

General Trailer Safety

Driver error is the most common reason for accidents involving trailers. Motorists tend to forget that with a trailer, they are operating a vehicle combination that is longer, heavier and sometimes wider and/or taller than what they normally drive.

Adding a trailer requires you adjust your driving habits to accommodate the additional weight and length.

A second reason for trailer accidents is the driver failing to adjust speed and driving habits to weather and road conditions. Again, the combined vehicles are heavier and longer and in poor driving conditions, stopping time is greater. (See Special towing considerations.)

Trailer sway, due to improper loading, is the third most common reason for accidents. Make sure your cargo is properly distributed in the trailer with the most weight over the trailer axles.

Failure to perform routine maintenance is the fourth reason. Check the lug nuts as well as tire pressure before each trip. If the trailer has been idle for several months, grease the bearings, as condensation can build up in the bearings causing corrosion. Also, make sure the coupler is adequately lubricated.

Choosing the Right Towing Vehicle

When it comes to towing trailers, your tow vehicle needs adequate horsepower, torque, weight and length to get the job done. Some of these are reflected in the towing capacity that the vehicle manufacturer sets. The tow vehicle towing capacity must exceed the weight of the trailer when loaded. Using an under-rated tow vehicle is dangerous and illegal.

Start by choosing a tow vehicle that has a towing capacity higher than the trailer's gross vehicle weight rating. For instance, if a SUV has a 500-pound towing capacity, it should be able to tow a trailer up to a 500-pound GVWR.

However, the towing capacity of tow vehicles generally is based on the ratings of the vehicle's components, such as wheels, tires, suspension and transmission. The vehicle manufacturer may not have factored in the pulling power of the engine. This is where you should take into account the vehicle's horsepower and torque.

The tow vehicle's engine creates torque and uses it to turn the crankshaft. The gears in the transmission convert this torque into a vehicle's horsepower, or its ability to pull a trailer.

While it's difficult to provide guidelines for what is enough torque and horsepower because it varies with trailer size and load, it is important to maximize both in your tow vehicle.

A vehicle with more torque can move more weight with less stress on the engine. This is important because towing a trailer puts a lot of additional load on the engine. This contributes to the wear and tear on the vehicle. More horsepower simply helps you get

around more quickly and accelerate faster.

Generally, look for more engine displacement. A six-liter engine will give you more horsepower and torque than a five-liter engine. And, larger engines are more compatible dealing with heavier loads.

Many manufacturers will actually design a towing package for dealers. The package can include heavier duty components, such as the radiator, battery and transmission, to accommodate towing heavy loads. They also will install the equipment necessary for hooking a rig to the vehicle.

Towing live animals places greater demands on the vehicle because the animals move around, shifting thousands of pounds to different places in the trailer. For live animals, experts recommend hauling 25 percent less than the vehicle's maximum tow rating.

Also, consider the terrain where the towing will occur. Hilly terrain or unpaved roads place more stress on the tow vehicle and may require you to haul less than the vehicle's maximum tow rating.

Special Towing Considerations

From high winds to passing semis, trailer towing offers many special driving conditions.

A 30-mph cross wind, for instance, can be enough to blow a trailer, especially an empty one, off the road. If the wind causes the trailer to pitch right, you would steer to the left to correct and keep the vehicle on the road.

When wind is pushing the trailer around, the best reaction is to slow down. In extremely windy conditions, park the unit until it is safe.

Large semis create another set of challenges when they pass a vehicle towing a trailer. These large trucks develop a high-pressure wave in front of the vehicle and a low-pressure area in the back.

As the semi passes, the air pressure first pushes your trailer and then your tow vehicle to the right. After the truck passes, the low-pressure area will pull both vehicles back to the left. To counter this, steer first left and then right. Avoid overcompensating.

Backing up with a trailer can be a complex activity. Most experts recommend having someone outside at the rear of the trailer to help guide you. This is where the mirrors on your tow vehicle become important. Sometimes, it is necessary to get special mirrors attached to the vehicle to enhance viewing the trailer.

Remember, the trailer turns the opposite way you turn your wheels. Experts suggest placing your hand at the bottom of the steering wheel and moving it the way you want the trailer to go. Also, make slow, easy steering adjustments. This is a skill worth practicing before you get into a critical situation.

When driving in rain or snow, slow down. Also, keep a greater distance between your vehicle and the one in front. The additional weight of the trailer makes stopping more difficult in slick conditions.

Safety Chains

Safety chains ensure the trailer remains connected to the tow vehicle in the event the hitch fails.

The chains should be long enough to allow the vehicles to corner without binding, but not so long that they drag on the pavement. Dragging can cause the chains to become worn and unsafe. When attaching the chains to the tow vehicle, make sure to cross them. This creates a saddle for the trailer tongue in the event of failure.

When using a frame-mounted trailer hitch, attach the safety chains to the frame using recommendations supplied by the hitch manufacturer. A frame-mounted hitch is one where the hitch is attached to the frame of the tow vehicle. This gives more stability to a bumper pull type of hitch.

Tire Safety

Make it a practice to check the air pressure in all the tires on your trailer regularly. If a tire is under inflated on a tandem axle rig, the tire can become very hot and catch fire. (The under inflated tire may not be evident because the other wheels are supporting the weight of the trailer.)

The most common causes for tire failure are loading the trailer with more weight than the trailer's rated cargo capacity or having under-inflated tires. Both result in excess flexing of the sidewall, which causes heat buildup and eventual failure.

Also, check the lug nuts regularly. The axles and wheels are subjected to more flexing than say a passenger car's axles and wheels. This can cause the lug nuts to loosen. You should tighten lug nuts to the torque rating specified by the manufacturer. Over tightening can cause the studs to break.

When it comes time to replace a tire, make sure you match the tire load rating specified by the trailer's manufacturer.