

New Lift Owner's License

Inspection Procedure and Checklist:

i. Inspection Procedure

Inspection procedure of Lift	
A	Personal Safety
1	Inspectors should know the danger involved in inspection of the lifts, since any accident may not only disable the person but may prove to be fatal. Inspector should at all times be alert for moving objects, and when on top of an elevator car for moving counter weights, hoistway, projections such as beams, adjacent moving cars, cams and other equipment attached thereto or . mounted in the hoistway. The overhead distance available from the top lauding should be painted on the wall to warn the persons on top of the car, particularly when theoverhead distance is inadequate.
2	Inspectors should never enter lift pits containingwater. A fatal accident due to electric shock may occur under such conditions. 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.
	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 personoperates the switch.
	Before starting the inspection of a lift, the Inspector should first determine that the operatingdevice, emergency stop switch, and any other safetydevices or switches are in proper working order andin the proper position for inspection.
2	Arrangement for Inspection
a.	Provide a qualified personnel from the lift manufacturer for initial inspection.
b.	Provide a qualified person of Government Licensed Electrical Contractor who has carried out the wiring works such as lift mains (Lighting and power), machine room lighting, ventilation of machine room and any other wiring work connected with lift installation.
3	The inspection and tests on lift installations can be done from the following places:
a	Lift pit.
b	Inside of the lift car.
c	Top of the lift car
d	The machine room.
e	Each and every landing of the lift.
	Before starting inspection from any of the position 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).

INSPECTION PROCEDURE	
4	During inspection of Lift following Electrical Arrangement to be checked:-
a	Permanent supply up to the dedicated Main Switch/MCCB for lift.
b	separate and dedicated single phase main switch/MCCB has been provided for lift shaft light
c	lift main switch provided at nearest convenient location in lift lobby and proper marking on lift main switch
d	Lift Main Switches at Ground Floor have been earthed with 8 SWG G.I wire at two distinct point and main switch earthings to be connected to the building earth bar. Where building earth bar is connected with minimum two earth pits and those are properly marked as earth pits.earth resistance at building earth bar measured and is within acceptable limit
5	Inspection of Lift Pit
	Instruction Before Entering the Lift Pit
	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 bouommst landng is in the safety circuit. Put the pit switch in 'STOP position and once again check that the lift does not operate by closing 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.From safety considerations, it is not recommended to move the lift when inspecting from the lift pit.
	As an additional precaution keep the landing gate/door open by a small distance (say 50 mm) and keep pit switches in 'STOP position.The car shall be moved only when directed by the inspecting person. 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.The car door and landing door (if possible) shall be kept open. They shall be closed only when asked by the inspecting person to start lift.These doors shall be opened as soon as the operation of lift is over.
6	During Lift pit inspection following points to be checked:-
a	Dimensions to be as per approved Building Plan.
b	Lift pit must be in clean and dry condition.
c	A ladder shall be provided if pit depth exceeds 1300 mm 'as measured below tbe bottom most landing sill.
d	Spring buffer/oil buffer for car and counter weight (Oil buffers are required when rated speed of the car is more than 1.5 metres per second.)
e	Buffers shall not be in bent condition. In case of oil buffers a device for determining the quantum of oil shall be provided
f	Measure clearance (car run by) when the car is Ievelled at bottom most landing.
g	Measure clearance (counterweight runby) when the car is levelled at top most landing.
h	Bottom Car Clearance – when the car rests on its fully compressed Buffer, there shall be vertical clearance of not less than 600mm between the Pit Floor and Buffer Striker or the lowest structural or Mechanical part, Equipment or Device installed.

i	Counterweight guard screen shall -be provided up to a height of two metres from the floor of the pit.
j	Pit switch and arrangemet;t for lighting Shall be provided and should be accessible from the lowest landing. When pit depth is more than 2 m there should be two pit switches, one accessible from the lowest landing and other from the pit. The lift shall stop on opening pit switch.
k	Tension pulley of governor rope shall have free movement.
l	rollers of limit switches shall have free movement.
m	The trailing cable shall be properly terminated as to avoid detachment from termination box,
7	Following measures to be taken exiting from the Lift pit:
	a.Put tbe bottom pit switch if provided to 'RUN' position, b. Come out of the lift pit by using pit ladder. c. Put pit light switch off and return the upper pit stop switch to ran position. d. Closing the landing gate/door.
8	Inspection Made from Inside of the Lift Car:-
	1.Bring lift to bottommost landing by giving a hall call and enter the lift car.
	2.. Obserwe first by keeping the car door and the Iandlng gate/door open. i.Car capacity shall be displayed. II.Fan/blower shall be provided and working order. iii.Emergency alarm bell shall be provided and working order. iv.Light point shall be provided and 50 % of light point should be connected directly. v. Sill gap between car sill and landing sill at each floor shall not exceed 30 mm. vii.The car shall stop at landing level at each floor. viii.No appreciable jerk shaii be noticed at the time of starting or stopping ix. on pressing the stop button, the lift shall stop. x.In case of manual operated car door, open the car door while the Iift is moving and lift shall stop. xii.In case of power opemtcd car door, while lift is moving, operate the "DO" button but the car door shall not open. xiii. 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. xiv.In case of manually operated doors, put the control in an automatic position,enter the lift car, manwally close the landing door and the car door, The lift shall not operate for four tosix seconds after arrival of car atthat landing. xv.The floor position shall be correctly displayed. xvi.Incase of goods-cum-passenger lift, open the emergency exit, if provided, when the lift is moving the lift shall stop. xvii.If clear laminated safety glass used and certificate available in case of glass liftrshaft
9	Instruction Before Entering Top of the Lift Car

	<p>I In case of manually operated doors:</p> <p>a) Take the lift car with two persons to the top landing.</p> <p>b) Ask one person to come out of the car at the top landing.</p> <p>c) Ask the person in the lift car to take the lift in the 'DOWN' direction.</p> <p>2 In case of power operated doors:</p> <p>a) Take the lift car to the top landing and come out of the car.</p> <p>b) Give a car call to a lower landing and let the car move in the 'DOWN' direction.</p> <p>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,</p> <p>4 Check stop switch on top of lift car is working and that the elevator does not move when the stop switch is in 'STOP' position.</p> <p>5 Put car in inspection mode by putting maintenance switch 'ON' before entering car top.</p> <p>6 Switch 'ON' the hoistway lighting and a light point on the car top.</p>
10	Inspection Made from Top of the Lift Car:-
a	Maintenance switch shall be provided.
b	When maintenance switch is 'ON' position, the calls from the landings 'DOWN' Direction and car shall not get registered when traveling in either direction.
c	switch-board on the car top consisting of batten holders with properly guarded light bulb and 3 pin socket shall be provided.
d	The lift shall not start if the lever is pressed.
e	The metal parts shall be efficiently earthed.
f	Hoistway lighting shall be provided.
g	Hoistway shall be maintained in clean condition.
h	Retiring cam shall not come in contact with the lever of gate locks while the lift is in motion.
i	The guide shoe finers 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
j	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.
k	The wiring shall be properly terminated in midway junction box where installed
l	The trailing cable shall be in good condition that is the insulation shall not get frayed or damaged mechanically.
m	Gang switch shall be in good working condition.
n	On operation of safety switch the car shall stop.
o	The car top shall be in good and strong condition.
p	the guides shall be in properly lubricated condition.
q	Observe whether the counterweight stacks are firmly secured to the frame by tie-rod or other suitable means shall be firmly secured.
r	the suspension rope shall be adequately fastened:
s	Earthing of landing gate locks, gang switches, etc shall be satisfactorily done.
t	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.

u	Condition of compensator Iinkchain/rope-t shall be in good working condition whenever provided,
11	Instruction for Exiting from Top of the Lift Car-
	<ul style="list-style-type: none"> a. Take the lift car to the top landing level and open the top landing gate/door. b. Come out from car top onto the top landing. c. Return car to normal mode by putting maintenance switch in 'NORMAL' position. d. Also switch 'OFF' car top light. e. Close the top landing gate/door. f. In case of manually operated doors, ask the person inside the lift car to come out at tbe top landing.
12	Inspection of Lift from Machine Room
1	Locking arrangement shall be provided and machine room shall be kept locked.
2	There shall be an easy access from the top landing to the machine room.
3	There shall be an adequate cross ventilation preferably with exhaust fan.
4	Machine room shall be kept in clean condition.
5	Adequate number of light points shall be provided and maintained in working order.
6	Separate main switches for light and power are provided
7	Three pin plugs shall be provided and maintained in working order
8	Brake releasing device shall be provided.
9	DeIocking key for landing gates shall be provided.
10	Log book shall be maintained in up to dale condition.
11	Hand lamp/torch shall be provided and maintained in working order.
12	Protection of lift equipment in case of phase failure or phase reversal shall be protected.
13	Overload tripping device for motor when provided shall be maintained in working order.
14	All contacts shall be in proper condition
15	The earthing arrrrngement shall be proper and the electrical contractor/owner shall ensure that earth resistance shall not exceed one ohm as per Indhrr Electricity Rules.
16	The lift shall stop on application of brakes within specified limit
17	The brake liners shall be in good condition.
18	The gear box shall be smooth in operation.
19	The motor shall be smooth in operation.
20	There shall not be any oil leakage from gear box.
21	The condition of grooves shall be such that the rope does not move when the traction sheave stops.
22	The main suspension and governor ropes shall not be in frayed condition.
23	The control panel wiring shall be neatly grouped and the insulation of wires shall be more than onemega ohm with 500 volt megger.
24	The lift, when operated on poweror mantrafly, from top most landing shall travel in upward direction till the final limit switch cuts off electric supply to motor.
25	The lift, when operated on poweror mantrafly, from bottom most landing shall travel in downward direction till the final limit switch cuts off electric supply to motor.

26	Operation of overspeed governor- The overspeed governor and safety gear shall be tested as per OK. requirement of 10 of IS 9878, for new lift and in case of any addition/alteration which changes the characteristics of overspeed governor and safety gear. In case of periodic inspection, the overspeed and safety gear shall be tested with lift car stationary; after the test, the lift car shall be lowered to check that the safety
27	The trap door, if provided in machine room, shall be in sound condition.
28	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
	INCASE OF MACHINE ROOM LESS-
29	There should be Governor actuation facility from control panel provided for MRL lift
30	There should be Manual Rescue Device provided for MRL Lift
31	There should be controller maintenance access panel besides top floor landing for MRL Lift
	Inspection Made from Floor Landings
1	Delocking arrangement to be provided at every landing.
2	A light point shall be provided on all landing.
3	The landing in good and smooth condition.
4	The hall buttons shall be in condition.
5	The hall buttons shall respond to the type of operation of the lift
6	Floor or direction indicator, call registering indicator shall be in working condition.
7	Fire man switch when made ON shall make the landing call in operative 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	The landing on pull or sliding, not open and continue to running.
9	Doors shall be maintained operating and sound condition.

ii. Checklist

GENERAL CHECKLIST FOR LIFT INSTALLATIONS:-	
1	Whether permanent supply upto the dedicated Main Switch/MCCB for lift is available. Yes / No.
2	Whether separate & dedicated single phase main switch/MCCB has been provided for lift shaft light Yes / No.
3	Whether lift main switch provided at nearest convenient location in lift lobby Yes / No.
4	Whether the Lift Main Switches at Ground Floor have been earthed with 8 SWG G.I wire at two distinct points Yes / No.
5	Whether main switch earthings are done to the building earth bar Yes / No.
6	Whether building earth bar is connected with minimum two earth pits and those are properly marked as earth pits Yes / No.
7	Whether earth resistance at building earth bar measured & is within acceptable limit Yes / No.
8	Whether proper marking on lift main switch done Yes / No.
9	Whether civil jobs at each floor lift landing positions completed. Yes / No.
10	Whether each landing has a proper lift lobby with fire exit Yes / No.
11	Whether staircase hand rail/guard at each floor provided Yes / No.
12	Whether staircase hand rail for machine room provided. Yes / No.
13	Whether pit is cleaned and water proof. Yes / No.
14	Whether pit stop switches are available.

	Yes / No.
15	Whether Pit light is working.
	Yes / No.
16	Whether pit ladder is provided
	Yes / No.
17	Whether Shaft lights are working.
	Yes / No.
18	Whether limit switches earthing done.
	Yes / No.
19	Whether buffer foundations are properly done with R.C.C.
	Yes / No.
20	Whether lift lobby lights are provided at each floor.
	Yes / No.
21	Whether cwt clamping or tie split pins provided.
	Yes / No.
22	Whether counter guard net provided upto required height.
	Yes / No.
23	Whether toe guard of minimum 750 mm provided.
	Yes / No.
24	Whether proper pit depth maintained as per IS 14665.
	Yes / No.
25	Whether proper cwt run-by maintained as per IS 14665.
	Yes / No.
26	Whether proper bottom clearance maintained as per IS 14665
	Yes / No.
27	Whether landing gate seal gap checked & found ok
	Yes / No.
28	Whether Facia for automatic door provided.
	Yes / No.
29	Whether finishing done below the landing door seal for manual door.
	Yes / No.
30	Whether car ligts are kept direct.
	Yes / No.

31	Whether alarm bell checked and found ok.
	Yes / No.
32	Whether all LEDs of floor indicator etc are working.
	Yes / No.
33	Whether all lights, fan inside car are working.
	Yes / No.
34	Whether gate locks at each floor checked & found ok.
	Yes / No.
35	Whether proper top clearance maintained as per IS 14665.
	Yes / No.
36	Whether machine room door is outside opening and made of Fire Proof as per IS 14665.
	Yes / No.
37	Whether metal 415 V danger plate outside machine room door provided.
	Yes / No.
38	Checked for any water ingress source to machine room through window, exhaust etc.
	Yes / No.
39	Machine room main switch properly earthed at two distinct points with 8 swg
	Yes / No.
40	Whether proper light & ventilation in machine room provided.
	Yes / No.
41	All earthing wires, controller wiring etc are properly dressed.
	Yes / No.
42	Lift machine properly installed & fastener bolt provided.
	Yes / No.
43	Whether rope end are properly sealed.
	Yes / No.
44	All limit switches(up/down final, governor safety) installed at requisite location.
	Yes / No.
45	Whether Governor name plate with tripping speed fixed on governor body.
	Yes / No.
46	Whether extra cut-out on machine room floor has been properly covered.
	Yes / No.

47	Whether UP & Down final limit checked & found ok.
	Yes / No.
48	Governor safety (both electrical & mechanical) checked and found ok.
	Yes / No.
49	Whether load balancing checked & found in order.
	Yes / No.
50	Load test(if done on the hook at machine room) has been tagged.
	Yes / No.
51	Whether governor switch and car safety switch or both the switches are manually operable.
	Yes / No.
52	Whether Governor actuation facility from control panel provided for MRL lift.
	Yes / No.
53	Whether Manual Rescue Device provided for MRL Lift.
	Yes / No.
54	Whether controller maintenance access panel besides top floor landing for 54MRL Lift.
	Yes / No.
55	Whether separate brake contactor provided in case of Metal/metal contact.
	Yes / No.
56	Whether clear laminated safety glass used & certificate available in case of glass lift shaft.
	Yes / No.
57	Whether dynamic brake incorporated in case of drive.
	Yes / No.
58	Whether cover for the dynamic resistance provided in case of installation 58outside panel.
	Yes / No.
59	Whether stop switch provided in car and found working.
	Yes / No.