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STANDARD

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**7656**

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**Commercial road vehicles — Dimensional  
codes**

*Véhicules routiers utilitaires — Codes dimensionnels*



Reference number  
ISO 7656:1993(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 7656 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Sub-Committee SC 6, *Terms and definitions of dimensions and masses*.

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# Commercial road vehicles — Dimensional codes

## 1 Scope

This International Standard establishes dimensional codes for commercial road vehicles to be used for the exchange of vehicle data and electronic processing.

It applies to commercial road vehicles as defined in ISO 3833.

## 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 612:1978, *Road vehicles — Dimensions of motor vehicles and towed vehicles — Terms and definitions.*

ISO 1176:1990, *Road vehicles — Masses — Vocabulary and codes.*

ISO 3409:1975, *Passenger cars — Lateral spacing of foot controls.*

ISO 3832:1991, *Passenger cars — Luggage compartments — Method of measuring reference volume.*

ISO 3833:1977, *Road vehicles — Types — Terms and definitions.*

ISO 4130:1978, *Road vehicles — Three-dimensional reference system and fiducial marks — Definitions.*

ISO 4131:1979, *Road vehicles — Dimensional codes for passenger cars.*

ISO 6549:1980, *Road vehicles — Procedure for H-point determination.*

## 3 Definitions

For the purposes of this International Standard, the definitions given in ISO 4130 and ISO 4131 and the following definition apply.

**3.1 daylight opening:** Maximum unobstructed opening through any glass aperture, including reveal or garnish-mouldings adjoining the glass, according to a given direction or projection. If not specified, the dimension is the horizontal projection.

## 4 Coding system

Each dimension given in this International Standard is assigned a code, which is composed of three elements, as given in 4.1, 4.2 and 4.3.

### 4.1 Prefix "ISO"

A prefix "ISO" shall be used: it is intended to avoid any confusion with other existing coding systems.

### 4.2 Type of dimension

A capital letter, which denotes the type of dimension, shall be given as follows:

L for length;

H for height;

W for width;

D for diameter;

V for volume.

L, H or W shall also be used for angles according to whether they are along the zero X -, Z - or Y-planes respectively, as defined in ISO 4130:1978, definition 3.1.

### 4.3 Number

A number shall be given as follows:

- from 1 to 99 inclusive for internal dimensions;<sup>1)</sup>
- from 100 to 199 inclusive for external dimensions;<sup>1)</sup>
- from 300 to 399 inclusive for internal dimensions relative to commercial vehicles only;
- from 400 to 499 inclusive for external dimensions relative to commercial vehicles only;

— from 500 to 599 inclusive for cargo dimensions relative to commercial vehicles only.

### 5 External dimensions

External dimensions are defined and allocated a code in table 1. In column 4,

K is the "complete vehicle kerb mass" and

A is the "maximum authorized total mass", both as defined in ISO 1176.

Table 1

No.	Term	Definition	Loading condition	Code	Figure
5.1	vehicle height	See ISO 612:1978, definition 6.3.	K A	ISO-H100 ISO-H113	1
5.2	approach angle	See ISO 612:1978, definition 6.10.	A	ISO-H117	1
5.3	departure angle	See ISO 612:1978, definition 6.11.  NOTE — In some countries, an underride protection device is required by the authorities, which has to be considered when measuring the departure angle.	A	ISO-H118	1
5.4	ramp angle	Minimum acute angle between two planes tangential to the front wheels, static loaded, and to the rear wheels, static loaded, which intersect at a line touching the underside of the vehicle indicating the largest ramp over which the vehicle may be driven.  In the case of more than one rear axle with a single front axle, the rear tangent is to both sets of wheels, with the forward rear axle at maximum upward deflection and the rearmost axle at maximum rebound, as designated by the manufacturer.  In the case of more than one front and more than one rear axle, both planes are tangential to both front and both rear wheels respectively, and may intersect below the vehicle if this represents the largest ramp over which the vehicle can be driven.	A	ISO-H147	1
5.5	ground clearance	See ISO 612:1978, definition 6.8.	A	ISO-H157	1
5.6	height of first step above supporting surface	Distance between the supporting surface and the z-plane touching the top of the first step, or the sill plate bead of the first step if any, measured at the centreline of the first step.	K	ISO-H115	11
5.7	maximum overall height, tilt cab servicing	Vertical distance between the supporting surface and the topmost point of the cab during tilting.	K	ISO-H404	3
5.8	height of chassis above supporting surface, front	See ISO 612:1978, definition 6.12.	A K	ISO-H419 ISO-H420	1
5.9	height of chassis above supporting surface, rear	See ISO 612:1978, definition 6.12.	A K	ISO-H421 ISO-H422	1

1) Code numbers assigned to both passenger cars (see ISO 4131) and commercial vehicles.

No.	Term	Definition	Loading condition	Code	Figure
5.10	height of coupling face	See ISO 612:1978, definition 6.20.	A K	ISO-H423 ISO-H424	2
5.11	height of attachment	See ISO 612:1978, definition 6.18.2.	A K	ISO-H425 ISO-H426	5
5.12	lift	See ISO 612:1978, definition 6.30.	K	ISO-H427	—
5.13	camber angle	See ISO 612:1978, definition 6.24.	K	ISO-H428	—
5.14	kingpin inclination	See ISO 612:1978, definition 6.25.	K	ISO-H429	—
5.15	vertical clearance	See ISO 612:1978, definition 6.29.	A	ISO-H430	—
5.16	vehicle length	See ISO 612:1978, definition 6.1.	—	ISO-L103	4
5.17	wheel space				
5.17.1	motor vehicle or trailer	See ISO 612:1978, definition 6.4.1. NOTE — If the vehicle concerned has more than two axles, the wheel spaces between consecutive wheels are stated from front to rear separated by a dash.	A	ISO-L401	1
5.17.2	semi-trailer	See ISO 612:1978, definition 6.4.2.	A	ISO-L426	—
5.18	front overhang	See ISO 612:1978, definition 6.6.	A	ISO-L405	1
5.19	front bumper to cab tilt servicing position	Distance between two $x$ -planes, one touching the front bumper in the non-tilted position and the other touching the foremost point of the cab in the servicing maximum tilt position.	—	ISO-L408	3
5.20	cab servicing tilt angle	Maximum angle of cab tilted for servicing.	—	ISO-L409	3
5.21	rear overhang	See ISO 612:1978, definition 6.7.	A	ISO-L412	1
5.22	length of chassis behind cab	Distance between two $x$ -planes, one touching the back of the cab and the other touching the rear end of the chassis.	A	ISO-L414	1
5.23	maximum usable length of chassis behind cab	Distance between two $x$ -planes, one touching the foremost point limiting the length of chassis that can be used for body work, the other $x$ -plane touching the rear end of the chassis.	—	ISO-L415	1
5.24	front bumper to back of cab	Distance between two $x$ -planes, one touching the back of cab, and the other the foremost point of the vehicle, including lashing hooks, registration number plate and any parts rigidly attached to the vehicle.	—	ISO-L416	1
5.25	space between cab and the foremost point of the bodywork	Distance between two $x$ -planes, one touching the cab back, and the other the foremost point that can be used for bodywork.	K	ISO-L417	1
5.26	rear wheel centreline to rear end of chassis	Distance between two $x$ -planes, one passing through the rear wheel centrelines and the other touching the rear end of the chassis.	K	ISO-L418	1
5.27	fifth wheel lead for calculation of load distribution	See ISO 612:1978, definition 6.19.2.	K	ISO-L433	2
5.28	fifth wheel coupling pin to front end of towing vehicle	See ISO 612:1978, definition 6.21.2.	K	ISO-L434	2

No.	Term	Definition	Loading condition	Code	Figure
5.29	<b>fifth wheel coupling pin to cab</b>	Vertical projection of the distance between the centre of the fifth wheel coupling pin and the nearest obstacle behind the cab, measured on the z-plane touching the fifth wheel seating surface, taken as a radial dimension.	—	ISO-L435	2
5.30	<b>fifth wheel coupling pin to the furthest obstacle on the towing vehicle</b>	Vertical projection onto a z-plane of the distance between the centre of the fifth wheel coupling pin and the furthest obstacle at rear of the towing vehicle, taken as a radial dimension.	—	ISO-L422	2
5.31	<b>distance between towing device and front end of the towing vehicle</b>	See ISO 612:1978, definition 6.21.1.	—	ISO-L423	5
5.32	<b>overhang of attachment</b>	See ISO 612:1978, definition 6.18.1.	A	ISO-L424	5
5.33	<b>distance of towing attachment in front of rear of vehicle</b>	See ISO 612:1978, definition 6.18.3.	—	ISO-L425	5
5.34	<b>kingpin offset</b>	See ISO 612:1978, definition 6.26.	K	ISO-L427	—
5.35	<b>castor</b>	See ISO 612:1978, definition 6.28.	K	ISO-L428	—
5.36	<b>drawgear length</b>	See ISO 612:1978, definition 6.16.	A	ISO-L429	—
5.37	<b>drawbar length</b>	See ISO 612:1978, definition 6.17.	—	ISO-L430	—
5.38	<b>rear tractor clearance radius of semi-trailer</b>	See ISO 612:1978, definition 6.22.	—	ISO-L431	—
5.39	<b>front fitting radius of semi-trailer</b>	See ISO 612:1978, definition 6.23.	—	ISO-L432	—
5.40	<b>vehicle width</b>	See ISO 612:1978, definition 6.2.	—	ISO-W103	4
5.41	<b>body width</b>	Distance between two y-planes touching the widest points of the body, measured at the front wheel centreline x-plane.	—	ISO-W106	1
5.42	<b>track front</b>	See ISO 612:1978, definition 6.5. NOTE — If the vehicle has more than one front axle, all tracks are stated separated by a dash, the first being the foremost track.	A	ISO-W401	1
5.43	<b>track rear</b>	See ISO 612:1978, definition 6.5. NOTE — If the vehicle has more than one rear axle, all tracks are stated separated by a dash, the first being the foremost rear track.	A	ISO-W402	1
5.44	<b>tyre outermost side walls width</b>	Distance between two y-planes touching the outermost side walls of the tyres. This dimension does not include the deflected part of the tyre walls immediately above the point of contact with the ground.	—	ISO-W403	1
5.45	<b>distance between centrelines of springs, front</b>	Distance between the y-planes passing through the centrelines of the springs at the front spring fixing points. NOTE — In the case of vehicles with more than one front axle with separate springs, all spring distances are stated separated by a dash, the first being the foremost one.	—	ISO-W404	1

No.	Term	Definition	Loading condition	Code	Figure
5.46	<b>distance between centrelines of springs, rear</b>	Distance between the y-planes passing through the centrelines of the springs at the rear spring fixing points.  NOTE — In the case of vehicles with more than one rear axle with separate springs, all spring distances are stated separated by a dash, the first being the foremost one.	—	ISO-W405	1
5.47	<b>frame width, rear</b>	Distance between the y-planes touching the outermost points of the longitudinal frame members, excluding any attached parts.	—	ISO-W406	2
5.48	<b>tumble-home</b>	Angle measured from a y-plane passing through the lower daylight opening to the outside surface of the door glass, measured at the R-point x-plane.  Angle measured from a y-plane passing through the lower daylight opening to a chord line extending from the upper daylight opening, at the outside surface of the door glass, measured at the R-point x-plane.	—	ISO-W122	12
5.48.1	<b>flat side glass</b>				
5.48.2	<b>curved side glass</b>				
5.49	<b>toe-in</b>	See ISO 612:1978, definition 6.27.1.	K	ISO-W407	—
5.50	<b>turning circle</b>	Smaller diameter as in ISO 612:1978, definition 6.31.	A	ISO-D101	—
5.51	<b>turning clearance circles</b>	See ISO 612:1978, definition 6.32.  NOTE — The values of the inner and the outer turning clearance are stated separated by a dash, the first being the smaller one.	A	ISO-D102	—

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## 6 Internal dimensions

Internal dimensions are defined and allocated a code in table 2. Unless otherwise specified all dimensions measured from the R-point relate to the R-point of the driver's seat. All references to  $x$ -,  $y$ -, and  $z$ -planes are

understood to be parallel to their respective zero  $X$ -,  $Y$ -, and  $Z$ -planes, defined in ISO 4130. All measurements are parallel to  $x$ -,  $y$ -, and  $z$ -planes, unless otherwise stated.

NOTE 1 Footnotes are given at the end of the table.

**Table 2**

No.	Term	Definition	Loading condition	Code	Figure
6.1	<b>entrance height, front</b>	Distance between the R-point, front, and the upper trimmed body opening, in the $x$ -plane passing through the R-point, front.	—	ISO-H11 <sup>1)</sup>	6
6.2	<b>belt height, front</b>	Distance between the R-point, front, and the bottom of the side window daylight opening, in the $x$ -plane passing through the R-point, front.	—	ISO-H25 <sup>1)</sup>	7
6.3	<b>vertical distance from R-point, front to heel point, front</b>	Distance from the R-point, front, to the $z$ -plane passing through the heel point, front, B <sup>2)</sup> . NOTE — The heel point, front, B is defined by the manufacturer.	—	ISO-H30 <sup>1)</sup>	6
6.4	<b>maximum seat height adjustment</b>	Distance between two $z$ -planes passing through the reference points of the seat in the lowest and highest seating positions.	—	ISO-H58	9
6.5	<b>normal seat height adjustment</b>	Distance between two $z$ -planes one passing through the R-point, the other passing through the reference point of the seat in its highest normal driving position as defined by the manufacturer.	—	ISO-H59	9
6.6	<b>Z -coordinate of R-points, front</b>	Distance from the zero $Z$ -plane to the R-points of the front seats. NOTE — The values of left and right R-point coordinates are stated separated by a dash, the first one corresponding to the driver's seat.	—	ISO-H70 <sup>1)</sup>	6
6.7	<b>steering-wheel to seat</b>	Minimum dimension measured between the steering-wheel rim with the front wheels in the straight-ahead position, and the undepressed seat cushion. The dimension measured is on the $y$ -plane of the steering-wheel centre. NOTE — If the steering wheel is adjustable in angle and/or axially, the values for the extreme positions are stated, separated by a dash, the first being the minimum value.	—	ISO-H74	6
6.8	<b>Z -coordinate of the lowest seat reference point</b>	Distance from the zero $Z$ -plane to the reference point of the seat in its lowest position as defined by the manufacturer.	—	ISO-H91	9
6.9	<b>vertical distance from R-point, front, to steering-wheel centre</b>	Distance from the R-point, front, to the $z$ -plane passing through the steering-wheel centre, located on the upper surface of the steering-wheel rim. NOTE — If the steering wheel is adjustable in angle and/or axially, the values for the extreme positions are stated, separated by a dash, the first being the minimum value.	—	ISO-H93 <sup>1)</sup>	6
6.10	<b>engine cover height</b>	Distance between two $z$ -planes one passing through the heel point, front, B <sup>2)</sup> , the other touching the top of the engine cover.	—	ISO-H311	10

No.	Term	Definition	Loading condition	Code	Figure
6.11	<b>seat cushion height</b>	Distance between two z-planes, one touching the top of the undepressed seat cushion, and the other passing through the heel point, front B <sup>2)</sup> measured in the centre-plane of the occupant (C/LO) <sup>3)</sup> .	—	ISO-H326	10
6.12	<b>vertical distance, lower bunk-berth to R-point</b>	Distance between the R-point and the z-plane touching the top of the undepressed lower bunk-berth mattress, measured at the zero Y-plane.  NOTE — In the case of a lower bunk-berth below the R-point, the dimension has a minus value.	—	ISO-H361	10
6.13	<b>height above upper bunk-berth</b>	Distance between two z-planes, one touching the top of the undepressed upper bunk-berth mattress, and the other touching the lowest point of the head-lining or other obstruction, measured at the x-plane through the centre of the bunk-berth under consideration and at the zero Y-plane.	—	ISO-H362	10
6.14	<b>height above lower bunk-berth</b>	Distance between two z-planes, one touching the top of the undepressed lower bunk-berth mattress, and the other touching the lowest point of the undepressed upper bunk-berth, measured at the zero Y-plane.  NOTES  1 Should any obstruction above the bunk-berth under consideration give a smaller dimension than that already defined, then the lowest dimension is quoted in brackets after the main dimension. This lower dimension is stated by the manufacturer.  2 If only one bunk-berth is provided, the measurement is taken as specified in the definition for ISO-H362 (see 6.13).	—	ISO-H363	10
6.15	<b>height from R-point to head-lining</b>	Distance from the R-point to the undepressed head-lining or other obstruction, measured at the x-plane passing through this R-point.	—	ISO-H396	10
6.16	<b>height of second step above supporting surface</b>	Distance between the supporting surface and the z-plane touching the top of the second step, or the sill plate bead of the second step if any, measured in the centreline of the second step.	K	ISO-H397	11
6.17	<b>height of cabin floor above supporting surface</b>	Distance between the supporting surface and the z-plane touching the cabin floor at the lower door opening, or the sill plate bead of the lower door opening if any, measured in the centreline of the lower door opening.	K	ISO-H398	11
6.18	<b>inclined height from R-point to head-lining</b>	Distance from the R-point to the undepressed head-lining or other obstruction measured along a line in the y-plane and at a rearward angle of 8° to the zero X-plane.	—	ISO-H399	10
6.19	<b>cushion depth, front</b>	Distance from the R-point, front, to the front edge of the undepressed front seat cushion.	—	ISO-L10 <sup>1)</sup>	6
6.20	<b>total seat track travel</b>	Distance between two x-planes passing through the reference points of the seat in the foremost and rearmost driving positions.	—	ISO-L17	9
6.21	<b>steering-wheel to seat back</b>	Distance between the steering-wheel rim, with the front wheels in the straight-ahead position, and the nearest point of the undepressed seat back.  NOTE — If the steering-wheel is adjustable in angle and/or axially, the values for the extreme positions are stated, separated by a dash, the first being the minimum value.	—	ISO-L22	11

No.	Term	Definition	Loading condition	Code	Figure
6.22	<b>normal driving and riding seat track travel</b>	Distance between two $x$ -planes, one passing through the R-point, front, the other passing through the reference point of the driver's seat moved to the foremost driving and riding position, where these two points are defined by the manufacturer.	—	ISO-L23 <sup>1)</sup>	9
6.23	<b>steering-wheel angle</b>	Angle between the upper surface of the steering-wheel rim and an $x$ -plane.  NOTE — If the steering wheel is adjustable in angle and/or axially, the values for the extreme positions are stated separated by a dash the first being the minimum value.	—	ISO-L25 <sup>1)</sup>	6
6.24	<b><math>X</math> -coordinate of R-point</b>	Distance from the zero $X$ -plane to the R-point of the front seats.  NOTE — The values of left and right R-point coordinates are stated, separated by a dash, the first one corresponding to the driver's seat.	—	ISO-L31 <sup>1)</sup>	6
6.25	<b><math>X</math> -coordinate of the rearmost seat reference point</b>	Distance between the zero $X$ -plane and the reference point of the seat in its rearmost driving position.	—	ISO-L37	9
6.26	<b>back angle, front</b>	Angle between the zero $X$ -plane and the torso line passing through the R-point, front.  NOTE — The torso line is defined by the manufacturer.	—	ISO-L40 <sup>1)</sup>	6
6.27	<b>displacement between service braking control and accelerator pedal</b>	Distance between two planes, perpendicular to the zero $Y$ -planes, parallel to the segment AB, and lying respectively on the centre of the service braking control face and on the centre of the accelerator pedal face, with the control and pedal in their normal rest positions.  NOTE — When the service braking control is lower than the accelerator pedal, the measured dimension is shown as a minus value.	—	ISO-L52 <sup>1)</sup>	6
6.28	<b>horizontal distance from R-point, front, to heel point, front</b>	Distance from the R-point, front, to the $x$ -plane passing through the heel point, front, B.  NOTE — The heel point, front, B, is defined by the manufacturer.	—	ISO-L53 <sup>1)</sup>	6
6.29	<b>horizontal distance from R-point, front, to steering-wheel centre</b>	Distance from the R-point, front, to the $x$ -plane passing through the steering-wheel centre and located on the upper surface of the steering-wheel rim.  NOTE — If the steering-wheel is adjustable in angle and/or axially, the values of the extreme positions are stated, separated by a dash, the first being the minimum value.	—	ISO-L63 <sup>1)</sup>	6
6.30	<b>engine cover rear to R-point</b>	Distance between the R-point and the $x$ -plane at the rear of the engine cover.  NOTE — When the rear of the engine cover is rearward of the R-point, then the dimension has a minus value.	—	ISO-L310	10
6.31	<b>engine cover front to R-point</b>	Distance between the R-point and the $x$ -plane at the front of the engine cover.  NOTE — When the front of the engine cover is rearward of the R-point, then the dimension has a minus value.	—	ISO-L311	10

No.	Term	Definition	Loading condition	Code	Figure
6.32	<b>distance between service braking control and steering-wheel</b>	Distance between the projections, onto the zero <i>Y</i> -plane, of the centre of the undepressed service braking control and the lowest point of the steering-wheel rim.  NOTE — If the steering-wheel is adjustable, the measurement is made in the mid-position.	—	ISO-L313	11
6.33	<b>front wheel centreline to R-point</b>	Distance between the R-point and the <i>x</i> -plane passing through the front wheel centrelines, to be measured at a loading condition as specified by the manufacturer.  NOTE — If the front wheel centreline is rearward of the R-point, then the dimension has a minus value.	K	ISO-L314	10
6.34	<b>free space behind R-point</b>	Distance between the R-point and the <i>x</i> -plane touching the nearest obstacle behind the seat. This measurement is the minimum dimension achieved within the range of 0 to 700 mm above the R-point, and 300 mm either side of the R-point.	—	ISO-L360	10
6.35	<b>horizontal distance from R-point to lower bunk-berth</b>	Distance between the R-point and the <i>x</i> -plane touching the foremost point of the lower bunk-berth structure measured on the zero <i>Y</i> -plane.	—	ISO-L361	10
6.36	<b>horizontal distance from R-point to upper bunk-berth</b>	Distance between the R-point and the <i>x</i> -plane touching the foremost point of the upper bunk-berth structure measured on the zero <i>Y</i> -plane.	—	ISO-L362	10
6.37	<b>width of lower bunk-berth</b>	Distance between the two <i>z</i> -planes touching the foremost and rearmost points of the undepressed lower bunk-berth mattress, measured on the zero <i>Y</i> -plane.	—	ISO-L364	10
6.38	<b>width of upper bunk-berth</b>	Distance between the two <i>x</i> -planes touching the foremost and rearmost points of the undepressed upper bunk-berth mattress, measured on the zero <i>Y</i> -plane.	—	ISO-L365	10
6.39	<b>knee clearance, driver</b>	Minimum radial distance between the R-point and the limiting interferences of the dashboard, measured in the area limited by two <i>y</i> -planes 225 mm each side of the steering-wheel centreline and two <i>z</i> -planes 75 mm above and below the R-point. This excludes steering columns, stalk controls and column-mounted shroud.	—	ISO-L366	11
6.40	<b>position of steering-wheel centre with respect to zero <i>Y</i>-plane</b>	Distance from the steering-wheel centre, located on the upper surface of the steering-wheel rim, to the zero <i>Y</i> -plane.	—	ISO-W7 <sup>1)</sup>	8
6.41	<b>cushion width, front</b>	Distance between two <i>y</i> -planes touching the trimmed width of the undepressed front seat cushion at the outermost point on each side.	—	ISO-W16 <sup>1)</sup>	8
6.42	<b><i>Y</i>-coordinate of R-points, front</b>	Distance from the zero <i>Y</i> -plane to the R-points of the front seats.  NOTE — The values of left and right R-point coordinates are stated, separated by a dash, the first one corresponding to the driver's seat.	—	ISO-W20 <sup>1)</sup>	8
6.43	<b>radius of curvature of side glass</b>	Radius of curvature of the side window, measured in the <i>x</i> -plane passing through the R-point, front.	—	ISO-W41 <sup>1)</sup>	7
6.44	<b><i>Y</i>-coordinate of R-point of the passenger's seat</b>	Distance from the zero <i>Y</i> -plane to the R-point(s) of the passenger's seat(s).  NOTE — Where two passenger seats are fitted the <i>Y</i> -coordinates of both R-points are stated by the manufacturer.	—	ISO-W87	8

No.	Term	Definition	Loading condition	Code	Figure
6.45	<b>engine cover width, left</b>	Distance between the zero Y-plane and the extreme left-hand part of the engine cover.	—	ISO-W300	8
6.46	<b>engine cover width, right</b>	Distance between the zero Y-plane and the extreme right-hand part of the engine cover.	—	ISO-W301	8
6.47	<b>interior cabin width</b>	Distance between the surfaces touching the nearest obstacles, measured in the x-plane through the R-point at 254 mm above the R-point.  NOTE — If arm-rests interfere within this zone, they are ignored.	—	ISO-W303	7
6.48	<b>hip room, driver</b>	Minimum distance between the surfaces of the nearest obstacles measured in the x-plane passing through the R-point, in the zone located 25 mm below and 76 mm above the R-point, and 76 mm forward and rearward of that point.  NOTE — If the nearest obstacle to the centreline of the seat is less than 350 mm, it shall be stated.	—	ISO-W305	7
6.49	<b>elbow room, driver</b>	Minimum distance between the surfaces of the nearest obstacles, measured in the x-plane passing through the R-point immediately above the arm-rests or, if no arm-rests are fitted, 180 mm above this R-point.  NOTE — The radius between the trimmed surfaces and the arm-rests may be ignored. If the nearest obstacle to the centreline of the seat is less than 350 mm, it is to be stated.	—	ISO-W331	7
6.50	<b>length of lower bunk-berth</b>	Distance between the y-planes touching the outermost points of the undepressed lower bunk-berth mattress, measured in the x-plane through the centreline of the lower bunk-berth.	—	ISO-W361	8
6.51	<b>length of upper bunk-berth</b>	Distance between the y-planes touching the outermost points of the undepressed upper bunk-berth mattress, measured in the x-plane through the centreline of the upper bunk-berth.	—	ISO-W362	8
6.52	<b>steering-wheel diameter</b>	Outside diameter of the steering-wheel.  NOTE — If the steering-wheel is not circular, the extreme dimensions are stated, separated by a dash, the first being the minimum value.	—	ISO-D9 <sup>1)</sup>	8

1) Code is also given in ISO 4131.  
 2) See ISO 3409.  
 3) See ISO 6549:1980, subclause 4.4.

## 7 Cargo dimensions

Cargo dimensions are defined and allocated a code in table 3.

**Table 3**

No.	Term	Definition	Loading condition	Code	Figure
7.1	<b>rear opening height</b>	Vertical dimension from the top of the undepressed floor or the cargo floor covering to the upper trimmed opening, measured in the zero <i>Y</i> -plane with the rear door fully opened and inclusive of doors, strikers and standard fittings.	—	ISO-H511	13
7.2	<b>rear cargo floor height</b>	Vertical distance between the supporting surface and the top of the undepressed floor covering or cargo floor measured in the zero <i>Y</i> -plane.	K	ISO-H502	13
7.3	<b>pick-up or float body height</b>	Minimum dimension measured vertically from the top of the cargo floor to the top of the pick-up or float body at the rear wheel <i>x</i> -coordinate.	—	ISO-H503	15
7.4	<b>height of wheel arch</b>	Vertical distance between a <i>z</i> -plane touching the top of the wheel house and the undepressed floor covering or top of cargo floor, including wheel house trim where fitted.	—	ISO-H504	15
7.5	<b>maximum cargo height</b>	Maximum vertical dimension rear of the front seat measured from the top of the undepressed floor covering or the cargo floor to the roof bow or head-lining in the zero <i>Y</i> -plane.	—	ISO-H505	13
7.6	<b>side cargo door opening height</b>	Vertical dimension from the top of the undepressed floor covering or the cargo floor to the upper side trim opening measured in the <i>x</i> -plane passing through the centre of the door opening with the door fully opened.	—	ISO-H508	13
7.7	<b>cargo body height</b>	Vertical distance between two <i>z</i> -planes, one passing through the lowermost point of the cargo body and the other passing through the topmost point of the cargo body, excluding any closing devices and hardware, measured at the zero <i>Y</i> -plane.	—	ISO-H509	4
7.8	<b>interior cargo body height</b>	Vertical distance of the inside of the cargo body floor and the inside of the cargo body roof, measured at the zero <i>Y</i> -plane; in the case of an open-top body, the topmost point of its side walls is taken instead.	—	ISO-H510	4
7.9	<b>side cargo step height</b>	Distance between the supporting surface and the <i>z</i> -plane touching the top of the step, tread-plate or finisher if any, measured on the centre of the step.	K	ISO-H550	13
7.10	<b>side cargo floor height</b>	Vertical distance between the supporting surface and the top of the undepressed floor covering or cargo floor measured in the <i>x</i> -plane passing through the centre of the door opening.	K	ISO-H551	13
7.11	<b>cargo length at belt</b>	Minimum horizontal distance from the inside limiting interference on the closed rear door or tail-board to the <i>x</i> -plane touching the limiting obscuration and the forward end of the load compartment such as driver's seat back, bulkheads or cab rear panel, measured at belt height or level with the top of pick-up or float body.	—	ISO-L502	13, 15
7.12	<b>side cargo door opening width</b>	Minimum projected dimension, measured in the <i>y</i> -plane at floor level between the limiting interferences, with the side door in maximum hold open position.  NOTE — The van dimension includes all intrusions such as bulkheads where fitted on front seats.	—	ISO-L508	13, 15

No.	Term	Definition	Loading condition	Code	Figure
7.13	<b>cargo body length</b>	Longitudinal distance of the cargo body overall length, measured at the zero <i>Y</i> -plane, excluding any closing devices and hardware.	—	ISO-L513	4
7.14	<b>front of vehicle to cargo body</b>	Distance between two <i>x</i> -planes, one touching the foremost point of the vehicle body and the other touching the foremost point of the cargo body, excluding any closing device and hardware.  NOTE — This dimension is not intended for use with semi-trailers or articulated vehicles.	—	ISO-L514	4
7.15	<b>centre of gravity of cargo body to rear wheel centreline</b>	Distance between two transverse planes perpendicular to the supporting surface, one plane passing through the geometric centre of the cargo body and the other passing through the axis of the rearmost wheels.  NOTE — This dimension is not intended for use with semi-trailers or articulated vehicles.	A	ISO-L515	4
7.16	<b>distance between cab and rear axle</b>	Distance between two <i>x</i> -planes, one touching the back of cab and the other passing through the centreline of the first rear axle.	K	ISO-L516	4
7.17	<b>interior cargo body length</b>	Longitudinal distance from the inside of the cargo body front wall and the inside of the cargo body rear wall, that can be used for the cargo transport, measured at the zero <i>Y</i> -plane.	—	ISO-L517	4
7.18 7.18.1  7.18.2	<b>cargo length at floor</b> <b>van</b>  <b>pick-up float</b>	Length measured on the zero <i>Y</i> -plane of a module 100 mm high and 600 mm wide lying on the cargo floor surface, which touches any limiting interferences in the area of the front seats, such as seat mounting brackets, supporting tubes, braking levers, bulkheads or similar structures with the exception of the seat belt fittings. This module will extend rearwards to touch the closed rear cargo inner surface. If the floor is not in one plane, this should be indicated.  Module may be used as for vans, but will extend between the limiting interference at front of float or cab rear, and the inner surface of the tail-board.  NOTE — A combination of unit modules as defined in ISO 3832 may be used to simulate this module.	—	ISO-L550	14
7.19	<b>length of wheel arch</b>	Maximum distance between the <i>x</i> -plane touching the front and the rear of the wheel arch, including wheel arch trim where fitted.	—	ISO-L551	15
7.20	<b>cargo width at wheel arch</b>	Minimum dimension in the <i>x</i> -plane between the wheel arch at floor level, including trim where fitted.	—	ISO-W506	13, 15
7.21	<b>rear opening width at floor</b>	Minimum dimension between limiting interferences of the door trimmed opening measured in the <i>x</i> -plane at floor level with doors in the maximum hold open position, including obscuration caused by doors where applicable.	—	ISO-W503	13
7.22	<b>rear opening width belt</b>	Minimum dimension between limiting interferences of the door opening at belt height or the top of a pick-up float, measured in the <i>x</i> -plane and including hold-open devices such as gas springs, where standard fittings, with doors in the maximum hold-open position and including obscuration caused by doors where applicable.	—	ISO-W504	13, 15

No.	Term	Definition	Loading condition	Code	Figure
7.23	<b>rear opening width upper</b>	Horizontal dimension measured in the $x$ -plane between the projected intersection points between the upper and side trimmed door openings and including obscuration caused by door where applicable.	—	ISO-W505	13
7.24	<b>cargo width at floor</b>	Maximum distance measured in the $x$ -plane between limiting interferences at floor level. This dimension includes ribs and pillars but excludes the wheel arch.	—	ISO-W500	15
7.25	<b>cargo body width</b>	Distance between two $y$ -planes touching the outermost points of the cargo body sides, excluding any closing devices and hardware.	—	ISO-W501	4
7.26	<b>interior cargo body width</b>	Transverse distance of the insides of the cargo body side walls that can be used for cargo transport.	—	ISO-W502	4

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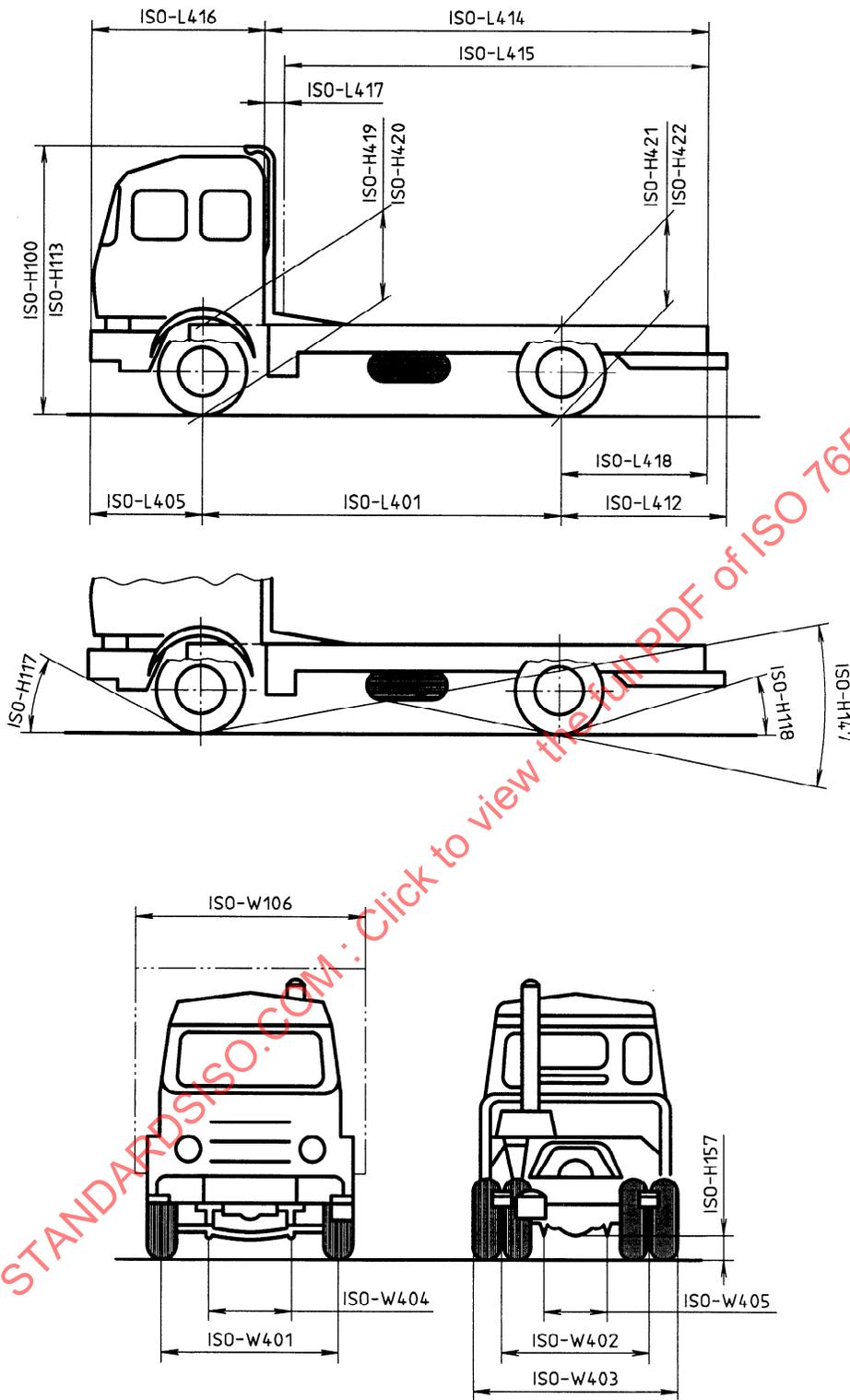


Figure 1

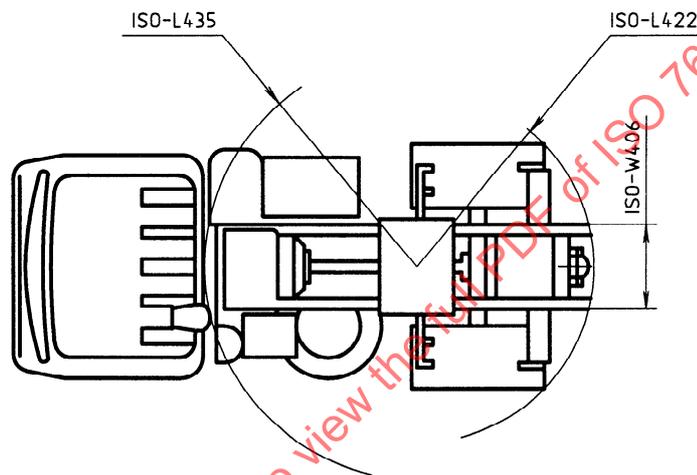
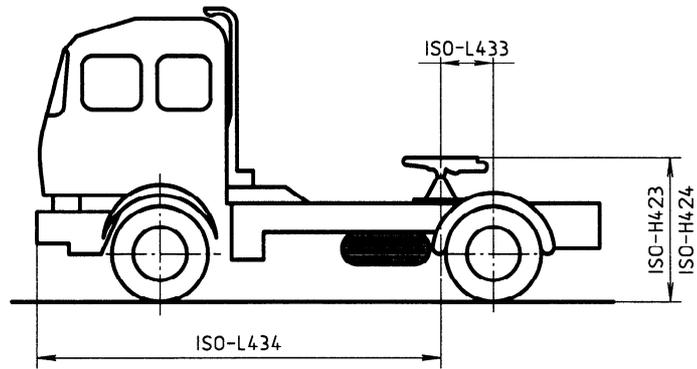


Figure 2

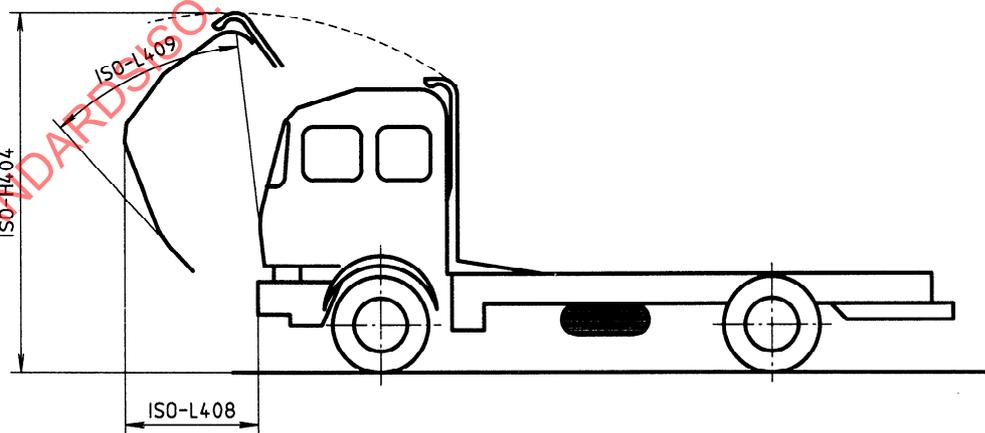


Figure 3

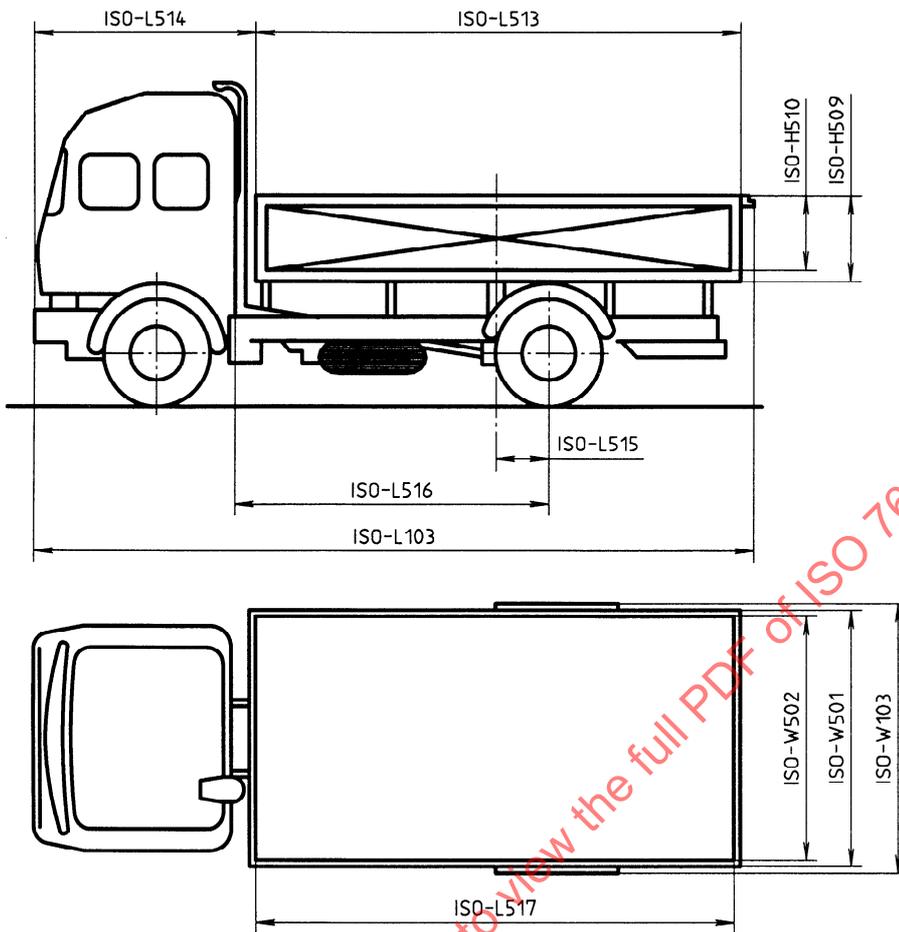


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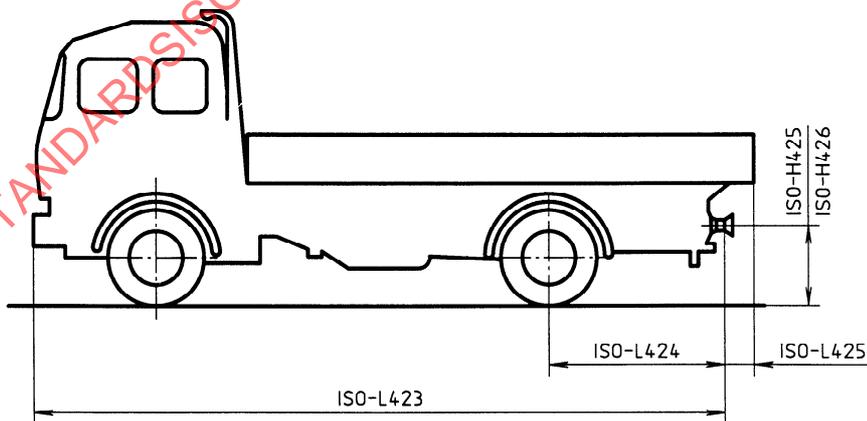


Figure 5



Dimensions in millimetres

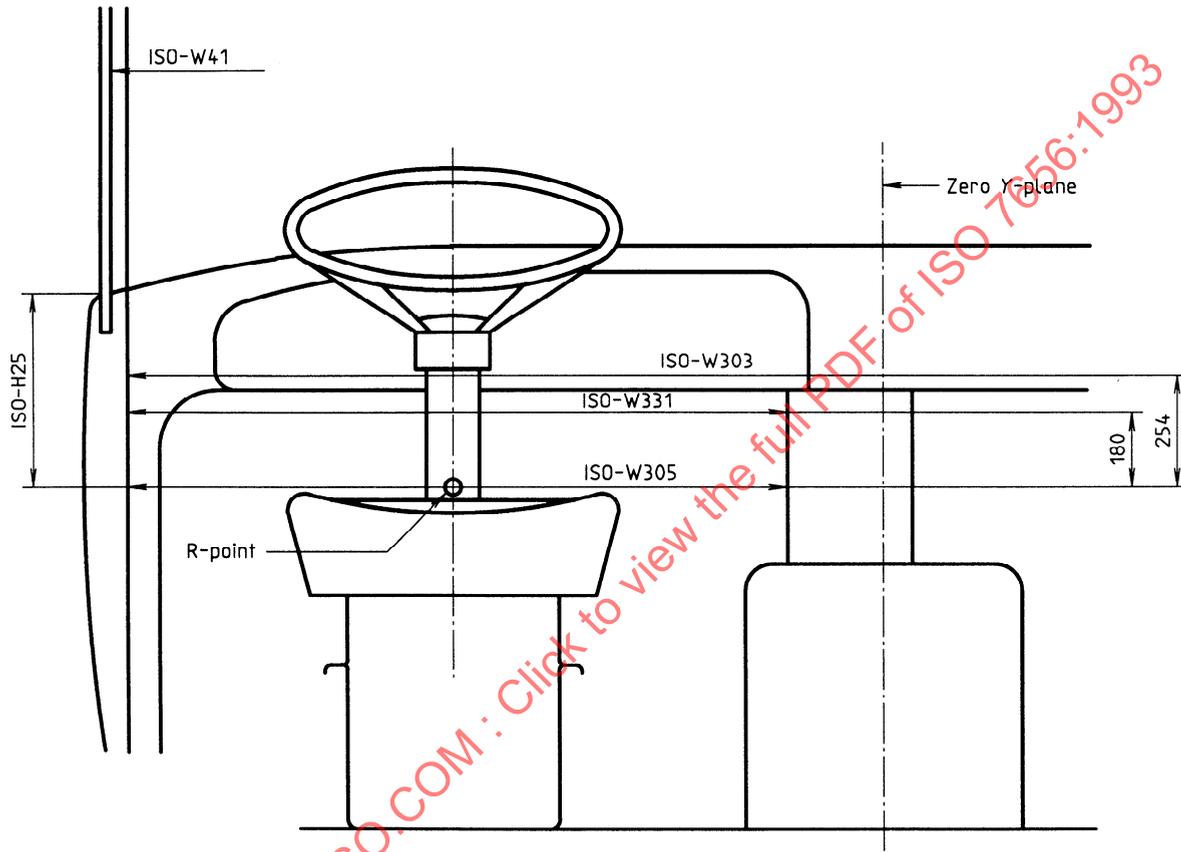


Figure 7

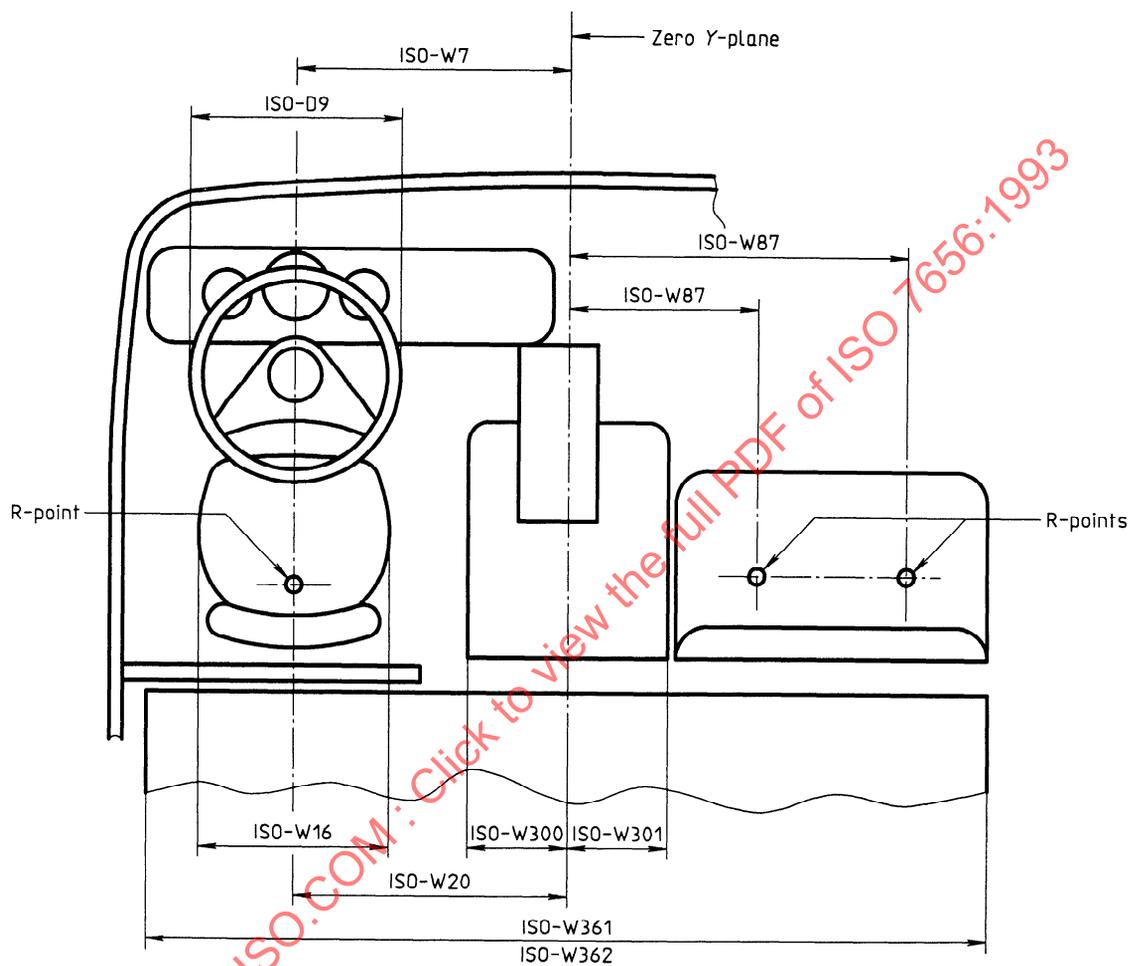
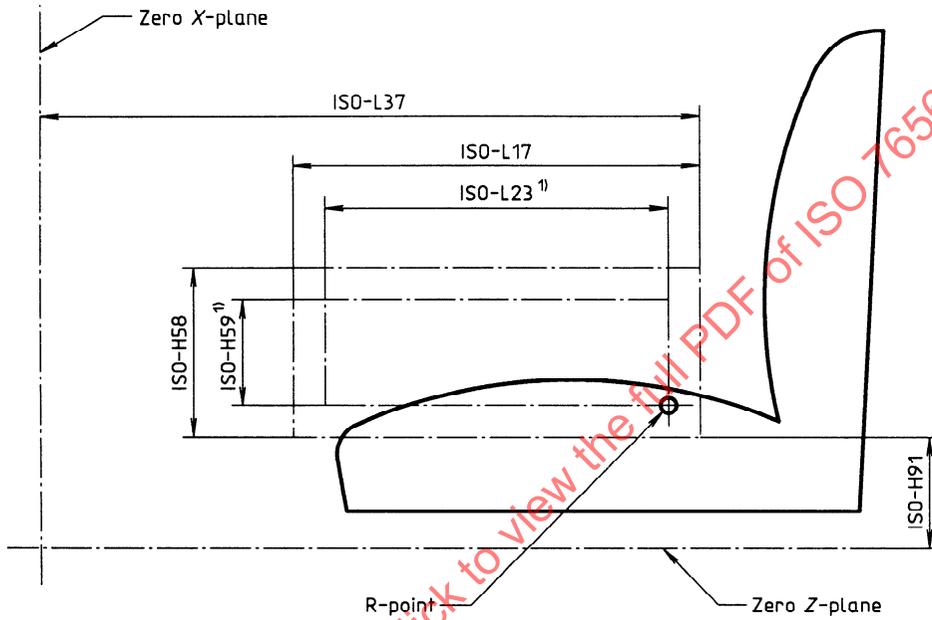


Figure 8



1) Normal dimensions of seat adjustment.

Figure 9

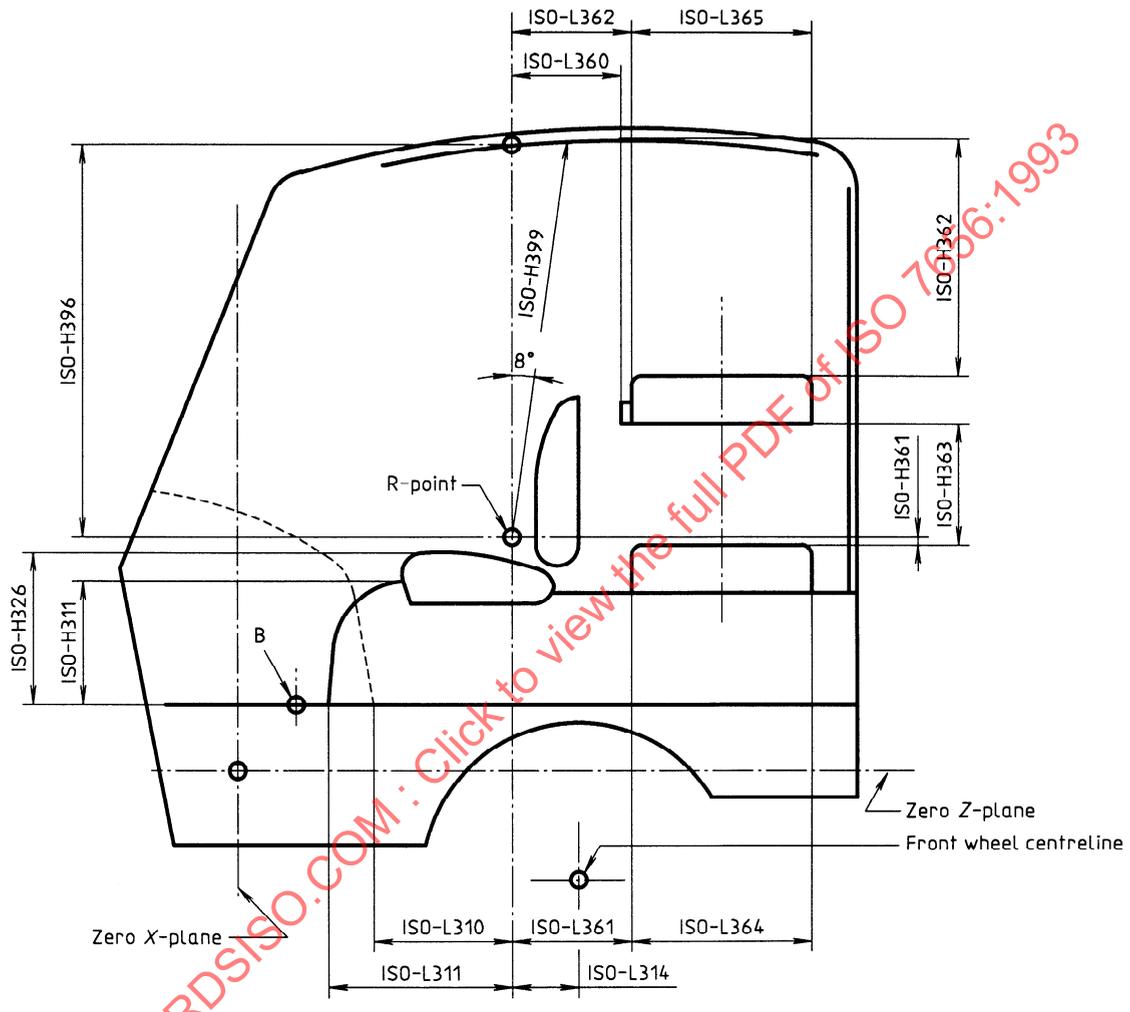


Figure 10

Dimensions in millimetres

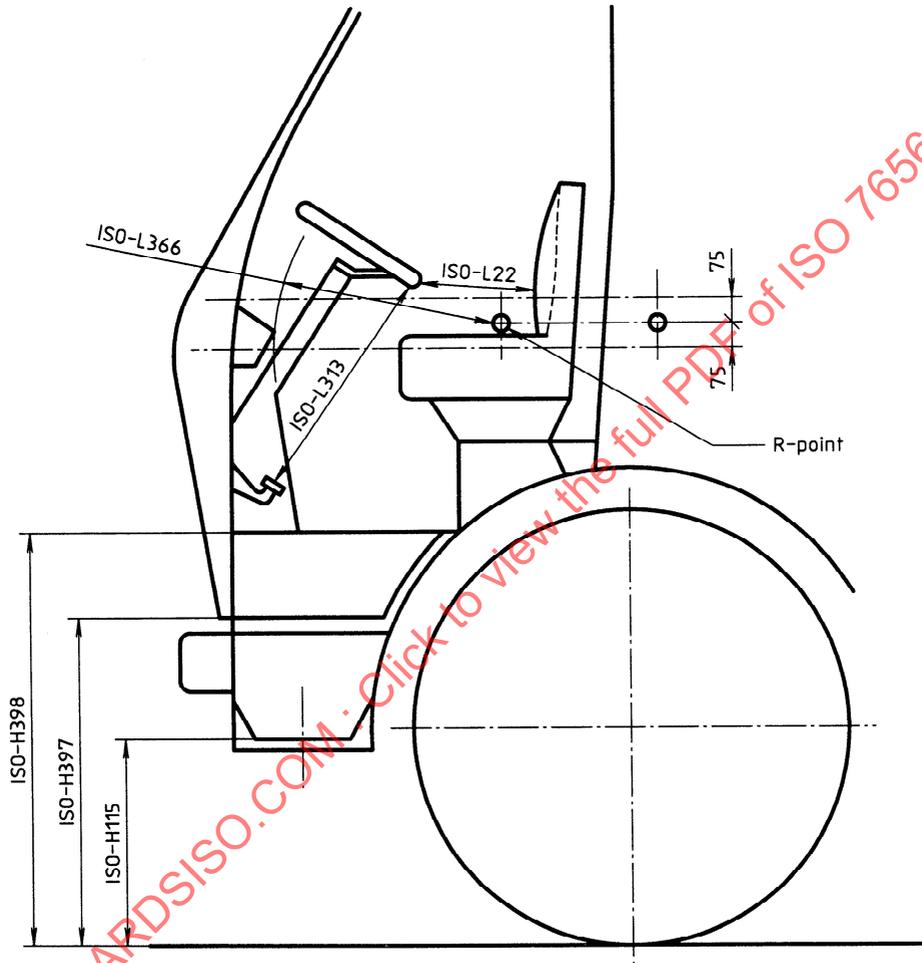


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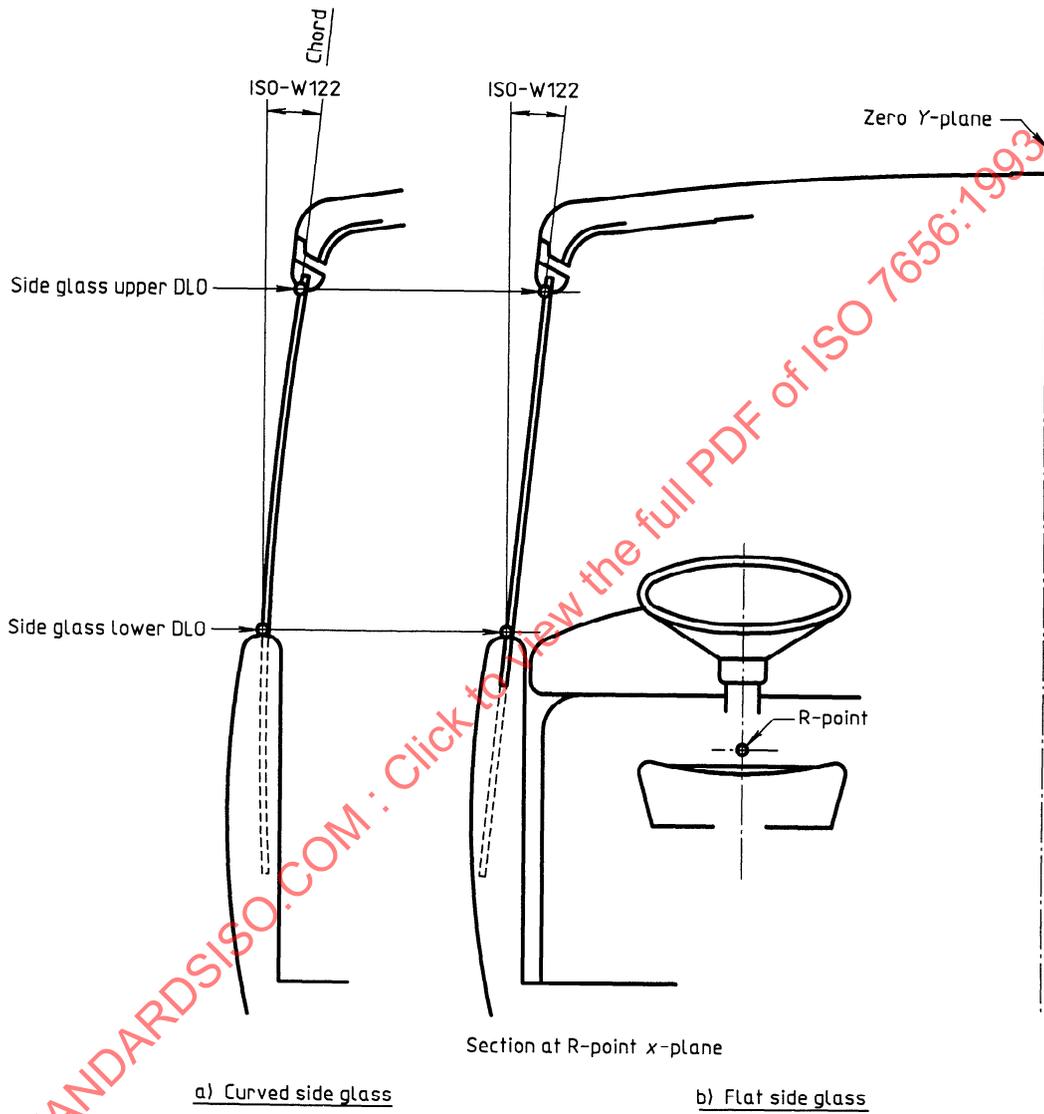


Figure 12

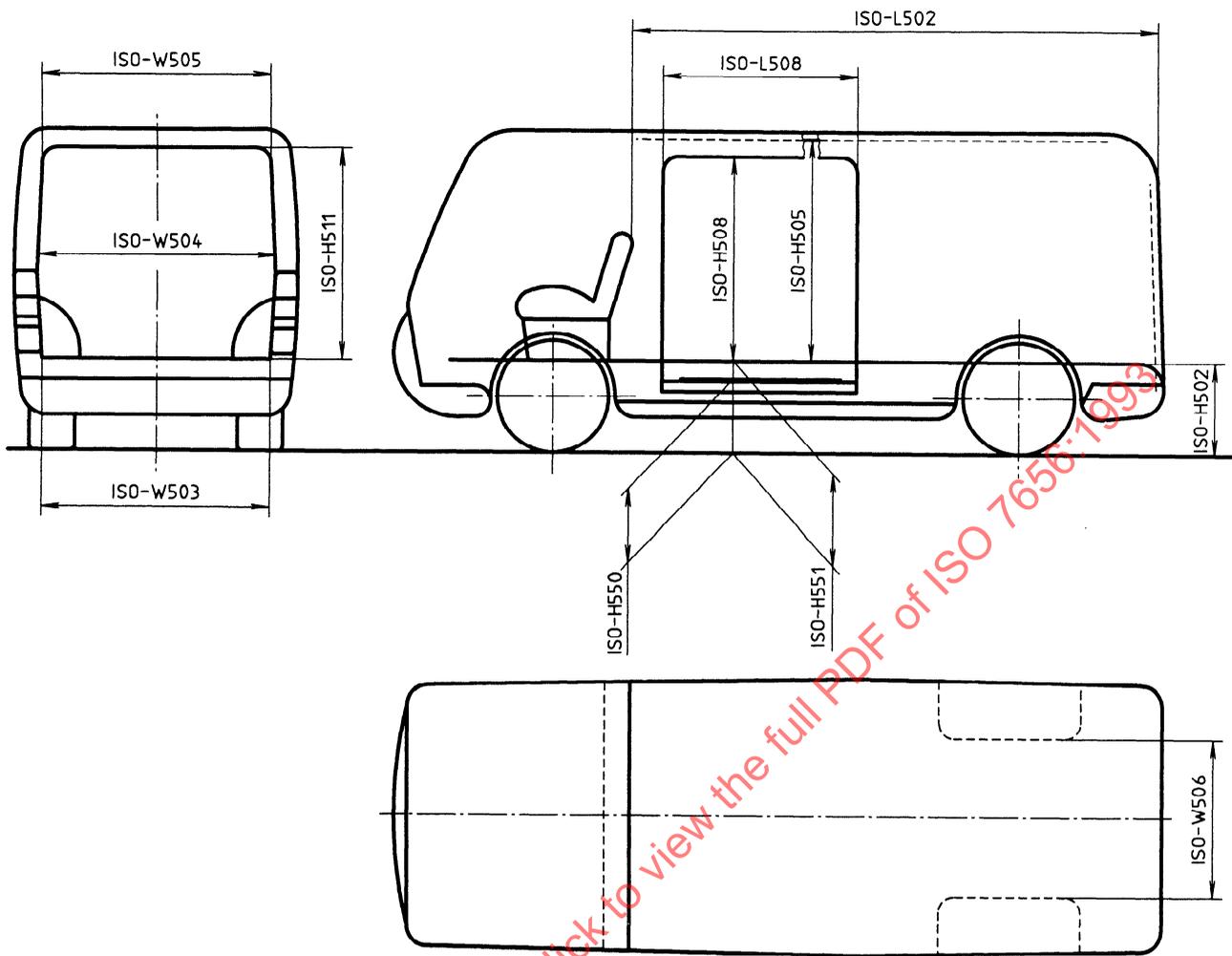


Figure 13

Dimensions in millimetres

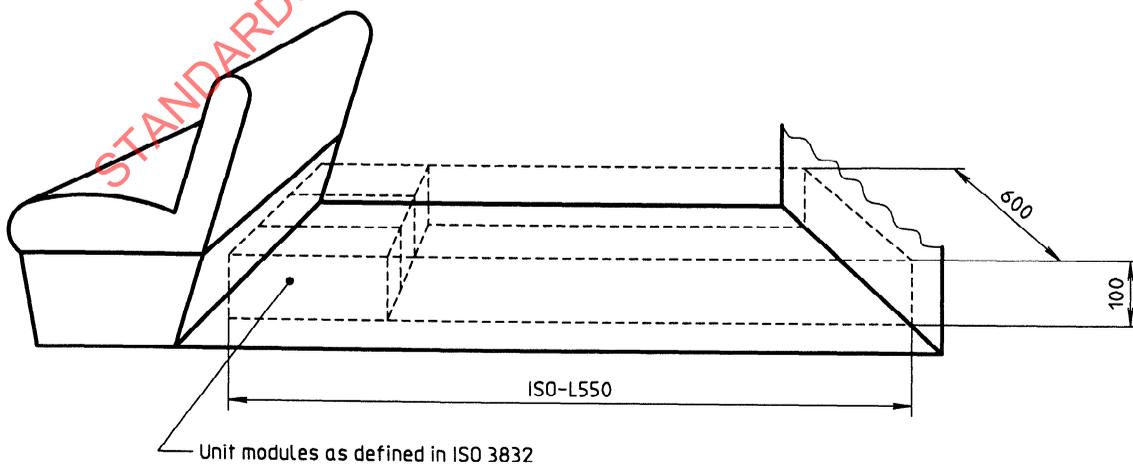


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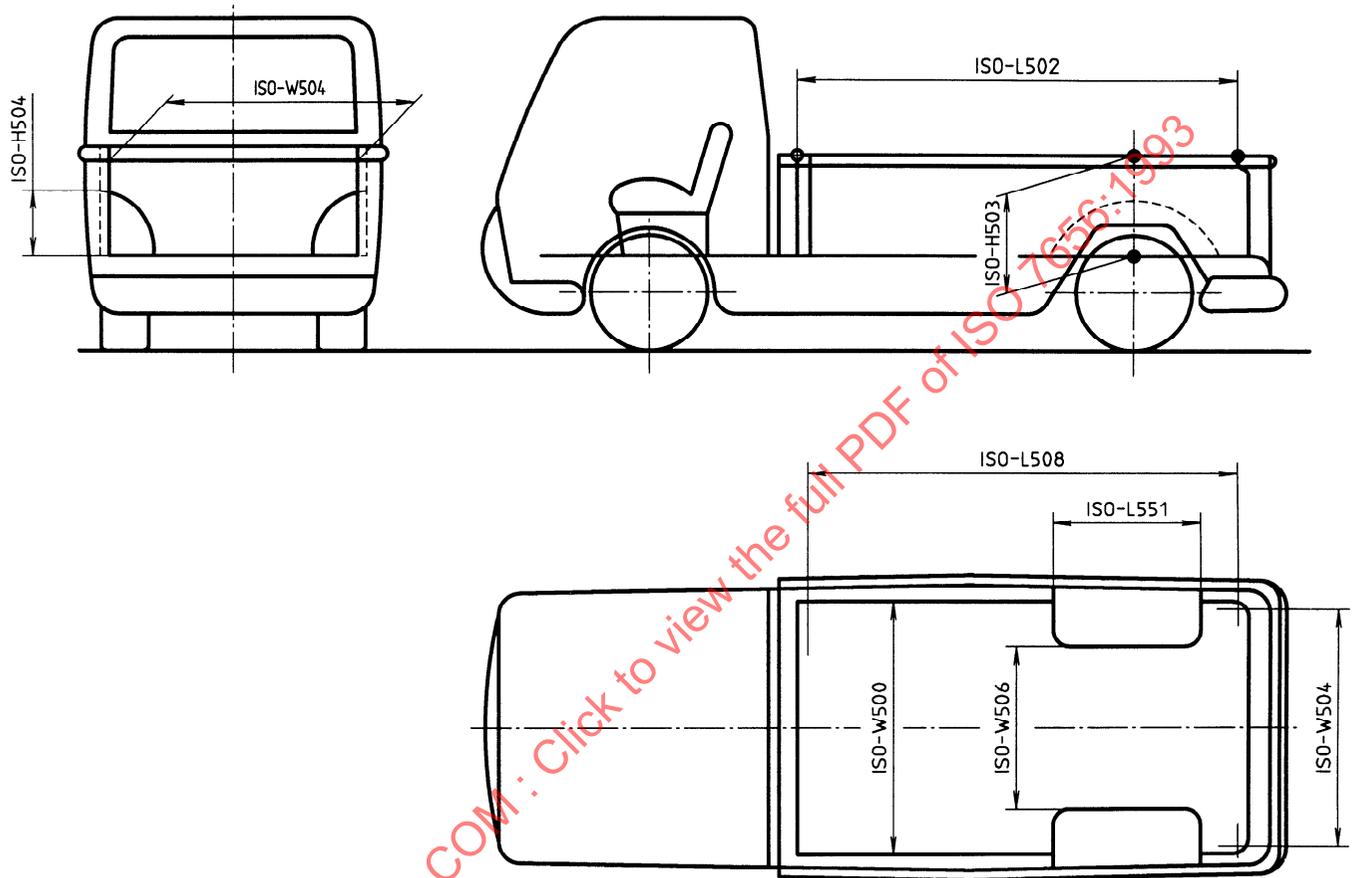


Figure 15

## Dimension index

## Heights

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ISO-H59	6.5	9
ISO-H70	6.6	6
ISO-H74	6.7	6
ISO-H91	6.8	9
ISO-H93	6.9	6
ISO-H100	5.1	1
ISO-H113	5.1	1
ISO-H115	5.6	11
ISO-H117	5.2	1
ISO-H118	5.3	1
ISO-H147	5.4	1
ISO-H157	5.5	1
ISO-H311	6.10	10
ISO-H326	6.11	10
ISO-H361	6.12	10
ISO-H362	6.13	10
ISO-H363	6.14	10
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ISO-H397	6.16	11
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ISO-H399	6.18	10
ISO-H404	5.7	3
ISO-H419	5.8	1
ISO-H420	5.8	1
ISO-H421	5.9	1
ISO-H422	5.9	1
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ISO-H424	5.10	2
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Code	Item No.	Figure No.
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ISO-H505	7.5	13
ISO-H508	7.6	13
ISO-H509	7.7	4
ISO-H510	7.8	4
ISO-H511	7.1	13
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ISO-H551	7.10	13

## Lengths

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ISO-L25	6.23	6
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ISO-L52	6.27	6
ISO-L53	6.28	6
ISO-L63	6.29	6
ISO-L103	5.16	4
ISO-L310	6.30	10
ISO-L311	6.31	10
ISO-L313	6.32	11
ISO-L314	6.33	10
ISO-L360	6.34	10
ISO-L361	6.35	10
ISO-L362	6.36	10
ISO-L364	6.37	10
ISO-L365	6.38	10
ISO-L366	6.39	11