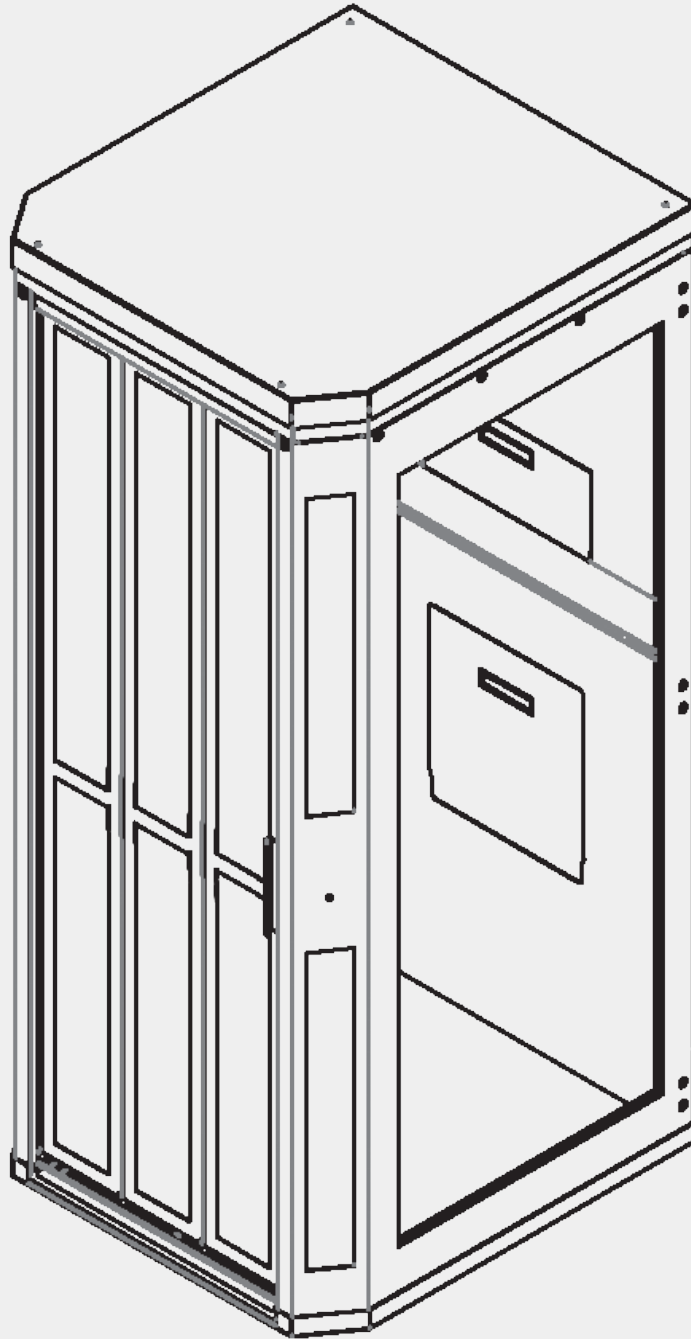


# Shaftless Elevator Design Guide


ASME A17.1, Section 5



# Table of Contents

About Symmetry Elevating Solutions.....	2
What is a Shaftless Elevator?.....	3
Component Identification.....	4
Common Specifications.....	5
Configurations.....	6-7
Construction Detail.....	8-10
Elevator Doors & Gates.....	11

## About Symmetry Elevating Solutions

Symmetry is a beautifully crafted, expertly engineered accessibility-related product line proudly **made in the U.S.A.** at the Bella Elevator LLC manufacturing plants. Promoted and sold by our  exclusive nationwide network of carefully selected Symmetry partners and associates, Symmetry offers residential elevators, vertical platform lifts (VPL), limited use/limited application (LULA) elevators and vertical reciprocating conveyors (VRC).

Strictly following national code guidelines and adhering to local jurisdiction requirements and variances, Symmetry products are ADA and ASME compliant and manufactured to meet the end users' specific needs. Symmetry Elevating Solutions representatives possess a wealth of knowledge and experience and are committed to excellence for the life of the product-before, during and after project completion.

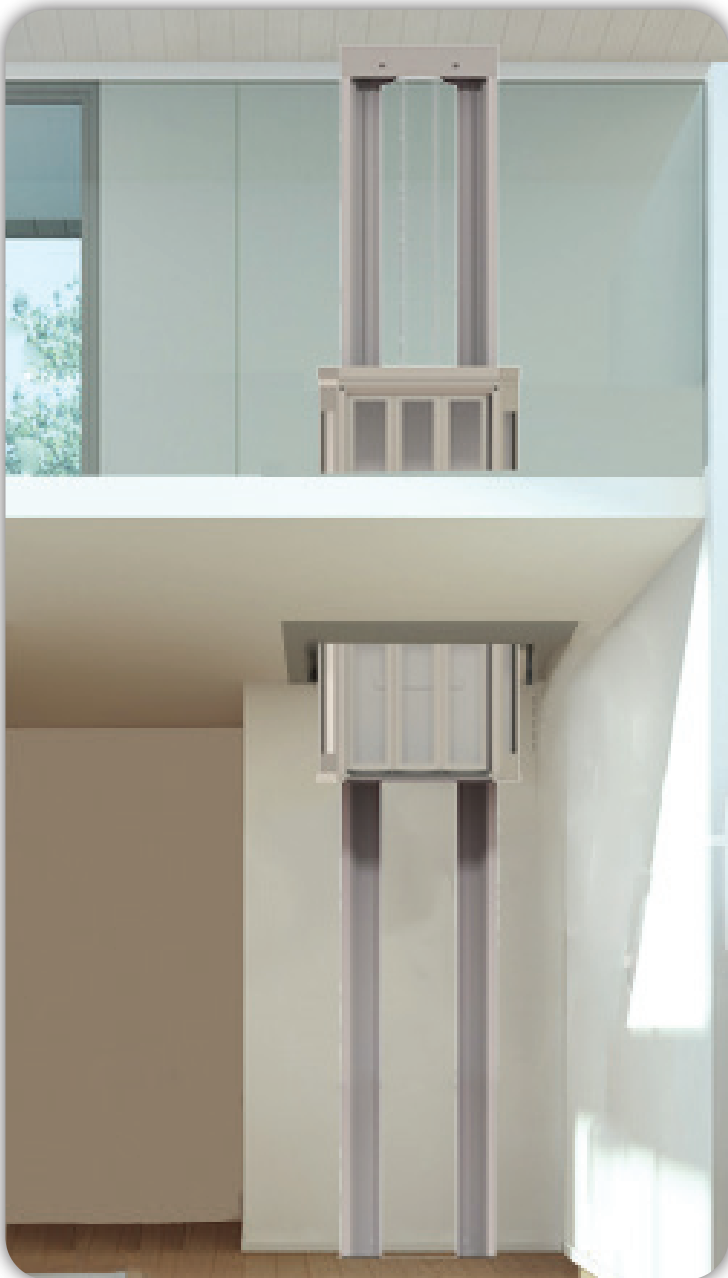
With dealer locations spanning North America, we are equipped to meet the accessibility needs of a wide spectrum of clients, from home and business owners, to schools, municipalities and other governmental entities.

*Please note that this guide is for planning purposes only, applies exclusively to national code, and should not be used for construction. Prior to construction, please contact your local Symmetry Elevating Solutions representative and request a job-specific set of elevator plans to ensure that you obtain the accurate dimensions and requirements for your project.*

*Your representative will also assist you to identify resources to ensure that your project plans will comply with the applicable state and local codes and the permitting authorities.*

# What is a Shaftless Elevator?

Compliant with ASME A17.1 Section 5.3, Symmetry Shaftless Elevators are designed with the homeowner in mind. This elevator has a small footprint and requires no pit or machine room. Designed specifically to be retrofitted into existing homes, this elevator focuses on providing safe accessibility in the home with minimum construction, cost and maintenance. The integrated sliding door rides with the car, keeping the user safely enclosed while the elevator is in motion, and in most cases a swinging gate is not required, freeing up valuable floor space within the home. Typically installed by providing a cutout in the floor which is then covered with a floor plate that can be finished to match the home's floor coverings, a pressure sensitive top and bottom safety device is used to stop the elevator's motion if an obstruction is encountered.

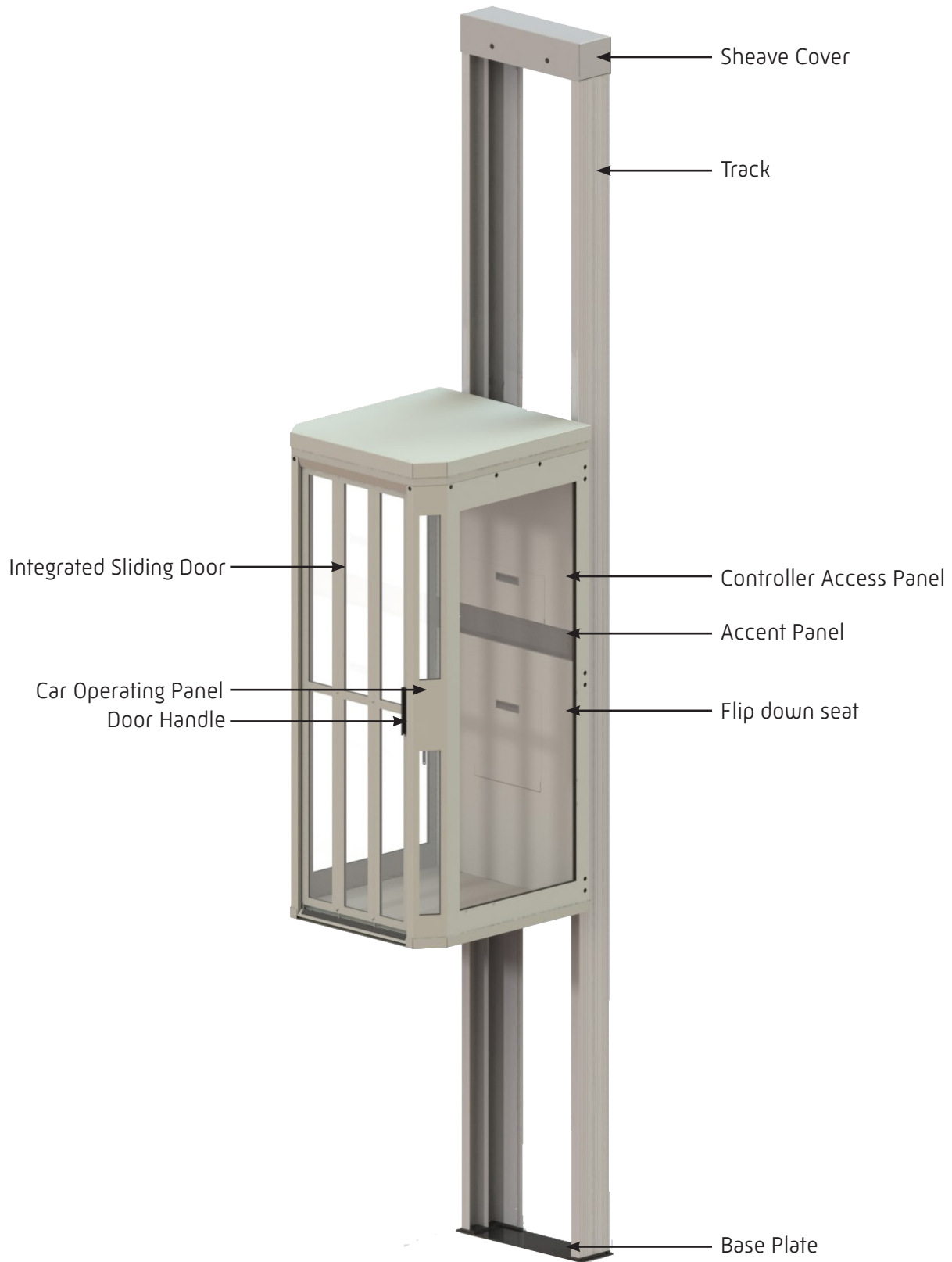


Powered by two batteries, which are continually charged with standard household current, the elevator will operate even during a power outage. It is controlled by radio frequency push button controls, so no additional wiring is required for a new installation.

The Symmetry Shaftless Elevator is provided through our exclusive national dealer network. Please consult with your local authorized distributor to see if the Symmetry Shaftless Elevator is the right fit for your project.

## Symmetry Shaftless Elevator Advantages:

- Battery Power for Use During Power Outages
- Compact, Space-Saving Design
- Custom Options Available
- Integrated Sliding Door
- Minimal Home Alterations
- Uses a Standard 120 VAC Outlet
- No Pit or Machine Room Required
- For New or Existing Construction
- Clear View from Three Sides
- Reaches Up to 14' Between Landings
- 3-Year Warranty (2-year on batteries)



# Common Specifications

*For shaftless elevators*

## Standard Features

- Rated capacity: 400 lbs.
- Speed: 14 fpm
- Stops: 2
- Opening: Single Front
- Drive System: Winding Drum
- Power: Battery system charged by standard 120 VAC electrical circuit
- Battery power allows travel during power outages
- Travel: Up to 10' (minimum 84")
- Car Size: 33"W x 35"D x 76"H
- Car Height: 6'4"
- Slimline phone mounted in recessed enclosure
- Flip down seat
- Overhead: 92½" minimum
- Lighting: (2) low voltage Warm White with Black trim rings
- Finish: Grey or Architectural White powder-coat
- Vision panels: Clear polycarbonate
- Entry: Integrated sliding door
- Floor cutout liner kit
- Integral handrail
- Carpet: Grey or Tan
- Warranty: 3-year (2-year on batteries)

## Safety Features

- Car top safety pan
- Under car safety pan
- Car door locking device
- Emergency stop switch and alarm

## Controls

- Operation: Constant pressure
- Car Operating Panel (COP): Up/down buttons, emergency stop, alarm and light switch
- Landing Controls: Flush mounted with up/down buttons
- Communication: Telephone located in the car (must be wired to home phone line)

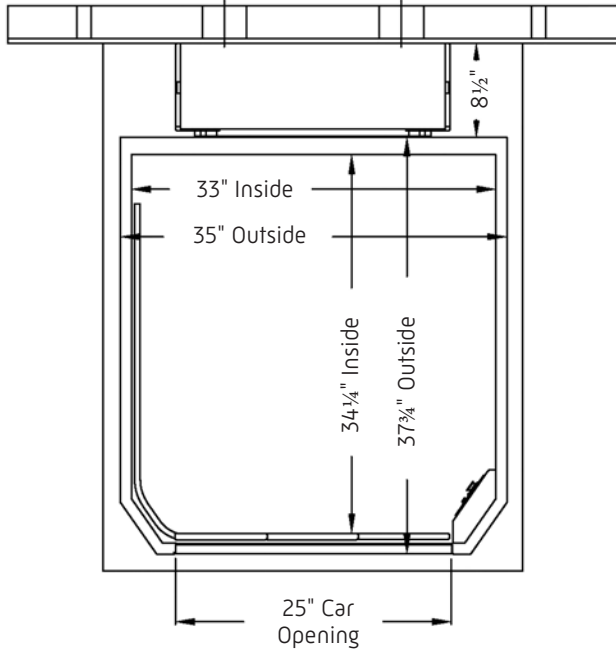
## Optional Features

- Front opening car size
  - 33"W x 26"D x 76"H
- Single side or opposite opening
  - 33"W x 39"D x 76"H
- Travel: 14' maximum
- Upper landing gate
- Custom colors available
- Remote control fob
- Lighting: (4) low voltage Warm White
- Lighting: Chrome or White trim rings
- Keyswitch on COP and/or Hall Calls
- Vision Panels: Bronze or Grey
- Metal or wood handrail
- Lockable disconnect
- Minimal anchoring package, anchors to floor, upper floor joists and ceiling (semi free standing)\*

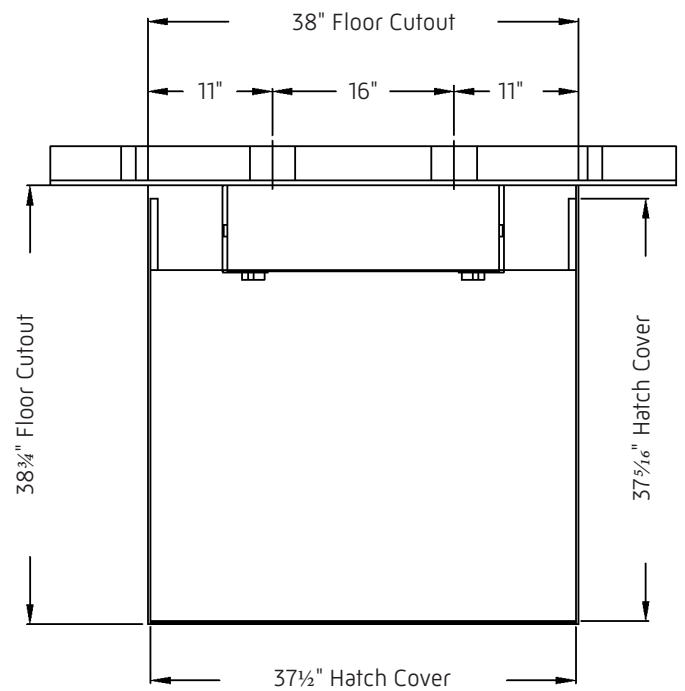
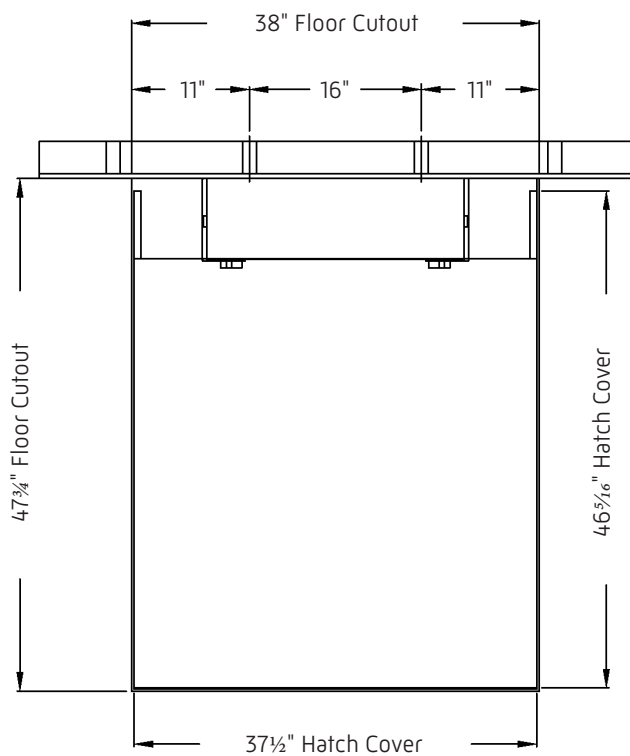
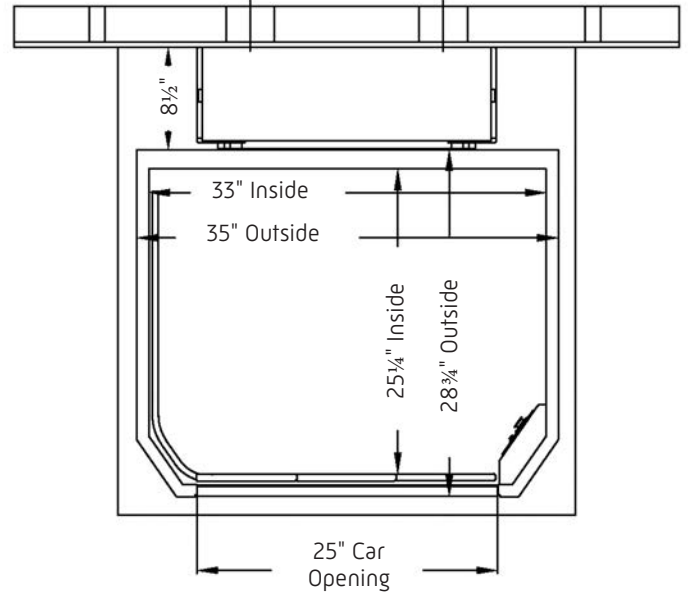
\* Requires a 93" minimum overhead



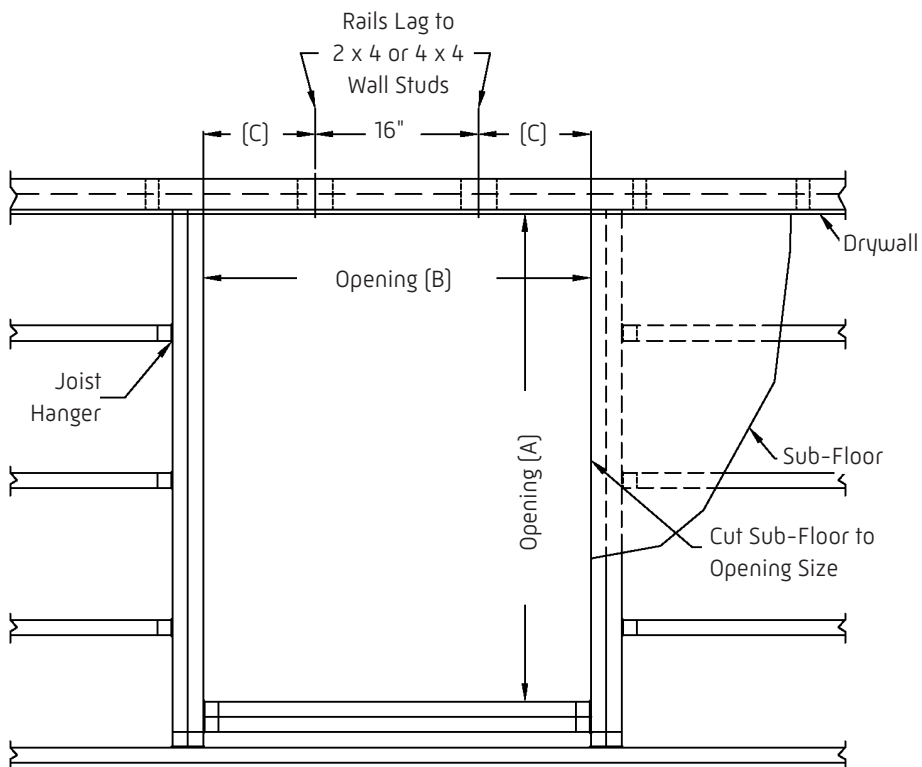
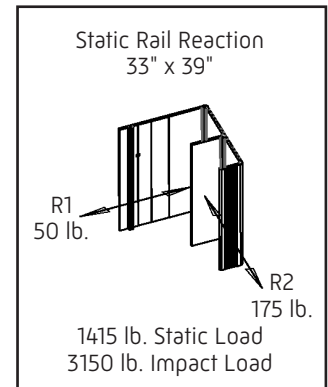
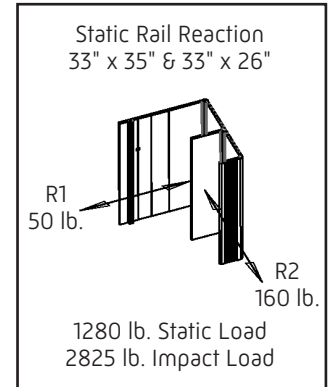
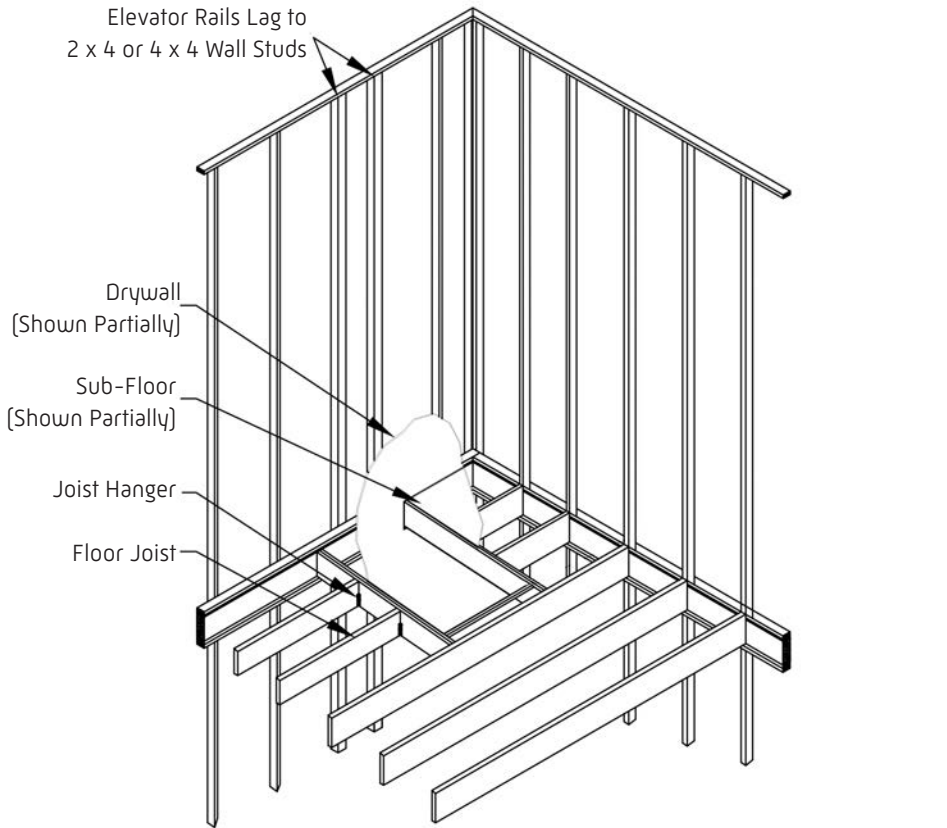
Single Opening  
Forward  
33"W x 35"D x 76"H



Single Opening  
Forward  
33"W x 26"D x 76"H





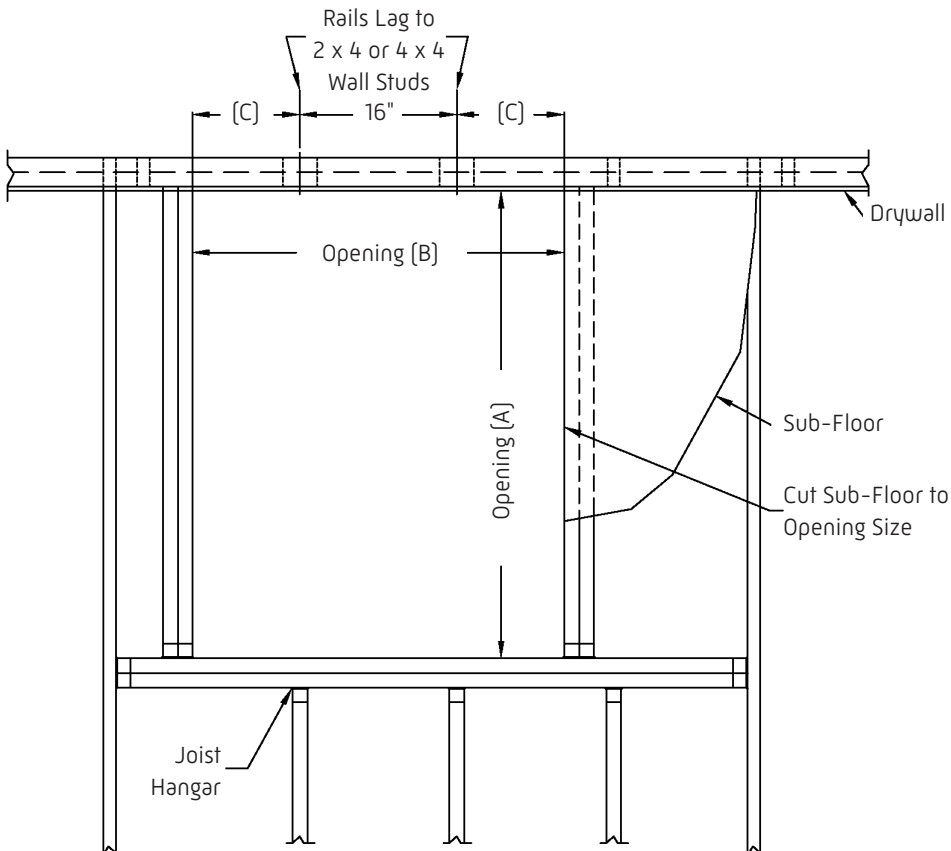
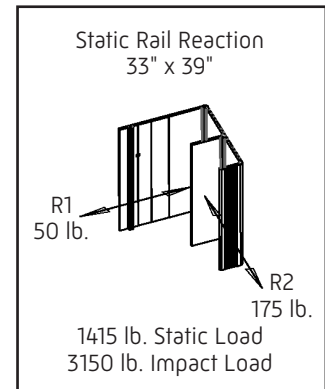
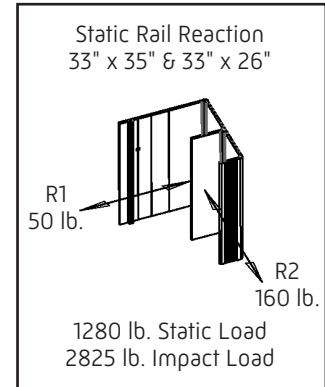
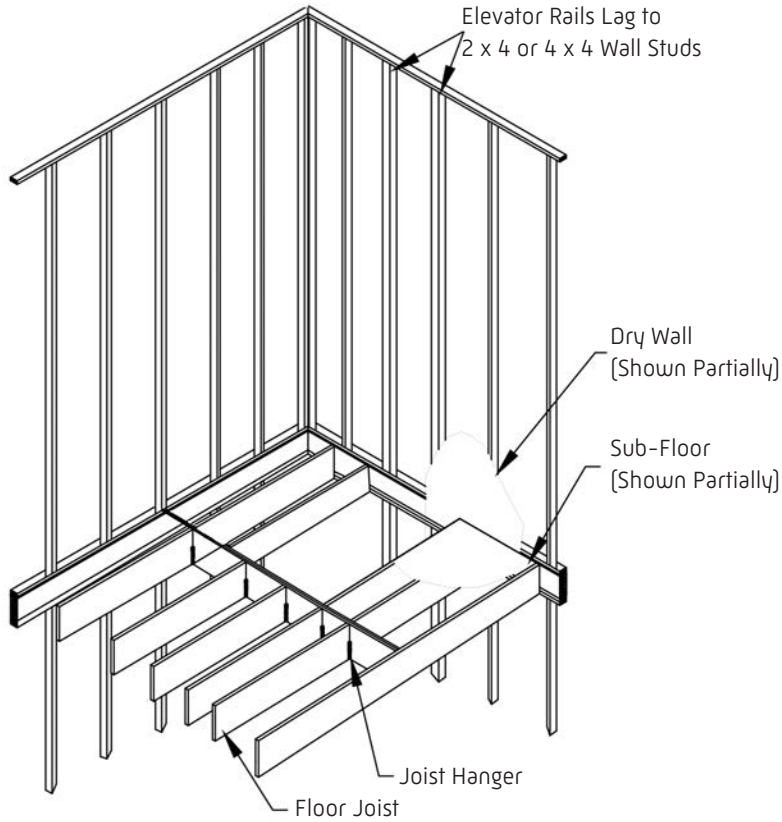


Car Size W x D	(A)	(B)	(C)
33" x 35"	47 <sup>3</sup> / <sub>4</sub> "	38"	11"
33" x 26"	38 <sup>3</sup> / <sub>4</sub> "	38"	11"
33" x 39"	46 <sup>1</sup> / <sub>4</sub> "	45 <sup>1</sup> / <sub>2</sub> "	14 <sup>3</sup> / <sub>4</sub> "

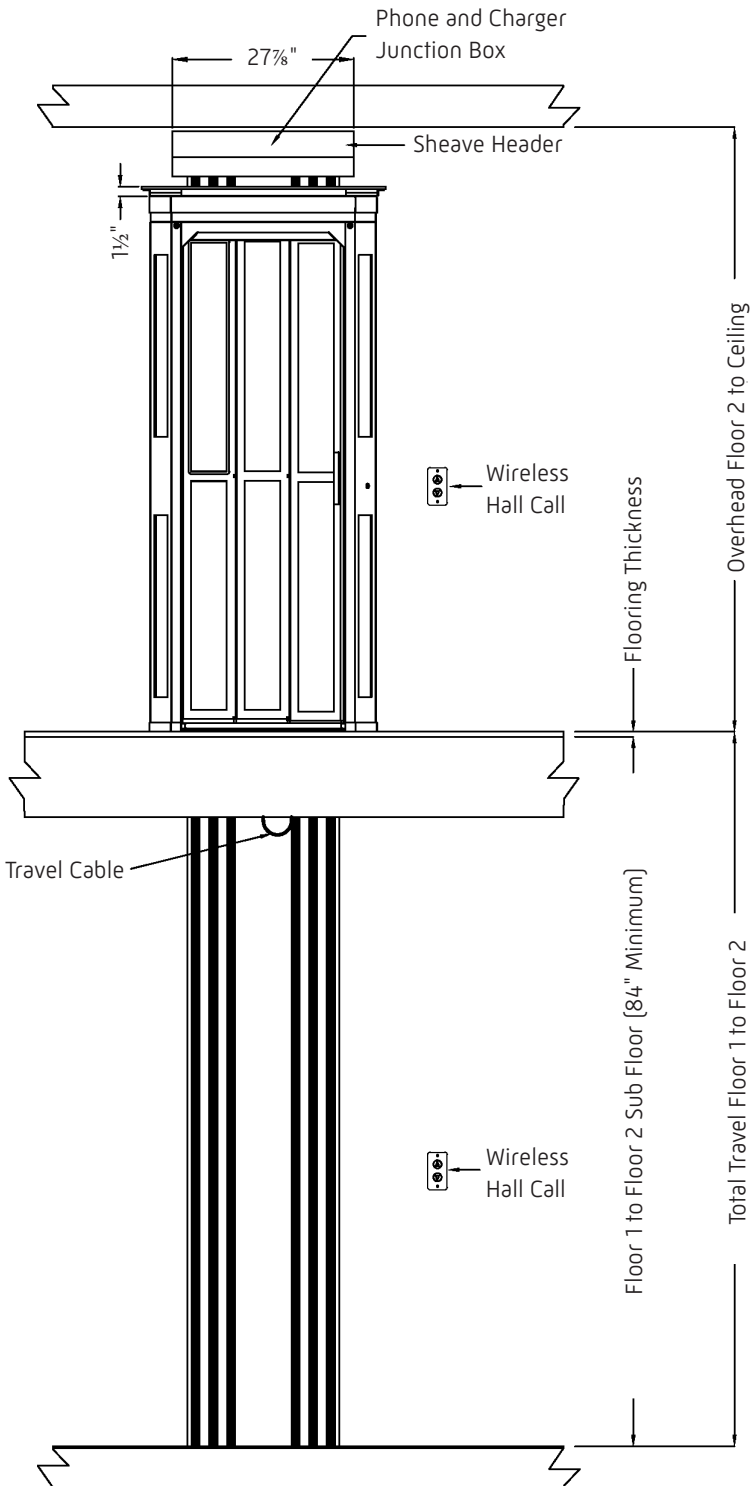


# Construction Detail Cont.

## Parallel Joists



Car Size W x D	(A)	(B)	(C)
33" x 35"	47 <sup>3</sup> / <sub>4</sub> "	38"	11"
33" x 26"	38 <sup>3</sup> / <sub>4</sub> "	38"	11"
33" x 39"	46 <sup>1</sup> / <sub>4</sub> "	45 <sup>1</sup> / <sub>2</sub> "	14 <sup>3</sup> / <sub>4</sub> "



**Disconnect:**

Some jurisdictions may require a separate disconnect. Please contact your local Symmetry provider for more information.

**AC Power Requirements:**

120 VAC 15 amp. The elevator utilizes a full time 24 volt DC drive. The batteries are continuously charged with a battery charger which has a 2 amp draw from 120 VAC power supply. This AC power source is not required to be on a dedicated circuit.

**Battery Life:**

Battery power allows travel during power outages.

**Telephone Connection:**

A telephone is provided with the elevator and is located behind the flip down seat. A connection to the home telephone service is required.

**Controls:**

The elevator controls are of a wireless radio frequency design. No additional wiring is required. The elevator controls at the landings are flush mounted. An optional remote control fob is available.

**Lighting:**

The car comes standard with 2 low voltage lights, and is available with 4 low voltage lights.

**Notes**

1. Consult local authority to ensure compliance with state and local codes
2. Maximum travel is 14' (168")
3. Minimum floor 1 to floor 2 sub-floor measurement is 84"
4. Overhead Notes:
  - Minimum overhead is 7'8 1/2" (92 1/2") with standard equipment
  - Minimum overhead is 7'9" (93") with semi-free standing option
  - Engineering review is required if overhead exceeds 100 1/4" and unit will attach to 2 x 4 wall studs



The Symmetry Shaftless Elevator uses an integrated sliding door. This door slides along a track inside the car and does not swing open into the living space. The door must be closed in order for the elevator to operate and will be locked in the closed position during operation.



The Symmetry Integrated Sliding Door utilizes a roller system for ease of opening and closing.



In some instances such as accessing the upper landing through an open foyer, a 36" tall upper landing gate will be required.



# symmetry

ELEVATING SOLUTIONS

Single Front Opening



33"W x 35"D x 76"H  
33"W x 26"D x 76"H

Single Side Opening



33"W x 39"D x 76"H

Opposite Opening



33"W x 39"D x 76"H

## AIA Continuing Education

[symmetryelevator.com/aia](http://symmetryelevator.com/aia)

Symmetry offers an in-person course to obtain continuing education credits. Each completed course is worth 1 (one) LU/HSW credit and provides a detailed review of Residential Elevators, Vertical Platform Lifts (VPLs) and Limited Use/Limited Application (LULA) Elevators.

The course also addresses: code application, specification, suitability of product type, the direct governance guidelines of ADA, ANSI and ASME, and site conditions required for a successful final installation.