

Checklist for inspection of Lift Installation

Instructions for the inspection of Lift installation

A. Preliminary

1. Ensure whether lift installation confirms to the requirements of the relevant Indian Standard or lift regulations and whether the required safety devices function as required therein.
2. Before starting the inspection of a lift, the Inspector should first determine that the operating device, emergency stop switch, and any other safety devices or switches are in proper working order and in the proper position for inspection.
3. The power supply line disconnect switch should be opened, locked and tagged out when it is desired to prevent movement of the lift or when inspecting electrical parts, to ensure that no unauthorized person operates the switch.
4. Inspectors should never enter lift pits containing water. When working in the lift pit, the inspector should always note the position of the car and also keep clear distance from descending counterweight in the hoistway of the lift being inspected and those in adjoining hoistway.
5. It should be ensured that a qualified personnel from the lift manufacturer for initial inspection and from the approved lift maintenance contractor for check subsequent periodical inspections to perform the test is available during inspection.
6. Also Supervisor, Licenced Electrical Contractor who has carried out the wiring works should also be present during inspection.
7. Before starting inspection, A sign board indicating that the lift is under maintenance and inspection shall be displayed at ground floor landing (preferably at all landings if possible).

B. Inspection of Lift Pit

1. Enter the lift pit only if it is dry. For this purpose, take the lift car above the bottommost landing. Open the landing gate/door of bottommost landing by a special key and check that the moving lift stops on opening the gate/door, thereby ensuring that the electrical contact of the bottommost landing gate/door and giving a call. Open the bottommost landing gate/door put the pit light 'ON' and enter the lift pit.
2. From safety considerations, it is not recommended to move the lift when inspecting from the lift pit.
3. As an additional precaution, keep the landing gate/door open by a small distance (say 50 mm) and keep pit switches in 'STOP' position.
 - a) The car shall be moved only when directed by the inspecting person.
 - b) The directives of the inspecting person shall be repeated and only on receipt of OK signal from the inspecting person, the car shall be moved.

- c) The car door and landing door, (if possible shall be kept open. They shall be closed only when asked by; inspecting person to start lift.
- d) These doors shall be opened as soon as the operation of lift is over.

Sl.No.	Description	Requirement	Details Noticed	Remarks
1	Dimensions	As per approved plan	cm....cm.....cm	
2	Clean and dry	Shall be in clean and dry condition		
3	Provision of ladder	A ladder shall be provided if pit depth exceeds 1300mm as measured below the bottom most landing sill.		
4	No. of buffers for car	Mention actual numbers and also mention whether it is spring buffer or oil buffer. Oil buffers are required when rated speed of the car is more than 1.5 metres per second.		
5	Number of buffers for counterweight	Mention actual numbers and also mention whether it is spring or oil buffer. Oil buffers are required when rated speed for the car is more than 1.5 metres per second.		
6	Condition of car buffers	Buffers shall not be in bent condition. In case of oil buffers a device for determining the quantum of oil shall be provided.		

7	Condition of counterweight buffer	Buffers shall not be in bent condition. In case of oil buffers a device for determining the quantum of oil shall be provided.		
8	Vertical clearance between car and buffer ('car run by')	Measure clearance when the car is leveled at bottom most landing.cm	
9	Vertical clearance between counterweight and buffer (counterweight run by)	Measure clearance when the car is leveled at top most landing.	...cm	
10	Counterweight guard screen	Shall be provided upto a height of two metres from the floor of the pit except where rope compensation sheave is provided.		
11	Provision of pit switch and arrangement for lighting the pit	Shall be provided and should be accessible from the lowest landing. When pit depth is more than 2m there should be two pit switches, one accessible from the lowest landing and other from the pit.		
12	Operation of pit switch	The lift shall stop on opening of pit switch		
13	Condition of tension pulley of governor rope.	It shall have free movement		
14	Condition of rollers of limit switches	It shall have free movement		
15	Condition of trailing cable and	The trailing cable shall be properly terminated		

	its termination, if termination is provided under the car	so as to avoid detachment from termination box.		
16	Condition of wiring inside the lift pit.	The termination of wire in switch and condition of switches		

C. Inspection of the Lift Car

1. Bring lift to bottommost landing by giving a hall call and enter the lift car.
2. Observe points 1 to 12 first by keeping the car door and the landing gate/door open.
3. Close the car door and the landing gate/door and take the lift in 'UP' and 'DOWN' direction and observe points 11 onwards.

Sl.No	Description	Requirement	Details Noticed	Remarks
1.	Display of Car capacity	Car capacity shall be displayed		
2.	Provision of fan/blower	Fan/blower shall be provided		
3.	Condition of fan/blower	Fan/blower shall be in working order		
4.	Provision of emergency alarm bell	Emergency alarm bell shall be provided		
5.	Condition of emergency alarm bell	Emergency alarm bell shall be in working order		
6.	Provision of light point	Light point shall be provided terminating in socket/holder		
7.	Provision for Telephone	Check for proper working		
8.	Provision for Floor indication	Ensure that display is working properly.		
9.	Condition of car lighting	Car light shall be in working order		
10.	General condition of the lift car sides, top and flooring	General condition shall be satisfactory		
11.	Provision of natural air	Ventilation shall be provided as per		

	ventilation in case of solid car door and landing doors inside the lift car	relevant Indian Standard.		
12.	Condition of car door	General condition of the car door shall be satisfactory		
13.	Sill gap between car sill and landing sill at each landing	Sill gap shall not exceed 30mm		
14.	Landing level of car with respect to landing sill at all landing for up and down direction.	The car shall stop at landing level within the specified limits.		
15.	Experience of Jerk in the car at the time of starting or stopping	No appreciable jerk shall be noticed at the time of starting		
16.	Operation of stop button (Push button type only)	On pressing the stop button, the lift shall stop		
17.	In case of manual operated car door, open the car door while the lift is moving.	On opening the car door, lift shall stop		
18.	In case of power operated car door, while lift is moving, operate the "DO" button	The car door shall not open		
19.	In case of power operated car door and landing doors when they are about to close at landing operate the 'Do' button	The doors shall open		
20.	In case of power operated car and landing doors, when they start to	The doors shall open		

	close at landings, actuate the door safety mechanism			
21.	In case of manually operated doors, while inside the car and the control is on attendant mode, operate landing side call button	The lift shall respond to calls as per type of control		
22.	Check for ARD	Ensure that ARD is working properly.		
23.	In case of manually operated doors put the control in an automatic position, enter the lift car, manually close the landing door and the car door.	The lift shall not operate for four to six seconds after arrival of car at that landing.		
24.	In case of power operated doors, while lift is moving is the floor position correctly displayed.	The floor position shall be correctly displayed.		
25.	In case of goods-cum-passenger lift, open the emergency exit, if provided, when the lift is moving	The lift shall stop		
26.	In case of goods-cum passenger lift, when the lift halt either above or below the landing level say by about 140mm, operate the inching device if provided.	The lift shall come to landing level.		

D. Inspection of Top of the Lift Car

1. In case of manually operated doors:
 - a) Take the lift car with two persons to the top landing.
 - b) Ask one person to come out of the car at the top landing.
 - c) Ask the person in the lift car to take the lift in the 'DOWN' direction.
2. In case of power operated doors"
 - a) Take the lift car to the top landing and come out of the car.
 - b) Give a car call to a lower landing and let the car move in the 'DOWN' direction.
3. Open the landing door with the special key to stop the moving lift car so that the top of the lift car is approximately in level with the top landing level.
4. Check stop switch on top of lift car is working and that the lift does not move when the stop switch is in 'STOP' position.
5. Put car in inspection mode by putting maintenance switch 'ON' before entering car top.
6. Close the landing gate/door and run on inspection speed for elevators with contract speed of 1.0m/s and above.
7. Switch 'ON'the hoistway lighting and a light point on the car top.

Sl.No.	Description	Requirement	Details Noticed	Remarks
1	Provision of maintenance switch on car top	Maintenance switch shall be provided.		
2	Testing of maintenance switch in 'UP' and 'DOWN' Direction	When maintenance switch is in 'ON' position, the calls from the landings and car shall not get registered when traveling in either direction.		
3	Provision of switch-board on car top consisting of batten holders with properly guarded light bulb and 3 pin socket.	Switch board shall be provided		
4	Operation of lever of landing gate/door locks that is pressing of the door lever from the car top	The lift shall not start if the lever is pressed.		
5	Earthing of metal	The metal parts shall be		

	parts of lift car	efficiently earthed		
6	Provision of hoist way lighting	Hoist way lighting shall be provided		
7	Condition of Hoist way	Hoist way shall be maintained in clean condition		
8	Observe whether the retiring cam comes in contact with the lever of landing gate locks	Retiring cam shall not come in contact with the lever of gate locks while the lift is in motion.		
9	Condition of car guide shoe liners	The guide shoe liners shall be in good condition. There may be reasonable play, but it shall not be so much as to cause the shoe to jump the rails under any condition,		
10	Condition of counterweight guide shoe liners	The guide shoe liners shall be in good condition. There may be reasonable play, but it shall not be so much as to cause the shoe to jump the rails under any condition.		
11	Condition of midway junction box	The wiring shall be properly terminated in midway junction box where installed.		
12	Condition of trailing cable	The trailing cable shall be in good condition that is the insulation shall not get frayed or damaged mechanically.		
13	Condition of floor-gangway switches along the hoistway, if provided	Gang switch shall be in good working condition		
14	Operation of safety switch on car top	On operation of safety switch the car shall stop		
15	Condition of car	The car top shall be in		

	top	good and strong condition		
16	Lubrication of car and counterweight guides(Roller guide shoes do not require lubrication of rails)	The guides shall be in properly lubricated condition.		
17	Observe whether the counterweight stacks are firmly secured to the frame by tie-rod or other suitable means	It shall be firmly secured.		
18	Condition of rope fastening of suspension ropes	The suspension rope shall be adequately fastened		
19	Condition of fascia plates	M.S fascia plates shall be provided below each landing to have flush hoist way if required.		
20	Earthing of landing gate locks, gang switches, etc.	Earthing shall be satisfactorily done		
21	In case of manually operated doors, reverse the order of closing the doors by first closing the car door and then the landing door. Operate the floor button from inside the car or from landing side.	The lift shall operate independent of sequence of closing of landing car door.		
22	Condition of compensatory link chain / rope	It shall be in good working condition whenever provided		

E. Instruction for exiting from Top of the Lift Car

1. Take the lift car to the top landing level and open the top landing gate/door.
2. Come out from car top onto the top landing.
3. Return car to normal mode by putting maintenance switch in 'NORMAL' position.
4. Also switch 'OFF' car top light.
5. Close the top landing gate/door.
6. In case of manually operated doors, ask the person inside the lift car to come out at the top landing.

F. Inspection of Machine Room

Sl.No	Description	Requirement	Details Noticed	Remarks
1	Locking arrangement of the machine room	Locking arrangement shall be provided and machine room shall be kept locked.		
2	Approach to the machine room from the top landing	There shall be an easy access from the top landing to the machine room		
3	Cross Ventilation	There shall be an adequate cross ventilation preferably with exhaust fan.		
4	Cleanliness in the machine room	Machine room shall be kept in clean condition		
5	Provision of light points and their working part	Adequate number of light points shall be provided and maintained in working order.		
6	Provision of separate main switches for power and light	Separate main switches for light and power are provided.		
7	Provision of three pin plugs	Three pin plugs shall be provided and maintained in working order		
8	Provision of brake releasing device	Brake releasing device shall be provided		
9	Provision of delocking key for landing gates	Delocking key for landing gates shall be provided.		

10	Provision of maintenance log book and entries therein	Log book shall be maintained in up to date condition.		
11	Provision of hand lamp/torch	Hand lamp/torch shall be provided and maintained in working order.		
12	Protection of lift equipment in case of phase failure or phase reversal	Lift equipment shall be protected.		
13	Whether MCB of adequate rating provided.	Check the rating of the MCB provided		
14	Whether ELCB of adequate rating provided	Check the ampere rating and sensitivity of the ELCB provided.		
15	Working condition of MCB/ELCB	The breakers shall be in proper working condition		
16	Condition of various contacts at the panel	All contacts shall be in proper condition.		
17	Earthing arrangement of main switches, lift motor, control panel, overspeed governor switch, etc.	The earthing arrangement shall be proper and the electrical contractor/owner shall ensure that earth resistance shall not exceed one ohm as per Measures Relating to Safety and Electric supply Regulation 2010.		
18	Size of earth Conductor used	Check for adequacy of earthing control		
19	Adjustment of brakes	The lift shall stop on application of brakes within specified limit.		
20	Condition of brake shoe liners	The brake liners shall be in good condition.		
21	Operation of gear box if provided	The gear box shall be smooth in operation.		
22	Operation of	The motor shall be smooth in		

	motor	operation		
23	Condition of gear box	There shall not be any oil leakage from gear box (oozing acceptable).		
24	Lubrication of gear box	The gear box shall be well lubricated		
25	Condition of grooves of traction sheave	The condition of grooves shall be such that the rope does not move when the traction sheave stops		
26	Condition of main suspension ropes	The ropes shall not be in frayed condition.		
27	Condition of ropes of over speed governor	The ropes shall not be in frayed condition		
28	Condition of limit switch operating rope when provided	The rope shall not be frayed condition		
29	Condition of wiring at control panel	The control panel wiring shall be neatly grouped and the insulation of wires shall be more than one mega ohm with 500 volt megger.		
30	Operation of up final limit switch	The lift, when operated on power or manually, from top most landing shall travel in upward direction till the final limit switch cuts off electric supply to motor		
31	Operation of down final limit switch	The lift, when operated on power or manually, from bottommost landing, shall travel in downward direction till the final limit switch cuts of the electric supply to motor.		
32	Operation of overspeed governor	The over speed governor and safety gear shall be tested as per requirement of 10 of IS 9878, for new lifts and in case of any addition/alteration which changes the		

		characteristics of over speed governor and safety gear. In case of periodic inspection, the over speed and safety gear shall be tested with lift car stationary; after the test, the lift car shall be lowered to check that the safety gear has functioned properly.		
33	Condition of trap door	The trap door, if provided in machine room, shall be in sound condition.		
34	Testing of contract load and linear speed of the lift at the time of initial inspection, and in case of any addition/alteration which changes the contract load/speed	<p>The motor, when the lift car is loaded with balanced load in the car, shall draw approximately same current in all three phases separately.</p> <p>The linear speed of the lift, when the lift car is loaded with full contract load, shall be measured in 'UP' and 'DOWN' direction, and mean rated speed calculated in accordance with 2.48 of IS 1860.</p> <p>The linear speed of the lift can be measured directly on the traction sheave or alternatively can be calculated by measuring motor RPM and using the following formula:</p> $\frac{\text{X Diameter of traction sheave in metre} \times \text{measured motor r.p.m}}{\text{Gear Ratio} \times \text{Roping Factor} \times 60}$		
35	Condition of batteries	It shall be ensured that battery is in working condition		

E Inspection of Floor Landings

Sl.No	Description	Requirement	Details Noticed	Remarks
1	Provision of delocking arrangement at every landing	Delocking arrangement shall be provided at every landing		
2	Provision of lights at every landing	A light point shall be provided on all landings		
3	Condition of landing doors at every floor	The landing doors shall be maintained in good operating and sound condition		
4	Condition of hall buttons at every floor	The hall buttons shall be in good condition.		
5	Operation of landing hall buttons	The hall buttons shall respond to the type of operation of the lift		
6	Condition of floor indication/in use indicator or direction call registering light	These shall be in working condition wherever provided.		
7	Operation fireman switch and test	The switch, when made 'ON' shall make the landing calls inoperative and the car shall report to ground floor and shall remain on car control. When the switch is put 'OFF' the car shall return to normal working.		
8	Opening of any landing doors while lift is passing through a landing zone to another floor.	The landing door, on pull or sliding shall not open and the car shall continue movement.		

Place
Date

Signature &
Name of Inspector