TC127

International Standard 7131

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Earth-moving machinery — Loaders — Terminology and commercial specifications

Engins de terrassement — Chargeuses — Terminologie et spécifications commerciales

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Descriptors : earth handling equipment, loaders, vocabulary.

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7131 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*.

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Contents

Earth-moving machinery — Loaders — Terminology and commercial specifications

1 Scope

This International Standard establishes terminology and the content of commercial literature specifications for self-propelled crawler and wheel loaders, and their equipment.

2 Field of application

This International Standard applies to loaders as defined in ISO 6165.

3 References

ISO 1585, *Road vehicles — Engine test code — Net power.*

ISO 3450, *Off-highway earth-moving machinery — Minimum performance criteria for brake systems.*

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

ISO 5998, *Earth-moving machinery — Rated operating load for crawler and wheel loaders.*

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

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

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

ISO 6746/2, *Earth-moving machinery — Definitions of dimensions and symbols — Part 2 : Equipment.*

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

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

4 General definitions

4.1 loader : A self-propelled crawler or wheeled machine with an integral front-mounted bucket supporting structure and linkage which loads or excavates through forward motion of the machine, and lifts, transports and discharges material (see ISO 6165).

4.2 base machine : A loader as described by the manufacturer specifications. The machine should be provided with the necessary mountings and attachments to secure equipment as shown in clause 6.

4.3 equipment: A set of components mounted onto the base machine to fulfil the primary design function.

4.4 attachment: An optional assembly of components that can be mounted onto the base machine for a specific use.

4.5 component: A part or an assembly of parts of a base machine, equipment, or an attachment.

5 Base machine

5.1 Types of loaders

5.1.1 Undercarriage

5.1.1.1 Crawler loader (figure 1)

5.1.1.2 Wheel loader (figure 2)

5.1.2 Engine location

5.1.2.1 Front engine (figure 3)

5.1.2.2 Rear engine (figure 4)

5.1.3 Steering system

5.1.3.1 Front wheel steer (figure 5)

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5.1.3.3 All wheel steer (figure 7)

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5.1.3.5 Wheel skid steer [figure 9a)]

5.1.3.6 Wheel independent steer [figure 9b)]

5.1.3.7 Crawler skid steer (figure 10)

5.1.3.8 Crawler independent steer (figure 11)

5.1.4 Drive system

5.1.4.1 Front wheel drive (figure 12)

5.1.4.2 Rear wheel drive (figure 13)

5.1.4.3 All wheel drive (figure 14)

Undercarriage (see 5.1.1)

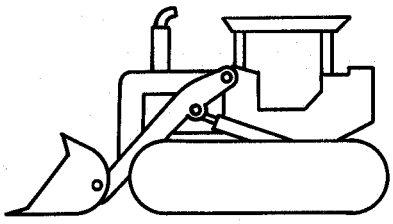

Figure 1 — Crawler loader

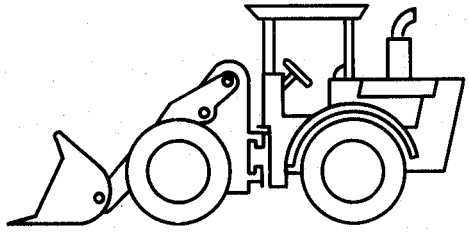

Figure 2 — Wheel loader

Engine location (see 5.1.2)

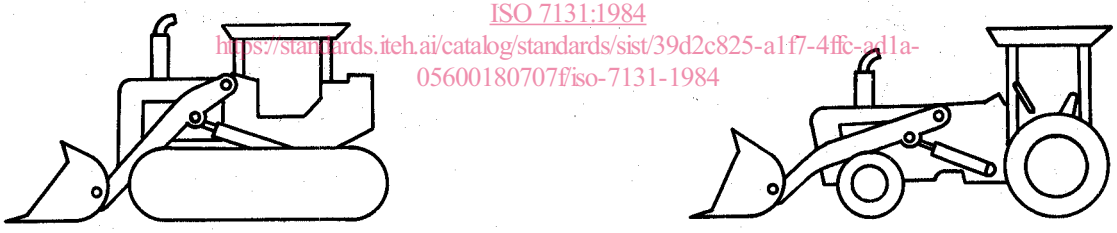

Figure 3 — Front engine

Figure 4 — Rear engine

Steering system (see 5.1.3)

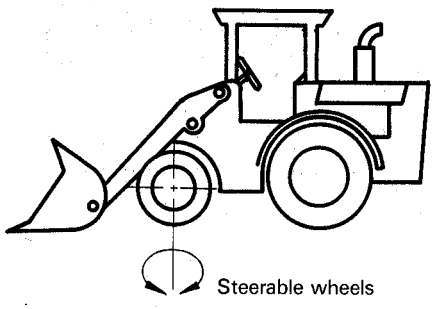

Figure 5 — Front wheel steer

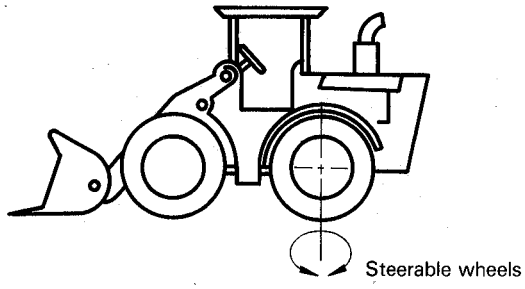

Figure 6 — Rear wheel steer

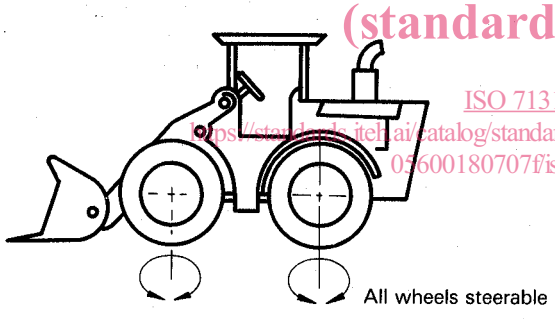

Figure 7 — All wheel steer

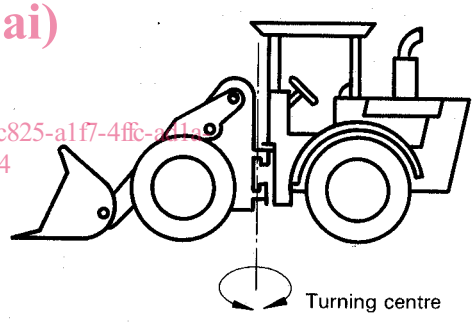

Figure 8 — Articulated steer

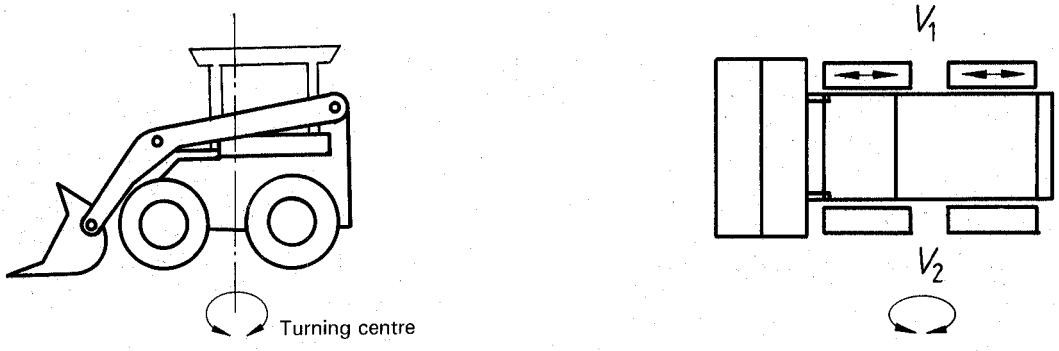

Figure 9a) — Wheel skid steer ($V_2 = 0$)

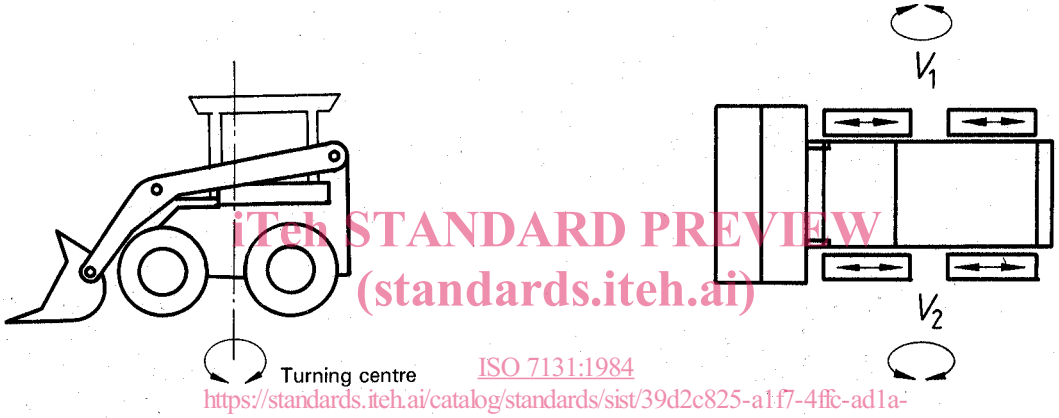

Figure 9b) — Wheel independent steer ($V_1 \neq V_2$)

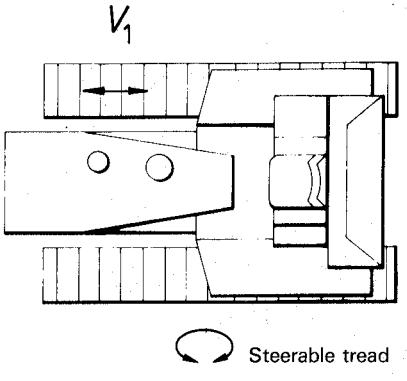

Figure 10 — Crawler skid steer

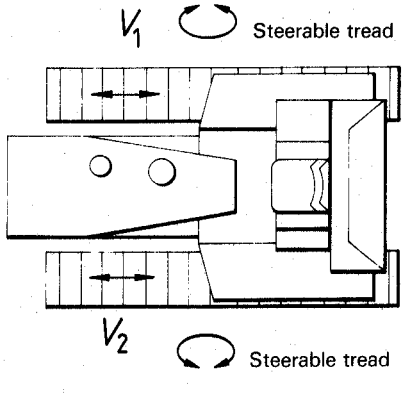

Figure 11 — Crawler independent steer ($V_1 \neq V_2$)

Drive system (see 5.1.4)

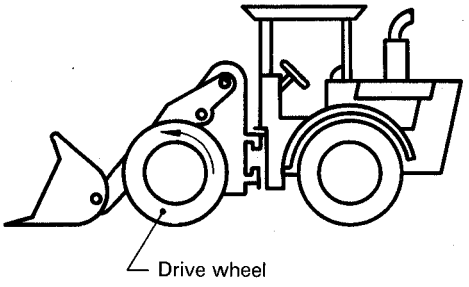

Figure 12 — Front wheel drive

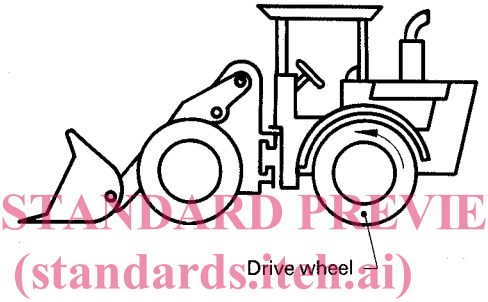

Figure 13 — Rear wheel drive

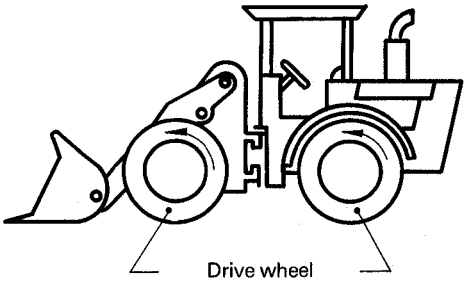

Figure 14 — All wheel drive

5.2 Dimensions (see figures 15 and 16)

For definitions of dimensions, see ISO 6746/1.

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

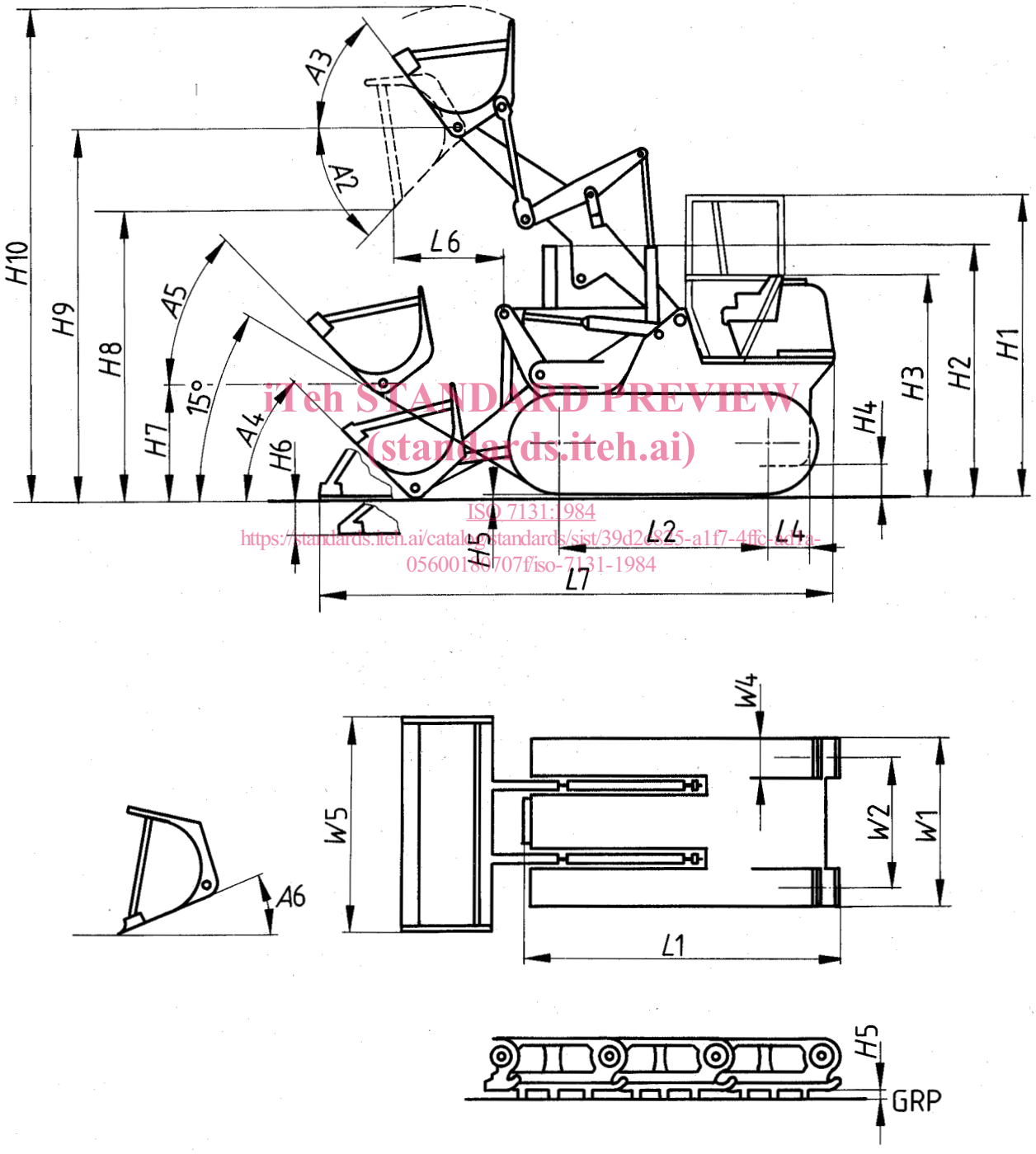

Figure 15 — Dimensions of base machine (crawler loader)

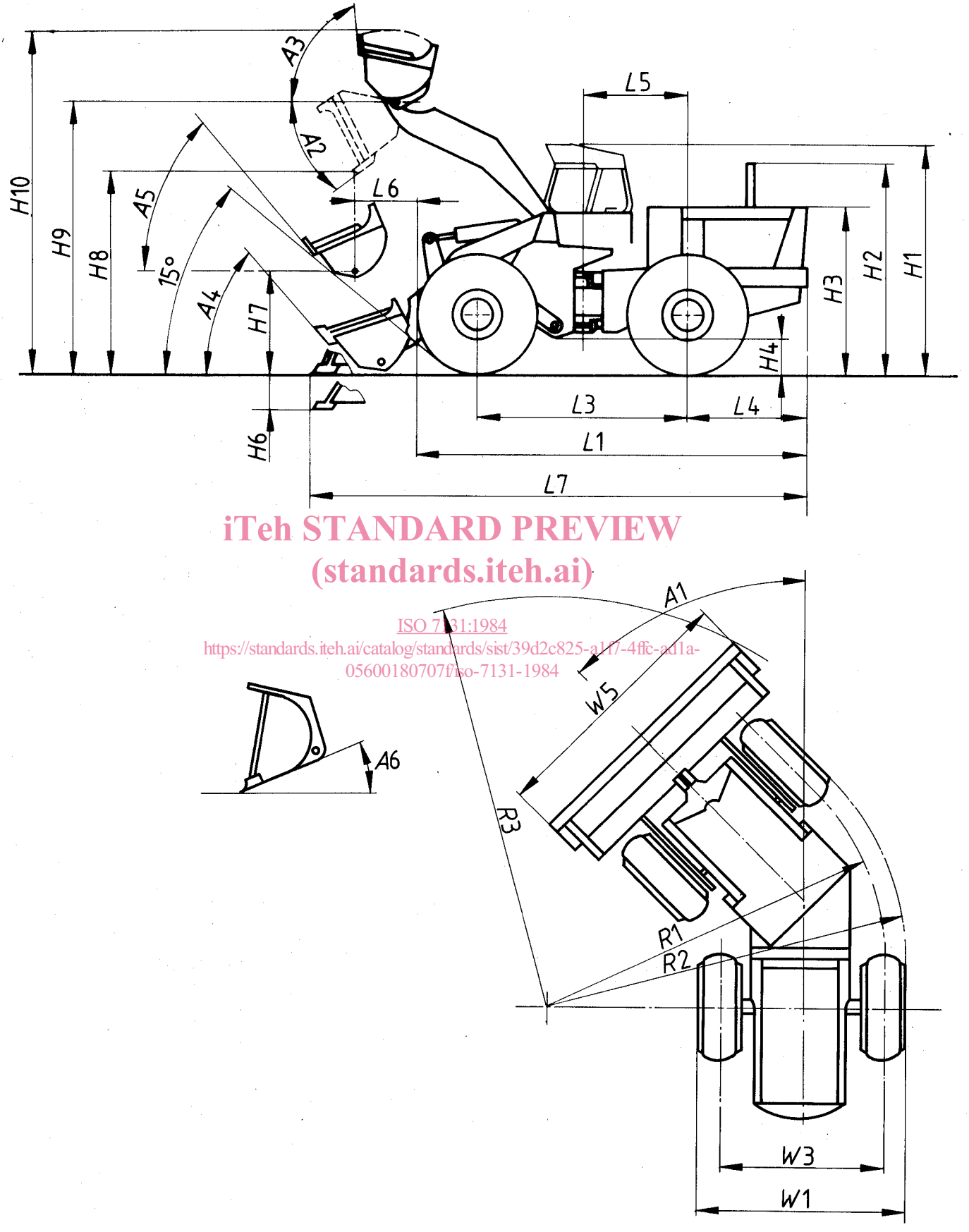

Figure 16 — Dimensions of base machine (wheel loader)