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Third edition
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Earth-moving machinery — Dumpers — Terminology and commercial specifications

Engins de terrassement — Tombereaux — Terminologie et spécifications commerciales

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Contents

Page

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 7132 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 4, *Commercial nomenclature, classification and rating*.

This third edition cancels and replaces the second edition (ISO 7132:1990), which has been technically revised.

Earth-moving machinery — Dumpers — Terminology and commercial specifications

1 Scope

This International Standard establishes a terminology for, and the content of, commercial literature specifications for self-propelled dumpers (including compact dumpers), as defined in ISO 6165, used in earth moving.

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

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

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

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

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

ISO 6483:1980, *Earth-moving machinery — Dumper bodies — Volumetric rating*

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

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

ISO 9249:1997, *Earth-moving machinery — Engine test code — Net power*

3 Terms and definitions

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

3.1 General

3.1.1
dumper
self-propelled crawler or wheeled machine, with an open body, which transports and dumps or spreads material, loading being performed either by means external to the dumper or by self-loading equipment

3.1.2
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

3.1.3
equipment
set of components mounted onto the base machine which allows an attachment to perform its design function

3.1.4
self-loading equipment
an integral mounted, bucket-supporting structure and linkage permanently fitted to a compact dumper enabling it to fill its own open body with material

NOTE See 4.1.5.

3.1.5
attachment
assembly of components that can be mounted onto the base machine or equipment for a specific use

3.1.6
component
part of an assembly or of a base machine, equipment or an attachment

3.2 Performance

3.2.1
tractive force rimpull
force available between the tyre and the ground to propel the dumper

3.2.1.1
tractive force with direct drive transmission
tractive force calculated or measured at the maximum engine torque in each forward gear

NOTE The maximum pull could be limited by mass and traction conditions.

3.2.1.2
tractive force rimpull with powershift transmission [electric drive] [hydrostatic drive]
tractive force rimpull given by the calculated or measured pull versus machine speed curves in each forward gear range

NOTE The maximum pull could be limited by mass and traction conditions.

3.2.2
empty body dump and return time
full movement cycle time of a body, door or ejector without load, at the rated engine speed

3.2.3
payload
manufacturer's rated mass that can be carried by the machine

4 Base machine

NOTE The information on the base machine parameters is provided in the referenced figures.

4.1 Types of dumper

4.1.1 Method of dumping

— Rear dump: see Figure 1.

— Bottom dump: see Figure 2.

— Side dump: see Figure 3.

— Front dump: see Figure 4.

— Rotating dump: see Figure 5.

— High dump: see Figure 6.

— Slewing dump: see Figure 7.

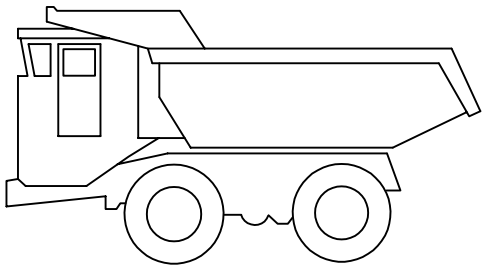


Figure 1 — Rear dump

Figure 2 — Bottom dump

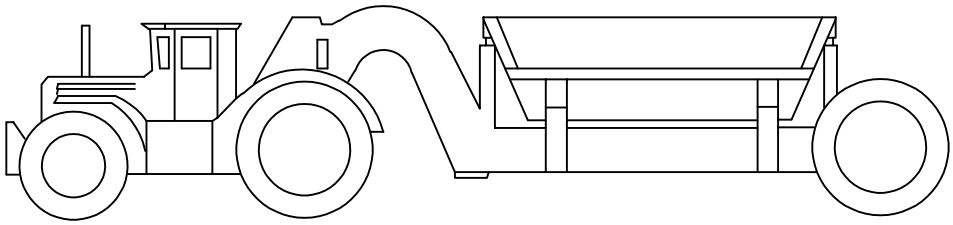


Figure 3 — Side dump

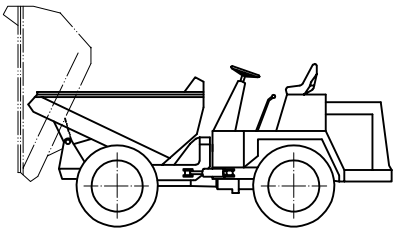


Figure 4 — Front dump

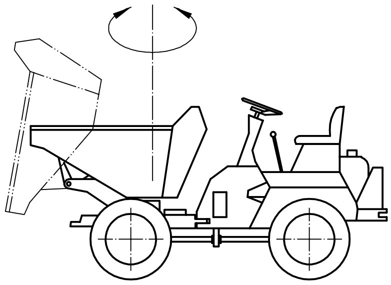


Figure 5 — Rotating dump

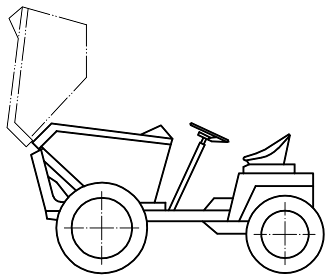


Figure 6 — High dump

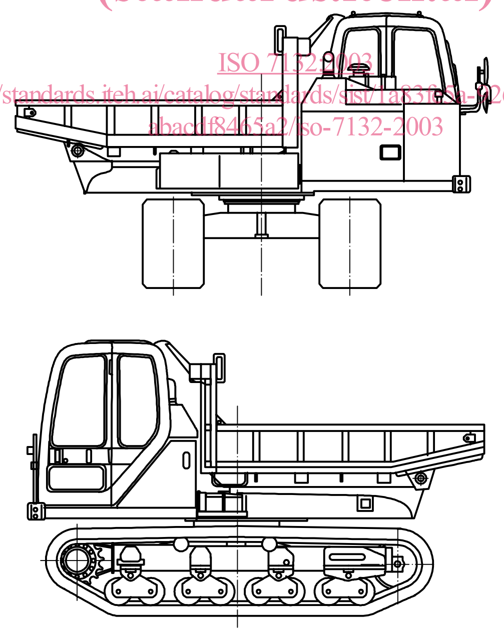


Figure 7 — Slewing dump

4.1.2 Steering system

— Front-wheel steer: see Figure 8.

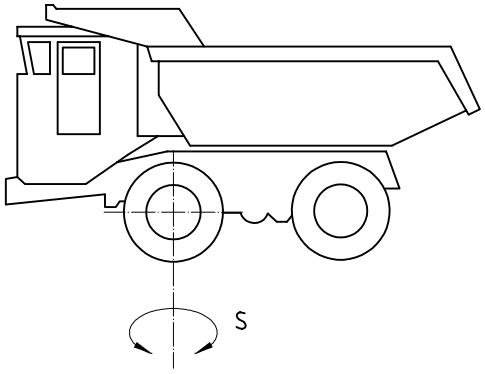
— Articulated steer: see Figure 9.

— Rear-wheel steer: see Figure 10.

— All-wheel steer: see Figure 11.

— Crawler skid steer: see Figure 12.

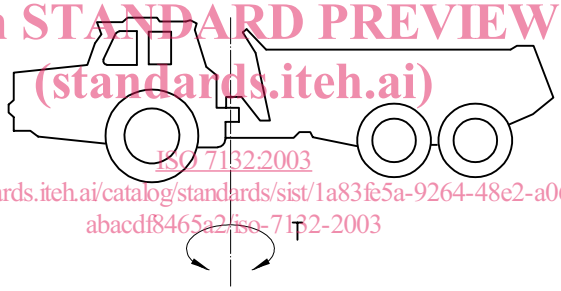
— Wheel skid steer: see Figure 13.



Key

S steerable wheels

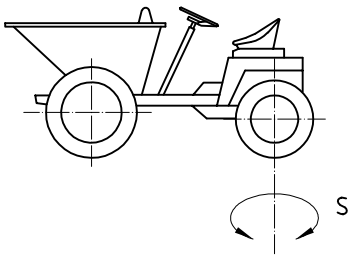
Figure 8 — Front-wheel steer



Key

T turning centre

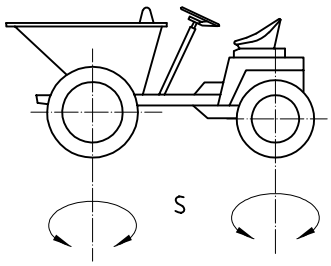
Figure 9 — Articulated steer



Key

S steerable wheels

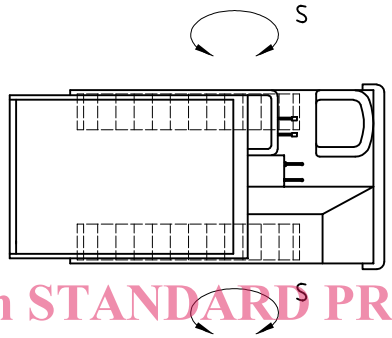
Figure 10 — Rear-wheel steer



Key

S steerable wheels

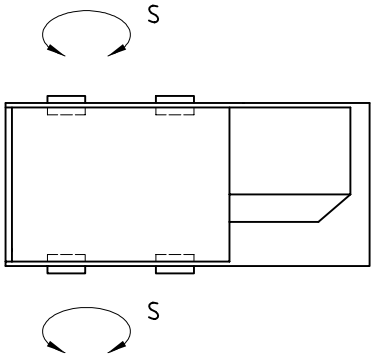
Figure 11 — All-wheel steer



Key

S steerable track

Figure 12 — Crawler skid steer



Key

S steerable wheels

Figure 13 — Wheel skid steer

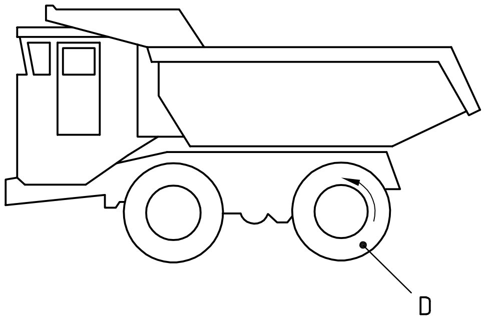
4.1.3 Drive system

— Rear-wheel drive: see Figure 14.

— All-wheel drive: see Figure 15.

— Centre-axle drive: see Figure 16.

— Crawler drive: see Figure 17.



Key

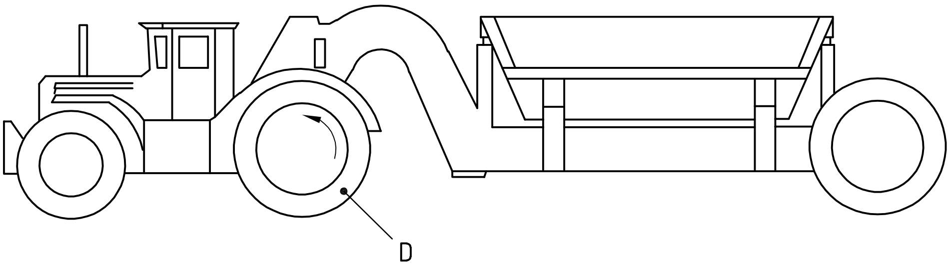
D drive wheels

Figure 14 — Rear-wheel drive

Key

D drive wheels

Figure 15 — All-wheel drive



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D drive wheels

Figure 16 — Centre-axle drive

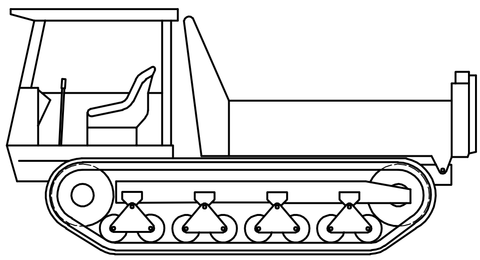

Figure 17 — Crawler drive

4.1.4 Number of axles

— Two axles: see Figure 18.

— Three axles: see Figure 19.

— More than three axles: see Figure 20.

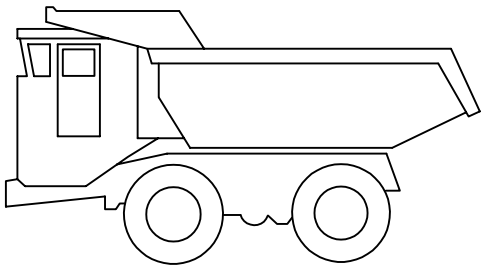

Figure 18 — Two axles

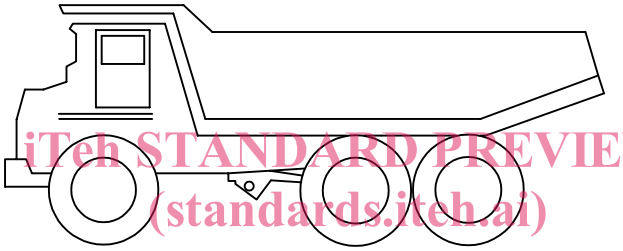

Figure 19 — Three axles

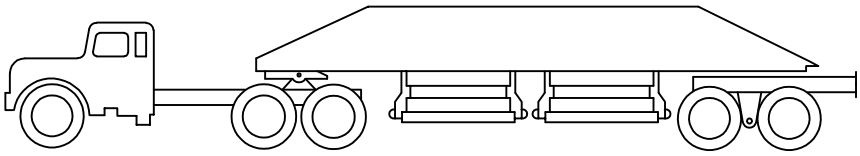

Figure 20 — More than three axles

4.1.5 Method of self-loading

— Body loading: see Figure 21.

— Shovel loading: see Figure 22.

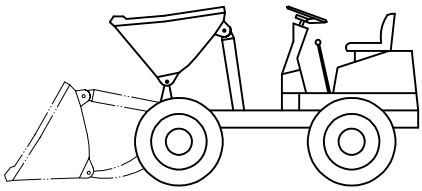

Figure 21 — Body loading