
MAINTENANCE AND SERVICE INSTRUCTIONS

GENERAL:

All damaged equipment, parts, finishing and other materials are immediately repair or change to new same or equal components.

All possible damages should send report immediately to LO Group Oy by e-mail, fax or mail.

All maintenance -, service – and repairing works should keep diary, where is mentioned following matters:

1. Date and time
2. Activity
3. Data of repaired / changed equipment, part or material
4. Workers initial

The responsible supervisor should check already made work and should approve it by his signature.

The copies of original daily -, weekly -, monthly -, half year – and yearly reports must send to Levyosa Oy during warranty period (every third month).

CONTACT INFORMATION:

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I MAINTENANCE AND SERVICE WORKS EVERY THIRD MONTH**CONTROL SYSTEMS**

1. Monitoring of functionality of control systems.
2. Monitoring of functionality of signal lights and tones.

SAFETY EQUIPMENT

1. Monitoring of functionality of auto-leveler.
2. Monitoring of functionality of safety shoe and also check the mechanical condition.
3. Monitoring of functionality and mechanical condition of safety edges.
4. Monitoring of functionality of safety chain, it's components and fixing.
5. Monitoring of functionality of other safety sensors.

ELECTRICAL EQUIPMENT

1. Monitoring of functionality of lighting fixtures. Broken lamps should replace immediately with a new equal lamp.
2. Monitoring of functionality of fuses in electrical cabinet and panel.
 - ⇒ CAUTION! NEVER USE THE FUSES AS SWITCH!
 - ⇒ REMARK! IF FUSES HAS TRIPED TO OFF-POSITION, IT IS INDICATION OF FAULT.
APPEAR THE REASON OF TRIPPING, REPAIR THE FAULT AND TURN THE FUSE BACK TO ON-POSITION.

HYDRAULIC SYSTEM

1. Check the hydraulic oil level (oil tank).
2. Check, that there is no any leakage in the system (connectors and components).
3. Monitoring of functionality of hydraulic equipment as pumps, motor and cylinders.
4. Monitoring of functionality of hydraulic pipes and hoses.
5. Specially check the hoses on through holes! Possible abrasions.

CONNECTION POINTS OF BRIDGE PARTS

1. Check the condition of bellows and it's fixing between fixed link and tunnel.

CABIN'S CANOPY

1. Check the condition of canopy's fabric.
2. Check the condition of canopy's drive system (motor and pulling lines).

STRUCTURES

1. General visual structural inspection (possible deflections).
2. Visual inspection of sliding pads of tunnel 2. Check, that there is no any scratch made by metal or other hard material to sliding rails (stainless steel).
3. Lubricate all sliding rails.

- ⇒ **REMARK! Use only LITIUM compound greases.**
- ⇒ **CAUTION! Never use grease, which include MOS2 lubricant.**
- 4. Visual inspection of cylinders brackets (specially welding).**
- 5. Check the bolts of cylinders brackets including tightness.**

ROLLER DOOR AND SHUTTER WALLS

- 1. Monitoring of functionality of roller door and visual inspection of aluminum slats.**
- 2. Monitoring of functionality of bearings of roller door.**
- 3. Monitoring of functionality of guiding rails of roller door and lubricate, if necessary.**

ENERGY CHAINS

- 1. Monitoring of functionality of energy chain and condition.**
- 2. Specially check the condition of cables and possible abrasions.**

FINISHINGS

- 1. Visual inspection of inside / outside conditions of finishing materials.**
- 2. Visual inspection of inside / outside paintings.**

GENERAL CLEANLINESS

- 1. Clean off the handrails.**
- 2. Clean down the floors.**
- 3. Clean the stainless steel surfaces with suitable cleaning stuff.**

II ADDITIONAL MAINTENANCE AND SERVICE WORKS EVERY SIX MONTH

SLIDING SURFACES AND RAILS

1. Check condition of the sliding surfaces and pads including fixings.

CANOPY

1. Clean canopy's fabric outside.

GLAZING

1. Wash glass panels inside and outside. If necessary, wash more often!

LUBRICATING NIPPLES

1. Add grease to shafts and cylinders spherical eyes.

III ADDITIONAL MAINTENANCE AND SERVICE WORKS EVERY YEAR

HYDRAULIC SYSTEM

1. Analyse (take a sample) the hydraulic oil, filtrate and change if necessary. However every fifth year should change the hydraulic oil to the system. (EVERY 5 YEARS)
2. Change the hydraulic filters.
3. Check the tank and it's equipment.
4. Clean the hydraulic unit.
5. Clean the hydraulic cylinders and valves.
6. Change the hoses of lifting cylinders every fifth year. (EVERY 5 YEARS)
7. Change all hoses every tenth year. (EVERY 10 YEARS)