

Towing Trailers and Portable Generators Safely



A Fact Sheet prepared by the National Telecommunications Safety Panel

Introduction

Towing a trailer or portable generator can be done safely and successfully if you know and follow basic trailer towing rules. Not following these rules can result in serious accidents and severe property damage.

Telecommunications companies use a wide variety of trailers and portable generators. They range from single-axle and double-axle, to large, goose-neck and 5th wheel trailers.

Whether towing a large or small trailer or portable generator, the same basic safety rules and procedures must be followed. This fact sheet will discuss some of the basic trailer towing safety procedures. Specific questions on certain trailers or portable generators should be referred to your local supervisory/manager, or your company Fleet Department, Safety Specialist, or to the manufacturer of the Trailer or portable generator.

Towing Vehicle

- Before hooking up to a trailer, make sure the towing vehicle is rated to tow the combined weight of the trailer or portable generator and its load. Follow the weight and rating information which comes from the factory and is usually stamped or tagged onto the frame, usually the tongue.
- Tow capacities, such as Gross Combination Weight Rating (GCWR), is specified by the manufacturer and is found in the vehicle owner's manual of the towing vehicle. If this information is not available in the manual or is confusing, the driver should seek assistance from his/her supervisor, Company Fleet Department, or the manufacturer of the vehicle.
- If the GCWR plus Gross Trailer Weight Rating (GTWR) is greater than 10,001 pounds, you may be subject to the Federal Motor Carrier Safety Regulations. Contact your supervisor or DOT compliance administrator for additional information

Do Not Exceed the Capacity of the Towing Vehicle.

Below are key areas of the towing vehicle and trailer or portable generator to inspect prior to towing:

- Presence or need of optional transmission cooling system?
- Braking system on the vehicle and trailer or portable generator – do they work?

- Light connection for the trailer or portable generator – does it work and is it compatible with the trailer?
- Is the ball or trailer hitch secure?
- Is the ball the right size for the hitch and are they compatible?
- Check tire pressure and account for any extra pressure according to the owner's or manufacturer's recommendations.

Trailer/Portable Generator

An inspection of the trailer or portable generator should target the following items:

- **Brakes** – if a unit is equipped with electric or surge brakes, these should be inspected and in operable condition before leaving the work location. Manual override systems should be in working condition. Manual override systems may be tested by activating the brakes while your vehicle is moving slowly forward. The brakes on the unit should stop the vehicle.
- **Tires** – check pressure according to the ratings of the tire and according to expected weight of trailer contents or portable generator. Check frequently while towing. A flat or low tire can easily hide behind a front tire of a tandem axle unit. A physical inspection of the back tires is required. A low tire will feel hotter to the touch than the other tires.
- **Electrical Connections** – if a unit is equipped with lights, these must be in working condition. The connectors corrode easily and need frequent attention. Some units may not be required to maintain electrical lights; rather they may have reflective tape or other conspicuous markings. Make sure your trailer or portable generator meets all state and federal DOT highway requirements for lighting and any special reflectors or markings.
- **Wheels and Lug Nuts** – Trailers and portable generators have higher wheel loading than passenger cars or trucks. Tandem axles do not steer and wheels are subjected to high twisting side loads in tight, slow turns. This flexing of the tire and wheel can loosen wheel lug nuts over time. Wheel lug nut torque is usually much higher than specified for passenger cars.

Wheel Bearings

- Axle wheel bearings occasionally need cleaning, inspecting, and repacking. A hot bearing requires immediate attention.

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- Feel with your hand at the hub to check for one that may be running hotter than the rest. Use caution when touching. If there is little grease or the bearing is adjusted too tightly, the bearing can be VERY hot!

Tires

Make sure that correct tire size and type are compatible with the recommendations of the trailer or portable generator manufacturer. For example, using a car radial tire on a unit which is supposed to have regular bias ply trailer type tires can create significant towing safety problems. Radial tires tend not to track behind a towing vehicle like a regular bias ply trailer tire. Inspect each tire prior to use for deterioration caused from sitting for long periods of time.

Safety Chains

Typical tongue set-ups include two separate chains hooked or welded to each side of the tongue with hooks for connecting to the towing vehicle. Inspect safety chains for wear and damage. Hooks or links which are damaged or worn should be replaced. Chains dragging on concrete or pavement can be compromised easily. Safety chains should be of sufficient strength to support the tongue and keep the trailer or portable generator connected to the towing vehicle in case of accidental unhooking of the unit. They should be crossed underneath the tongue to prevent the tongue from contacting the ground during an accidental unhooking during towing.

Classes of Hitches

Hitches come in various classes. They are as follows:

- Class I: Up to 2000 lb. (1 7/8" ball)
- Class II: 2000 – 3500 lb. (1 7/8" ball)
- Class III: 3500 – 5000 lb (2" ball)
- Class IV: 5000 – 10,000 lb. (2" ball)

Make sure the gross weight of portable generator or trailer and material being transported does not exceed the class of vehicle on the towing vehicle. Check with your Company Fleet Department, or a reputable hitch specialty shop, they should be able to answer questions concerning hitch class and trailer compatibility. Do not exceed the towing vehicle hitch and ball ratings.

Hitches

There are four basic types of hitches:

1. A **Weight Carrying Hitch** (dead weight hitch) consists of a hitch ball mounted to a step bumper or draw bar. It is the most common type of hitch used for towing trailers with light and medium loads.
2. A **Receiver Hitch** is most often used for towing heavier loads or equipment. This hitch type distributes the pulling forces on the towing vehicle more evenly since the hitch is attached to the frame

of the vehicle. This type of hitch uses a receiver hitch as part of the connecting parts.

3. **Fifth-Wheel and Gooseneck Hitches** are specifically designed for heavy towing. These hitches are located in the bed of the truck and position the trailer's kingpin weight over or slightly in front of the truck's rear axle.
4. **Pintle Hitch** types are also used for heavy towing and are often found on utility trucks and trailers towing pole trailers and other heavy equipment. This hitch design incorporates a "C" clamping device which mates up with a loop styled tongue. Once the connection is made, a safety pin is inserted to prevent accidental opening of the hitch.

Note: Vehicle operator manuals quite will often list tow capacities in the maximum and most often will require a **Weight Distributing Hitch (WDH)**. Some Companies typically do not equip vehicles with WDHs, so make sure you reference the correct two vehicle capacities in the owner's manual.

Towing and Parking a Trailer or Portable Generator

- Reduce speed. Be aware of posted speed limits. Generally whether loaded or unloaded, 50-60 mph is considered a maximum highway speed for hard surfaced improved roads. Some manufacturers recommend no faster than 45 mph. Road, traffic, unit, and tow vehicle conditions are the primary factors when considering safe speeds.
- Avoid sudden braking and swerving. Doing so can put the towing vehicle in an uncontrollable and dangerous predicament.
- If "fish tailing" occurs, slow down gradually until the vehicle and unit are out of the situation and safely under control.
- When parking on a grade:
 1. Chock at least one tire on each side of the trailer on the down hill side. (Check Company requirements)
 2. When the unit is on level ground and detached from a tow vehicle, it is recommended, but not required, that a chock is placed in front of and behind at least one trailer tire because wind currents have been known to blow trailers into other vehicles and other property resulting in damage. (Check Company requirements)
 3. If the trailer is occupied for work activities, it should have one chock placed in front of and behind at least one trailer tire. (Check Company requirements)
- Stop after the first 5 miles of your trip and make sure the trailer and contents are secure. Make periodic safety checks of the trailer, contents, and lights during any extended trip.
- Do not tow a trailer which does not have the regulatory required lights, brakes, and hitching requirements. Varying state regulations apply. Check with your local enforcement agency to ensure

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compliance with state regulations for your specific trailer.