SPECIFIC SAFETY INSTRUCTION SSI-M-1-4

MANUALLY POWERED LIFTING EQUIPMENT
1 INTRODUCTION

For the convenience of the reader, this Specific Safety Instruction uses the masculine gender only. However, its use shall be understood as referring to both genders unless the context clearly indicates a reference to one gender only.

1.1 Legal basis

In accordance with its intergovernmental status, the Organization establishes and updates Safety Rules to implement its Safety Policy.

This Specific Safety Instruction forms part of the CERN Safety Rules and is issued pursuant to the Staff Rules and Regulations and the CERN Safety Policy.

1.2 Purpose and scope

The purpose of this Specific Safety Instruction is to define the additional Safety requirements relating to the following manually powered lifting equipment and accessories, compared to General Safety Instruction GSI-M-1 “Lifting equipment and accessories”:

- pulley blocks;
- lever hoists and their supports;
- hand chain blocks and their supports;
- deflection pulleys;
- jaw winches and their supports;
- other manually powered lifting equipment, except pallet trucks, forklift trucks, lifting tables and manual platform lifts.

1.3 Definitions

For the purposes of this Specific Safety Instruction, the following definitions shall apply:

- **Assembly and installation test of lifting equipment**: test to make sure that the lifting equipment is safely and securely assembled and installed, in compliance with the manufacturer’s instructions.
- **Dynamic test of lifting equipment**: test in which the lifting equipment is used to move a load corresponding to the maximum operating load, multiplied by the dynamic test coefficient, in such a way as to bring the load into all its possible positions, without taking account of the resulting speed or the warming-up of the equipment.
- **Examination of the condition of lifting equipment**: examination whose purpose is to check that the lifting equipment and its supports are in good condition and to identify any wear and tear that could represent a hazard and which must include the following essential components:
  - chocking, anchoring and braking devices designed to immobilise mobile lifting equipment when not in operation;
  - brakes or equivalent devices designed to stop and then maintain the load or equipment in all positions;
  - devices designed to control the lowering of loads;
  - lifting blocks and pulley rims;
  - load and tipping/moment limiters;
  - devices limiting the movements of the lifting equipment and the load, such as motion limiters, derricking limiters, slewing limiters, anti-collision devices and fall protection devices;
  - hooks and mechanical, electromagnetic or pneumatic gripping devices;
  - load-bearing cables and chains.
- **Inspection of lifting accessories for suitability for use**: inspection to check:
  - that the accessory is suitable for the item of lifting equipment for which the user intends to use it and for the work to be performed, and that it is suitable with respect to the hazards to which workers are exposed;
  - that the intended operations are compatible with the conditions for use of the accessory as defined by the manufacturer.
• **Inspection of lifting equipment for suitability for use:**
  inspection to check
  – that the lifting equipment is suitable for the work which the user intends to perform with it and with respect to the hazards to which workers are exposed;
  – that the intended operations are compatible with the conditions for use of the equipment as defined by the manufacturer.

• **Operating test of lifting equipment:**
  test consisting in:
  – using the lifting equipment, with or without its accessories, to move a test load into the most unfavourable positions, applying a force to the mechanical components corresponding to the maximum values of the capacity stated by the manufacturer;
  – verifying the operating efficiency:
    • of the brakes or equivalent devices designed to stop and then maintain the load or equipment in all positions;
    • of the systems designed to control the lowering of the loads;
    • of the systems limiting the movements of the lifting equipment and the load, such as motion limiters, derricking limiters, slewing limiters, anti-collision devices and fall protection devices;
  – triggering the load-moment limiters and overturning-moment limiters, where they exist, in order to check that they operate correctly at the values defined in the manufacturer’s instructions or, where no instructions exist, at values beyond the maximum operating load and at least 1.1 times the load or maximum moment.

• **Static test of lifting equipment:** test in which the lifting equipment and its supports, with all accessories fitted, are used to bear a load corresponding to the maximum operating load, multiplied by the static test coefficient, without moving the load, for a fixed period of time.

• **User entity:** organic unit or contractor authorised to use an item of mechanical equipment belonging to or hired by CERN or a collaborating institution.

For other definitions please refer to section 1.3 of Safety Regulation SR-M “Mechanical equipment” and to General Safety Instruction GSI-M-1 “Lifting equipment and accessories”.

### 1.4 CERN Safety Rules and Laws

This Specific Safety Instruction is supplemented by the documents listed below, where they exist:

• Safety Regulations (SR);
• General Safety Instructions (GSI);
• Specific Safety Instructions (SSI);

and by the relevant provisions of the following Laws:

• Arrêté du 1er mars 2004 relatif aux vérifications des appareils et accessoires de levage (France).
• EN 13157 – Cranes – Safety – Hand powered cranes (Europe).

In the event of any ambiguity or contradiction between the above-mentioned documents, they shall apply in decreasing order of priority, starting from the top.
2 ADDITIONAL SAFETY REQUIREMENTS COMPARED TO GSI-M-1

The following additional Safety requirements compared to General Safety Instruction GSI-M-1 shall apply to manually powered lifting equipment and accessories:

<table>
<thead>
<tr>
<th>Relevant section of GSI-M-1</th>
<th>Phase of life cycle</th>
<th>Additional Safety requirements compared to GSI-M-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Design</td>
<td>Illustrative examples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manually powered equipment for lifting a load suspended on lifting equipment or accessories.</td>
</tr>
<tr>
<td>2.2</td>
<td>Manufacture</td>
<td>Manufacture at CERN is prohibited, except in the case of supports.</td>
</tr>
<tr>
<td>2.3</td>
<td>Procurement or arrival/presence on the CERN site</td>
<td>No additional Safety requirement compared to GSI-M-1.</td>
</tr>
<tr>
<td>2.4</td>
<td>Installation</td>
<td>No additional Safety requirement compared to GSI-M-1.</td>
</tr>
<tr>
<td>2.5</td>
<td>Acceptance and commissioning</td>
<td>In case of manually powered lifting equipment and accessories the following Safety requirements are required:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Safety requirements laid down in section 2.5 of GSI-M-1;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• a static test (1.5 test coefficient for one hour);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• a dynamic test (1.1 test coefficient).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For the supports the following Safety requirements are required:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Safety requirements laid down in section 2.5 of GSI-M-1;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• a static test (1.5 test coefficient for one hour).</td>
</tr>
<tr>
<td>2.6</td>
<td>Use</td>
<td>The user entity shall ensure that persons under its responsibility using manually powered lifting equipment have been provided with the relevant training for their workplace or workstation.</td>
</tr>
<tr>
<td>2.7</td>
<td>Periodic inspections</td>
<td>Examination of the condition and operating test: annually or at intervals specified by the manufacturer if required more than once per year.</td>
</tr>
<tr>
<td>2.8</td>
<td>Maintenance</td>
<td>No additional Safety requirement compared to GSI-M-1.</td>
</tr>
<tr>
<td>2.9</td>
<td>Recommissioning</td>
<td>Following the repair or the replacement of an essential component, an assembly and installation test shall be carried out. Following dismantling/reassembly, recommissioning shall be carried out in accordance with section 2.5 above</td>
</tr>
<tr>
<td>2.10</td>
<td>Decommissioning/ dismantling</td>
<td>No additional Safety requirement compared to GSI-M-1.</td>
</tr>
</tbody>
</table>

3 FINAL PROVISIONS

3.1 Entry into force
This Specific Safety Instruction (version 1) enters into force upon its publication on the CERN website dedicated to the CERN Safety Rules: [https://www.cern.ch/safety-rules](https://www.cern.ch/safety-rules).