



PNEUMATIC VACUUM ELEVATORS LLC

USER MANUAL

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IMPORTANT SAFEGUARDS

When using an elevator, basic precautions should always be followed, including the following:
READ ALL INSTRUCTIONS BEFORE USING THIS VACUUM ELEVATOR.

WARNING

- Never allow children or people unfamiliar with the instructions to operate the elevator.
- The elevator is intended for the transportation of people from one landing to another.
- Keep all nuts, bolts and screws tight to ensure that the equipment is in safe operating condition.
- Never open the door when in operation.
- Never remove car ceiling.
- Never remove any of the covers that the elevator has.
- Do not use elevator when covers have been removed.
- ONLY an authorized PVE dealer distributor is to install, work on, and/or service the elevator.
- Do not force or kick the doors open.
- Do not lay any objects against the cylinder elevator walls.
- Never wedge anything between the car and the cylinder.
- Do not remove any weather stripping located on the doors.
- Do not remove any hardware that is part of the elevator or shipped with the unit.
- Do not use elevator if ambient temperature is less than 65°F(18°C).
- Do not spill water on any of the electronics.
- Do not obstruct the door opening, door clearance, and door locks.
- Do not obstruct cylinder ground floor vent holes as this will damage unit.
- Keep your door key in a secure place.
- Do not use elevator if home is under construction and there is dust / particles that are air born.
- If voltage exceeds nominal 220VAC it can cause damage to system. Assure a regulated, clean, and dedicated line is supplied to elevator.
- Turn OFF motor circuit breaks (power interrupts) before entering hoistway (cylinder)
- An approved ANSI or EN131 “A-Frame” ladder is required to access controls.
- Elevator may have a small step into car.
- *Read this manual before operating the equipment!!!*

Requirements of Elevator Owner

The following are important items the owner of elevator needs to comply with.

- The owner of elevator needs to maintain the elevator and installation in a safe operating condition. To fulfill this the owner shall use a maintenance organization complying with the requirements of the elevator Standard.
Note: It is highly recommended that owner uses a company that has an adequate and proper insurance coverage as required of any contractor.
- The owner of elevator needs to take care of any National regulations and other requirements, where relevant, and their implications on maintenance.
- The owner of elevator needs to have the maintenance organization carry out a service (maintenance) if the installation will or has remained unused for a long period of time before first being put into service.
- It is recommended that the owner of elevator to have the same maintenance organization in case of multiple installation having the same elevator and installation.
- The owner of elevator needs to have a phone connected and working in the car with 24hrs line service.
- The owner of elevator needs to inform the maintenance organization immediately:
 - about any perceived abnormal operation or abnormal changes in its direct environment.
 - after putting the installation out of service in the case of a dangerous situation
 - after any rescue intervention by their authorized and instructed person(s)
 - before any modification related to the installation and/or its environment
 - before any authorized third party inspection or works other than maintenance works are carried out on the elevator
 - before taking the elevator out of service for a prolonged period of time
 - before putting the elevator back into service after a prolonged period of non operating time
- The owner of elevator needs to ensure the name and telephone number of the maintenance organization is readily available to anyone, permanently affixed and clearly visible.
- The owner of elevator needs to ensure that the key(s) of the elevator (doors, machine, and car if applicable) are permanently available in the residence and are used only by persons authorized to gain access.
- The owner of elevator needs to keep the access to working areas and working rooms safe and free for the maintenance persons and to inform maintenance organization about any hazard or change in the workplace and/or the access ways.
- The owner of elevator needs to take into consideration the consequence of the risk assessment.
- The owner of elevator needs to ensure the risk assessment is carried out.
- In addition to those examinations and test which the owner of elevator entrusts to the maintenance organization, the owner needs to carry out periodically, in their own interest, the following checks:
 - Landing doors
 - Call buttons/controls at landing and car
 - Operation / service of phone
 - Safety signs
- If a “fire stop rating” is required, in order to meet International Building Code and/or International Residential Code, of the hoistway then the owner of elevator will have to take additional steps to meet the code.

- If elevator is exposed to HIGH sunlight then the owner of elevator will have to take additional steps to reduce the amount of heat in car.
- If elevator is installed in a flood zone then the owner of elevator will have to take additional steps.

Component Allocation

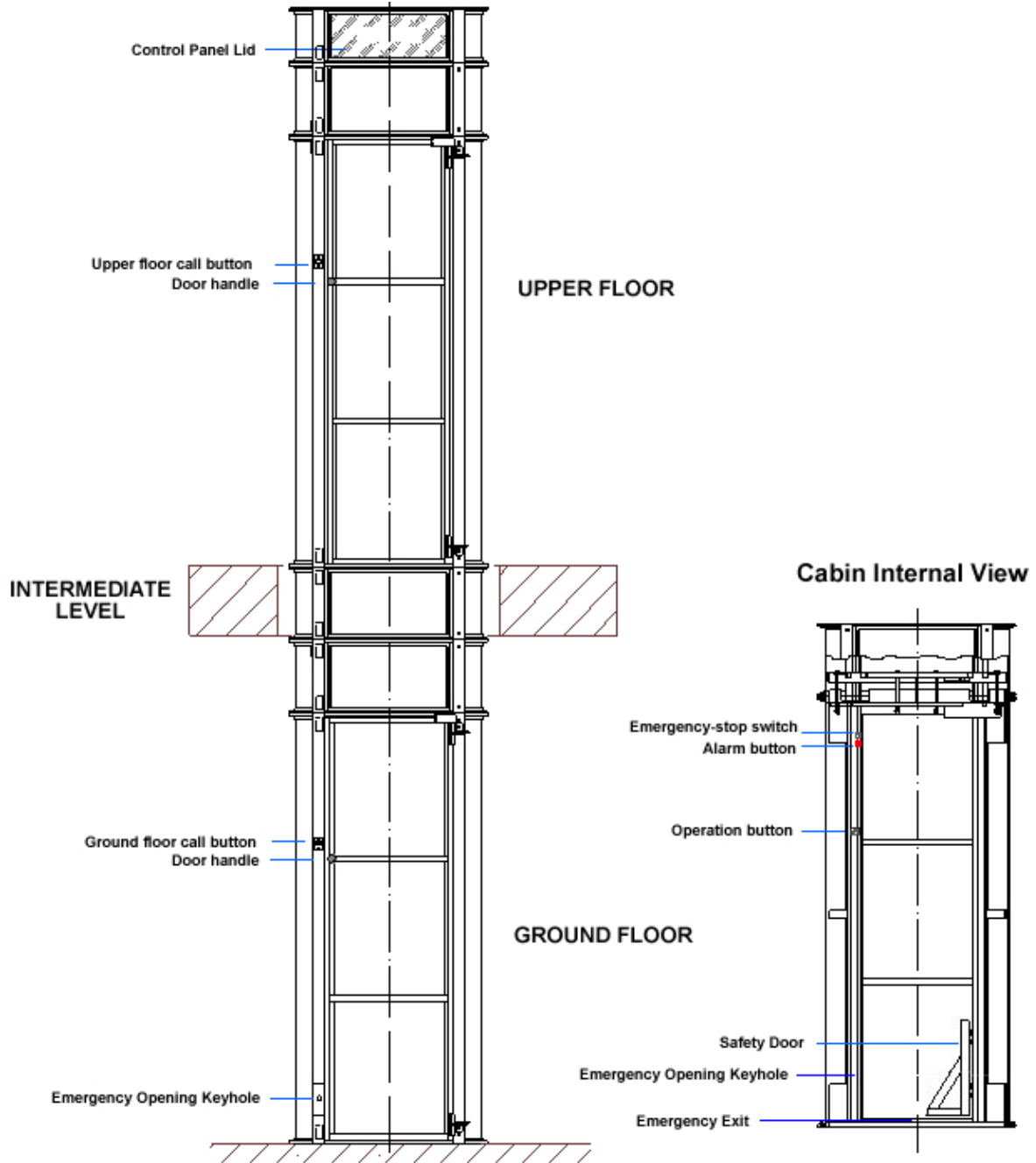
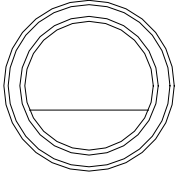


Fig. 1

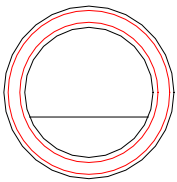
Buttons and commands of operation

- ***External call buttons.***

The call buttons that are located on the side of the elevator doors illuminate, providing us information about where the car is located - when in operation.

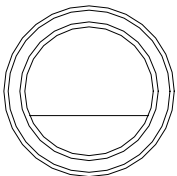


No light: Signifies that the car has not been called to that given floor.

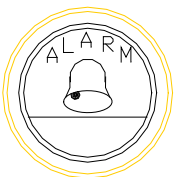


Lighted: Signifies that the car has been called to and is going towards that given floor.

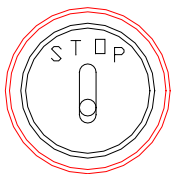
- ***Car buttons***



Start button: pressing this button starts up the elevator. For the car to respond all the doors must be securely fastened and the stop button not activated. NOTE: for a 3stop or 4stop elevator the car will have call buttons for each landing.



Alarm button: pressing this button will sound an alarm. This button is utilized when a passenger cannot exit the car.



Stop Button: activating the button, while the car is in motion, will stop the car and cause the car to slowly descend to the ground floor. This feature can be used at any time during the operation. In order to restart the elevator the Stop Button must be deactivated. Note: If Stop Button has been activated call for service before starting unit again.

Start up.

- If the car is not situated on the floor, press the call pushbutton and wait until the car lands at the given floor. The call pushbutton will illuminate. Once the button's red light turns off, indicating the car's presence, the doors can be opened and one can walk into the elevator.
NOTE: there is a 10second delay built into the system between calls. Alarm might sound if call button is pressed before 10secs.
- If the car is at the floor level, whether on ground or on the upper floor, the door is opened the light and interior ventilation will automatically turn on. The car's door needs to be close in order for the elevator to operate. Once the car reaches the indicated floor and has landed, in order to exit the elevator, one must solely push the door open.

Functioning characteristics.

- The elevator relies on an electronic control system that controls the general operation of the equipment and which goes through a series of security procedures.
- The car will not start if the doors are not securely closed and locked and if the car Stop Button isn't in a stop position.
- The controller has a time out feature in which it automatically turns off all motors and valves if the car does not reach a given landing within a pre-determined amount of time.
- The car is equipped with lighting and ventilation system that is automatically turned on when the doors are opened. This system deactivates after a pre-determined amount of time has elapsed.
- The elevator is equipped with emergency brakes that are activated in case of an emergency mechanically stopping the car when loss of negative pressure is reached. The emergency brakes work in extreme situations.
- The equipment feature an overload security system, which impedes the car from ascending should the maximum permitted weight, which is indicated on the elevator doors, is surpassed. After a set time the turbines are stopped and the car is fastened in place, permitting the opening of the doors. Some load needs to be taken out for the elevator to function correctly.

Additional Feature

Stop Pin

The elevator is equipped with a “Stop Pin” which is to be used when servicing the elevator at the ground floor and the car is not present. Below is a list of steps that need to be followed:

1. Position car on an upper landing by placing a call.
2. Turn off power to the unit by placing the primary disconnect to the OFF position.
3. Using the door lock key and the ground floor door.
4. Insert the “Stop Pin” into the column/rail (see figure 7 below). *note: do not remove from chain*
5. Once work / service is completed remove any and all tools.
6. Clean area leaving it free from any obstructions.
7. Remove “Stop Pin” and close door.

WARNING: Entry section needs to be blocked off when work is being performed and as long as the “Stop Pin” is being used.

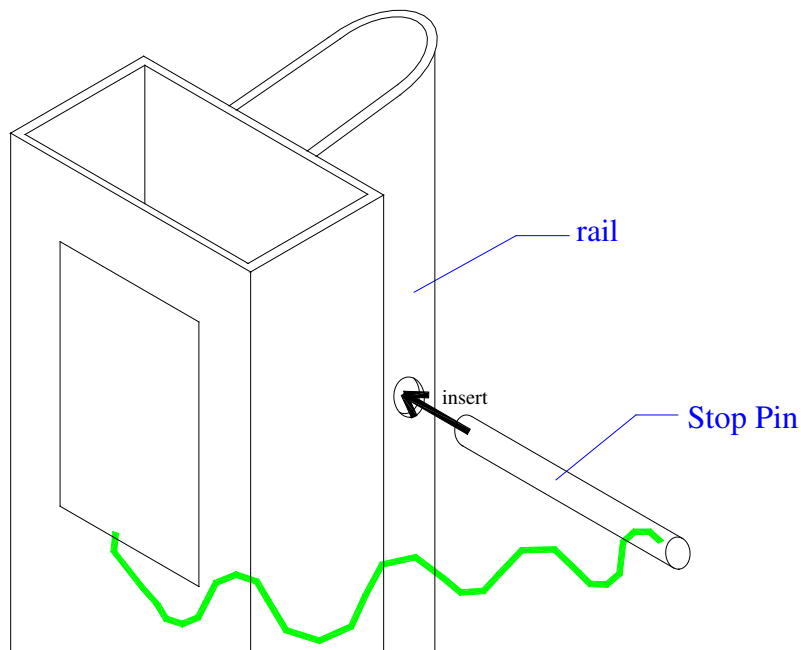


Figure 7

What to do in case of irregular elevator operations.

A. If when pressing the external call button the car does not respond.

1. Verify that all doors are perfectly closed.
2. Verify that the emergency brake is deactivated.
3. If once checked the operation continues to fail, call maintenance security.

B. If when pressing the start buttons the car does not respond.

1. Verify that all doors are perfectly closed.
2. Verify that the emergency brake is deactivated.
3. If once checked the operation continues to fail, call maintenance security.

C. If when pressing the start button the car ascends and descends without stopping or if the turbines keep functioning while the car is stuck to the cylinder's roof.

1. Press the emergency brake button. After pressing this button the car will start slowly descending to the ground floor.
2. Once the car reaches ground floor, return the emergency brake handle to its original position and press the start button to test the operation. In case the failure persists, press the emergency brake handle again and call maintenance security.

D. If one hears the alarm, indicating that a passenger cannot get out of the car.

1. If the car is stuck between two levels, or if it is stuck at the top floor but the doors don't open, proceed according to point E.
2. If the car is on ground floor but the doors do not open, proceed according to point E1.
3. If the car ascends and descends without stopping, yet remain activated while the car is adjacent to the cylinder's roof, turn off the residence's main power supply.

E. *What to do if for some reason the elevator door will not open and a passenger finds his/herself in the car interior. How can someone which is outside the elevator assist the passenger to exit? The following cases are presented according to the location of the stranded car.*

E1. *The car is stuck on ground floor and you are outside the car.*

1. Insert the door opening key in the door hole, make a ¼ turn clockwise and open the door.

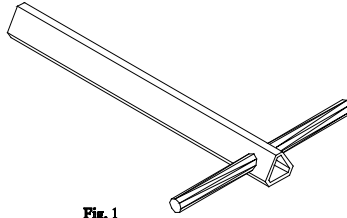


Figure 8

2. Do not operated elevator and call a qualified service technician to inspect unit.
WARNING: Once door is open and person is out, close the door. You should block entrance until a qualified technician inspects and has the elevator fully functional again.

E2 – The car is found between floors or on the upper floor with a passenger.

The passenger can be assisted to exit the elevator in the following ways:

1. A maintenance service personnel can perform the above steps as described in E1
2. If there was a vacuum loss determine what caused the problem, fix it and restart the vacuum manually by using the manual override on the motor contactor found in the control box. Activate the motor contactor for two to three seconds. This will allow the car to disengage from its safeties and lower itself to the ground floor.

WARNING: Elevator should not be operated again until a qualified technician inspects and has the elevator fully functional again. Blocking the entrance is recommended.

3. Another option is to remove the rubber seals located around the perimeter of each polycarbonate sheet. Once the seals are removed the polycarbonate sheet can be removed and the person rescued.

WARNING: The entry / section used to rescue the passenger needs to be blocked off immediately as to avoid any injury by person(s) walking by elevator. Elevator should not be operated again until a qualified technician inspects and has the elevator fully functional again.

If a passenger is trapped in the car, he/she should press the alarm button or call for help using the telephone and wait until a maintenance service personnel comes to his/her rescue. Follow instructions on E1 or E2.

Place this manual in a location where it is easy to find in case if anyone needs to be rescued.

The following are important items the owner of elevator needs to comply with for rescue operation.

- *Need to have a person(s) authorized to be trained by maintenance organization to rescue trapped passenger.
- *Need to ensure training is appropriate to the specific installation and updated.
- *Need to call the maintenance organization is called when the authorized person(s) are not able to
- *move the car through use of the manual/electric emergency device.
- *Need to inform their authorized person(s) about any conditions for which only the maintenance organization shall carry out a rescue operation.

Telephone

- Pneumatic Vacuum Elevators offers telephone capabilities inside all cars. End user can request a (non- ADA) phone to be installed at the time of ordering or have an authorized distributor of Pneumatic Vacuum Elevators install one after the unit has been installed.
- NOTE: In accordance with the ASME elevator code A17 a phone must be installed in elevator. The end user / distributor have the option to have Pneumatic Vacuum Elevators install a phone or they can install one of your choosing but a phone must be present. Distributor assumes all responsibility if elevator is not ordered with telephone.

ACCESSORY OPTION

Operation Key Lock

- Pneumatic Vacuum Elevators offers a keyed switch which will allow or not allow the operation of the elevator. The keyed switch is located in the car/car.

General Maintenance

- Wipe down elevator sheets monthly or as environment requires.
Use: Polycarbonate cleaner
Manufacture: Brilliantize Cleaner, 707-751-0656, www.brilliantize.com
If scratches are produced use “Novous” scratch remover #2 & #3, 800-548-6872
- Check the top of the car to insure that no dust / particles from the atmosphere have entered the cylinder.
- Check the door closer pneumatic to ensure proper operation.
- Check the weather stripping on the door frame to ensure it is in good condition.
Replace if needed (MD Building, model number : 63560)
- Check that there is nothing obstructing the door opening and/or the door frame which could prevent the door from closing properly.
- Check your primary circuit breaker that it is in good operating condition.
- NO lubrication is necessary.