



SURFACE VEHICLE STANDARD

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Terminology for Light and Medium Duty Trailers and Components

RATIONALE

A standard terminology for light and medium duty trailer applications (typically GVWR 11794 kg (26000 lb) or less) is desired. This new report provides a list of these terms with definitions and is intended for use by consumers and the trailer industry.

1. SCOPE:

This SAE standard is intended to create standard terminology related to light and medium duty trailer applications. This includes such trailer types as utility, boat, camping, travel, and special purpose trailers which are normally towed by conventional passenger cars, light-duty commercial vehicles, light trucks, and multipurpose passenger vehicles.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J670 Vehicle Dynamics Terminology

SAE J2807 Performance Requirements for Determining Tow-Vehicle Gross Combination Weight Rating and Trailer Weight Rating

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J684 Trailer Couplings, Hitches, and Safety Chains - Automotive Type

SAE J847 Trailer Tow Bar Eye and Pintle Hook/Coupler Performance

SAE J2638 Fifth Wheel and Gooseneck Attachment Performance Up to 13608/kg (30000/lb) Trailer GVW

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Documents
Document Sharing Hub

SAE J2664 Trailer Sway Response Test Procedure

3. DEFINITIONS

3.1 ARTICULATION ANGLE

The angle of the trailer's x-axis relative to the tow vehicle's x axis in the x-y plane. Positive articulation angle of the trailer is to the left (driver) side of the tow vehicle. Zero articulation angle is when the longitudinal axes of the tow vehicle and trailer are aligned.

3.2 ARTICULATION POINT

The instant center of rotation of the trailer relative to the towing vehicle.

NOTE: For trailers with a simple ball hitch, the articulation point is coincident with the center of the hitch ball.

3.3 BALL MOUNT

Removable ball support platform that is inserted into an underbody receiver hitch and retained with a pin. Used with weight carrying or weight distributing hitch systems.

3.4 CLEVIS AND PIN CONNECTION

A trailer coupling system that consists of a clevis on the forward end of the trailer tongue that attaches to a hole in a hitch bar or plate of the tow vehicle using a pin generally oriented vertically. (See Figure 1.)

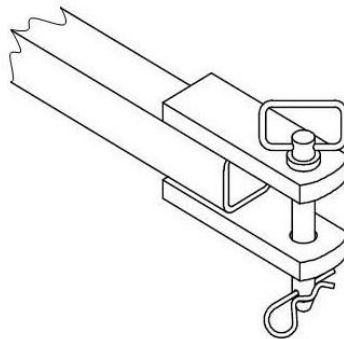


Figure 1 - Clevis and pin

3.5 COMBINATION VEHICLE

Two or more vehicles with at least one common connection point between two vehicles. Typically, one of the vehicles is a trailer.

3.6 CONNECTION POINT

Point of connection, e.g., generally a hitch ball or fifth wheel, where the trailer attaches to the tow vehicle. Measurement of the connection point is from the tow vehicle rear axle, positive to the rear, to the centerline of the hitch ball or kingpin hole.

3.7 CONNECTION POINT OVERHANG (CPOH)

Measurement of the connection point from the tow vehicle rear axle, positive to the rear, to the centerline of the hitch ball or kingpin hole

3.8 CONVENTIONAL TRAILER

A semi-trailer with a coupling device designed to attach to a hitch at the rear of the tow-vehicle. This does not include fifth wheel or gooseneck trailers. Sometimes called "Bumper Pull" trailer.

3.9 COUPLER

That part of the trailer connecting mechanism by which the connection is actually made to the trailer hitch ball. This does not include any structural member, extension of the trailer frame, or brake actuator.

3.10 COUPLER ANGULAR TRAVEL

Relative angular motion fore to aft and/or side to side between hitch and coupler as the trailer and tow vehicle negotiate different terrain. Motion includes roll, pitch and yaw.

3.11 COUPLER RATING

Maximum trailer weight (GVWR) and maximum tongue weight a coupler assembly is specified for towing.

3.12 CURB WEIGHT

The weight of a motor vehicle with standard equipment, maximum capacity of fuel, oil and coolant: and if so equipped, air conditioning and additional weight of optional engine. Curb weight does not include driver.

3.13 DRAWBAR

See Ball Mount.

3.14 EFFECTIVE TONGUE LENGTH (ETL)

The longitudinal distance from the center of the trailer connection point to the center of the trailer wheel(s). (See Figure 2.)

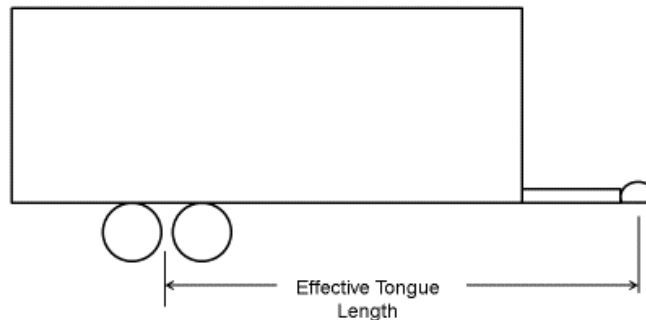


Figure 2 - Effective tongue length (trailer wheelbase)

3.15 FIFTH WHEEL HITCH

A tow vehicle connecting mechanism that engages a trailer kingpin. (See Figure 3.)