

MAINTENANCE EVALUATION CHECKLIST ELECTRIC ELEVATORS

BUILDING: _____ **EQUIPMENT #:** _____

Manufacturer: _____ **Model:** _____

Evaluation Performed By: _____

INTRODUCTION:

This checklist will enable the user to make an objective appraisal of the condition of the equipment. Given the variety and complexity of the equipment, many of the questions may not apply.

When completing this form, rate each of the items using one of the three columns provided. Enter N/A in those columns that do not apply to the installation being evaluated.

NOTE: The following items correlate to the *NEII*® Maintenance Guidelines. The number in the “Paragraph” column corresponds with the “Paragraph” number in the Maintenance Guidelines.

	Details	Paragraph	Rating		
			Above Average	Average	Below Average
INSIDE CAR					
1	Emergency lighting in place and operating	3.3			
	<i>Elevator door operation</i>	8.0			
2	Adjust for quiet and smooth operation, code compliance, reversal satisfactory.	8.1.1			
3	Noise level - quiet, pivot wear, fastenings tight	8.2.1			
4	Car door guides condition, tight fastenings, sill conditions and engagement	8.3.1			
	<i>Fixtures, indicators and buttons</i>	9.0			
5	Buttons & key switches – legible markings	9.1.1			
6	Buttons & key switches – free from sticking and plugging	9.1.2			
7	Buttons & key switches – damaged buttons replaced	9.1.3			
8	Indicator lamps replaced, long life substitutes in use	9.2.1			
9	Indicator lens condition satisfactory	9.2.2			
10	Audible signals operating	9.2.3			
11	Faceplates in place, plumb square	9.3.1			
12	Proper fastening screws	9.3.2			
	<i>Elevator Control System</i>	10.0			
13	Acceleration and stopping smooth	10.1.1			
14	Safety circuits tested, mechanical components condition	10.2.1			
	<i>Owner responsibility</i>	4.0			
15	Side exits locked keys storage	4.7			
16	Door, frames, etc. repaired correct door space requirement to conform to ASME A17.3, Paragraph 3.4.4	4.8			
17	Communication systems	4.13			
MACHINERY SPACES, MACHINE ROOM, CONTROL SPACES AND CONTROL ROOM					
18	Equipment numbered	3.1			
19	Grounds and bonds in place	3.2			
	<i>Cleanliness</i>	6.0			
20	Equipment – general condition	6.4.1			
21	Machines, motors, generators	6.4.2			
22	Condition of windings	6.4.3			
23	Storage area	6.5.1			
	<i>Elevator lubrication</i>	7.0			
24	Proper Lubricants, schedule, clean	7.1			

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	Details	Paragraph	Rating		
			Above Average	Average	Below Average
25	Suspension means (hoist ropes) clean and lubricated as directed by elevator manufacturer.	7.6			
26	Non-metallic sheave liners proper lubricant in use	7.7			
27	Brake cores and pivots	7.8			
28	Governor ropes clean no lubricant added	7.9			
29	Safety, linkages, governor tension sheave and frame	7.10			
30	External gears	7.12			
31	Oil rings and chains carrying oil	7.13			
32	Worm gears carrying oil	7.14			
33	Machine roller and ball bearings lube per manufacturer specifications	7.15			
	Elevator control system	10.0			
34	Components identified	10.1.2			
35	Safety circuits tested, good mechanical condition	10.2.1			
36	Static motion control, safety requirement	10.2.2			
37	Fuses proper rating and type	10.2.3			
38	Switch gear – worn or maladjusted contacts replaced or corrected	10.3.1			
39	Switch gear – shunts in good condition	10.3.2			
40	Switch gear – no contacts blocked, residual guards and shading coils okay, pivots lubricated, kickoff springs in place, encapsulated relay condition	10.3.3			
41	Switch gear - Overload relays tagged with test date. Dashpots (if used) free to operate, oil level satisfactory	10.3.4			
42	Switch gear – switches operate smoothly, quietly	10.3.5			
43	Selector traveling cables and terminations	10.4.1			
44	Selector brushes, cams and contact condition	10.4.2			
45	Selector mechanical condition, keys set screws, pins	10.4.3			
46	Selector gears, chains, lubricated, in good condition, drip pans provided	10.4.4			
47	All connections tight, no heating	10.5.1			
48	Cleanliness controller & selector	10.5.2			
49	Resistors, grids, wiring and band condition	10.5.3			
50	Resistors, capacitors, good condition, properly mounted	10.5.4			
51	PC boards and heat sinks properly maintained. All fans operating. Wiring neat, bundled, terminals labeled	10.5.5 , 10.5.6 & 10.5.7			
52	Wiring diagrams, current, condition	10.7.1			
	Electric elevator mechanical condition and adjustment	11.0			
53	Worm and gear, no abnormal wear, ridging, scores	11.1.1			
54	Bearings, quiet	11.1.2			
55	Worm shaft seal, leakage	11.1.3			
56	Gland packing, controlled leakage	11.1.4			
57	Bearing and gear temperature okay	11.1.5			
58	Drive, deflector & secondary sheaves – Grooving wear or damage	11.2.1			
59	Sheave keys and shrink fits satisfactory	11.2.2			
60	Brake pulley & coupling - Shaft fits secure	11.3.1			
61	Brake pulley & coupling – flexible couplings, condition	11.3.2			

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	Details	Paragraph	Rating		
			Above Average	Average	Below Average
62	Brake pulley surface, smooth, minimum scoring	11.3.3			
63	Brake switch, proper adjustment	11.4.1			
64	Brake lining wear or condition	11.4.2			
65	Brake shoes should not drag when lifted	11.4.3			
66	Brake consistent lifting	11.4.4			
67	Stopping requirement to code	11.4.5			
68	Motor & generator - bearings run quiet and cool	11.5.1			
69	Motor & generator - field coils tight	11.5.2			
70	Motor & generator - electrical connections tight, no discoloration	11.5.3			
71	Motor & generator – armature and rotor clearance	11.5.4			
72	Motor & generator – commutator condition	11.5.5			
73	Motor & generator – brushes move freely, condition	11.5.6			
74	Motor & generator – minimum sparking	11.5.7			
75	Motor & generator - Insulation resistance check	11.5.8			
76	Sound isolation pads in good condition	11.6.1			
77	Kick angles and tie downs	11.6.2			
78	Governor clean and lubricated, linkage condition, bearing condition	11.12.1			
79	Governor seals and test tags in place	11.12.2			
80	Suitable governor marking plate in place	11.12.3			
81	Painting should not interfere with governor operation	11.12.4			
82	Governor switch operation	11.12.5			
83	Fly ball clearance	11.12.6			
84	Governor rope hitches condition, governor rope tag	11.12.7			
	Owner responsibilities	4.0			
85	Main line disconnect per NFPA 70	4.1			
86	Access doors, locked and keys stored properly	4.2			
87	Illumination, machinery spaces, machine room, control spaces, control room and pit – GFCI receptacles - Pit light guarded	4.4			
88	ABC fire extinguisher in machinery spaces, machine room, control spaces and control room	4.5			
89	machinery spaces, machine room, control spaces and control room environment	4.9			
90	Smoke detector main line disconnecting means required with machinery spaces, machine room, control spaces and control room sprinklers	4.10			
91	Test tags and seals	4.11.1			
92	Suspension means, governor rope and resocket tags	4.11.2			
93	Code data plates	4.11.3			
TOP OF CAR					
	Cleanliness	6.0			
94	Car top	6.1.1			
95	Hoistway, rails, counterweight	6.3.1			
	Elevator lubrication	7.0			
96	Proper lubricants, schedule, clean	7.1			
97	Guide shoes, pivots, stems, etc.	7.2			
98	Rails with roller guides - no lubrication	7.3			
99	Rails with slide guides - lubricant suitable for safeties	7.4			

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	Details	Paragraph	Rating		
			Above Average	Average	Below Average
100	Rails free of oxidized lubricants	7.5			
101	Suspension means, clean and lubricated	7.6			
102	Governor ropes clean - no lubricant added	7.9			
103	2:1 sheaves	7.11			
	Elevator door operation	8.0			
104	Door gib - condition tight fastenings, sill condition and engagement	8.3.1			
105	Tracks, rollers, bearings general condition and lubrication	8.3.2			
106	Up thrusts	8.3.3			
107	Door closers	8.3.4			
108	Tracks smooth	8.3.5			
109	Relating mechanisms	8.3.6			
110	Hydraulic checks - condition	8.3.7			
111	Door operator should be clean, lubricated, minimum oil leaks	8.4.1			
112	Door motor brushes – condition	8.4.2			
113	Gear backlash, keys, set screws or pins loose, belts worn, improper adjustment	8.4.3			
114	Car door contact condition, adjustment	8.5.1			
115	Hoistway door interlocks - proper operation	8.6.1			
116	Hoistway door interlocks - condition, adjustment, wear	8.6.2			
	Elevator control system	10.0			
117	Safety circuits tested, good mechanical condition	10.2.1			
118	Traveling cables, condition, attachment, protection provided	10.6			
	Electric elevator mechanical condition and adjustment	11.0			
119	Drive, deflector, secondary sheaves grooving wear or damage	11.2.1			
120	Drive, deflector, secondary keys and shrink fits satisfactory	11.2.2			
121	Suspension and compensating means equalized	11.7.1			
122	Suspension & compensating means proper fastenings installed	11.7.2			
123	Suspension & compensating means and resocketing data tags	11.7.3			
124	No lubrication on governor ropes	11.7.4			
125	Suspension means inspection	11.7.5			
126	Suspension means, clean, lubricated, no corrosion, no slippage	11.7.6			
127	Antirotation devices installed	11.7.7			
128	Governor rope hitches condition, governor rope tag	11.12.7			
129	Rail bracket fastenings secure, support structurally sound	11.13.1			
130	Clip bolts tight, sliding claps satisfactory, fish plates tight	11.13.2			
131	Rail alignment	11.13.3			
132	Counterweight rails, bracket spacing satisfactory	11.13.4			
133	Rails blades, rust free and unpainted, proper lubrication in use	11.13.5			
	Owner responsibilities	4.0			
134	Car top exit operable from outside only	4.6			
135	Test tags and seals	4.11.1			
136	Suspension means, governor rope and resocket tags	4.11.2			
OUTSIDE HOISTWAY					
	Elevator door operation	8.0			
137	Quiet and smooth operation, code compliance, reversal satisfactory.	8.1.1			

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			Above Average	Average	Below Average
138	Noise level – quiet, pivot wear, fastenings tight	8.2.1			
	Fixtures, indicators and buttons	9.0			
139	Button & key switches legible markings	9.1.1			
140	Button & key switches free from sticking and plugging	9.1.2			
141	Button & key switches damaged buttons replaced	9.1.3			
142	Indicator & signal lamps replaced, long life substitutes in use	9.2.1			
143	Indicator & signal lens conditions satisfactory	9.2.2			
144	Indicator & audible signals operating	9.2.3			
145	Indicator & signal faceplates in place, plumb square	9.3.1			
146	Indicator & signal proper fastening screws	9.3.2			
	Owner responsibilities	4.0			
147	Unlocking device key storage	4.3			
148	Doors, frames etc. repaired	4.8			
149	Landing illumination	4.12			
PIT					
	Cleanliness	6.0			
150	Pit dry, free from rubbish, rust removal, painting/repair required	6.2.1			
	Elevator lubrication	7.0			
151	Proper Lubricants, schedule, clean	7.1			
152	Guide shoes, pivots, stems, etc.	7.2			
153	Rails with roller guides - no lubrication	7.3			
154	Rails with slide guides - lubricant suitable for safeties	7.4			
155	Rails free of oxidized lubricants	7.5			
156	Safety, linkages, governor tension sheave and frame	7.10			
	Elevator control system	10.0			
157	Safety circuits tested, good mechanical condition	10.2.1			
	Electric elevator mechanical condition & adjustment	11.0			
158	Suspension and compensating means equalized	11.7.1			
159	Suspension and compensating means proper fastenings installed	11.7.2			
160	Suspension means and resocketing data tags	11.7.3			
161	No lubrication on governor ropes	11.7.4			
162	Suspension and compensating means inspection	11.7.5			
163	Suspension means, clean, lubricated, no corrosion, no slippage	11.7.6			
164	Antirotation devices installed	11.7.7			
165	Compensating means, condition and attachments	11.7.8			
166	Runbys satisfactory	11.7.9			
167	Compensation tie down, if furnished, operable	11.8.1			
168	Compensating sheave moves freely, switch(es) properly adjusted, groves in satisfactory condition	11.8.2			
169	Oil buffer, oil level satisfactory, plunger rust free, protected, fully extended, traveling buffers must not pre-compress	11.9			
170	All buffers, secured in proper position. Test tag in place.	11.10			
171	Safety mechanisms, free of rust, dirt, lubricated, proper safety jaw clearance	11.11			
172	Governor tension frame, free vertical movement., bearing and sheave condition, stops properly adjusted	11.12.8			
	Owner responsibilities	4.0			

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	Details	Paragraph	Rating		
			Above Average	Average	Below Average
173	Access doors, locked and keys stored properly	4.2			
174	Illumination, machine room and pit - GFCI receptacles - Pit light guarded	4.4			
175	Code data tags	4.11.3			
MISCELLANEOUS					
176	Scope (a) Written maintenance control plan (b) Trained personnel (c) Plan execution	2.0			
177	Managed maintenance system in place and being used	3.4			
178	Equipment Records	3.5			
	Define contract responsibilities	5.0			
179	Code and safety tests	5.1			
180	Test and callback records	5.2			
181	Environmental regulations compliance	5.3			
182	Firefighters service test record	5.4			
183	Underground hydraulic systems test	5.5			
	Elevator cleanliness	6.0			
184	Storage area	6.5.1			
	Owner responsibilities	4.0			
185	Unlocking device key storage	4.3			
186	Communication system	4.13			