



R&M Materials Handling, Inc.
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7 Commissioning

Before handing over the hoist, at least the inspections and adjustments listed below should be carried out. In some cases it is appropriate to carry out a more thorough inspection. The scope of the inspection depends on the operating range and application.

7.1 Inspections without load.

7.1.1 Inspecting the connections of electrical equipment

- Check that the connections of electrical devices comply with the wiring diagrams and meet local requirements. In particular, check connections that affect safety and control of the hoist.
- Check the cableways for electrical wiring. Make sure that wires do not snag on structures when the hoist and trolley are in motion.

7.1.2 Inspection of pushbutton controller and directions of rotation.

- Check that the pushbutton controller and pendant cable are in good condition. Check that the pushbutton controller is at the correct height.
- Press the direction buttons on the pushbutton controller and check that the resultant motions occur in the correct direction.



Check the resultant motion by pressing first the UP direction button even though the hook is near the upper limit.

- If there is an error in the direction of all movements it can be corrected by changing the sequence of two phases of the power supply. Change the phase sequence of the input power leads to the hoist.
- Check the operation of the emergency stop button.



Do not depress the emergency stop button unnecessarily.

7.1.3 Checking operating sound.

- Listen to the sound made when travelling and hoisting and assess whether the sound indicates an installation error.
- Check the vibration made when travelling and hoisting by feeling the hoist with your hand.

If the hoisting motor makes a loud intermittent noise and the hoist vibrates strongly, the problem may be in the power supply. Check and correct all phases in the power supply. If travelling motion produces a load noise or strong vibration, the trolley is probably incorrectly installed on the track. Check the trolley is properly mounted on the track.



Do not use the hoist before you have identified and eliminated the cause of excessive noise or vibration.

7.1.4 Inspection and adjustment of the hoisting limit switch.

- Adjust the limit switch for hoisting. Check the operation of the limit switch by running the hoist to the top and bottom limits.

Adjustment of the hoisting limit switch is described in the section **“Hoisting limit switch”**.



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For safety reasons the hoisting limit switch must always be adjusted before the commissioning tests are continued.

7.1.5 Inspection and adjustment of the limit switch for travel (not in all models)

- Adjust the triggering locations of the limit switch. Check the operation of the limit switch by running the hoist to the triggering locations.



For safety reasons the triggering locations of the limit switch for travel must be adjusted before the commissioning tests are continued.

7.1.6 Inspection of hook and operation of rope sheaves.

- Check that the rope sheaves rotate freely.
- Check the general outlook of the coating in case of bronze coated hooks.

7.1.7 Inspection of rope.

- Check that the rope has not been damaged in transport.
- Check that the rope is correctly reeved.
- Check the fixing of the rope ends.



Ensure that the rope is assembled inside the rope anchorage correctly.

- New wire rope shall be taken in use by a load, which is of approx. 10 % of the nominal load. This load shall be lifted to the total lifting height 5 – 10 times. If the hook tries to turn around during the lifting, place the hook in the lowest position without load, open the rope end wedge housing and rotate the wedge housing until the hook is straight.



Note the correct position of the wedge housing (see sticker).

7.1.8 Inspection of overload protection.

- Check that the overload protection mechanism operates correctly. Check that the rope anchorage and support beam move freely.

7.1.9 Inspection of trolley

- Check that the wheelbase of the trolley is correctly adjusted.
- Check the tightening and locking of all screws for trolley adjustment.
- Run the trolley at least 3...5 times over the whole length of the girder.

7.1.10 Inspection of brake operation.

- Check that the hoisting brake operates correctly in both up and down directions.

7.2 Inspections with test-load, 100% of the rated load of the hoist.

7.2.1 Inspection of motor current.

- Check the motor current in each phase during hoisting motion with rated load.



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The current should be in balance in all phases and may not exceed the ratings for the motor. Check the current at both hoisting speeds.

7.2.2 Inspection of running temperature.

If the thermal protection halts hoisting prematurely, identify the reason for overheating before continuing the commissioning tests.

7.2.3 Inspection of travelling machinery.

- Check that the acceleration and braking motions operate smoothly.
- Run the trolley at least 3...5 times over the whole length of the girder. Remove the paint coming loose from the runway of the trolley.

7.3 Inspections with overload, 110...125% of the rated load of the hoist.

7.3.1 Inspection of overload protection

- Check that the overload protection mechanism operates with an overload. The overload protection must prevent hoisting motion when the load exceeds the trigger load for the overload protection mechanism that is stated in the test drive. If the hoist is provided with a condition-monitoring unit, refer to the separate operating instructions for commissioning the condition-monitoring unit.

7.3.2 Inspection of brake operation.

- Lower the load in slow speed and stop. Ensure that the brake is able to stop the motion adequately.

7.3.3 Inspection of rope

- Ensure that the rope has not slipped in the rope anchorage by comparing the measures with the stated measures in the table. (see section Rope anchorage)

7.4 After the inspections.

7.4.1 Cleaning

- Check that all tools and materials used during installation are removed from the hoist and track.

7.4.2 User training

- Ensure that the hoist operator and supervision personnel are aware of the need for user training.



The authorized service organization of the hoist manufacturer can arrange user training by separate agreement.

7.4.3 Hand-over documents

- Check the documents delivered with the hoist. Ensure that entries in the documents are properly recorded and that the reference data in the documentation matches that on the type rating plates.



Compile a commissioning log for the hoist and keep it with the other documentation for the hoist.