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Earth-moving machinery — Operator's manual — Content and format

Engins de terrassement — Manuel de l'opérateur — Présentation et contenu

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6750 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 3, *Operation and maintenance*.

This third edition cancels and replaces the second edition (ISO 6750:1984), which has been technically revised.

Introduction

In the preparation of this International Standard consideration has been given to the fact that user manuals are expected to be available for both operators and mechanics. Operators need to have available a manual giving guidance for the correct use and routine basic preventive maintenance of the machine and its equipment and attachment(s). It is accordingly expected that such a manual be clear and simple to understand, that it contain warnings for foreseeable hazards as well as definitions of terms, and that the units, symbols and pictorials used comply with the relevant International Standards.

This edition has been prepared such that it is aligned with the similar technical area covered by ISO 3600.

Earth-moving machinery — Operator's manual — Content and format

1 Scope

This International Standard specifies the content and gives guidance on the format of operator's manuals for earthmoving machinery as defined in ISO 6165. It is intended to assist manufacturers of the machinery in the drafting and presentation of these manuals.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6014, *Earth-moving machinery — Determination of ground speed*

ISO 6165, *Earth-moving machinery — Basic types — Vocabulary*

ISO 6405-1, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 6405-2, *Earth-moving machinery — Symbols for operator controls and other displays — Part 2: Specific symbols for machines, equipment and accessories*

ISO 6746-1, *Earth-moving machinery — Definitions of dimensions and codes — Part 1: Base machine*

ISO 6746-2, *Earth-moving machinery — Definitions of dimensions and codes — Part 2: Equipment and attachments*

ISO 6747, *Earth-moving machinery — Tractor-dozers — Terminology and commercial specifications*

ISO 6749, *Earth-moving machinery — Preservation and storage*

ISO 7096, *Earth-moving machinery — Laboratory evaluation of operator seat vibration*

ISO 7131, *Earth-moving machinery — Loaders — Terminology and commercial specifications*

ISO 7132, *Earth-moving machinery — Dumpers — Terminology and commercial specifications*

ISO 7133, *Earth-moving machinery — Tractor-scrapers — Terminology and commercial specifications*

ISO 7134, *Earth-moving machinery — Graders — Terminology and commercial specifications*

ISO 7135, *Earth-moving machinery — Hydraulic excavators — Terminology and commercial specifications*

ISO 7136, *Earth-moving machinery — Pipelayers — Terminology and commercial specifications*

ISO 7457, *Earth-moving machinery — Determination of turning dimensions of wheeled machines*

ISO 8811, *Earth-moving machinery — Rollers and compactors — Terminology and commercial specifications*

ISO 8812, *Earth-moving machinery — Backhoe loaders — Definitions and commercial specifications*

ISO 9244, *Earth-moving machinery —Safety signs and hazard pictorials — General principles*

ISO 10261, *Earth-moving machinery — Product identification numbering system*

ISO 13539, *Earth-moving machinery — Trenchers — Definitions and commercial specifications*

ISO 15219, *Earth-moving machinery — Cable excavators — Terminology and commercial specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6165 and the following apply.

3.1
left-hand side
side which is on the left when an observer is facing in the normal forward direction of travel of the machine

[ISO 3600:1996, definition 3.1]

3.2
right-hand side
side which is on the right when an observer is facing in the normal forward direction of travel of the machine

[ISO 3600:1996, definition 3.2]

3.3
operator's manual
document describing and illustrating the safe operation, maintenance and safety precautions related to an earthmoving machine

3.4
jobsite organization
rules and procedures for the jobsite that coordinate machines and people working together

EXAMPLE Safety instructions, traffic patterns, restricted areas, operator and jobsite training, machine and vehicle marking, restrictions on travelling in reverse, communication systems.

4 Content of operator's manual

4.1 General

The operator's manual(s) shall

a) contain provisions for the need for a well-trained and competent operator as well as a description of the circumstances under which personnel protection equipment is necessary,

b) include instructions clearly requiring the operator to immediately remedy faults that would compromise safety,

c) provide information on the intended use of the machine (see 4.6),

d) give the manufacturer's instructions for operation and maintenance of the machine and the equipment and attachments permitted by the manufacturer to be used with it, including the precautions to be taken for minimizing hazards,

e) include a warning concerning unauthorized changes to the machine, and against its unintended use and misuse,

f) require the operator to read and understand the manual before operating the machine,

g) require the operator to be informed about the worksite conditions,

h) provide the necessary information for the operator concerning the stability of the machine (working on firm supporting ground, deviations such as soft and uneven ground, etc.) and its use under special hazardous conditions such as toxic gases, while describing the measures the operator is to take to eliminate or reduce the hazard,

i) stipulate that the machine should be used within the context of the appropriate jobsite organization, in coordination with other machines, vehicles and people on the jobsite, and recommend that the machine user evaluate the specific jobsite where the machine is to be used and address any risks specific to that jobsite not covered in the machine operator's manual(s), and

j) provide all information related to personal safety, which shall be identified by the ISO warning symbol (safety alert, see Figure 1 and ISO 9244).

4.2 Identification of manual(s)

An operator's manual or manuals drafted in accordance with this International Standard shall be identified as that manual(s) relevant to a specific machine by the following information on the front cover:

— manufacturer or distributor of machine;

— model/type designation of machine;

— name or type of publication;

— part number or publication number by which the manual(s) can be ordered;

— printing or publication date.

4.3 Categories of information

4.3.1 The categories of information given in this International Standard cover the whole range of information that the user of a machine is likely to need. Manuals shall be organized so as to present the appropriate information in a logical sequence that allows easy access to the user of the manual(s).

4.3.2 The operator's manual(s) shall give safety precautions and an explanation of the controls and operating instructions in its front portion. The extent of the information provided will depend on the type of machine and the specified duties of the operator.

4.3.3 For machines that involve on-site erection/assembly, an assembly instruction is required that includes the procedures for the initial set-up of the machine. If any special tools or testing and calibration equipment are required, this shall be stated in the operator's manual(s).

4.4 Machine identification

4.4.1 Model/type designation number

This information shall enable the operator to identify readily the machine to which the operator's manual(s) relates.

4.4.2 Product Identification Number (PIN)

The operator's manual(s) shall provide information that enables the operator to locate and identify the placement of the PIN (see ISO 10261), as well as any additional information necessary for initial communication with the manufacturer.

4.5 Introduction

4.5.1 The introduction to the operator's manual(s) shall explain the importance of the manual being provided with the machine (also applies to second-hand machines).

4.5.2 It shall contain an explanation of the safety alert symbol (see ISO 9244), in accordance with Figure 1.

	**This safety alert system identifies important safety messages in this manual.** **When you see this symbol, be alert, your safety is involved, carefully read the message that follows, and inform other operators.**

Figure 1 — Safety alert symbol

4.6 Intended use

This section of the manual shall define the intended use of the machine and its approved attachments. Use in any other way is to be considered as contrary to the intended use. If the machine is designed for use with interchangeable equipment/attachments, the type(s) of equipment/attachment(s) suitable for the machine and their proper use shall be clearly identified.

Danger zones around the machine shall be prescribed and notification given that the unauthorized presence of persons in a danger zone is not permitted.

4.7 Contents

A table of contents shall be provided in the manual(s) identifying the main categories of information and where they can be found. Page numbers for the beginning of each major section shall be clearly indicated.

At least the contents specified in 4.7.1 to 4.7.7 shall be included in the operator's manual(s). Wherever appropriate, cross-references to other categories/sections of the manual(s) shall be made so that the same information is not repeated unnecessarily.

4.7.1 Foreword

The foreword shall give information to the effect that the manual

— is intended as a guide for safe and correct use and maintenance of the machine,

— is always to be kept in the machine for handy reference,

— is to be read carefully before the starting and operating of the machine for the first time and before the carrying out of maintenance, and

— is to be replaced immediately if lost, damaged or unreadable.

4.7.2 Machine description and illustration

This section of the manual(s) shall include a detailed description of the base machine (see ISO 6746-1) and its systems, workings and the optional equipment and attachment(s) (see ISO 6746-2) permitted by the manufacturer to be used with the machine. Furthermore, the following shall be considered:

— presentation and nomenclature of major components, e.g. engine, transmission, brake systems, steering system, pressure vessels, operator's enclosure;

— presentation of equipment, its functions, location and relationship with the machine;

— illustration(s) showing the location of product and component plates, e.g. PIN number, cab number, engine number, axle number;

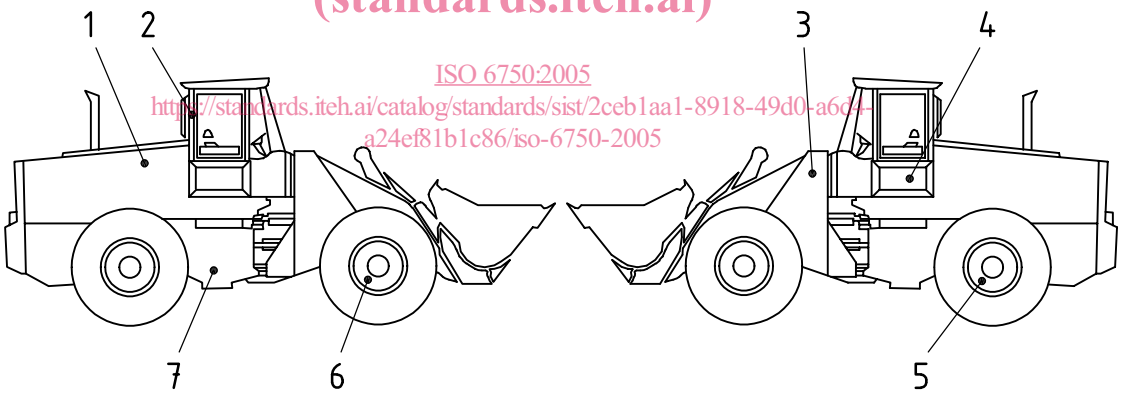
— illustration(s) showing the location of safety signs and other instructions;

— the layout of panels, e.g. switches, gauges, control lamps, hour meter;

Where appropriate, components shall be identified, and terms unique to a particular type of earth-moving machine defined, utilizing the terms and definitions according to the respective terminology/commercial specification standard(s) listed in Clause 2 of this International Standard.

4.7.2.1 Product and component plates

The operator's manual(s) shall indicate the location and content of the product and component plate(s) that appear on the machine. Figure 2 illustrates an example.



Key

1 engine plate with, for example, type designation, product and serial number
2 operator protection system plate with, for example, model, certification and operator protection system serial number
3 product plate: with PIN and, for example, model/type designation
4 seat plate, in accordance with ISO 7096
5 component plate, rear drive axle, with, for example, product and serial number
6 component plate, front drive axle, with, for example, product and serial number
7 component plate, transmission, with, for example, product and serial number

Figure 2 — Example of how to indicate location and content of product/component plates