Utility Trailers Owner's Guide

Thank You for Choosing Buster's

These are the operating instructions for your new trailer. Please read this guide carefully before using your new trailer and keep this guide in a safe place for future reference. If you have any questions about your trailer contact your local ***Buster's dealer*** or contact our Customer Service Department at 563-262-3043 or e-mail: kestabrook@fab-plus.com, so we can assist you in contacting a dealer.

You should have received a warranty document with your trailer. Be sure to fill out and mail your Warranty Registration Card to activate your trailer's warranty. If you did not receive this information ask your dealer for a copy or visit www.fab-plus.com and register online

Please Fill out the below information and retain it for your records

Model Year: _____

Model: _____

Vehicle Identification Number: _____

Carrying Capacity: _____

Purchase Date: _____

Where Purchased: _____

Models and specifications are subject to change. Some are shown with optional equipment. Due to continual improvements to our trailers, Buster's reserves the right to add or discontinue model(s) at any time or to change design and specifications without giving notice and incurring obligations.

General Safety Information

• Make regular stops, about once each hour.

Confirm that

•The coupler is secure to the hitch and is locked,
• Electrical connectors are made,
• There is appropriate slack in the safety chains,
• The tires are not visibly low on pressure, and
• The cargo is secure and in good condition.

Reporting Safety Defects

If you believe that your vehicle has a defect that could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying us.
If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or us. To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); or go to http://www.safercar.gov;
or write to: Administrator, NHTSA,
1200 New Jersey Avenue S.E.
Washington, DC 20590
You can also obtain other information about motor vehicle safety from http://www.safercar.gov.

Tire Safety Information

This portion of the User's Manual contains tire safety information as required by 49 CFR 575.6. and contains information from the NHTSA brochure entitled "Tire Safety – Everything Rides On It". This brochure, as well as the preceding subsections, describe the following items;

• Tire labeling, including a description and explanation of each marking on the tires, and information about the DOT Tire Identification Number (TIN).
• Recommended tire inflation pressure, including a description and explanation of:
• Cold inflation pressure.
• Vehicle Placard and location on the vehicle.
• Adverse safety consequences of under inflation (including tire failure).
• Measuring and adjusting air pressure for proper inflation.
• Tire Care, including maintenance and safety practices.
• Vehicle load limits, including a description and explanation of the following items:
• Locating and understanding the load limit information, total load capacity, and cargo capacity.
• Calculating total and cargo capacities with varying seating configurations including quantitative examples showing / illustrating how the vehicles cargo and luggage capacity decreases as combined number and size of occupants' increases.
• Determining compatibility of tire and vehicle load capabilities.

TRAILER TIRE INFORMATION

Trailer tires may be worn out even though they still have plenty of tread left. This is because trailer tires have to carry a lot of weight all the time, even when not in use. It is actually better for the tire to be rolling down the road than to be idle. During use, the tire releases lubricants that are beneficial to tire life. Using the trailer tires often also helps prevent flat spots from developing. The main cause of tire failure is improper inflation. Check the cold tire inflation pressures at least once a week for proper inflation levels. "Cold" means that the tires are at the same temperature as the surrounding air, such as when the vehicle has been parked overnight.

Wheel and tire manufacturers recommend adjusting the air pressure to the trailer manufacturer's recommended cold inflation pressure, in pounds per square inch (PSI) stated on the vehicle's Federal Certification Label or Tire Placard when the trailer is loaded to its gross vehicle weight rating (GVWR). If the tires are inflated to less than the recommended inflation level or the GVWR of the trailer is exceeded, the load carrying capacity of the tire could be dramatically affected. If the tires are inflated more than the recommended inflation level, handling characteristics of the tow vehicle/trailer combination could be affected. Refer to the owner's manual or talk to your dealer or vehicle manufacturer if you have any questions regarding proper inflation practices. Tires can lose air over a period of time. In fact, tires can lose 1 to 3 PSI per month. This is because molecules of air, under pressure, weave their way from the inside of the tire, through the rubber, to the outside. A drop in tire pressure could cause the tire to become overloaded leading to excessive heat build up. If a trailer tire is under-inflated, even for a short period of time, the tire could suffer internal damage. High speed towing in hot conditions degrades trailer tires significantly. As heat builds up during driving, the tire's internal structure starts to breakdown, compromising the strength of the tire. It is recommended to drive at moderate speeds. Statistics indicate the average life of a trailer tire is about five years under normal use and maintenance conditions.
After three years, replacing the trailer tires with new ones should be considered, even if the tires have adequate tread depth. Some experts claim that after five years, trailer tires are considered worn out and should be replaced, even if they have had minimal or no use. This is such a general statement that it may not apply in all cases. It is best to have your tires inspected by a tire supplier to determine if your tires need to be replaced. If you are storing your trailer for an extended period, make sure the tires are fully inflated to the maximum rated pressure and that you store them in a cool, dry place, such as a garage. Use tire covers to protect the trailer tires from the harsh effects of the sun.

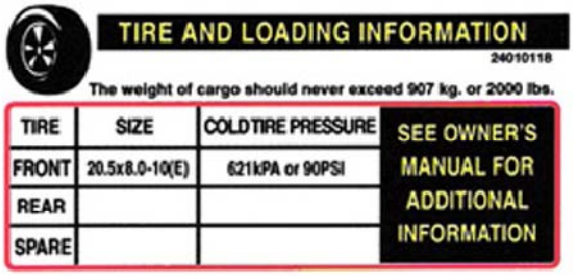
STEPS FOR DETERMINING CORRECT LOAD LIMIT – TRAILER

Determining the load limits of a trailer includes more than understanding the load limits of the tires alone. On all trailers there is a Federal Certification / VIN label that is located on the forward half of the left (road) side of the unit. This certification/VIN label will indicate the trailer's Gross Vehicle Weight Rating (GVWR). This is the most weight the fully loaded trailer can weigh. It will also provide the Gross Axle Weight Rating (GAWR). This is the most a particular axle can weigh. If there are multiple axles, the GAWR of each axle will be provided. If your trailer has a GVWR of 10,000 pounds or less, there is a vehicle placard located in the same location as the certification label described above. This placard provides tire and loading information. In addition, this placard will show a statement regarding maximum cargo capacity. Cargo can be added to the trailer, up to the maximum weight specified on the placard. The combined weight of the cargo is provided as a single number. In any case, remember: the total weight of a fully loaded trailer can not exceed the stated GVWR. When loading your cargo, be sure it is distributed evenly to prevent overloading front to back and side to side. Heavy items should be placed low and as close to the axle positions as reasonable. Too many items on one side may overload a tire. The best way to know the actual weight of the vehicle is to weigh it at a public scale. Talk to your dealer to discuss the weighing methods needed to capture the various weights related to the trailer. This would include the weight empty or unloaded, weights per axle, wheel, hitch or king-pin, and total weight.
Excessive loads and/or under inflation cause tire overloading and, as a result, abnormal tire lexing (flexing) occurs. This situation can generate an excessive amount of heat within the tire. Excessive heat may lead to tire failure. It is the air pressure that enables a tire to support the load, so proper inflation is critical. The proper air pressure may be found on the Certification / VIN label and/or on the Tire Placard. This value should never exceed the maximum cold inflation pressure stamped on the tire.

TRAILERS UNDER 10,000 POUNDS GVWR

Tire Information Placard – (Figure1)

• Locate the statement, "The weight of cargo should never exceed XXX kg or XXX lbs.," on your vehicle's placard. (See figure 1)



(Figure1)

• This figure equals the available amount of cargo and luggage load capacity.
• 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 trailer's 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

• Locate the statement, "The combined weight of occupants and cargo should never exceed XXX lbs.," on your vehicle's placard.
• Determine the combined weight of the driver and passengers who will be riding in your vehicle.
• Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.
• The resulting figure equals the available amount of cargo and luggage capacity. 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.).
• 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 previous step.
• If your vehicle will be towing a trailer, load from your trailer will be transferred 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.

GLOSSARY OF TIRE TERMINOLOGY

Accessory weight The combined weight (in excess of those standard items which may be replaced) of automatic transmission, power steering, power brakes, power windows, power seats, radio and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

Bead The part of the tire that is made of steel wires, wrapped or reinforced by ply cords and that is shaped to fit the rim.

Bead separation This is the breakdown of the bond between components in the bead.

Bias ply tire A pneumatic tire in which the ply cords that extend to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tread.

Carcass The tire structure, except tread and sidewall rubber which, when inflated, bears the load.

Chunking The breaking away of pieces of the tread or sidewall.

Cold inflation pressure The pressure in the tire before you drive.

Cord The strands forming the plies in the tire.

Cord separation The parting of cords from adjacent rubber compounds.

Cracking Any parting within the tread, sidewall, or inner liner of the tire extending to cord material.

CT A pneumatic tire with an inverted flange tire and rim system in which the rim is designed with rim flanges pointed radially inward and the tire is designed to fit on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tire.

Curb weight The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, and, if so equipped, air conditioning
and additional weight optional engine.

Extra load tire A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Groove The space between two adjacent tread ribs.

Gross Axle Weight Rating The maximum weight that any axle can support, as published on the Certification /VIN label on the front left side of the trailer. Actual weight determined by weighing each axle on a public scale, with the trailer attached to the towing vehicle.

Gross Vehicle Weight Rating The maximum weight of the fully loaded trailer, as published on the Certification / VIN label. Actual weight determined by weighing trailer on a public scale, without being attached to the towing vehicle.

Hitch Weight The downward force exerted on the hitch ball by the trailer coupler.

Innerliner The layer(s) forming the inside surface of a tubeless tire that contains the inflating medium within the tire.

Innerliner separation The parting of the innerliner from cord material in the carcass.

Intended outboard sidewall The sidewall that contains a white-wall, bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same molding on the other sidewall of the tire or the outward facing sidewall of an asymmetrical tire that has a particular side that must always face outward when mounted on a vehicle.

Light truck (LT) tire A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles. May be used on trailers.

Load rating The maximum load that a tire is rated to carry for a given inflation pressure.

Maximum load rating The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum permissible inflation pressure The maximum cold inflation pressure to which a tire may be inflated.

Maximum loaded vehicle weight The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Measuring rim The rim on which a tire is fitted for physical dimension requirements.

Non-pneumatic rim A mechanical device which, when a non-pneumatic tire assembly incorporates a wheel, supports the tire, and attaches, either integrally or separably, to the wheel center member and upon which the tire is attached.

Non-pneumatic spare tire assembly A non-pneumatic tire assembly intended for temporary use in place of one of the pneumatic tires and rims that are fitted to a passenger car in compliance with the requirements of this standard.

Non-pneumatic tire A mechanical device which transmits, either directly or through a wheel or wheel center member, the vertical load and tractive forces from the roadway to the vehicle, generates the tractive forces that provide the directional control of the vehicle and does not rely on the containment of any gas or fluid for providing those functions.

Non-pneumatic tire assembly A non-pneumatic tire, alone or in combination with a wheel or wheel center member, which can be mounted on a vehicle.
Normal occupant weight This means 68 kilograms (150 lbs.) times the number of occupants specified in the second column of Table I of 49 CFR 571.110.
Occupant distribution The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.
Open splice Any parting at any junction of tread, sidewall, or innerliner that extends to cord material.
Outer diameter The overall diameter of an inflated new tire.
Overall width The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.
Ply A layer of rubber-coated parallel cords.
Ply separation A parting of rubber compound between adjacent plies.
Pneumatic tire A mechanical device made of rubber, chemicals, fabric and steel or other materials, that, when mounted on an automotive wheel, provides the traction and contains the gas or fluid that sustains the load.
Production options weight The combined weight of those installed regular production options weighing over 2.3 kilograms (5 lbs.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levelers, roof rack, heavy duty battery, and special trim.
Radial ply tire A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90 degrees to the centerline of the tread.
Recommended inflation pressure This is the inflation pressure provided by the vehicle manufacturer on the Tire Information label and on the Certification / VIN tag.
Reinforced tire A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.
Rim A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.
Rim diameter This means the nominal diameter of the bead seat.
Rim size designation This means the rim diameter and width.
Rim type designation This means the industry of manufacturer's designation for a rim by style or code.
Rim width This means the nominal distance between rim flanges.
Section width The linear distance between the exteriors of the sidewalls of an inflated tire, excluding elevations due to labeling, decoration, or protective bands.
Sidewall That portion of a tire between the tread and bead.
Sidewall separation The parting of the rubber compound from the cord material in the sidewall.
Special Trailer (ST) tire The "ST" is an indication the tire is for trailer use only.
Test rim The rim on which a tire is fitted for testing, and may be any rim listed as appropriate for use with that tire.
Tread That portion of a tire that comes into contact with the road.
Tread rib A tread section running circumferentially around a tire.
Tread separation Pulling away of the tread from the tire carcass.
Treadwear indicators (TWI) The projections within the principal grooves designed to give a visual indication of the degrees of wear of the tread.
Vehicle capacity weight The rated cargo and luggage load plus 68 kilograms (150 lbs.) times the vehicle's designated seating capacity.
Vehicle maximum load on the tire The load on an individual tire that is determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.
Vehicle normal load on the tire The load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight (distributed in accordance with Table I of CRF 49 571.110) and dividing by 2.
Weather side The surface area of the rim not covered by the inflated tire.
Wheel center member In the case of a non-pneumatic tire assembly incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the nonpneumatic rim and provides the connection between the non-pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic tire and provides the connection between tire and the vehicle.

Wheel-holding fixture The fixture used to hold the wheel and tire assembly securely during testing. Tire Safety - Everything Rides On It.
The National Traffic Safety Administration (NHTSA) has published a brochure (DOT HS 809 361) that discusses all aspects of Tire Safety, as required by CFR 575.6. This brochure is reproduced in part below. It can be obtained and downloaded from NHTSA, free of charge, from the following web site:
http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires_index.html
Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires.
These actions, along with other care and maintenance activities, can also:
• Improve vehicle handling
• Help protect you and others from avoidable breakdowns and accidents
• Improve fuel economy
• Increase the life of your tires.
This booklet presents a comprehensive overview of tire safety, including information on the following topics:
• Basic tire maintenance
• Uniform Tire Quality Grading System
• Fundamental characteristics of tires
• Tire safety tips.
Use this information to make tire safety a regular part of your vehicle maintenance routine. Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

SAFETY FIRST–BASIC TIRE MAINTENANCE

Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle. Underinflated tires and overloaded vehicles are a major cause of tire failure. therefore, as mentioned above, to avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires.

FINDING YOUR VEHICLE'S RECOMMENDED TIRE PRESSURE AND LOAD LIMITS

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:
• Recommended tire size
• Recommended tire inflation pressure
• Vehicle capacity weight (VCW–the maximum occupant and cargo weight a vehicle is designed to carry)
• Front and rear gross axle weight ratings (GAWR–the maximum weight the axle systems are designed to carry).
Both placards and certification labels are permanently attached to the trailer near the left front.

UNDERSTANDING TIRE PRESSURE AND LOAD LIMITS

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure– measured in pounds per square inch (psi)–a tire requires to be properly inflated. (You will also find this number on the vehicle information placard expressed in kilopascals (kPa), which is the metric measure used internationally.)
Manufacturers of passenger vehicles and light trucks determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.) Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

Checking Tire Pressure

It is important to check your vehicle's tire pressure at least once a month for the following reasons:

• Most tires may naturally lose air over time.
• Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking.
• With radial tires, it is usually not possible to determine under-inflation by visual inspection.

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets. The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. Therefore, to get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

Steps for Maintaining Proper Tire Pressure

• Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
• Step 2: Record the tire pressure of all tires.
• Step 3: If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get to the correct pressure.
• Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add.
• Step 5: At a service station, add the missing pounds of air pressure to each tire that is underinflated.
• Step 6: Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure).

If you have been driving your vehicle and think that a tire is underinflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly underinflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that is slightly lower than the vehicle manufacturer's recommended cold inflation pressure than to drive with a significantly underinflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

Tire Size

To maintain tire safety, purchase new tires that are the same size as the vehicle's original tires or another size recommended by the manufacturer. Look at the tire information placard, the owner's manual, or the sidewall of the tire you are replacing to find this information. If you have any doubt about the correct size to choose, consult with the tire dealer.

Tire Tread

The tire tread provides the gripping action and traction that prevent your vehicle from slipping or sliding, especially when the road is wet or icy. In general, tires are not safe and should be replaced when the tread is worn down to 2/32 of an inch. Tires have built-in tread wear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear "even" with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, you are ready for new tires.

Tire Balance and Wheel 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.

TIRE REPAIR

The proper repair of a punctured tire requires a plug for the hole and a patch for the area inside the tire that surrounds the puncture hole. Punctures through the tread can be repaired if they are not too large, but punctures to the sidewall should not be repaired. Tires must be removed from the rim to be properly inspected before being plugged and patched.

TIRE FUNDAMENTALS

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification and in case of a recall. Information on Passenger Vehicle Tires

Tire Safety Information

Please refer to the diagram below.

P

The "P" indicates the tire is for passenger vehicles.

Next number

This three-digit number gives the width in millimeters of the tire from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

Next number

This two-digit number, known as the aspect ratio, gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall for improved steering response and better overall handling on dry pavement.

R

The "R" stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years.

Next number

This two-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

Next number

This two- or three-digit number is the tire's load index. It is a measurement of how much weight each tire can support. You may find this information in your owner's manual. If not, contact a local tire dealer. Note: You may not find this information on all tires because it is not required by law.

M+S

The "M+S" or "M/S" indicates that the tire has some mud and snow capability. Most radial tires have these markings; hence, they have some mud and snow capability.

Speed Rating

The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time. The ratings range from 99 miles per hour (mph) to 186 mph. These ratings are listed below. Note: You may not find this information on all tires because it is not required by law.

Letter Rating	Speed Rating
Q	99 mph
R	106 mph
S	112 mph
T	118 mph
U	124 mph
H	130 mph
V	149 mph
W	168* mph
Y	186* mph

* For tires with a maximum speed capability over 149 mph, tire manufacturers sometimes use the letters ZR.

For those with a maximum speed capability over 186 mph, tire manufacturers always use the letters ZR.

U.S. DOT Tire Identification Number
This begins with the letters "DOT" and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers 3197 means the 31st week of 1997. The other numbers are marketing codes used at the manufacturer's discretion. This information is used to contact consumers if a tire defect requires a recall.
Tire Ply Composition and Materials Used
The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.
Maximum Load Rating
This number indicates the maximum load in kilograms and pounds that can be carried by the tire.
Maximum Permissible Inflation Pressure
This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.
Treadwear Number
This number indicates the tire's wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire graded 400 should last twice as long as a tire graded 200.
Traction Letter
This letter indicates a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your car on wet roads in a shorter distance than a tire

Tire Safety Information

with a lower grade. Traction is graded from highest to lowest as "AA","A", "B", and "C".
Temperature Letter
This letter indicates a tire's resistance to heat. The temperature grade is for a tire that is inflated properly and not overloaded. Excessive speed, under inflation or excessive loading, either separately or in combination, can cause heat build-up and possible tire failure. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or "C".
Additional Information on Light Truck Tires
Please refer to the following diagram.

Tires for light trucks have other markings besides those found on the side ewalls of passenger tires.
LT
The "LT" indicates the tire is for light trucks or trailers.
ST
An "ST" is an indication the tire is for trailer use only.
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) Cold
This information indicates the maximum load and tire pressure when the tire is used as a single.
Load Range
This information identifies the tire's load-carrying capabilities and its inflation limits.

TIRE SAFETY TIPS

Preventing Tire Damage
• Slow down if you have to go over a pothole or other object in the road.
• Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.
Tire Safety Checklist
• Check tire pressure regularly (at least once a month), including the spare.
• Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
• Remove bits of glass and foreign objects wedged in the tread.
• Make sure your tire valves have valve caps.
• Check tire pressure before going on a long trip.
• Do not overload your vehicle. Check the Tire Information Placard or Owner’s Manual for the maximum recommended load for the 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.

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.

TRAILER INFORMATION

The Certification / Vehicle Identification Number (VIN) tag is located on the front left side of your trailer. The trailer Certification / VIN tag contains the following critical safety information for the use of your trailer:

MFD BY: Fabricators Plus

DATE OF MFD: Month and year the trailer was manufactured.

GVWR: The Gross Vehicle Weight Rating is 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 cargo.

GAWR (ALL AXLES): The Gross Axle Weight Rating is the maximum gross weight that all the axles combined can support. It is the lowest of axle, wheel, or tire rating. The GAWR for all trailer axles may be less than the GVWR for the trailer, because some of the trailer load is 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.

TIRE SIZE: The recommended tire size for your trailer.

RIM SIZE: The recommended rim size for your trailer.

KPA (PSI): The Kilopascals and Pounds per Square Inch recommended tire pressure measured when the tires are cold.

SINGLE/DUAL: Identifies if the trailer is equipped with single or dual wheels.

VIN: The Vehicle Identification Number.

TYPE OF VEHICLE: Trailer and the trailer model number.

CERTIFICATION STATEMENT: "This vehicle conforms to all applicable U.S. Federal Motor Vehicle Safety Standards (FMVSS) in effect on the date of manufacture shown above".

TOW VEHICLE

When equipping a new vehicle or an older vehicle to tow your trailer, ask the vehicle dealer for advice on how to outfit the towing vehicle. Discuss the following information and equipment with the vehicle dealer.

Overall Carrying and Towing Capacity of Vehicle: Vehicle manufacturers will provide you with the maximum towing capacities of their various models, as well as the GCWR. 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.

Suspension System: A tow vehicle equipped with a factory installed "Towing Package" likely comes equipped with heavy duty springs, heavy duty tires and other suspension components which are able to serve the size and weight of the trailer that the vehicle is rated to tow. However, the addition of additional equipment may further improve the tow vehicle performance. These may include adjustable air shocks, helper springs, etc.

Coupling To The 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 light and brake systems on the trailer to the light and brake controls on the towing vehicle.
Heavy Duty Engine Oil Cooling System: The tow vehicle engine works harder when a trailer is being towed. Depending on the size of the trailer, you may need to install a separate engine oil cooler. Inadequate cooling may result in sudden engine failure. Ask the tow vehicle dealer if it is necessary to install a heavy duty cooling system.
Automatic Transmission Oil Cooler: The automatic transmission of a towing vehicle handles more power when a trailer is being towed. Inadequate cooling will shorten transmission life, and may result in sudden transmission failure. Ask the tow vehicle dealer if it is necessary to install a separate oil cooler for the automatic transmission.
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:
Coupling: That part of the trailer connecting mechanism by which the connection is actually made to the trailer hitch. This does not include any structural member, extension of the trailer frame, or brake controller.
Hitch: That part of the connecting mechanism including the ball support platform and ball and those components that extend and are attached to the towing vehicle, including bumpers intended to serve as hitches.
Safety chains: Chains permanently attached to the trailer such that 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

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.
Do not tow the trailer on the road until:
• Tires and wheels are checked; (90–120lbs torque.)
• The Safety Chain is connected to the tow vehicle;
• The load is secured to the trailer; and
• The trailer lights are connected and checked.

TAGALONG TRAILERS

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.
Ball Hitch Coupler
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.

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.

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.
• Verify that the ball 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.

A loose hitch ball nut can result in uncoupling, leading to death or serious injury. Make 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.

Prepare the Coupler and Hitch

• Lubricate the hitch ball and the inside of the coupler with a thin layer of automotive bearing grease.
• Unlock and open the coupler locking mechanism. In the open position, the coupler is able to drop fully onto the hitch ball. The following three illustrations show the various tagalong couplers in the open position.

Coupler Locking Mechanism Open • Slowly back up the tow vehicle so that the hitch ball is aligned under the coupler.

Couple the Trailer to the Tow Vehicle

• Lower the trailer tongue 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 the safety lock pin through the hole in the coupler locking mechanism.
Coupler Locking Mechanism Closed • 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.

If the coupler cannot be secured to the hitch ball, do not tow the trailer. Call your dealer for assistance.
• Lower the trailer so that its entire tongue weight is held by the hitch

Rig The Safety Chains

Proper Safety Chain Arrangement • 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:
• Criss-cross underneath the coupler so if the trailer uncouples, the safety chains can hold the tongue up above the road.
• 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).
• Attach hooks up from underneath the hole (do not just drop into hole);
• Provide enough slack to permit tight turns, but not be close to the road surface to drag.

Incorrect 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.
Chains must:
• Fasten to frame of tow vehicle, not to hitch or ball.
• Cross underneath hitch and coupler with minimum slack to permit turning and to hold tongue up, if the trailer comes loose.

CONNECT THE ELECTRICAL CABLE

Connect the trailer lights to the tow vehicle's electrical system. (***Check all lights for proper operation. Repair if needed.)***

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 all lights and turn signals work.

UNCOUPLING A TAGALONG TRAILER

Follow these steps to uncouple your ball hitch trailer from the tow vehicle:
• Park the trailer on a firm level surface
• Block trailer tires to prevent the trailer from rolling, before jacking the trailer up.
• Disconnect the electrical connector.
• Disconnect the safety chains from the tow vehicle.
• Unlock the coupler and open it.
• Raise the coupler to above the tow vehicle hitch and remove.

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 rear 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 become unstable at high speeds. Remember, the faster you go the more likely the trailer is to sway. If, on the other hand, there is too much tongue weight, the tow vehicle is prone to jack-knife. Furthermore, the front wheels of the tow vehicle can be too lightly loaded and cause loss of steering control and traction, if the front wheels are driving. 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).

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. Take your trailer to a truck stop or grain elevator where
there is a certified scale. Place the tow vehicle only onto the scale and get the weight. This weight must be less than your tow vehicle's GVWR. Pull the trailer onto the scale and decouple it from the tow vehicle, leaving just the trailer on the scale. Get a ticket which lists the total trailer weight. Re-connect the trailer to your tow vehicle and the drive the tow vehicle wheels off the scale, just leaving the trailer axles on the scale. Get a second "ticket", which lists the trailer's axle weight. Simply subtract the axle weight from the total weight to determine the hitch weight. While you are at the scale, you should weigh the entire combination vehicle. This result should be less than the Gross Combined Weight Rating (GCWR) for your towing vehicle. Some scales allow you to get individual axle weights also. If this is possible, get the tow vehicles front and rear axle weights to make sure they are in the same proportion as the tow vehicle alone, and that the rear axle is not overloaded. This is the best way to check that a weight distribution (or load leveling) hitch is adjusted properly, i.e., you have the proper number of chain links attached to the snap-up brackets.

PRE-TOW CHECKLIST

Before towing, double-check all of these items:
• Inspect tires for wear, cuts, bulges and tread depth.
• Wheel lugs tightened to proper torque.
• Inflate tires on trailer and tow vehicle to the pressure stated on the vehicle Certification / VIN label or on the tire sidewall.
• Coupler secured and locked The Tow Vehicle"
• Safety chains properly rigged to tow vehicle, not to hitch or ball.
• Test Tail, Stop, and Turn Lights.
• Test trailer brakes and breakaway brakes.
• Cargo properly loaded, balanced and tied down.
• Tongue weight and weight distribution set-up.
• Ramps secured in the transport position.
• Fire extinguisher in tow vehicle.
• Flares and reflectors in tow vehicle.

MAKE REGULAR STOPS

After each 50 miles, or one hour of towing, stop and check the following items:
• Coupler secured
• Safety chains are fastened and not dragging
• Cargo secured

Bearing Lubrication – Grease

Below is a listing of approved lubrication for all Reliable hubs.

Lubrication Specifications		
Grease	Lithium Complex or Equivalent	Exxon Ronex MP or equivalent
Soap Type	NLGI Grade 2	
Dropping Point	230°C (446°F) Minimum	
Additives	Corrosion & Oxidation Inhibitors, EP optional	
Base Oil	Solvent refined petroleum oil	
Viscosity Index	80 Minimum	

For units equipped with sure Lube or Bearing Lube greasing system, the bearings can be lubricated without the hassle of packing the bearings by hand. Simply apply grease through the grease fitting that is in the end of the grease cap or spindle. The grease used should meet the requirements as shown in the chart above. The following amounts of grease should be used.

- 5-7 ounces to completely exchange the grease throughout the hub
- 1 ½ - 3 ounces every (6) months or 3000 miles thereafter or as use requires.

Things never to do!

Do not hitch or unhitch the trailer when it is loaded.
Do not exceed the recommended tongue weight for your trailer hitch.
Do not make short, sharp turns to right or left (this may throw the rear of the trailer out in front of on-coming traffic.)
Do not exceed the speed limit. Less than the legal posted speed limit is recommended for towing a trailer whether it is load or unloaded.

Things to always do!

Always maintain recommended tire pressure.
Always secure safe chains.
Always check lighting.
Always tightly secure load to trailer and check frequently.
Always leave 2 to 3 times more space between your vehicle and the vehicle ahead of you.
Always slow down to half (1/2) the recommended speed limit on curves.
Always drive in the outside lane.
Always avoid potholes, road debris, and broken concrete road bed.