

# INTERNATIONAL STANDARD

**ISO**  
**9928-1**

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## **Cranes — Crane driving manual —**

### **Part 1: General**

*Appareils de levage à charge suspendue — Manuel à l'usage des  
conducteurs —*

*Partie 1: Généralités*



Reference number  
ISO 9928-1:1990(E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9928-1 was prepared by Technical Committee ISO/TC 96, *Cranes*.

ISO 9928 consists of the following parts, under the general title *Cranes — Crane driving manual*:

- *Part 1: General*
- *Part 2: Mobile cranes*
- *Part 3: Tower cranes*
- *Part 4: Jib cranes*
- *Part 5: Over-head travelling cranes and portal bridge cranes*

# Cranes — Crane driving manual —

## Part 1: General

### 1 Scope

This part of ISO 9928 gives guidance on the contents of a crane driving manual.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9928. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9928 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 31-0:1981, *General principles concerning quantities, units and symbols*.

ISO 31-3:1978, *Quantities and units of mechanics*.

ISO 4306-1:1990, *Cranes — Vocabulary — Part 1: General*.

ISO 4306-2:1985, *Lifting appliances — Vocabulary — Part 2: Mobile cranes*.

ISO 4306-3:—<sup>1)</sup>, *Cranes — Vocabulary — Part 3: Tower cranes*.

### 3 Definition

For the purposes of this part of ISO 9928, the following definition applies.

1) To be published.

**driver:** The person who operates the crane for the purpose of positioning loads.

NOTE 1 For mobile cranes, the term "operator" is often used instead, and the term "driver" is then used to refer to that person who operates only those controls which move the crane from place to place.

### 4 Presentation of the manual

#### 4.1 General

A manual shall be provided by the manufacturer which

- should be simple to understand and have adequate explanatory notes;
- shall incorporate the use of internationally recognized symbols;
- should be easy to use, compact and made of durable hardwearing material;
- shall be compiled in the language agreed between the parties to the contract.

The presentation of the manual is important. It is a working tool which should be both convenient and complete. The text should be simple and adapted to the individuals who will use it, with all information being explicit and comprehensive.

Illustrations, diagrams, graphs and tables should be used with the purpose of avoiding risk of misunderstanding and in preference to written text. They should be clear, simple and be placed adjacent to the corresponding reference.

The terms (see parts 1, 2 and 3 of ISO 4306), definitions, units (see parts 0 and 3 of ISO 31) and symbols shall comply with the relevant International Standards. When the units specified on the equipment are different from those in common use, reference should be made in brackets or by means of a footnote.

Only those items relative to the particular crane and its application shall be included.

## 4.2 Preliminary information

The following information shall be given on the front or back cover, or on the first pages of the manual:

- a) the title of the manual;
- b) the reference number of the manual (if any);
- c) the designation (type) of the crane;
- d) the type or series of crane (if any);
- e) the serial number or numbers of the crane or, where appropriate, the range of serial numbers covered;
- f) the name and full address of the manufacturer and/or agent;
- g) a table of contents;
- h) an index (optional);
- i) the basic characteristics of the crane.

## 4.3 Number of books

The crane driving manual, along with other crane manuals (i.e. maintenance manual, users's manual, etc.) may be published as one or more books. The choice of the size and grouping of the books should be suitable for the type of product, its normal application and personnel requirements. Where appropriate, cross-reference to other parts of the book should be made so that the same information is not repeated unnecessarily.

## 5 Contents of the driving manual

### 5.1 Technical data

The manual shall include

- a) a drawing/sketch of the crane assembly with the number and designation of the main components;

- b) all technical data of importance for the driver to ensure safe transport, erection and dismantling, etc. of the crane.

### 5.2 Special safety advice

The manual shall contain applicable safety advice, together with the appropriate safety symbols. Typical examples are given in 5.2.1 to 5.2.5.

#### 5.2.1 Crane

"Switches and connectors shall not be opened until the power supply has been switched off."

"Do not use the emergency stop device in order to stop normal motion."

#### 5.2.2 Operating area

"Install fencing to prevent unauthorized people from entering the operating area of an automatically operated crane."

#### 5.2.3 Setting up of the crane

"Do not use the crane before the outriggers are in position."

#### 5.2.4 Securing of the crane

"Set the wheel brakes and ground anchors."

#### 5.2.5 Working clothes and personal equipment

"Always use a safety rope when working on the structure of the crane."

### 5.3 Driver's aids and controls

The manual shall include a drawing/sketch of instruments, indicators, controls and diagnostic modules seen from the driver's position and a description and explanation of their functions.

### 5.4 Driver's instructions

The instructions shall specify the duties of the driver

- prior to operation,
- during driving, and
- after finishing operations.

Special instructions shall be given if the crane is to be transported before being put into use.

### 5.5 Load diagrams and load tables

All necessary load diagrams and tables shall be included.

### 5.6 Safety devices

A drawing/sketch of the crane with location of the devices shall be included. Where appropriate, enlarged drawing/sketches of devices should be

shown. Instructions about any necessary setting of tripped safety devices required to be carried out by the driver shall be included.

### 5.7 Environmental conditions

Where appropriate, an indication of maximum allowable wind speed and extreme working temperature and other possible restrictions on the operation shall be given.

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