The Engineering Society For Advancing Mobility Land Sea Air and Space®

Product of the Cooperative Engineering Program

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Nomenclature — Truck, Bus, Trailer

SAE Standard
Reaffirmed June 1988

Submitted for Recognition as an American National Standard

SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®

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TRUCK AND BUS STANDARD

SAE J687

Issued June 1948
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Reaffirming J687c

NOMENCLATURE - TRUCK, BUS, TRAILER

1. AXLES AND DRIVE ARRANGEMENTS:

A vehicle may have any arrangement of one or more axles, either powered (live) or nonpowered (dead).

1.1 Nonpowered Axle: Axle designed to support a portion of the vehicle weight but does not transmit a driving force to the wheels.

1.2 Powered Axle: Axle designed to support a portion of the vehicle weight and to transmit a driving force to the wheels.

1.3 Steering Axle: Axle through which directional control of the vehicle is applied. A steering axle may be powered or nonpowered.

1.4 Tandem Axle: Tandem axle means any group of two or more axles, any of which may be powered, and/or steering, whose extreme centers are spaced more than 40 in (1016 mm) apart, and which are attached one behind the other to the same vehicle and associated through a mechanism designed to provide a specific relationship between their loading.

2. AXLE AND WHEEL COMPONENTS:

An axle - for the purpose of defining a vehicular wheel arrangement - may be composed of either: (a) one beam extending across the vehicle and mounting at each end either a single wheel, a pair of dual disc wheels, or a demountable rim type wheel with dual rims; or (b) two separate and independently suspended beams located transversely across the vehicle and each mounting one of the aforementioned wheel arrangements. In either case, two single wheels or two dual wheel arrangements are considered the compliment of any axle depending on whether single or dual tires are used.

3. MOTOR BUSES - MAJOR TYPES:

3.1 City Motor Bus: A city motor bus is a motor vehicle designed to accommodate the maximum number of passengers (both seated and standing) in short ride, frequent stop service, and to have quick-opening entrance and exit service doors.

3.2 Intercity Motor Bus: An intercity motor bus is a motor vehicle designed for long distance transportation of passengers with facilities for their baggage, usually both inside and outside the passenger area.

3.3 School Bus: A school bus is a motor vehicle primarily designed and/or equipped to carry students to and from school, but not including buses operated by common carriers in urban transportation of school children.

3.4 Suburban Motor Bus: A suburban motor bus is a motor vehicle designed for medium range service with transverse seats for maximum passenger seated load and usually equipped with overhead parcel racks, an underfloor spare tire compartment, and front service door.

3.5 Trolley Bus: A trolley bus is a motor vehicle electrically powered from overhead wires.

4. MOTOR TRUCK:

Motor truck means every motor vehicle carrying its load on its own wheels and primarily designed for the transportation of property, but which may also pull a truck trailer.

5. MOTOR VEHICLE:

Motor vehicle means every device which is self-propelled and equipped with driver controls in, upon, or by which any person or property is or may be transported or drawn upon a highway or upon natural terrain, excepting devices moved by human or animal power or used exclusively upon stationary rails.

6. MOTOR VEHICLE CHASSIS:

Motor vehicle chassis means the basic operating motor vehicle including engine, frame, and other essential structural and mechanical parts, but exclusive of body and all appurtenances for the accommodation of driver, property, or passengers, appliances, or equipment related to other than control. If a cab or cowl is included, the designation shall be motor vehicle chassis with cab or cowl.

7. PACKAGE DELIVERY TRUCK (previously Multistop Delivery Truck):

Package delivery truck is a motor truck designed with an integral driver and cargo compartment.

8. TRUCK TRACTOR:

Truck tractor means every motor vehicle designed primarily for drawing truck trailers and constructed so as to carry part of the weight and load of a semitrailer.

9. MOTOR TRUCKS OR TRUCK TRACTORS - MAJOR TYPES:

9.1 Cab-Alongside-Engine Motor Truck or Truck Tractor: Cab-alongside-engine (CAE) motor truck or truck tractor is one in which the driver's compartment and controls are located alongside the engine compartment.

9.2 Cab-Behind-Engine Motor Truck or Truck Tractor (also known as conventional motor truck or truck tractor): Cab-behind-engine (CBE) motor truck or truck tractor is one in which the driver's compartment and controls are located at the rear of a hood enclosed powerplant or are located partially over the rear of the powerplant or located partially beside the rear of the powerplant.

9.3 Cab-Over-Engine Motor Truck or Truck Tractor: Cab-over-engine (COE) motor truck or truck tractor is one in which all, or a substantial part of, its engine is located under the cab.

10. TRUCK TRAILER:

A truck trailer is a vehicle with or without auxiliary motive power designed to be drawn by a motor truck or truck tractor.

Fig. 1 has been prepared to help visualize the types of vehicles herein defined. It is based on the use of the digit system of identifying combinations by axles. In this system of identification, each digit indicates the number of axles on a vehicle which is entirely supported on its own wheels, such as a motor truck or full trailer. The first digit refers to the power unit and a second single digit refers to a full trailer, while a second digit with an S prefix refers to a semitrailer. For example:

2-S2 = 2-axle truck tractor and 2-axle semitrailer
2-1 = 2-axle truck with 1-axle full trailer
3-S2-2 = 3-axle truck tractor, 2-axle semitrailer, and 2-axle full trailer.

11. TRUCK TRAILERS - BASIC TYPES:

11.1 Semitrailer: A semitrailer is a truck trailer equipped with one or more axles, and so constructed that the front end and a substantial part of its own weight and that of its load rests upon another vehicle. (See Fig. 1, type 2-S2.)

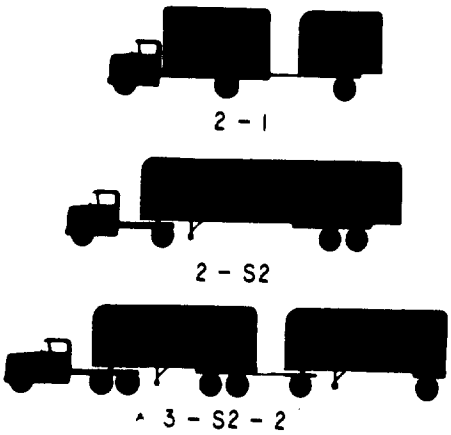

FIGURE 1 - Examples of Vehicle Types as Designated by Code Based on Axle Arrangement

11.2 Full Trailer: A full trailer is a truck trailer constructed so that all its own weight and that of its load rests upon its own wheels. (See Fig. 1, types 2-1, and 3-S2-2.)

11.3 Balanced Full Trailer: Balanced full trailer is a truck trailer in which the load carrying axle(s) is(are) located approximately under the centerline of the cargo body. (See Fig. 1, type 2-1.)

11.4 Load-Dividing Dolly: A load-dividing dolly is coupled between a truck tractor and semitrailer to reduce the load imposed by the semitrailer on the truck tractor. It is a truck trailer with one or more axles equipped with a fifth wheel, drawbar, and other parts necessary for its use.

11.5 Trailer Converter Dolly: A trailer converter dolly is a truck trailer with one or more axles equipped with a fifth wheel, a drawbar, and other parts necessary to convert a semitrailer to a full trailer.

11.6 Pole Trailer: A pole trailer is a truck trailer, without auxiliary motive power, designed to be drawn by a truck or truck tractor, attached by means of a reach or a pole (or by being boomed or otherwise secured to the drawing motor vehicle), and intended for transporting long or irregularly shaped loads such as poles, logs, pipes, or structural members which are generally capable of sustaining themselves as beams between supporting connections.

12. TRUCK OR TRAILER BODY:

A truck or truck trailer body is the structure or fixture especially provided to contain, or support, the material or property to be transported on a motor truck or a truck trailer.

13. VEHICLE:

Vehicle means every device in, upon, or by which any person or property is or may be transported or drawn upon a highway or upon natural terrain, excepting devices moved by human or animal power or used exclusively upon stationary rails.

The phi (Ø) symbol is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.