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Building Plan & Management Group

18 February 2016

**All Lift Contractors and Authorised Examiners**

Dear Sir/Madam

**REMINDER: MORE VIGILANCE REQUIRED IN LIFT MAINTENANCE AND INSPECTION**

The Building and Construction Authority (BCA) would like to remind all lift contractors and Authorised Examiners (AEs) to be more vigilant when maintaining and inspecting lifts in Singapore.

2 Annex D of the Singapore Standard SS550: 2009<sup>1</sup> lists the items of a lift that must be maintained and examined periodically for the lift to remain in proper working condition. In addition to Annex D, BCA has attached a schedule of maintenance outcomes (to this Circular) which lift contractors and AEs should follow, as a guide.

3 BCA will continue to audit existing lifts to ensure that lift contractors and AEs uphold high standards in lift maintenance and inspection. BCA will also be organising a seminar to share its audit findings and best practices. Details of BCA's seminar will be made available soon. All registered lift contractors and AEs involved in lift maintenance and inspection are required to attend the seminar.

Yours faithfully



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for COMMISSIONER OF BUILDINGS

<sup>1</sup> - Code of practice for installation, operation and maintenance of electric passenger and goods lift

## SCHEDULE OF LIFT MAINTENANCE OUTCOMES

S/N	Component / Area	Outcomes
1	Door open control	Pressing of "Door Open Button" shall cause the opened or partially opened car door and landing door to stay open or re-open respectively.
2	Door sensor (e.g. light curtain and safety edges)	Intended activation of door sensor shall cause the car door and landing door to re-open.
3	Car doors and landing doors	<p>Lift car movement shall only be allowed when the gap along the lift car doorway is not more than 20mm.</p> <p>Lift car movement shall only be allowed when the gap at the lift landing doorway is not more than 10mm.</p> <p>Lift car movement shall only be allowed when all landing doors are closed and locked.</p> <p>Unlocking or detection of non-closure of landing doors during lift car movement shall initiate an emergency stop immediately.</p> <p>There shall be no signs of excessive wear and tear of door parts such as door shoes, rollers, hangers, linkages etc.</p>
4	Lift car emergency alarm button	Pressing of lift car emergency alarm button shall cause an audible alarm at the main lobby.
5	Lift car intercom	Pressing of lift car intercom button shall establish communication with emergency response personnel.
6	Light and ventilation fan	Backup lighting and ventilation fan shall function during the disruption of normal power supply to the lift car.
7	Ride travel	No abnormal sound or vibration shall be experienced throughout the ride travel.
8	Housekeeping	All machinery and machinery space, lift pit, hoistway and car top shall be kept clean, tidy and free from discarded items and debris.
9	Lift machine and drive, including motor, gear box, drive sheave and motor generator set	<p>No oil leakage shall be found at the machinery.</p> <p>Sufficient lubrication shall be provided at all moveable parts, joints and gear box.</p>
10	Brakes	<p>The brakes of the lift machine and drive shall not have any oil or grease contamination.</p> <p>The brakes, when activated, shall cause the lift to slow down, stop and stay at the stopping position.</p> <p>The lift car shall not over-travel the terminal floors under any condition.</p>
11	Direct current (DC) machine	<p>Carbon brush length shall be within the tolerance as recommended by the manufacturer.</p> <p>There shall not be any sign of carbon particle build-up at the insulation.</p>
12	Governor	<p>The governor shall be functioning at all times during the operation of the lift and be able to activate the lift safety gears.</p> <p>There shall not be any sign of excessive wear and tear of the governor ropes. The number of broken wires or</p>

## SCHEDULE OF LIFT MAINTENANCE OUTCOMES

S/N	Component / Area	Outcomes
		<p>strands must be within the allowable limits.</p> <p>The reduction and expansion of governor rope diameter and the governor rope elongation shall not exceed the allowable limits.</p> <p>The means of detecting governor rope elongation shall be effective and functioning at all times during the operation of the lift.</p>
13	Main ropes and compensation ropes	<p>The main ropes shall be properly and equally tensioned.</p> <p>There shall not be any sign of excessive wear and tear of the main ropes or compensation ropes. The number of broken wires or strands must be within the allowable limits.</p> <p>The reduction and expansion of the main ropes' diameters shall not exceed the allowable limits.</p>
14	Compensation ropes tie down and tensioning	<p>The compensation ropes tie-down, when applicable, must be properly tensioned and guided at all times when the lift is in operation.</p>
15	Buffer	<p>There shall be sufficient oil in the buffer, as indicated by the oil level gauge</p> <p>The buffer shall provide effective cushioning upon impact to protect the passengers in the lift car at all times when the lift is in operation.</p>
16	Controller and electrical system	<p>All earthing shall be firmly secured.</p> <p>The controller shall initiate immediate stopping and prevent lift movement under all unsafe conditions (to both passengers and maintenance workers).</p> <p>The terminal safety switch shall prevent the lift from over-travel at terminal floors.</p> <p>All safety switches shall be functioning at all times when the lift is in operation.</p>
17	Guide shoes and roller for lift car and counterweight	<p>The lift car and counterweight shall be guided at all times when the lift is in operation and shall not cause wear and tear on the guide rails.</p>
18	Safety gears	<p>The safety gear shall be maintained to ensure its proper working order.</p> <p>The safety gear, when activated, shall be able to stop and hold the lift and counterweight within the allowable distance in accordance with SS550.</p>
19	All lift parts	<p>The level of corrosion, wear and tear on all lift parts shall not be of such level as to affect the safe operation of the lift.</p>
20	Automatic rescue device (ARD)	<p>For lift installed with ARD, the lift shall be brought to the nearest floor with doors opened during the disruption of normal power supply to the lift car.</p>