

Multilift

VERTICAL PLATFORM LIFT

PLANNING GUIDE

Applicable Codes: ASME A17.1 ASME A18.1 CSA B613

> 01-m06-2011 Part No. 000736

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Purpose of this guide

This guide assists architects, contractors, and lift professionals to incorporate the Multilift Vertical Platform Lift into a residential or public building design. The design and manufacture of the Multilift Vertical Platform Lift meets the requirements of the ASME A17.1, ASME A18.1, and CSA B613 Safety Standards.

We recommend that you contact your local authority having jurisdiction to ensure that you adhere to all local rules and regulations pertaining to vertical platform lifts.

IMPORTANT NOTICE

This Planning Guide provides nominal dimensions and specifications useful for the initial planning of a vertical platform lift project. Dimensions and specifications are subject to change without notice due to continually evolving code and product applications.

Before beginning actual construction, please consult Savaria Corporation or the authorized Savaria dealer in your area to ensure you receive your site-specific installation drawings with the dimensions and specifications for your project.

Visit our website (www.savaria.com) for the most recent Multilift drawings and dimensions.

How to use this guide

1 Determine your client's intended use of the lift.

- **2** Determine the local code requirements.
- **3** Determine the site installation parameters.
- 4 Determine the cab type and hoistway size requirements.
- 5 Plan for electrical requirements.

History

December 10, 2010

Initial release of new format

January 21, 2011

- Added Mobile Multilift drawing on pg. 24
- February 24, 2011
- Added information for automatic access ramp to "Features" in Specifications table on pg. 6

June 1, 2011

· Updated all drawings to reflect current design

Description

The Multilift Vertical Platform Lift is designed to provide easy access from one landing to another. The versatile design of this lift can be adapted to most architectural requirements and its rugged construction allows for outdoor or indoor use. It is an ideal deck lift for home use and is also approved for certain commercial accessibility projects as well. The Multilift, with its ACME screw drive system, provides safe and reliable operation.

Lift components

The Multilift consists of a tower and a platform as shown in Figure 1.

Figure 1: Typical lift



Number	Description	Number	Description
1	Front tower panel	7	Tower
2	Car operating panel (C.O.P.)	8	Non-skid platform
3	Side guard panel	9	Automatic access ramp
4	Safety underpan sensors	10	Access ramp channel
5	Self support base	11	Manual lowering device
6	Tower cover	-	-

Drive tower components The Multilift drive tower components are shown in Figure 2.

Figure 2: Drive tower



Number	Description	Number	Description
1	Motor	10	Battery (optional)
2	Main pulley	11	Battery tray
3	V strap	12	Pulley
4	Controller box	13	Limit switches (may vary)
5	Acme screw	14	Unistrut
6	Left roller guide	15	Access ramp channel
7	Lower bearing	16	Right roller guide
8	Lower bearing plate	17	Cam assembly
9	Self support base	18	Carriage assembly

Specifications

Multilift specifications

Applications	Residential (indoor/outdoor); commercial (U.S.A.)		
Load capacity	750 lb (340 kg)		
Maximum travel distance	48" (1219 mm); optionally 72" (1829 mm)		
Levels serviced	2		
Travel speed	8 ft/min (0.04 m/s)		
	Type 2 (enclosed and unenclosed hoistway): • 34" x 48" (863 mm x 1219 mm) • 34" x 54" (863 mm x 1371 mm) • 34" x 60" (863 mm x 1524 mm) Type 3/4: (enclosed and unenclosed hoistway): • 35" x 47" (889 mm x 1194 mm)		
	 35" x 53" (889 mm x 1346 mm) 35" x 59" (889 mm x 1499 mm) 		
Cab types/sizes	Type 2 with platform gate (unenclosed hoistway): • 36" x 48" (914 mm x 1219 mm) • 36" x 54" (914 mm x 1371 mm) • 36" x 60" (914 mm x 1524 mm)		
	Type 3/4 with platform gate (unenclosed hoistway): • 36" x 47" (914 mm x 1194 mm) • 36" x 53" (914 mm x 1346 mm) • 36" x 59" (914 mm x 1499 mm)		
Side guard panels	42 1/8" (1070 mm) side guard panels on platform		
Cab access	Front/rear access - standard (platform Type 2)		
	90 degree access - optional (platform Type 3 and 4)		
Power supply	120 VAC, 20 A, 60 Hz, single phase		
Drive system	Acme screw and back-up nut 1 hp (0.75 Kw) motor, 110 VAC		
Control system	Optional 1/2 hp, 12-volt battery model available		
Finish	Electronic-free relay logic controller Beige electrostatic powder coat paint on all steel surfaces and vacuum-formed plastics		
FIIIISII	Call/send stations at landings		
	Continuous-pressure type buttons		
	Operating control buttons on platform		
	Emergency manual lowering/raising device		
	Low-voltage controls		
Features	Underpan sensors		
	Non-skid platform surface		
	Automatic access ramp (16"); field reversible to suit installation needs		
	Emergency stop button		
	Optional 12-volt battery model		
	optional 12 volt battery model		

Site construction details

The self-supporting base must be able to support at least 3000 lb (13.3 kN) per Figure 3 and must be anchored to a concrete slab (or floor) per Figure 4. Make sure the slab (floor) surface is level.

Figure 3: Floor loading diagram



Figure 4: Anchor points



Figure 5 illustrates the site construction details for a typical outdoor application.

Figure 5: Sample unenclosed outdoor application



Outdoor applications need a strong and stable surface that will not move throughout the years. For this reason, it is essential, when the temperature can get below the freezing point, to insert an insulate sheet between the concrete slab and the compaction rock. Figure 6 illustrates the concrete slab detail for a typical outdoor application.

Figure 6: Concrete slab detail



Landing gate/door details

Landing gate/door details are specific to each job site. Be sure to refer to your site-specific installation drawings.

There are two options that can be used when preparing for installation of the gate (or door with sill angle). Figure 7 illustrates the two options for a gate. Refer to the Installation Guide for details on installing the landing gate or door.

- Option 1 Notch out the landing so that the gate angle bracket (or door sill angle) is flush with the vertical landing surface.
- Option 2 Install a 1/4" fascia panel to fill in the gap in the vertical landing surface from underneath the gate angle bracket (or door sill angle) down to the floor/ground. If your site has a hoistway or pit, be sure to add 1/4" to those dimensions to account for the 1/4" fascia panel.

Figure 7: Options used when installing a gate



Notch out landing to install gate

Install fascia panel for gate

Commercial requirements

Following are the requirements for commercial applications.

ASME A17.1: An enclosure or hoistway is required (see Figure 8 below).

Figure 8: Hoistway requirements



ASME A17.1/A18.1: The items listed below are required.

- Grab bar (hand rail)
- Emergency light on platform
- Controller redundancy
- Emergency stop/alarm
- Platform gate or hoistway
- Top landing gate
- Disconnect (provided by others)
- Door locks

CSA: The Multilift is not approved for commercial use in Canada.

Cab types

Type 2 cab (standard)

For type 2 cabs, entry and exit are available from both ends of the platform.

Figure 9: Type 2



Type 3 and 4 cab (optional)

For type 3 and 4 cabs, entry and exit are available from one end and one side of the platform.

Figure 10: Type 3 and 4



Drawings

The next several pages provide various Multilift drawings. Always refer to your installation drawings for details specific to your site.

• Elevation and plan view drawings (for the different cab types and sizes)

•Type 2, enclosed hoistway, 34" x 48", 34" x 54", 34" x 60" •Type 3, enclosed hoistway, 35" x 47", 35" x 53", 35" x 59" •Type 4, enclosed hoistway, 35" x 47", 35" x 53", 35" x 59"

•Type 2, unenclosed hoistway, 34" x 48", 34" x 54", 34" x 60" •Type 3, unenclosed hoistway, 35" x 47", 35" x 53", 35" x 59" •Type 4, unenclosed hoistway, 35" x 47", 35" x 53", 35" x 59"

•Type 2 with platform gate, unenclosed hoistway, 36" x 48", 36" x 54", 36" x 60" •Type 3 with platform gate, unenclosed hoistway, 36" x 47", 36" x 53", 36" x 59" •Type 4 with platform gate, unenclosed hoistway, 36" x 47", 36" x 53", 36" x 59"

• Two sample landing gate layout drawings are provided

•42" x 36" auto left-hand gate •42" x 36" manual left-hand gate

Mobile Multilift drawing

Note: For specifications on other landing gates and doors, go to our website www.savaria.com, select the "architects and builders" tab at the top of the page and then select "Doors and Gates" from the menu on the left-hand side of the page.

The link is as follows: http://www.savaria.com/architects/drawings/doors-gates/index.php.



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DOOR CENTER LINE (IN CASE OF 36" DOOR)

Inches 28 3/4 28 3/4 28 3/4

mm 730 730 730

Inches 24 1/2 27 1/2 30 1/2

mm 622 699 775

Inches 49 55 61



Figure 12: Elevation and plan view - type 3, enclosed hoistway, 35" x 47', 35" x 53", 35" x 59"

14

2642

1829 (72")









Figure 14: Elevation and plan view - type 2, unenclosed hoistway, 34" x 48', 34" x 54", 34" x 60"

16









Figure 16: Elevation and plan view - type 4, unenclosed hoistway, 35" x 47', 35" x 53", 35" x 59"



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Figure 18: Elevation and plan view - type 3 with platform gate, unenclosed hoistway, 36" x 47', 36" x 53", 36" x 59"

8 2

2032 2642

1219 (48") 1829 (72")



2642

1829 (72")









Figure 22: Mobile Multilift



Provisions by others



Architect specifications

SECTION 14202 ELEVATORS AND LIFTS

PART 1GENERAL

- 1.1 SECTION INCLUDES
 - Vertical platform lifts. Α.
- 1.2 **RELATED SECTIONS**
 - Α. Division 16 Sections for electrical service for elevators to and including disconnect and fused switches at machine room.
 - Division 16 Sections for standby power source, transfer switch, and connection from auxiliary contacts in Β. transfer switch to controller.
 - C. Division 16 Section "Voice and Data Communication Cabling" for telephone service to elevators.
 - D. Section 03300 - Cast-in-Place Concrete: Concrete for elevator machine foundation, and pit.
 - E. Section 06100 - Rough Carpentry: Hoistway framing, building-in hoistway door frames and overhead hoist beams.
 - F. Section 08210 - Wood Doors: Hoistway doors.
 - G. Section 08710 - Door Hardware.
 - H. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
 - I. Section 09650 - Resilient Flooring: Floor finish in cab.
 - J. Section 09686 - Carpet: Floor finish in cab.
 - K. Section 09900 - Paints and Coatings: Interior transparent wood finish in cab.
 - L. Section 13850 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.

REFERENCES 1.3

- American National Standards Institute (ANSI) B-29.2 Chain Standards for Inverted Tooth (Silent) Chains Α. and Sprockets.
- American Society of Mechanical Engineers (ASME) A17.1 Safety Code for Elevators and Escalators. Β.
- C. American Society of Mechanical Engineers (ASME) A18.1 - Safety Standard for Platform and Stairway Chair Lifts.
- D. U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)".

1.4 **REQUIREMENTS OF REGULATORY AGENCIES:**

- Fabricate and install work in compliance with applicable jurisdictional authorities. Α.
 - Β. File shop drawings and submissions with local authorities as the information is made available. Company pre-inspection and jurisdictional authority inspections and permits are to be made on timely basis as required.

SUBMITTALS 1.5

Β.

- Submit under provisions of Section 01300. Α.
 - Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Provide a complete layout of lift equipment detailing dimensions and clearances as required.
- D. Selection Samples: For each finish product specified requiring selection of color or finish, two complete sets of color charts representing manufacturer's full range of available colors and patterns.

QUALITY ASSURANCE 1.6 Α.

- Installer Qualifications:
 - 1. Skilled tradesmen shall be employees of the installing contractor approved by the manufacturer, with demonstrated ability to perform the work on a timely basis.
- 2. Execute work of this section only by a company that has adequate product liability insurance.
- DELIVERY, STORAGE, AND HANDLING 1.7
 - Store products in manufacturer's unopened packaging until ready for installation. Α.
 - Store and dispose of solvent-based materials, and materials used with solvent-based materials, in Β. accordance with requirements of local authorities having jurisdiction.

Multilift Planning Guide

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install systems under environmental conditions outside manufacturer's absolute limits.
- 1.9 WARRANTY
 - A. Coverage this warranty applies to the repair or replacement, at Manufacturer's option, of parts that fail due to defective material or workmanship. Manufacturer may, at its option, provide factory reconditioned parts. This warranty is provided to the Authorized Dealer on behalf of the final purchaser of the product and is not transferable. The Manufacturer's warranty does not cover labor charges for the removal, repair or replacement of warranty parts but such costs may be covered for a period of time by Authorized Dealer's warranty, which is provided to purchaser separately.
 - 1. The manufacturer shall offer a 36-month warranty on parts from date of substantial completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Savaria, which is located at: 107 Alfred Kuehne Blvd. ; Brampton, ON, Canada L6T 4K3; Toll Free Tel: 800-661-5112; Tel: 905-791-5555; Fax: 905-791-2222; Email: <u>request info</u>; Web: <u>www.savaria.com</u>
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 SCREW VERTICAL PLATFORM LIFT

- A. Screw Vertical Platform Lifts: Savaria Multilift.
- B. Screw Vertical Platform Lift: The lift described here, manufactured by Savaria Lifts Inc., is a vertical platform lift consisting of a tower with a lifting platform. The platform can be customized to better accommodate a wheelchair user or a person with impaired mobility. The lift can be used indoor or outdoor (with optional package) and in commercial and residential applications.
- C. Characteristics:
 - 1. Rated Load: 750 lb (340 kg).
 - 2. Rated Speed: 8 fpm (0.04 m/s).
 - 3. Car Dimensions: 34 inches W by 48 inches D (864 mm by 1219 mm).
 - 4. Levels Serviced: 2.
 - 5. Car Access: Front/rear exit.
 - 6. Travel: 72 inches (maximum) (1827 mm)
 - 7. Operations: Constant pressure.
 - 8. Power Supply: 120 volt, 20 amp, 1 phase, 60 Hz.
 - 9. Drive System: ACME screw and back-up nut.
 - 10. Paint: Powder coat finish
 - 11. Emergency Power: Battery operation in down direction
 - 12. Controller: Electronic-free relay logic.
 - 13. Side Guard Panels: 42 inches (1067 mm) with metal inserts.
- D. Car Operation:
 - 1. Car operating panel shall consist of constant pressure buttons or rocker switches, an emergency stop button, and an on/off key switch.
 - 2. Emergency operation- A manual hand crank is used to lower or raise the platform in case of emergency.
- E. Acme Screw Drive: The screw should have a diameter of 1 inch (25 mm) and a back-up nut shall be installed for security reasons. No brakes are required.
- F. Leveling Device: All limit switches and leveling device switches shall be located in a position to be inaccessible to unauthorized persons. They shall be located behind the mast wall and be accessible through removable panels.
- G. Call Stations: Provide a surface, flush, or doorframe mounted call/send station.
- H. Terminal Stopping Device: Normal terminal stopping devices shall be provided at top and bottom of runway to stop the car positively and automatically.
- I. Guide Rails and Bracket: Guide rails and brackets shall be used to guide the platform and sling. Roller guide shoes are bolted to the platform to make it roll on the rails. Guide rails shall form part of the structural integrity of the unit and be integral to the mast enclosure, ensuring stability and minimum platform deflection when loaded.

- J. Car Sling: Car sling shall be fabricated from steel tubing 44 inches high (1117 mm) with adequate bracing to support the platform and car enclosure. Roller guide shoes shall be mounted on the top and bottom of the car sling to engage the guide rails. Guide shoes to be roller type with 3 inches (76 mm) diameter wheels.
- K. Wiring: All wiring and electrical connections shall comply with applicable codes. Insulated wiring shall have flame-retardant and moisture proof outer covering and shall be run in conduit, or electrical wire ways.

PART 3 EXECUTION

- 3.1 EXAMINATION
- A. Do not begin installation until hoistway and machine room has been properly prepared.
- B. Site dimensions shall be taken to verify that tolerances and clearances have been maintained and meet local regulations.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- 3.2 PREPARATION
- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- 3.3 LIFT INSTALLATION
- A. Install all the components of the lift system that are specified in this section to be provided, and that are required by jurisdictional authorities to license the lift.
- B. Trained employees of the lift contractor shall perform all installation work of this section.
- C. Adjust lift for proper operation and clean unit thoroughly.
- D. Instruct users in operation procedures and Owner's maintenance person in trouble-shooting and maintenance procedures.
- 3.4 PROTECTION
- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

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