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1. SAFETY INFORMATION

1.1. SAFETY ALERT SYMBOLS AND SIGNAL WORDS

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:

- ◆ Driving too fast for the conditions (maximum speed when towing a trailer is 60 m.p.h.);
- Overloading the trailer or loading the trailer unevenly;
- Trailer improperly coupled to the hitch;
- Inadequate tow vehicle or towing hitch;
- No braking on trailer;
- Not maintaining proper tire pressure;
- Not keeping lug nuts tight; and
- Not properly maintaining the trailer structure.

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.

Trailer Components

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 Dalton Enterprises, Inc. at (276)686-9178 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.

1.2. MAJOR HAZARDS

1.2.1. Driving Too Fast

With ideal road conditions, the maximum speed when safely towing a trailer is 60 m.p.h. If you drive too fast, the trailer tires will overheat and possibly blowout. As your speed increases, you are more likely to suddenly lose control. Never exceed 60 m.p.h. while towing the trailer.

^ WARNING

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

Decrease your speed as road, weather and lighting conditions deteriorate.

1.2.2. <u>Failure to Adjust Handling While Towing a</u> <u>Trailer</u>

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). In addition, you will need a longer distance to pass, due to slower acceleration and increased length.

- 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 is the trailer reaction to the air pressure wave caused by passing trucks and busses. Continued pulling of the trailer provides a stabilizing force to correct swaying.
 Do not apply the brakes to correct trailer swaying.

- 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 roofed areas and around trees.

1.2.3. Trailer Not Properly Coupled to the Hitch

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

^ 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.

1.2.4. Incorrect 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.

1.2.5. Incorrect Use of Breakaway Brake

Your trailer may also 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 safety chains and breakaway brake system must be in good condition and properly rigged to be effective.

^ 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 cable 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.

1.2.6. Mismatch of 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 of your trailer.

1.2.7. Unsafe Tires. Lua Nuts or Wheels

Trailer tires and wheels are more likely to fail than car tires and wheels because they carry a heavier load. Therefore, it is essential to inspect the trailer tires before each tow.

If a tire has a bald spot, bulge, cuts, is showing any cords, or is cracked, 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 tracking on wet roadways and can result in loss of control, leading to death or serious injury.

Improper tire pressure causes an unstable trailer and can result in a tire blowout and loss of control. Therefore, before each tow you must also check the tire pressure. Tire pressure must be checked when tires are cold. Allow 3 hours cool-down after driving as much as 1 mile at 40 m.p.h. before checking tire pressure. NOTE: Trailer tires will be inflated to higher pressures than passenger vehicle tires.

^ WARNING

Improper tire pressure can result in a blowout and loss of control, which can lead to death or serious injury.

Be sure tires are inflated to pressure indicated on side wall before towing trailer.

Since trailer wheels and lug nuts (or bolts) are subjected to greater side loads than automobile wheels, they are more prone to loosen. Before each tow, check to make sure they are tight.

^ WARNING

Metal creep between the wheel rim and lug nuts will cause rim to loosen and could result in a wheel coming off, leading to death or serious injury.

Tighten lug nuts before each tow.

The proper tightness (torque) for lug nuts is listed at page 123 in the "Inspection and Service Instructions" chapter of this manual. Use a torque wrench to tighten the lug nuts. If you do not have a torque wrench, use a lug wrench (from your tow vehicle) and tighten the nuts as much as you can. Then have a service garage or trailer dealer tighten the lug nuts to the proper torque.

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 parting from the trailer and a crash, leading to death or serious injury.

^ WARNING

Lug nuts are prone to loosen after initial installation, which can lead to death or serious injury.

Check lug nuts for tightness on a new trailer or when wheel(s) have been remounted after the <u>first</u> 10, 25 and 50 miles of driving.

^ WARNING

Improper lug nut torque can cause a wheel parting from the trailer, leading to death or serious injury.

Be sure lug nuts are tight before each tow.

1.2.8. Overload

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, you must measure it at a commercial scale. In addition, you must distribute the load in the trailer such that the load on any tire or axle does not exceed the tire load rating or the Gross Axle Weight Rating (GAWR).

^ WARNING

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

Do not load a trailer so that the weight on any tire exceeds its rating.

Do not exceed the trailer Gross Vehicle Weight Rating (GVWR) or an axle Gross Axle Weight Rating (GAWR).

1.2.9. Unsafe Load Distribution

Uneven load distribution can cause tire, wheel, axle or structural failure. Be sure your trailer is properly loaded.

A proper weight distribution is equal, right to left; and creates a tongue weight that is in the proper range for stable trailer handling. For tandem and triple axle trailers, it is necessary to know or check that no axle is overloaded.

In the table below, the second column notes the rule of thumb percentage of total weight of the trailer plus its cargo (Gross Vehicle Weight, or "GVW") 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 on the tongue. That is, the example trailer would have 2,400 to 3,000 pounds on its tongue.

Tongue Weight as a of Loaded Traile	Percentage r Weight	
Type of Hitch	Percentage	
Ball Hitch (or Bumper Hitch)	10-15%	
Gooseneck Hitch	20-25%	
Fifth Wheel Hitch		

^ 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);
- Distribute the load evenly, right and left, to avoid tire overload; and
- · Keep the center of gravity low.

Towing stability also depends on keeping the center of gravity as low as possible. Load heavy items on the floor, and over the axles, but do not exceed the axle load rating (GAWR). When loading additional items, be sure to maintain even side-to-side weight distribution and proper tongue weight.

1.2.10. 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

Shifting cargo can result in loss of control of the trailer, and can lead to death or serious injury.

Tie down all loads with proper sized fasteners, ropes, straps, etc.

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.

1.2.11. 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 utility trailer must not be used to carry certain items, such as people, containers of hazardous substances or containers of flammable substances.

^ WARNING

Do not transport people inside the trailer, even if it has living quarters. The transport of people puts their lives at risk and may be illegal.

^ WARNING

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

Exceptions:

- Fuel in the tanks of vehicles that are being towed
- Fuel stored in proper containers used in trailer living quarters for cooking
- Fuel stored in the tank of an on-board generator

1.2.12. 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 m.p.h., manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

^ 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 the taillights, brake 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 of a towed trailer. You must provide mirrors that allow you to safely observe approaching traffic.

1.2.13. Hazards From Modifying Your Trailer

Essential safety items can be damaged by altering your trailer. Even simply driving a nail or screw to hang something can damage an electrical circuit, LP gas line or other feature of the trailer.

Before making any alteration to your trailer, contact your dealer or describe the alteration you are contemplating. Alteration of the trailer structure or modification of mechanical, electrical, plumbing, heating or other systems on your trailer must be performed only by qualified technicians who are familiar with the system as installed on your trailer.

1.2.14. Hazards to Horses (Horse Trailer)

Before hauling a horse, you must be aware of its temperament.

The layout of a horse trailer is designed to safely contain your horse. If hauling a horse, the trailer should be equipped with stall dividers and tie rings to secure the horse, and have a rubber floor mat to keep shoed horses from slipping on the underfloor. Restraining a horse without using a combination of a tie-strap and stall dividers may result in serious injury or death to the horse.

Before loading your horse, inspect the interior of the horse trailer to insure that no hazards are present. Read the "Loading the Horse Trailer" section at page 78 of this manual for specific instructions regarding trailering of horses.

^ WARNING

When a horse is frightened, it is capable of inflicting serious injury or death to a human handler.

Know your horse's temperament before attempting to trailer it.

Handling a horse that is not trailer-acclimated may result in injury or death, or damage to your trailer.

Do not haul an unbroken horse in this trailer.

Horses must have a halter.

^ Caution

Failure to secure a horse using a tie strap may result in its serious injury or death.

^ Caution

The trailer interior may contain hazards to a horse that can result in its serious injury or death.

Before loading a horse, inspect the trailer interior and adjust or repair all loose and protruding features such as handles, loose or broken parts of the trailer, etc.

Before towing trailer:

- Lock all stall dividers.
- Be sure all saddles, tack and equipment, as well as horse(s), are prevented from being thrown about.

^ Caution

Hauling a horse in a livestock trailer may result in its serious injury or death.

Do not carry a horse in a livestock trailer. Use a trailer designed to carry horses.

1.2.15. Hazards to Livestock (Livestock Trailer)

A livestock trailer is designed for the safe transport of livestock, other than horses. It is not equipped for hauling horses.

Before loading your livestock, inspect the interior of the livestock trailer to insure that no hazards are present. Read section 3.2.4, "Loading Livestock (Livestock Trailer)" for specific instructions regarding trailering of livestock other than horses.

^ WARNING

Large animals are capable of inflicting serious injury or death to a human handler.

Know your animals' temperament before attempting to trailer them.

^ Caution

Hauling a horse in a livestock trailer may result in its serious injury or death.

Do not carry a horse in a livestock trailer. Use a trailer designed to carry horses.

1.2.16. 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. The major hazards from some of these accessories are:

1.2.16.1. Generator

If your trailer is equipped with a gasoline or diesel generator, you must have and follow the generator manufacturer's instructions. You must also have one or more carbon monoxide detectors in the trailer's accommodation spaces.

Carbon Monoxide is an odorless gas that can cause death. Be certain exhaust from a running generator does not accumulate in or around your trailer, by situations such as:

- Being drawn in by fans or ventilators operated in a trailer;
- Prevailing wind;
- Being trapped between your trailer and other trailers, vehicles or buildings; or
- Being trapped between your trailer and, or in a snow bank, or other nearby objects.

^ WARNING

Operating gasoline and diesel generators can lead to death or serious injury by:

- Carbon Monoxide
- Fire and Explosion
- Electrocution

Have a working carbon monoxide detector in the accommodation spaces before operating a generator.

Do not refuel a running generator or refuel near ignition sources.

1.2.16.2. Shore Power

"Shore Power" is the name given to connecting your trailer to a source of electrical power using an extension cord specifically designed for that purpose.

^ WARNING

Shore power poses a risk of death due to electrocution or fire

- Always use an electrical cord specifically designed for shore power connection. Never use an ordinary extension cord.
- Always connect the electrical cord to a grounded source of shore power.
- Do not remove the "third prong" from the shore power plug.
- · Connect only to source of proper voltage.
- · Make certain polarity is correct.
- · Do not overload electrical circuits.
- Always replace fuses or circuit breakers with correct rating.

1.2.16.3. LP Gas Fuel System

[^] Danger

You can die or be brain damaged by Carbon Monoxide.

Make certain the exhaust from LP appliances is directed to the outdoors.

Have a working carbon monoxide detector in the accommodation spaces of your trailer before operating any LP gas appliance.

Do not operate portable grills or stoves inside the trailer.

^ WARNING

Risk of death due to fire or explosion.

Only connect an LP gas system to a supply of LP gas, NOT natural gas.

Do not store LP gas tanks inside the trailer.

Only fill an LP gas tank 80% full.

Only fill the tank with LP gas (butane or propane).

Overfilled tanks can release gas and cause an explosion.

^ WARNING

Risk of fire or explosion

If LP gas is detected (by smell or by the LP gas detector):

- · Do not touch electrical switches
- Extinguish flames and pilot lights
- Open doors for ventilation
- Shut off LP gas supply at the LP tank
- Leave the area until odor clears

Correct the source of LP gas leakage before using LP appliances.

Do not use a flame to locate the source of an LP gas leak.

^ WARNING

Risk of fire or explosion

Never use a flame, heat lamp or hair dryer to thaw an LP gas regulator. Use an incandescent light bulb.

Do not remove the regulator cover or attempt to service the LP gas regulator.

1.2.17. 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 either call the Auto Safety Hotline toll-free at 1-888-327-4236 (TTY. 1-800-424-9153), got to http://www.safecar.gov or write to NHTSA, U.S. Department of Transportation, 1200 New Jersey Avenue SW, Washington, DC 20590. You may also call 1-276-686-9178 to contact Dalton Enterprises, Inc. You may also obtain information about motor vehicle safety from http://www.safecar.gov.

1.2.18. 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 m.p.h. 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 m.p.h. If your trailer is equipped with brakes, try using different combinations of 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.

Safe Trailer Towing Guidelines

- Recheck the load tie downs 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.
- Check coupler tightness after towing 50 miles.
- Adjust the brake controller to engage the trailer brakes before the tow vehicle brakes. Your dealer can assist you by making this adjustment.
- 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. 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.
- 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 and power through the curve. This way, the towing vehicle remains "in charge."
- Do not apply the brakes to correct extreme trailer swaying. Continued pulling of the trailer, and even slight acceleration, will provide a stabilizing force.
- 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. COUPLING TO THE TOW VEHICLE

Follow all of the safety precautions and instructions in this manual to ensure safety of persons, cargo, and satisfactory life of the trailer.

2.1. USE AN ADEQUATE TOW VEHICLE AND HITCH

If the vehicle or hitch is not properly selected and matched to the Gross Vehicle Weight Rating (GVWR) of your trailer, you can cause an accident that could lead to death or serious injury. If you already have a tow vehicle, know your vehicle tow rating and make certain the trailer's rated capacity is less than or equal to the tow vehicle's rated towing capacity. If you already have (or plan to buy) a trailer, make certain that the tow rating of the tow vehicle is equal to or greater than that of the trailer.

^ 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 of your trailer.