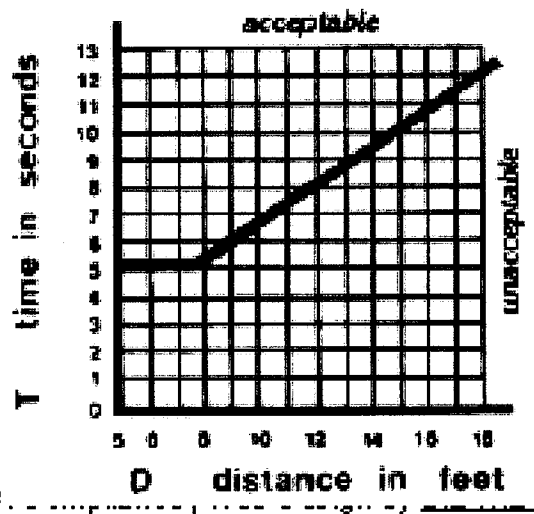


Figure 240-3
Minimum Dimensions of
Elevator Cars
December 6, 1990

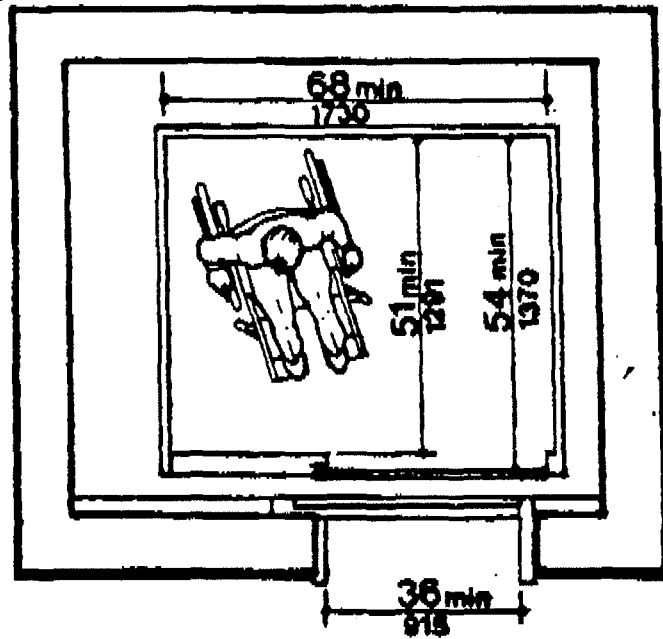
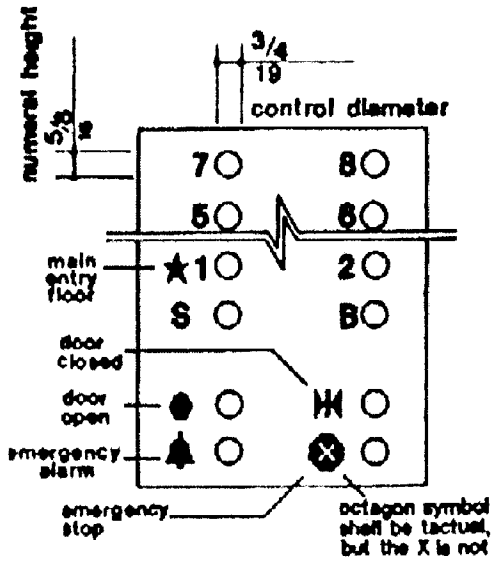
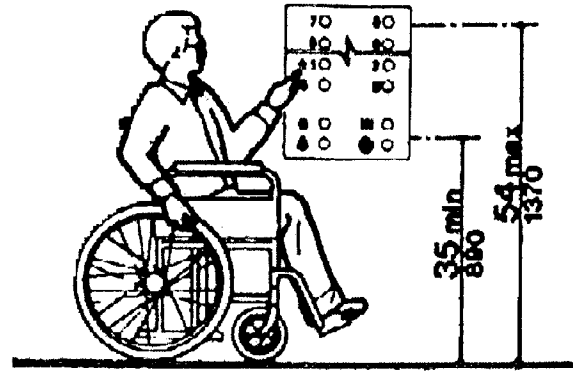


Figure 240-3
Minimum Dimensions of Elevator Cars

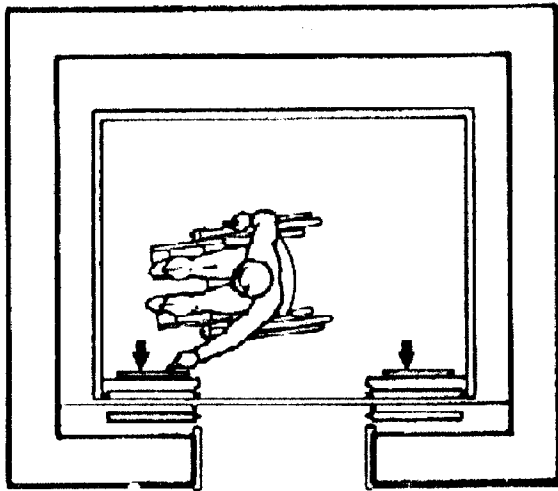
Figure 240-4
 Car Controls
 December 6, 1990



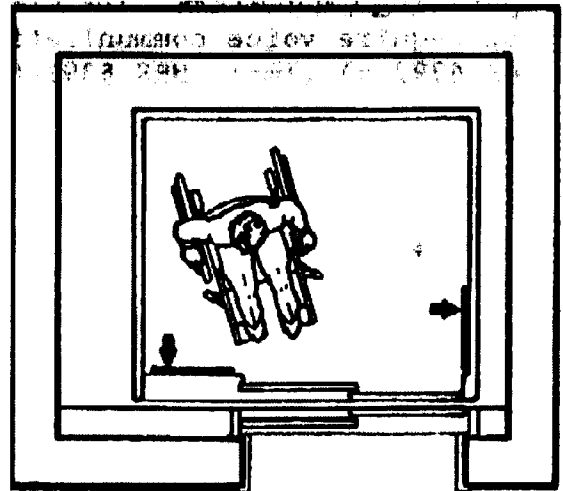
(a)
 Panel Detail



(b)
 Control Height



(c)
 Alternate Locations of Panel
 with Center Opening Door



(d)
 Alternate Locations of Panel
 with Side Opening Door

Figure 240-4
 Car Controls

