OWNER'S MANUAL

Keep this manual for future reference.

Thank you for choosing our trailer—we're confident it will meet your needs and deliver lasting satisfaction. Our commitment is to provide a high-quality trailer at a fair price.

For your safety, please read and fully understand this manual before using your trailer. If you have any questions about the information provided, contact your dealer for assistance.

When reaching out regarding your trailer, be sure to have your Vehicle Identification Number (VIN) ready. You can typically find the VIN on the front left side of the trailer.

LOAD'EM UP TRAILERS
6240 COUNTY RD 50 CARVER, MN 55315
952-594-9054
info@loademuptrailers.com

Table of Contents

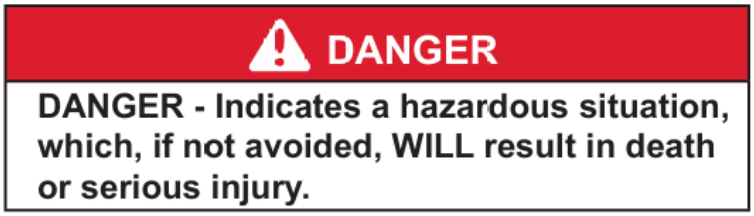
1. General Towing and Safety Guidelines

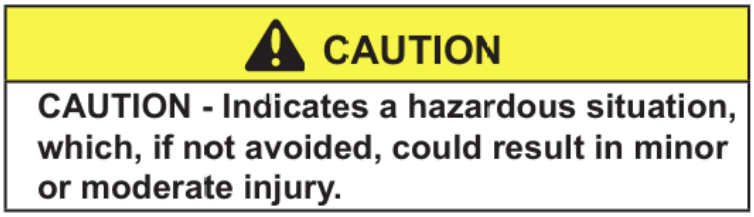
This manual provides general safety and operational information for your trailer. However, it cannot address every unique combination of trailer, tow vehicle, and hitch. To ensure safe operation, **you must carefully read, understand, and follow the instructions provided by your tow vehicle and hitch manufacturers**, in addition to the guidelines in this manual.

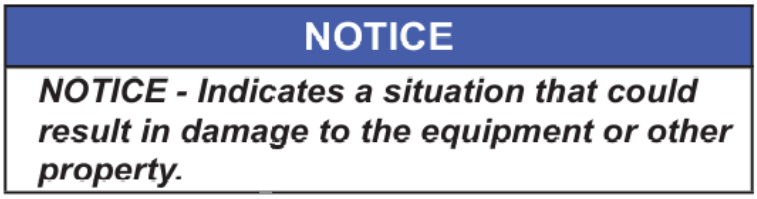
Your trailer may include components from other manufacturers. These components may have their own instruction manuals. If referenced in this manual and you do not have the necessary documentation, please contact Load'em Up Trailers at (952) 594-9054 for a free copy.

Whenever you see this symbol, it means: **ATTENTION! YOUR SAFETY IS AT RISK!**

This manual uses specific signal words to indicate the level of hazard:







1.1 Primary Towing Hazards- Common Causes of Trailer Accidents

Losing control of a trailer or the combined tow vehicle and trailer can lead to severe injury or even death. To help reduce these risks, it's essential to understand the most common towing hazards. By doing so, you can better ensure proper equipment setup, safe loading, responsible driving, and appropriate responses when issues arise.

This section outlines the key factors that often contribute to loss of control:

- **Equipment Compatibility and Setup**
  Mismatched or improperly installed towing components can create instability and increase the chance of accidents.
- **Loading and Cargo Safety**
  Incorrect weight distribution, unsecured loads, or overloading the trailer can significantly affect control and braking.
- **Driving Behavior and Handling**
  Unsafe driving habits, such as speeding, sudden braking, or sharp turns, are especially dangerous when towing.
- **Maintenance, Modifications, and Legal Reporting**
  Poor trailer maintenance, unauthorized modifications, or failure to report required changes can all contribute to unsafe towing conditions.

1.2 Equipment Compatibility and Setup

1.2.1 Mismatched Trailer and Tow Vehicle

Using a trailer that's too heavy for your tow vehicle can cause it to lose control, leading to serious injury or death. It can also damage your engine and drivetrain.

Always check your vehicle's Owner's Manual for the maximum towing capacity, including Gross Trailer Weight (GTW) and Gross Combined Weight Rating (GCWR), and never exceed these limits.

1.2.2 Mismatched Trailer And Hitch

Verify compatibility between your trailer and hitch. Using mismatched equipment can compromise safety.

DANGER

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

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.

1.2.3 Improper Coupling of Trailer and Hitch

Ensure the trailer is properly hitched and safety chains and breakaway lanyard are attached correctly. Improper coupling can result in separation and serious accidents.

WARNING

Proper selection and condition of the coupler and hitch are essential to safely towing a trailer.

A loss of coupling may result in death or serious injury.

Hitch size must match coupler size.

Be sure hitch load rating is equal to or greater than load rating of the coupler.

Be sure hitch components are tight before coupling trailer to tow vehicle.

Observe hitch for wear, corrosion and cracks before coupling. Replace worn, corroded or cracked hitch components before coupling trailer to tow vehicle.

⚠ WARNING

An improperly coupled trailer can result in death or serious injury. Do not move the trailer until:

- **Coupler is secured and locked to hitch.**
- **Safety chains are secured to tow vehicle.**
- **Trailer jack(s) are fully retracted.**
- **Trailer brakes are checked.**
- **Tires and wheels are checked.**
- **Breakaway switch is connected to tow vehicle;**
- **The trailer lights are connected and checked.**
- **Load is secured to trailer.**

1.2.4 Safety Chains

Always use safety chains. They provide an essential backup in case the trailer disconnects from the hitch.

⚠ 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.

Cross chains underneath hitch and coupler with enough slack to permit turning and to hold tongue up, if the trailer comes loose.

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.

1.2.5 Breakaway Brake Connection

If your trailer has brakes, it also has a breakaway brake system. This system will automatically stop the trailer if it becomes disconnected from the hitch. Make sure the breakaway system, including the battery, is in good working condition and properly connected.

⚠ 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.

Breakaway lanyard must be connected to the tow vehicle, NOT to any part of the hitch.

Before towing 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 Tires, Wheels, and Lug Nuts

Inspect all tires before towing:

- Replace any tire with visible damage or excessive wear
- Maintain proper tire pressure (found on the VIN/Certification label)
- Tighten lug nuts using a torque wrench and crisscross pattern
- Recheck lug nut tightness at 10, 25, and 50 miles after installation or wheel removal

⚠ WARNING

Inflate tires to pressure stated on the Certification / VIN label.

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.

⚠ WARNING

Metal creep between the wheel rim and wheel nuts or bolts may cause rim to loosen.

Death or injury can occur if wheel comes off.

Tighten lug nuts or bolts before each tow.

⚠ WARNING

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

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

⚠ WARNING

Inadequate wheel nut or bolt torque can cause a wheel to separate from the trailer, leading to death or serious injury.

Verify wheel nuts or bolts are tight before each tow.

1.2.7 Brakes or Lights Not Functioning Properly

If your trailer has electric brakes, your tow vehicle must have a brake controller to activate them. Before towing, test the brake controller at low speed (under 5 mph) to make sure the trailer brakes are working. You should feel the trailer slowing down when you use the controller.

Make sure all trailer lights and brakes are working properly before every trip. These systems are powered through a plug that connects your trailer to the tow vehicle.

Also, make sure your mirrors give you a clear view of the trailer and surrounding traffic. Standard mirrors may not be enough for safe towing.

⚠ WARNING

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

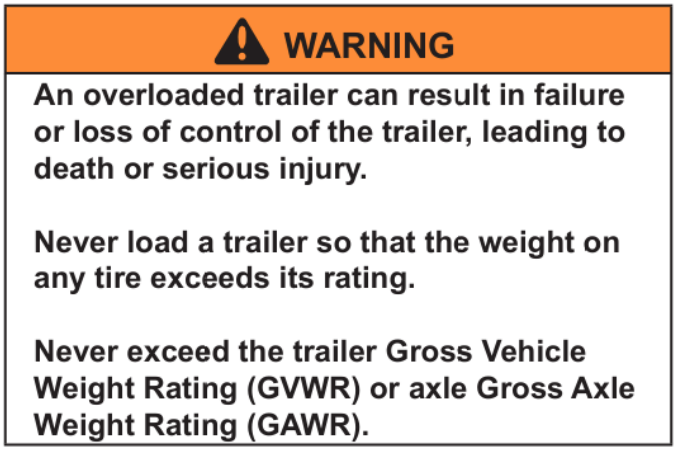
Before each tow:

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

1.3 Loading and Cargo Safety

1.3.1 Trailer Weight Limits

- The total weight of the trailer **plus the cargo** must not be more than the trailer's **Gross Vehicle Weight Rating (GVWR)**.
- If you're unsure of the total weight, **weigh the loaded trailer at a commercial scale**.
- Make sure the weight on each axle does not exceed its **Gross Axle Weight Rating (GAWR)**.
- Check the **Certification/VIN label** (usually on the front left side of the trailer) for GVWR and GAWR.
- The Tire & Loading Information Placard gives an estimate of cargo capacity but is not exact.



1.3.2 Load Balance Matters

Improper load distribution can cause trailer instability and poor handling of the tow vehicle. If too little weight is placed on the trailer tongue, the trailer may sway or become hard to control. If too much weight is placed on the tongue, it can negatively affect how your tow vehicle handles.

As a general guideline, about 10 to 15 percent of the total loaded trailer weight (Gross Trailer Weight or GTW) should be on the tongue. For example, if your trailer weighs 6,000 pounds when fully loaded, the tongue weight should be between 600 and 900 pounds. Make sure the trailer is not overloaded on any one axle. Distribute the weight evenly from side to side, and keep the load as low as possible to maintain a low center of gravity. Uneven or top-heavy loads can lead to tire, axle, or structural failures. For more details, refer to the "Loading and Unloading" section.

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 evenly, right and left.**
- **Keep the center of gravity low.**
- **Distribute the load front-to-rear to provide proper tongue weight (see chart).**

1.3.3 Securing Cargo

Secure your cargo to prevent shifting during transit, which can lead to loss of control.

WARNING

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

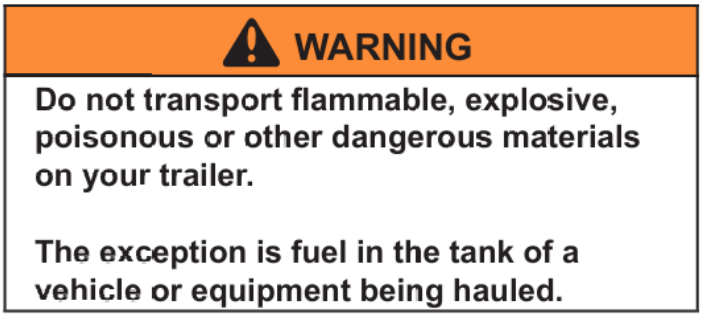
You must tie down all loads with proper sized fasteners, chains, straps, etc. to prevent the load from shifting while towing.

1.3.4 Appropriate Cargo

Use the trailer only for its intended purpose. Never transport people, hazardous materials, or flammable substances unless specifically designed for it.

WARNING

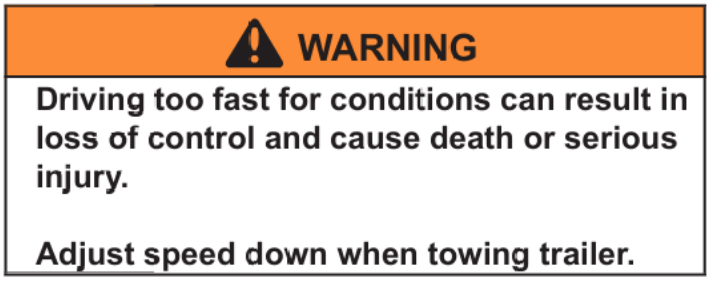
Do not transport people on your trailer. Besides putting their lives at risk, the transport of people on a trailer is illegal.



1.4 Driving Behavior and Handling

1.4.1 Driving Too Fast

The recommended maximum speed for towing is **55 mph** under ideal conditions. Higher speeds increase the risk of trailer sway and tire failure.



1.4.2 Adjusting Driving Behavior

Towing a trailer affects how your vehicle handles. You'll have slower acceleration, need more time to stop, and take wider turns. Wind, passing vehicles, and road conditions can also make your trailer harder to control.

Keep these tips in mind:

- **If the trailer starts to sway**, take your foot off the gas and make only small steering corrections. Don't try to steer out of the sway or slam on the brakes—this can make it worse. If needed, lightly apply the trailer brakes (not the tow vehicle brakes), especially when going downhill.
- **Check your mirrors often** to monitor traffic and the trailer.
- **Watch for low clearances** like bridges, trees, or overhead structures.
- **Be extra cautious on slippery roads**—trailers are more likely to slide.
- **Expect some swaying** from wind, road edges, or large passing vehicles.
- **Use a lower gear on long or steep hills.** Let the engine help slow you down instead of riding the brakes, which can overheat and fail.

1.4.3 Trailer Towing Guide

Driving with a trailer is very different than driving without one. Your vehicle will accelerate slower, take longer to stop, and need more space to turn or pass. It's important to adjust your driving and take time to get used to how your vehicle and trailer handle together. Because towing increases the risk of accidents, **you are responsible for keeping control of your vehicle and trailer at all times**.

Before your first tow, practice in a wide, open area with little or no traffic. Follow all steps for inspection, loading, and hitching beforehand. Adjust your mirrors so you can clearly see the trailer and what's behind it.

Start slowly—drive around 5 mph to get a feel for turning. Make some left and right turns while watching how the trailer follows. Turning will take more space than usual.
Practice stopping at low speeds (no more than 10 mph). If your trailer has brakes, try using the trailer brakes alone, the vehicle brakes alone, and both together to understand how they respond. When properly set, trailer brakes should activate just before your vehicle brakes.

Backing up with a trailer takes practice. Go slowly and check behind the trailer for obstacles before you reverse. Many drivers find it helpful to place their hands at the bottom of the steering wheel—when your hands move right, the back of the trailer moves right, and vice versa. Avoid turning too sharply or the trailer could hit your vehicle. To straighten out, either pull forward or steer the opposite direction.

1.4.4 Safe Towing Tips

Before hitting the road, inspect your trailer thoroughly. Make sure the hitch is secure, the safety chains are connected, and all brakes, tires, wheels, and lights are working properly. Tighten all lug nuts or bolts and check that your cargo is tied down and won't shift during travel. After driving about 50 miles, stop and recheck the coupler for tightness.
Set your brake controller so the trailer brakes activate slightly before your tow vehicle's brakes. Refer to the controller's manual for specific instructions.
Use your mirrors to check traffic and trailer position, and always signal well before changing lanes or turning. Give yourself extra space to stop, and use lower gears when going up or down steep hills.

Don't ride your brakes when going downhill—they can overheat and fail. Use engine braking instead. If the trailer starts to sway, avoid hitting the tow vehicle's brakes. Use the trailer's brake controller to gently bring things back under control.

Stop every hour or so to make sure:

- The hitch and coupler are still secure
- The electrical connection is intact
- Safety chains and breakaway lanyard have enough slack
- Tire pressure looks good
- The load is secure and in good condition

Slow down for road bumps and avoid braking while turning. Brake before entering curves, not during. Never exceed 55 mph while towing—going faster can cause trailer sway. Also, give yourself extra room when passing. It can take up to four times more distance to pass safely with a trailer.

1.5 Maintenance, Modifications, and Legal Notices

1.5.1 Modifying Your Trailer

Changing or modifying the trailer's structure can make it unsafe and will void all warranty coverage. Always contact your dealer or the manufacturer before making any changes to discuss your plans and get approval.

1.5.2 Safety Labels

Refer to all safety labels on your trailer. Label placement may vary depending on the trailer model.

1.5.3 Reporting Safety Issues

If you believe your trailer has a safety defect, report it to the **National Highway Traffic Safety Administration (NHTSA)** and Load'em Up Trailers.

- **NHTSA Hotline**: 1-888-327-4236 (TTY: 1-800-424-9153)
- **Website**: www.safercar.gov
- **Mail**: Administrator, NHTSA, 1200 New Jersey Ave SE, Washington, DC 20590

To contact Load'em Up Trailers directly, call **(952) 594-9054**.

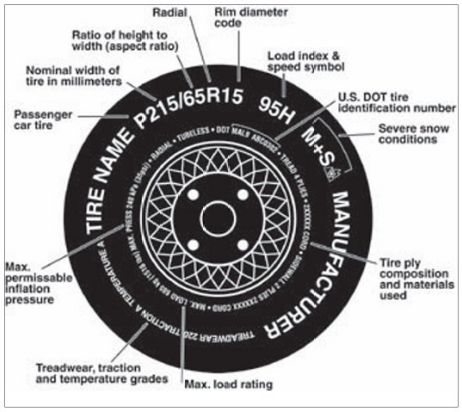
2. Tire Safety Information

This section provides the required consumer tire safety information in accordance with **49 CFR § 575.6** of the **Federal Motor Vehicle Safety Standards (FMVSS)**. These standards are issued by the **National Highway Traffic Safety Administration (NHTSA)** to help promote safe towing practices, proper tire maintenance, and load management.

2.1 Tire Fundamentals

Understanding the basics of tire markings and inflation is key to proper maintenance.

2.1.1 Tire Markings and What They Mean



Federal law requires tire manufacturers to display key safety information on each tire's sidewall. This includes a tire identification number (TIN), which is used for recall tracking and compliance. The sidewall also shows details about size, construction, materials, load limits, and inflation capacity.

- **Tire Type**: "P" for passenger, "LT" for light truck, "ST" for trailer service.
- **Tire Size**: e.g., P215/65R15 – width, aspect ratio, construction, and rim diameter.
- **Load Index & Speed Rating**: Indicates how much weight a tire can carry and at what speed. The speed rating shows the highest speed the tire can handle over time. Not all tires include this, as it's not always required by law.
- **The DOT code** starts with the letters "DOT" and shows that the tire meets U.S. safety standards. The code includes a plant code and a four-digit date code. For example, "3197" means the tire was made in the 31st week of 1997. This code is also used to help identify tires in case of a recall.
- **Ply Composition & Materials**: Lists materials like steel, nylon, polyester.
- **Maximum Load Rating & Inflation** Pressure: Indicates the highest weight and pressure the tire can safely handle. Do not exceed this amount.
- **Max. Load Dual kg (lbs) at kPa (psi) Cold**: This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle). Max. Load Single kg (lbs) at kPa (psi)

2.1.2 UTQGS Ratings (Where Applicable)

Tires may also include UTQG ratings. The treadwear number shows how long the tire's tread is expected to last—the higher the number, the longer the tread life. The traction grade reflects the tire's ability to stop on wet pavement, with ratings from highest to lowest being AA, A, B, and C. The temperature grade indicates how well a tire can resist heat buildup under load, rated as A, B, or C.

- Treadwear: Higher = longer life.
- Traction: Rated AA, A, B, or C for wet stopping ability.
- Temperature: Rated A, B, or C for heat resistance.

2.2 Cold Inflation Pressure

"Cold" refers to tires that haven't been driven for at least 3 hours or driven less than one mile.

- Always check pressure cold for the most accurate reading.
- Never bleed air from hot tires—this can lead to underinflation once cooled.
- Seasonal temperature changes also affect tire pressure: a 10°F change equals about 1 psi change. Therefore, monthly checks and adjustments are critical, especially before long-distance travel or towing under load.

2.3 Maintaining Proper Tire Pressure

Underinflated tires reduce fuel efficiency, handling, and safety. Most tires lose air naturally over time due to air permeation. Driving on underinflated tires increases heat and stress, potentially leading to tire failure. Radial tires may appear properly inflated even when they are not, so always verify pressure with a gauge. Maintain recommended cold inflation pressure and inspect sidewalls and tread for signs of damage or aging.

To maintain safe pressure:

- Locate the recommended cold inflation pressure on the trailer's Tire Information Placard or Certification Label.
- Use a reliable pressure gauge.
- Inflate/deflate as needed and recheck after adjustments.
- Do not exceed the tire's maximum sidewall pressure.
- Include the spare tire in checks.
- Recheck after significant temperature changes (10°F = ~1 psi change).

Tires naturally lose 1–3 psi per month, so monthly checks are essential.

2.4 Tire Inspection and Maintenance

2.4.1 Monthly Tire Maintenance Checklist

- Check tire pressure regularly (at least once a month), including the spare.
- Check tire pressure when cold
- Use a tire gauge—not visual checks
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Check for embedded objects or uneven wear
- Confirm valve caps are secure
- Inspect tread depth (replace if < 2/32")
- Remove bits of glass and foreign objects wedged in the tread.
- Verify lug nuts are torqued to spec
- Do not overload the trailer or tow vehicle

2.4.2 Tread Wear Guidelines

Tread depth is important for traction and safety, especially on wet or slippery roads.

- Replace tires when tread depth is below 2/32 of an inch.
- Use tread wear indicators or the penny test.
- Replace trailer tires every 3–5 years, regardless of tread.

2.4.3 Tire Repairs

A properly repaired tire must include both a patch on the inside and a plug for the puncture. Only punctures in the tread area should be repaired, and sidewall damage should never be fixed. The tire must be removed from the rim for a full inspection before any repair is made. If the damage is too extensive, the tire must be replaced.

2.4.4 Tire Balance and Alignment

To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned correctly relative to the vehicle's frame. This adjustment maximizes the life of your tires. These adjustments require special equipment and should be performed by a qualified technician.

2.5 Finding Recommended Tire Pressure and Load Ratings

Each trailer has a tire information placard and a certification label, usually found on the left front side. These labels show key safety details like the recommended tire size, correct cold

tire pressure, and the vehicle capacity weight (VCW)—the total allowed weight of cargo and passengers. They also list the front and rear gross axle weight ratings (GAWR), which show how much weight each axle can safely support.

2.5.1 Trailer Weight Ratings

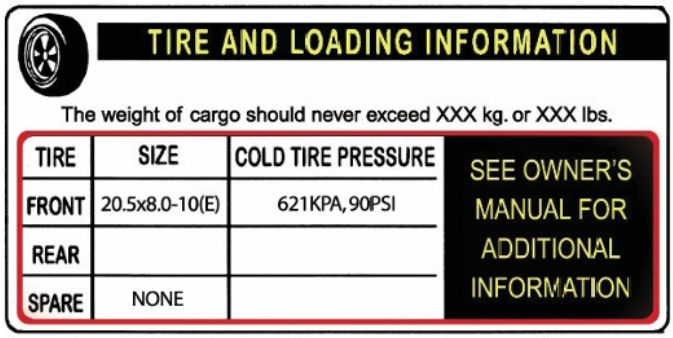
Trailer tires must support the trailer's weight and cargo without being overloaded. Every trailer has a **Federal Certification Label** on the forward left side that lists:

- GVWR (Gross Vehicle Weight Rating) = trailer + cargo max weight
- GAWR (Gross Axle Weight Rating) = max per axle

Exceeding either GVWR or GAWR is unsafe and can result in structural damage, tire blowouts, or loss of control.

2.5.2 For Trailers ≤10,000 lbs GVWR

- Refer to the Tire and Loading Information Placard.
- Follow the statement: "The weight of cargo should never exceed ___ lbs.**"**
- Ensure that total cargo + trailer weight does not exceed the GVWR.
- Weigh your trailer commercial scale, if needed.



2.5.3 For Trailers >10,000 lbs GVWR

- These trailers may not have placards.
- Subtract the empty weight of the trailer (from a scale) from the GVWR to determine safe cargo capacity.
- Distribute cargo evenly and keep heavy loads centered over axles.

2.5.4 Tow Vehicle Load Limits

When towing a trailer, some of the trailer's weight shifts to the tow vehicle. Check the Tire and Loading Information Label (usually inside the driver's door) for this line:

"The combined weight of occupants and cargo should never exceed ___ lbs."

- Subtract the total passenger weight to find your remaining cargo capacity.
- Remember, the trailer's tongue weight also counts against this capacity.

Always check your vehicle's owner's manual for towing weight limits and guidelines.

2.6 Tire Safety Tips and Basic Tire Maintenance

To keep trailer tires safe and in good condition, practice regular care and cautious driving. Avoid potholes, curbs, and road debris to prevent tire damage. Check tire pressure at least once a month—don't forget the spare—and always before a long trip. Inspect tires for uneven wear, cracks, or embedded objects. Remove debris from tread grooves, and make sure all valve stems have caps.

Tire pressure and load capacity are critical for safety. Never exceed the limits shown on the information placard or in the owner's manual. Remember, even tires that look fine may be unsafe due to age, damage, or poor maintenance. For best performance and safety, replace trailer tires every 3–5 years, regardless of tread depth.

If storing your trailer, avoid long-term outdoor exposure. Use tire covers and inflate tires to the maximum cold inflation pressure during storage.

Always use the same tire size that came with the trailer or one recommended by the manufacturer. This info is on the placard, in the owner's manual, or on the tire sidewall. If unsure, ask a qualified tire dealer.

On trailers or vehicles with tires that are all the same size, rotating them front to back and side to side can help prevent uneven wear.

Tire Safety Checklist

Before each trip and monthly:

- Check cold tire pressure with a gauge (including spare)
- Inspect tread depth and sidewalls for damage
- Remove glass or debris from tread grooves
- Confirm valve stems have caps
- Do not overload the trailer or tow vehicle
- Recheck pressures after large temperature shifts
- Replace aged or damaged tires, even with good tread

2.7 Summary: "Tire Safety – Everything Rides On It" (DOT HS 809 361)

This required consumer safety brochure from NHTSA includes key tire maintenance guidelines:

What You Should Do:

- **Maintain proper inflation pressure**

- **Observe load limits**
- **Avoid road hazards**
- **Inspect tires regularly**

These practices improve:

- Handling and control
- Fuel efficiency
- Tire life
- Safety

You can view or download the full brochure at: nhtsa.gov/tires
https://www.nhtsa.gov/sites/nhtsa.gov/files/brochure.pdf

2.8 Glossary of Tire Terminology

Accessory Weight-Extra weight from factory-installed features like power windows, seats, air conditioning, or stereo systems.

Bead-The part of the tire made of strong wire that helps the tire fit tightly on the wheel rim.

Bead Separation-When the different materials in the bead area start to come apart.

Bias Ply Tire-A type of tire where the layers of fabric are placed at angles less than 90 degrees to the tread.

Carcass-The internal structure of the tire that supports the load, not including the tread or sidewall.

Chunking-When pieces of tread or sidewall break off the tire.

Cold Inflation Pressure-The tire pressure measured when the tire is not warmed by driving (usually after sitting for 3+ hours).

Cord-The strong threads that make up the plies inside a tire.

Cord Separation-When the cords separate from the rubber inside the tire.

Cracking-Splits or breaks in the tread, sidewall, or inside liner that reach down to the cords.

CT Tire-A type of tire designed to fit into a special rim system where the rim flanges face inward.

Curb Weight-The total weight of a vehicle with standard equipment, fuel, oil, and coolant, but without passengers or cargo.

Extra Load Tire-A tire built to carry more weight and use higher air pressure than a standard tire.

Groove-The spaces between tread ribs on the surface of a tire.

Gross Axle Weight Rating (GAWR)-The most weight a single axle can safely support. Found on the trailer's VIN label.

Gross Vehicle Weight Rating (GVWR)-The maximum weight of a fully loaded trailer, including cargo. Listed on the VIN label.

Hitch Weight-The downward force a trailer puts on the tow vehicle's hitch.

Innerliner-The inner layer of a tubeless tire that holds the air inside.

Innerliner Separation-When the innerliner pulls away from the tire's internal cords.

Intended Outboard Sidewall-The outer-facing side of a tire that's designed to show whitewalls, raised lettering, or special branding.

Light Truck (LT) Tire-A tire made for use on light trucks or SUVs. Some can also be used on trailers.

Load Rating-The most weight a tire can safely carry at a specific air pressure.

Maximum Load Rating-The most weight a tire can handle when inflated to its maximum pressure.

Maximum Permissible Inflation Pressure-The highest air pressure that can be safely used in a tire under normal conditions.

Maximum Loaded Vehicle Weight-The total weight of the vehicle when fully loaded, including passengers, cargo, fuel, and options.

Measuring Rim-The wheel used to measure the size and shape of a tire during manufacturing.

Non-Pneumatic Rim-A special rim used with non-air-filled tires that supports the tire and connects it to the vehicle.

Non-Pneumatic Spare Tire Assembly-A temporary-use tire and wheel that does not use air and is meant to replace a flat on passenger vehicles.

Non-Pneumatic Tire-A solid tire that works without air. It supports the load and provides grip but doesn't use internal air pressure.

Non-Pneumatic Tire Assembly-A non-pneumatic tire, either alone or with a wheel, that can be installed on a vehicle.

Normal Occupant Weight-Defined as 150 pounds (68 kg) per person, based on seating capacity.

Occupant Distribution-The expected seating positions for passengers as specified by federal standards.

Open Splice-A separation at the joint between parts of the tread, sidewall, or liner that exposes the cords.

Outer Diameter-The total outside diameter of a brand-new, inflated tire.

Overall Width-The full width of a tire from sidewall to sidewall, including raised lettering or ribs.

Pin Weight-The downward force a trailer puts on a gooseneck or fifth-wheel hitch.

Ply-A layer of rubber-coated cords inside the tire that gives it strength.

Ply Separation-When the layers of a tire pull apart from each other.

Pneumatic Tire-A standard air-filled tire made of rubber, fabric, steel, and other materials.

Production Options Weight-The total added weight of optional equipment that replaces standard parts, like bigger batteries or special brakes.

Radial Ply Tire-A tire with cords laid at 90 degrees to the tread, which is the most common design today.

Recommended Inflation Pressure-The tire pressure listed by the manufacturer on the placard or VIN label for safe performance.

Reinforced Tire-A tire built to handle higher loads and pressure than a normal tire of the same size.

Rim-The metal wheel that the tire mounts onto.

Rim Diameter-The inner diameter of the tire opening that fits over the rim.

Rim Size Designation-A combination of the rim's diameter and width measurements.

Rim Type Designation-The industry code used to describe the style or design of a rim.

Rim Width-The distance between the inner edges of the rim flanges.

Section Width-The distance across a tire from sidewall to sidewall, not counting raised markings or ribs.

Sidewall-The side portion of the tire between the tread and the bead.

Sidewall Separation-When the rubber in the sidewall pulls away from the internal cords.

Special Trailer (ST) Tire-A tire marked "ST," which means it's designed for trailer use only.

Test Rim-A wheel used during tire testing to check performance and fit.

Tread-The part of the tire that touches the road.

Tread Rib-A raised strip of tread that runs around the tire's circumference.

Tread Separation-When the tread pulls away from the rest of the tire body.

Treadwear Indicators (TWI)-Small raised areas in the grooves of the tire that show when the tread is worn down and it's time to replace the tire.

Vehicle Capacity Weight-The total weight the vehicle can safely carry, including passengers and cargo.

Vehicle Maximum Load on the Tire-The share of total vehicle weight that one tire is responsible for supporting.

Vehicle Normal Load on the Tire-The average load a tire supports when the vehicle is loaded with fuel, standard equipment, and passengers.

Weather Side-The outer-facing surface of the rim that is not covered by the tire.

Wheel Center Member-The part of the wheel (in non-pneumatic systems) that connects the rim or tire to the vehicle.

Wheel-Holding Fixture-A device used during testing to secure the wheel and tire assembly.

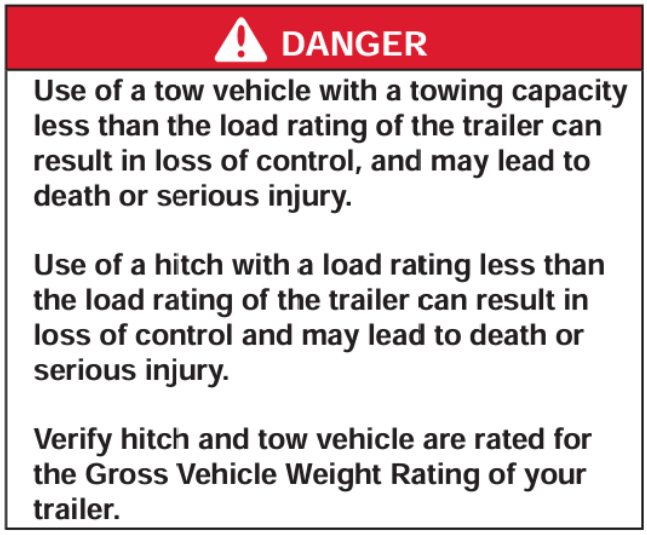
3. Connecting the Trailer to the Tow Vehicle

Adhering to all safety guidelines in this manual is essential to ensure the safety of individuals, protect cargo, and maintain trailer performance.

3.1 Choosing the Right Tow Vehicle and Hitch

Before towing, make sure your tow vehicle and hitch are rated for the **Gross Vehicle Weight Rating (GVWR)** of your trailer.

If the vehicle and hitch are 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.



3.1.1 Identify Trailer Vehicle Certification Label

Located on the front left side of the trailer, this label includes:

- Manufacturer and manufacture date
- GVWR (maximum loaded weight of trailer)
- GAWR (weight rating per axle)
- Tire and rim size and pressure
- VIN (serial number)
- Model/type
- FMVSS certification statement

Note: GAWR may total less than the GVWR, as part of the load is supported by the tow vehicle.

3.1.2 Identify Tow Vehicle Specs

Ask your vehicle dealer for towing specs including Tow Capacity and GCWR (Gross Combined Weight Rating)

3.2 Coupling Overview

To safely connect your trailer to a tow vehicle, the following parts are used:

- **Coupler:** This is the part on the trailer that connects to the hitch ball on the tow vehicle.
- **Hitch:** This is the part on the tow vehicle that includes the ball, ball mount, and any attached components like the bumper (if designed for towing).
- **Safety Chains:** These chains are permanently attached to the trailer. If the coupler comes loose, the chains keep the trailer connected and help prevent the trailer tongue from hitting the ground. Always cross the chains under the tongue and leave enough slack for turning.
- **Electrical Connector:** This plugs into the tow vehicle to power the trailer's lights and, if equipped, its brakes.
- **Breakaway Switch:** (If equipped with electric brakes) In the event the trailer detaches from the tow vehicle, this safety device activates the trailer brakes using a separate battery.
- **Jack:** A device on the trailer used to raise or lower the tongue for hitching or unhitching.

The trailer may be equipped with a ball hitch coupler or a ring & pintle coupler. See the appropriate section for the coupler on your trailer.

⚠ WARNING

An improperly coupled trailer can result in death or serious injury. Do not move the trailer until:

- **Coupler is secured and locked to hitch.**
- **Safety chains are secured to tow vehicle.**
- **Trailer jack(s) are fully retracted.**
- **Trailer brakes are checked.**
- **Tires and wheels are checked.**
- **Breakaway switch is connected to tow vehicle;**
- **The trailer lights are connected and checked.**
- **Load is secured to trailer.**

3.3 Coupling Trailer to Tow Vehicle

3.3.1 Choose the Right Coupler Type

The tow vehicle, hitch and ball must have a rated towing capacity equal to or greater than the trailer gross vehicle weight rating (GVWR).

It is essential that the hitch ball be the same size as the coupler.

The ball size and load rating (capacity) are marked on the ball; hitch capacity is marked on the hitch.

⚠ WARNING

Coupler-to-hitch mismatch can result in uncoupling, leading to death or serious injury.

Be sure the LOAD RATING of the hitch ball is equal or greater than the load rating of the coupler.

Be sure the SIZE of the hitch ball matches the size of the coupler.

3.3.2 Before Coupling

For both coupler types:

- Match sizes and ratings of the coupler/hitch and ball or ring/pintle.
- Inspect the hitch ball or pintle and the coupler or ring for cracks, wear, or damage.
- Ensure tight attachment to the trailer tongue.
- Clean and lubricate the contact points with automotive bearing grease.
- Open the locking mechanism on the coupler or pintle.
- Align the tow vehicle so the hitch is directly under the coupler or ring.

3.3.3 Coupling Procedure

For Ball Hitch:

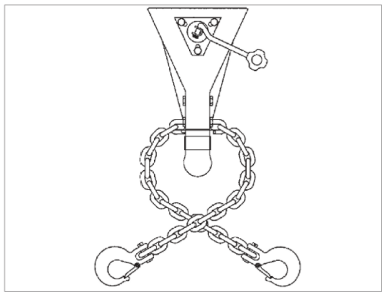
- Lower trailer tongue until coupler fully seats on hitch ball.
- Close and lock the coupler and insert the safety lock pin.
- Test: Raise the rear of the tow vehicle 1" with trailer jack—if it lifts, the coupler is secure.
- Fully retract the jack and drop leg (if equipped).

For Pintle Hitch:

- Lower ring fully onto the pintle.
- Close and lock the pintle mechanism.
- Insert safety lock pin.
- Test the connection same as above.
- Retract jack and drop leg fully.

3.3.4 Connect Safety Chains

- Inspect for wear or damage—replace if needed.
- Cross chains under the coupler to catch the tongue if it disconnects.
- Attach to tow vehicle frame (not the hitch ball or removable parts).
- Hooks must go up through connection points—don't drop them in.
- Leave enough slack for tight turns, but avoid dragging on the ground.



3.3.5 Connect Electrical Cable

- Plug trailer wiring into the tow vehicle.
- Test all lights (brake, turn, running).
- If equipped with Electric Brakes, check electric brake operation using the in-cab brake controller.
- Repair any issues before towing.

3.3.6 Attach Breakaway Brake Lanyard (if equipped with electric brakes)

- Connect the lanyard independently to the vehicle frame (not chains or hitch).
- Lanyard must be tight enough to activate before chains are fully extended.
- Test: Pull the breakaway pin and try to move the trailer. Brakes should engage.
- Recharge the breakaway battery regularly; store indoors if unused for 3+ months.
- Never tow with the breakaway system active—this can overheat and damage the brakes.

3.3.7 Test Electric Brakes

If your trailer has electric brakes, your tow vehicle must have a brake controller that sends power to them. Before driving, test the system to make sure the brakes work.

- While towing <5 mph, manually engage the tow vehicle's brake controller.
- The trailer should resist movement. If not, service is required before towing.

3.3.8 Test Electric Breakaway Brakes

The breakaway system is a critical safety feature that includes a battery, a switch with a pullpin and lanyard, and a brake controller. Always follow the manufacturer's instructions—if you don't have them, contact your dealer.

Some trailers, like hydraulic tilt models, use the hoist battery for the breakaway system. Others have a separate battery mounted near the switch. Most systems charge from the tow vehicle, but if yours doesn't, you'll need to recharge the battery regularly using a standard battery charger.

Before every trip, check that the battery is fully charged. If it's dead, the breakaway brakes won't work—and you must not tow the trailer. To test the system, pull the pin and try to move the trailer forward. You should feel resistance, even if the wheels don't fully lock. If there's no braking, get the system repaired before towing. Be sure to reinsert the pin right after testing, as the battery drains quickly when the pin is out.

Never tow with the breakaway system engaged—this can overheat and damage the brakes. If you're not using the trailer for three months or more, especially in winter, remove the battery, store it indoors, and recharge it every three months. Replace the battery as recommended by the manufacturer.

3.4 Uncoupling the Trailer

- Park on level ground and block the trailer wheels.
- Disconnect the electrical plug, breakaway lanyard (if equipped), and safety chains.
- Unlock and open the coupler or pintle.
- Raise the trailer jack to lift the coupler off the hitch.
- Slowly drive the tow vehicle forward.

3.5 Tongue Weight

Tongue weight is the downward force the trailer puts on the tow vehicle's hitch. It's critical for safe towing.

- If there's **too little tongue weight**, the trailer can sway, especially at higher speeds. This can happen if too much weight is behind the trailer axle. In some cases, the tongue can even lift up on the hitch, reducing traction on the rear wheels and causing loss of control.
- If there's **too much tongue weight**, it can overload the rear of the tow vehicle, reduce traction and steering control, and increase the risk of jackknifing.

Proper tongue weight also helps keep the trailer axles within their rated limits.
As a general rule:

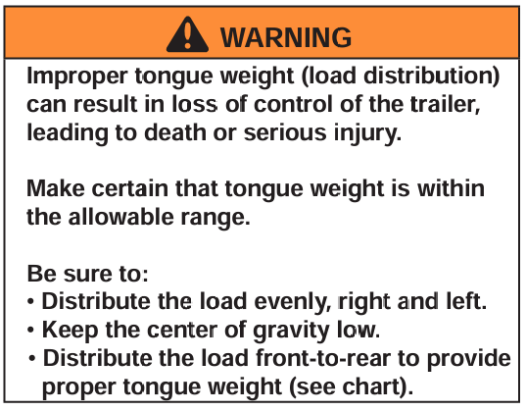
- **Conventional trailers** should have **10–15%** of the total loaded trailer weight (Gross Trailer Weight or GTW) on the tongue.

- Example: A trailer weighing 6,000 lbs should have 600–900 lbs on the hitch.

Check Tongue Weight at a Certified Scale

- Weigh tow vehicle alone.
- Weigh trailer alone.
- Weigh trailer axles only.
- Tongue weight = Total trailer weight – Axle weight

Also verify that the combined weight is within your tow vehicle's GCWR.



3.6 Adjust Hitch Height

To ensure safe towing, the trailer must sit level when fully loaded and connected to the tow vehicle. A level trailer helps distribute weight evenly across the axles.

If your trailer has an adjustable hitch, you can follow these steps to set the correct height. If not, ask your dealer about using an offset ball mount.

- Park on a firm, level surface and connect trailer to tow vehicle.
- Load the trailer (If hauling a load, ensure the trailer is properly loaded and do not exceed the rated capacity of either the trailer or the tow vehicle.
- Step back and check if the trailer is level from front to back, raise or lower hitch if needed. Hitches are available in various drop heights and some feature adjustable height settings to ensure a level towing setup.
- Reconnect the trailer and check again to confirm it sits level.

4. Loading and Unloading the Trailer

Improper loading is a leading cause of trailer-related accidents. To load and unload safely, always account for:

- **Total load weight**
- **Weight distribution (front-to-rear and side-to-side)**
- **Proper tongue weight**
- **Securing cargo properly**

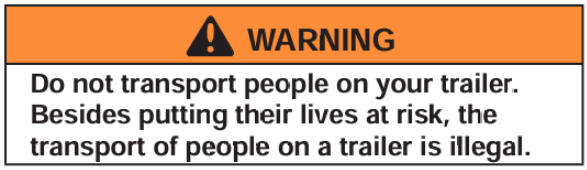
Key Loading Principles

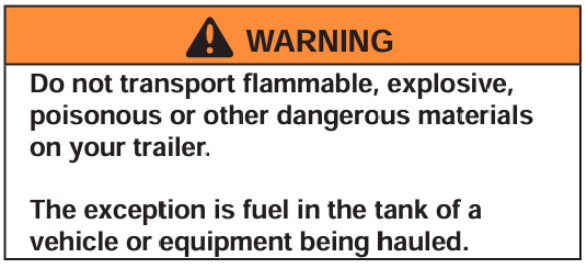
- Never exceed the trailer's **Gross Vehicle Weight Rating (GVWR)** — the combined weight of the trailer and its contents.
- Most of this weight is carried by the trailer's axles; the rest is carried by the tow vehicle hitch.
- Improper tongue weight can cause trailer sway or overload your tow vehicle's rear axle.

Distribute the load so no individual component (tires, axles, or wheels) is overloaded. For tandem and triple axle trailers, ensure the load is balanced front to rear.

For best towing stability:

- Keep the **center of gravity low** — place heavy items low and directly over the axles.
- Maintain **side-to-side balance** and keep **60% of the weight** in the front half of the trailer.
- Never carry passengers, hazardous materials, or flammable liquids (except fuel inside the tanks of loaded equipment).





4.1 Loading the Trailer

Before Loading

- Park the trailer on a firm, level surface.
- Clear the area around the trailer to ensure safe access.

- Inspect the trailer floor for any signs of damage or weakness.
- Check tie-down rings and track systems for damage or looseness. Make sure they are secure and ready for use.

4.1.1 Rigid Deck Trailer

- Couple the trailer to the tow vehicle.
- Lower the rear stabilizers or place blocks to prevent the trailer front from lifting during loading.
- Position and align the ramps with the equipment's tires or tracks.
- Load the cargo, placing about 60% of the weight toward the front half of the trailer.
- Secure the cargo using appropriate straps, chains, and tensioners. Follow FMCSA cargo securement rules.
- Remove the ramps, store them properly, and ensure they are secured.
- Raise the rear stabilizers or remove the blocking.

4.1.2 Manual Tilt Deck Trailer

- Release the deck latch to tilt the trailer deck.
- Load the cargo, keeping about 60% of the weight toward the front. As the load moves forward, the deck will tilt down into place.
- Once the deck is level, lock it into the towing position using the catch pin.
- Secure the cargo with approved straps or chains, following FMCSA securement regulations.

4.1.3 Hydraulic Tilt Deck Trailer

- Couple the trailer to the tow vehicle.
- Review the hoist operation instructions before use.
- Locate the tilt deck controller and make sure the area is clear.
- Press and hold the control to tilt the deck; release when it reaches the ground.
- Load the cargo, placing about 60% of the weight toward the front.
- Secure the cargo to prevent shifting during transport.
- Use the controller to lower the deck into the towing position.
- Secure the cargo according to FMCSA securement regulations.
- Properly stow the controller before driving.

4.2 Unloading the Trailer

4.2.1 Manual Tilt Trailer

- Couple the trailer to the tow vehicle.
- Park on firm, level ground and clear the area around the trailer.
- Remove all tie-downs securing the cargo.
- Release the deck latch to allow the trailer to tilt.
- Carefully move the cargo toward the rear to tilt the deck downward for unloading.
- After unloading, return the deck to the towing position and secure it with the catch pin.

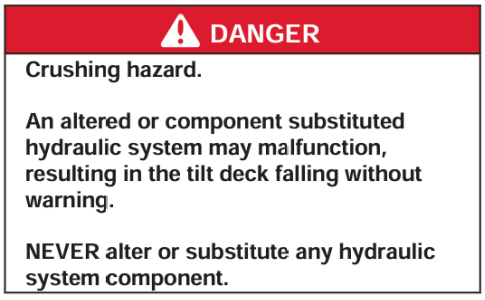
4.2.2 Hydraulic Tilt Trailer

- Couple the trailer to the tow vehicle.
- Park on firm, level ground and clear the surrounding area.
- Remove all tie-downs securing the cargo.
- Carefully follow the hoist operation instructions.
- Use the controller to raise the deck fully.
- Unload the cargo safely.
- Lower the deck back into the towing position.
- Stow the controller securely before transport.

4.3 Hydraulic Components

Do not modify or substitute hydraulic components.

Each part is designed for safe and reliable system operation. Never alter hydraulic pressure or flow rates. Repairs and maintenance should always be done by a qualified technician. Follow all instructions provided by the Hydraulic manufacturers.



4.4 Securing Cargo

Always secure cargo using approved straps, chains, and tensioners. For detailed requirements, refer to FMCSA Securement Rules.

Refer to www.fmcsa.dot.gov for regulations regarding cargo securement rules.

5. Pre-Tow Checklist

Before towing your trailer, always complete the following checklist to ensure safe and proper operation:

1. Coupling & Hitch

- Verify trailer is properly coupled to tow vehicle with coupler latch closed and locked.
- Confirm the hitch ball size matches the coupler.
- Attach and cross safety chains under the coupler.
- Attach the breakaway cable (if equipped) to a secure point on the tow vehicle (not the chains or hitch ball).
- Check that the tongue jack is fully raised and secured.

2. Electrical System

- Plug in the trailer's electrical connector.
- Test all lights-Brake/Turn/Running/Clearance Marker
- Ensure battery (if equipped) is charged and secure.

3. Tires & Wheels

- Check tire pressure on all trailer tires including spare.
- Inspect tires for damage, cracking, or excessive wear.
- Verify lug nuts are properly torqued.

4. Brakes (If Equipped)

- Test electric brakes.
- Confirm breakaway system is functional.

5. Load & Cargo

- Ensure load is within the trailer's Gross Vehicle Weight Rating (GVWR).
- Confirm load is evenly distributed, with proper tongue weight.
- Secure all cargo with appropriate straps or tie-downs.
- Close and latch all gates, ramps, or doors.

6. General Inspection

- Walk around the trailer and tow vehicle.
- Look for loose parts, leaks, or damage.
- Ensure all accessories are secured.
- Remove any wheel chocks or blocks.

After the first 50 miles or one hour of towing, stop and inspect the following:

- Coupler is properly secured to the hitch.
- Safety chains are correctly attached and not dragging on the ground.
- Electrical is plugged in and working properly.
- Cargo remains securely fastened and evenly distributed.

6. Breaking In a New Trailer

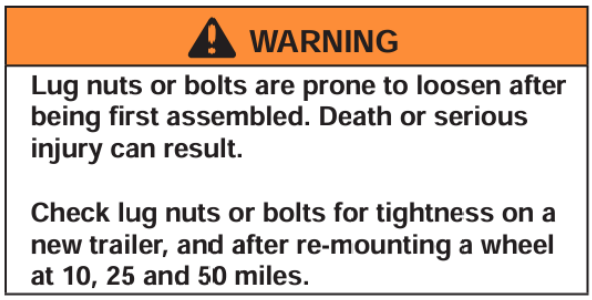
Proper break-in procedures are essential for safe towing and optimal trailer performance. Follow these guidelines during the first few hundred miles of operation.

6.1 Lug Nut Retorque: At 10, 25, and 50 Miles

Wheel lug nuts may loosen as they settle after initial assembly.
To prevent wheel separation—which can cause serious injury or death—complete the following:

- **Retorque all lug nuts at 10, 25, and 50 miles** after first use.

Use a calibrated torque wrench and follow the torque specifications provided in your **axle manufacturer's manual** or contact your dealer for the correct torque specifications.



6.2 Brake Adjustment: First 200 Miles

Brake shoes and drums wear quickly during early use.
To maintain safe braking performance:

- Adjust brakes after the first 200 miles of towing.
- Re-adjust every 3,000 miles, unless your trailer has self-adjusting brakes.

Check your axle or brake manual to determine if your trailer is equipped with self-adjusting brakes.If you do not have these manuals, contact your dealer.
If your trailer does not have self-adjusting brakes, manual adjustments are required. Refer to Section 8 for instructions.

6.3 Brake System Synchronization

Trailer brakes must be properly synchronized with the tow vehicle's braking system to ensure smooth and balanced stopping. Follow all instructions provided by the **axle/brake** and **brake controller** manufacturers.
When correctly set up:

- Braking force is shared between the trailer and tow vehicle.
- The trailer tongue remains level, avoiding excessive rising or diving during stops.

If any documentation is missing or unclear, contact your dealer for support.

7. Accessories

Always read and follow the instructions provided by each accessory's manufacturer before use. If you're unsure whether you have all the necessary instructions, contact your dealer for assistance before operating the accessory.

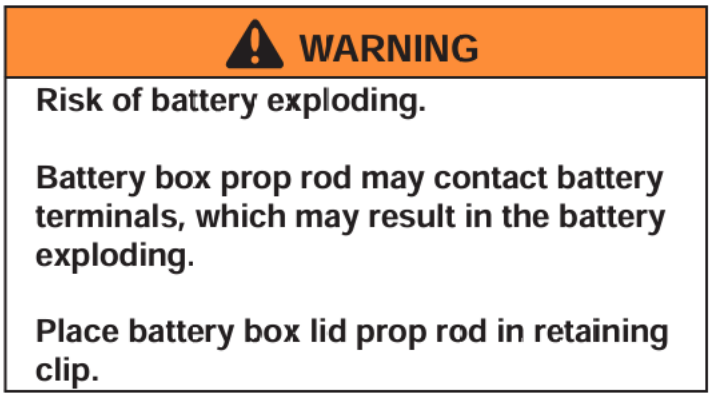
7.1 Accessory Battery

Some trailers are equipped with an accessory battery to power the tilt deck.

This battery can be charged through the tow vehicle, an external charger, or an onboard battery maintainer/charger (if installed). For trailers used daily, it’s recommended to plug in the battery charger after each day’s use. The battery may be housed in a tongue-mounted or side-mounted battery box.

To prevent damage during storage, the battery must remain fully charged. A discharged battery can freeze and crack.

An undercharged battery can also affect the hydraulic pump, causing it to lose pressure. This may result in hydraulic fluid flowing back into the reservoir, potentially overfilling it and forcing fluid into the battery box.



8. Inspection, Service & Maintenance

Regular inspection and maintenance are essential for safe and reliable trailer operation. If you're unsure how to perform any procedures listed here, consult your dealer. Refer to both this manual and the manuals provided by component manufacturers for detailed instructions.

8.1 Service & Maintenance Summary Charts

Before Each Tow

Item	Inspection/Service	Reference
Breakaway Brakes	Check for proper function.	Section 3.3.6, 3.3.8 Section 8.2.2.3
Breakaway Battery	Ensure it is fully charged and connections are clean.	Section 7.1
Brakes	Check operation.	Section 6.2, 6.3
Shoes & Drums	Adjust as needed.	Section 8.2.2.1 Section 8.2.2.2
Safety Chains & Hooks	Inspect for wear or damage.	Section 3.3.4
Coupler & Hitch Ball	Check for cracks, flats, wear; grease and inspect locking mechanism. Replace as necessary.	Section 3.3.2 Section 8.2.3.1
Ring & Pintle	Same as above: inspect, grease, and verify locking.Check locking device & replace when worn.	Section 3.3.2 Section 8.2.3.2
Tires	Check cold tire pressure and inspect for damage.	Section 2.4 Section 8.2.7
Wheels -& Lug Nuts	Check for tightness. Retorque after first 10, 25, and 50 miles on new/remounted wheels or after impact.	Section 6.1 Section 8.2.11

Every Month

Item	Inspection/Service	Reference
Lubrication	Lubricate tilt deck pivot points and hydraulic cylinder ends (if equipped).	Section 8.2.9

Every 6 Months or 6,000 Miles

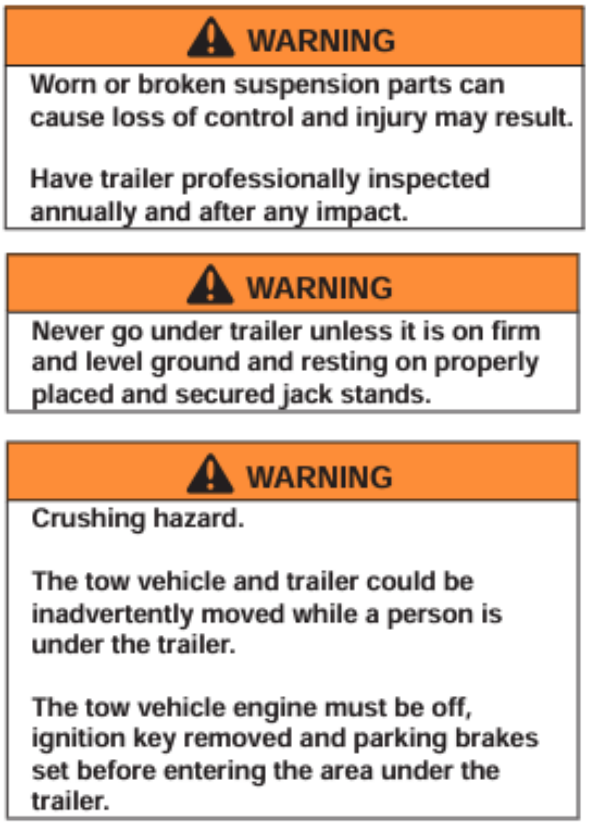
Item	Inspection/Service	Reference
Brakes (Electric)	Check wear and current draw of magnets. Confirm controller output.	Section 6.2, 6.3, 3.3.7 See Controllers Mfr's Manual
Tires	Inspect tread and sidewalls; rotate every 5,000 miles; replace if worn or damaged.	Section 8.2.7
Brake Shoes & Drums	Check operation and adjust.	Section 8.2.2.1 Section 8.2.2.2
Safety Chains & Hooks	Inspect for wear or damage.	Section 3.3.4
Coupler And Hitch Ball	Inspect, clean, lubricate, and verify latch. Replace if worn.	Section 3.3.2 Section 8.2.3.1
Ring & Pintle	Inspect, clean, lubricate, and verify latch. Replace if worn.	Section 3.3.2 Section 8.2.3.2

Annually or Every 12,000 Miles

Item	Inspection/Service	Reference
Brakes (Shoes & Drums, Magnets)	Inspect for wear and scoring. Replace per manufacturer's specs.	Section 8.2.2.1 Section 8.2.2.2 See Controllers Mfr's Manual
Jack (Drop-leg, if equipped)	Grease gears.	Section 8.2.4 See Jack Mfr's Manual
Frame & Welds	Inspect all frame members, fasteners, and welds. Repair or replace as needed.	Section 8.2.1
Wheel Bearings	Disassemble, clean, inspect, repack. Replace if water-submerged.	Section 8.2.8 See Axle Mfr's Manual
Wheels	Inspect rims for cracks or dents.	Section 8.2.6
Axle Attachment Bolts	Inspection must be performed by a qualified dealer.	

8.2 Inspection and Service Instructions

Always jack up the trailer on a firm surface, placing jacks and stands under the outer frame rails. Avoid contact with brake lines, wiring, or suspension.



8.2.1 Trailer Structure

- **Cleaning:** Use a power washer and mild detergent as needed to remove dirt, grime, and buildup. Regular cleaning helps prevent corrosion and wear.
- **Fasteners & Frame:** Inspect routinely for cracks, bends, loose fasteners, or other damage. Replace or repair any compromised parts immediately to maintain structural integrity.
- **Welds:** Inspect all welds at least once a year and after hauling heavy loads. Repair any cracks, gaps, or signs of separation without delay.

8.2.2 Electric Brakes

8.2.2.1 Shoes & Drums

- Adjust brakes after the first 200 miles, then every 3,000 miles.
- Most axles are self-adjusting with reverse hard braking. Refer to your brake manual for specifics.

Properly functioning brake shoes and drums are essential to ensure safety. You must have your dealer inspect these components at least once per year, or each 12,000 miles. Brake adjustment is not covered under the axle warranty.

Most axles are fitted with a brake mechanism that will automatically adjust the brake shoes when the trailer is “hard braked” from a rearward direction. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, contact your dealer for assistance.

8.2.2.2 Manually Adjusting Brake Shoes

Some braking systems are not automatically adjusted. These brakes require manual adjustment. The following steps apply to adjust most manually adjustable brakes. Read your axle and brake manual to see how to adjust your brakes. If you do not have this manual, contact your dealer for assistance.

- Jack and secure the trailer.
- Make sure wheel and drum rotate freely.
- Remove the cover from the adjustment slot.
- Turn the starwheel until brakes drag firmly.
- Back off starwheel until drag is slight.
- Replace the cover and lower trailer.
- Lower the trailer to the ground

Note: Drop spindle axles may need a special tool. See axle manual.

8.2.2.3 Breakaway System

- **Battery:** Powers the brakes if the trailer disconnects. Charge and replace as needed. Be sure to check, maintain and replace the battery according to the battery manufacturer’s instructions.
- **Switch:** Pull the pin to verify brakes engage. The trailer should resist movement. Be sure to immediately put switch pin back into place after testing.

8.2.2.4 Tow Vehicle Operated Electric Brakes

The electric brakes that operate in conjunction with the tow vehicle brakes must be “synchronized” so that braking is properly distributed to the tow vehicle brakes and the trailer brakes. For proper operation and synchronization, read and follow the axle/brake and the brake controller manufacturers’ instructions. If you do not have these instructions, contact your dealer for assistance.

8.2.2.5 Electric Brake Magnets

- Have magnets inspected yearly or every 12,000 miles for proper function and wear.

8.2.3 Trailer Connection to Tow Vehicle

See the coupler manufacturer's manual for other inspection and maintenance procedures. If you do not have this manual, contact your dealer for assistance.

When replacing a ball, the load rating must match or exceed the GVWR of the trailer.

8.2.3.1 Coupler & Ball

- Grease the ball before each use.
- Inspect for cracks, rust, or deformation.
- Ensure latch locks securely and pivots smoothly. Oil as needed.
- Replace any worn or damaged parts. Use a ball rated for the trailer's GVWR.

8.2.3.2 Ring & Pintle

- Apply grease to the ring before each use.
- Inspect for wear or damage. Confirm latch locks securely.
- Clean and oil moving parts. Replace if worn or damaged.
- Use components rated for the trailer's GVWR.

8.2.4 Landing Leg or Jack

- Lubricate jack via grease fitting if present.
- Annually remove top and pack gears with grease in hand-cranked models.

See the jack manufacturer's manual for other inspection and maintenance procedures.

8.2.5 Lights & Signals

- Check all lights and turn signals before each tow. Replace if damaged or inoperable.

8.2.6 Wheel Rims

- Inspect after any curb or impact.
- Replace if bent, cracked or any damage. Perform a full inspection annually.

8.2.7 Tires

Ensure tire pressure matches recommended level listed on the tire sidewall or VIN label.

- Check tire pressure when tires are cold and inspect for bulges, cuts, or uneven tread wear. Minimum safe tread depth is 2/32 inch.

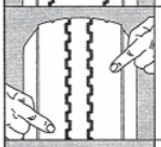
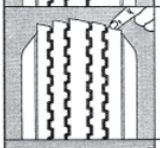
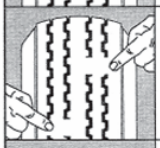
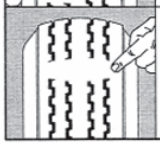
- Inflate tires to maximum cold pressure before long-term storage. Store in a cool, dry place, and use tire covers if storing outdoors.

Tire Inspection Chart

WARNING

Worn, damaged or under-inflated tires can cause loss of control, injury and damage.

Check tires before each tow.

	Condition	Possible Cause	Remedy
	Even Center Wear	Over Inflation	Check & Adjust Pressure When Cold
	Inside & Outside Wear	Under Inflation	Check & Adjust Pressure When Cold
	Smooth, Side Wear - One Side	Loss of Camber or Overloading	Check & Unload As Necessary Have Alignment Checked
	"Feathering" Across The Face	Axle Not Square To Frame or Incorrect Toe In	Square Axles Have Alignment Checked
	Cupping	Loose Bearings or Wheel Balance	Check Bearing Adjustment and Wheel & Tire Balance
	Flat Spots	Wheel Lockup	Adjust Brakes

8.2.8 Wheel Bearings

Loose, worn, or damaged wheel bearings often cause brakes to grab. If wheels feel loose or wobble when spun, service or replace the bearings. For axles with grease zerks, grease the bearings every 6 months or 6,000 miles for safe, reliable operation.

Inspection:

- Securely jack up trailer and check for wheel wobble or looseness.

Service (if equipped with grease zerks):

- Remove rubber plug.
- Pump new grease until visible (use a different color each time).
- Replace plug and repeat for all wheels.

8.2.9 Lubrication

Lubricate tilt deck pivot points and hydraulic cylinder ends (if equipped).

8.2.10 Hydraulic Reservoir

- Check fluid level before towing. The reservoir is in the battery box.
- Deck must be fully lowered.
- Use only high-quality hydraulic fluid with anti-wear and corrosion inhibitors.
- Fluid spray from the cap may indicate a low battery.

See the hydraulic manufacturer's manual for other inspection and maintenance procedures.

8.2.11 Lug Nuts Or Bolts

- Check torque: After first 10, 25, and 50 miles on a remounted or new wheel and before every tow.
- Use a calibrated torque wrench. Clean studs before torquing.
- Follow torque specs from your axle manufacturer.
- **Do not over-tighten** — it may damage the wheel or void your warranty.

Tighten lug nuts or bolts in **three gradual stages** to reach the final torque specified for your trailer's axle size. Always tighten in the sequence shown in the accompanying diagram to ensure even pressure and secure fit.

Use a **calibrated torque wrench** for accurate results. Make sure the wheel studs are clean and free of contaminants like paint, dirt, or grease, which can cause incorrect torque readings.

Do not overtighten. Over-torquing can damage the studs or deform the wheel's mounting holes, and may void your axle warranty.

Refer to your **axle manufacturer's manual** or contact your dealer for the correct torque specifications.