

Understanding Gross Vehicle Weight Rating

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Chapter 1

Gross vehicle weight rating

The **gross vehicle weight rating (GVWR)**, or **gross vehicle mass (GVM)** is the maximum operating weight/mass of a vehicle as specified by the manufacturer^[1] including the vehicle's chassis, body, engine, engine fluids, fuel, accessories, driver, passengers and cargo but excluding that of any trailers.^[2] The term is used for motor vehicles and trains.

The weight of a vehicle is influenced by passengers, cargo, even fuel level, so a number of terms are used to express the weight of a vehicle in a designated state. **Gross combined weight rating** refers to the *total mass* of a vehicle, including all trailers. GVWR and GCWR both describe a vehicle that is *in operation* and are used to specify weight limitations and restrictions. **Curb weight** describes a vehicle which is "parked at the curb" and excludes the weight of any occupants or cargo. **Dry weight** further excludes the weight of all consumables, such as fuel and oils. **Gross trailer weight rating** specifies the maximum weight of a trailer and the **gross axle weight rating** specifies the maximum weight on any particular axle.

1.1 Australia

A car driver licence is limited to driving vehicles up to a maximum GVM of 4,500 kg (9,900 lb). Beyond this, a different class of licence is required. A vehicle with a GVM under 4,500 kg is termed a *light* vehicle, while those over 4,500 kg are termed *heavy* vehicles.

Many models of small truck are manufactured to have a GVM rating of 5,000 to 7,000 kg (11,000 to 15,400 lb) but sold with the option of a GVM of just under 4,500 kg so that they can be driven on a car licence. Often, the only difference between the models is where the exhaust exits, with diesel engined heavy rated vehicles having a vertical exhaust *stack* above the cabin and the light rated vehicles having the exhaust exit under the side or rear like a car.

Many minor roads, including some in rural areas and some in suburban areas, have GVM restrictions such as 5,000 kg

or 8,000 kg. These restrictions may be applied for technical reasons such as load limited bridges, or as a method of reducing the number of heavy vehicles on local roads.

1.2 United Kingdom

A standard car driving licence issued by an EU country (i.e. class B) limits the licence-holder to driving vehicles with a maximum GVWR of 3,500 kg (7,700 lb). This includes holders of UK class B driving licences who passed their driving tests on or after 1 January 1997.

A UK driving licence holder who passed his or her class B driving test in or before 1996 is limited to driving vehicles with GVWR of 7,500 kg (16,500 lb) or less, including minibuses not used for hire or reward.

Anyone looking to drive a heavy goods vehicle (i.e. any vehicle, other than a bus) with GVWR of over 7,500 kg must obtain a class C truck licence. Anyone looking to drive a truck with GVWR of more than 3,500 kg, but no more than 7,500 kg, must obtain a class C1 licence. Anyone with a class C licence can drive class C1 vehicles.^[3]

1.3 United States

In the United States, two important GVWR limitations are 2,700 kg (6,000 lb) and 3,900 kg (8,500 lb). Vehicles over 6,000 lb are restricted from some city roadways (though there is some dispute about whether this restriction is for actual curb weight or GVWR). Vehicles over the 8,500 lb threshold are required to have insurance under Section 387.303 of the Motor Carrier Act of 1980.

1.4 Labeling

On vehicles designed for the United States market, the GVWR can be found alongside other vehicle technical specifications on the Vehicle ID Plate that is usually located on the interior of the B-pillar.^[4]

Most U.S. and Australian commercial trucks are required by licensing authorities to have this information printed on the outside of the vehicle, and for it to be clearly visible from a specified distance.

1.5 See also

- Corporate Average Fuel Economy (CAFE)
- Curb weight
- Heavy-duty vehicle
- Large goods vehicle
- Light commercial vehicle
- Light-duty vehicle
- Truck classification
- Vehicle category
- International Driving Permit

1.6 References

- [1] “Code of Federal Regulations, Title 49, Section 571.3 Definitions”. USA. Retrieved 2012-03-03.
- [2] “Towing a Trailer - Being Equipped for Safety”. USA: National Highway Traffic Safety Administration. Retrieved 2010-01-12.
- [3] “Driving licence categories”. UK: GOV.UK. 2013-07-11. Retrieved 2013-10-17.
- [4] “Code of Federal Regulations – Title 49 – Transportation – Section 567.4 - Requirements for manufacturers of motor vehicles”. USA. 2004-10-01. Retrieved 2013-10-17.

1.7 External links

- What is GVWR? from about.com

Chapter 2

Gross combined weight rating

The **gross combination weight rating** (also **Gross Combination Mass** and **maximum authorised mass**), which can be abbreviated to **GCM**, **MAM**, **GCWR** is the maximum allowable combined mass of a towing road vehicle, passengers and cargo in the tow vehicle, plus the mass of the trailer and cargo in the trailer.^[1] This rating is set by the vehicle manufacturer.

When used with trains in the UK, the GCWR is also known as the **gross train weight (GTW)**. The GCM is a function of the torque output of the engine, the capacity and ratios of the transmission, the capacity of the driving axles and tyres, the capacity of the radiator, and the ability of the chassis to withstand that powertrain torque.

2.1 See also

- Curb weight
- Heavy-duty vehicle
- Light-duty vehicle
- Vehicle category
- Gross axle weight rating (GAWR)
- Gross trailer weight rating (GTWR)
- Gross vehicle weight rating (GVWR)
- Corporate Average Fuel Economy (CAFE)
- Truck classification

2.2 References

- [1] "Towing a Trailer - Being Equipped for Safety". National Highway Traffic Safety Administration. Retrieved 2009-04-29.

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2.3.1 Text

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