INTERNATIONAL STANDARD

ISO 3164

Fifth edition
1995-11-15

Earth-moving machinery — Laboratory evaluations of protective structures — Specifications for deflection-limiting volume

Engins de terrassement — Étude en laboratoire des structures de protection — Spécifications pour le volume limite de déformation

Reference number
ISO 3164:1995(E)

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.

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.

International Standard ISO 3164 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety requirements and human factors*.

This fifth edition cancels and replaces the fourth edition (ISO 3164:1992), of which it constitutes a technical revision.

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Earth-moving machinery — Laboratory evaluations of protective structures — Specifications for deflection-limiting volume

1 Scope

This International Standard specifies the deflection-limiting volume (DLV) to be used when performing laboratory evaluations of structures which provide protection to operators of earth-moving machinery.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3411:—[1], *Earth-moving machinery — Human physical dimensions of operators and minimum operator space envelope.*

ISO 5353:1995, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 deflection-limiting volume; DLV: Orthogonal approximation of a large, seated, male operator as defined in ISO 3411 wearing normal clothing and a protective helmet.

See figure 1.

3.2 locating axis; LA: Horizontal axis for positioning the DLV with respect to the seat index point (SIP).

See figure 1.

4 Accuracy

All linear dimensions of the DLV shown in figure 1 shall have a tolerance of ± 5 mm. The accuracy of locating the DLV with respect to the seat index point (SIP) shall be ± 13 mm, horizontally and vertically.

5 Location of DLV

NOTE 1 Machine controls and their components normally positioned in the DLV are not considered to violate the DLV.

5.1 The DLV shall be located using the SIP, as defined in ISO 5353, as the reference point (see figure 1).

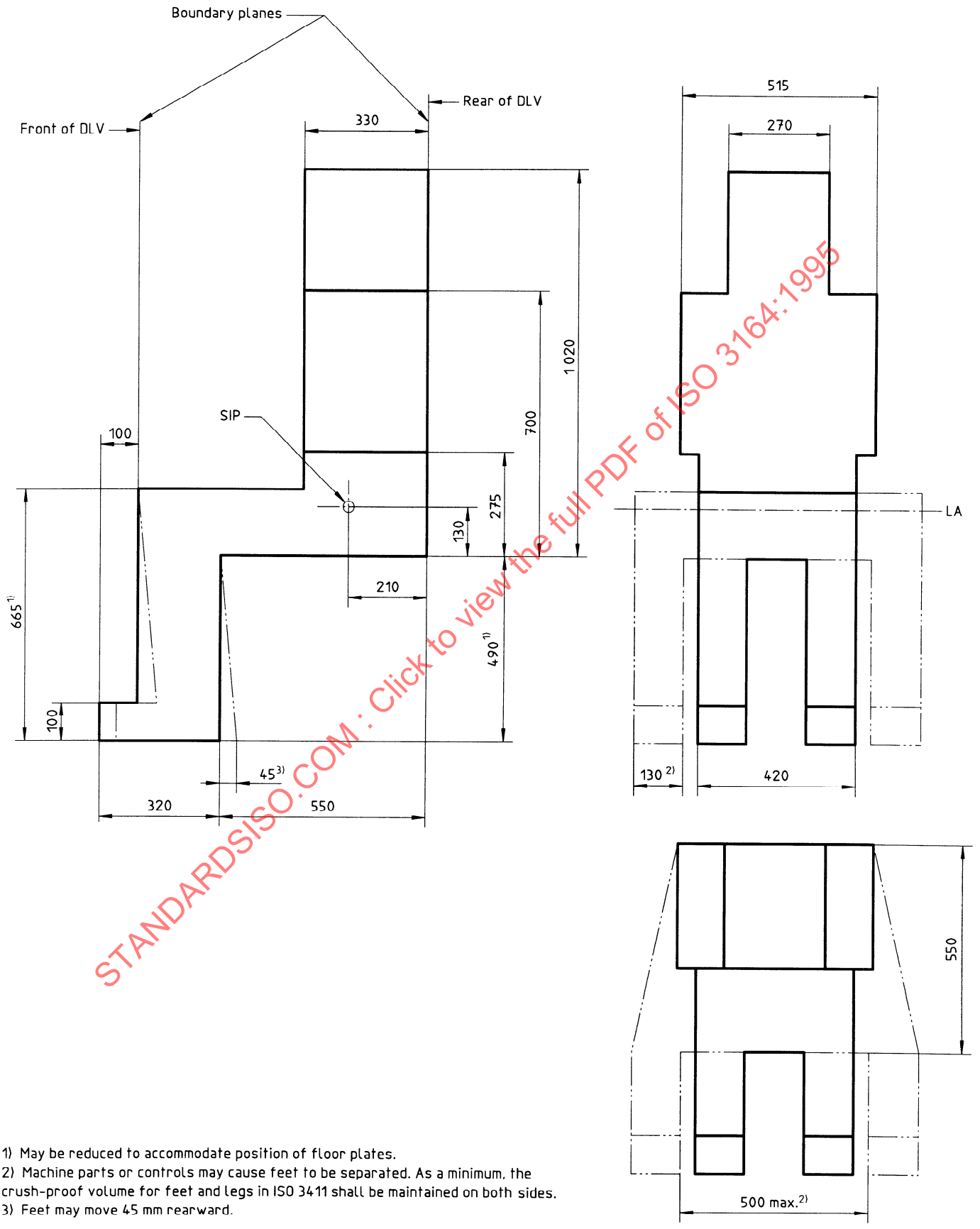
5.2 For machines which have multiple machine function seats and therefore multiple SIPs (see ISO 5353:1995, 5.3.3), the SIP used by the operator to move the machine in the travel mode shall be used.

1) To be published. (Revision of ISO 3411:1982)

5.3 The DLV shall be positioned so that the locating axis, LA, shown in figure 1 passes through the SIP. The DLV shall be centred transversely in the seat location with its principal axes horizontal and vertical (axes X' and Z' as defined in ISO 5353:1995, figure 2).

5.4 The location of LA of the DLV shall remain coincidental with the SIP even though that line may move during any or all of the laboratory loadings.

Dimensions in millimetres,
general tolerance ± 5 mm



1) May be reduced to accommodate position of floor plates.
2) Machine parts or controls may cause feet to be separated. As a minimum, the crush-proof volume for feet and legs in ISO 3411 shall be maintained on both sides.
3) Feet may move 45 mm rearward.

Figure 1 — Deflection-limiting volume

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