

Discussion on Inspection Work of Elevator Mechanical Safety Device

Zhang Chenlong, Zheng Zhihua, Cao Huaizhi, Zheng Jie

Lincoln Elevator (China) Co., Ltd., Haining, Zhejiang Province 314400, China

Keywords: elevator machinery; inspection; installation device

Abstract: In the elevator, the corresponding mechanical safety device will be set up. People also pay a high degree of attention to this. As an inspector, the elevator safety device should be checked in time to ensure people's personal safety. In this paper, the corresponding inspection work is analyzed for the elevator mechanical safety device.

Nowadays, elevator machinery technology has been widely used, and relevant personnel should fully grasp this technology and enrich their own inspection capabilities. In the inspection work of the elevator safety device, the mechanical safety device needs to be inspected to ensure the safe operation of the elevator.

1. Speed limiter test

(1) The appearance of the speed limiter. In the speed limiter, the parameters are specified in detail and have a quality certificate. For example, when testing the speed limiter, the commissioning certificate can be used to determine whether the parameters meet the relevant standards of the safety device. Usually, on the speed limiter nameplate, there will be related data information and so on.

(2) Movement speed. On the speed limiter, the car should be installed. When the upstream speed and the downstream speed are at the speed limiter speed, the electrical safety device should be activated. When the speed limiter is in the reset state, the electrical safety device should also be checked.

2. Safety clamp inspection

(1) Static inspection: On both sides of the outer wall of the car, safety clamps are often provided, which need to be set according to the rated speed of the car. In an elevator car, if multiple sets of safety gears are provided, only progressive safety gears can be used. Before the safety gear moves, or when moving simultaneously, an electrical safety switch should be set to stop the traction machine. Turn. In the pit, when checking the clearance of the safety clamp, the connecting rod should be manually pulled to check the switch and the limit size.

(2) Operation inspection: In the machine room, when the elevator is inspected, the elevator car should be at the speed of inspection, manually operate the fire tongs, lift the safety tongs, and let the block be between the car and the guide rail. At this point, the car is in a stopped state. The limit switch of the safety gear should be turned on. If no abnormality is found, the reliability of the elevator safety device can be proved. When the elevator is descending, check the braking capacity. In the hoist way, the elevator is operated at the inspection speed, and the safety tong lever is pulled upwards. The interlock is used to cut off the short circuit and the elevator car is at a standstill.

3. Buffer test

(1) Under the rated load, the car should be kept at the speed of inspection and maintenance, and fully contact with the hydraulic buffer. After 5 minutes of compression, the bumper can be restored to its original state within 2 minutes since the car is bounced.

(2) For the hydraulic buffer, an electrical safety switch should be installed to control the running speed of the elevator. Once the buffer is actuated, if the elevator fails to return to the normal

position, it will not operate normally. For buffers, the total travel distance should reach the level of the station at both ends of the car.

4. Inspection of the brake

(1) When inspecting the elevator brake equipment, it is important to check the elevator brakes and the contactors. When the car is forced to stop by an emergency stop, it can stand still normally. During the inspection of the brake, in a separate device, the contacts should be opened in time. If it cannot be opened, the contacts of the contactor need to be adjusted to ensure the normal operation of the contactor.

(2) At the time of inspection, the brakes should be in good working condition. In the brakes, all components have to perform their own functions, laying the foundation for the normal operation of the entire brake.

5. Traction wire rope

(1) When the car is in the state of no-load, in the uplink, multiple parking experiments should be carried out under the most severe braking state, and the traction should be fully checked. All the car tests must be completely still. It can pass the test.

(2) When the car is at 125% rated load, in the downside, if in the most severe braking situation, after multiple parking experiments, after full inspection of the traction, each test car can be completely still So that you can pass the test.

(3) When the weight of the heavy device is in the buffer, the empty car cannot lift upward.

(4) For the balance factor of the elevator, it is necessary to meet the relevant requirements for elevator installation.

6. Door system

(1) Check the emergency unlocking device. When checking, use the corresponding key to check whether the function of the protection device is normal during emergency unlocking. Not only that, but also to properly keep the opening key of the elevator door, to be handed over to professional management personnel, in the event of an elevator accident, the unlocker can get the key in time.

(2) Check the elevator door locking device. When the elevator is in high-speed operation, it should be ensured that the elevator door is in a locked state, so as to ensure the personal safety of the passengers. As an inspector, you should have a general understanding of the situation of door locks and electrical safety devices. For example, observe the elevator lock components, check the connection degree, and the operation status, check the components in the safety device, and clean the dust. When the elevator is in the maintenance speed operation state, open the door lock elevator to see if it can be timely. stop.

(3) Check the interlock protection device of the elevator door

The door can only be opened when the car is stationary and the unlock zone is specified. In the application of electrical safety devices, in addition to the inspection of the doors of each floor, it is also possible to check the closing of the car door. In the sliding door, if a lot of machinery is included, the electrical safety device should be used when checking the door. When the elevator is in the inspection speed, the floor door should be opened to fully check the overall operation of the elevator. Under such conditions, the landing door is closed, the car door is opened, and the operating state of the elevator is normal. During the inspection of the sliding door, the car door and each floor door should be inspected. After the door is locked, the electrical safety device is short-circuited, and each door leaf is opened to observe whether the running state of the elevator is normal.

7. Conclusion

To sum up, at this stage, for elevator maintenance personnel, they should improve their overall quality. When overhauling elevators, they should maintain a rigorous working attitude and comprehensive management of mechanical devices. In the event of an elevator accident, the fault location of the mechanical safety device should be accurately located. It can be seen that it is necessary to fully implement the inspection of elevator mechanical safety devices, do daily maintenance work, solve safety hazards in time, and provide reliable guarantee for elevator safety.

References

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