

How Much Can You Safely Tow

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This information is believed to be correct but it is up to you to insure you are safely towing, the author accepts no responsibility for any safety issues that arise during towing.

Before I describe how to determine what you can safely tow, I need to discuss tow vehicle and trailer specifications.

Tow Vehicle

Tow vehicles have a Gross Vehicle Weight Rating (GVWR), this is the most the vehicle can ever safely weigh. If you put the tow vehicle on a scale the scale should never show more weight than this number. You can get this number off the manufacture's web site, it is also on a sticker on the end of the driver's side door or center post. There should also be Gross Axle Weight Ratings (GAWR) for the front and rear axles.

There will also be a yellow sticker with the cargo capacity. This is basically the GVWR minus the curb weight of the vehicle from the factory. The cargo capacity will also be on the manufacturers web site but be careful because it will change depending on tow vehicle options whereas the yellow sticker will be the values for your specific vehicle as built.

Trailer

Just like your tow vehicle the trailer will have a GVWR on a sticker, usually on the door and the front driver's side of the trailer.

There is also yellow sticker with the cargo capacity. Manufacturers web sites will typically list GVWR and a dry weight and pin weight for a trailer but keep in mind the dry weight can change a lot depending on options and the pin weight is based on an empty base trailer with no options. Some manufacturers do not even include the "mandatory option" packages in the dry weight even though you cannot buy a trailer without them. A trailer as delivered can easily weight 500 or more pounds above the web site dry weight. The yellow sticker on your trailer will be the actual weight of your trailer when it left the factory.

Cargo in the trailer is not only anything you put in the trailer but the weight of any fluids in your tanks or water heater. Once you use your water heater it will hold somewhere between 5 and 10 gallons of water until you drain it, that is approximately 40 to 80 pounds of weight. Water tanks may hold 50 or even 75 gallons, that is over 400 pounds to almost 600 pounds of weight. Clothes, food, drinks, pots and pans, dishes, eating utensils, bedding, towels, etc. add up surprisingly fast. It is amazingly easy to put a thousand pounds of stuff into a trailer.

Fifth Wheel Towing

As I previously mentioned there are three numbers you must consider, and you cannot exceed any of them:

- 1) Cargo Capacity – for fifth wheel towing this number will almost always limit you to a lot less than the Tow Capacity. Your tow vehicle “cargo” will be the driver, any passengers, your hitch weight, the pin weight of the fifth wheel and any other cargo in the tow vehicles. The pin weight of a fifth wheel will typically be between 15% and 25% of the weight of the trailer depending on how you load it. For example my trailer fully loaded has a pin weight of 3,400 pounds, my wife and I weigh a combined 375 pounds, my fifth wheel hitch weighs 140 pounds, I have a tool box bolted into the truck bed that weighs at least 200 pounds and then I carry some other accessories and need over 4,200 pounds of cargo capacity, that is why I drive a truck with dual rear wheels. My truck’s tow capacity is 28,000 pounds and yet pulling my 15,000 pounds fifth wheel I am close to the cargo capacity of the truck of 4,400 pounds.
- 2) Tow Capacity - the trailer weight cannot exceed the tow capacity of the tow vehicle. If you are buying a new trailer or tow vehicle, I recommend planning on the GVWR of the trailer, it is easy to fill a trailer up to its capacity so be prepared to pull the trailer at maximum weight.
- 3) Gross Combined Weight Rating (GCWR) – this is the maximum allowable weight for the tow vehicle and trailer combined. If your tow vehicle is within the GVWR and the trailer is under the tow capacity, you will be fine since this number is the combination of the two.

Travel Trailer Towing

For travel trailer towing there are four numbers you must consider, and you cannot exceed any of them:

- 4) Cargo Capacity – for travel trailers you will typically see 10% to 15% of the trailer weight on the hitch. The hitch weight, driver and passengers and any other cargo all count against the cargo capacity. Either this number or hitch weight will typically limit how much you can tow.
- 5) Hitch Capacity - this number will typically have values for with and without a weight distributing hitch. A weight distributing hitch transfers some weight to the front axles and allows more hitch weight. Either this number or cargo capacity will typically limit how much you can tow.
- 6) Tow Capacity - the trailer weight cannot exceed the tow capacity of the tow vehicle. If you are buying a new trailer or tow vehicle, I recommend planning on the GVWR of the trailer, it is easy to fill a trailer up to its capacity so be prepared to pull the trailer at maximum weight.
- 7) Gross Combined Weight Rating (GCWR) – this is the maximum allowable weight for the tow vehicle and trailer combined. If your tow vehicle is within the GVWR and the trailer is under the tow capacity, you will be fine since this number is the combination of the two.

So, as you can see, Tow Capacity is not what typically determines how much you can tow.

Now one question you may have is, what if I exceed one of these numbers when towing. The reality is people do it all the time, but the further over the limits you are the more likely you are to eventually have something break. Staying under these limits does not guarantee you won’t have something break but it is less likely. The other issue is legal, if you exceed these limits, you are operating a vehicle outside of its design limits and breaking the law, I am not a lawyer and not qualified to comment on the consequences of that but if you get in a accident you could have expanded liability.

Other Considerations

A few other towing considerations:

- 1) Diesel Versus Gas – if you compare diesel and gas tow vehicles of the same model, the diesel vehicle will typically have twice the torque of the gas version. This will provide better acceleration and better performance going uphill. Typically, the tow rating will be higher, the fuel economy better and the fuel economy for towing a trailer versus not towing will not decrease as much. However, diesel engines are heavier, and the cargo capacity of a diesel tow vehicle will typically be lower than for a gas tow vehicle. This may allow you to tow with a lesser model, for example a GMC 2500 gas model instead of a 3500 diesel because of the additional cargo capacity.
- 2) Dual versus Single Rear Wheels – for the same tow vehicle the dual rear wheel version will have a higher cargo capacity than the single rear wheel versions so for heavy fifth wheels dual rear wheels range from being a good idea to being essential. There are varying opinions on this but personally I think when a fifth wheel is 15,000 pounds or heavier dual rear wheel are needed. The dual rear wheels will also provide more stability in windy environments or when a tractor trailer truck goes flying by. The downside to dual rear wheel is the fuel economy is lower, the tow vehicle is heavier and harder to park.
- 3) Air Bags or Timbrens – if the back of your tow vehicle sinks down too much when you hook up your trailer air bags or timbrens can help level out your ride, however, if your sagging problem is due to exceeding a weight rating these are a band aids at best and you need a heavier duty tow vehicle.
- 4) CAT Scales – there are CAT scales all over the country, they are set up so that when you pull on the scales you get front and rear tow vehicle axle weights and a trailer axle weight. You can quickly and easily determine whether you are exceeding either GVWR or GAWR for the tow vehicle or GCWR for both the tow vehicle and the trailer. If you then drop the trailer and pull the tow vehicle back on the scales without the trailer you can subtract the tow vehicle weight without the trailer from the tow vehicle weight with the trailer to get the pin weight. The pin weight plus the trailer axle weight is the total trailer weight. The tow vehicle weight with the trailer should not exceed the tow vehicle GVWR and the trailer axle weight plus pin weight should not exceed the trailer GVWR.