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ISO 8812

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

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

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

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The committee responsible for this document is ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 4, *Terminology, commercial nomenclature, classification and ratings*.

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This second edition cancels and replaces the first edition (ISO 8812:1999), which has been technically revised.

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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.

This International Standard 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 documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6165, *Earth-moving machinery — Basic types — Identification and terms and definitions*

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

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

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

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6165, ISO 6746-1, 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* (3.3) and rear-mounted backhoe equipment (normally with outriggers or stabilizers)

Note 1 to entry: When used in the backhoe mode, the machine is stationary and normally digs below ground level.

Note 2 to entry: When used in the loader mode (bucket use), the machine loads through forward motion.

Note 3 to entry: 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* (3.3) or *attachments* (3.5) but possessing the necessary mountings for such equipment and attachments

3.3
equipment
set of *components* (3.6) mounted onto the *base machine* (3.2), which allows an *attachment* (3.5) to perform the primary design function of the machine

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3.4
optional equipment
optional items of *equipment* (3.3) mounted onto the *base machine* (3.2) to increase, for example, capacity, flexibility, and comfort

3.5
attachment
assembly of *components* (3.6) that can be mounted onto the *base machine* (3.2) or *equipment* (3.3) for specific use

3.6
component
part or an assembly of parts of a *base machine* (3.2), *equipment* (3.3), or an *attachment* (3.5)

3.7 Masses

3.7.1
operating mass
OM
mass of the *base machine* (3.2), with *equipment* (3.3) and empty *attachment* (3.5) in the most usual configuration as specified by the manufacturer, and with the operator (75 kg), full fuel tank, and all fluid systems (i.e. hydraulic oil, transmission oil, engine oil, engine coolant) at the levels specified by the manufacturer and, when applicable, with sprinkler water tank(s) half full

[SOURCE: ISO 6016:2008, 3.2.1]

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Note 1 to entry: Ballast mass at delivery can be included if specified by the manufacturer.

3.7.2
shipping mass
SM

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mass of the *base machine* (3.2) without an operator, with the fuel level at 10 % of tank capacity or with the minimum fuel level needed for machine shipping purposes as specified by the manufacturer, whichever is higher, with all fluid systems at the levels specified by the manufacturer and with empty sprinkler tank(s), when applicable, and with or without *equipment* (3.3), ballast, *attachment* (3.5), cab, canopy, operator-protective structures, wheels and counterweights as stated by the manufacturer

[SOURCE: ISO 6016:2008, 3.2.6]

Note 1 to entry: If the manufacturer intends that the machine be partially disassembled for shipping purposes, the masses of the disassembled items shall also be stated.

4 Base machine

4.1 Types of backhoe loaders

Backhoe loaders are classified according to the following attributes.

4.1.1 Type of backhoe equipment

4.1.1.1 Side-shift backhoe

See Figure 1.

4.1.1.2 Centre pivot backhoe

See Figure 2.

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4.1.2 Drive and steering system

4.1.2.1 Rigid frame, front-wheel steer, rear-wheel drive

See Figure 3 a).

4.1.2.2 Rigid frame, front/all-wheel steer, all-wheel drive

See Figures 3 b) and 3 c).

4.1.2.3 Rigid frame, all-wheel steer, rear-wheel drive

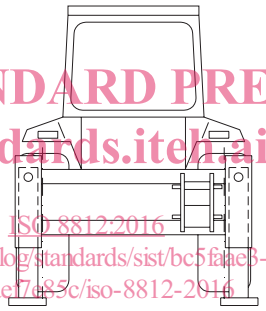
See Figure 3 d).

4.1.2.4 Articulated steering, rear-wheel drive

See Figure 4 a).

4.1.2.5 Articulated steering, all-wheel drive

See Figure 4 b).



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NOTE Backhoe linkage removed to improve clarity.

Figure 1 — Side-shift backhoe

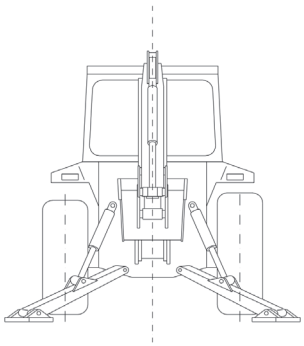

Figure 2 — Centre pivot backhoe

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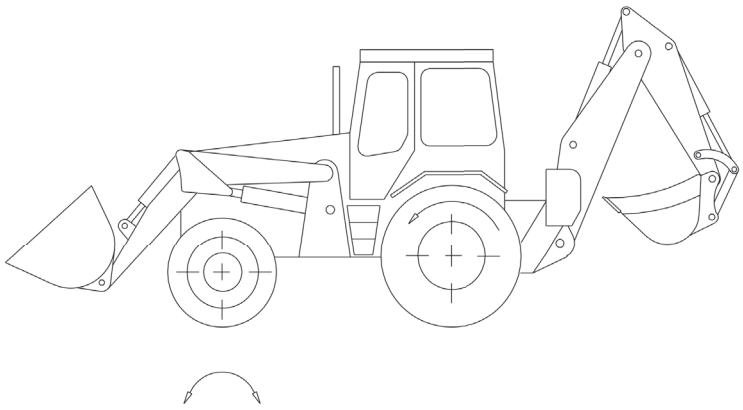
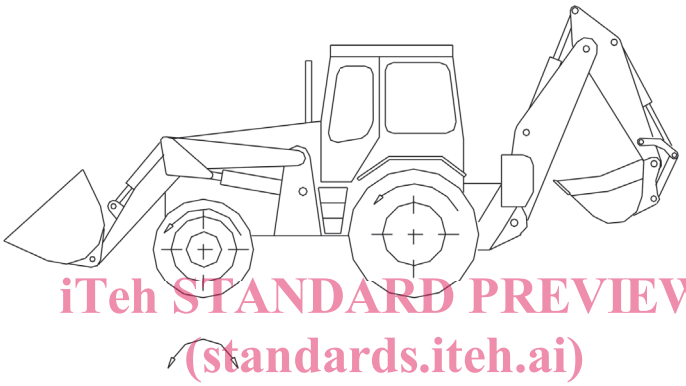


a) Front-wheel steer, rear-wheel drive



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b) Front-wheel steer, all-wheel drive

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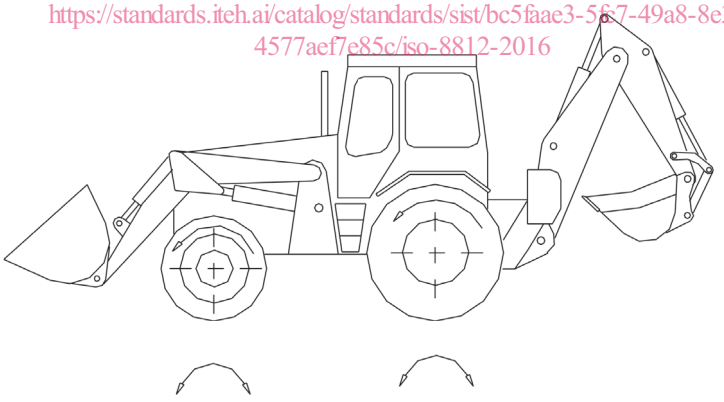

c) All-wheel steer, all-wheel drive

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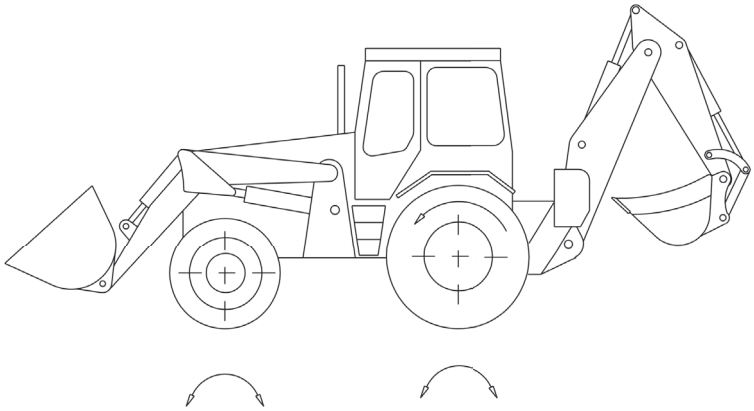
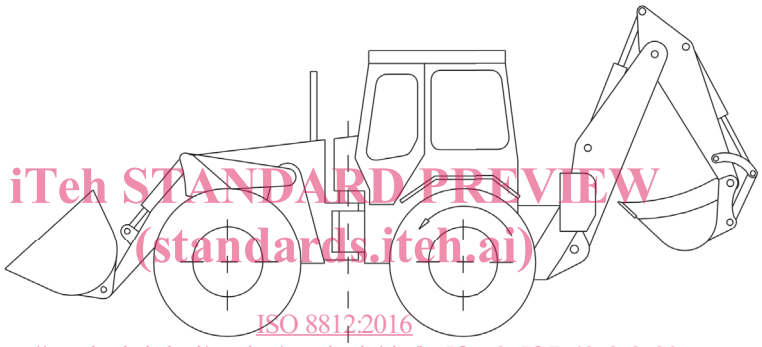


d) All-wheel steer, rear-wheel drive

Figure 3 — Rigid frame



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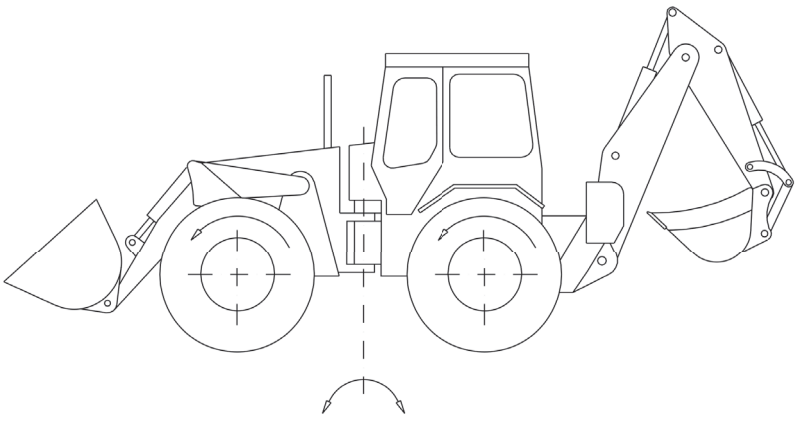
a) Rear-wheel drive



b) All-wheel drive

Figure 4 — Articulated steering

NOTE Front and rear wheels could have different sizes.

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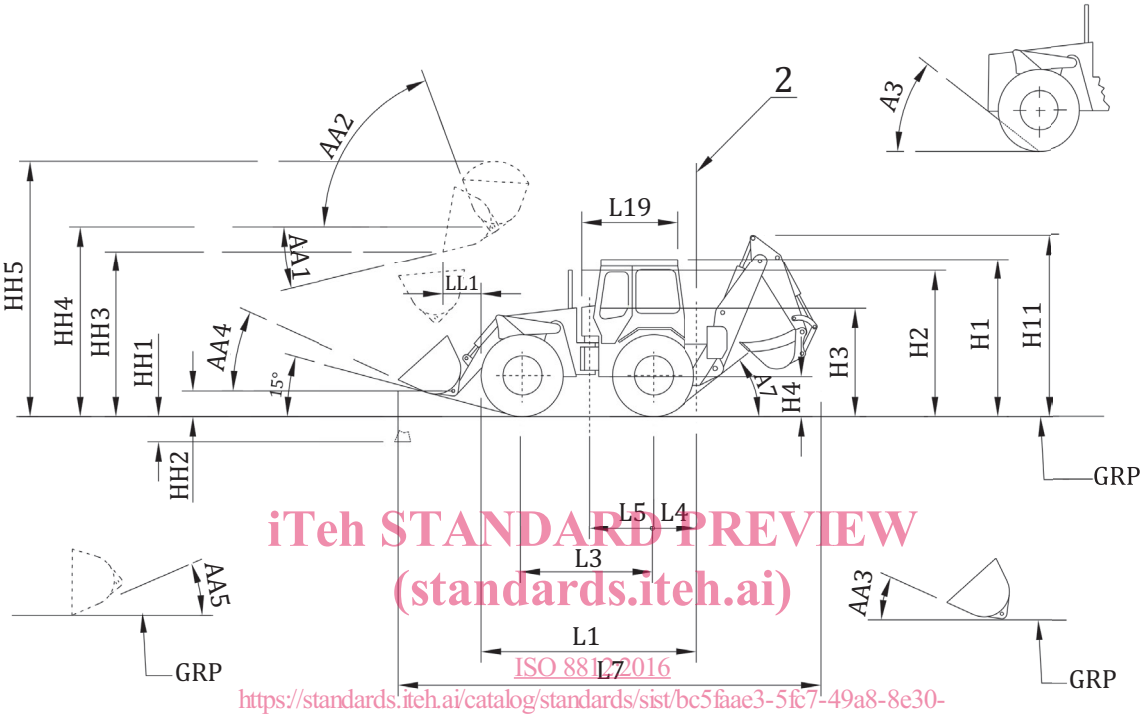
4.2 Dimensions

See Figures 5 and 6. The dimensions indicated in Figures 5 and 6 shall be obtained with all tyres tangent to ground and at their recommended air pressure.

For definitions of dimensions, see ISO 6746-1 and ISO 7131.

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



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a) Backhoe loader

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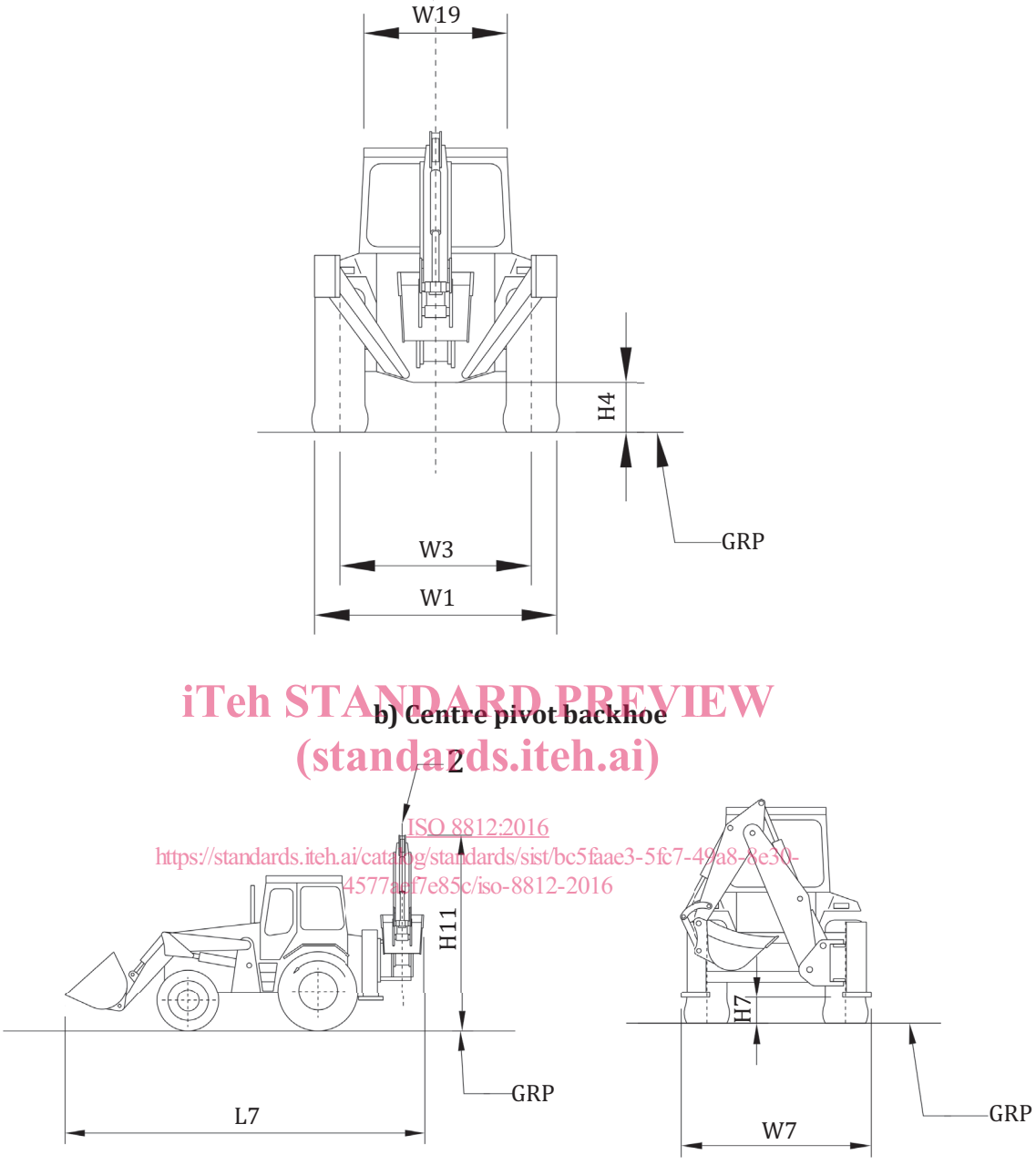

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b) Centre pivot backhoe

c) Side-shift backhoe

Key

2 swing pivot

GRP ground reference plane

Figure 5 — Dimensions

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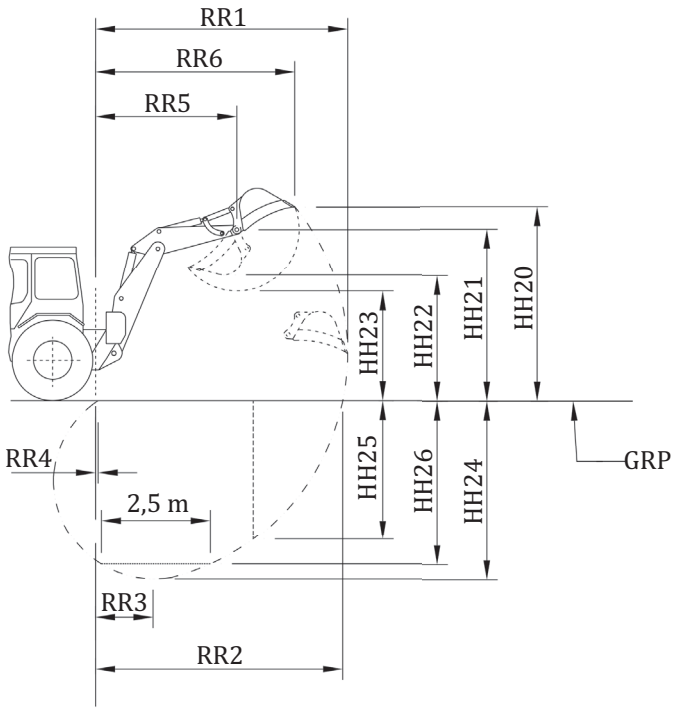

Figure 6 — Digging dimensions

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4.2.1 Operational positions of backhoe

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The dimensions indicated in Figures 7 and 8 shall be obtained with the main bearing surfaces of the stabilizers on the ground and with all tyres tangent to ground and at their recommended air pressure.

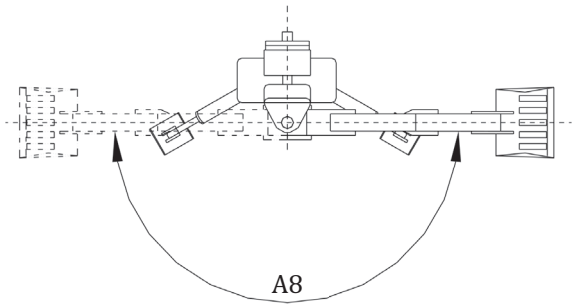

Figure 7 — Backhoe swing pivot axis (plane view)

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