

Hydraulic Freight Elevators

Minimum Equipment Performance Standards and Preventive Maintenance Required Under the Contract

Frequency of Inspections: Monthly

Each Inspection must be signed for by the Owners Representative.

Hydraulic Freight Elevators, Sidewalk Lifts:

1. Call-Backs: Nominally four to possible six per year average, excluding nuisance calls.
2. Minimum expected periodic service, check and adjustment:
 - a). Every 4 weeks: Ride or move the unit observing operation, adjust as needed.
 - b). Every 13 weeks: Check freight doors and their operation and adjustment.
 - c). Every 52 weeks: Clean, oil and adjust all cupped doors, check control and control stations, make sure all electrical connections are tight. Check oil level and condition.
3. Freight Bi-parting Doors: Check at frequency established above. Interlocks should be set so that latch will prevent door opening of no greater than $\frac{3}{4}$ " at any point. Gates should prevent movement of the car unless the gate is within 2" or less of full closure. Check guide fastenings and maintain at least $\frac{1}{2}$ " to 1" of track engagement. The side play of the door should be maintained at a minimum to avoid racking.
4. Control: Where electrical controls involve relays and contacts, these should be checked annually for contact condition, pressure and wipe. The relays and contacts should be checked manually for freedom of movement and dressed and lubricated as needed. All operating and cupped switches should be examined annually for freedom of movement, contact condition, pressure and wipe, all electrical connections should be checked annually for tightness and coils and fuses for heating.
5. Valves and Power Unit: Valve adjustment is only required when trouble is encountered, with control contact and valve coil failures. The first areas to check are the contacts and relays in the circuitry of this function. Strainers should be checked on a quarterly basis, with oil level check at each visit. The condition of oil, clarity, color and odor should be checked every year, or in the event of speed and landing difficulty occurring frequently. Any evidence of moisture suggests replacement. When there is poor clarity or the oil is cloudy. It should be filtered and the filtering sequence should be repeated at least once, a week or 2 weeks later, to make sure that the residual oil in the cylinder circulates and is also filtered. Change in odor or color, suggests that a chemical analysis is needed. Check the condition of belts (if any) on the power unit semi-annually. Should oil seeped through packing be reintroduced, it should be checked for clarity.

Attachment C – Hydraulic Freight Elevators

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6. Motor: Check bearings for heating and lubrication every inspection. If the motor has a commutator, check for color, wear, brush setting and condition. Blow out the motor on a yearly basis, check insulation of coils and apply insulating paint every 3 years. Dry and brittle insulation can result in burnout and fire. It must be remembered that coils and stators in stock can get brittle and their insulation should be checked and restored as needed.
7. Cupped Equipment:
 - a). Jack unit and Piping: Plunger and guide bearings, packing gland, casing gasket, packing and piping system including valves should be checked semi-annually. Poor conditions and leaks should be corrected or repaired as needed. It is understood that the casing, underground piping, inaccessible wall lines in wall and ceiling are not the obligation of the Contractor.
 - b). Guide Rails: Should be cleaned and checked annually. Check guide oilers (where they are used) and refill as required.
8. Lubricants: All lubricants utilized by the Contractor shall comply with the original equipment manufacturer's recommended specifications.