APPENDIX A

SPECIAL FEATURES DESCRIPTIONS

VERSION 07-1.3

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1. PHASE I EMERGENCY SERVICE

The firefighter emergency service phase I is an automatic moving service. The doors management is automatic.

For a fire signal coming from the designated level, replace the word « designated » by « auxiliary » in the following paragraph.

During this service, the elevator closes its doors and heads back to the designated level. The bell ring, the fire light comes on in the car and every other feedback from the controller (e.g : screen, etc.) warn the user about the fire recall. Once at designated floor, the doors open and the car stays there indefinitely.

Nonfunctional element(s) during this service :

- Car calls
- Hall calls
- Lanterns
- Position indicators at every floor except from :
    - In car
    - At designated level
    - At alarm center

Initiating the fire service phase I :

- Putting the key selector at designated level in the « ON » position
- Giving the « FS » signal to the controller(s) for recall at designated level.
- Giving the « ALT » signal to the controller(s) for recall at auxiliary level.

Completing the fire service phase I :

1. Removing every fire signal(s) from the controller(s).
2. Putting the key selector at designated level in the « RESET » position

N.B. : Refer to the safety code for elevators and escalators ASME 17.1 / CSA B44, articles 2.27.3.

2. PHASE II EMERGENCY SERVICE

The firefighter emergency services phase II is an automatic moving service. The door management is semi-automatic with constant pressure (i.e. : To open the hall door, the open button must be pressed until the complete opening of the door. Vice versa for closing).

Car calls can be placed and the elevator moves to the first encountered call. The « CALL CANCEL » button allows the user to cancel the recorded calls.

Nonfunctional element(s) during this service :

- Hall calls
- Lanterns
- Position indicators at every floor with the exception of :
    - In car
    - At designated level
    - At lobby

Initiating the fire service phase II :

1. Being in fire service phase I
2. Putting the key selector inside of the fire service cabinet inside the car in the « RUN » position

Completing the fire service phase II :

- Putting the key selector inside of the fire service cabinet inside the car in the « STOP » position

N.B. : The end of the fire service phase II puts back the elevator in phase I. Doing so, the elevator returns to the designated level if it wasn't there already.

N.B. : Refer to the safety code for elevators and escalators ASME 17.1 / CSA B44, articles 2.27.3.3.

3. INDEPENDENT SERVICE

The IS (Independent service) is a manual movement service. The door management is a hybrid where, when arriving at the floor, the opening is automatic, but the closing is semi-automatic with constant pressure (i.e. : To close the hall door, the close button must be press until complete closing of the door.).

The elevator responds to the next recorded call in the car. Upon arrival at the next level, every car calls are canceled. Hall lanterns are inoperative.

Nonfunctional element(s) during this service :

- Hall calls

Initiating the IS :

- Putting the key switch inside the car in the « INDEPENDENT SERVICE » position

Completing the IS :

- Putting the key switch inside the car in the normal position.

4. PRE-MAINTENANCE SERVICE

The pre-maintenance service allows an automatic movement of the car. The door management is automatic. No more hall calls can be accepted by the elevator, but car calls continue to function normally. Thus, pre-maintenance allows the car to be emptied from its users without allowing new ones.

Nonfunctional element(s) during this service :

- Hall calls

Initiating the pre-maintenance service :

- Putting the key switch inside the controller in the « PRE-MAINTENANCE » position.

Completing the pre-maintenance service :

- Putting the key switch inside the controller in the normal position.

5. MAINTENANCE SERVICE

The maintenance service allows an automatic movement of the car. The door management is semi-automatic with momentary pression (i.e. : The doors will not open upon arriving at a floor, but the door open button remains operational.). No more hall calls can be accepted by the elevator, but car call remains operational.

Nonfunctional element(s) during this service :

- Hall calls

Initiating maintenance service :

- Putting the key switch inside the controller in the « MAINTENANCE » position.

Completing maintenance service :

- Putting the key switch inside the controller in the normal position.

6. SIMPLEX SERVICE

The simplex service allows an automatic movement of the car. The door management is automatic. The car will dissociate itself from its dispatcher and will only answer its hall call. The dispatcher will not be able give anymore calls to this car and will no longer receive any hall calls from the car either.

Nonfunctional element(s) during this service :

- N/A

Initiating simplex service :

- Putting the key switch inside the controller in the « SIMPLEX » position.

Completing simplex service:

- Putting the key switch inside the controller in the normal position.

7. INSPECTION SERVICE

The inspection service allows a manual movement with constant pressure from the controller. To do so, the « ENABLE » button and the « UP » or « DOWN » button must be maintained.

Nonfunctional element(s) during this service :

- Hall calls
- Car calls
- Door(s) opening
- Door(s) closing

Initiating the inspection service :

- Putting the selector inside the controller in the « INSPECTION » position
- Putting the car in hoistway access [See Hoistway access]
- Bypass the hall door(s) [See Hall bypass]
- Bypass the car door(s) [See Car bypass]

Completing the inspection service :

- Putting the selector inside the controller in the normal position

8. OUT OF ORDER SERVICE

The out of order service prevents any movement of the car. The door management is semi-automatic with momentary pressure (i.e. : The doors will not open upon arriving at a floor, but the open button remains operational.).

Nonfunctional element(s) during this service :

- Hall calls
- Car calls
- Movement of the car

Initiating the out of order service :

- Low oil [See Low oil]

Completing the out of order service :

- Reset the controller.

9. EMERGENCY LOWERING SEQUENCE

The emergency lowering sequence allows to prevents passengers to become entrapped during a power loss. Upon power loss, the UPS (Uninterruptible Power Supply) provides the power to go down at next available level if the car was not already at a floor. Once rescued, the door will open and close.

Nonfunctional element(s) during this sequence :

- N/A

Initiating emergency lowering sequence :

- Cutting off the main power source in the controller.

Completing the emergency lowering sequence :

- Restoring the main power source in the controller.

10. EMERGENCY POWER SEQUENCE

The emergency power sequence allows a continuity of operation during a power failure on the main system. Upon main power loss, the emergency power system takes control in order to maintain power on the elevator. Unless of a normal running configuration on emergency power (i.e. : the emergency power system is powerful enough to allow a normal running of every car in the system), the dispatcher initiates the sequential recall of the elevators in the configured order at the main floor with opened doors. In the event of the impossibility of a car to rescue itself within a configurable time, it is omitted and retried later.

Once the recall sequence is complete, the selector at the main floor dictates the behavior of the system :

- Automatic Mode (« AUTO »):
    - The dispatcher gives calls to available cabin(s) (i.e. : The quantity of cabins in operation is configurable according to the capacity of the emergency system.).
- Manual mode (« UG1 », « UG2 », etc.):
    - The dispatcher gives calls only to the selected car. Note that even if the selected car is in fault, calls are not redistributed to another car.

Throughout the duration of the sequence, the emergency power light at the recall landing is illuminated.

If available by the emergency power system, when normal power returns, a « GEN2 » contact will activate for a predetermined period of time before normal power returns.

The « GEN2 » contact allows the return to the main power supply to be anticipated by parking the car(s) in operation at the next landing before the transition. In addition, this signal protects variable speed drives against high current spikes.

Nonfunctional element(s) during this sequence :

- N/A

Initiating the emergency power sequence :

- Giving the signal « GEN1 » to the controller(s).

Completing the emergency power sequence :

- Removing the signal « GEN1 » to the controller(s).
- Removing the signal « GEN2 » to the controller(s) if provided.

11. PLUNGER(S) RECYCLING SEQUENCE

The cylinder recycling sequence allows the car piston(s) to be reset. To do this, the car descends to the lower normal limit. It will then go up to the lowest landing.

Nonfunctional element(s) during this sequence :

- N/A

Initiating the recycling operation for multiple plungers :

- Entering the configured time slot.

Completing the recycling operation for multiple plungers :

- Returning to the lowest landing.

N.B. : Refer to the safety code for elevators and escalators ASME 17.1/ CSA B44, articles 3.26.7

12. DOOR NUDGING SEQUENCE

The door(s) nudging sequence allows the car door(s) to be closed gently. The controller will retry until the amount of retry reaches the configured maximum.

Nonfunctional element(s) during this sequence :

- N/A

Initiating door nudging sequence :

- Obstructing the door closing for a long enough time.

Completing door nudging sequence :

- Closing the door completely
- Exceeding the number of attempts allowed

13. CODE BLUE MANOEUVRE

The code blue manoeuvre (hospital service) has priority over normal calls from the car. Thus, all hall or car calls are canceled to respond to the code blue. A feedback (e.g. : indicator light, screen, etc.) at the landing will inform that the call is recorded. The selected car goes directly to the call landing. During the trip, feedback(s) from the controller (e.g. : indicator light, screen, voice message, etc.) will inform the passenger(s) that the cabin is in code blue. Once at the landing, the user must validate his presence using a confirmation (e.g. : key, card reader, etc.) and then place his car call, otherwise the manoeuvre will be cancelled.

Nonfunctional element(s) during this manoeuvre :

- Hall calls

Initiating blue code manoeuvre :

- Placing a code blue call (e.g. : key, card reader, etc.).

Completing blue code manoeuvre :

- Confirming the end at the destination floor (e.g. : remove the key in car, pass a card reader, etc.).
- Waiting for the waiting time at the landing.

14. FREE CAR MANOEUVRE

The free cabin manoeuvre (e.g.: patient transport, soiled transport, clean transport, food service, etc.) is a manoeuvre that does not have priority over normal calls from the car. Thus, hall calls are redistributed to another elevator if possible and the car finishes its car calls. A feedback (e.g.: indicator light, screen, etc.) at the landing will inform that the call is recorded. Once the calls are finished, the selected car goes to the call landing. Once at the landing, the user must validate his presence using a confirmation (e.g. : key, card reader, etc.) and then place his car call, otherwise the manoeuvre will be cancelled.

Nonfunctional element(s) during this manoeuvre :

- Hall calls

Initiating free car manoeuvre :

- Placing a free car call (e.g. : key, card reader, etc.).

Completing free car manoeuvre :

- Confirming the end at the destination floor (e.g. : remove the key in car, pass a card reader, etc.).
- Waiting for the waiting time at the landing.

15. RESTRICTED TRANSPORT MANOEUVRE

The restricted transport manoeuvre (e.g.: gas transport) is a manoeuvre that does not have priority over normal calls of the car. Thus, hall calls are redistributed to another elevator if possible and the car ends its car calls. A feedback (e.g.: indicator light, screen, etc.) at the landing will inform that the call is recorded. Once the calls are finished, the selected car goes to the call landing. Once at the landing, the following sequence must be respected:

1. Loading the car
2. Choosing a destination
3. Confirming at the landing the dispatch of the car (e.g. : key, card reader, etc.) in order to close the door(s)
4. Going to the destination floor
5. Confirming at the dispatched landing the arrival of the user (e.g. : key, card reader, etc.) in order to open the door(s)
6. Emptying the car

Nonfunctional element(s) during this manoeuvre :

- Hall calls

Initiating restricted transport manoeuvre :

- Placing a restricted transport call (e.g. : key, card readers, etc.).

Completing restricted transport manoeuvre :

- Confirming the end at the destination floor (e.g. : key, card reader, etc.).

16. HOISTWAY ACCESS

The hoistway access « ACC » allows manual movement with constant pressure from the hall. The car can only be moved in the floor zone, otherwise the movement is stopped.

The access forces the inspection service [See inspection service].

The access is mandatory if°:

- The elevator speed is faster than 150*ft/min*
    - Hoistway access to the top floor.
    - Hoistway access to the bottom floor.
- The elevator goes at a speed of 150*ft/min* or less and the distance between the car and the upper floor exceeds 35*in*.
    - Hoistway access to the top floor.

N.B. : Only authorized persons may have access to the shaft or the roof of the car.

Nonfunctional element(s) during the hoistway access :

- N/A

Initiating hoistway access :

- Putting the selector in the car in the «°INSPECTION°» position.

Completing hoistway access :

- Putting the selector in the car in the normal position.

17. INSPECTION ON TOP OF THE CAR

The top of car inspection allows a manual movement with constant pressure from the roof of the car. To do this, a two-handed control is necessary. One hand for the « ENABLE » button and a second hand for the « UP » or « DOWN » button.

Nonfunctional element(s) during the top of car inspection :

- See inspection service

Initiating top of car inspection :

- Executing hoistway access.
- Putting the selector on top of the car in the «°INSPECTION°» position.

Completing top of car inspection :

- Putting the selector on top of the car in the normal position.

18. HALL DOOR BYPASS

Bypassing the hall door(s) allows the car to be moved with the hall door(s) open.

The bypass forces the inspection service [See inspection service]

Nonfunctional element(s) during bypass :

- N/A

Initiating the hall door bypass :

- Putting the switch in the controller in the «°BYPASS°» position.

Completing the hall door bypass :

- Putting the switch in the controller in the normal position.

19. CAR DOOR BYPASS

Bypassing the car door(s) allows the car to be moved with the car door(s) open.

The bypass forces the inspection service [See inspection service]

Nonfunctional element(s) during bypass :

- N/A

Initiating the car door bypass :

- Putting the switch in the controller in the «°BYPASS°» position.

Completing the car door bypass :

- Putting the switch in the controller in the normal position.

20. CAR STOP SWITCH

The car stops switch (RUN/STOP) allows the elevator to move.

Nonfunctional element(s) during emergency stop :

- Moving the car

Initiating the emergency stop :

- Putting the switch in the car in the «°STOP°» position.

Completing the emergency stop :

- Putting the switch in the car in the «°RUN°» position.

21. LOW OIL

A low oil level (« LOD ») forces a return to the lowest level. Once at the landing, the doors open and close.

Low oil level forces an out of service

Nonfunctional element(s) during low oil :

- N/A

Initiating the low oil :

- Activating the signal (NO (Normally Open)) in the controller.

Completing the low oil :

- Removing the signal (NO (Normally Open)) in the controller.

22. LOW PRESSURE

The low pressure (« LPS ») forces the car to only go up. The door management is semi-automatic with constant pressure (i.e. : The door will not open at the floor, but the open the door button remains operational.).

Nonfunctional element(s) during low pressure :

- Hall call
- Moving in down position

Initiating the low pressure :

- Activating the signal (NC (Normally Close)) in the controller.

Completing the low pressure :

- Removing the signal (NC (Normally Close)) in the controller.

23. CAR PASSING CHIME

The controller is equipped with a passing chime (« GP ») informing the passengers that the car stops or passes a floor (one signal per floor is given).

24. CAR ARRIVAL CHIME

The controller is equipped with an arrival chime in the car informing the passengers that the car is stopping at a floor to respond to a car or hall call and indicates the direction of travel. The chime activated when the door opens and goes off when the door closes.

25. HALL ARRIVAL CHIME

The controller is equipped with an arrival chime at the hall informing the passengers that the car is stopping at the floor to answer at the hall call and indicates the direction of movement of the elevator. The chime activates when the car decelerates and goes off once the door closes.

26. NUDGING BUZZER

The buzzer activates when nudging is activated.

27. CAR CALL ACCEPTANCE BUZZER

The buzzer activates briefly when a new car call is registered.

28. FIRE BUZZER

The buzzer activates every ½ second when the controller performs a phase I fire recall service.

29. SELECTIVE COLLECTIVE OPERATION

The hall calls are made of a button in up or down direction. The controller keeps in memory every unanswered call(s). Call priority is dictated by the direction of the hall call(s) as well as the direction of the elevator.

30. SIMPLE COLLECTIVE OPERATION

The hall calls are made of a button with no direction. The controller keeps in memory every unanswered call(s). There is no arrival chime at the floor, because the elevator does not know the direction generated by the call.

31. DOWN COLLECTIVE OPERATION

The hall calls are made of a button in down direction. The controller keeps in memory every unanswered call(s). Call priority is dictated by the elevator's direction.

32. SINGLE AUTOMATIC OPERATION

The hall calls are made of a button with no direction. The controller does not store unanswered call(s) in memory. The elevator answers to calls one after another. There is no arrival chime at the floor, because the elevator does not know the direction generated by the call.

33. CONSTANT PRESSURE OPERATION

To place a call, maintain the button pressed until the elevator reaches the desired floor.

34. CALL AND SEND OPERATION

Each hall station has every car calls. This allows a given floor to call the elevator to the floor and then to send it to the desired floor. The controller does not store unanswered call(s) in memory.