

Gross Vehicle Weight Rating (GVWR),
Brake Requirements &
Driver's License Types
For
Recreational Vehicles



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How to Determine Gross Vehicle Weight Ratings (GVWR) for Recreational Vehicles

If hauling a camper unit, towing a trailer or fifth wheel, the following steps will help you in determining what your vehicle is capable of towing or hauling.

This information sheet is intended to assist you. Should conflict arise please refer to the Motor Vehicle Act and Regulation.

TERMS AND DEFINITIONS

“Commercial Vehicle” includes

- a) a motor vehicle having permanently attached to it a truck or delivery body (CTA)

“GAWR” (Gross Axle Weight Rating); the GAWR refers to the maximum weight an axle is designed to carry. The GAWR is a safety standard used to prevent overloading. Manufacturers set the GVWR based on requirements set by Transport Canada.

“GVWR” (Gross Vehicle Weight Rating); the GVWR refers to the maximum weight a vehicle is designed to carry including the net weight of the vehicle with accessories, plus the weight of passengers, fuels, and cargo. The GVWR is a safety standard used to prevent overloading. Manufacturers set the GVWR based on requirements set by Transport Canada.

“GVW” (Gross Vehicle Weight); means the number of kilograms derived by adding the weights on all the axles of a commercial vehicle (CTA)

“Licensed Gross Vehicle Weight” means the gross vehicle weight for which a commercial vehicle is licensed (CTA)

“Net Weight” means the weight of a vehicle that is empty except for the maximum capacity of fuel, oil and coolant necessary for its operation. (ALSO referred to as **“curb weight”**) (MVAR)

“NVIS” (New Vehicle Information Statement); means a document that accompanies a newly manufactured vehicle. Information on this document includes vehicles manufactured **DRY** net weight without optional equipment.

CONVERSION

➤ To convert: Multiply kg by 2.2 or divide lbs by 2.2

- Net (CURB) Weight of the vehicle used to tow or haul.

- Weigh the front axle and rear axle of the vehicle
- Add front axle and rear axle weight to achieve Net Vehicle Weight

- **FOR EXAMPLE:**

- Front axle weight equals --- 1200kg
- Rear axle weight equals --- 1400kg
- Total Net Vehicle Weight equals --- 2600kg

- Manufacturer's Gross Vehicle Weight Rating.

- Refer to the manufacturer's Gross Vehicle Weight Rating (typically located on drivers side door post)
- REFER TO DIAGRAM:



- **EXPLANATION:**

- In this case the GVWR (Gross Vehicle Weight Rating) is 5171kg, the front GAWR (Gross Axle Weight Rating) is 2722kg and the rear GAWR is 3175kg

- **Note:**

- The front and rear GAWR's added together will always be greater than the GVWR.
- You can not exceed any of the three ratings.

- Vehicle Payload.

- Once the Net Weight and GVWR has been determined, subtract the Net Vehicle Weight from the GVWR.

- **FOR EXAMPLE:**

- The net weight is 2600kg
- The GVWR is 5171kg
- Therefore the actual payload for this vehicle would be 2571kg

- Trailer Gross Vehicle Weight Rating (GVWR)

- The previous steps also apply to recreational trailers when determining its carrying capacity
- Locate the manufacturer's GVWR label (typically located near the front of the trailer accompanied by the VIN number)
 - Subtract the net trailer weight from the GVWR
 - This will give you the actual carrying capacity of the recreational trailer
 - This weight can not be exceeded
- **Note:**
 - If your trailer does not have a GVWR, you can have a B.C. certified engineer to assess each component and assign a GVWR to the trailer. (typical on most U-built utility trailers)

LICENSING

- Licensing Of Towing Vehicle and Trailer.

- When towing a recreational trailer for pleasure purpose the towing vehicle must have the proper licensed gross vehicle weight on the Owner's Certificate of insurance or registration documents.

- **EXAMPLE:**

Registration no.	[REDACTED]
Plate no.	[REDACTED]
Year	1998
Make	FORD
Model	4WHDR
Body style	PU
VIC	FGXADL
Colour	WHITE
VIN	2FTRX1 [REDACTED]
Fuel type	GASOLINE
Net weight (kg)	02010
GVW(kg)/Disp(cc)	003500
Seating capacity	N/A
Vehicle type	COMMERCIAL
Anti-theft device	
Vehicle status	
Import code	
AirCare expiry	

- In this case the towing vehicle has a licensed GVW of 3500kg
- When this vehicle is coupled to a recreational trailer or hauling a camper unit the actual weight of the towing unit can not exceed 3500kg as indicated on the Owner's Certificate of insurance.
- Keep in mind, the Manufacturer's GVWR must not be exceeded.

- What Licensed GVW to apply on towing vehicle

- When a new commercial vehicle is register with ICBC it will have a manufacturer's net weight. This is found on the NVIS certificate. The net weight found on the NVIS certificate is the weight of the vehicle after manufacturing and does not include fuel, fluids, or any aftermarket accessories.
If the vehicle is used and purchased from another jurisdiction then ICBC requires a certified Net weight prior to registering the commercial vehicle in British Columbia.
- Once the net vehicle weight has been determined the commercial vehicle can now have a licensed GVW applied to the Owner's Certificate of insurance.
 - It is mandatory to license a commercial vehicle for a minimum 1 1/2 time the net weight.

- **FOR EXAMPLE:**

- If the commercial vehicles net weight is 2010kg then the minimum licensed GVW is 3015kg.
- The Licensed Gross Vehicle Weight may be increased by an Auto Plan Agent.
- Licensing fees change each 500 kgs. Have your agent round up your licensed GVW to the next higher 500 kg increment.
- Licensing for more than the vehicle's maximum GVWR does not allow you to exceed the GVWR.

- What Licensed GVW to apply on recreational trailer

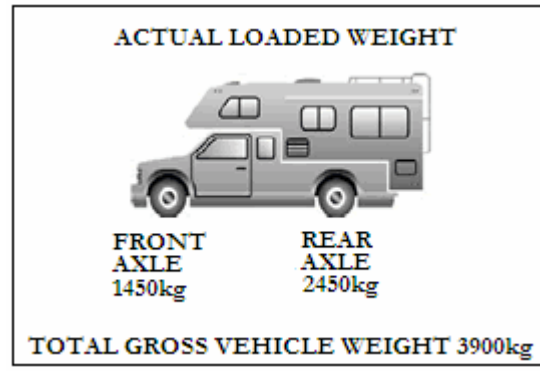
- Typically a recreational trailer used for pleasure use will have a licensed GVW for the laden weight of the trailer. This should include all weight added to the unit such as water, sewer and camping amenities.
- Be sure to check the manufacturer's GVWR when applying the licensed GVW for the trailer unit. If the licensed GVW is greater than the manufacturer's GVWR the trailer unit is more than likely overloaded.

- **FOR EXAMPLE:**

- If the recreational trailers loaded weight is 3500kg and the manufacturer's GVWR is 2800kg, than the trailer is overloaded.
- Keep in mind, the Manufacturer's GVWR must not be exceeded.

SCENARIOS

Truck and Camper Unit



Manufacturer's Ratings

- GVWR = 2800kg
- Front GAWR = 1600kg
- Rear GAWR = 1400kg

Vehicle Net Weight (without camper unit)

- Net weight = 1900kg
- Front Axle = 1200kg
- Rear Axle = 700kg

Gross Vehicle Weight (loaded)

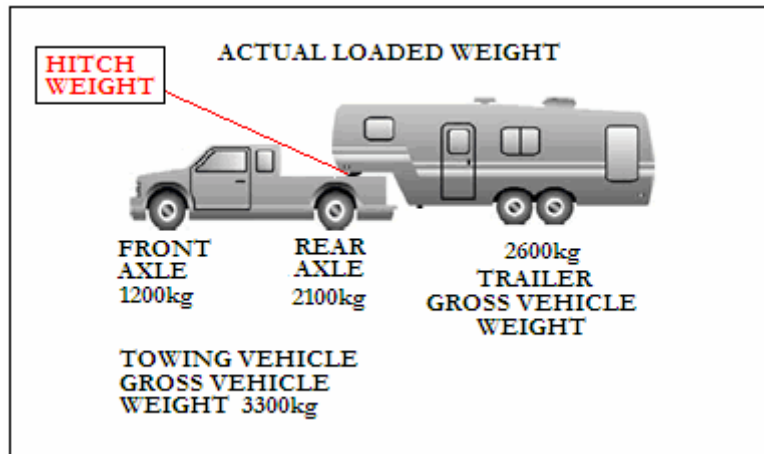
- GVW = 3900kg
- Front Axle Weight = 1450kg
- Rear Axle Weight = 2450kg

Vehicle Payload

$$\text{GVWR } 2800\text{kg} - \text{Net Weight } 1900\text{kg} = \text{Payload } 900\text{kg}$$

- THIS UNIT HAS EXCEEDED THE GVWR BY 1100kg
- IT HAS ALSO EXCEEDED THE REAR GAWR BY 1050kg

Truck towing recreational trailer



Manufacturer's Ratings

- GVWR = 3800kg
- Front GAWR = 1600kg
- Rear GAWR = 2400kg

Vehicle Net Weight (Empty)

- Net weight = 2100kg
- Front Axle = 1200kg
- Rear Axle = 900kg

Gross Vehicle Weight of Truck (loaded)

- GVW = 3300kg
- Front Axle Weight = 1200kg
- Rear Axle Weight = 2100kg

Vehicle Payload

$$\text{GVWR } 3800\text{kg} - \text{Net Weight } 2100\text{kg} = \text{Payload } 1700\text{kg}$$

- THIS UNIT HAS NOT EXCEEDED THE MANUFACTURER'S GVWR OR THE GAWR, THEREFORE THIS UNIT IS IN COMPLIANCE.

CALCULATE YOUR VEHICLES PAYLOAD

Manufacturer's Ratings (DOOR POST)

- GVWR = _____
- Front GAWR = _____
- Rear GAWR = _____

Vehicle Net Weight (EMPTY)

- Net weight = _____
- Front Axle = _____
- Rear Axle = _____

Gross Vehicle Weight (LOADED)

- GVW = _____
- Front Axle Weight = _____
- Rear Axle Weight = _____

Your Vehicle Payload

- GVWR _____ - Net Weight _____ = Payload _____

To convert: Multiply kg by 2.2 or divide lbs by 2.2

KEY FACTORS TO REMEMBER

- Do not exceed manufacturer's GVWR (door post)
- Do not exceed manufacturer's GAWR (door post)
- Adding components such as air bags or overload springs does not allow these ratings to be increased or exceeded.
- Do not exceed Licensed GVW (owner's certificate of insurance)
- When coupled to a trailer unit or 5th wheel remember each unit will transfer weight to the towing unit (hitch weight). Take this into consideration when determining the GVWR and GAWR.
- Make sure fifth wheel mounts and ball receiver hitches are rated according and do not to exceed the manufacturers ratings.
- Ensure tire pressure is maintained according to manufacturers specifications
- Check owner's manual for towing capabilities. If you tow a load that is too heavy for your vehicle, you create a potential safety risk for yourself and others on the road. You may also void warranties.
- Be sure to check with an Auto Plan Agent to ensure your vehicle and trailer units are licensed with the correct rate class.

Braking Requirements for Trailers

When determining whether your trailer requires brakes you will have to determine what the trailer is licensed for and what the actually weighs. (Refer to Owner's Certificate of Insurance for Licensed GVW). In most cases manufactured recreational trailers will be equipped with brakes on each end of each axle. If this is the case then all brakes must be in working order.

- When Are Brakes Required On Trailers

- If the trailer is licensed for 1400kg or less, brakes are not required.
- If the trailer is licensed greater than 1400kg, brakes are required on each end of each axle.
- If the trailer weighs 50% or more of the towing vehicle, brakes are required on each end of each axle.

- Types of Brakes Required

- If the trailer is licensed greater than 1400kg and up to 2800kg a trailer may be equipped with either electric brakes or surge brakes.
- If the trailer is licensed greater than 2800kg then surge brakes are not permitted thus an independent means of applying the brakes from inside the towing vehicle is required.

- **NOTE:**

- Surge brakes are designed to be applied when the towing vehicle decreases speed or brakes. Surge brake can not be applied when traveling in reverse. They are designed to use the momentum of the towing vehicle for effective braking.

- Trailer Breakaway Device

- When a trailer is required to be equipped with brakes the trailer must have an operational breakaway device. This breakaway device is intended for accidental separation from the towing unit. In the event that the trailer unit shall become separated from the towing unit the trailers brakes will automatically apply.

- **TIPS:**

- Be sure to attached breakaway device cable to towing unit. Do not attach cable to safety chains.
 - Ensure battery is fully charged. If battery is dead the device will not work.

- **Example of a typical breakaway device:**



SCENARIOS

1. Trailer Exceeds 1400kg, Is Under 2800kg and Weighs More Than 50% of Towing Vehicle Weight

Truck Towing Recreational Trailer



BRAKES ARE REQUIRED ON TRAILER

- Trailer is licensed in excess for 1400kg and weighs more than 50% of towing vehicle.
- Trailer is licensed less than 2800kg, therefore surge brakes may be permitted.
- Safety chains are required.
- Breakaway device is required.

2. Trailer does not Exceed 1400KG, Weighs Less Than 50% of Towing Vehicle Weight and consist of a Single Axle

Truck Towing Utility Trailer or Recreational Trailer



BRAKES ARE NOT REQUIRED ON TRAILER

- Trailer is licensed less than 1400kg and weighs less than 50% of towing vehicle.
- Trailer is equipped with single axle.
- Safety chains are required.
- Breakaway device not required.

3. Trailer Exceeds 2800kg and is Under 50% of Towing Vehicle Weight

Motor Home Towing Recreational Trailer



BRAKES ARE REQUIRED ON TRAILER

- Trailer is licensed in excess of 1400kg but weighs less than 50% of the towing vehicle.
- Trailer is licensed in excess of 2800kg, therefore surge brakes are **not** permitted.
- Safety chains are required.
- Breakaway device is required.

4. Towed Vehicle Including Its Load Are Less Than 2000kg, And Is Under 40% of Motorhome's (GVWR) Gross Vehicle Weight Rating

Motor Home Towing a Vehicle via Tow Bar



BRAKES ARE NOT REQUIRED ON TOWED VEHICLE

- Towed vehicle and its load are less than 2000kg and is under 40% of the Gross Vehicle Weight Rating (GVWR) of the Motor home towing it.
- Safety chains are required.
- Towed vehicle must be licensed and insured.
- If towed vehicle is 2000kg or more, brakes are required on towed vehicle.
- Tow bar is **ONLY** allowed when towed vehicle is being towed by a motorhome.

5. Towing Dolly Axle Exceeds 1400kg When Loaded With Motor Vehicle

Motor Home Towing a Vehicle via Towing Dolly



BRAKES ARE REQUIRED ON TOWING DOLLY

- Towing dolly axle exceeds 1400kg when loaded with motor vehicle.
- Safety chains required.
- Breakaway device required.
- Motor vehicle must be licensed and insured.

Drivers License Requirements

When towing a recreational trailer you may be required to up grade your driver's license depending on the weight of the trailer being towed. This can be done at a Drivers Service Center.

- Types of Driver's Licenses

- **Class 5 or 7:** Permits operation of a motor vehicle or combination of vehicles and includes;
 - a 2 axle motor vehicle other than a motorcycle, but does not include a bus, school bus, special activity bus, special vehicle, taxi or ambulance, when uses for its purpose as intended by design.
 - a 2 axle motor vehicle or 2 axle tow car (tow truck) with towed vehicles if the towed vehicles in that combination do not exceed 4600kg.
 - a motor home or motor home with towed vehicles if the towed vehicles in that combination do not exceed 4600kg.
- **Class 4:** Permits operation of;
 - a motor vehicle or combination of vehicles for which a class 5 license is required.
- **Class 3:** Permits operation of;
 - a motor vehicle or combination of vehicles for which a Class 5 license is required.
 - a motor vehicle with 3 or more axles other than a bus when used for its purpose as intended by design.
 - a combination of vehicles if the towed vehicles in that combination do not exceed 4600kg, or
 - a combination of vehicles without air brakes if the towed vehicles exceed 4600kg
- **Class 2:** Permits operation of;
 - a motor vehicle or combination of vehicles for which a Class 4 licence is required.
 - a combination of vehicles without air brakes if the towed vehicles exceed 4600kg.
- **Class 1:** Permits operation of any motor vehicle or combination of vehicles but does not include the operation of a motorcycle.

- Code 5 I (HOUSE TRAILER ENDORCEMENT)

- If you wish to tow a house trailer that exceeds 4600kg and neither the towing vehicle nor the house trailer is equipped with air brakes a **Code 5 I** can be applied to your Class 4 or 5

- Code 20 (HEAVY TRAILER ENDORCEMENT)

- If you wish to tow a heavy trailer that exceeds 4600kg and neither the towing vehicle nor the heavy trailer is equipped with air brakes a **Code 20** can be applied to your Class 4 or 5
 - **HEAVY TRAILER:** Enclosed cargo trailers, flat decks and stock trailers are examples of **HEAVY TRAILERS**

EXAMPLES

The following are minimum driver's license classes required to operate these recreational vehicle types and combinations



- Class 5, 4, 3, 2, or 1

Pickup and House Trailer



- Class 5, 4, 3 or 2. Trailer less than 4600kg without air brakes.
- If trailer *exceeds* 4600kg a Code 51 (HOUSE TRAILER ENDORSEMENT) must be added to a Class 5, 4, 3 or 2 to permit operation.
- Class 1

Motorhome and Heavy Trailer



- Class 5, 4, 3 or 2. Trailer less than 4600kg without air brakes.
- If trailer *exceeds* 4600kg a Code 20 (HEAVY TRAILER ENDORSEMENT) must be added to a Class 5, 4, 3 or 2 to permit operation.
- Class 1