TC 127

International Standard ISO 6746/2

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Earth-moving machinery — Definitions of dimensions and symbols — Part 2 : Equipment

Engins de terrassement — Définitions des dimensions et des symboles — Partie 2 : Équipement

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Foreword

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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.

International Standard ISO 6746/2 was developed by Technical Committee ISO/TC 127, *Earth-moving machinery*, and was circulated to the member bodies in January 1980.

It has been approved by the member bodies of the following countries :

Austria	France	South Africa, Rep. of
Belgium	Germany, F.R.	Sweden
Brazil	Japan	United Kingdom
Bulgaria	Korea, Rep. of	USA
Canada	Pakistan	USSR
Chile	Poland	
Finland	Romania	

The member body of the following country expressed disapproval of the document on technical grounds :

Czechoslovakia

Printed in Switzerland

Earth-moving machinery — Definitions of dimensions and symbols — Part 2 : Equipment

1 Scope

This part of ISO 6746 defines terms and symbols relating to dimensions of earth-moving machinery equipment.

2 Field of application

This part of ISO 6746 applies to the equipment of basic types of earth-moving machines as defined in ISO 6165.

3 References

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

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

4 General definitions

For the purpose of this International Standard, the following definitions shall apply :

4.1 three dimensional reference system : See annex A.

4.2 ground reference plane (GRP) : The zero "Z" plane on which the machine is placed for the measurements.

The plane is :

a) for wheel machines, a hard level surface;

b) for crawler machines :

1) tractors — the lowest face of the shoe;

2) loaders — the bottom tip of the grouser.

5 General

In the annexes B, C, D and E are contained the symbols and the term definitions relating to dimensions of the equipment of earth-moving machines.

6 Coding system

Each dimension listed in the annexes B, C, D and E is assigned a code which is composed of :

6.1 Two capital letters describing :

HH = height dimensions
WW = width dimensions
LL = length dimensions
AA = angle dimensions

6.2 A number issued in sequence.

Annex A

Three-dimensional reference system — Definitions

1 Scope

This annex defines the three-dimensional reference system used to determine dimensions of equipment of earth-moving machines.

The above system shall not be used for commercial documents.

2 Field of application

This annex applies to the equipment of earth-moving machines as defined in ISO 6165.

3 Definitions

3.1 zero "Y" plane : Vertical plane which passes through the longitudinal centre-line of the machine.

3.2 "X" plane : Any vertical plane normal to the "Y" plane.

3.3 "Z" plane : Any horizontal plane normal to the "X" and "Y" planes.

3.4 positive coordinate : The positive direction is forward of the zero "X" plane, right of the zero "Y" plane, and above the zero "Z" plane.

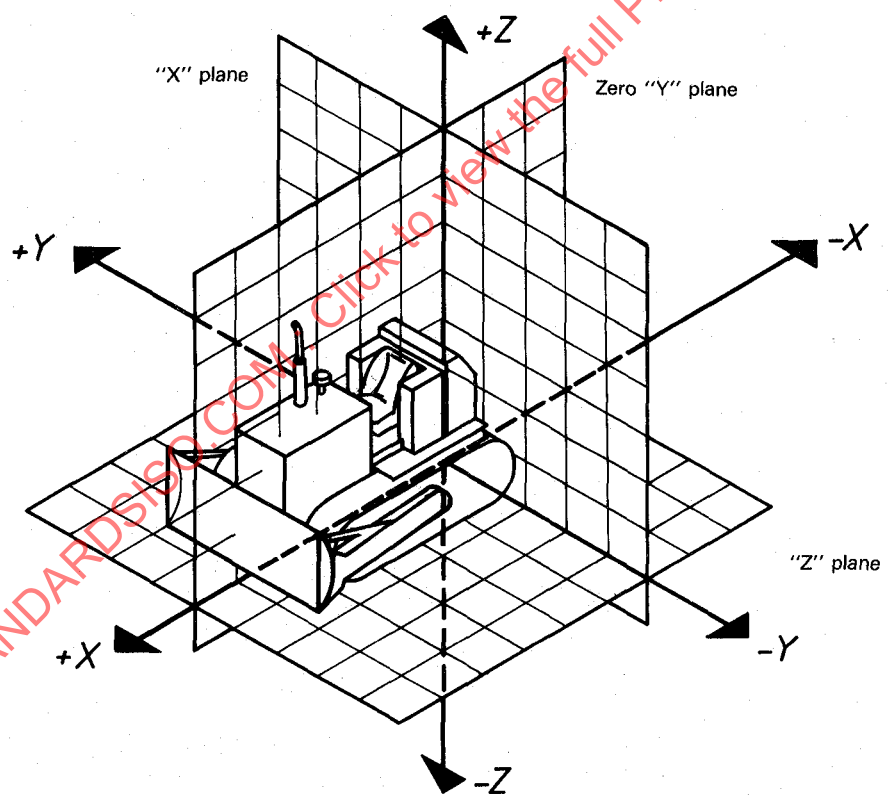


Figure 1 — Three-dimensional reference system

NOTES

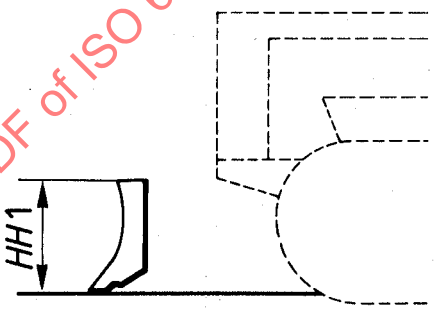
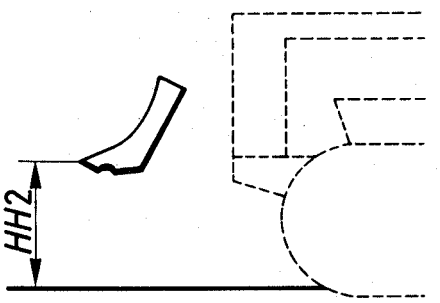
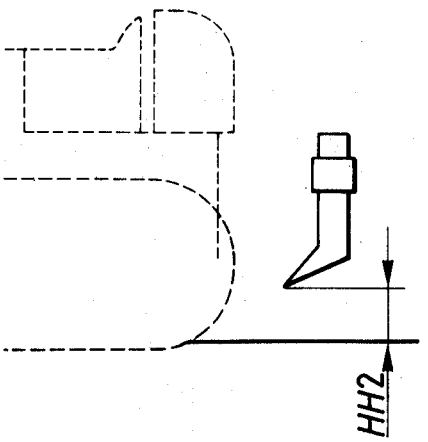
1 The intersection of the *X, Y, Z* axes (zero planes) is normally located at well defined base point (i.e. SIP for a seat; crankshaft centre-line for an engine; sprocket or rear axle centre-line for a tractor; ground line for machine measurements).

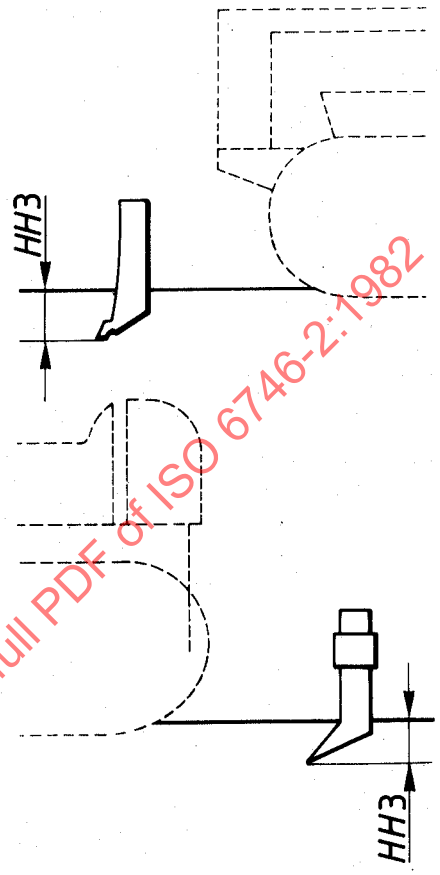
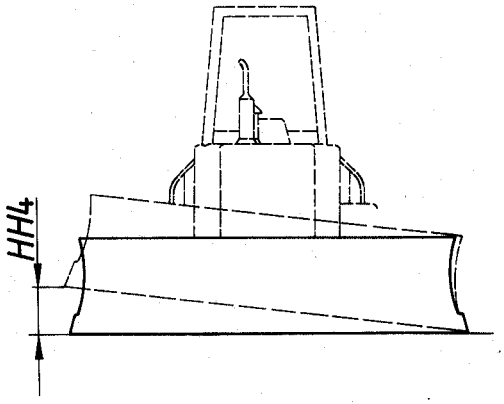
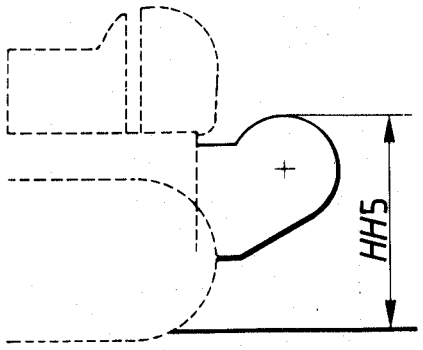
2 If only equipment for a machine (i.e. dozer, ripper) are shown, the location and positive direction of the axis from the intersection of the *X, Y, Z* axes (zero planes) shall assume normally expected orientation of the equipment to a machine (i.e. the dozer cutting edge to the front of the machine, ripper to the rear).

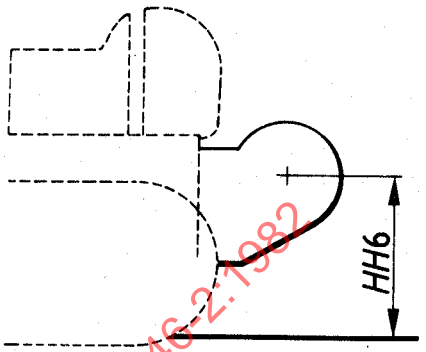
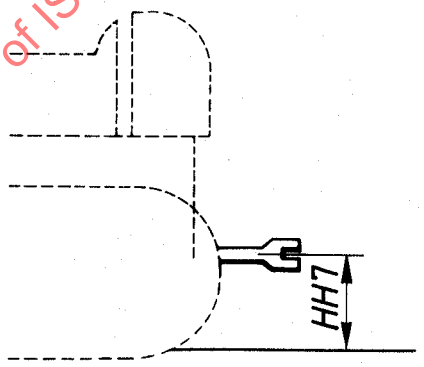
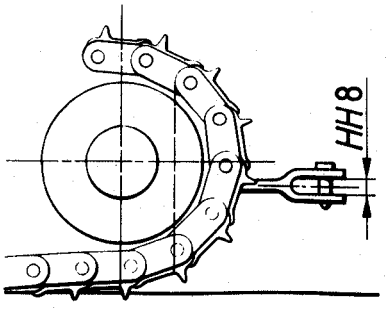
3 If a machine and/or its equipment are shown, a machine driving from right to left shall be shown.

Annex B

Height dimensions — Terms and symbols

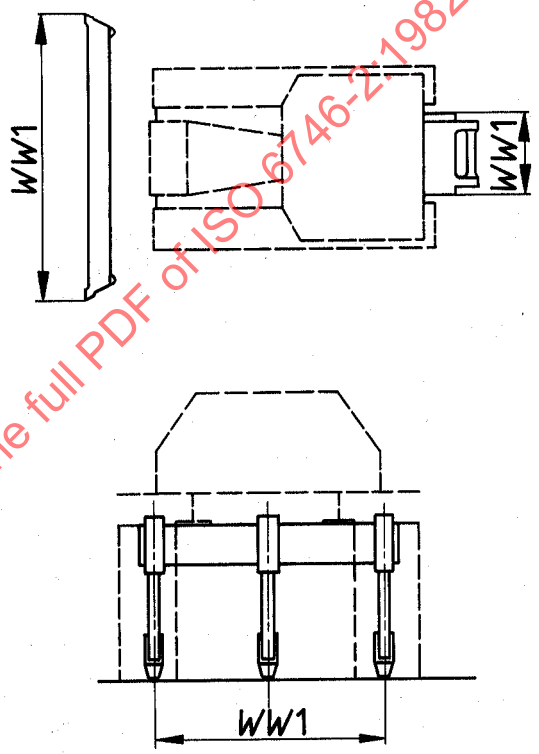
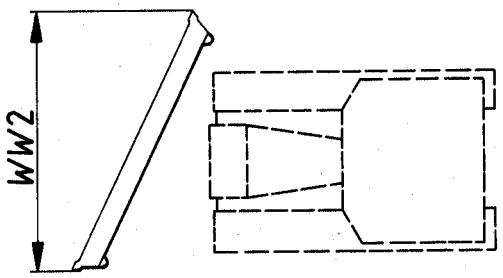
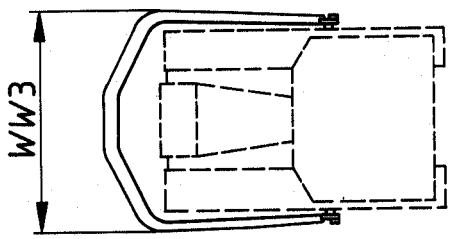
Symbol	Term	Definition	Drawing
*HH*1	Blade height	Distance on "Z" coordinate between GRP and the top of the blade (excluding name plate and spill guard) with the blade on the ground in mid-pitch position with no blade tilt or angle.	
*HH*2	Lift height	Distance on "Z" coordinate between GRP and the centre of the cutting edge (in mid-pitch position with no blade tilt or angle) for blade or the lowest point for the ripper (in mid-pitch position) with the tooth in lifted position.	 

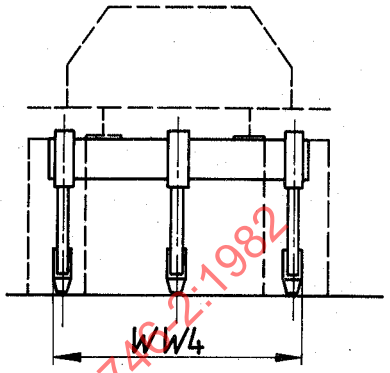
Symbol	Term	Definition	Drawing
HH3	Cutting depth	Distance on "Z" coordinate between GRP and the centre of the cutting edge (in mid-pitch position with no plade tilt or angle) for blade or the lowest point for the ripper with the tooth below ground.	
HH4	Tilt height	Distance on "Z" coordinate between GRP and the end bit. If opposite ends vary, specify both.	
HH5	Winch Maximum height	Distance on "Z" coordinate between the GRP and the highest point of the winch.	

Symbol	Term	Definition	Drawing
*HH*6	Winch Centre of drum height	Distance on "Z" coordinate between the GRP and the centre of drum.	
*HH*7	Drawbar height	Distance on "Z" coordinate between the GRP and the centre-line of the drawbar clevis (fork).	
*HH*8	Clevis width	Distance on "Z" coordinate between two "Z" planes passing through the inside surface of the drawbar clevis (fork).	

Annex C

Width dimensions — Terms and symbols

Symbol	Term	Definition	Drawing
*WW*1	Maximum width	Distance on "Y" coordinate between two "Y" planes passing through the farthest points of the equipment.	
*WW*2	Angle blade width	Distance on "Y" coordinate between two "Y" planes passing through the farthest points of the blade when the blade is at the maximum angle.	
*WW*3	C-frame width	Distance on "Y" coordinate between two "Y" planes passing through the farthest points of the C-frame.	

Symbol	Term	Definition	Drawing
WW4	Shanks working width	Distance on "Y" coordinate between two "Y" planes passing through the outermost points of the teeth of the external shanks.	
WW5	Shanks centre distance	Distance on "Y" coordinate between the centre-line of two adjoining shanks.