



Elevator Safety Program - Technical Clarification

T/C #: 22-10

Equipment Type: 5.3 Residential Elevator Hatch Covers		Topic: Shaftless Elevator Floor Hatch Cover Switches	
Residential <input checked="" type="checkbox"/>	Commercial <input type="checkbox"/>	Code:	ASME A17.1/CSA B44,
Created:	October 17, 2022	Section/Req:	5.3.1.1.2(b)(3)
Last Revision:	June 9, 2023	WAC/RCW:	WAC 296-96-00500 (5)

It has come to the attention of the Elevator Safety Program that there is a issue as to the application of written code found in ASME A17.1/B44 Section 5.3 Residential Elevators 5.3.1.1.2(b)(3) as to the location of hatch cover switches.

"5.3.1.1.2 The enclosure shall be permitted to be omitted on the upper landing on continuous-pressure operation elevators serving only adjacent landings (one-floor rise) conforming to one of the following:

- (a) The floor opening at the upper landing is protected by a partial enclosure and gate at least 910 mm (36 in.) high with openings that will reject a ball 25 mm (1 in.) in diameter, and the gate is provided with a combination mechanical lock and electric contact.*
- (b) The floor opening is provided with a vertically lifting hatch cover which is automatically raised and lowered vertically by the ascending and descending car, provided this cover meets the following requirements:*
 - (1) It is fitted with guides to ensure its proper seating.*
 - (2) It is designed and installed to sustain a total load of 3.6 kPa (75 lbf/ft²) or 135 kg (300 lb) at any one point.*
 - (3) It is equipped with an electric contact that will prevent the **upward travel of the car** when a force of **90 N (20 lbf)** is placed at any point on the top of the hatch cover."*



The image shows a typical shaft-less residential elevator traveling upward and the hatch is shown resting on the top of the elevator cab. The top of the cab has switches mounted which are adjustable to not allow the hatch to be lifted if there is 90 N (20lbf) of weight on the hatch cover for safety. This is to prevent the **upward travel of the car** from posing a life safety issue by moving if there is someone or something on the cover.

The issue is the code clearly reads that the hatch is provided with the electrical contact (switches) (3), but the different manufacturing companies have applied the code with cartop placement of these switches due to the fact that the hatch cover is designed not to deflect its shape (2) to activate switches that meet the letter of the code.

Therefore it is the decision of the AHJ of the Elevator Program following the WAC 296-96-00500 (5) following safe design and do hereby issue this interpretation that until such time as the ASME A17.1 code committee clarifies and changes the wording, the above design with the electrical contact (switches) installed on the car top **will NOT be allowed in Washington State**. New Installations will follow the two options (a) or (b) of the code for shaft-less ASME 5.3 Residential Elevators.

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