

ESCALATOR MONITORING AND FAILURE AT STATIONS

Work description: Monitoring the escalators and their usage

Scope: Switching Escalators on and off, monitoring and responding to faults and alarms

References: Operation & Maintenance Manual of Escalator, HNL-09668 Fault Detection, Response and Reporting at Stations

PPE and precautions	Competencies or qualifications	Licenses or permits required
Gloves	Station Operator	Nil

Tools and equipment required

Escalator Key, Barricades



Warning

Staff who have not been instructed on Escalator Operations may not use this Work Instruction

Escalators

Typical Escalators in H RTP Stations



General usage of an escalator

The general usages of an escalator in the stations are:

- To move passengers from one floor to another in a safe manner
- Guiding passengers towards the main exit, concourse or platforms
- Help in controlling the flow of passengers during crowd control management



Warning

Escalators are a convenient form of moving people from one floor to another; however, there are certain restrictions whereby an escalator cannot be used due to safety concerns, below are some of the examples of the situation:

- Passengers with a wheelchair
- Passengers not wearing any footwear (barefooted)
- Passengers attempting to use the escalator in the opposite direction of travel
- Passengers with pushchairs (baby stroller), cart or cycles
- Passengers sitting, kneeling, or supporting themselves with their hands on the step of the escalator
- Passengers attempting to walk their pets onto escalators
- Passengers with heavy luggage and bulky items
- Contractors with heavy loads (materials)

Station Operator

If you observe the above situation, you must:

- Stop the passengers immediately from using the escalator for safety reasons
- Encourage the passengers with heavy luggage and bulky items to use the elevator instead of the escalator
- Advise the contractor to use the elevator for carrying their materials if it is safe to do so

Station Operator

If you think other passengers would be at risk from a heavy load carried by another passenger, you must:

- Stop the passenger carrying the heavy load from using the escalator
- Encourage the passenger to use the elevator instead of the escalator
- Stop other passengers from using the escalator until the person carrying the load is clear

Approved By:

☐ Director, Operations and Maintenance

☐ Department Manager

☐ Manager, HSE (Operations and Maintenance)

Signature:

Date:

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**Note**

Escalator is a moving staircase – a conveyor transport device for carrying people between floors of a building. The device consists of a motor-driven chain of individual, linked steps that move up or down on tracks, allowing the step treads to remain horizontal.

Bringing Escalators into service

Station Operator

The following must be checked prior to switching an escalator into service.

Before switching an escalator into service, Station Operator must:

- check that escalator is not under maintenance
- check that no person is on the escalator
- check that escalator is clear of any foreign objects
- conduct a visual safety check of the escalator, including the following:

Station Operator

Safety guards and anti-slide devices

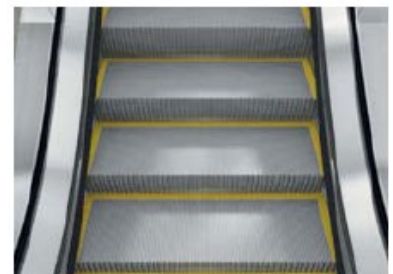
- Make sure that the safety guards cover any gaps between the equipment and the building interfaces and that the guards are solid.
- Check also that anti-slide devices are solid and securely attached to the escalator.

Anti-slide devices are installed in between two parallel escalators or between an escalator and a wall to prevent persons or objects from sliding down.

Station Operator

Steps

- Make sure that the steps are dry, clean, and are not damaged, broken or missing.
- If there is oil, water or any other substance which may cause slips and falls on the steps, take the following actions:
 - Take the equipment out of operation and install safety barricades to prevent anyone from entering the equipment.
 - While wearing gloves, use a cloth to wipe all traces of the substance off the equipment.

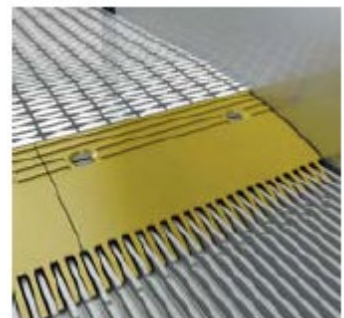
**Warning**

There is a danger of slipping, falling or entrapment when there are substances on steps.

Station Operator

Comb Segments

- Check that the comb plate is parallel to the steps and that the two fit closely together.
- Check the comb segments for missing or broken teeth. Comb segments must not have two or more adjacent teeth missing.
- If this occurs, the equipment must not be put into operation.
 - Check for objects between the combs and steps.
 - Should there be any trapped objects, attempt to remove them with the equipment switched off, making sure to wear gloves.
 - Before allowing use of the escalator after a comb plate fault, run the escalator for at least two whole cycles to listen for abnormal sounds and observe if the comb fault occurs again. If you observe abnormal sounds or if the comb fault occurs again, the escalator is to be put out of use and the fault managed in accordance with HNL-09668 Fault Detection, Response and Reporting at Stations.



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Station Operator

Handrail inlets

- Check for damage at the handrail inlets.
- If any is found, the equipment must not be put into operation.

There must always be a gap between the handrail and the inlet. If there is contact between the handrail and the inlet, the escalator is to be put out of use and the fault managed in accordance with HNL-09668 Fault Detection, Response and Reporting at Stations. The inlet must be clean as debris may cause the equipment to stop suddenly.



Station Operator

Entry and exit areas

Make sure that the entry and exit areas are dry, not slippery and are free of obstacles: for example, advertisement racks or shopping carts.

**Warning**

There is a danger of injuries or falls due to congestion if there are obstacles at the entry and exit areas.

Station Operator

Balustrades

The steel balustrades must not have sharp edges or corners.

If a balustrade panel is broken or missing, or the gaps between the balustrade panels are not equal and the gap is greater than 4 mm, the escalator is to be put out of use and the fault managed in accordance with HNL-09668 Fault Detection, Response and Reporting at Stations, as there is a danger of injury, falling or entrapment when inner panels are broken or pieces are missing.



Station Operator

Skirts and skirt deflector brushes

- Visually check that no corners or edges are sticking out on the skirts and that they are free from excessive wear or scratches, which can occur suddenly.
- Check for sharp edges, damaged, loose or missing parts.

If any of these issues are found, the fault managed in accordance with HNL-09668 Fault Detection, Response and Reporting at Stations.



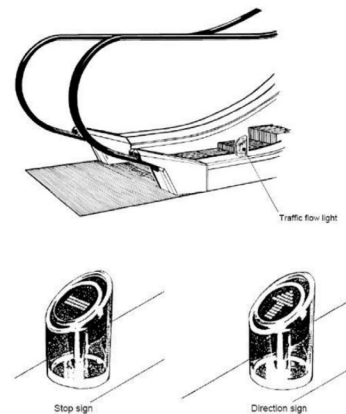
Station Operator

LED Traffic lights

When the equipment starts up, the traffic lights will simultaneously indicate the operational direction.

- Check that the display is correct:
 - In the correct direction of travel, the traffic lights must be green. The background color of the direction sign is dark, and the arrow is green.
 - In the opposite direction of travel, the traffic lights must be red. The background color of the stop sign is dark, and the horizontal bar is red.

If any issues are found, the fault managed in accordance with HNL-09668 Fault Detection, Response and Reporting at Stations.



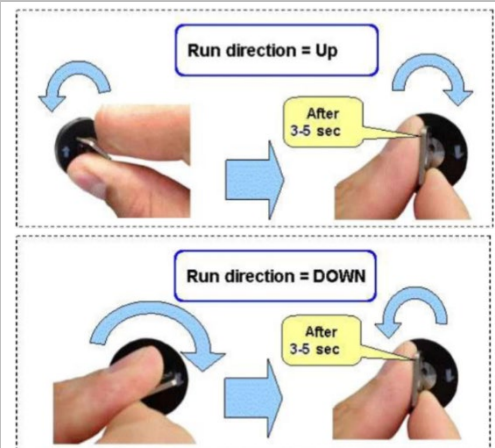
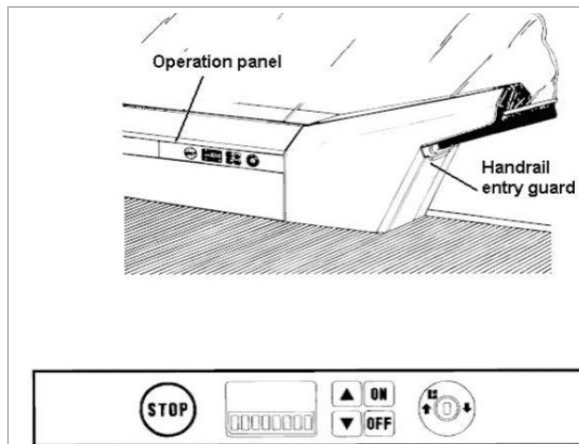
Station Operator

Functional Safety Check

After performing the visual safety check and ruling out any externally recognizable faults, proceed with the following functional safety check, before putting the escalator into operation:

- Insert the key into the key-operated switch on the control panel located in the upper and lower landings. Insert the key and turn it to the desired direction of travel, up or down. **#FIXME Need Escalator Spec**

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Station Operator

After switching the equipment on and before allowing people to use it, you must:

- Allow the equipment to revolve at least twice during the functional safety check.
- *Inspect the step or pallet band and make sure that the equipment is running faultlessly.*
- Check the handrail condition and make sure the handrail is running at the same speed with the step band.
- Be alert for any damaged or missing steps or pallets, unusual noises or vibrations.
- If escalator is functioning safely at end of functional safety check, remove the key.



Note

If the equipment does not start, check the information display for fault messages



Warning

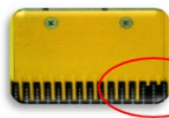
DO NOT change the direction of the escalators at any time to prevent serious mechanical damage to the asset and any consequential health and safety risk to passengers. Any requirement for directional change MUST always be approved by the client and maintenance team.

Do NOT leave the key in the lock of the key-operated switch at any time. Misuse can result in personal injury.

Responding to Escalator Alarms and Faults

Escalator must be put in out of service mode when the following occurs:

- More than two (2) adjacent comb teeth are broken/damaged or missing from the upper or lower landing plate



Two (2) adjacent broken teeth comb plate

- If there is a fault with the sprinkler system inside the equipment
- Stuck objects like abaya, screw, shoe, etc.
- If there is a fault with the automatic heat detector inside the equipment
- Broken glass panel that can affect the safe usage of the equipment
- Detached/misaligned skirt brush
- Misaligned moving handrail
- Emergency stop button detached
- Water leakage issues (water dripping over the equipment)
- Oil leakage issues



Warning

Signage and barriers must always be in place on both ends of the escalator whenever the equipment is put out of service

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**Note**

All faults and failures found in the escalator in the station must be reported in accordance with HNL-09668 Fault Detection, Response and Reporting at Stations. When reporting faults or failures of an escalator you must include the fault code details which can be seen on the escalator.

**Switching
Escalators out of
Service**
Station Operator

Escalators shall be switched out of service at the end of Station Operating Hours for energy saving.

Before switching an escalator out of service, Station Operator must:

- Position himself at the entry landing of the escalator to prevent other persons from entering the escalator
- Ensure that the escalator is clear of persons
- Display at each landing with an "Energy Saving" barrier