

Directive 94/20/EC of the European Parliament and of the Council
of 30 May 1994 relating to the mechanical coupling devices of motor
vehicles and their trailers and their attachment to those vehicles (repealed)

Status: This is the original version (as it was originally adopted).

LIST OF ANNEXES

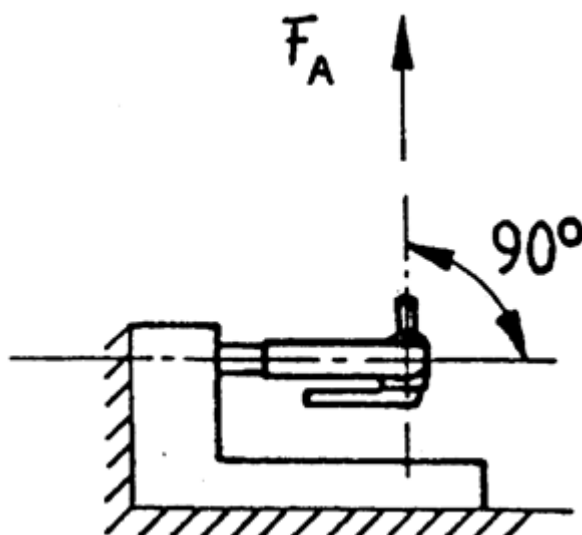
ANNEX VII

REQUIREMENTS RELATING TO THE TYPE-APPROVAL OF THE VEHICLE TYPE WITH REGARD TO THE OPTIONAL ATTACHMENT OF MECHANICAL COUPLING DEVICES TO THIS VEHICLE.

2. SPECIAL REQUIREMENTS

2.1. Attachment of coupling balls and towing brackets

- 2.1.1. Coupling balls and towing brackets must be attached to a vehicle of category M1, category M2 below 3,5 tonnes and category N1 in a manner which conforms to the clearance and height dimensions given in Figure 30. This requirement shall not apply to off-road vehicles as defined in Annex II to Directive 92/53/EEC

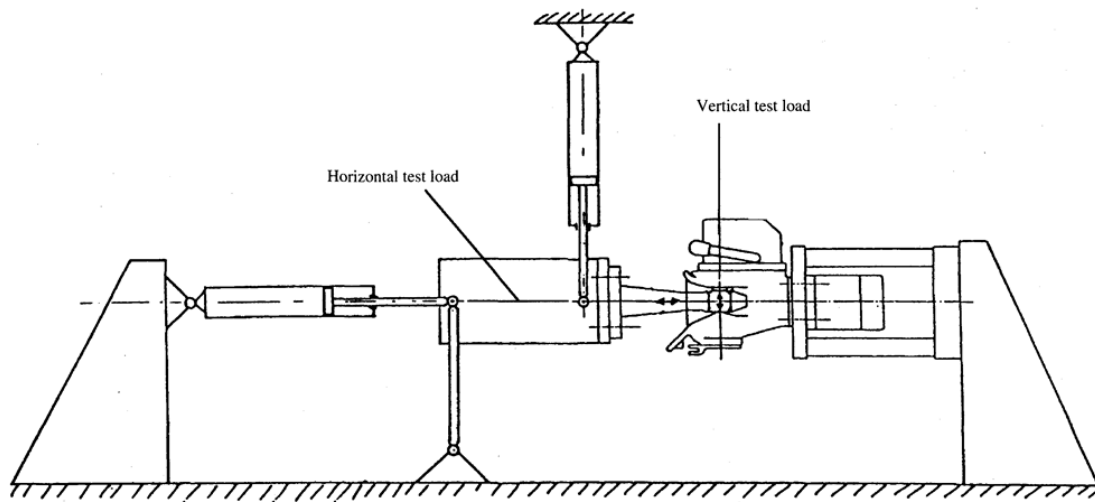


- 2.1.2. For coupling balls and towing brackets the vehicle manufacturer must supply mounting instructions and state whether any reinforcement of the fixing area is necessary.
- 2.1.3. It must also be possible to couple and uncouple ball couplings when the longitudinal axis of the ball coupling in relation to the centre line of the coupling ball and mounting:
- (a) is horizontally $\beta = 60^\circ$ to right or left (see Figure 30);
 - (b) is vertically $\alpha = 10^\circ$ up or down (see Figure 30);
 - (c) is axially rotated 10° to right or left.
- 2.1.4. The mounted coupling ball must not obscure the place or visibility of the rear license plate, otherwise a coupling ball which can be dismantled without special tools has to be used.
- ##### 2.2. Attachment of coupling heads

- 2.2.1. Class B coupling heads are permitted for trailers of the maximum mass up to and including 3,5 tonnes. With the trailer horizontal and carrying the maximum permitted axle load, coupling heads must be attached so that the coupling point of the trailer is 430 ± 35 mm above the horizontal plane on which the wheels of the trailer stand (see Figure 31).

In the case of caravans and goods trailers, the horizontal position is regarded as when the floor or loading surface is horizontal. In the case of trailers without such a reference surface (e.g. boat trailers or similar) the trailer manufacturer must give an appropriate reference line defining the horizontal position. The height requirement shall apply only to trailers intended to be attached to vehicles mentioned in Section 2.1.1.

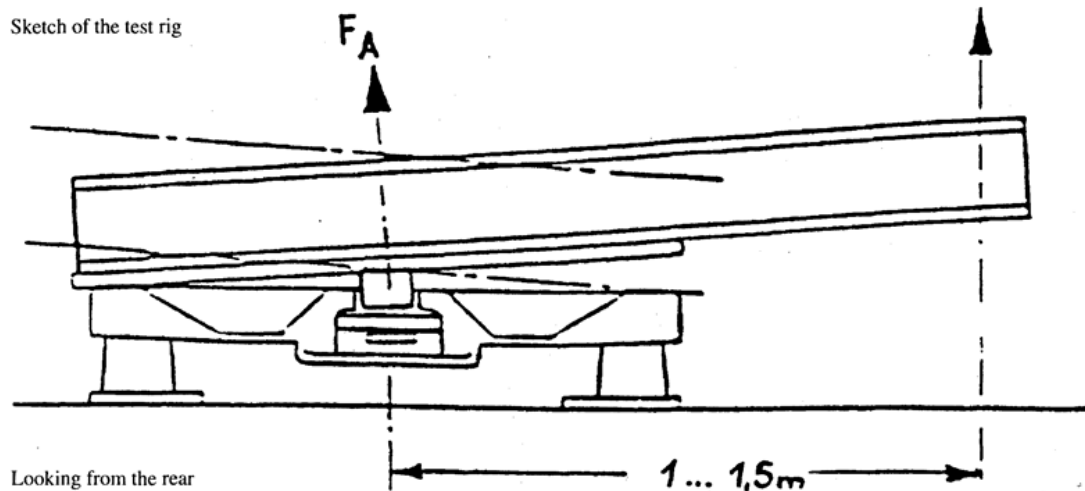
- 2.2.2. It must be possible to operate the coupling heads safely within the free space of the coupling ball given in Figure 30.



2.3. Attachment of drawbar couplings and mounting blocks

2.3.1. Mounting dimensions for standard drawbar couplings

If types of standard drawbar couplings are intended to be fitted to the vehicle type, the mounting dimensions on the vehicle given in Figure 32 and Table 8 must be met.



2.3.2. *Need for remote controlled couplings*

If one or more of the following rules regarding easy and safe operation (Section 2.3.3), accessibility (Section 2.3.4) or clearance for the hand lever (Section 2.3.5) cannot be met, a coupling with a remote control device as described in Annex V, Section 10.3 must be used.

2.3.3. *Easy and safe coupling operation*

Drawbar couplings must be mounted on the vehicle type in such a manner that they are easy and safe to operate.

In addition to the functions of opening (and closing, if applicable) this also includes checking the position of the indicator for the closed and secured position of the coupling pin (by sight and touch).

In the area in which the person operating the coupling must stand, there must be no points of possible danger such as sharp edges, corners, etc. inherent in the design or they must be protected so that injury is unlikely.

The way of escape from this area must not be restricted or barred on either side by any attached objects.

Any underrun protection device must not prevent the person adopting a suitable position to operate the coupling.

2.3.4. *Accessibility*

The distance between the centre of the coupling pin and the rear edge of the vehicle bodywork must not exceed 420 mm.

However, the distance of 420 mm may be exceeded if technical necessity can be demonstrated:

1. a distance of up to 650 mm for vehicles with tipping bodies or rear-mounted equipment;
2. a distance of up to 1 320 mm if the unobstructed height is at least 1 150 mm;
3. car transporters with at least two loading levels when the trailer vehicle is not separated from the towing vehicle in normal transport operation,

provided easy and safe actuation of the drawbar coupling is not adversely affected.

2.3.5. *Clearance for the hand lever*

In order to permit safe operation of drawbar couplings there must be adequate free space around the hand lever.

The clearance illustrated in figure 33 is regarded as sufficient. If different types of standard drawbar couplings are intended to be fitted to the vehicle type, the clearance must be such that the conditions are also satisfied for the largest size of coupling of the appropriate class given in Annex V, Section 3.

The dimensions are also applicable as appropriate for drawbar couplings having hand levers pointing downwards or of a different design.

The clearance must also be maintained within the specified minimum angle for coupling-up and uncoupling given in Annex V, Section 3.6.

2.3.6. *Clearance for free movement of drawbar coupling*

The drawbar coupling attached to the vehicle must have a minimum clear gap of 10 mm from every other part of the vehicle taking into account all possible geometrical positions in accordance with Annex V.

If different types of standard drawbar couplings are intended to be fitted to the vehicle type, the clearance must be such that the conditions are also satisfied for the largest possible coupling of the appropriate class stated in Annex V, Section 3.

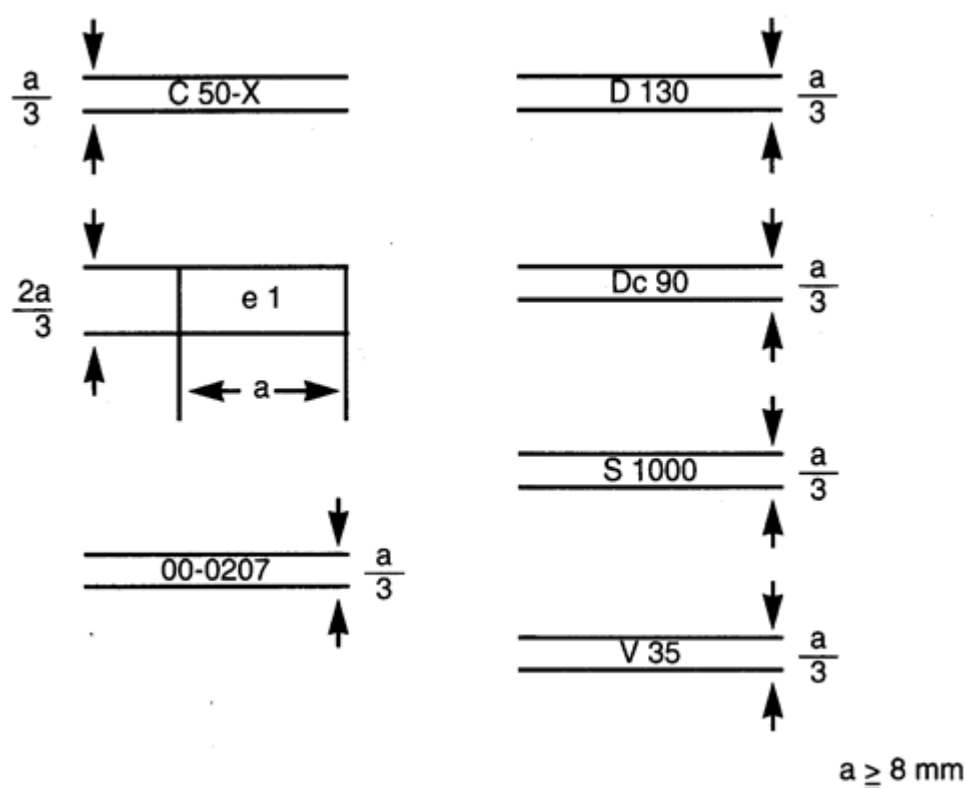
2.3.7. *Admissibility of drawbar couplings with a special joint for vertical rotation (see Figure 6).*

Couplings having a cylindrical pin and which achieve vertical rotation for the coupled drawbar eye by means of a special joint will only be permitted in cases when technical necessity can be demonstrated. This may be the case, for example, on rear tippers when the coupling head must be hinged, or with the couplings of heavy transporters when for strength reasons the use of a cylindrical coupling pin is necessary.

TABLE 8

Mounting dimensions for standard drawbar couplings

	C 50-1	C 50-2	C 50-3	C 50-4	C 50-5	C 50-6	Remarks
e ₁	83		120	140	160		± 0,5
e ₂	56		55	80	100		± 0,5
d ₁	—	54	75	85	95		+ 1/-0,5
d ₁	10,5		15	17	21		H13
T	—	15	20	35	35	35	maximum
F	120		165	190	210		minimum
G	95		100	130	150		minimum
L ₁	—	200	300		400		minimum



2.4. Attachment of drawbar eyes and drawbars on trailers.

2.4.1. Drawbars for centre-axle trailers must have a support device adjustable in height if the vertical bearing load at the drawbar eye on the trailer type exceeds 50 kg, when the trailer is uniformly loaded to its technically permissible maximum mass.

2.4.2. When attaching drawbar eyes and drawbars to centre-axle trailers with a maximum mass C of more than 3,5 tonnes and more than one axle, they must be equipped with a device for axle load sharing.

2.5. Attachment of fifth wheel couplings, mounting plates and coupling pins on vehicles.

2.5.1. Class G 50 fifth wheel couplings must not be mounted directly on the vehicle frame unless permitted by the vehicle manufacturer. They must be fixed to the frame by means of the mounting plate, the installation instructions provided by the vehicle manufacturer or coupling manufacturer must be followed.

2.5.2. Semi-trailers must be equipped with landing gear or any other equipment which allows uncoupling and parking of the semi-trailer. If semi-trailers are equipped so that the connection of the coupling devices, the electrical systems and braking systems can be effected automatically, the trailer must have landing gear which retracts from the ground automatically after the semi-trailer has been coupled up.

2.5.3. The fixing of the fifth wheel coupling pin in the mounting plate on the semi-trailer must be as instructed by the vehicle manufacturer or manufacturer of the fifth wheel coupling.

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- 2.5.4. If a semi-trailer is equipped with a steering wedge it must meet the requirements as described in Annex V, Sections 7.9.1 and 7.9.2.