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Earth-moving machinery — Backhoe loaders — Terminology and commercial specifications

Engins de terrassement — Chargeuses-pelleteuses — Terminologie et spécifications commerciales

[Revision of first edition (ISO 8812:1999)]

ICS 01.040.53; 53.100

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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.

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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 8812 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 4, *Terminology, commercial nomenclature, classification and ratings*.

This second/third/... edition cancels and replaces the first/second/... edition (ISO 8812:1999), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.

Earth-moving machinery — Backhoe loaders — Terminology and commercial specifications

1 Scope

This International Standard establishes terminology and the content of commercial literature specifications for self-propelled crawler or wheeled backhoe loaders as defined in ISO 6165, and their equipment.

It is not applicable to loaders equipped with a backhoe attachment in accordance with ISO 7131:2009, 3.3.1.1.

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 3450:1996, *Earth-moving machinery - Braking systems of rubber-tyred machines - Systems and performance requirements and test procedures*

ISO 4250-1:2006, *Narrow and wide base off-road tyres and rims - Part 1: Tyre designation and dimensions*

ISO 4250-2:2006, *Part 2: Loads and inflation pressures*

ISO 4250-3:2006, *Part 3: Rims*

ISO 5010:2007, *Earth-moving machinery - Rubber tyred machines - Steering requirements*

ISO 6014:1986, *Earth-moving machinery - Determination of ground speed*

ISO 6015:2006, *Earth-moving machinery - Hydraulic excavators - Methods of measuring tool forces*

ISO 6016:1998, *Earth-moving machinery - Methods of measuring the masses of whole machines, their attachments and components*

ISO 6165:2006, *Earth-moving machinery - Basic types – Identification terms and definitions*

ISO 6746-1:2003, *Earth-moving machinery - Definitions of dimensions and codes Part 1: Base machine*

ISO 6746-2:2003, *Earth-moving machinery - Definitions of dimensions and codes Part 2: Equipment and attachments*

ISO 6746-2:2003/Cor 1:2004

ISO 7131:2009, *Earth-moving machinery - Loaders - Terminology and commercial specifications*

ISO 7135:2009, *Earth-moving machinery - Hydraulic excavators - Terminology and commercial specifications*

ISO 7451:2007, *Earth-moving machinery - Volumetric ratings for hoe-type and grab-type buckets of hydraulic excavators and backhoe loaders*

ISO 7457:1997, *Earth-moving machinery - Determination of turning dimensions of wheeled machines*

ISO 7546:1983, *Earth-moving machinery - Loader and front loading excavator buckets - Volumetric ratings*

ISO 9249:2007, *Earth-moving machinery - Engine test code - Net power*

ISO 14397-1:2007, *Earth-moving machinery - Loaders and backhoe loaders - Part 1: Calculation of rated operating capacity and test method for verifying calculated tipping load*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6165, ISO 6746-1 and ISO 6746-2 and the following apply.

3.1
backhoe loader
self-propelled crawler or wheeled machine having a main frame designed to carry both front-mounted equipment and rear-mounted backhoe equipment (normally with outriggers or stabilizers)

NOTE 1 When used in the backhoe mode, the machine is stationary and normally digs below ground level.

NOTE 2 When used in the loader mode (bucket use), the machine loads through forward motion.

NOTE 3 A backhoe work cycle normally comprises excavating, elevating, swinging and discharging of material. A loader work cycle normally comprises filling, elevating, transporting and discharging of material.

3.2
base machine
machine with a cab or canopy and operator protective structures if required, without equipment or attachments but possessing the necessary mountings for such equipment and attachments

3.3
equipment
set of components mounted onto the base machine which allows an attachment to perform the primary design function of the machine

3.4
optional equipment
optional items of equipment mounted onto the base machine to increase, for example, capacity, flexibility, comfort and safety

3.5
attachment
assembly of components that can be mounted onto the base machine or equipment for specific use

3.6
component
part or an assembly of parts of a base machine, equipment or an attachment

4 Base machine

4.1 Types of backhoe loaders

4.1.1 Side-shift backhoe

See Figure 1.

4.1.2 Centre pivot backhoe

See Figure 2.

4.1.3 Drive and steering system

4.1.3.1 Rigid frame, front wheel steer, rear wheel drive

See Figure 3.

4.1.3.2 Rigid frame, front/all wheel steer, all wheel drive

See Figures 4.1 and 4.2.

4.1.3.3 Articulated steering, rear wheel drive

See Figure 5.

4.1.3.4 Articulated steering, all wheel drive

See Figure 6.

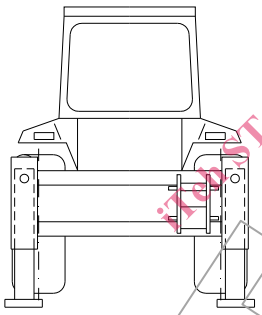


Figure 1 — Side-shift backhoe

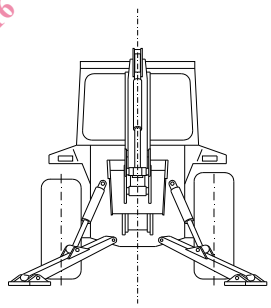


Figure 2 — Centre pivot backhoe

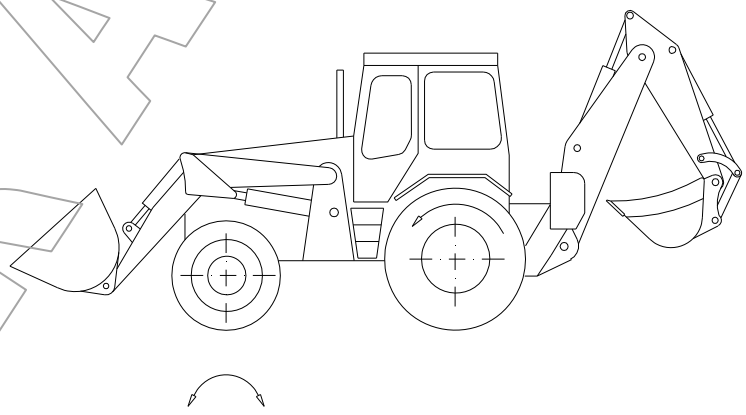


Figure 3 — Rigid frame, front wheel steer, rear wheel drive

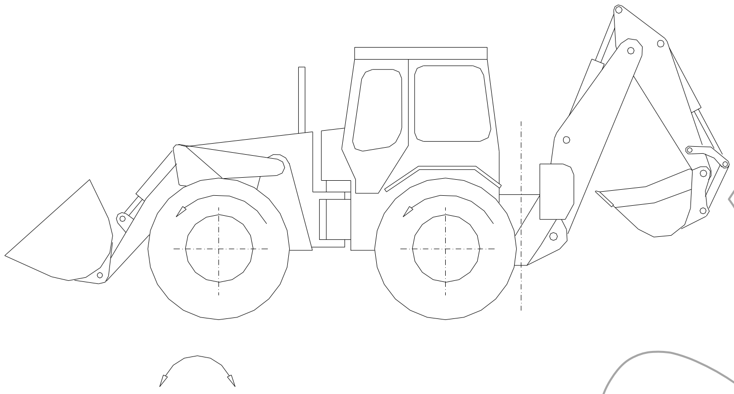


Figure 4.1 — Rigid frame, front/all wheel steer, all wheel drive

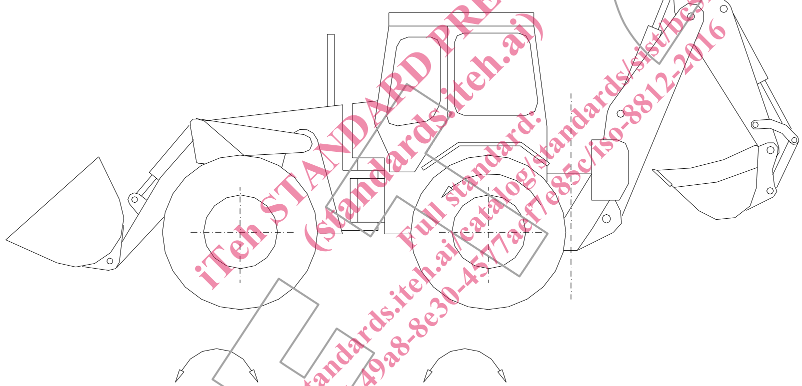


Figure 4.2 — Rigid frame, all wheel steer, rear wheel drive

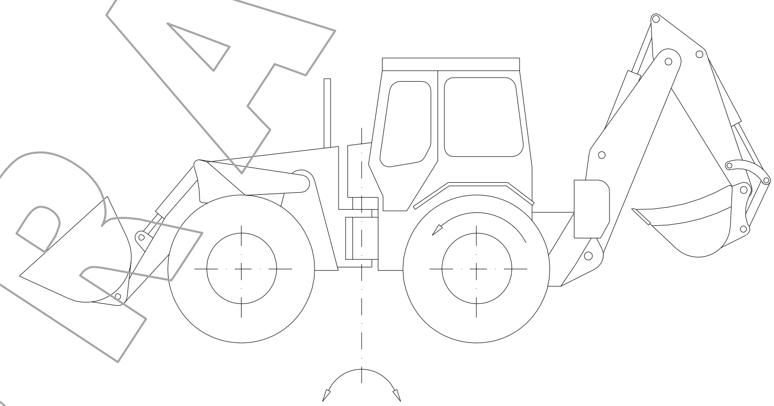


Figure 5 — Articulated steering, rear wheel drive

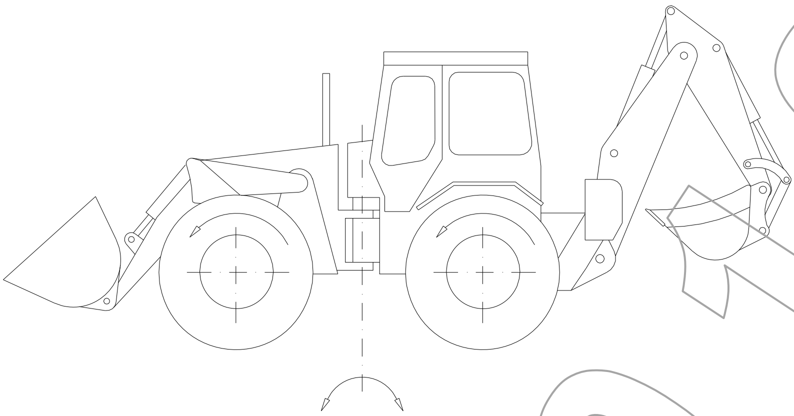


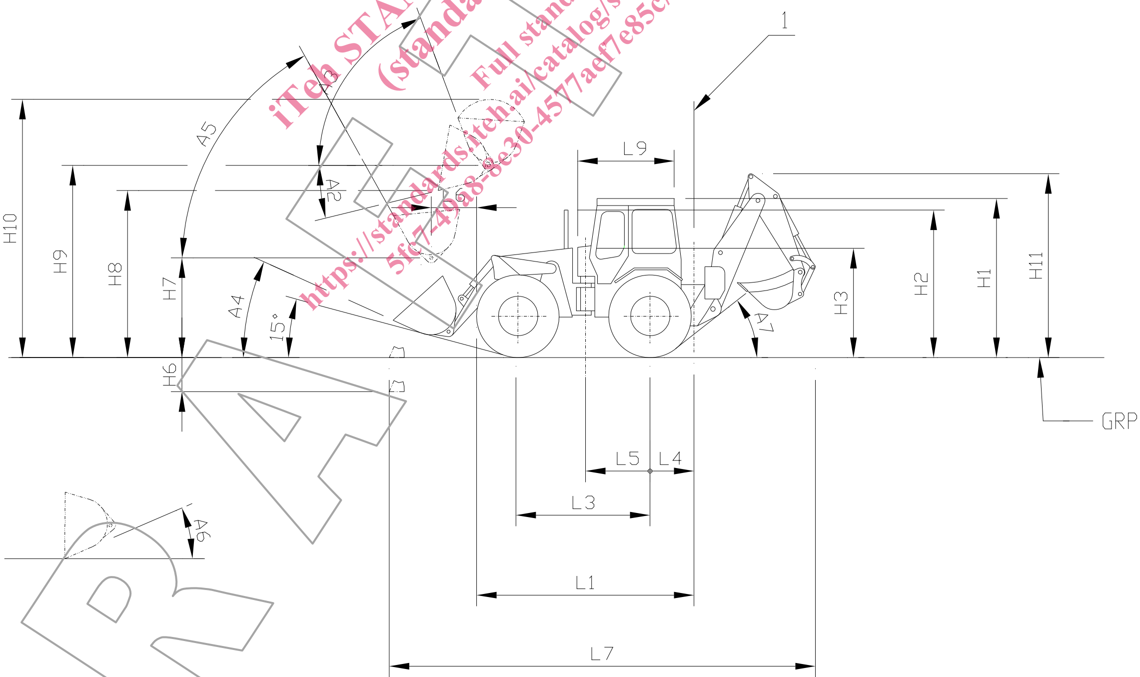
Figure 6 — Articulated steering, all wheel drive

4.2 Dimensions

See Figures 7 and 8.

For definitions of dimensions, see ISO 6746-1.

For definition of dimensions strictly related to backhoe loaders, see annex A.



Key

1 Swing pivot

Figure 7 a) — Dimensions of backhoe loader

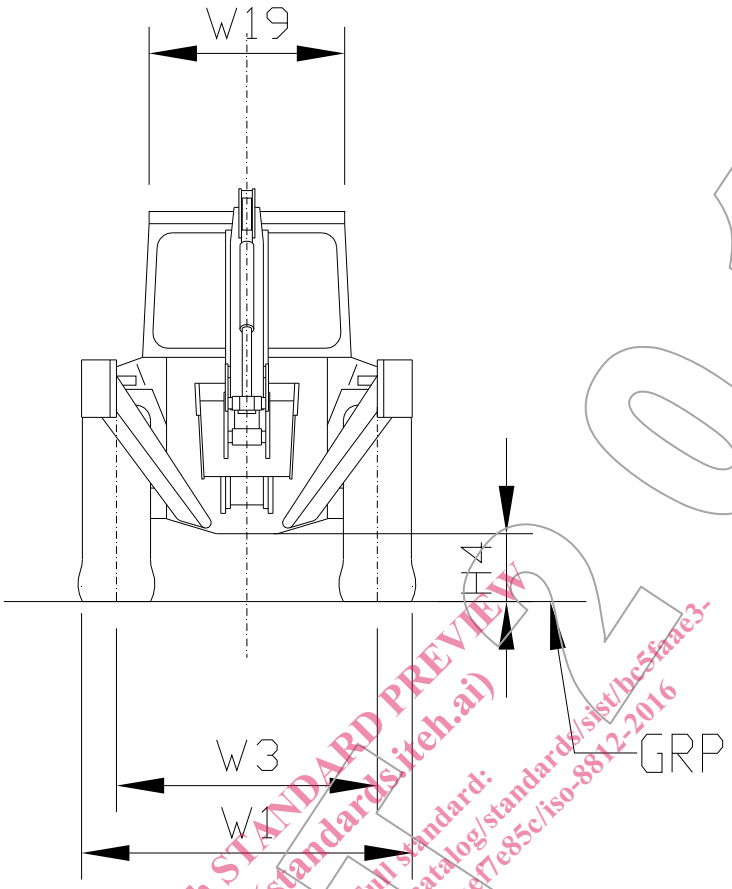
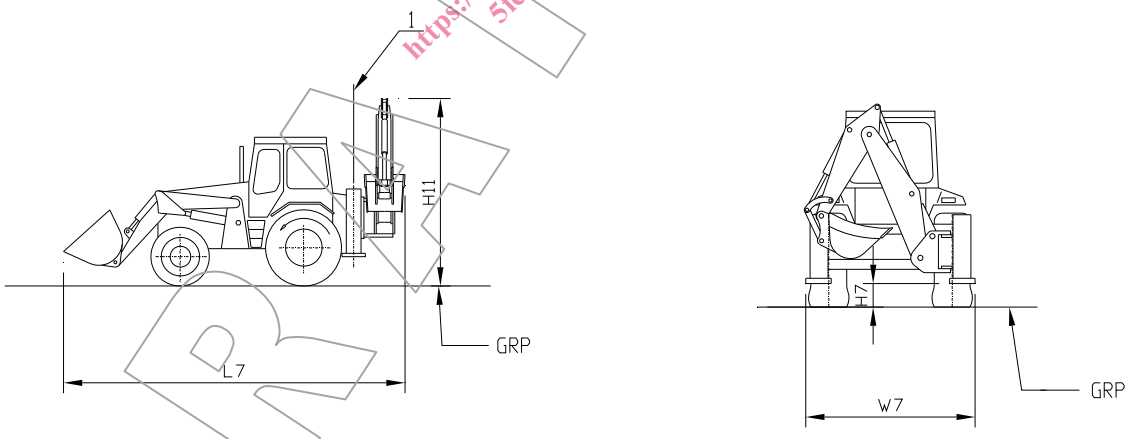


Figure 7 b) — Centre pivot backhoe



Key

1 Swing pivot

Figure 7 c) — Side-shift backhoe