

2 GENERAL SAFETY INFORMATION

2.1 SAFETY ALERT SYMBOLS AND SIGNAL WORDS

An Owner's Manual that provides general trailer information cannot cover all of the specific details necessary for the proper combination of every trailer, tow vehicle and hitch. Therefore, you must read, understand and follow the instructions given by the tow vehicle and trailer hitch manufacturers, as well as the instructions in this manual. Our trailers are built with components produced by various manufacturers. Some of these items have separate instruction manuals. Where this manual indicates that you should read another manual, and you do not have that manual, call PJ Trailers at 800-452-9116 for a free copy.

The safety information in this manual is denoted by the safety alert symbol:  The level of risk is indicated by the following signal words.

Danger

DANGER – Immediate hazards which **WILL** result in severe personal injury or death if the warning is ignored.

WARNING

WARNING – Hazards or unsafe practices which **COULD** result in severe personal injury or death if the warning is ignored.

Caution

CAUTION – Hazards or unsafe practices which could result in minor or moderate injury if the warning is ignored.

Notice

NOTICE – Practices that could result in damage to the trailer or other property.

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2.2 MAJOR HAZARDS

Loss of control of the trailer or trailer/tow vehicle combination can result in death or serious injury. The most common causes for loss of control of the trailer are:

- Improper sizing the trailer for the tow vehicle, or vice versa.
- Excessive Speed: Driving too fast for the conditions.
- Failure to adjust driving behavior when towing a trailer.
- Overloading and/or improper weight distribution.
- Improper or mis-coupling of the trailer to the hitch.
- Improper braking and steering under sway conditions.
- Not maintaining proper tire pressure.
- Not keeping lug nuts tight.

2.2.1 Improper Sizing of the Trailer to the Tow Vehicle.

Trailers that weigh too much for the towing vehicle can cause stability problems, which can lead to death or serious injury. Furthermore, the additional strain put on the engine and drive-train may lead to serious tow vehicle maintenance problems. For these reasons the maximum towing capacity of your towing vehicle should not be exceeded. The towing capacity of your tow vehicle, in terms of maximum Gross Trailer Weight (GTW) and maximum Gross Combined Weight Rating (GCWR) can be found in the tow vehicles Owner's Manual.

Danger

Use of an under-rated hitch, ball or tow vehicle can result in loss of control leading to death or serious injury.

Make certain your hitch and tow vehicle are rated for your trailer.

2.2.2 Driving Too Fast

With ideal road conditions, the maximum recommended speed for safely towing a trailer is 60 mph. If you drive too fast, the trailer is more likely to sway, thus increasing the possibility for loss of control. Also your tires may overheat, thus increasing the possibility of a blowout.

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WARNING

Driving too fast for conditions can result in loss of control and cause death or serious injury.

Adjust speed down when towing trailer.

2.2.3 Failure to Adjust Driving Behavior When Towing a Trailer

When towing a trailer, you will have decreased acceleration, increased stopping distance, and increased turning radius (which means you must make wider turns to keep from hitting curbs, vehicles, and anything else that is on the inside corner). Furthermore the trailer will change the handling characteristics of your towing vehicle, making it more sensitive to steering inputs and more likely to be pushed around in windy conditions or when being passed by large vehicles. In addition, you will need a longer distance to pass, due to slower acceleration and increased length. With this in mind:

- Be alert for slippery conditions. You are more likely to be affected by slippery road surfaces when driving a tow vehicle with a trailer, than driving a tow vehicle without a trailer.
- Anticipate the trailer “swaying.” Swaying can be caused by excessive steering, wind gusts, roadway edges, or by the trailer reaction to the pressure wave created by passing trucks and busses.
- When encountering trailer sway take your foot off the gas, and steer as little as possible in order to stay on the road. Use small “trim-like” steering adjustments. Do not attempt to steer out of the sway; you’ll only make it worse. Also do not apply the tow vehicle brakes to correct trailer swaying. On the other hand, application of the trailer brakes alone will tend to straighten out the combination, especially when going downhill.
- Check rearview mirrors frequently to observe the trailer and traffic.
- Use lower gear when driving down steep or long grades. Use the engine and transmission as a brake. Do not ride the brakes, as they can overheat and become ineffective.
- Be aware of your trailer height, especially when approaching bridges, roofed areas and around trees.

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2.2.4 Trailer Not Properly Coupled to the Hitch

It is critical that the trailer be securely coupled to the hitch, and that the safety chains and emergency breakaway brake lanyard are correctly attached. Uncoupling may result in death or serious injury to you and to others.

WARNING

Proper selection and condition of the coupler and hitch are essential to safely towing your trailer. A loss of coupling may result in death or serious injury.

- Be sure the hitch load rating is equal to or greater than the load rating of the coupler.
- Be sure the hitch size matches the coupler size.
- Observe the hitch for wear, corrosion and cracks before coupling. Replace worn, corroded or cracked hitch components before coupling the trailer to the tow vehicle.
- Be sure the hitch components are tight before coupling the trailer to the tow vehicle.

WARNING

An improperly coupled trailer can result in death or serious injury.

Do not move the trailer until:

- The coupler is secured and locked to hitch;
- The safety chains are secured to the tow vehicle; and
- The trailer jack(s) are fully retracted.

Do not tow the trailer on the road until:

- Tires and wheels are checked;
- The trailer brakes are checked;
- The breakaway switch is connected to the tow vehicle;
- The load is secured to the trailer; and
- The trailer lights are connected and checked.

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2.2.5 Proper Use of Safety Chains

If your trailer comes loose from the hitch for any reason, we have provided safety chains so that control of the trailer can still be maintained.

WARNING

Improper rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

- Fasten chains to frame of tow vehicle. Do not fasten chains to any part of the hitch unless the hitch has holes or loops specifically for that purpose.
- Cross chains underneath hitch and coupler with enough slack to permit turning and to hold tongue up, if the trailer comes loose.

2.2.6 Proper Connection of Breakaway Brake

If equipped with brakes your trailer will be equipped with a breakaway brake system that can apply the brakes on your trailer if your trailer comes loose from the hitch for any reason. You will have a separate set of instructions for the breakaway brake if your trailer is so equipped. The breakaway brake system, including battery, must be in good condition and properly rigged to be effective.

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WARNING

An ineffective or inoperative breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or hitch fails.

The breakaway lanyard must be connected to the tow vehicle, and NOT to any part of the hitch.

Before towing the trailer, test the function of the breakaway brake system. If the breakaway brake system is not working, do not tow the trailer. Have it serviced or repaired.

2.2.7 Matching Trailer and Hitch

Danger

Use of a hitch with a load rating less than the load rating of the trailer can result in loss of control and may lead to death or serious injury.

Use of a tow vehicle with a towing capacity less than the load rating of the trailer can result in loss of control, and may lead to death or serious injury.

Be sure your hitch and tow vehicle are rated for the Gross Vehicle Weight Rating (GVWR) of your trailer.

2.2.8 Worn Tires, Loose Wheels and Lug Nuts

Just as with your tow vehicle the trailer tires and wheels are important safety items. Therefore, it is essential to inspect the trailer tires before each tow.

If a tire has a bald spot, bulge, cut, cracks, or is showing any cords, replace the tire before towing. If a tire has uneven tread wear, take the trailer to a dealer service center for diagnosis. Uneven tread wear can be caused by tire imbalance, axle misalignment or incorrect inflation.

Tires with too little tread will not provide adequate frictional forces on wet roadways and can result in loss of control, leading to death or serious injury.

Improper tire pressure causes increased tire wear and may reduce trailer stability, which can result in a tire blowout or possible loss of control.

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Therefore, before each tow you must also check the tire pressure. Remember, the proper tire pressure is listed on the Certification / VIN label, normally mounted on the front left side of the trailer, and should be checked when tires are cold. Allow 3 hours cool-down after driving as much as 1 mile at 40 mph before checking tire pressure.

WARNING

Improper tire pressure may cause unstable trailer. Blowout and loss of control may occur. Death or serious injury can result.

Make sure of proper tire pressure before towing trailer. Inflate tires to pressure stated on the Certification / VIN label.

The tightness of the lug nuts is very important in keeping the wheels properly seated to the hub. Before each tow, check to make sure they are tight.

WARNING

Metal creep between the wheel rim and lug nuts (bolts) will cause rim to loosen.

Death or injury can occur if wheel comes off.

Tighten lug nuts (bolts) before each tow.

The proper tightness (torque) for lug nuts and tightening sequence is listed in Section 10.2.12 of this manual. Use a torque wrench to tighten the lug nuts and use the crisscross star pattern sequence.

Lug nuts are also prone to loosen after first being assembled. When driving a new trailer (or after wheels have been remounted), check to make sure they are tight after the **first** 10, 25 and 50 miles of driving and before each tow thereafter.

Failure to perform this check can result in a wheel separating from the trailer and a crash, leading to death or serious injury.

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WARNING

Lug nuts are prone to loosen after being first assembled. Death or serious injury can result.

Check lug nuts for tightness on a new trailer, and after re-mounting a wheel at 10, 25 and 50 miles.

WARNING

Inadequate lug nut torque can cause a wheel separating from the trailer, leading to death or serious injury can result.

Be sure lug nuts are tight before each tow.

2.2.9 Improper Loading

The total weight of the load you put in or on the trailer, plus the empty weight of the trailer itself, must not exceed the trailer's Gross Vehicle Weight Rating (GVWR). If you do not know the empty weight of the trailer plus the cargo weight, you must weigh the loaded trailer at a commercial scale. In addition, you must distribute the load in the trailer such that the load on any axle does not exceed the Gross Axle Weight Rating (GAWR). If your trailer is equipped with a Tire & Loading Information Placard, mounted next to the Certification / VIN label, the cargo capacity weight stated on that placard is only a close estimate. The GVWR and GAWR's are listed on the Certification / VIN label mounted on the front left side of the trailer.

WARNING

An overloaded trailer can result in failure or in loss of control of the trailer, leading to death or serious injury.

Never load a trailer so that the weight on any tire exceeds its rating.

Never exceed the trailer Gross Vehicle Weight Rating (GVWR).

Never exceed an axle Gross Axle Weight Rating (GAWR).

2.2.10 Unsafe Load Distribution

Improper front / rear load distribution can lead to poor trailer sway stability or poor tow vehicle handling. Poor trailer sway stability results

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from tongue weights that are too low, and poor tow vehicle stability results from tongue weights that are too high. Refer to the Chapter heading “Loading the Trailer” for more information.

In the following table, the second column shows the rule of thumb percentage of total weight of the trailer plus its cargo (Gross Trailer Weight, or “GTW”) that should appear on the tongue of the trailer. For example, a trailer with a gooseneck hitch, with a loaded weight of 12,000 pounds, should have 20-25% of 12,000 pounds (2400-3000 lbs.) on the gooseneck.

A dump trailer will have the proper weight distribution if the load is **evenly distributed** in the dump body. For non-flowable (discrete) loads locate the load such as to provide the proper tongue weight. After loading, be sure to check that none of the axles are overloaded.

Tongue Weight as a Percentage of Loaded Trailer Weight	
Type of Hitch	Percentage
Ball Hitch (or Bumper Hitch)	10-15% for large trailers 6-10% for smaller utility trailers
Gooseneck Hitch	20-25%
Fifth Wheel Hitch	

Uneven left / right load distribution can cause tire, wheel, axle or structural failure. Be sure your trailer is evenly loaded left / right. Towing stability also depends on keeping the center of gravity as low as possible.

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WARNING

Improper tongue weight (load distribution) can result in loss of control of the trailer, leading to death or serious injury.

Make certain that tongue weight is within the allowable range.

Be sure to:

- Distribute the load front-to-rear to provide proper tongue weight (see chart). For dump trailers, a flowable load should be evenly distributed throughout the body.
- Distribute the load evenly, right and left.
- Keep the center of gravity low.

2.2.11 Shifting Cargo

Since the trailer “ride” can be bumpy and rough, you must secure your cargo so that it does not shift while the trailer is being towed.

WARNING

A shifting load can result in failure, or to loss of control of the trailer, and can lead to death or serious injury.

You must tie down all loads with proper sized fasteners, ropes, straps, etc. to prevent the load from shifting while trailering.

If the door latch is equipped with a catch that has a hole for a linchpin, use a linchpin to prevent the door latch from opening.

WARNING

If the door opens, your cargo may be ejected onto the road, resulting in death or serious injury to other drivers.

Always secure the door latch after closing. Place a linchpin in the catch.

2.2.12 Inappropriate Cargo

Your trailer may be designed for specific cargo, for example, only for horses. If your trailer is designed for specific cargo, only carry that cargo in the trailer. A trailer must not be used to carry certain items,

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such as people, containers of hazardous substances or containers of flammable substances.

WARNING

Never transport people inside or on your trailer. Besides putting their lives at risk, the transport of people may be illegal.

WARNING

Do not transport flammable, explosive, poisonous or other dangerous materials in your trailer.

The exception is fuel in the tank of a vehicle or equipment being hauled.

2.2.13 Inoperable Brakes, Lights or Mirrors

Be sure that the electric brakes and all of the lights on your trailer are functioning properly before towing your trailer. Electric brakes and lights on a trailer are controlled via a connection to the tow vehicle, generally a multi-pin electrical connector. Check the trailer tail lights by turning on your tow vehicle headlights. Check the trailer brake lights by having someone step on the tow vehicle brake pedal while you look at trailer lights. Do the same thing to check the turn signal lights.

If your trailer has electric brakes, your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer in order to confirm that the electric brakes operate. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

If your trailer has hydraulic “surge” brakes, pull the emergency break-away brake lanyard to check the operation of the surge mechanism.

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WARNING

Improper electrical connection between the tow vehicle and the trailer will result in inoperable lights and electric brakes, and can lead to collision.

Before each tow:

- Check that all lights and turn signals work.
- Check that the electric brakes work by operating the brake controller inside the tow vehicle.

Standard mirrors usually do not provide adequate visibility for viewing traffic to the sides and rear a towed trailer. You must provide mirrors that allow you to safely observe approaching traffic.

2.2.14 Hazards From Modifying Your Trailer

Before making any alteration to your trailer, contact your dealer or PJ Trailers at 800-452-9116 and describe the alteration you are contemplating. Alteration of the trailer structure or modification of your trailer must be performed only by qualified technicians who are familiar with your trailer.

2.2.15 Hazards For Dump Trailers

A dump trailer is specifically designed for hauling cargo that is to be dumped or in some cases, transporting equipment. A dump trailer is not designed for transporting livestock. The major hazards associated with dump trailers are:

- Overloading.
- Improper weight distribution; both side to side and front to back.
- Getting under a raised dump body.
- Not using, or improperly using the body prop.
- Modifying or altering hydraulic components.
- Modifying or altering dump controls.
- Not dumping from a solid and level foundation.
- Not fully opening rear doors when dumping.
- Jerking the trailer, or hydraulics, to loosen the load.
- Trailer contacting or coming near overhead power lines when body is raised.

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WARNING

A soft and/or uneven surface may cause the tow vehicle and trailer to tip over when the dump body is raised.

Raise the dump body **ONLY** if the tow vehicle and trailer are both on a firm and level surface.

WARNING

An overloaded trailer or improperly distributed load can result in death or serious injury.

An overloaded trailer can cause the hydraulic system to malfunction, resulting in the dump body falling.

A load that is improperly distributed in the trailer can result in the trailer tipping over when the dump body is raised.

Danger

NEVER alter or substitute any hydraulic system component. Death or serious injury may result.

An altered or component substituted hydraulic system may malfunction, resulting in the dump body falling without warning.

NEVER alter or substitute any hydraulic system component.

WARNING

Risk of electrocution.

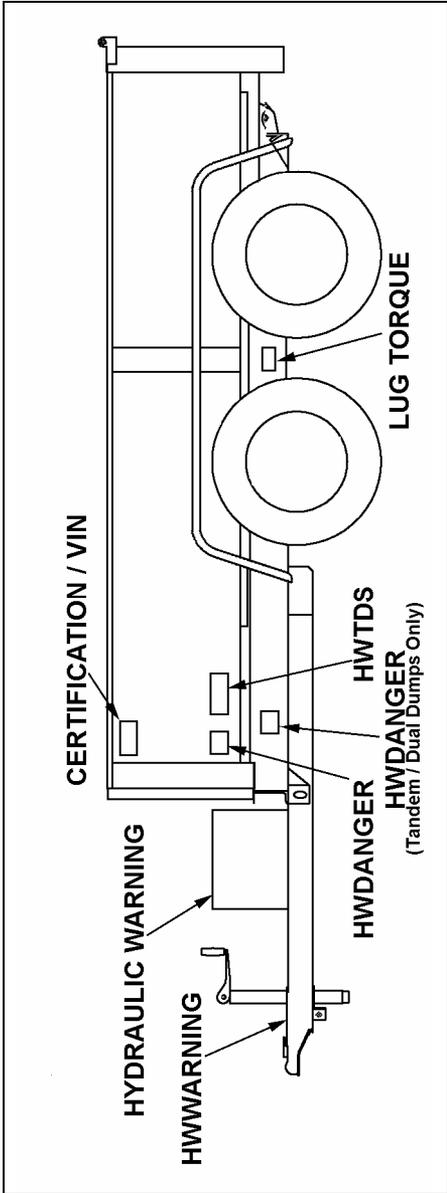
- Dump body coming near or contacting power lines can cause electrocution. Electrocution can occur without contact.
- Be sure there are no overhead power lines over or near the trailer before raising dump body.

2.2.16 Hazards from Accessories

The “Accessories” chapter of this manual contains some information about certain optional accessories that may be on your trailer. Read and follow all of these instructions before operating the accessories.

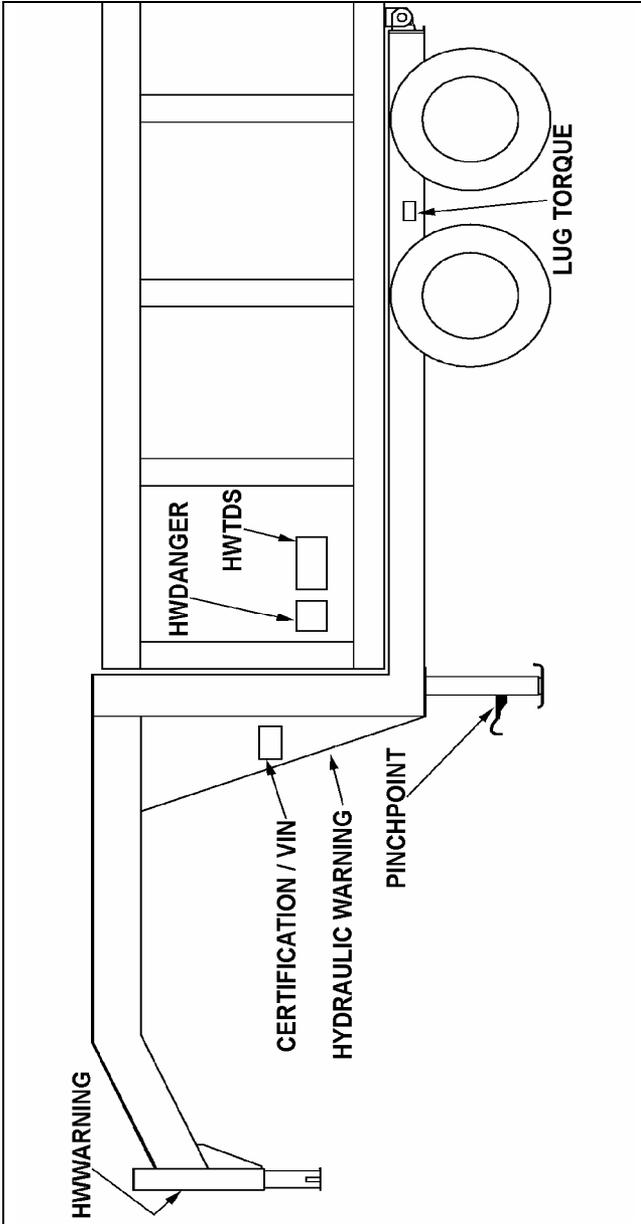
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2.2.17 Safety Warning Labels on Your Trailer



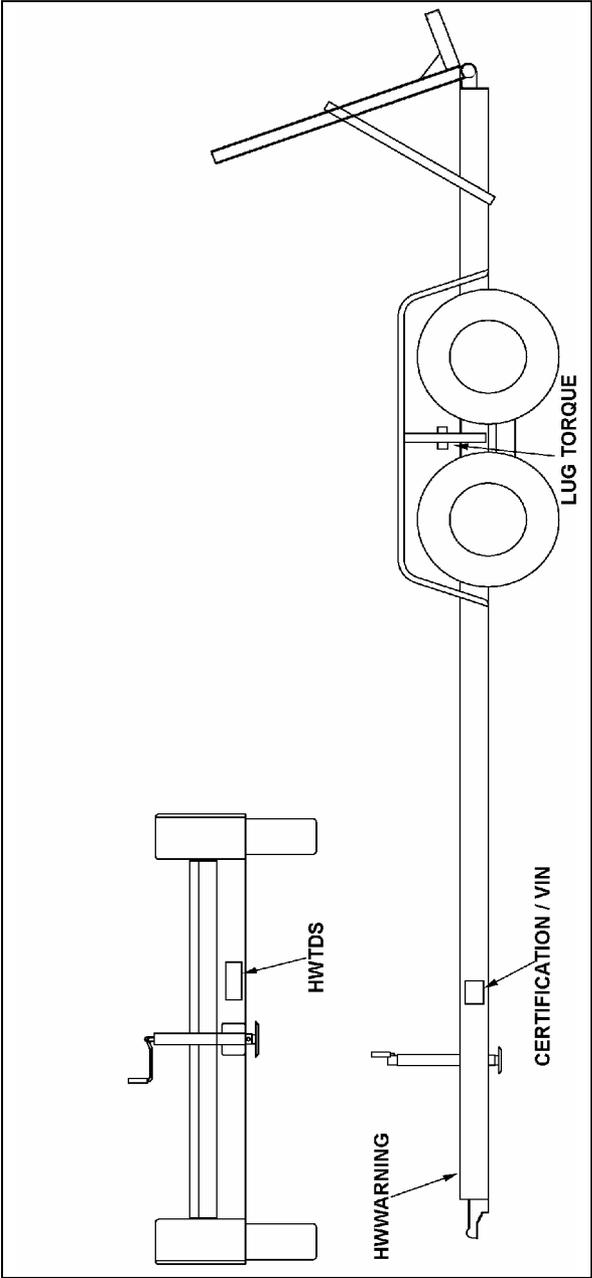
Safety Warning Labels – Bumper Pull Dump Trailer

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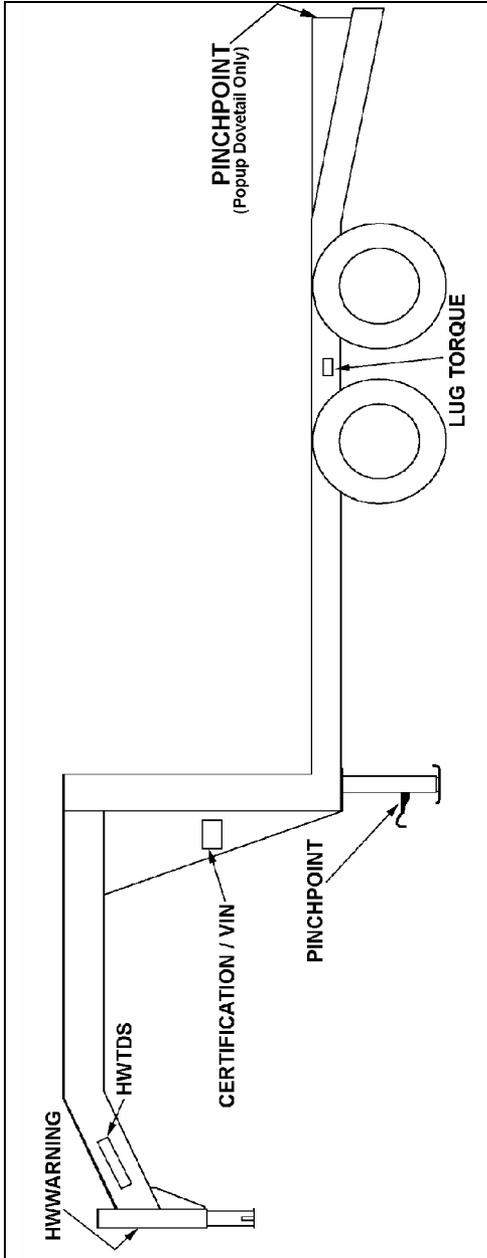
Safety Warning Labels – Gooseneck Dump Trailer

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Safety Warning Labels – Bumper Pull Utility Trailer

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Safety Warning Labels – Gooseneck Utility Trailer

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WARNING

To protect you and others against death or serious injury, all of the labels shown must be on the trailer and must be legible.

If any of these labels are missing or cannot be read, call PJ Trailers at 800-452-9116 for free replacement labels.

You will need to provide us with the number shown at the bottom of the label(s) in order for us to send the correct one(s).

2.2.18 Trailer Towing Guide

Driving a vehicle with a trailer in tow is vastly different from driving the same vehicle without a trailer in tow. Acceleration, maneuverability and braking are all diminished with a trailer in tow. It takes longer to get up to speed, you need more room to turn and pass, and more distance to stop when towing a trailer. You will need to spend time adjusting to the different feel and maneuverability of the tow vehicle with a loaded trailer. Because of the significant differences in all aspects of maneuverability when towing a trailer, the hazards and risks of injury are also much greater than when driving without a trailer. You are responsible for keeping your vehicle and trailer in control, and for all the damage that is caused if you lose control of your vehicle and trailer.

As you did when learning to drive an automobile, find an open area with little or no traffic for your first practice trailering. Of course, before you start towing the trailer, you must follow all of the instructions for inspection, testing, loading and coupling. Also, before you start towing, adjust the mirrors so you can see the trailer as well as the area to the rear of it.

Drive slowly at first, 5 mph or so, and turn the wheel to get the feel of how the tow vehicle and trailer combination responds. Next, make some right and left hand turns. Watch in your side mirrors to see how the trailer follows the tow vehicle. Turning with a trailer attached requires more room.

Stop the rig a few times from speeds no greater than 10 mph. If your trailer is equipped with brakes, try using different combinations of

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trailer/electric brake and tow vehicle brake. Note the effect that the trailer brakes have when they are the only brakes used. When properly adjusted, the trailer brakes will come on just before the tow vehicle brakes.

It will take practice to learn how to back up a tow vehicle with a trailer attached. Take it slow. Before backing up, get out of the tow vehicle and look behind the trailer to make sure that there are no obstacles. Some drivers place their hands at the bottom of the steering wheel, and while the tow vehicle is in reverse, “think” of the hands as being on the top of the wheel. When the hands move to the right (counter-clockwise, as you would do to turn the tow vehicle to the left when moving forward), the rear of the trailer moves to the right. Conversely, rotating the steering wheel clockwise with your hands at the bottom of the wheel will move the rear of the trailer to the left, while backing up. If you are towing a bumper hitch rig, be careful not to allow the trailer to turn too much, because it will hit the rear of the tow vehicle. To straighten the rig, either pull forward, or turn the steering wheel in the opposite direction.

2.2.19 Safe Trailer Towing Guidelines

- Recheck the load tiedowns to make sure the load will not shift during towing.
- Before towing, check coupling, safety chain, safety brake, tires, wheels and lights.
- Check the lug nuts or bolts for tightness. Refer to Section 10.2.12
- Check coupler tightness after towing 50 miles.
- Adjust the brake controller to engage the trailer brakes before the tow vehicle brakes. Follow the instructions given with the brake controller manufacturer’s literature.
- Use your mirrors to verify that you have room to change lanes or pull into traffic.
- Use your turn signals well in advance.
- Allow plenty of stopping space for your trailer and tow vehicle.
- Do not drive so fast that the trailer begins to sway due to speed. Generally never drive faster than 60 m.p.h.
- Allow plenty of room for passing. A rule of thumb is that the passing distance with a trailer is 4 times the passing distance without a trailer.

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- Shift your automatic transmission into a lower gear for city driving.
- Use lower gears for climbing and descending grades.
- Do not ride the brakes while descending grades, they may get so hot that they stop working. Then you will potentially have a runaway tow vehicle and trailer.
- To conserve fuel, don't use full throttle to climb a hill. Instead, build speed on the approach.
- Slow down for bumps in the road. Take your foot off the brake when crossing the bump.
- Do not brake while in a curve unless absolutely necessary. Instead, slow down before you enter the curve.
- Do not apply the tow vehicle brakes to correct extreme trailer swaying. Instead, lightly apply the trailer brakes with the hand controller.
- Make regular stops, about once each hour. Confirm that
 - The coupler is secure to the hitch and is locked,
 - Electrical connectors are made,
 - There is appropriate slack in the safety chains,
 - There is appropriate slack in the breakaway switch pullpin cable,
 - The tires are not visibly low on pressure, and
 - The cargo is secure and in good condition.

2.2.20 Reporting Safety Defects

If you believe that your vehicle has a defect that could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying us.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or us.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); or go to <http://www.safercar.gov>; or write to: Administrator, NHTSA, 400

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Seventh Street, SW, Washington, DC 20590. You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

Call 800-452-9116 to reach PJ Trailers.