



A VANTAGE Company

A17.1-2013/B44-13 TESTING PROCEDURES
MODEL: PIXEL FOR AC & DC ELECTRIC ELEVATORS
Rev. 1.0, 4/4/2018

SPECIFICATION SHEET FOR ELEVATORS
PART D2 (TEST PROCEDURES)

Provide a written test procedure for the items listed below. Provide a written procedure for the tests of 8.10.2 and 8.10.3 that cannot be easily demonstrated in the field or for those tests which require specific test instructions to demonstrate compliance. The procedure should follow the same sequence of the tests in 8.10.

Items: 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309.

In addition, written test procedures are required for the following items from Part C2 and Part D1: 2010, 2011, 2012, 2202, 2210, 2213, 2219, 2220, 2224, 2227, 2228, 2232, 2233, 2236, 2237, 2238, 2240, 2242 where applicable.

Item 2301

2.27.2 Emergency or Standby Power System

Comment: This series of tests should be skipped for installations that do not utilize an emergency power generator that is capable of running one (or more) elevator(s).

To prepare for testing the logical operation of the control system (testing the system without actually invoking the emergency power generator), refer to the control system prints to locate the connection terminal to which the emergency power status contact is wired (the contact of the emergency power generator that is used to reflect whether power is being supplied by the commercial source or from the generator). This terminal is labeled "EPI". Determine the polarity of this contact (i.e., open or closed when on emergency power). Emergency power conditions will need to be simulated by either shunting the status contact or by disconnecting the field wire at the EPI terminal, depending upon this polarity.

Also, refer to the control system prints to locate the connection terminal to which an emergency power pre-transfer contact is wired (a contact of the emergency power system that indicates that a transfer back to commercial power is imminent). This terminal is labeled "EPPT". Determine the polarity of this contact (i.e., open or closed when a transfer back to commercial power is imminent). This pre-transfer condition will need to be simulated (in Test Procedure 2301.4) by either shunting the status contact or by disconnecting the field wire at the EPPT terminal, depending upon this polarity.

Test Procedure 2301.1 (sequential lowering):

1. Remove power from all controllers (including the group supervisor, if applicable).
2. Simulate the activation of the emergency power status contact from the emergency power generation system, as discussed in the Comment section above.
3. Simultaneously restore power to all controllers.
4. Verify that the “ELEVATOR EMERGENCY POWER” indicator at the designated level lobby is illuminated.
5. Verify that the cars return sequentially to the emergency power recall floor, as required by Section 2.27.2.4.4(a) through Section 2.27.2.4.4(d).
6. As each car performs its recall process, verify that the visual indicator associated with each car (if required by Section 2.27.2.4.3) illuminates once the car has completed its recall operation, as required by Section 2.27.2.4.3.
7. Stringent and complete testing will require that steps 1 through 6 above are repeated with one or more cars placed on Designated Attendant Operation (if applicable), Inspection Operation, and Firefighter’s Emergency Operation.

Test Procedure 2301.2 (automatic car selection, multi-car system with selection switch):

1. Place the selection switch labeled “ELEVATOR EMERGENCY POWER” in the “AUTO” position.
2. Carry out Test Procedure 2301.1. Once the sequential recall process has completed for all cars, move on to Step 3 of this test procedure.
3. Once the cars have completed the sequential recall process, verify that a car (or cars, up to the rated capacity of the emergency power generator) is selected to run on generator power, per the requirements of section 2.27.2.4.5.
4. Verify that the proper visual indicator (adjacent to the manual selection switch(es), as referenced in Section 2.27.2.4.6) is illuminated when a car is selected to run.

Test Procedure 2301.3 (manual car selection, multi-car system with selection switch):

1. Place the selection switch labeled “ELEVATOR EMERGENCY POWER” in a position that is associated with one of the elevators.
2. Carry out Test Procedure 2301.1. Once the sequential recall process has completed for all cars, move on to Step 3 of this test procedure.
3. Once the cars have completed the sequential recall process, verify that the car that is selected to run via the manual selection switch(es) is selected to run on generator power, per the requirements of section 2.27.2.4.5.
4. Verify that the proper visual indicator (adjacent to the manual selection switch(es), as referenced in Section 2.27.2.4.6) is illuminated when a car is selected to run.
5. Move the position of the manual selection switch to select a different car to run. Verify that the car that was previously selected is allowed (if moving) to continue running until it stops (at which point it is deselected). Once the previously selected car has been deselected, verify that the newly selected car is allowed to operate.

6. Verify that the proper visual indicator (adjacent to the manual selection switch(es), as referenced in Section 2.27.2.4.6) is illuminated when the new car is selected to run, and verify that all other indicators of that type are turned off.
7. Repeat the manual selection process for all cars.

Test Procedure 2301.4 (transition from Emergency Power to commercial power):

1. This test should be performed once the system has been placed in emergency power operation (by following the steps in Test Procedure 2301.1 above).
2. Simulate the activation of the emergency power pre-transfer contact as discussed in the Comment section above (if one is available).
3. Verify that a running car will stop at the next available floor and open its doors.
4. Simulate transfer of power back to commercial power by first removing power from all controllers.
5. Simulate the return to commercial power by reversing the action taken in Step 2 of Test Procedure 2301.1.
6. Reverse the action taken in Step 2 of this test procedure.
7. Restore power to all controllers.
8. Verify that all cars return to normal operation.

Item 2302

2.27.3.1.6(m) Phase I Emergency Recall Operation

Comment: This test should be skipped for installations that do not utilize a load weighing device.

Test Procedure 2302:

1. Place a full load in the elevator. To simply simulate the detection of a heavy load by the load weighing device, place a jumper across the contact that is wired to the Heavy Load Input (HLI) and/or the contact that is wired to the Overload input (OLI) on the controller. [Note that these contacts may be wired to the P-TOC board, located on the cartop. Refer to the controller prints for the specific installation.]
2. Place the car on Fire Recall Operation by moving the Fire Recall Switch to the ON position.
3. Verify that the car responds to Fire Recall Operation as required by section 2.27.3.1.6.

Item 2303

2.27.3.3.1(l) Phase II Emergency In-Car Operation

Comment: This test should be skipped for installations that do not utilize a load weighing device.

Test Procedure 2303:

1. Place a full load in the elevator. To simply simulate the declaration of a heavy load by the load weighing device, place a jumper across the contact that is wired to the Heavy Load Input (HLI) and/or the contact that is wired to the Overload input (OLI) on the controller. [Note that these contacts may be wired to the P-TOC board, located on the cartop. Refer to the controller prints for the specific installation.]
2. Place the car on Fire Recall Operation by moving the Fire Recall Switch to the ON position.
3. Once the car has completed its recall to the Fire Recall floor, place the car on Fire Phase II operation by moving the in-car "Fire Operation" switch to the ON position.
4. Verify that the car operates as required by section 2.27.3.3.

Item 2304**2.27.3.3.6 Phase II Emergency In-Car Operation**

Note: During this test one or more fuses will blow (F50). Refer to the controller prints and make sure that appropriate replacement fuses are readily available.

Test Procedure 2304:

1. Place the car on Fire Service Phase II operation.
2. Board the elevator and travel to the bottom landing (if necessary).
3. Open the elevator door and exit the elevator.
4. Open a (the) hall call pushbutton station at the bottom landing.
5. Using a wire jumper, simulate an accidental ground on the "landing side of the hoistway enclosure" by momentarily shorting the hall buttons voltage bus terminal V+ on the hall node boards to the hall button fixture enclosure.
6. Verify that the operation of the car remains in accordance with section 2.27.3.3.
7. Turn off power to the controller and replace fuses F50 and F50F as required.

Item 2305**2.27.3.4 Interruption of Power****Test Procedure 2305.1 (retention of Fire Phase 1 status through power loss):**

1. This test is most efficiently performed with an assistant in the elevator who can register car calls and operate the Door Open Button.
2. Move car to a floor other than the designated Fire Recall floor by registering a car call.
3. Once the car arrives at the floor hold the door open using the Door Open Button.
4. Initiate Fire Phase 1 recall by moving the Fire Recall switch to the ON position (keep holding the door open using the Door Open Button).
5. Remove power from the controller.
6. With power OFF, turn the Fire Recall switch to the OFF position.

7. Restore power to the controller.
8. Allow the door to close (release the Door Open Button).
9. Verify that the system remains on Fire Phase 1 operation, and that the car operates as required under Fire Phase I operation.

Test Procedure 2305.2 (retention of Fire Phase 1 status through power loss):

1. Move car to a floor other than the designated Fire Recall floor by registering a car call.
2. Initiate Fire Phase 1 Recall by moving the Fire Recall switch to the ON position.
3. Allow the car to move away from the floor (it should move toward the Fire Recall floor).
4. Remove power from the controller (with the car in between floors).
5. With power OFF, turn the Fire Recall switch to the OFF position.
6. Restore power to the controller.
7. Verify that the car moves toward the Fire Recall floor.
8. Once it reaches a floor, verify that the car completes the recall to the Fire Recall floor as required under Fire Phase I operation.

Test Procedure 2305.3 (retention of Fire Phase 2 status through power loss):

1. This test is most efficiently performed with an assistant in the elevator who can register car calls and manipulate the Fire Phase 2 switch.
2. Place the elevator on Fire Phase 2 Operation and move it to an upper floor by registering a car call.
3. Leave the Fire Phase 2 switch in the ON position.
4. Leave the doors closed.
5. Remove power from the elevator controller.
6. Restore power to the elevator controller.
7. Verify that the car will not move (except for releveling operation as required).
8. Verify (by observing the car's position indicator) that the floor position is re-established immediately.
9. Verify that the car will then respond to car calls as appropriate under Fire Phase 2 operational requirements.

Test Procedure 2305.4 (retention of Fire Phase 2 status through power loss):

1. This test is most efficiently performed with an assistant in the elevator who can register car calls and operate the Door Open Button and Door Close Button.
2. Place the elevator on Fire Phase 2 Operation and move it to a floor other than the fire recall floor.
3. Leave the Fire Phase 2 switch in the ON position.
4. Open the elevator doors fully using constant pressure on the door open button.
5. Remove power from the elevator controller.
6. Restore power to the elevator controller.

7. Verify that the doors do not close automatically. The closing of the doors must remain “constant pressure operation” as required by Fire Phase 2 operation.
8. Verify (by observing the car’s position indicator) that the floor position is re-established immediately.
9. Verify that the car will then respond to car calls as appropriate under Fire Phase 2 operational requirements.

Test Procedure 2305.5 (retention of Fire Phase 2 status through power loss):

1. This test is most efficiently performed with an assistant in the elevator who can register car calls and manipulate the Fire Phase 2 switch.
2. Place the elevator on Fire Phase 2 Operation and move it to a floor other than the fire recall floor.
3. Open the door fully using the Door Open Button and then place the Fire Phase 2 key switch in the HOLD position.
4. Remove power from the controller.
5. Restore power to the controller.
6. Verify that the car will not move (except for releveling operation as required).
7. Verify (by observing the car’s position indicator) that the floor position is re-established immediately.
8. Verify that the doors will remain open as required by Fire Phase 2 HOLD operation.

Item 2306

3.19.4.7.6 Sealing of the Overspeed Valve

Test procedure: Not applicable to this controller type (electric elevator)

Item 2307

3.17.3.2.2(a) Plunger Gripper - Inspection and Test Means

Test procedure: Not applicable to this controller type (electric elevator)

Item 2308

3.27.1 Phase I Emergency Recall Operation After Device Actuation

3.27.2 Phase I Emergency Recall Operation Prior to Device Actuation

3.27.3 Device Actuation at Recall Level

Test procedures: Not applicable to this controller type (electric elevator)

Item 2309

3.27.4 Device Actuation With Phase II Emergency In-Car Operation in Effect

Test procedure: Not applicable to this controller type (electric elevator)

ADDITIONAL TEST PROCEDURES

Note: Test verification instructions below are extracted from Pixel Installation and Adjustment Traction Manual, additional testing procedures are covered within the manual.

Item 2010

2.26.9.3 Protection Against Failures

Single Ground

Critical Component:	N/A
Redundant Component:	F4A Fuse
Monitored Component:	N/A

Test Verification of Single Ground:

- a. Place the car on Machine Room Inspection.



NOTE: The Single Ground Test can be performed on either automatic or inspection operation.



NOTE: The system logic is driven by a source of 110 Volts AC, and has one side already connected to ground, the 3 buss. The other side, the 4A buss, is protected by a fuse feeding the logic power. Any accidental grounding will result in a blown fuse F4A, which will remove controller power to the safety string and logic circuits.

- b. Short terminal SAFH to ground. Verify that fuse F4A blows, and the Pixel screen displays **Safety String Open Fault**.
- c. Turn main power to controller off.
- d. Replace fuse F4A.
- e. Turn main power to controller on.
- f. Confirm that the Pixel screen displays **No Faults**.
- g. Remove the car from Machine Room Inspection.

Test Verification Landa™ Redundant Position System

Critical Component:	Landa™ Main and Auxiliary Position Sensor Heads
Redundant Component:	Landa™ Main and Auxiliary Position Sensor Heads
Monitored Component:	Car Speed, and Position

i **NOTE:** The following tests verify that Pixel can safely position the cab using either of the two independent sensor heads that comprise the Landa™ positioning system.

The Pixel control uses a dual head positioning system system – Landa™– incorporating a positional encoded tape that runs the entire length of the hoistway. This system enables each either sensor head to provide absolute position information independent of the other. Refer to page 6 of the prints for Landa™ interface circuits.

The Main Positioning head communicates its absolute position to the main processor via dedicated RS485 serial port while the Auxiliary Positioning head communicates its absolute position to the main processor via CAN.

The Landa™ positioning system verifies absolute cab position to 0.032” (0.8mm) accuracy throughout the entire length of the hoistway.

The Pixel computer network, MPU, will “learn” and then build a positional image of the entire hoistway including:

- Door Zone or Trucking Zone, one per landing
- Top and Bottom Access Limits
- Mid hoistway position
- Physical open position for the top and bottom normal limit switches
- A speed profile deceleration ramp for the top and bottom landings

i **NOTE:** The landing zones are limited to a maximum of six inches plus or minus learned position and are set at a factory default of three inches.

The learn process – once performed and verified during elevator installation – will be transferred and permanently stored by the three microprocessors that make up the Pixel controller’s main processing unit (MP, SP1, SP2). The learn process must be accomplished and transferred before the car can be run on any passenger automatic mode of operation.

i **NOTE:** Pixel always “knows” the car position by reading it from the encoded tape and validating it through comparison to the learned/stored positional image.

Verification of Landa™ Main Sensor Head:

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from responding to hall call demand.
- b. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.

- c. Enter a car call to a floor several floors away from current car position (if two stop elevator place a call to the other floor).
- d. While car is running, unplug the Main Selector RJ45 cable labeled "SELECTOR" from Pixel MP, and observe that Pixel displays a **Main Selector Fault**, makes an emergency slowdown, and positions the elevator cab at the next available landing.
- e. Pixel will remove the car from service until proper Landa™ Main sensor head communications is re-established.
- f. Verify that the car will not respond to car calls.
- g. Reconnect the RJ45 cable at the Pixel MP. Confirm that Pixel clears the **Main Selector Fault**, and that the car to respond to car call demand.
- h. Return the CAPTURE and TEST switches to their off positions, which will enable the car to return to Automatic Mode of operation and serve hall call demand.

Verification of Landa™ Auxiliary Sensor Head:

- a. Set CAPTURE switch, located on the MP board, to CAPTURE, which will prevent the car from responding to hall call demand.
- b. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.
- c. Enter a car call to a floor several floors away from current car position (if two stop elevator place a call to the other floor).
- d. While car is running, unplug the cable labeled "CAB CAN" from the Pixel MP, and observe that Pixel displays **Aux. Selector Fault**, makes an emergency slowdown, and positions the elevator cab at the next available landing.
- e. Pixel will remove the car from service until proper Landa™ Auxiliary sensor head communication is re-established.
- f. Verify that the car will not respond to car calls.
- g. Reconnect the RJ45 cable at the Pixel MP. Confirm that Pixel clears the **Aux. Selector Fault**, and that the car to respond to car call demand.
- h. Return the CAPTURE and TEST switches to their off positions, which will enable the car to return to Automatic Mode of operation and serve hall call demand.

Item 2011

2.26.9.4 Methods to Satisfy 2.26.9.3

The car position data values read from the Main Reader and Auxiliary Reader are continuously compared against each other, while the car is running or at rest, independently by the P-MP, SP1, and SP2, to validate that each reader is operating in

accordance with the other. Each reader is self-diagnosing in that each is designed to detect when it can no longer reliably read the encoded hoistway tape due to internal failures, inadequate installation, or installation failures.

Verification of operation is included as part of test procedure for **2.26.9.3 Protection Against Failures** above.

Item 2012

2.26.9.5 / 2.26.9.6 Two means to remove power from hoist motor

The two means provided to remove power from the motor are the AA Motor Contactor and the Transistor Base Block logic, for AC hoist motors, or the Drive Enable Logic for DC hoist motors.

Test Verification AA Motor Contactor Force Guided Relay

Critical Component:	AA Relay
Redundant Component:	STOP1-STOP2, SP1 and SP2 Computer Monitoring Inputs
Monitored Component:	AA Relay Contacts

 **NOTE:** Test confirms that Pixel correctly detects a motor contactor failure to open. Pixel checks for a stuck contact at the end of every run before allowing the next run. Refer to page 1 and 4 of prints.

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from responding to hall call demand.
- b. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.
- c. Place Machine Room Inspection switch to INSP.

 **NOTE:** AA Contactor Verification functions identically in both inspection and automatic modes of operation.

- d. Manually press and hold the AA contactor movable and verify that the Pixel screen displays **AA Relay Fault**. Then release and confirm that the fault condition has been cleared (screen displays **No Faults**).
- e. While holding AA contactor movable, use Controller Inspection to command the car Up or Down.
- f. Verify that the car will not accept a run command while the fault is present.

- g. Release the AA contactor movable and confirm that the Pixel screen displays **No Faults**.
- h. Return the Controller Inspection, TEST and CAPTURE switches to their off positions, which will enable the car to return to Automatic Mode of operation and serve call demand
- i. Place Machine Room Inspection switch to NORMAL.

Test Verification Base Block or Drive Enable

 **NOTE:** Test confirms that the drive will not feed current to the hoist motor unless it has been commanded and “Enabled” to do so though the Base Block or Drive Enable input.

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from responding to hall call demand.
- b. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.
- c. Place Machine Room Inspection switch to INSP.

 **NOTE:** Base Block or Drive Enable Verification functions identically in both inspection and automatic modes of operation.

- d. Turn main line disconnect off.
- e. Remove and Isolate the Base Block or Drive Enable wire from the drive terminal Strip, refer to page1of the controller prints for terminal and wire.
- f. Turn main line disconnect on.
- g. Use Controller Inspection to command the car Up or Down.
- h. Verify that the car will not run and the Brake will not engage.
- i. Turn main line disconnect off.
- j. Rewire the Base Block or Drive Enable wire to the drive terminal Strip.
- k. Turn main line disconnect on.
- l. Return the Controller Inspection, TEST and CAPTURE switches to their off positions, which will enable the car to return to Automatic Mode of operation.

Item 2202

2.26.2.4 Controller Equipment and Wiring

Pixel elevator controllers bear the CSA approval and are listed under file # 068101_0_000, and have been EMI-RFI tested by CKC independent laboratories.

Item 2210

2.26.2.12 Emergency Speed Limiting Devices

The Emergency Terminal Stop test forces the car to execute a run on high speed into the terminal landing (up and down) tests are accomplished using simple menu driven process and the procedures below:

Down Direction:

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from servicing Hall Calls.
- b. Drive the car to the top landing by entering a Car Call.
- c. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.
- d. Navigate to:

 Home 

 Install 

 Code Compliance Tests 

 Safeties Speed Tests 

 Emergency Terminal Stop 

 **NOTE:** The Emergency Terminal Stop “Slowdown Position” represents the hoistway position at which the car must start its deceleration into the bottom landing (relative to the virtual down normal limit).

Press the  **Run Test** soft key to start the **Emergency Terminal Stop** run or the  **Back** soft key to abort test run.

 **CAUTION:** Once the Run Test soft key has been pressed, the car will accelerate to contract speed in the down direction and run past the Slowdown Position.

- e. Observe that the Display shows a **Slowdown Overspeed** Trip latching fault, and that the car comes to a halt.
- f. Press the System Fault Reset key to clear the fault.

Up Direction:

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from servicing Hall Calls.
- b. Drive the car to the bottom landing by entering a Car Call.
- c. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.

d. Navigate to:

 Home 

 Install 

 Code Compliance Tests 

 Safeties Speed Tests 

 **Emergency Terminal Stop** 

 **NOTE:** The Emergency Terminal Stop “Slowdown Position” represents the hoistway position at which the car must start its deceleration into the top landing (relative to the virtual up normal limit).

Press the  **Run Test** soft key to start the **Emergency Terminal Stop** run or the  **Back** soft key to abort test run.

 **CAUTION:** Once the Run Test soft key has been pressed, the car will accelerate to contract speed in the up direction and run past the Slowdown Position.

- e. Observe that the Display shows a **Slowdown Speed** Trip latching fault, and that the car comes to a halt.
- f. Press the System Fault Reset key to clear the fault.

Item 2213

2.26.2.16 Emergency Terminal Stopping Devices

Pixel elevator controllers comply with section 2.25.4.2 and are exempt from complying with this section 2.26.2.16

Item 2219

2.26.2.29 Ascending Car Overspeed Protection

The Pixel Ascending Car Overspeed test is accomplished using a simple menu driven process and the procedure below



NOTE: Test verifies operation and deployment of the emergency brake by Pixel, if electrical overspeed contact of the governor activates from empty car overspeed detection in the up direction.

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from servicing Hall Calls.
- b. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.
- c. Drive the car below the counterweight position to allow enough distance from the top landing for the car to accelerate and overspeed due to gravity.

- d. On Pixel control navigate to:

 Home 

 Install 

 Code Compliance 

 Overspeed Tests 

 Ascending Car Overspeed 

Press the  **Back** soft key to abort test or  **Page Up** to enter test.

- e. Follow Ascending Car Overspeed test directions on Pixel LCD.
- f. Once ready to perform test Press the  Page Up soft key, to enter Ascending Car Overspeed test mode.
- g. The LCD will display instructions prior to Ascending Car Overspeed test, follow directions on the Screen to enable Pixel to lift the main brake without commanding the motor drive unit, and observe the car to travel by gravity in the up direction until

the electrical contact from the governor activates deploying the emergency brakes to stop the car.



NOTE: The main brake will remain lifted for as long as the Enable and Up Machine Room Inspection push button are held push in, allowing verification of auxiliary brake capacity to stop the car upon failure of main brake.

- h. Cycle power on control unit and verify **Governor Latching Fault** remains after power cycle.
- i. Reset the drive Run Enable to Brake in the motor control in the drive unit.
- j. Press the System Fault Reset push button to clear **Governor Latching Fault**.
- k. Set Machine Room Inspection switch to Normal and observe Pixel repositioning the cab to its closest landing zone.
- l. Set CAPTURE, TEST switches to OFF position to return car to service.

Item 2220

2.26.2.30 Unintended Car Movement

Critical Component:	Car Gate and Hoistway Door Locks
Redundant Component:	SP1 and SP2 safety microprocessors, Landa™ Landa™ Position System
Monitored Inputs:	Front Doors: CGF1-CGF2, DLAT1-DLAT2, DLSF1-DLSF2, DLAB1-DLAB2 Additional inputs for front and rear doors Rear Doors: CGR1-CGR2, DLSR1-DLSR2



NOTE: Test verifies operation and deployment of the emergency brake by Pixel if the cab travels outside a landing zone with both car and the hoistway doors open.

- a. On Pixel control Verify **Unintended Movement Bypass option is set to No**, navigate to:

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 Install 

 Code Compliance 

 Unintended Movement 

 Unintended Movement Bypass 

 No

Press the  **Save** soft key, to disable bypass.

b. Enable **Unintended Movement Test**, UIM test, navigate to:

 Home 

 Install 

 Code Compliance 

 Unintended Movement 

 Unintended Movement Test 

c. Follow UIM test directions on Pixel LCD.



WARNING: Place approved barricade across elevator door opening. Station qualified supervision at opening. PREVENT ACCIDENTAL INGRESS ATTEMPT DURING TEST.

d. Once ready to perform test Press the  Page Up soft key, to enter UIM test mode.

e. The LCD will display instructions and current distance information prior to UIM test, follow directions on the Screen to enable Pixel to lift the main brake without commanding the motor drive unit and observe the car to travel by gravity out of the door zone area triggering an Unintended Movement latching Fault deploying the emergency brakes to stop the car.



NOTE: The main brake will remain lifted for as long as the Enable and Up Machine Room Inspection push button are held push in, allowing verification of auxiliary brake capacity to stop the car upon failure of main brake.

f. Verify on Pixel Screen that the Distance Moved by the car is less than or equal to 48 inches, if Distance Moved is more than 48 inches, auxiliary brake adjustment must be performed to comply with the code maximum stopping distance allowed for Unintended Movement, please refer to the auxiliary brake manufacturer for instructions on brake adjustment, and repeat UIM test.

- g. Cycle power on control unit and verify Unintended Movement Fault remains after power cycle.
- h. Reset the drive Run Enable to Brake in the motor control in the drive unit.
- i. Press the System Fault Reset push button to clear Unintended Movement Fault.
- j. Set Machine Room Inspection switch to Normal and observe Pixel to close the cab doors and reposition the cab to its closest landing zone.
- k. Remove barricades, set Capture switch to off, to conclude UIM test.

Item 2224

2.25.2 Normal Terminal Stopping Devices

The NTS Slowdown test forces the car to execute an emergency slowdown into the terminal landing (up and down) utilizing the Landa Auxiliary sensor head Only to verify that the failure of the primary terminal slowdown device, the Main Land Sensor head, does not prevent the car from landing into terminal landing position, the NTS Slowdown tests are accomplished using simple menu driven process and the procedures below:

Down Direction:

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from servicing Hall Calls.
- b. Drive the car to the top landing by entering a Car Call.
- c. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.

d. Navigate to:

 Home 

 Install 

 Code Compliance Tests 

 Safeties Speed Tests 

 NTS Slowdown Test 

 **NOTE:** The **NTS Slowdown Test** parameter “Slowdown Position” represents the hoistway position at which the car must start its deceleration into the bottom landing.

Press the  **Run Test** soft key to start the **NTS Slowdown Test** run or the  **Back** soft key to abort test run.



CAUTION: Once the Run Test soft key has been pressed, the car will accelerate to contract speed in the down direction and run past the Slowdown Position.

- e. Observe that the Display shows a **Slowdown Overspeed** Trip latching fault, and that the car comes Level to the bottom landing.
- f. Press the System Fault Reset key to clear the fault and enable the car to re-level into the closest landing.

Up Direction:

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from servicing Hall Calls.
- b. Drive the car to the bottom landing by entering a Car Call.
- c. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.

- d. Navigate to:

 Home 

 Install 

 Code Compliance Tests 

 Safeties Speed Tests 

 **NTS Slowdown Test** 



NOTE: The **NTS Slowdown Test** parameter “Slowdown Position” represents the hoistway position at which the car must start its deceleration into the top landing

Press the  **Run Test** soft key to start the **NTS Slowdown Test** run or the  **Back** soft key to abort test run.



CAUTION: Once the Run Test soft key has been pressed, the car will accelerate to contract speed in the up direction and run past the Slowdown Position.

- e. Observe that the Display shows a **Slowdown Overspeed** Trip latching fault, and that the car comes level to the top landing.
- f. Press the System Fault Reset key to clear the fault and enable the car to re-level into the closest landing.

Item 2227

2.26.1.6.6 Overspeed Protection within the Truck Zone

Leveling Overspeed monitors cab speed while the car is running within the door zone or trucking zone, and is in the process of leveling into a landing. Use the following process for verification:



NOTE: Leveling Trip Speed does not monitor the target final programmed leveling speed. Pixel's car landing zone approach is normally greater than the final programmed leveling speed code permits speeds of up to 150 ft/min within the leveling zone.

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from servicing Hall Calls.
- b. Set TEST switch, located on the MP board, to TEST which will enable Test Mode operation and disable door operation.
- c. Navigate to:

 Home 

 Install 

 Code Compliance Tests 

 Overspeed Tests 

 Leveling Overspeed 



NOTE: The Leveling Overspeed display shows the programmed Leveling speed parameter, overspeed tripping speed setting, and prompts for entry of the leveling tripping speed parameter to be use when running a leveling trip detection test. Enter a speed below the current leveling speed parameter setting before running test.

Press the  **Run Test** soft key to enable – for the next leveling run only – to detect **Leveling Overspeed** condition using the **Test Leveling Overspeed** parameter or the  **Back** soft key to abort test run.

- d. Enter a Car Call to run the car.
- e. Observe that the Fault Display entry for the safety processors shows a Leveling Overspeed latching fault as the car slows down into the target landing's door zone, and that the car comes to a halt.
- f. Verify the car will not accept a command to run while the latched fault is present.
- g. Press the System Fault Reset key to clear the fault and enable the enable the car to accept a command to move.
- h. Verify that the car re-levels into the closest landing
- i. Set place the TEST and CAPTURE switches to off, which will enable the car to accept hall calls and return to Automatic Mode operation.

Item 2228

2.26.1.6.7 Inner landing Zone

- a. Set CAPTURE switch, located on the MP board, to CAPTURE which will prevent the car from servicing Hall Calls.
- b. Drive the car to a terminal landing.
- c. Place the car on Independent Service and barricade the doors.



WARNING: Place approved barricade across elevator door opening. Station qualified supervision at opening. PREVENT ACCIDENTAL INGRESS ATTEMPT DURING TEST.

- d. Place the car on Hoistway Access operation.
- e. Drive the car on Access Operation 3 inches above or below the landing.
- f. Remove from Access operation and observe that the car will not start repositioning into a landing until after doors have closed.
- g. Remove the car from Independent Service
- h. Set Capture switch, located on the MP board, to OFF to return car to automatic mode of operation.

[end document]