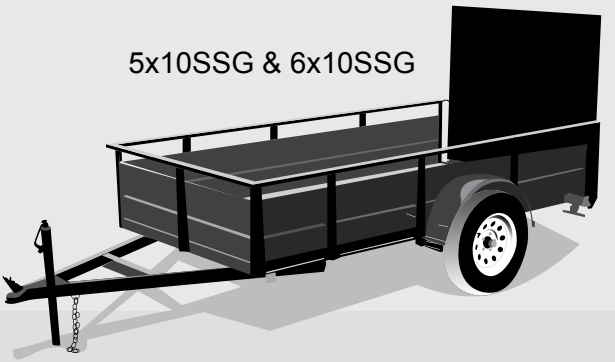
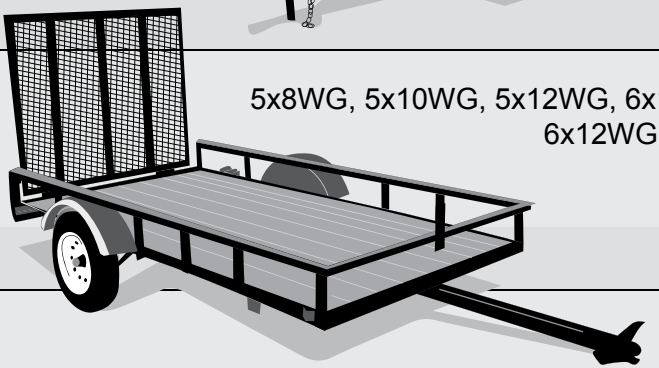
2,990 LB. GVWR
MANUAL & SAFETY GUIDE

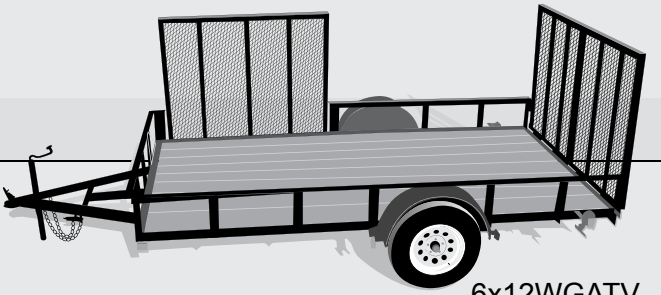
W = Wood Floor
G = Ramp Gate
SS = Solid Side

5x10SSG & 6x10SSG





5x8WG, 5x10WG, 5x12WG, 6x10WG,
6x12WG & 6x14WG



6x12WGATV

Note: Not all Trailers are Shown on Cover

Customer Service 706-356-5379 PO Box 542 Lavonia, GA 30553

TABLE OF CONTENTS

Section and Page Numbers:

I. SAFETY INFORMATION

GET TO KNOW YOUR NEW TRAILER!

With the purchase of your new professionally built utility trailer you have added an exciting new dimension to your recreational and hard working lifestyle. You can now have a safe and secure way of moving anything at anytime to any state. Carry-On Trailer Corporation has provided you with a vehicle designed for many years of trouble-free service. This manual is to help you maintain and tow the trailer safely. Please read and follow all of its warnings and instructions carefully. Each trailer varies from one to the next, so be sure to read and comply with any warnings and information supplied by the manufacturer about your specific model. This will help to obtain peak performance.

Trailer Check List √

WARNING! Before towing this trailer be sure to read and familiarize yourself with the instructions and warnings supplied with the trailer.

NEVER TOW THIS TRAILER BEFORE YOU CHECK √

√ Safety chains are safely secured and cross under the hitch
√ Coupler and hitch ball are of the same size.
√ Lug nuts are tight.
√ Load is secured and properly tied down to trailer.
√ Wheel bearings are properly adjusted and maintained.
√ Load is within maximum load carrying capacity.
√ Tires are inflated to correct PSI.
√ The ramp gate is in the up and locked position with holding pins in place.
[IF TRAILER IS EQUIPPED WITH A RAMP GATE]
√ Lights are working and safely connected to tow vehicle.

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.

Allow More Time and Distance While Towing a Trailer

When towing a trailer, you will have decreased acceleration, increased stopping distance, and increased turning radius (which means you must make wider turns to keep from hitting curbs, vehicles, and anything else that is on the inside corner). 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.

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

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

WARNING!

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

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

Do not tow the trailer on the road until

- Tires and wheels are checked.
- The load is secured to the trailer.
- The trailer lights are connected and checked and in working condition.

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.

Mismatch of Trailer and Hitch

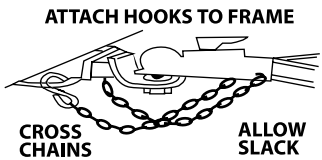
WARNING!

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.

Safety Chain Arrangement> Bumper Pull Trailer



Unsafe Tires, Lug 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.

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.

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 to 70-80 ft-lbs.

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** 15, 30 and 60 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 first 15, 30 and 60 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.

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).

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.

Gross Vehicle Weight Rating, or "GVWR" should appear on the tongue of the trailer. For example, a trailer with an a-frame hitch, with a loaded weight of 2,000 pounds, should have 10-15% or 200-250 pounds on the tongue.

Tongue Weight as a Percentage of Loaded Trailer Weight	
Type of Hitch	Percentage
Ball Hitch (or Bumper Hitch)	10–15%

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.
- Distribute the load evenly, right and left, to avoid tire overload.
- 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.

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 ropes, straps, etc.

If the ramp gate latch is equipped with a catch that has a hole for the gate pins, use the gate pins to prevent the ramp gate latch from opening.

WARNING!

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

Always secure the ramp gate latch after closing. Place a gate pin in the catch.

Steps for Determining Correct Load Limit

(For Trailers 10,000 lbs. GVWR or less):

1. Locate the statement, “The weight of cargo should never exceed XXX kg or XXX lbs.,” on your vehicle’s placard.
2. This figure equals the available amount of cargo and luggage load capacity.
3. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity.

The trailers placard refers to the Tire Information Placard attached adjacent to or near the trailer’s VIN Certification label at the left front of the trailer.

Steps for Determining Correct Load Limit- Tow Vehicle

(For Tow Vehicles 10,000 lbs. GVWR or Less):

1. Locate the statement, “The combined weight of the occupants and cargo

should never exceed XXX lbs.," on your vehicle's placard.
2. Determine the combined weight of the driver and passengers who will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage capacity available. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. (1400-750(5 x 150) = 650 lbs.)
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in Step #4.
6. If your vehicle will be towing a trailer, load from your trailer will be transfered to your vehicle. Consult the tow vehicle's manual to determine how this weight transfer reduces the available cargo and luggage capacity of your vehicle.

Inappropriate Cargo
Your trailer may be designed for specific cargo. 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 flammable, explosive, poisonous or other dangerous materials in your trailer. Do not transport people in the trailer.

Inoperable Lights or Mirrors
Be sure that the lights on your trailer are functioning properly before towing your trailer. 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.

WARNING! Improper electrical connection between the tow vehicle and the trailer will result in inoperable lights and can lead to collision. Before each tow:
- Check that the taillights, brake lights and turn signals are working.

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

Hazards From Modifying Your Trailer
♦ Altering your trailer can damage essential safety items. Even simply driving a nail or screw to hang something can damage an electrical circuit.

I. PREPARING TO TOW

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.

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 tiedowns to make sure the load will not shift during towing.
- Before towing, check coupling, safety chain, tires, wheels and lights.
- Check the lug nuts or bolts for tightness.
- Check coupler tightness after towing 50 miles.
- 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.
- 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.
- 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 breakaway switch pull pin cable,
- The tires are not visibly low on pressure.
- The cargo is secure and in good condition.

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.

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 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.

General Terms

GAWR: The maximum gross weight that an axle can support. It is the lowest of axle, wheel, or tire rating. Usually, the tire or wheel rating is lower than the axle rating, and determines GAWR.

GVWR: The maximum allowable gross weight of the trailer and its contents. The gross weight of the trailer includes the weight of the trailer and all of the items within it (such as cargo, water, food and other supplies). GVWR is sometimes referred to as GTWR (Gross Trailer Weight Rating), or MGTW (Maximum Gross Trailer Weight). GVWR, GTWR and MGTW are all the same rating.

The sum total of the GAWR for all trailer axles may be less than the GVWR for the trailer, because some of the trailer load is to be carried by the tow vehicle, rather than by the trailer axle(s). The total weight of the cargo and trailer must not exceed the GVWR, and the load on an axle must not exceed its GAWR.

PSIC: The tire pressure (Pounds per Square Inch) measured when Cold.

EMPTY WEIGHT: Some information that comes with the trailer (such as the Manufacturer's Statement of Origin) is not a reliable source for "empty" or "net" weight. The shipping documents list average or standard weights and your trailer may be equipped with options. To determine the "empty" or "net" weight of your trailer, weigh it on an axle scale.

To determine the “empty” or “net” weight of your trailer, weigh it on an axle scale. To find the weight of the trailer using an axle scale, you must know the axle weights of your tow vehicle **without** the trailer coupled. Some of the trailer weight will be transferred from the trailer to the tow vehicle axles, and an axle scale weighs all axles, including the tow vehicle axles.

Tow Vehicle

Overall Carrying and Towing Capacity of Vehicle
Vehicle manufacturers will provide you with the maximum capacities of their various models. No amount of reinforcement will give a 100 horsepower, 2,500 pound truck the towing capacity that a 300 horsepower, 5,000 pound truck has.

Towing Hitch
The towing hitch attached to your tow vehicle must have a capacity equal to or greater than the load rating of the trailer you intend to tow. The hitch capacity must also be matched to the tow vehicle capacity. Only your vehicle dealer can provide and install the proper hitch on your tow vehicle.

Side View Mirrors
The size of the trailer that is being towed and your state law regulations determine the size of the mirrors. However, some states prohibit extended mirrors on a tow vehicle, except while a trailer is actually being towed. In this situation, detachable extended mirrors are necessary. Check with your dealer or the appropriate state agency for mirror requirements

Heavy Duty Flasher
A Heavy Duty Flasher is an electrical component that may be required when your trailer turn signal lights are attached to the tow vehicle flasher circuit.

Electrical Connector
An Electrical Connector connects the lights to the towing vehicle.

Fire Extinguisher
It is sensible to have a fire extinguisher in the tow vehicle.

Emergency Flares and Emergency Triangle Reflectors
It is wise to carry these warning devices even if you are not towing a trailer. It is particularly important to have these when towing a trailer because the hazard flashers of your towing vehicle will not operate for as long a period of time when the battery is running both the trailer lights and tow vehicle lights.

Coupling and Uncoupling the Trailer
A secure coupling (or fastening) of the trailer to the tow vehicle is essential. A loss of coupling may result in death or serious injury. Therefore, you must understand and follow all of the instructions for coupling.

The following parts are involved in making a secure coupling between the trailer and tow vehicle:

Coupler: A device on the tongue of the trailer that connects to the hitch on the tow vehicle.

Note Coupler Size: All 2,990 lb. GVWR trailers use a 2" coupler.

Hitch: A device on the tow vehicle that supports the weight of the trailer tongue and pulls the trailer. The coupler attaches to the hitch.

Safety chains: If the coupler connection comes loose, the safety chains can keep the trailer attached to the tow vehicle. With properly rigged safety chains, it is possible to keep the tongue of the trailer from digging into the road pavement, even if the coupler-to-hitch connection comes apart.

Trailer lighting connector: A device that connects electrical power from the tow vehicle to the trailer. Electricity is used to turn on brake lights, running lights, and turn signals as required.

Jack: A device on the trailer that is used to raise and lower the coupler. The jack is sometimes called the "landing gear."

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

WARNING!

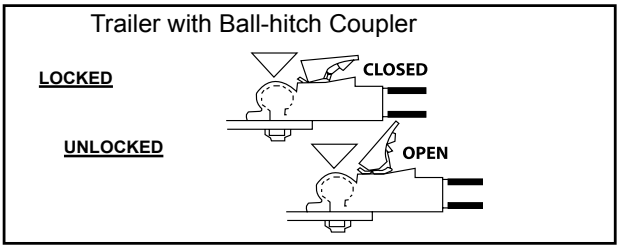
Do not move the trailer until:
- The coupler is secured and locked to hitch.
- The safety chains are secured to the tow vehicle.
- The trailer jack(s) are fully retracted.

Do not tow the trailer on the road until:
- Tires and wheels are checked.
- The load is secured to the trailer.
- The trailer lights are connected and checked.

Trailer with Ball-Hitch Coupler

A ball hitch coupler connects to a ball that is located on or under the rear bumper of tow vehicle. This system of coupling a trailer to a tow vehicle is sometimes referred to as "bumper pull."

A ball hitch trailer may be fitted with a tongue jack that can raise and lower the coupler. The tongue jack is mounted to the A-frame (front, or tongue) part of the trailer. By rotating the jack handle clockwise, the jack will extend and raise the tongue of the trailer.



We have utilized a Ball Hitch coupler that is suitable for the size and weight of the trailer. The load rating of the coupler and the necessary ball size are listed on the trailer tongue. You must provide a hitch and ball for your tow vehicle, where the load rating of the hitch and ball is equal to or greater than that of your trailer. Also, the ball size must be the same as the coupler size. If the hitch ball is too small, too large, is underrated, is loose or is worn, the trailer can come loose from the tow vehicle, and may cause death or serious injury.

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 OF 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.

Before coupling the trailer to the tow vehicle

Be sure the size and rating of hitch ball match the size and rating of the coupler. Hitch balls and couplers are marked with their size and rating.

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.

- Wipe the hitch ball clean and inspect it visually and by feel for flat spots, cracks and pits.

WARNING! A worn, cracked or corroded hitch ball can fail while towing, and may result in death or serious injury.
Before coupling trailer, inspect the hitch ball for wear, corrosion and cracks.
Replace worn or damaged hitch ball.

- Rock the ball to make sure it is tight to the hitch, and visually check that the hitch ball nut is solid against the lock washer and hitch frame.
- Wipe the inside and outside of the coupler clean and inspect it visually for cracks and deformations; feel the inside of the coupler for worn spots and pits.
- Be sure the coupler is tight to the tongue of the trailer. All coupler fasteners must be visibly solid against the trailer frame.

WARNING! A loose hitchball nut can result in uncoupling, leading to death or serious injury.

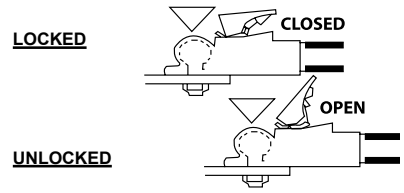
Be sure the hitch ball is tight to the hitch before coupling the trailer.

- Raise the bottom surface of the coupler to be above the top of the hitch ball. Use the jack if one is provided; otherwise, use wood or concrete blocks to support the trailer tongue.

Prepare the coupler and hitch

- Lubricate the hitch ball and the inside of the coupler with a thin layer of automotive bearing grease. If your trailer is equipped with a jack, raise the coupler above the ball height.
- Open the coupler locking mechanism. Ball couplers have a locking mechanism with an internal moving piece and an outside handle.
- In the open position, the coupler is able to drop fully onto the hitch ball.
- See the coupler instructions for details of placing the coupler in the “open” positio
- Slowly back up the tow vehicle so that the hitch ball is near or aligned under the coupler, if the trailer jack has raised the coupler.

Figure 0-1 Ball Hitch Coupler Mechanism



Couple the trailer to the tow vehicle

If your trailer does not have a jack, you will have to lift the coupler and place it over the ball.

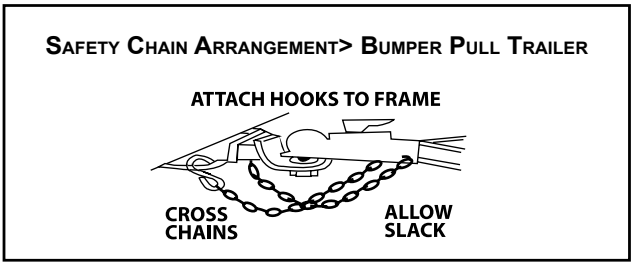
- If you have a jack, lower the trailer until the coupler fully engages the hitch ball. If the coupler does not line up with the hitch ball, adjust the position of the tow vehicle.
- Engage the coupler locking mechanism. In the engaged position, the locking mechanism securely holds the coupler to the hitch ball.
- Insert a pin or lock through the hole in the locking mechanism.
- Be sure the coupler is all the way on the hitch ball and the locking mechanism is engaged. A properly engaged locking mechanism will allow the coupler to raise the rear of the tow vehicle. Using the trailer jack, test to see that you can raise the rear of the tow vehicle by 1 inch, after the coupler is locked to the hitch

Notice Overloading can damage the tongue jack.
Do not use the tongue jack to raise the tow vehicle more than 1 inch.

If the coupler cannot be secured to the hitch ball, do not tow the trailer.

- Lower the trailer so that its entire tongue weight is held by the hitch, and continue retracting the jack to its fully retraced position.

Rig the safety chains



- Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.
- Rig the safety chains so that they:

- cross underneath the coupler;
- loop around a frame member of the tow vehicle or to holes provided in the hitch system (but, do **not** attach them to an interchangeable part of the

hitch assembly); and
- have enough slack to permit tight turns, but not be close to the road surface, so if the trailer uncouples, the safety chains can hold the tongue up above the road.

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.

Connect the electrical cables

Connect the trailer lights to the tow vehicle's electrical system using the electrical connectors.

- Check all lights for proper operation.

- Clearance and Running Lights (Turn on tow vehicle headlights).
- Brake Lights (Step on tow vehicle brake pedal).
- Turn Signals (Operate tow vehicle directional signal lever).

WARNING! Improper electrical connection between the tow vehicle and the trailer will result in inoperable lights, 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

Uncoupling the Ball Hitch Trailer with Tongue Jack

Follow these steps to uncouple your ball hitch trailer from the tow vehicle:

- Block trailer tires to prevent the trailer from rolling, before jacking the trailer up.
- Disconnect the electrical connector.
- Disconnect the breakaway brake switch cable. Promptly replace the pull pin in the switch box.
- Disconnect the safety chains from the tow vehicle.
- Unlock the coupler and open it.
- Before extending jack, make certain the ground surface below the jack pad will support the tongue load.
- Rotate the jack handle (or crank) clockwise. This will slowly extend the jack and transfer the weight of the trailer tongue to the jack.

Breakaway Brake Sytem

The breakaway brake system may be fitted with a charging facility that draws power from the tow vehicle. If the electrical system on your tow vehicle does not provide power to the breakaway brake battery you must periodically charge the battery on the trailer to keep the breakaway brake system in working order.

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

Loading the Trailer

Improper trailer loading causes many accidents and deaths. To safely load a trailer, you must consider:

- Overall load weight;
- Load weight distribution;
- Proper tongue weight; and
- Securing the load properly.

To determine that you have loaded the trailer within its rating, you must consider the *distribution* of weight, as well as the total weight of the trailer and its contents. The trailer axles carry most of the total weight of the trailer and its contents (Gross Vehicle Weight, or “GVW”). The remainder of the total weight is carried by the tow vehicle hitch. It is essential for safe towing that the trailer tongue and tow vehicle hitch carry the proper amount of the loaded trailer weight, otherwise the trailer can suddenly sway wildly at towing speed. Read the “Tongue Weight” section below.

Towing stability also depends on keeping the center of gravity as low as possible. Load heavy items on the floor and over the axles. When loading additional items, be sure to maintain even side-to-side weight distribution and proper tongue weight. The total weight of the trailer and its contents must never exceed the total weight rating of the trailer (Gross Vehicle Weight Rating, or “GVWR”).

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 the Gross Axle Weight Rating (GAWR).

Tongue Weight

It is critical to have a portion of the trailer load carried by the tow vehicle. That is, the trailer tongue must exert a downward force on the hitch. This is necessary for two reasons. First, the proper amount of tongue weight is necessary for the tow vehicle to be able to maintain control of the tow vehicle/trailer system. If, for example, the tongue exerts an upward pull on the hitch, instead of pushing down on it (because the trailer is overloaded behind its axle(s)), the wheel of the tow vehicle can lose traction or grip and cause loss of control. Also, even if there is some weight on the tongue, but not enough weight on the tongue, the trailer can suddenly become unstable at high speeds.

In addition to tow vehicle control, tongue weight is necessary to insure that the trailer axle(s) do not exceed their Gross Axle Weight Rating (GAWR).

The table below has “rules of thumb” for proper tongue weight.

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 bumper hitch, with a loaded weight of 2500 pounds, should have 0-5% of 2500 pounds on the tongue. That is, the example trailer would have 250 to 375 pounds on its tongue.

Tongue Weight as a Percentage of Loaded Trailer Weight	
Type of Hitch	Percentage
Ball Hitch (or Bumper Hitch)	10–15%

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

Checking Tongue Weight

To check the tongue weight, the tow vehicle and trailer must be on level ground, as they will be when the trailer is being towed.

If you know the weight on your tow vehicle axles when you are not towing a trailer, trailer tongue weight can be determined with the use of a truck axle scale.

The recommended method of checking tongue weight is to use an accessory called a “tongue weight scale.”

An alternate method of checking tongue weight involves the use of a bathroom scale. The loaded trailer must be on a smooth and level surface, and you must block the trailer wheels, front and rear.

WARNING! An unrestrained trailer can fall off its support, resulting in serious injury or death.
Before checking tongue weight, block trailer wheels, front and rear.

- Raise the tongue of the trailer with the jack.
- Place a bathroom scale on the ground, directly below the coupler.
- Place a strong block support (such as a cement block) on the scale – note the scale reading for the weight of the block support.
- Lower the tongue until the coupler rests on the block support and the jack is ½ inch above the ground.
- The scale reading, minus the weight of the block support is the tongue weight.
- The tongue weight can also be checked at an axle weighing scale.

Securing the 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.

Loading Cargo (Open Trailer)

Couple the trailer to the tow vehicle before loading. This is essential for the bumper pull trailer because the tongue of a bumper pull trailer can rise during loading, before the cargo is properly distributed. To measure the tongue weight, you will have to uncouple the trailer after it is loaded.

Do not transport people, containers of hazardous substances, cans or containers of flammable substances, such as gasoline, kerosene, paint, etc. However, fuel

in the tank of an off-road vehicle, or a car or motorcycle, etc. may be carried on your open trailer.

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

WARNING! Load can suddenly move or topple, which can result in death or serious injury.
Do not load or unload your open trailer unless it is prevented from tipping and is on firm and level ground.

Load the cargo onto the trailer. Secure the cargo to the trailer using appropriate straps, chains and tensioning devices. 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.

Return the ramp(s) to their stowed position(s), and secure them so that they will not move during transit.

Checking the Trailer Before and During Each Tow
Pre-tow Checklist

Before towing, double-check all of these items:

- ❑ Tires and lug nuts
- ❑ Coupler secured and locked
- ❑ Safety chains properly rigged to tow vehicle, not to hitch or ball
- ❑ Lights: Tail, Stop, Turn and Backup
- ❑ Cargo properly loaded, balanced and tied down
- ❑ Ramps latched and secured

Retighten Lug Nuts at First 15, 30 & 60 Miles

Wheel lugs can shift and settle quickly after being first assembled, and must be checked after the **first** 15, 30 and 60 miles of driving. Failure to perform this check may result in a wheel coming loose from the trailer, causing 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 first 15, 30 and 60 miles of driving.

Axle Bolts, Frame, Suspension, & Structure

WARNING! Worn or broken suspension parts can cause loss of control and injury may result.
Have trailer professionally inspected annually and after any impact.

To perform many of the inspection and maintenance activities, you must jack up the trailer.

When jacking and using jack stands, place them so as to clear wiring, brake lines, and suspension parts (springs, torsion bars, etc.). Place jacks and jack stands inside of the perimeter strip on the supporting structure to which the axles are attached.

WARNING! Never crawl under your trailer unless it is on firm and level ground and resting on properly placed and secured jack stands.

Trailer Structure

Because the trailer floor receives the most abuse, it will most likely corrode before any other part of the structure.

WARNING! Broken or damaged fasteners or welds can cause injury or damage to trailer and contents. Inspect for, and repair all damaged parts at least once a year.

Welds

All welds can crack or fail when subjected to heavy loads or movement of cargo that was not properly tied to prevent movement. Any time that you know or suspect that the trailer has been subjected to heavy loads or movement of cargo, immediately inspect the welds and fasteners for damage. To prevent severe damage to your trailer, inspect all of the welds for cracks or failure at least once a year.

WARNING! Improper weld repair will lead to early failure of the trailer structure and can cause serious injury or death.
Do not repair cracked or broken welds unless you have the skills and equipment to make a proper repair. If not, have the welds repaired by your dealer.

Tires

Before each tow, be sure the tire pressure is at the value indicated on the sidewall. Tire pressure must be checked while the tire is cold. Do not check the tire pressure immediately after towing the trailer. Allow at least three hours for a tire to cool, if the trailer has been towed for as much as one mile. Replace the tire before towing the trailer if the tire treads have less than 1/16 inch depth or the bands are visible.

Wheel Rims

If the trailer has been struck, or impacted, on or near the wheels, or if the trailer has struck a curb, inspect the rims for damage (i.e. being out of round); and replace any damaged wheel. Inspect the wheels for damage every year, even if no obvious impact has occurred.

Wheels, Bearings and Lug Nuts

A loose, worn or damaged wheel bearing is the most common cause of brakes that grab.

To check your bearings, jack trailer and check wheels for side-to-side looseness. If the wheels are loose, or spin with a wobble, the bearings must be serviced or replaced.

Most trailer axles are built with sealed bearings that are not serviceable. Sealed bearings must be replaced as complete units.

Unsealed Bearings (Hubs)

If your trailer has unsealed axle bearings, they must be inspected and lubricated once a year or 12,000 miles to insure safe operation of your trailer.

If a trailer wheel bearing is immersed in water, it must be replaced.

If your trailer has not been used for an extended amount of time, have the bearings inspected and packed more frequently, at least every six months and prior to use.

Follow the steps below to disassemble and service the UNSEALED wheel bearings.

- After removing the grease cap, cotter pin, spindle nut and spindle washer , remove the hub and drum to inspect the bearings for wear and damage.
- Replace bearings that have flat spots on rollers, broken roller cages, rust or pitting. Always replace bearings and cups in sets. The inner and outer bearings are to be replaced at the same time.
- Replace seals that have nicks, tears or wear.

Lug Nuts (Bolts)

Lug nuts are prone to loosen right after a wheel is mounted to a hub. When driving on a remounted wheel, check to see if the lug nuts are tight after the first 15, 30 and 60 miles of driving and before each tow thereafter.

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 first 15, 30 and 60 miles of driving.

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.

Tighten the lug nuts to the proper torque for the axle size on your trailer, to prevent wheels from coming loose. Use a torque wrench to tighten the fasteners. If you do not have a torque wrench, tighten the fasteners with a lug wrench as much as you can, then have a service garage or dealer tighten the lug nuts to the proper torque. Over-tightening will result in breaking the studs or permanently deforming the mounting stud holes in the wheels.

	Lug Nut Torque – Steel Wheels	
Axle RatingPounds	Stud Size	TorqueFoot-pounds
3,500- 7,000	½ inch	80 to 95

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 Carry-On Trailer Corporation, PO Box 542, Lavonia, GA 30553. Phone number is 706-356-5379.

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 Carry-On Trailer Corporation, PO Box 542, Lavonia, GA 30553. Phone number is 706-356-5379.

To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to http://www.safecar.gov: or write to: Administrator NHTSA, 1200 New Jersey Avenue S.E. Washington, DC 20590. You can also obtain other information about motor vehicle safety from http://www.safecar.gov.

TRAILER WHEEL SAFETY GUIDE

Wheel Mounting and Application for Utility and Enclosed Trailers

Instruction Guidelines

Assembly of the wheel onto the hub is a critical, safety-related process. The proper method of assembly and the consistency of the torque applied to wheel fasteners are important factors in ensuring reliability of the fastening system and retention of the wheel to the trailer. Torque is the measure of the amount of tightening applied to a fastener (nut or bolt) and is expressed as length force. For example, a force of 90 lbs. applied at the end of a wrench 1 ft. long will yield 90 lbs.-ft. torque. Torque wrenches are the best way to assure the proper amount of torque is being applied to a fastener. The trailer manufacturer/distributor/dealer and end user must consistently follow proper torquing technique in order to ensure the hub and wheel are properly seated and use caution to prevent anything from interfering with the flat, full designed mating contact of wheel mounting surface and hub. Excess paint, oil and grease must be removed from the fastener contact surfaces (the mounting surfaces, studs, and lugs) or not applied at all. Adherence to all instructions, warnings and procedures set out below will minimize the likelihood of fastener torque-loss and wheel separation.

Instruction Cautions

1. Surfaces of contact on a wheel (the nut seat and mounting surface) the axle (flat hub surface and threaded studs) must be free of paint, oil, grease, contamination and physical damage. Smooth, clean surfaces provide uniform clamping pressure and best retain torque.
2. Lug nut geometry and cone angle of wheel (usually 60 or 90 degrees) must match.
3. Stud length must be sufficient that after mounting the wheel to the hub, the lug nut is engaged to a depth at least equivalent to the diameter of the stud. For example, a lug nut threaded on a 1/2 inch diameter stud should thread on for a depth of at least a 1/2 inch.

WARNING!

Wheel nuts or bolts must be tightened and maintained at the proper torque levels to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle, which can lead to an accident, personal injury or death.

Torque Procedures

1. Start all bolts or nuts by hand to prevent cross threading.
2. Tighten bolts or nuts in the sequence shown below for Wheel Torque Requirements. (See Figure 1.)
3. The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners per Wheel Torque Requirements shown below.
4. Wheel nuts/bolts should be torqued before first road use and after each wheel removal.

IMPORTANT! Check and re-torque after the first 10 miles, 25 miles and again at 50 miles. Check periodically thereafter.

Wheel Torque Requirements

Wheel Size	Torque Sequence 1st Stage	2nd Stage	3rd Stage
12”	20-25	35-40	50-75
13”	20-25	35-40	50-75
14”	20-25	50-60	90-120
15”	20-25	50-60	90-120
16”	20-25	50-60	90-120
16.5”x6.75”	20-25	50-60	90-120
16.5”x9.75”	55-60	120-125	175-225
14” Demount	Tighten Sequentially to		85-95
17.5” Hub Pilot Clamp Ring & Cone Nuts	50-60	100-120	190-210
17.5” Hub Pilot 5/8” Flange Nuts	50-60	90-200	275-325

Figure 1

Torque Requirement DO’s:

• DO remove all oil and grease from threaded fasteners (studs and lugs).
• DO mask or shield (cover) all fastener contact surfaces (mounting surfaces and studs) before painting axles, whether for improved cosmetics or for corrosion protection.
• DO only use an impact wrench with torque stick as a tool initially to lightly secure the wheel, applying a criss-cross or star pattern. (See Figure 1)

• DO use a calibrated torque wrench to complete the torque fastening process applying the same criss-cross or star pattern.
• DO re-torque periodically during the trailer's initial towing and thereafter in accordance with the component supplier's recommendations.
• DO maintain records of the maintenance and torque checks performed by transporters, noting any loss of torque or any corrective measures taken.

Torque Requirement DON'T's:

• DON'T deviate from the component manufacturers recommendations regarding compatible components without a competent engineering review.
• DON'T substitute any component for the component the suppliers have specified without a competent engineering review.
• DON'T deviate from the component's suppliers fastener torque specifications, where provided, without a component engineering review.
• DON'T use adhesive products to maintain fastener retention.
• DON'T use lubricants or oils on threaded fasteners (studs or lugs) to make applying the torque easier unless assembly specifications require it.
• DON'T apply any additional paint on fastener contact surfaces (mounting surfaces/hub faces or studs)

WARNING!

Do not attempt to repair or modify a damaged wheel. Even minor modifications can cause a dangerous failure of the wheel and result in personal injury or death.

VIN TAG AND MANUFACTURING CERTIFICATION OF ORIGIN

The Vehicle Identification Number (VIN) tag must be in a visible location on the trailer.

The serialized VIN tag number matches the number on the trailer Manufacturer's Certificate of Origin. The bill of sale with this certificate of origin will be all that you need to obtain license plates and registration in most states. VIN tags should be attached to the trailer before you receive your trailer tag. The VIN tag also has other required information that will provide you with needed payload capacity, GVWR, and other tire and wheel ratings.

For more information on VIN tags or the certificate of origin contact

Carry-On Trailer Corporation at

(toll free) 1-800-240-3121
1-706-356-5379

:

or write to Carry-On Trailer Corporation
P.O. Box 542
Lavonia, Ga. 30553

TIRE CARE, SAFETY AND WARRANTY INFORMATION

• Important Safety Information

Any tire, no matter how well constructed, may fail due to improper maintenance or service factors, creating a risk of property damage and serious or fatal injury.

For your safety, comply with the following:

- Check air pressure monthly, when tires are “cold”. Use an accurate tire pressure gauge. Do not reduce pressure when tires are hot. Proper inflation is essential. Underinflation produces flexing of sidewalls and builds up heat to the point that premature tire failure may occur. Overinflation can cause the tire to be more susceptible to imact damage.
- Never overload your tires. The maximum load capacity and inflation pressures are molded onto the sidewall of your tire. Overloading builds up excessive heat and can lead to early tire failure.
- Avoid damaging objects (chuckholes, glass, rocks, curbs, ect.) which may cause internal tire damage. Continued use of a tire that has suffered internal damage, which may not be visible externally, can lead to dangerous failure. Diagnosis of the internal damage will require dismounting the tire and examination by trained tire personnel.
- Property damage and serious or fatal injury can also result from the following causes:

  1) Improper tire mounting and inflation procedures may cause the tire beads to break with explosive force during installation of the tire on the rim. Tire and rim must match in size. Rim parts must match by manufacturer’s design. Clean rim. Lubricate rim and

beads. Do not exceed the maximum recommended pressure to seat the beads.

ONLY SPECIALLY TRAINED PERSONS SHOULD MOUNT TIRES.

2) Use of worn out tires (less than 1/8″ remaining tread depth) increases the probablility of tire failure.
3) Excessive speed creates heat buildup in a tire, leading to possible tire failure.

ATTENTION!
IMPORTANT TIRE WARRANTY INFORMATION

Refer to the trailer information packet provided with the trailer for Tire Warranty, Registration and Safety Information.

For Tire Safety Information as required by 49 CFR 575.5 refer to the Tire Warranty, Registration and Safety Information booklet included in your trailer owners packet.

NEW TRAILER WARRANTY INFORMATION AND REGISTRATION

VEHICLE REGISTRATION & TIRE REGISTRY

IMPORTANT

RETURN THIS COMPLETED CARD

In case of a recall, we can only reach you if we have your contact Information. You MUST return this card to us to be on our recall list.

Date of Purchase _____

Trailer Model# _____

VIN# _____

_____
Customer's Name (Please Print)

Address _____

City _____ **State** _____ **Zip** _____

Customer Phone # _____

_____
Customer e-mail

_____
Dealer's Name

Dealer's Address _____

City _____ **State** _____ **Zip** _____

QTY	DOT Tire Identification Numbers										
	1	2	3	4	5	6	7	8	9	10	11

We are pleased that you have purchased your Carry-on trailer. In order to have your trailer and tires registered with us, we request you take a few minutes to fill out and mail your trailer Vehicle Registration & Tire registry card shown above, and is with your other documents located with your owners package.

In the event we must contact you directly this will be the most accurate and preferred method.

Any warranty implied or stated is only intended for you the first purchaser, and is not transferable.

Carry-On Trailer Corporation
P.O. Box 542
Lavonia, Ga. 30553
Phone: 1-800-240-3121
706-356-5379
Fax: 706-356-4431
www.carry-ontrailer.com

Maintenance:

Notes:

Carry-On Trailer Corporation

101 Joe Harvey Street
Lavonia, GA 30553

(toll free) 1-800-240-3121
1-706-356-5379