



香港
建造
學院 | HONG KONG
INSTITUTE
OF
CONSTRUCTION

Safety Training Course for Construction Workers of Specified Trade (Silver Card Course)

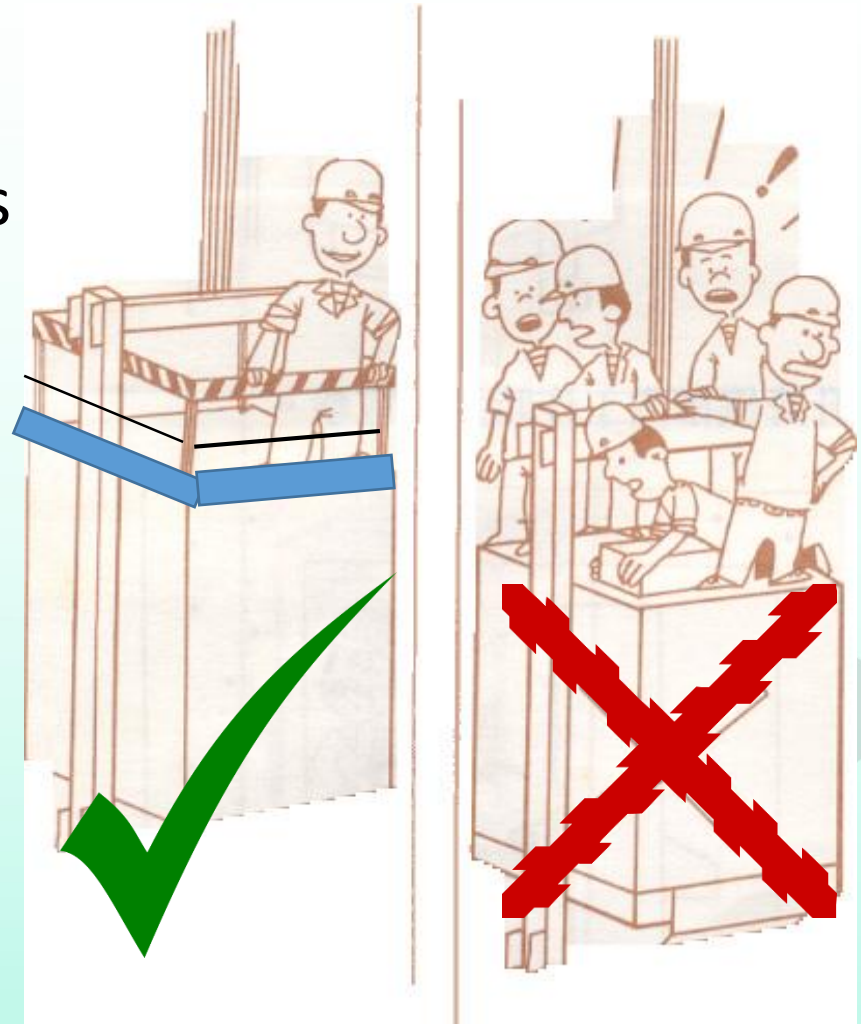
Lift Mechanic (A10) Key Points Review (M1)

4.2020



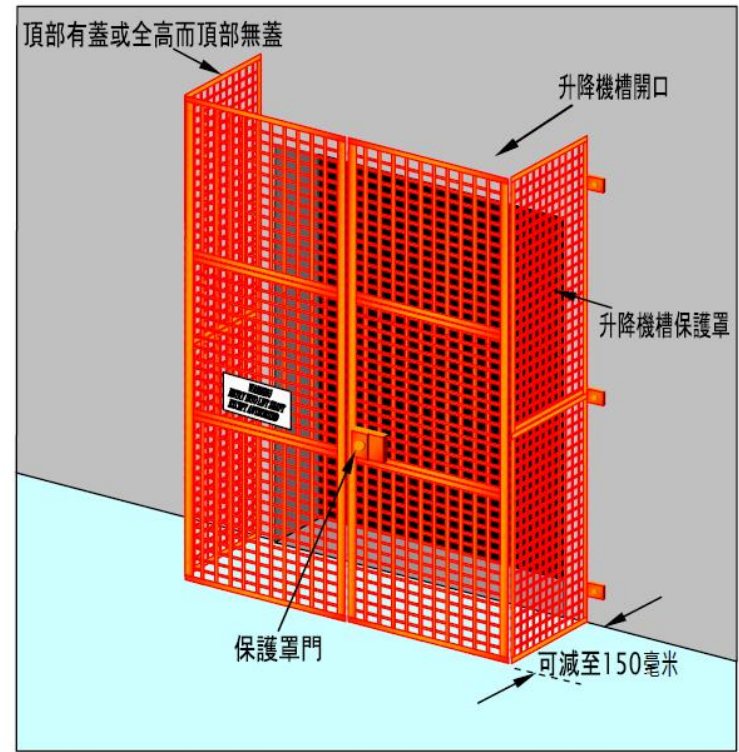
I. Major Elevator Incident

- Electrical shock
- Trapped between objects
- Falling
- Hit by falling objects
- Fire



II. Provision of Lift Shaft Protection

- Before the commencement of lift shaft works, all openings to the lift shaft such as landing or access openings should be fenced off by installation of temporary steel covers or gates to prevent materials from falling from landing floors to lift shafts.
- Must be closed at all times and could be locked from outside. However, it should be readily open from the inside of lift shafts at any time without the need of separate key operations.

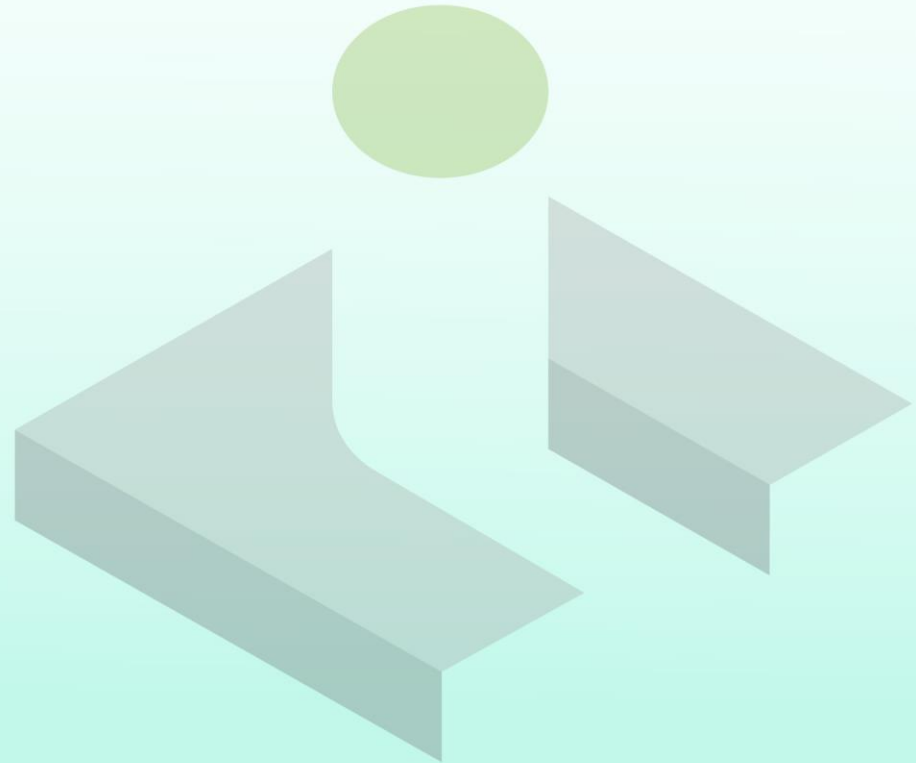


III. Reflective Vest + Safety Harness

If anyone is not wearing reflective clothes or a safety harness with fall arrestor, entering the lift shaft is prohibited.



全身式安全帶要掛在升降機槽內的救生繩
Safety harness attached to lifeline inside lift shaft

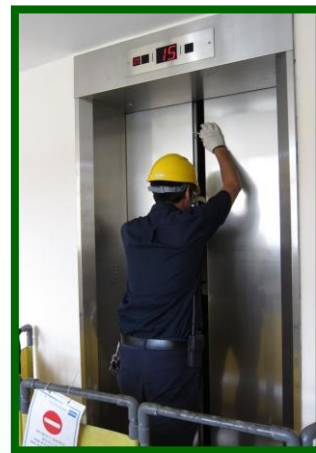


IV. “Permit to Work” on a Car Top Before Its First Run

- Emergency STOP switch on car top control box in normal condition
- The “INSPECTION” switch on car top control box in normal condition
- Car top railing (not applicable if there is no fall hazard on car top)
- Car top lighting in normal condition
- Brake operation in normal condition
- ***** The “INSPECTION” switch on car top control box shall be shifted to inspection mode and be maintained in a locked position. *****

Work on Lift Car Top (ref. 8.4, CIC Vol.3)

- If any person needs to enter or leave the top of a lift car, suitable precautions such as the following and Annex C (Entering lift shaft- Safe Working Procedure Flow Chart) shall be taken to ensure that the lift car will be stationary.
 - (i) Verify the function of Landing Door Lock at the working floor, and depress and verify the function of the Car Stopping Device located at the car top; or
 - (ii) Switch off the main power supply to the lift, and the main switch was locked and tagged.
- When the top of lift car is equipped with two or more Car Stopping Devices, the function of each device should be verified independently.
- Control of the lift car should be made by using the car top control station, where the inspection operation mode should be used to allow the car to travel at a speed of not more than 0.63 metres/second.



The landing door should be opened not more than a clearance of 90mm in width for checking the position of the lift car



Work inside Lift Pit (ref. 8.2.1, CIC Vol 3)

(a) if any person needs to enter or leave the lift pit through the landing door at the lowest floor, suitable precautions such as the following and Annex C (Entering lift shaft- Safe Working Procedure Flow Chart) shall be taken to ensure that the lift car will be stationary.

- (i) Verify the function of the Landing Door Lock at the working floor, and depress and verify the function of the Emergency Button located near the landing door at the lowest floor, or
- (ii) Verify the function of Landing Door Lock at the working floor, and depress and verify the function of the Car Stopping Device located at the car top, or
- (iii) Switch off the main power supply to the lift, and the main switch was locked and tagged.

After entering the lift pit, the Emergency Stop Button located at the lift pit shall be depressed and the stopping function shall be verified. When the lift pit is equipped with two or more Emergency Stop Buttons, the function of each button should be verified independently.



The landing door should be opened not more than a clearance of 90mm in width for checking the position of the lift car



All dangerous parts of the machine



Good Practice

Figure 10 (8.5.2f):
Any dangerous part of the machine should be guarded effectively



Bad Practice

Figure 11 (8.5.2f):
Dangerous parts of the machine are not guarded

Work on live electrical equipment should be avoided. If it is unavoidable, the following special precautions should be taken (Ref. 8.8.5, CIC Vol.3)

- (a) the work should only be carried out by a Competent Personnel;
- (b) working alone is not recommended;
- (c) sufficient guidance/warnings and supervision should be given to the Lift Workers; and
- (d) suitable protective overalls and electrical insulation gloves/shoes should be provided to and worn by the Lift Workers, and suitable electrical insulation mats should be made available for them to stand on during the work.



Figure 14 (8.8.5d):
Lift workers should use suitable PPE with electrical insulated gloves / shoes and stand on an insulation mat when working on live electrical equipment

Temporary jumper safety guidelines (ref. 8.1c, CIC Vol.3)



in any case, the simultaneous bypass of both the Car Door Lock and Landing Door Lock should be strictly forbidden*. In case that bypassing the Landing Door Lock is required, the use of a temporary jumper for short-circuiting the Landing Door Lock safety circuit should be avoided and a Landing Door Lock Bridging control station provided in the machine room should be used in the first place. If no such bridging device is provided, a temporary jumper can then be used and the safety guidelines below should be followed.

- (i) shift the car operation to INSPECTION mode (manual inspection operation);
- (ii) the temporary jumper can only be applied by trained lift workers and registered lift workers who are authorized by a Registered Contractor;
- (iii) the design of the temporary jumper should be conspicuous and made easily identifiable;
- (iv) only the designated temporary jumper can be used to short out the circuit;
- (v) display a warning sign at the controller and the place where the inspection mode can be shifted to show which temporary jumpers are in use;

Temporary jumper safety guidelines (ref. 8.1c, CIC Vol.3)

- (vi) upon completion of the job, remove all temporary jumpers and verify the serial numbers of the jumpers that belong to individual lift workers so as to ensure the number of jumpers are correct; and
 - (vii) after removing all warning signs, check and verify that the lift can operate in normal mode.
- When using a landing door lock bridging device/jumper, lift workers should follow the established communication protocol and understand the plan and procedures for the car movement in the works.



bridging device



Figure 2 (8.1.c.iii):
Temporary Jumper



Figure 3 (8.1.c.v):
Display the warning sign
at controller and the place
where the inspection mode
can be shifted

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