INTERNATIONAL STANDARD

ISO 3842

Third edition
2001-02-01

Road vehicles — Fifth wheels — Interchangeability

Véhicules routiers — Sellette d'attelage — Interchangeabilité

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3842 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 15, *Interchangeability of components of commercial vehicles and buses*.

This third edition cancels and replaces the second edition (ISO 3842:1984), which has been technically revised.

Road vehicles — Fifth wheels — Interchangeability

1 Scope

This International Standard specifies the dimensional characteristics necessary for the mounting and interchangeability of the fifth wheel on the frame (subframe or mounting plate) of towing vehicles for semi-trailers. It is applicable to fifth wheels intended for hitching on semi-trailers equipped with a

— 50 kingpin as defined in ISO 337, or

— 90 kingpin as defined in ISO 4086.

Dimensions not specified are left to the discretion of the component manufacturer.

NOTE Those test conditions and strength requirements to be met by 50 and 90 fifth wheel couplings are specified in ISO 8717.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 337, *Road vehicles — 50 semi-trailer fifth wheel coupling pin — Basic and mounting/interchangeability dimensions*.

ISO 1726, *Road vehicles — Mechanical coupling between tractors and semi-trailers — Interchangeability*.

ISO 4086:—[1)], *Road vehicles — 90 semi-trailer fifth wheel kingpins — Basic and mounting/interchangeability dimensions*.

ISO 8717, *Commercial road vehicles — Fifth wheel couplings — Strength tests*.

3 General requirements

3.1 Fixing holes

3.1.1 Frame

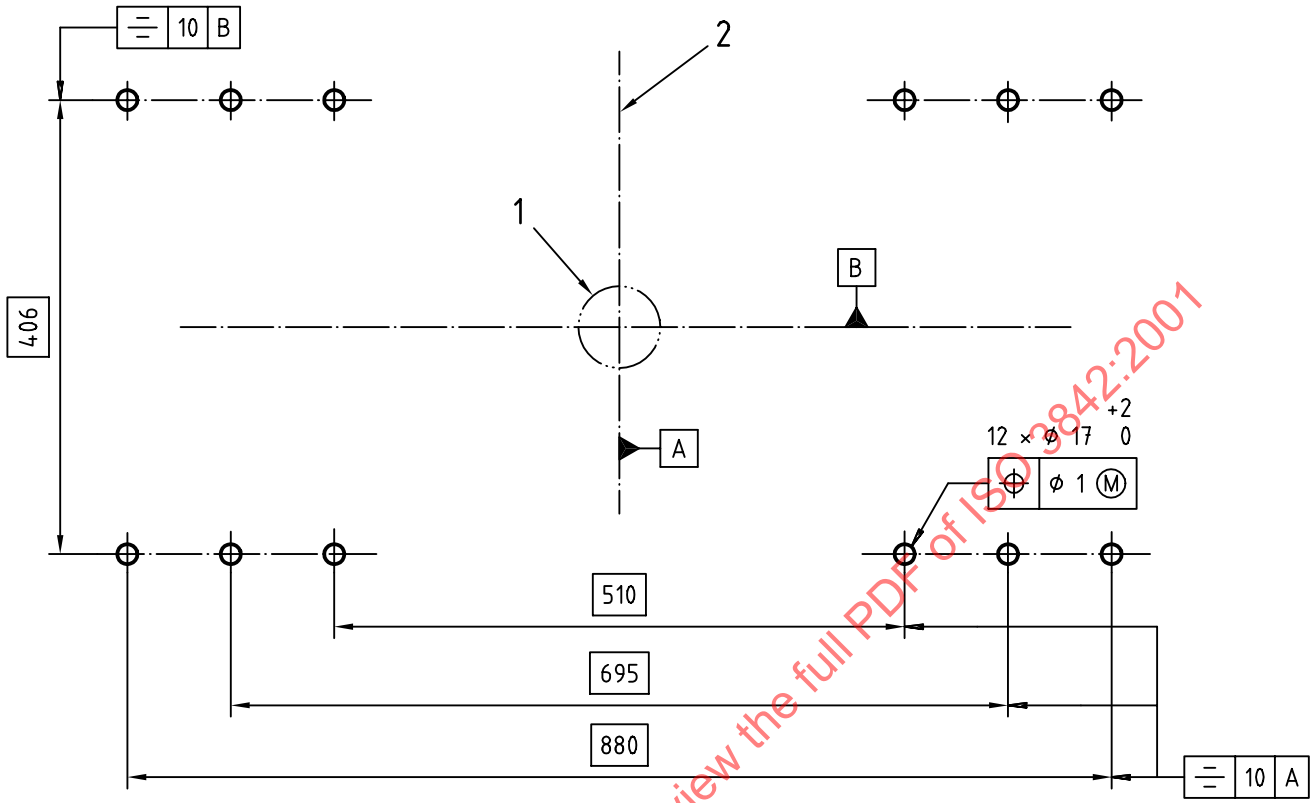
The position of the fixing holes on the frame shall be as shown in Figure 1.

3.1.2 Fifth wheel coupling

The position of the fixing holes on the fifth wheel coupling shall be as shown in Figure 2.

1) To be published. (Revision of ISO 4086:1982)

Dimensions in millimetres



Key

1 Kingpin (in accordance with ISO 337 or ISO 4086)

2 Longitudinal axis of towing vehicle

Figure 1 — Dimensions and location of fixing holes on frame

3.2 Mounting

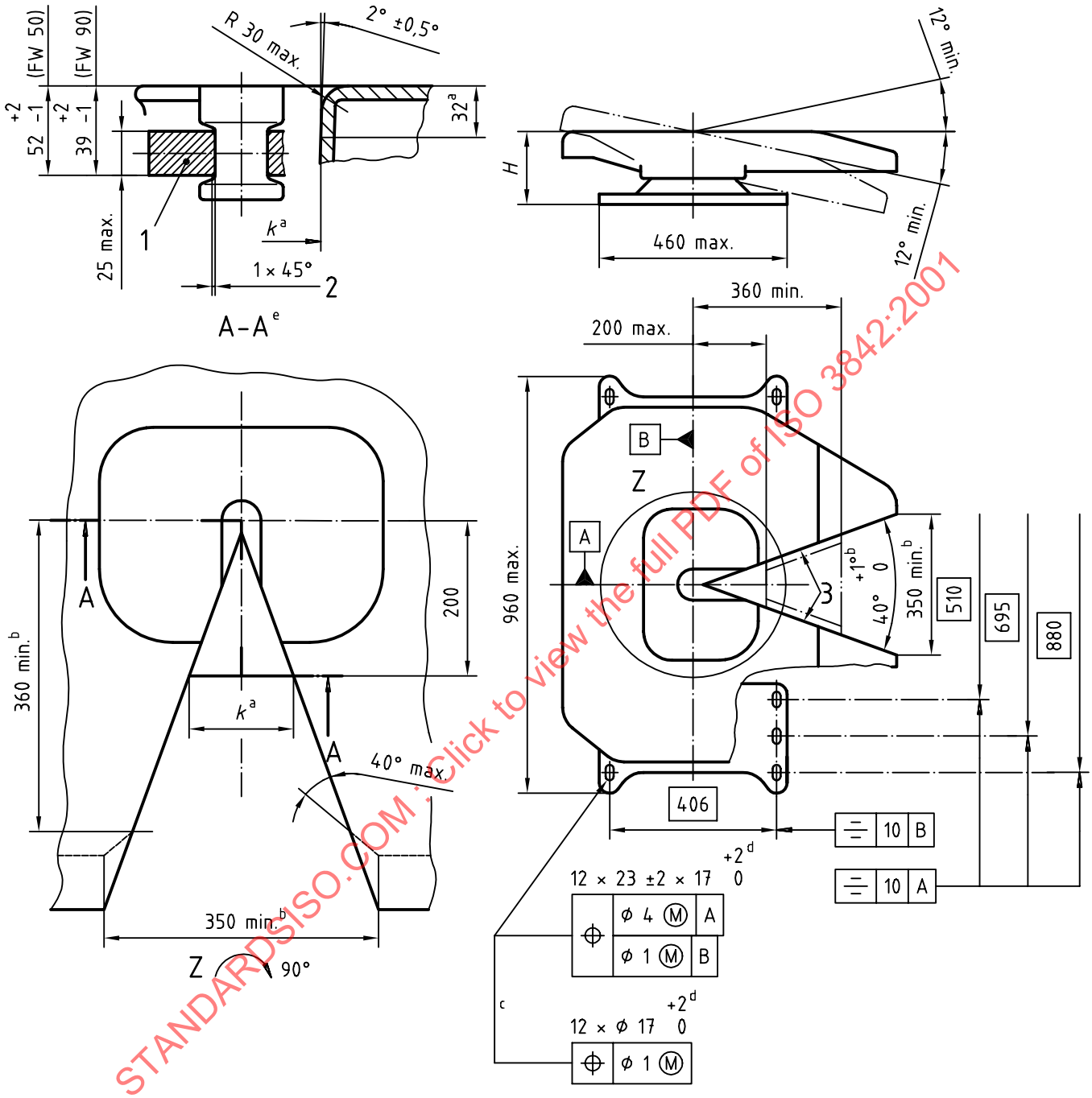
The mounting for 50 mm fifth wheels (FW 50) shall be a minimum of eight bolts, size M16, minimum property class 8.8, placed symmetrically with respect to the longitudinal and transverse axes of the fifth wheel; 90 mm fifth wheels (FW 90) shall be bolted with 12 bolts, size M16, minimum property class 8.8.

3.3 Inclination angles

The longitudinal inclination of the fifth wheel not installed on the vehicle, but with bolts or nuts at the mounting brackets considered, shall be $\pm 12^{\circ}$ min., as shown in Figure 2.

A lateral angle of $\pm 3^{\circ}$ max. may be used (see ISO 1726) for fifth wheels conforming to this International Standard.

Dimensions in millimetres



Key

1 Locking jaw
2 Chamfer on jaw
3 Bearing surface for steering wedge

[a] To provide for the use of steering wedges, measure the reference dimension $k = (137 \pm 3)$ mm, 32 mm below the top face at a distance of 200 mm.

[b] The angle $\left(40^{+1}_{0}\right)^{\circ}$ shall be realized for the length of at least 360 mm. The entry width 350 mm min. may alternatively be executed according to the dotted contour.

[c] Instead of elongated holes of (23 ± 2) mm $\times$ $\left(17^{+2}_{0}\right)$ mm holes with $\varnothing\left(17^{+2}_{0}\right)$ mm are also allowed.

[d] When using elongated holes or holes of $> \varnothing$ 18 mm, washers $\varnothing$ 40 mm $\times$ 6 mm thick or means of equal strength (e.g. flat steel plate) shall be used.

[e] Enlarged part with kingpin.

Figure 2 — Dimensions of fifth wheels

3.4 Height

The height, H, of the fifth wheel coupling shall be within one of the classes specified in Table 1.

Table 1 — Classes of fifth wheel height

Dimensions in millimetres

Fifth wheel	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
Range H	140 to 159	160 to 179	180 to 199	200 to 219	220 to 239	240 to 260

3.5 Dimensions of standard fifth wheels

Standard fifth wheels shall have the dimensions given in Figure 2.

4 Designation

Fifth wheels meeting the requirements of this International Standard shall be identified by the following, in the order specified:

a) reference to this this International Standard;

b) code FW 50 for 50 mm fifth wheels and FW 90 for 90 mm fifth wheels;

c) number of class of fifth wheel height, H, according to Table 1.

EXAMPLE 1 50 mm fifth wheel coupling having a height within the range of class 1:

Fifth wheel ISO 3842 FW 50-1

EXAMPLE 2 90 mm fifth wheel coupling having a height within the range of class 4:

Fifth wheel ISO 3842 FW 90-4