



## Trailer Safety Info Sheet

### Horse Trailering Safety: Part 1: Decoding the Letters and Numbers

For many of us, hitching up a truck and trailer is a routine we are familiar with. It is important to remember that a truck and trailer is a surprisingly complex system with numerous components that must be sized and rated correctly to work together safely. This article is intended as a guide to help decode the “alphabet soup” of letters and numbers used to rate components of the truck, trailer and hitch system (Canada, as of 2022). First, let’s go through the terminology and abbreviations that every horse trailer operator should know. Then, we will use examples to help you put these definitions to practical use.



**Conventional** – A trailer hitch configuration in which the trailer attaches to a hitch pivot point located near the tow vehicle’s rear bumper. (The term “bumper pull” dates from an era when vehicle bumpers were all metal and solid enough to support a trailer of substantial size and is often used interchangeably with “conventional”; however, no modern vehicle bumper should ever be used for towing.)

**Curb Weight** - Curb weight is the total weight of a vehicle apart from any passengers, cargo or non-factory items. Curb weight *does* include the weight of gasoline, oil and other fluids necessary for operation. A good description of curb weight is *“the weight of a vehicle, as it sits parked at the dealership.”*

**GAWR** - Gross Axle Weight Rating. A rating specified by the vehicle manufacturer which states the maximum amount of weight that can be placed on *each* of the axles. A gross axle weight rating is likely to differ between the front and rear axles, as different ends of the vehicle can handle different amounts of weight.

**GCWR** - Gross Combination Weight Rating. The maximum weight of a tow vehicle and trailer combination, as determined by the tow vehicle manufacturer. Combined weight means the weight of both the tow vehicle and the trailer together. It is the maximum weight of a vehicle with a trailer attached and includes any cargo or load placed in the tow vehicle and trailer.

The rating for gross combination weight is determined for the tow vehicle based on the strength of its frame, suspension, axles, and other towing-related components.

**Gooseneck** – A trailer hitch configuration which attaches to a hitch ball located in the truck bed over the rear axle.

**GVWR** - Gross Vehicle Weight Rating. The maximum loaded weight of your tow vehicle (or trailer), as determined by the manufacturer. GVWR is curb weight plus payload.

**Payload** - The maximum amount of weight a truck or other vehicle can haul, in terms of cargo and passengers, specifically in the truck cab, truck bed or cargo area. For our horse trailers, payload is the weight of the horses plus tack, feed, supplies, and other items.

**Tongue Weight** - The static force (weight) that the trailer tongue places on the hitch. Tongue weight is typically higher on a gooseneck trailer than on a conventional trailer.

**TWR** - Trailer Weight Rating. The maximum total (GVWR) weight of a trailer the tow vehicle is rated to pull.

**VIN** - Vehicle Identification Number. A serial number that is unique to the vehicle and is required on tow vehicles and trailers.

**Weight Carrying Hitch** - A hitch system in which all of the trailer's tongue weight is carried by the hitch. A ball and coupler typically join the tow vehicle and trailer.

**Weight Distribution Hitch** - A hitch system that joins the tow vehicle and trailer with a ball and coupler and uses spring bars to transfer weight from the rear of the tow vehicle to all axles of the tow vehicle and trailer. The spring bars are sometimes referred to as "equalizer bars." Weight distribution hitches are often used on camping trailers and are less commonly seen on horse trailers.



Let's look at and decode that "alphabet soup" of letters and numbers using the tow vehicle and conventional trailer combination pictured above.

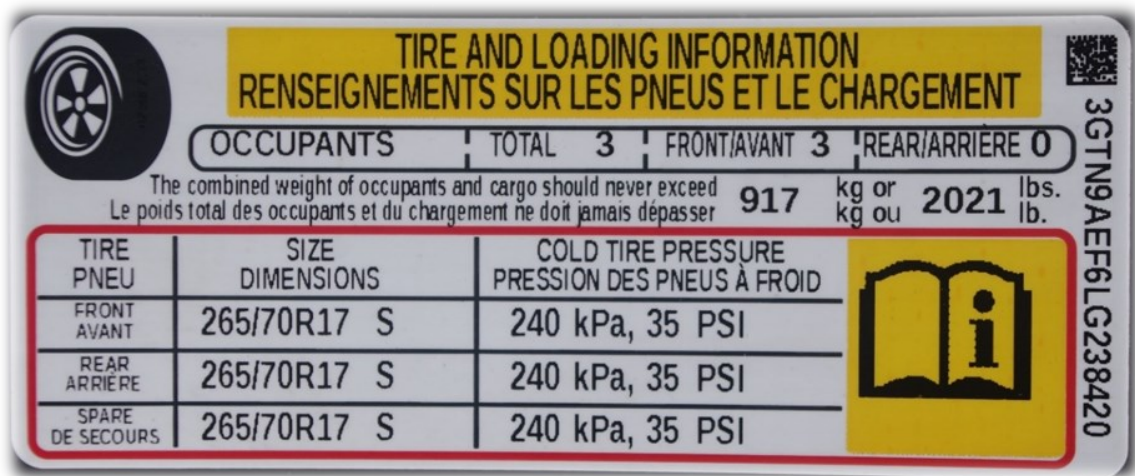


## 1. Vehicle Information Decals



First, the tow vehicle. Shown above is the trailing information decal located on the driver-side door jamb, which includes:

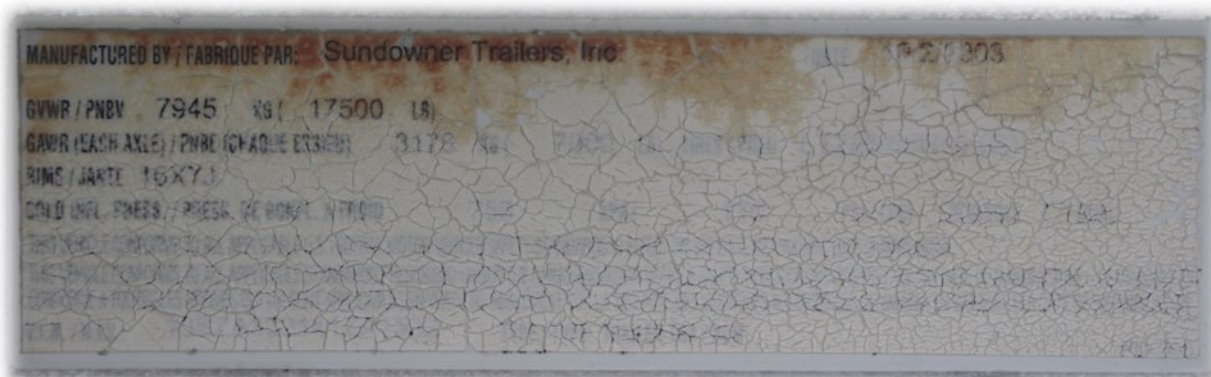
- Tow vehicle VIN (unique to this vehicle) is displayed
- GVWR is 3130 KG (6900 LBS)
- Maximum payload (passenger and cargo capacity) is 917KG (2021 LBS)
- GCWR is 6804 KG (15000 LBS) (maximum combined weight of the tow vehicle and trailer)
- TWR is 4445 KG (9800 LBS) for conventional bumper pull trailer with maximum tongue weight of 445 KG (980 LBS)
- \*Note - TWR is 4400 KG (9700 LBS) for gooseneck trailer; the maximum tongue weight is 660 KG (1455 LBS) due to different weight distribution on a gooseneck trailer



The trailer information decal includes helpful information such as the VIN, wheel rim dimensions, tire size, and tire inflation pressure. The number we are most concerned with here is the trailer GVWR of 3655 KG (8050 LBS), well within the 4445 KG (9800 LBS) TWR for a conventional trailer shown on the tow vehicle trailing information decal.



The trailer information decal includes helpful information such as the VIN, wheel rim dimensions, tire size, and tire inflation pressure. The number we are most concerned with here is the trailer GVWR of 3655 KG (8050 LBS), well within the 4445 KG (9800 LBS) TWR for a conventional trailer shown on the tow vehicle trailing information decal.



On an older trailer, the information decal may have become faded and difficult to read. In this example, GVWR is legible in both KG and LBS, but other information is hard to determine. This trailer is a three-horse gooseneck with living quarters and, with a GVWR of 7945 KG (17500 LBS), is over twice the weight of the conventional trailer we are using as our example. A much heavier duty truck than our example pickup is required to tow this trailer safely.

If the information decal is damaged or missing, contact the trailer manufacturer and provide the VIN (VIN should appear on your trailer's registration paperwork), which the manufacturer can cross-reference to obtain the GVWR and other information.

## This info sheet, Part 1, covered:

### 1. Vehicle Information Decals

## Part 2 will cover:

### 2. Trailer Hitch System

### 3. Safety Chains

### 4. The Breakaway System 5. Trailer Brake Controller

## Contributors:

Beverly Sheremeto and Robert Nagle, Firefighters and horse owners—[B & R's Northern Horse Journey](#)

Photos by Robert Nagle

## Equine Guelph thanks our safety sponsor:



*Workplace Safety & Prevention Services is funded in part through the Canadian Agricultural Partnership, a five-year, \$3 billion investment by federal-provincial and territorial governments to encourage innovation, competitiveness and sustainability in Canada's agriculture industry.*

