

Kaufman Trailers

"Nobody Sells A Quality Trailer for LESS"



Dump Trailer

Safety, Operation, Parts & Maintenance Manual

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1 PRODUCT INFORMATION

Model _____ Serial Number _____

VIN Number _____

Axle Serial Numbers: Front _____ Rear _____

Pump Serial Number _____

Date Purchased ____/____/20____

Point of Purchase _____

Thank You

Our sincere appreciation to you on the purchase of a high-quality Kaufman Dump Trailer proudly designed and manufactured in the USA. Kaufman Trailers is an industry leader in product innovation. Since our humble beginnings in 1987, our products have become the standard of excellence within the industry. If Kaufman sells it, you can depend on it being the best value available. Our rigorous internal standards as well as NATM certification assure you of a durable, long-lasting, great investment.

As this manual expresses the need for safe operation of your new Kaufman Trailer, it is important that you as well as all operators of this trailer become familiar with the operation, maintenance and safety instructions contained in this manual. It is also recommended that you read and observe all local, state & federal laws that exist pertaining to the use of this type of trailer.

Again, thank you,

Kaufman Trailers Management & Employees

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2 IMPORTANCE OF SAFETY

Accidents can be very costly to human life and property. As the operator is the #1 safety device on all types of equipment, it is important that the operator read, learn and know all safety recommendations of this trailer. The operator is responsible to one's self and co-workers for the safe operation. Make sure that everyone who operates or assists in the operation or maintaining this trailer reads and understands all the elements required to safely operate this dump trailer.

The trailers are built with components produced by various manufacturers. These components come with separate instruction and parts manuals. This manual will indicate when it is necessary to refer to these other manuals.

**Know and understand
your Kaufman Trailer.
Safety is job #1!**

2.1 SAFETY ALERT SYMBOLS

Throughout this manual you will find safety symbols  which are very important to read and understand before operating this dump trailer. These symbols alert you to situations that could be harmful to you or bystanders. When you see these alerts in the manual, carefully read and follow all instructions.

The level of risk is indicated by the following signal words:



2.2 SAFETY DECALS

The dump trailer has the following safety warning labels, locations are shown in Figure 2-1 and Figure 2-2.



1. CERTIFICATION INFORMATION



2. TOWING CHECKLIST

⚠️ WARNING	⚠️ WARNING	⚠️ WARNING	⚠️ WARNING	⚠️ WARNING	⚠️ WARNING
<p>Overcoupling will cause trailer to come loose from tow vehicle. YOU MUST:</p> <ol style="list-style-type: none"> CHECK that the LOAD RATING in space is not greater than coupler LOAD RATING. CHECK that the load is secure as coupler. CHECK coupler CLAMP is tight. LIFT trailer slightly to see that it will not separate from ball. LOOK coupler along with pin or product. 	<p>Uncoupling will cause trailer to come loose from tow vehicle. YOU MUST:</p> <ol style="list-style-type: none"> CHECK that pin LOAD RATING is same as or greater than ring LOAD RATING. LOOK the fitting in place using a pin or lock. 	<p>ALWAYS use safety chains. Chains hold trailer if connection fails. YOU MUST:</p> <ol style="list-style-type: none"> ALLOW slack for trailer to turn. ATTACH chain hooks securely to tow vehicle frame. 	<p>Trailer can roll if cables loose. Electric safety brake applies when cable pulls pin out of a vehicle tow.</p> <ol style="list-style-type: none"> PULL slack for trailer to turn. CHECK cable by PULLING TRAILER with tow vehicle. ATTACH CABLE to tow vehicle so pin will be pulled out if trailer separates. Properly REPLACE pin in vehicle tow. 	<p>LIGHTS can prevent trailer from being hit by other vehicles. YOU MUST:</p> <ol style="list-style-type: none"> CONNECT trailer and tow vehicle electrical connectors. CHECK all Brake Tail Lights, Turn Signal, and Brake Lights. DO NOT TOW if lights are not functioning properly. 	<p>Tire, wheel, or lug nut failure can cause loss of control. Before towing, you MUST CHECK:</p> <ol style="list-style-type: none"> The pressure and tread. Tire and wheel for damage. Lug nuts for tightness. <p>For new and re-mounted wheels, tighten lugnuts at the first 15, 25, 50 miles of driving.</p>

3. BUMPER HITCH TONGUE WARNING

WARNING	WARNING	WARNING	WARNING	WARNING	WARNING
<p>Overcoupling will cause trailer to come loose from tow vehicle. You MUST:</p> <ol style="list-style-type: none"> 1. Check that the CHAD SAFETY PIN is correct. 2. CHECK that pins to ensure an overcouple. 3. CLOSE COUPLER CLAMP on both. 4. LOCK coupler clamp with pin on both. 	<p>After coupling lines around kingpins, visually check position of sliding blocks. Blocks MUST be forward of between lines and the safety pin must engage behind the block on top of vehicle control could result in death or serious personal injury.</p> 	<p>ALWAYS use safety chains. Chains hold trailer if connection fails. YOU MUST:</p> <ol style="list-style-type: none"> 1. ALLOW slack for trailer to turn. 2. ATTACH chain hooks securely to tow vehicle frame. 	<p>Trailer can roll if it comes loose. Electric safety brake applies when cable pins pin out of a vehicle tow.</p> <ol style="list-style-type: none"> 1. PULL slack for trailer to turn. 2. CHECK trailer for PULLED TRAILERS with low vehicle. 3. CHECK pin CABLE to low vehicle on pin out in manual if trailer suspension. 4. Insert only REPLACE pin in switch box. 	<p>LOWTIE can prevent trailers from being hit by other vehicles. YOU MUST:</p> <ol style="list-style-type: none"> 1. CONNECT trailer and tow vehicle electrical connectors. 2. CHECK all lights: Turn Signal, and Brake Lights. 3. DO NOT TOW if lights are not functioning properly. 	<p>Tire, wheel, or lug nut failure can cause loss of control. Before towing you MUST CHECK:</p> <ol style="list-style-type: none"> 1. Tire pressure and tread. 2. Tires and wheels for damage. 3. Lug nuts for tightness. <p>For more see manufacturer's regulations located at the front of, pg. 80 miles of driving.</p> 

3. GOOSENECK HITCH TONGUE WARNING

⚠
CAUTION
⚠



Failure To Maintain Sufficient Battery Charge Can Lead To Fluid Over-fill Of The Reservoir When Lowering The Bed.

See Trailer Manual For Further Instructions.

WL-PUMP

4. HIGH PRESSURE HYDRAULIC FLUID WARNING



TIRE AND LOADING INFORMATION
RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

The weight of cargo should never exceed/ Lepoids du chargement ne doit jamais dépasser

4973 kg or /kg ou 10940 lbs. / lb.

TIRE / PNEU	SIZE / DIMENSIONS	COLD TIRE PRESS. / PRESS. DE PNEUS JA FROID
FR/AV	ST235/80 R16	LRE52 KPA (80 PSI)
RR/AR	ST235/80 R16	LRE 552 KPA(80 PSI)

SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS

5. TIRE INFORMATION

MANUFACTURED BY/FABRIQUÉ PAR: KTI Of North Carolina COLD INFL. PRES

DATE: 32018 GVWR/PNBV: (15000 LB) /PRESS. DE GONF

GAWR/PNBE (ALL AXLES) TIRE/PNEU RIM/JANTE KPA (PSI) /PDSGL/

3182 KG (7000 LB) ST235/80 R16 LRE 16 x 6 552 KPA (80 PSI) €

THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE / CE VEHICULE EST CONFORME A TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU REGLEMENT SUR LA SECURITE DES VEHICULES AUTOMOBILES DU CANADA EN VIGUEUR A LA DATE DE SA FABRICATION

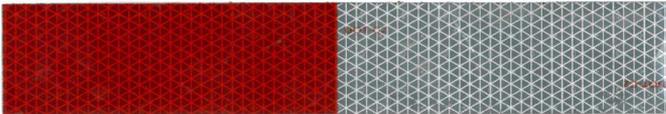
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARD (FMVSS) IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE

VIN: 11V5VGF1425JL006191 TYPE/TYPE DE VEHICULE: TR-REM

6. MANUFACTURING DATA



7. WHEEL LUG INFORMATION



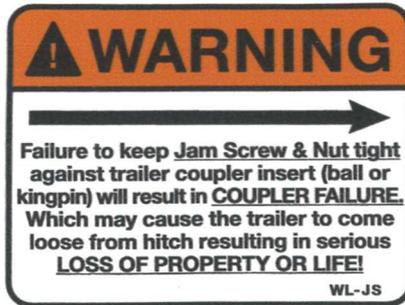
8. DOT REFLECTIVE TAPE



9. DUMP TRAILER HAZARDS

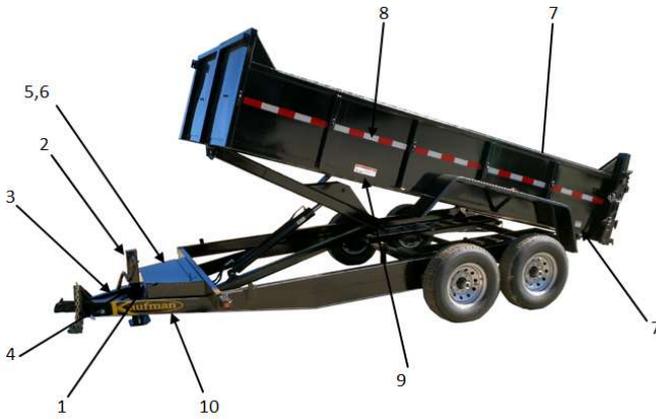


10. LOGO



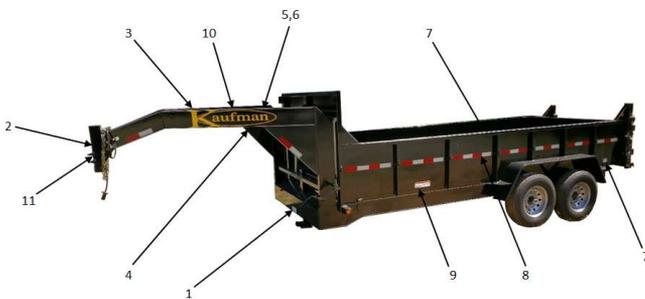
11. GOOSENECK JAM SCREW AND NUT WARNING

2.2.1 BUMPER HITCH



BUMPER HITCH SAFETY LABEL LOCATIONS 2-1

2.2.2 GOOSENECK HITCH



GOOSENECK HITCH SAFETY LABEL LOCATIONS 2-2

3 TIRE SAFETY

This portion of the User’s Manual contains tire safety information as required by 49 CFR 575.6.

Section 3.1 contains “Steps for Determining Correct Load Limit - Trailer”.

Section 3.2 contains “Steps for Determining Correct Load Limit – Tow Vehicle”.

Section 3.3 contains a “Glossary of Tire Terminology”, including “cold inflation pressure”, “maximum inflation pressure”, “recommended inflation pressure”, and other non-technical terms.

Section 3.4 contains information from the NHTSA brochure entitled “Tire Safety – Everything Rides On It”.

This brochure, as well as preceding subsections, describes 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:
 - A. Cold inflation pressure.
 - B. Vehicle Placard and location on the vehicle.
 - C. Adverse safety consequences of under inflation (including tire failure).
 - D. 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:
 - A. Locating and understanding the load limit information, total load capacity, and cargo capacity.
 - B. 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. This item is also discussed in Section 3.
 - C. Determining compatibility of tire and vehicle load capabilities.
 - D. Adverse safety consequences of overloading on handling and stopping on tires.

3.1 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.

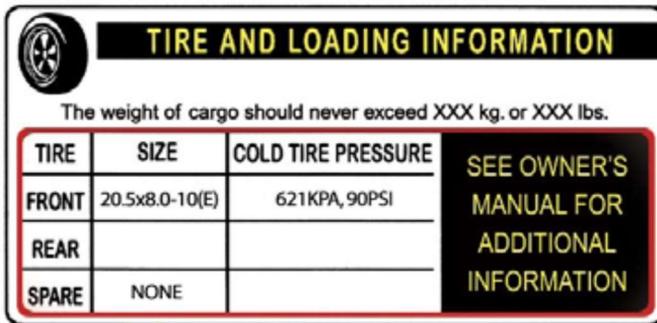
If your trailer has a GVWR of 10,000 pounds or less, there is a vehicle placard located in the same location as the certification label described above. This placard provides tire and loading information. In addition, this placard will show a statement regarding maximum cargo capacity.

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 cannot 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 Kaufman sales person 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 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.

3.1.1 TRAILERS 10,000 POUNDS GVWR OR LESS



TIRE AND LOADING INFORMATION PLACARD FIGURE 3-1

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.
4. 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.

3.1.2 TRAILERS OVER 10,000 POUNDS GVWR

(Note: These trailers are not required to have a tire information placard on the trailer and may not have one installed)

1. Determine the empty weight of your trailer by weighing the trailer using a public scale or other means.

2. Locate the GVWR (Gross Vehicle Weight Rating) of the trailer on your trailer's VIN (Certification) label.

3. Subtract the empty weight of your trailer from the GVWR stated on the VIN label. That weight is the maximum available cargo capacity of the trailer and may not be safely exceeded. National Highway Transportation Safety Administration (NHTSA) in addition to notifying us.

3.2 STEPS FOR DETERMINING CORRECT LOAD LIMIT – TOW VEHICLE

1. Locate the statement, "The combined weight of 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 kilograms or XXX pounds.

4. 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. ($1400 - 750 (5 \times 150) = 650$ 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 previous step.

6. 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.

3.3 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 separately, to the wheel center member and upon which the tire is attached.

Non-pneumatic spare tire assembly: A nonpneumatic 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.

Pin Weight: The downward force applied to the 5th wheel or gooseneck ball, by the trailer kingpin or gooseneck coupler.

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 non-pneumatic rim and provides the connection between the nonpneumatic 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 nonpneumatic 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.

3.4 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.

3.4.1 BASIC 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.

3.4.2 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.

3.4.3 UNDERSTANDING TIRE PRESSURE AND LOAD LIMITS

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.

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.

3.4.4 MAINTAINING PROPER TIRE PRESSURE

1. Locate the recommended tire pressure on the vehicle’s tire information placard, certification label, or in the owner’s manual.
2. Record the tire pressure of all tires.
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.

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.

5. At a service station, add the missing pounds of air pressure to each tire that is under inflated.

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 under inflated, 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 under inflated 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 under inflated 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.

3.4.5 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.

3.4.6 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.

3.4.7 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.

3.4.8 TIRE REPAIR

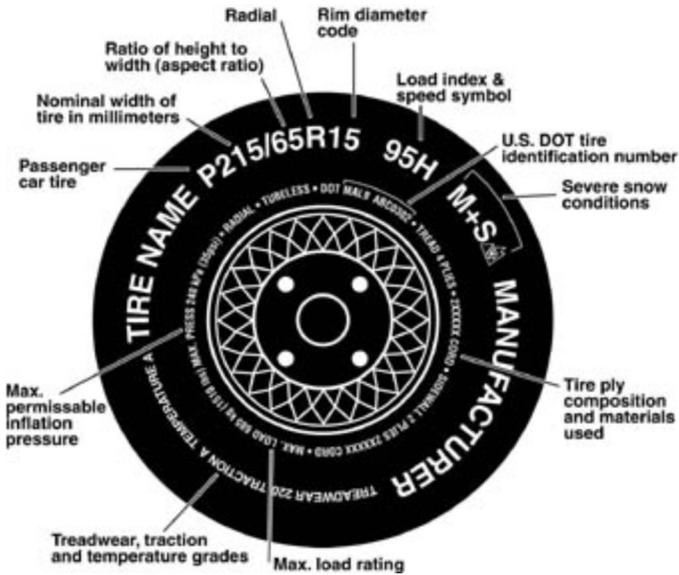
The proper repair of a punctured tire requires a plug for the hole and a patch for the area inside the tire that surrounds the puncture hole. Punctures through the tread can be repaired if they are not too large, but punctures to the sidewall should not be repaired. Tires must be removed from the rim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

3.4.9 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.

3.4.9.1 INFORMATION ON PASSENGER VEHICLE TIRES



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.

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

**For tires with a maximum speed capability over 149 mph, tire manufacturers sometimes use letters ZR. For those with a maximum speed capability over 186 mph, tire manufacturers always use the letters ZR.*

Note: You may not find this information on all tires because it is not required by law.

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.

3.4.9.2 UTQGS INFORMATION

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.

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.

3.4.9.4 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

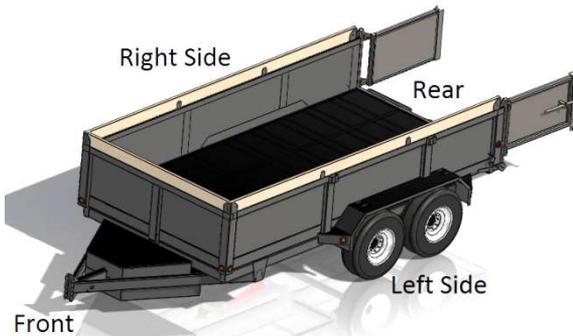
- Check tire pressure regularly (at least once a month), including the spare.
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.

- 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.

4 TRAILER IDENTIFICATION

4.1 ORIENTATION

This manual may reference a certain orientation on the trailer. Please refer to the drawings below that indicate the intended location of the reference.



TRAILER DIRECTION REFERENCE 4-1



KEY COMPONENTS 4-2

4.2 VEHICLE IDENTIFICATION NUMBER

To register a vehicle with your state you will need the trailer vehicle identification number. The **Vehicle Identification Number** *VIN* (Figure 4-3) is located on the top of the front left frame, under the dump bed. The dump bed will need to be raised to read the *VIN* on both the bumper pull and the gooseneck trailers.



VIN LOCATION 4-3

Local municipalities and states may require special licenses or permits to operate this trailer on public roads. These laws have been established to protect you and others. Contact your local motor vehicle administration for information. If you are transporting this trailer across a state line, be knowledgeable of the laws of that state, and insurance regulations that are required in the state you are traveling.

The VIN will be a 17-digit code (Figure 4-4) stamped into the frame of the trailer.



VIN EXAMPLE 4-4

4.1 TRAILER CAPACITIES

Model	Size (LxWxH)	Capacity (lb)
Light Duty Standard	10 ft. x 72 in. x 24 in.	8,000
Light Duty Deluxe	10 ft. x 75 in. x 26 in.	10,000
Light Duty Deluxe	12 ft. x 75 in. x 26 in.	10,000
Medium Duty Standard	12 ft. x 82 in. x 28 in.	12,000
Medium Duty Deluxe	12 ft. x 80 in. x 28 in.	12,000
High Duty Standard	14 ft. x 82 in. x 30 in.	14,000
High Duty Deluxe	14 ft. x 80 in. x 28 in.	15,000
Gooseneck Standard	14 ft. x 82 in. x 28 in.	15,000
Gooseneck Standard	14 ft. x 82 in. x 28 in.	16,000
Gooseneck Deluxe	16 ft. x 80 in. x 30 in.	15,000
Gooseneck Deluxe	14 ft. x 80 in. x 30 in.	15,000
Gooseneck Deluxe	16 ft. x 80 in. x 30 in.	17,000
Gooseneck Deluxe	14 ft. x 80 in. x 30 in.	17,000

TRAILER CAPACITIES 4-5

4.2 TRAILER MODELS

The Kaufman Dump trailer is available in four models.



LIGHT DUTY STANDARD 4-6

The Light Duty Standard trailer is equipped with a set of 2.5" bore hydraulic lift cylinders.



LIGHT DUTY DELUXE 4-7

The Light Duty Deluxe trailer is equipped with a hydraulic (one 3" bore cylinder) scissor lift.



MEDIUM DUTY 4-8

The Medium Duty Standard trailer is equipped with two 3" bore hydraulic lift cylinders. The Medium Duty Deluxe Trailer is equipped with a hydraulic scissor lift.



HEAVEY DUTY 4-9

The Heavy Duty Standard trailer is equipped with two 3.5" bore hydraulic lift cylinders. The Heavy Duty Deluxe Trailer is equipped with a hydraulic scissor lift.



GOOSENECK STANDARD 4-10

The Gooseneck Standard trailer is equipped with two 3.5" bore hydraulic lift cylinders.



GOOSENECK DELUXE 4-11

The Gooseneck Deluxe Trailer is equipped with a hydraulic (one 4" bore cylinder) scissor lift.

5 OPERATIONAL HAZARDS

It is the responsibility of the operator driving the prime mover pulling this trailer to be acquainted with the safe operating procedures for the vehicle they are driving. Towing a trailer requires special considerations. It is recommended that all drivers practice in a non-public area before venturing out onto a public roadway.

5.1 DUMP TRAILERS

5.1.1 MODIFYING YOUR TRAILER

Essential systems and safe operation of the trailer may be damaged by altering or modifying the trailer in any way.

Before making any alterations to the trailer, contact Kaufman Trailers at 336-790-6800. Any alterations to the trailer structure or modification of the mechanical, electrical, or hydraulic systems must only be performed by a qualified technician familiar with the systems installed on the trailer.

5.1.2 DUMP BED

Allowing anybody to be located underneath a raised bed, empty or loaded can result in death or serious injury.



5.1.3 ELECTRICAL CONNECTIONS

Ensure that all connections between the trailer and prime mover are securely fastened.

Check the trailer tail lights, turn signals, and brake lights before towing the trailer.



The trailer will be equipped with electric brakes, these brakes require a break-in period (*refer to the Trailer Axle Operation and Service Manual*). Before towing the trailer on the road, confirm that the brakes are operating while trying to move the trailer.

5.2 TRANSPORTING

The maximum recommended traveling speed for safely towing a trailer is 60 mph.

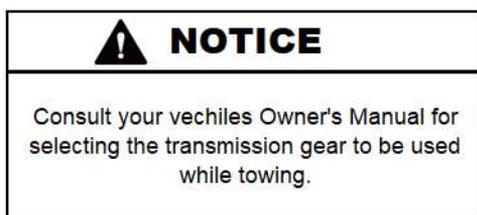


When towing a trailer, the prime mover's acceleration will decrease, and the stopping distance will increase. The turning

radius of the prime mover will be increased due to the trailer length.

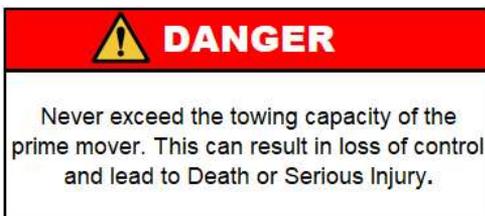


Avoid sudden stops and starts when towing the trailer. Sharp, sudden changes in the steering action could cause the trailer to sway or shift the load.



5.2.1 PRIME MOVER CAPACITY

The maximum towing capacity of the prime mover should never be exceeded. The Gross Trailer Weight (GTW) and maximum Gross Combined Weight Rating (GCWR) can be found in the prime mover's Operation Manual.



5.2.2 SAFE COUPLING

Ensure that the trailer is securely coupled to the prime mover. Uncoupling may result in death or serious injury to the operator and others. Refer to Section 5.2 for instructions for each style of coupler.



5.2.3 SAFETY CHAINS

Safety chains (Figure 5-1) are provided to ensure control if the trailer comes loose from the hitch.



SAFETY CHAINS 5-1



5.2.4 BREAKAWAY BRAKE

Each trailer is equipped with a breakaway brake system that will apply the brakes if the trailer comes uncoupled from the prime mover.



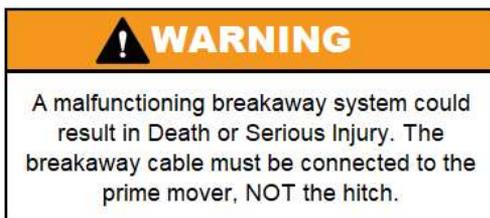
BREAKAWAY BRAKE CONTROLLER 5-2

Confirm that the breakaway switch cable is connected to the prime mover. It will not operate correctly if it is connected to the hitch.



BREAKAWAY BRAKE SWITCH 5-3

Before towing the trailer, test the function of the breakaway system. If the system does not work properly have it serviced or repaired.



5.2.5 HITCH

Confirm that the hitch is rated for the Gross Vehicle Weight Rating (GVWR) of the trailer.



5.2.6 TIRES

Maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and inspect tires for cuts, slashes, and other irregularities. Refer to the Section 3 Tire Safety for more information.



5.3 CARGO

The trailer should only be used for approved cargo. The trailer must not be operated with people or containers of hazardous/flammable substances.

 DANGER
Do not transport people in the trailer while it is motion. A loss of balance can lead to Death or Serious Injury.

 WARNING
Never transport any quantities of dangerous, explosive, flammable or poisonous materials. This could result in Death or Serious Injury.

5.3.1 SECURING CARGO

Use suitable means of chaining down the load to the trailer. Secure it tightly to eliminate any movement during transport. Reference your state tie-down regulations and follow them closely.

 WARNING
Select and use the appropriate sized tie-down (chains/cables/straps) and follow their installation instructions to prevent an accident that could result in Death Serious Injury.

The trailer bed includes D-rings along each side for anchoring straps and chains securely (Figure 5-4).



D-RINGS 5-4

Below is a short list of general recommendations that should be followed at a minimum.

- (1) Tie-downs and securing devices must not contain knots.
- (2) If a tie-down is repaired, it must be repaired in accordance with the applicable standards, or the manufacturer's instructions.
- (3) Each tie-down must be attached and secured in a manner that prevents it from becoming loose, unfastening, opening or releasing while the vehicle is in transit.
- (4) All tie-downs and other components of a cargo securement system used to secure loads on a trailer equipped with rub rails, must be located inboard of the rub rails whenever practicable.
- (5) Edge protection must be used whenever a tie-down would be subject to abrasion or cutting at the point where it touches an article of cargo. The edge protection must resist abrasion, cutting and crushing

5.3.2 WEIGHT RATING

The cargo weight plus the empty weight of the trailer must not exceed the Gross Vehicle Weight Rating (GVWR). If the GVWR of

the trailer is unknown to the operator, the information is located on the front left portion of the toolbox (Section 2.2).



The cargo over any one axle should not exceed the Gross Axle Weight Rating (GAWR). Refer to Figure 5-5.

GVWR (lb)	GAWR (lb)
10,000	5,200
12,000	6,000
15,000	7,000
17,000	8,000

GROSS AXLE WEIGHT RATING 5-5

5.3.3 LOAD DISTRIBUTION

Improper front to back load distribution can cause the trailer to lose stability and sway. Irregular left/right load distribution can cause tire, wheel, axle or structural failure of the trailer. Resulting in poor prime mover operation and handling.



5.3.4 UNSTABLE CARGO

The dump trailer will normally be loaded with loose materials (dirt, gravel, rock, etc.) These loads will shift as the trailer is being transported by the prime mover.



Confirm that all latches and linchpins have been installed correctly before moving an unstable load.

6 TRAILER OPERATION

The safe operation of this trailer should include a full understanding of how it works!

6.1 PRE-DEPARTURE INSPECTION

- Know the Gross Trailer Weight (GTW) and maximum Gross Combined Weight Rating (GCWR) of the tow vehicle being used.
- Check the inflation pressure in the tires of the tow vehicle & trailer. Adjust if necessary. Refer to the *Trailer Axle Operation and Service Manual* for more information.
- Check tire condition. Worn tires should be replaced before loading trailer.
- Check the lug nut torque on the trailer wheels. Refer to the *Trailer Axle Operation and Service Manual* for more information.
- Check the operation of the trailer lights. Brake, tail, side clearance, and turn signals must all work properly.
- Check that the load in the trailer is properly secured.
- Check that the rear gate latches are secured correctly.
- Adjust the tow vehicle's rear-view mirrors.

6.2 COUPLING THE TRAILER TO THE TOW VEHICLE

Confirm that the hitch being used is rated for the Gross Vehicle Weight Rating (GVWR) of the trailer. Coupling of the trailer to the tow vehicle must be a secure connection.



6.2.1 BUMPER HITCH TYPES

The bumper hitch is determined by the size and rating of the trailer selected. See the following figures below.



2-5/16 STANDARD DUTY COUPLER 6-1

The 2-5/16" standard duty coupler (Figure 6-1) is standard on all Light and Medium Duty trailers and is rated for up to 14,000 lbs.



2-5/16 HEAVY DUTY COUPLER 6-2

The 2-5/16" heavy duty coupler (Figure 6-2) is standard on all Heavy Duty Standard trailers and is rated for up to 15,000 lbs.



2-5/16 STANDARD DUTY COUPLER 6-3

The 2-5/16" standard duty coupler (Figure 6-3) is standard on all Heavy Duty Deluxe trailers and is rated for up to 25,000 lbs.



PINTLE RING COUPLER 6-4

The pintle ring coupler (Figure 6-4) can replace any of the ball hitch couplers. The pintle ring coupler cannot be locked to the tow vehicle.

6.2.2 BUMPER HITCH COUPLING

Follow the steps below to couple the bumper hitch to the tow vehicle:

1. Verify that the ball on the tow vehicle's hitch is the proper size for the trailer's coupler. Change and tighten the hitch ball, if necessary.
2. Raise the hitch jack (Figure 6-5) until the trailer's coupler is above the height of the tow vehicle's hitch ball.



HITCH JACK 6-5

3. Line up tow vehicle hitch with the bumper hitch coupler on trailer.
4. Designate a person to spot the trailer for the operator. For safety reasons, do not allow the person to stand directly between the trailer and tow vehicle.
5. Slowly back the tow vehicle to the trailer. Stop the tow vehicle when your spotter indicates that the trailer coupler is directly above the hitch ball (Figure 6-6).



COUPLER ALIGNMENT WITH HITCH 6-6

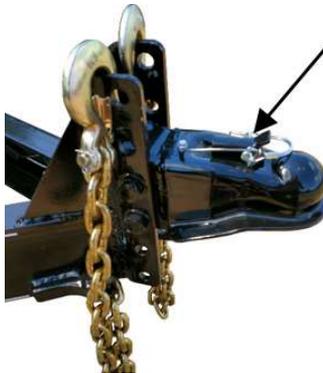
6. Place the tow vehicle's transmission in Park or Neutral. Apply the parking brake and shut off the engine.

7. When confirming that the trailer's coupler is directly above the tow vehicle's hitch ball AND IN THE OPEN POSITION, lower the hitch jack to allow the coupler to fit over the hitch ball.
8. Keep lowering the jack until the jack can be placed into the stowed position. Ensure that the pin (Figure 6-7) has been release for maximum towing clearance.



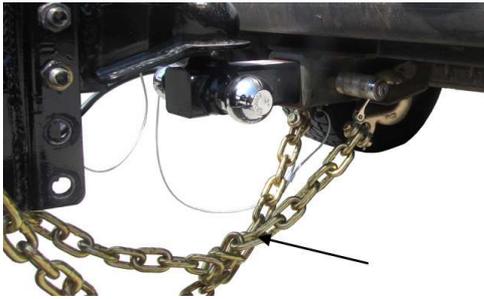
TOW JACK PIN 6-7

9. Latch the coupler's lever until it is in the closed position. Install a padlock or keeper pin through the padlock hole to secure the lever (Figure 6-8) in the latched position.



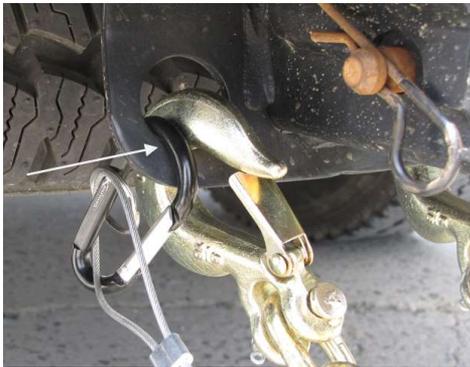
COUPLER KEEPER PIN 6-8

10. Install the safety chains (Figure 6-9) between the trailer and tow vehicle, crisscrossing the chains under the tongue of the trailer.



SAFETY CHAINS 6-9

11. Connect the trailer break-away cable to the tow vehicle (Figure 6-10).



BREAKAWAY CABLE CONNECTION 6-10

12. Route the light harness cable and breakaway cable through the bumper hitch keeper pin (Figure 6-11) to keep them from dragging while towing.



LIGHT HARNESS & BREAKAWAY CABLE ROUTING 6-11

13. Connect the light cable harness between the trailer and the tow vehicle (Figure 6-12). Test that the lights are operating correctly.



ELECTRICAL CABLE CONNECTION 6-12

Remove any chocks from the trailer tires before driving away.

6.2.3 GOOSENECK COUPLING

Follow the steps below to couple the Gooseneck hitch to the tow vehicle:

1. Verify that the ball on the tow vehicle's hitch is the proper size for the trailer's coupler. Change and tighten the hitch ball, if necessary.
2. Raise the hitch jack (Figure 6-13) until the trailer's coupler is above the height of the tow vehicle's hitch ball.



HITCH JACK 6-13

3. Line up tow vehicle hitch with the gooseneck hitch coupler on trailer.
4. Designate a person to spot the trailer for the operator. For safety reasons, do not allow the person to stand directly between the trailer and tow vehicle.

5. Slowly back the tow vehicle to the trailer. Stop the tow vehicle when your spotter indicates that the trailer coupler is directly above the hitch ball (Figure 6-14).



COUPLING 6-14

6. Place the tow vehicle's transmission in Park or Neutral. Apply the parking brake and shut off the engine.
7. When confirming that the trailer's coupler is directly above the tow vehicle's hitch ball AND IN THE OPEN POSITION, lower the hitch jack to allow the coupler to fit over the hitch ball.

8. Keep lowering the jack until the jack can be placed into the stowed position. Ensure that the pin (Figure 6-15) has been release for maximum towing clearance.



JACK PIN 6-15

9. Latch the coupler's lever until it is in the closed position. Install a padlock or keeper pin through the padlock hole to secure the lever (Figure 6-16) in the latched position.



COUPLER LATCH 6-16

10. Install the safety chains (Figure 6-17) between the trailer and tow vehicle.



SAFETY CHAINS 6-17

11. Connect the trailer break-away cable to the tow vehicle (Figure 6-18).



BREAKAWAY CABLE CONNECTION 6-18

12. Connect the light cable harness between the trailer and the tow vehicle (Figure 6-19). Test that the lights are operating correctly.



ELECTRICAL CABLE CONNECTION 6-19

13. Remove any chocks from the trailer tires before driving away.

6.3 REAR GATE

6.3.1 SPREADER GATE

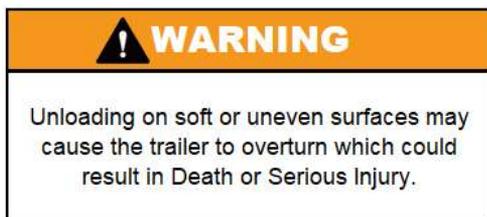
The spreader gate is hinged at the top and opens at the bottom. Dumping with the bottom of the gate unlatched will help distribute material as it is being dumped.



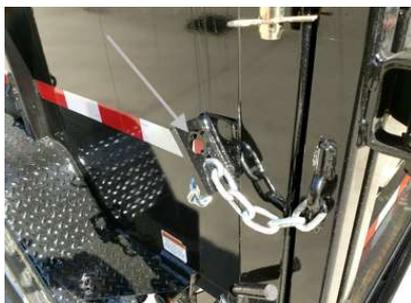
- Read and understand the hydraulic dump controller operation before operating the dump trailer. Refer to Section 5.4

Follow the steps below to operate the spreader gate:

1. Park the tow vehicle and dump trailer on firm and level ground.



2. Turn the tow vehicle's engine turned off.
3. Clear the immediate area around the trailer.
4. Position the operator in a safe location on the rear left-hand side of the trailer.
5. Adjust the metering chains in the "banjo eye" to allow the desired amount of material to be metered out of the spreader gate while dumping (Figure 6-20).



BANJO EYE 6-20

6. Unlock the spreader gate. The tailgate lock must be moved into the full lowered position (Figure 6-21).



SPREADER GATE UNLOCKED 6-21

7. As the operator moves the tow vehicle forward while spreading the material. A second person will raise the bed using the hydraulic controller to disperse the material evenly from the dump bed.
8. After load has been dumped return the trailer bed to a fully lowered position.
9. Return the tailgate latch to the locked position and reinstall the safety pin into the lever arm (Figure 6-22).



SPREADER GATE LOCKED 6-22

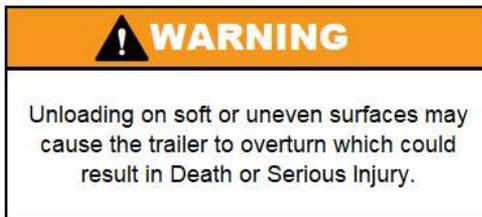
6.3.2 SPLIT GATE

The split tailgate feature allows unobstructed access to the rear of the trailer. This feature can be used to manually load and unload cargo from the trailer.



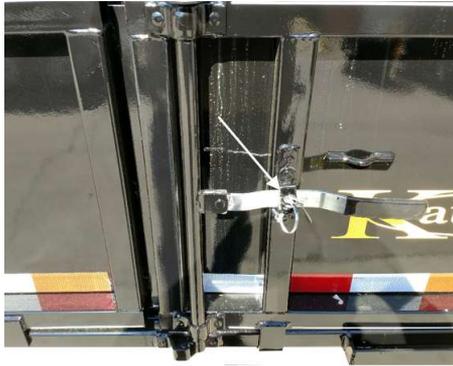
Follow the steps below to operate the split gate:

1. Park the tow vehicle and dump trailer on firm and level ground.



2. Turn the tow vehicle's engine turned off.
3. Clear the immediate area around the trailer.

4. Unlock the split gate. Remove any padlock or keeper pin. Fully rotate the latch handle until the bottom lock has moved out from around the post on the other half of the split tailgate (Figure 6-23).



SPLIT GATE LATCH 6-23

5. Swing the gates clear from the rear of the trailer and secure them with the hitch pins to the sides of the trailer bed (Figure 6-24).



SPLIT GATE HITCH PIN LATCH 6-24

6. After the cargo has been loaded/unloaded return the split gates to the latched position. To close the split doors, rotate both halves to the closed position and rotate latch lock on the right-hand door so it catches the bottom locking mechanism. Fully rotate latch until handle is engaged into handle guides. Reinstall the safety pin into the lever arm (Figure 6-25).



SPLIT GATE LOCKED 6-25

- A keeper pin or padlock must be inserted into the lever guides for security reasons.

6.4 DUMP BED

- When operating the dump bed, the operator must keep the tow vehicle engine running to ensure that battery is receiving ample voltage during operation.

The hydraulic dump bed system is located in the trailer toolbox (Figure 6-26).



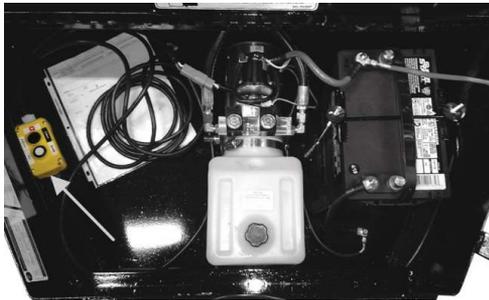
DUMP BED HYDRAULICS 6-26

The system utilizes a hydraulic motor with attached hydraulic fluid reservoir (Figure 6-27) that operates the hydraulic cylinder(s) below the trailer bed.



HYRDAULIC LIFT MOTOR AND RESERVOIR 6-27

The system is controlled by the operator with the attached dump controller (Figure 6-28).



HYDRAULIC LIFT CONTROLLER 6-28

6.4.1 RAISING THE TRAILER DUMP BED

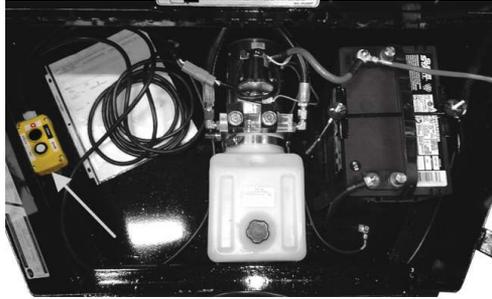
Ensure that battery is fully charged before raising the dump bed. An insufficiently charged battery may result in the hydraulic pump pushing fluid out of the reservoir tank without raising the dump bed.

 DANGER	
<ul style="list-style-type: none">• Stay out from under body when hoist is operating• During dumping operation, allow no one in the area around trailer.<ul style="list-style-type: none">• Controls must be in a safe location and operator must remain at the controls during the dumping operation.• Never leave dump bed raised or partly raised while the trailer is unattended or while performing maintenance or service under body, unless body is braced to prevent accidental lowering.• Do not attempt to raise a loaded dump bed when trailer is on uneven or soft ground.• Never jerk or shock a raised dump bed to loosen a load.• Make sure dump area is clear of overhead utility lines before raising.	

Follow the steps below to raise the dump bed:

1. Make sure the pump toolbox lid is closed and latched.

2. Locate the wired (Wireless hoist controls optional) hoist control in the front mounted toolbox (Figure 6-29).



HYDRAULIC LIFT CONTROLLER 6-29

3. Hold the controller firmly in your hands and press the “UP” button on the controller. The hydraulic pump will start, and the dump bed will start to rise. Continue to press the “UP” button until dump bed has risen to the desired angle (Figure 6-30).

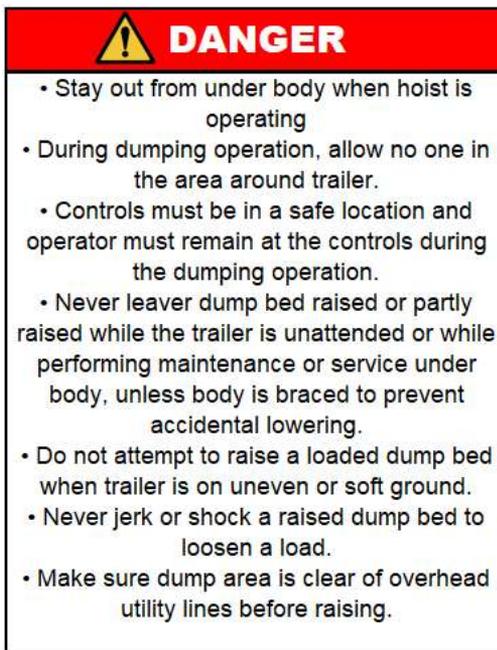


RAISED BED 6-30

4. When the dump bed has reached the maximum angle, and the hoist stops moving in the upward direction, release the button on the controller.

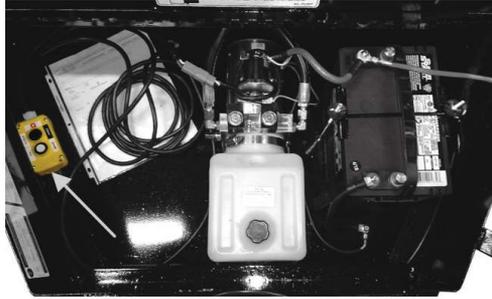
- Continuing to press the “UP” button after the dump bed is in its fully raise position may cause harm to the hydraulic system components.

6.4.2 LOWERING THE TRAILER DUMP BED



Follow the steps below to lower the dump bed:

1. Locate the wired (Wireless hoist controls optional) hoist control in the front mounted toolbox (Figure 6-31).



HYDRAULIC CONTROLLER 6-31

2. Hold the controller firmly in your hands and press the “DOWN” button on the controller. The hydraulic pump will start, and the dump bed will start to lower. Continue to press the “DOWN” button until dump bed has lowered to the desired angle (Figure 6-32).

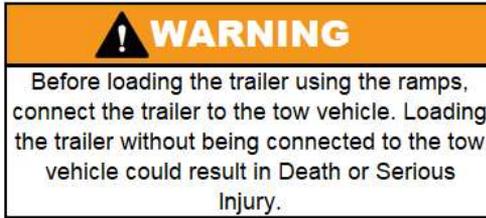


LOWERED BED 6-32

3. When the dump bed has been lowered onto the frame and the hoist stops moving in the downward direction, release the button on the controller.
 - Continuing to press the “DOWN” button after the dump bed is in its fully lowered position may cause harm to the hydraulic system components.
4. Return and secure the hoist controller in the toolbox before moving the trailer.

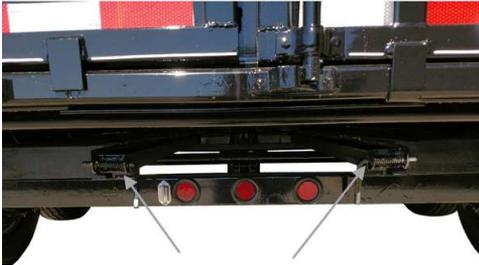
6.5 RAMPS

Ramps are provided to load wheeled vehicles onto the bed of the trailer. Before using the ramps, reference the instructions for opening and closing the split tailgate (See Section 6.3.2).



6.5.1 INSTALLING THE RAMPS

The ramps are stowed under the trailer dump box (Figure 6-33).



RAMP STORAGE LOCATION 6-33

With the split doors in the full wide-open position and locked to the side of the bed with provided hitch pins, insert the top of the ramps into position on the back of the trailer.



RAMP INSTALLED 6-34

6.5.2 SETTING THE RAMP GAUGE WIDTH

When both ramps have been installed, measure the gauge of the wheeled vehicle you are about to load on the trailer, and adjust the space of the ramps to match the gauge of the vehicle being loaded.



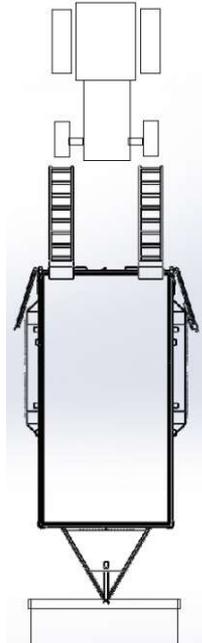
RAMP GAUGE WIDTH 6-35

6.5.3 USING THE RAMPS TO LOAD A VEHICLE

- Only load or unload vehicles from the dump trailer when it is properly attached to a tow vehicle with the parking brake engaged and the trailer wheels chocked.

Follow the steps below to load a vehicle on the trailer:

1. Move the wheeled vehicle to be loaded directly in front of the ramps. Check that the ramp position matches the placement of the vehicle (Figure 6-36).



TRACTOR CENTERED ON RAMP POSITION 6-36

2. If the vehicle is equipped with a seat belt, make sure it is installed tightly around the operator's waist.

3. Clear the immediate area and drive the wheeled vehicle up the ramps using the lowest gear possible.
4. Drive the load onto the trailer and position it centered just ahead of the axles. Set the brake and turn off the loaded vehicle.

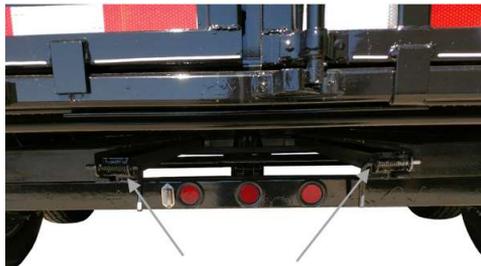
6.5.4 SECURING THE LOAD

Use suitable means of chaining down the load to the trailer. Secure it tightly to eliminate any movement during transport. Reference your state tie-down regulations and follow them closely.



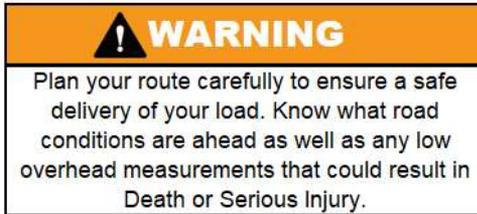
6.5.5 PREPARING FOR TRAVEL

Remove the ramps from the rear of the trailer and stow them properly under the dump box (Figure 6-37).



RAMP STORAGE LOCATION 6-37

- Close the split doors and secure with the latch and safety pin.
- Measure the overall load height and determine travel route accordingly.

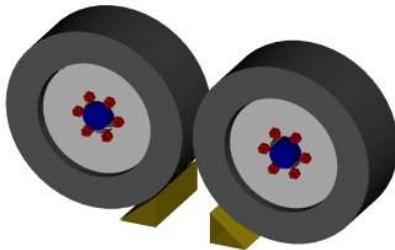


6.6 DETACHING TRAILER FROM TOW VEHICLE

6.6.1 BUMPER HITCH

Follow the steps below detach the trailer from a bumper hitch:

1. Park the trailer on a hard, level surface.
2. Place the tow vehicle in Park or Neutral, apply the parking brake and shut off the engine. Remove the keys from the ignition.
3. Position the chocks or blocks at the trailer tires as shown in the following picture.



TIRE CHOCKS INSTALLED 6-38

4. Disconnect the electrical harness coupler between the trailer and tow vehicle. Stow the harness where it will not be damaged before the next use
5. Disconnect the break-away cable from the tow vehicle.
6. Disconnect the trailer's safety chains from the tow vehicle.
7. Remove the padlock or keeper pin from the trailer's coupler (Figure 6-39).



BUMPER HITCH LOCK 6-39

8. Lower the trailer's tongue jack until it just touches the ground.

9. Unlatch the coupler.
10. Lower the trailer jack raising the trailer tongue off the tow vehicle's hitch ball (Figure 6-40).



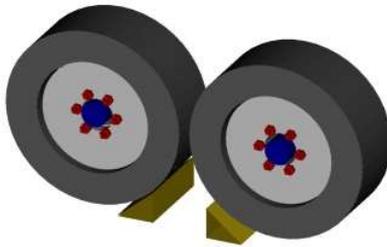
DECOUPLING BUMPER HITCH 6-40

11. When the trailer coupler is more than 1" (24mm) above the tow vehicle's hitch ball, it is safe to start the tow vehicle and drive away from the trailer.
12. Properly store all load binders, chains & straps in a dry place.

6.6.2 GOOSENECK HITCH

Follow the steps below detach the trailer from a gooseneck hitch:

1. Park the trailer on a hard, level surface.
2. Place the tow vehicle in Park or Neutral, apply the parking brake and shut off the engine. Remove the keys from the ignition.
3. Position the chocks or blocks at the trailer tires (Figure 6-41).



TIRE CHOCKS INSTALLED 6-41

4. Disconnect the electrical harness coupler between the trailer and tow vehicle. Stow the harness where it will not be damaged before the next use.
5. Disconnect the break-away cable from the tow vehicle.
6. Disconnect the trailer's safety chains from the tow vehicle.
7. Lower the trailer's tongue jack until it just touches the ground.
8. Unlatch the coupler (Figure 6-42).



GOOSENECK HITCH UNLATCHED 6-42

9. Lower the trailer jack, raising the trailer tongue off the tow vehicle's hitch (Figure 6-43).



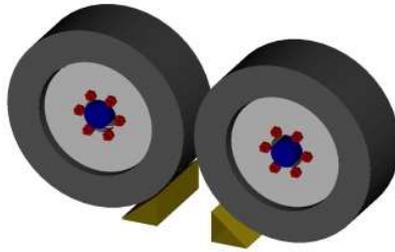
UNCOUPLING 6-43

10. When the trailer coupler is more than 1" (24mm) above the tow vehicle's hitch ball, it is safe to start the tow vehicle and drive away from the trailer.
11. Properly store all load binders, chains & straps in a dry place.

7 STORAGE

7.1 SHORT TERM STORAGE

1. Park on a flat stable surface.
2. Lock the hitch in the closed position.
3. Install a trickle charger on trailer battery to ensure good operation during next use.
4. Place wheel chocks behind and in front of trailer tires (Figure 7-1).



WHEEL CHOCKS 7-1

7.2 LONG TERM STORAGE

7.2.1 STORAGE PREPARATION

1. Jack up the trailer and place jack stands under the trailer frame so that the weight will be off the tires. Never jack up or place jack stands on the axle tube or on the equalizers.
2. Lubricate mechanical parts such as the hitch, and the suspension parts, that are exposed to the weather.

3. Disconnect the battery terminals (negative first, then positive cable second). Charge the battery following the procedure recommended by the battery charger manufacturer.

7.2.2 AFTER-PROLONGED STORAGE, CHECK BEFORE USE

Before removing trailer from jack stands:

1. Remove all wheels and hubs or brake drums. Note which spindle and brake that the drum was removed from so that it can be reinstalled in the same location.
2. Inspect suspension for wear.
3. Check tightness of the hanger bolts, shackle bolt, and U-bolt nuts per recommended torque values.
4. Check brake linings, brake drums and armature faces for excessive wear or scoring.
5. Lubricate all brake moving parts.
6. Remove any rust from surface of drums with fine emery paper.
7. Inspect grease seals for wear or nicks. Replace if necessary.
8. Lubricate hub bearings.
9. Reinstall hubs and adjust bearings per instructions in this manual.
10. Mount and tighten wheels nuts per instructions in manual.

After jack stands are removed from under trailer:

11. Check the battery charge. If low, charge it with battery charger. Install the “positive” battery cable on the terminal marked with a “+” symbol. Next, install the

negative cable on the battery terminal marked with a “-“ symbol.

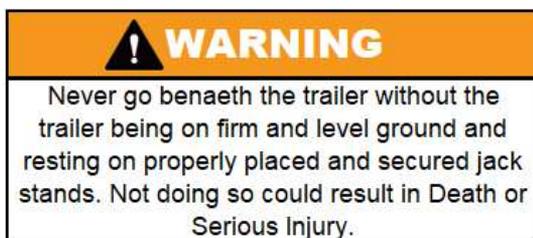
8 MAINTENANCE

You must inspect, maintain and service your trailer regularly to insure safe and reliable operation. If you cannot or are unsure how to perform the items listed here, have Kaufman Trailers do them.

Note: In addition to this manual, also check the relevant component manufacturer’s manual.

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 under the outer frame rail to which the axles are attached.



8.1 MAINTENANCE INTERVALS

Inspection and Service Before Every Use		
Item	Inspection/Service	Section Reference
Breakaway Brakes	Check Operation	Section 5.2.4
Breakaway Battery	Fully Charged, Connections are clean	Section 9.X.X
Brakes	Check Operation	Section 9.X.X
Shoes and Drums	Check Operation	Section 9.X.X
Safety Chains and Hooks	Check for wear and damage	Section 5.2.3
Coupler, Receiver, and Hitch Ball	Check for cracks, pits, and flats. Replace with ball and coupler have the correct GVW Rating.	Section 9.X.X
	Grease	Section 9.X.X
	Check locking device and replace when worn.	Sections 5.2 and 6.2
King Pin, Fifth Wheel, Ring, and Pintle	Check for cracks, pits, and flats. Replace with ball and coupler have the correct GVW Rating.	Section 9.X.X
	Grease	Section 9.X.X
	Check locking device and replace when worn.	Sections 5.2 and 6.2
Tires	Check tire pressure when cold. Inflate as needed.	Section 3 and 9
	Check for damage.	Section 3 and 9
Wheels - Lug Nuts, Bolts, and Hub	Check for tightness	Section 3 and 9
	Tighten. For new and remounted wheels, check torque after the first 10, 25, and 50 miles of driving and after any impact.	Section 3 and 9

Inspection and Service per Month		
Item	Inspection/Service	Section Reference
Lubrication	Lubricate door hinges and dump body pivot points	Section 9.X.X

Inspection and Service per 6 Months or 6,000 Miles		
Item	Inspection/Service	Section Reference
Brakes, electric	Check wear and current draw	Section 9.X.X
-Magnet		
-Controller (in tow vehicle)	Check power output (amperage) and modulation	Section 9.X.X
Tires	Inspect tread and sidewalls, replace if worn or sidewalls have buldge.	Section 3 and 9
	Rotate every 5,000 miles	
Brakes	Check Operation	Section 9.X.X
Shoes and Drums	Check Operation	Section 9.X.X
Safety Chains and Hooks	Check for wear and damage	Section 5.2.3
Coupler, Receiver, and Hitch Ball	Check for cracks, pits, and flats. Replace with ball and coupler have the correct GVW Rating.	Section 9.X.X
	Grease	Section 9.X.X
	Check locking device and replace when worn.	Sections 5.2 and 6.2
King Pin, Fifth Wheel, Ring, and Pintle	Check for cracks, pits, and flats. Replace with ball and coupler have the correct GVW Rating.	Section 9.X.X
	Grease	Section 9.X.X
	Check locking device and replace when worn.	Sections 5.2 and 6.2

Inspection and Service per Year or 12,000 Miles		
Item	Inspection/Service	Section Reference
Brakes Shoes and Drums	Check for scoring and wear. Replace per manufacturer's specifications.	Section 9 See Brake manufacturer
Jack, Drop-leg	Grease gears located on top	See jack manufacturer
Frame Members	Inspect all frame members, bolts, and rivets. Repair or replace any damaged, worn, or broken parts.	Section 9
	Inspect all welds. Repair if needed.	Section 9
Wheel Bearings	Disassemble, inspect, and reassemble, and repack. Replace immediately if immersed in water.	Section 9 See Axle manufacturer
Rims	Inspect for cracks and dents. Replace if needed.	Section 9
Axle Attachment Bolts	Check by DEALER	Section 9

9 SERVICE

9.1 DUMP FRAME LUBRICATION

Being under a raised body will result in serious injury or death should the body unexpectedly descend. DO NOT position yourself or allow others to position themselves under a loaded bed. Always support the unloaded body by using the body prop supplied. Body props are to be used only on an UNLOADED body.



1. Raise the empty dump bed and locate the body prop (Figure 9-1). Reach the body prop from the left side of the trailer.



BODY PROP STORED POSITION 9-1

2. Rotate the body prop into position and slowly lower the body until it is resting on the body prop (Figure 9.2). Check that the body is resting squarely on the body prop before servicing items under the body.



BODY PROP INSTALLED 9-2

3. Pump grease into the 2 dump body hinge fittings (left hand and right hand) once a month or more for frequent use and extreme conditions (Figure 9-3).



BODY HINGE GREASE POINTS 9-3

4. Pump grease into the 4 rear door hinges every month (Figure 9-4).



DOOR HINGE GREASE POINTS 9-4

5. Pump grease into the fittings on each end of the cylinder(s) (Figure 9-5) and in the scissor mechanism (if equipped) (Figure 9-6).



CYLINDER GREASE POINTS 9-5



SCISSOR GREASE POINTS 9-6

To prevent serious eye injury, always wear safety eye protection when you perform vehicle maintenance or service.

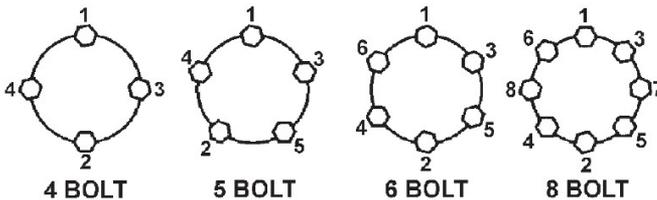
9.2 WHEEL TORQUE REQUIREMENTS

It is extremely important to apply and maintain proper wheel mounting torque on your trailer axle. Torque is a measure of the amount of tightening applied to a fastener (nut or bolt) and is expressed as length time's force. For example, a force of 90 pounds applied at the end of a wrench one foot long will yield 90 lbs. – ft. of torque. Torque wrenches are the best method to assure the proper amount of torque is being applied to a fastener.

NOTE: Wheel nut or bolts must be applied and maintained at the proper torque levels to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle.

Be sure to use only fasteners matched to the cone angle of your wheel (usually 60 or 90 degrees.) The proper procedure for attaching your wheels is as follows:

1. Start all bolts or nuts by hand to prevent cross threading.
2. Tighten bolts or nuts in the following sequence.



3. The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners per the wheel torque chart.

4. Wheel nuts/ bolts should be torqued before the first road use and after each wheel removal. Check and re-torque after the first

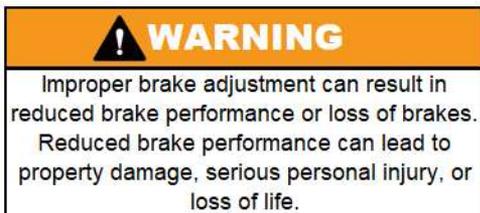
10 miles, 25 miles, and again at 50 miles. Check periodically thereafter.



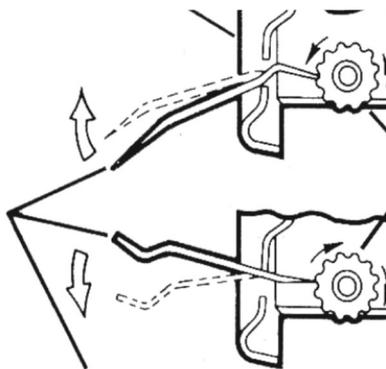
9.2.1 WHEEL TORQUE REQUIREMENTS

Wheel Size	Stud Size	Torque Sequence (lb-ft)		
		1st Stage	2nd Stage	3rd Stage
14"	1/2"	20-25	50-60	90-120
15"	1/2"	20-25	50-60	90-120
16"	1/2"	20-25	50-60	90-120
16.5" x 6.75"	1/2"	20-25	50-60	90-120
16"	9/16"	20-25	60-70	120-130
16.5 x 6.75'	9/16"	20-25	60-70	120-130
17.5' long nut	5/8"	50-60	100-120	190-210
17.5" flange nut	5/8'	50-60	150-200	275-325
14.5" Demount	1/2"	Tighten sequentially to 85-95		

9.3 BRAKE ADJUSTMENTS



1. Elevate and support the trailer evenly on jack stands. Do not remove the wheels or hub/drum assembly for this brake adjustment.
2. Locate the adjusting slot at the bottom of the backing plate and remove the protective cover.
3. While spinning the wheel, use a standard brake adjusting tool or the blade of a screw driver to rotate the star wheel until there is a heavy brake drag.



4. Loosen until the wheel turns freely about 3/4 to one full turn.
5. Replace the protective plug to keep dirt and moisture out.
6. Repeat procedure for other wheels. ALWAYS adjust all brakes, NEVER adjust just one brake.

It is recommended that all brakes on the trailer, or at least both brakes of one axle, be adjusted at the same time.

9.4 HUBS/DRUMS/BEARINGS

Whenever the hub equipment on your axle must be removed for inspection or maintenance the following procedure should be followed.

1. Elevate and support the trailer on jack stands. 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 under the outer frame rail to which the axles are attached.
2. Remove the wheel assembly.
3. Remove the grease cap by carefully prying progressively around the flange of the cap.
4. Remove the cotter pin from the spindle nut or in the case of Super Lube, bend the tang washer to the free position.
5. Unscrew the spindle nut counter clockwise and remove the D-washer.
6. Remove the hub from the spindle, being careful to not let the outer bearing fall out.
7. Repeat the steps in reverse order to install new or repaired hub.

9.5 BRAKE DRUM INSPECTION

There are two areas of the brake drum that are subject to wear and require periodic inspection. These two areas are the drum surface where the brake shoes make contact during stopping and the armature surface where the magnets contacts (only on electric brakes.)

The drum surface should be inspected for excessive wear or heavy scoring. If worn more than .020" oversized, or the drum has worn out of round more than .015", then the drum surface should be turned. If scoring or other wear is greater than .090" on the diameter, the drum must be replaced. When turning the drum surface, the maximum re-bore diameter is as follows:

- 10" Brake Drum – 10.090"
- 12" Brake Drum – 12.090"

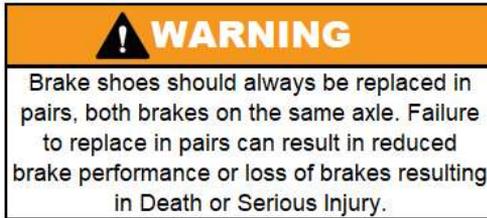
The machined inner surface of the brake drum that contacts the Brake magnet is called the armature surface. If the armature surface is scored or worn unevenly, it should be refaced to a 120-micro inch finish by removing not more than .030" of material. To insure proper contact between the armature face and the surface should be refaced whenever the magnets are replaced.

NOTE: It's important to have wheel-bearing bores free of metallic chips and contamination. Make sure all cavities are free of contamination before reinstalling the bearing and seals.

9.6 BRAKE SHOE INSPECTION

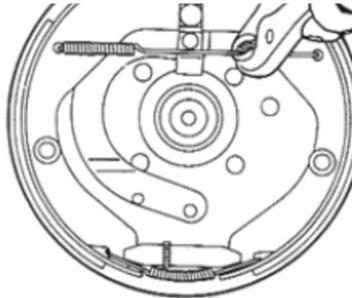
With the trailer lifted and the hub/drum removed, inspect the linings for wear or contamination from oil or grease. Hairline heat fissures are not uncommon in bonded shoes and pose no cause for concern. If there are any concerns about the severity of cracking, consult with a trailer expert. If the lining is worn to 1/16" or less, or shows irregular wear or contamination from foreign

substances, the shoes should be replaced with original Kaufman Trailer parts.

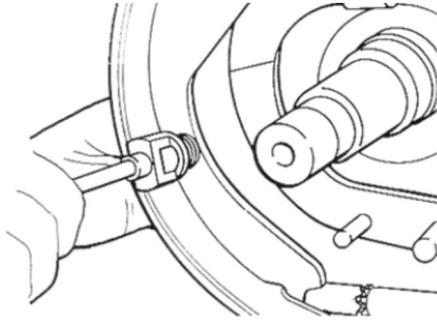


9.7 INSPECTING AND REPLACING BRAKE LININGS

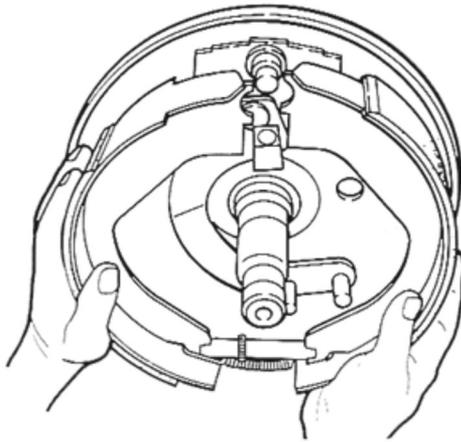
1. Remove the brake shoe retract spring.



2. Remove the shoe hold down assembly by holding the back of the pin with one hand and pushing against the spring and twisting with a hold down spring tool until the cup is released.

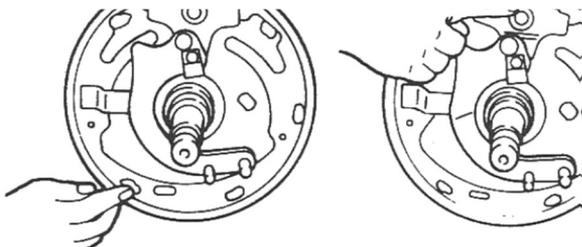


3. Remove both shoes together leaving the adjuster assembly and spring intact.



4. Clean the backing plate and lever arm. Inspect magnet arm for any loose or worn parts. Replace any spring that is broken, bent, or weak.

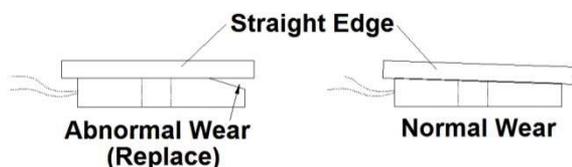
5. Apply a light film of Lubriplate or similar lubricant to the anchor pin and shoe rest pads & backing plate areas that are in contact with the lever arm.



6. Attach the adjuster screw and spring to the new brake shoes. The star wheel and adjuster must be positioned as before.
7. Install the new shoes on the backing plate and reinstall shoe retract spring.

9.8 INSPECTING AND REPLACING MAGNETS

The magnet assembly can be inspected for wear while it is still assembled to the brake. Lay a straight edge over the length of the magnet face and check for flatness.



All electric brakes on Kaufman Trailers use magnets that are similar in design. Properly functioning magnets that show normal wear may be used until copper coil is visible through the friction material in the center of the magnet.

If magnet shows abnormal wear, inspect the brake drum armature surface. The brake drum may also need to be replaced. (Section 9.5).

If you suspect that the magnet is not functioning properly, and it shows no sign of abnormal or excessive wear, check for a short circuit.

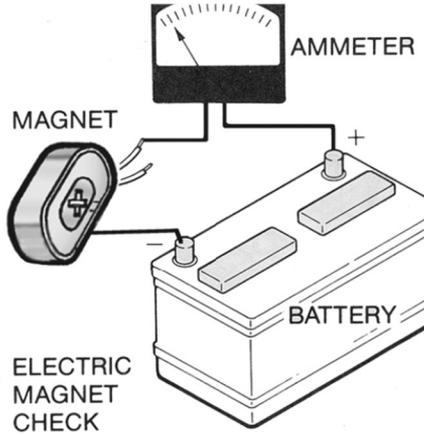
9.8.1 REMOVING THE MAGNET

To remove the magnet from the brake, do the following:

1. Disconnect the magnet leads from the trailer's wiring harness and remove the strain relief, to allow the magnet leads to be pulled through the backing plate.
2. Remove clips holding magnet leads to the lever arm or return spring.
3. Remove clips holding magnet to lever arm and remove magnet. Keep the clips and magnet spring.

9.8.2 COIL TO HOUSING SHORT CIRCUIT TEST

To perform the Coil to Housing Short Circuit Test follow these steps:

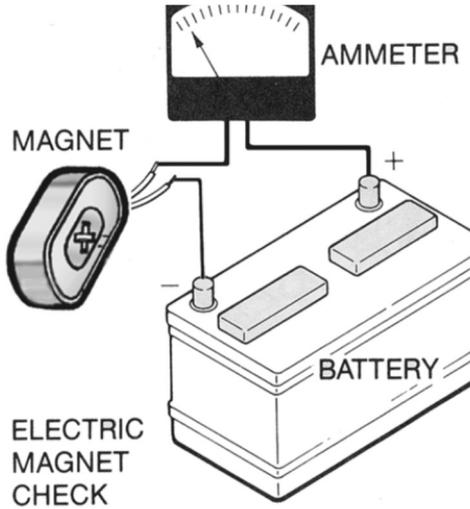


1. Connect one end of an ammeter (the ammeter must have a minimum scale of 5 amps) to either of the magnet wires. This test requires only one of the magnet leads.
2. Connect the other end of the ammeter lead to the positive battery post.
3. Connect a separate piece of 16-gauge wire from the negative battery post to the magnet housing.
4. If the ammeter registers current, a short is indicated and the magnet must be replaced per instructions in Section 9.9.

Note: The short may be intermittent. If there is no initial reading tap the magnet and move the leads.

9.8.3 COIL SHORT CIRCUIT TEST

To perform the Coil Short Circuit Test, do the following:

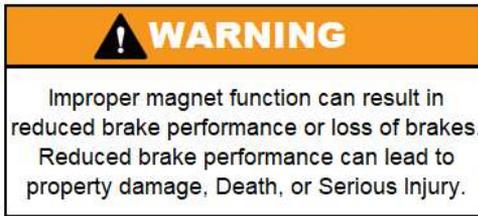


1. Connect one magnet wire to one of the ammeter leads.
2. Connect the other magnet wire to the negative battery post.
3. Connect remaining ammeter lead to positive battery post.

Note: The magnets must be checked as soon as power is connected. The amperage readings will drop as the temperature increases.

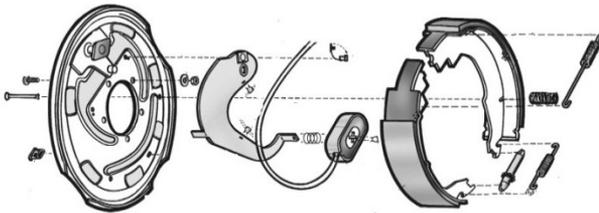
4. If the amperage reading at 12 volts is greater than 3.2 amps, the magnet should be replaced per instructions IN Section 9.9. If the amperage reading is lower than 2.8 amps, check battery charge.

Note: The magnets must be checked as soon as power is connected. The amperage readings will drop as the temperature increases.



9.8.4 REPLACING BRAKE MAGNETS

1. Orient the magnet over the lever arm post such that the magnet leads are in the correct position for routing.
2. Push magnet over the lever arm post compressing the magnet spring between the magnet and the lever arm.
3. Insert the magnet clip in the slot of the magnet. Be sure to orient the magnet clip so it will "snap" into place.



4. Press down on the magnet and install the magnet clip.
5. Be sure that the magnet moves up and down freely on the lever arm post.
6. Route the wiring in the same manner noted on removal. Be sure that wires cannot bind, pinch or rub. Manually actuate lever arm to insure there is no interference.

7. Install strain relief bushing, allowing enough slack in the wiring to allow the lever arm to move without straining the wires. Be sure the wire cannot come in contact with the armature surface.
8. Connect the magnet leads to the trailer wiring harness.
9. Reinstall hub and drum.

9.9 BEARING INSPECTION

Wash all grease and oil from the bearing cone using a suitable solvent. Dry the bearing with clean, lint free cloth and inspect the rollers completely. If any pitting, spalling, or corrosion is present, then replace the bearing. The bearing cup inside the hub must be inspected also. **ALWAYS REPLACE THE BEARINGS AND CUP IN SETS.**

When replacing the bearing cup proceed as follows:

1. Place the hub on a flat work surface with the cup to be replaced on the bottom side.
2. Using a brass drift punch, carefully tap around the small diameter end of the cup to drive it out.
3. After cleaning the hub bore area, replace the cup by tapping in with the brass drift punch. Be sure the cup is seated all the way up against the retaining shoulder in the hub.

9.10 BEARING LUBRICATION

Along with bearing adjustment, proper lubrication is essential to the current function and reliability of your trailer axle. Bearing should be lubricated every 12 months or 12,000 miles. Repack bearings as follows:

1. Place a quantity of grease into the palm of your hand.
2. Press a section of the widest end of the bearing into the outer edge of the grease pile closet to the thumb forcing grease into the interior of the bearing.
3. Repeat this while rotating the bearing from roller to roller.
4. Continue this process until you have the entire bearing completely filled with grease.
5. Before installing, apply a light coat of grease on the bearing cup.

9.11 SEAL INSPECTION AND REPLACEMENT

Whenever the hub is removed, it's recommended to replace the seals to assure that the seal properly seals the bearing cavity.

To replace the seal:

1. Pry the seal out of the hub with a screwdriver. Never drive the seal out with the inner bearing as you may cause damage to the bearing.
2. Apply Permatex sealant to the outside of the new seal.
3. Tap the new seal into place using a clean wood block.

9.12 BEARING ADJUSTMENT AND HUB REPLACEMENT

If the hub has been removed or bearing adjustment is required, the following adjustment procedure must be followed:

1. After placing the hub, bearing, washers, and castle nut back on the axle spindle in reverse order as detailed in the previous Section 9.4 on hub removal, rotate the hub assembly slowly while tightening the castle nut to approximately 50 lbs.-ft.
2. Then loosen the castle nut to remove the torque. Do not rotate the hub.
3. Finger-tighten the castle nut until snug.
4. Back the castle nut out slightly until the first castellation lines up with the cotter keyhole and insert the cotter pin (or locking tang in case of Super Lube.)
5. Bend over the cotter pin legs to secure the nut (or locking tang washer in case of Super Lube.)
6. Nut should be free to move with only restraint being the cotter pin (or locking Tab.)

9.13 RECOMMENDED LITHIUM BEARING GREASE

Recommended Wheel Bearing Lubrication Specifications

Thickner Type – Lithium Complex

Dropping Point - 230°C (446°) minimum

Consistency – NLGI No. 2

Additives – EP, Corrosion & Oxidation Inhibitors

Base Oil – Solvent Refined Petroleum Oil

Base Oil Viscosity - @40°C (104°F) 150cSt(695 SUS) Min.

Viscosity Index – 80 Minimum

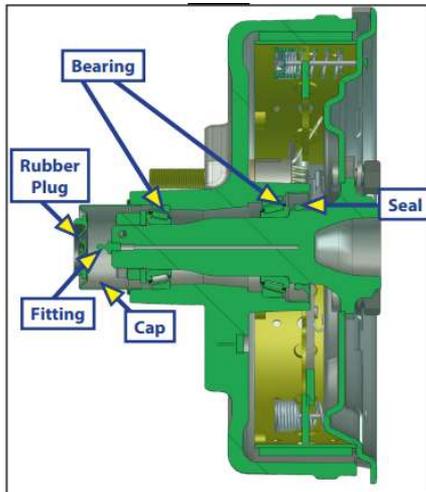
Pour Point – (-)10°C (14°F) Minimum

Approved Sources

- Mobil Oil – Mobil grease HP
- Exxon/ Standard – Renox MP
- Kendall Refining Co. – Kendall L-427
- Ashland Oil Co. – Valvoline Val-plex EP Grease
- Pennzoil Prod. Co. – Premium Wheel Bearing Grease 707L

9.14 SUPERLUBE® HUB

Your axle may be equipped with SuperLube® Hub feature; the bearing can be periodically lubricated without removing the hub from the axle. This feature consists of axle spindles that have been specially drilled and fitted with grease fittings in the ends. When grease is pumped into the grease fitting, it is channeled to the inner bearing then flows back to the outer bearing and eventually backs out the grease cap hole.



SUPERLUBE HUB

The procedure is as follows:

1. Remove the rubber plug from the end of the grease cap.
2. Place a standard grease gun onto the grease fitting located in the end of the spindle. Make sure the grease gun is fully engaged on the fitting.

3. Pump grease into the grease fitting. The old, displaced grease will begin to flow back out of the cap around the grease gun nozzle.
4. When the new, clean grease is observed, remove the grease gun, wipe off any excess, and replace the rubber plug in the cap.

Note: The SuperLube® Hub feature is designed to allow immersion. Axles not equipped with SuperLube® are not designed for immersion and bearings should be repacked after each immersion.

Note: Even with the Super Lube Feature, periodic inspection and repacking must be done every 12 months or 36,000 miles. Do not pack hub full of grease. Excessive grease may leak into brake drums causing brake failures.

9.15 SUSPENSION

The suspension systems incorporated into the axles are designed to provide the trailer owner three basic functions:

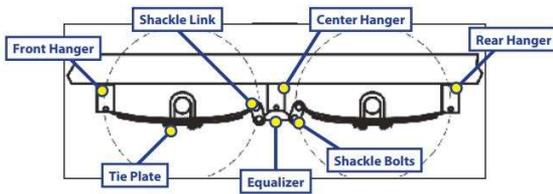
1. Attach the axle to the trailer.
2. Dampen the effects of road shock.
3. Provide stability to the trailer.

9.15.1 DOUBLE-EYE LEAF SPRINGS

Double-Eye springs have an eye formed in one end only with the other end formed into a reverse curve. The attachment of these springs is as follows:

1. The front eye is attached directly into the front hanger with a nut and a bolt.

- The rear end of the spring is captured in the rear hanger or equalizer with a “shackle bolt” that prevents the spring from coming out when the trailer is jacked up for service.



The articulation of this suspension occurs when the rear end of each Double-Eye spring slides against the wear surfaces provided in the rear hangers or equalizers. This suspension is also available in single and multiple axle configurations.

Spring Axle Torque Specifications		
Bolt Type	Axle Capacity	Maximum Torque
U-Bolts	2K	25 ft-lb
	3.5K with 1/2"	50 ft-lb
	5.2K	65 ft-lb
	6-8K	90 ft-lb
	Minimum Torque	Maximum Torque
Shackle Bolts	30 ft-lb	50 ft-lb

9.15.2 INSPECTION AND REPLACEMENT

All the components of your suspension system should be visually inspected at least every 6,000 miles for signs of excess wear, elongation of bolt holes, and loosening of fasteners. Whenever loose or replaced, the fasteners in your suspension system should be torqued as in the chart below.

Torsion Axle Torque Specifications		
Axle Size	Bolt Size	Torque Range
#8 - #9	½"	70-90 ft-lb
#10 - #13	¾"	120-150 ft-lb

Worn spring eye bushings, sagging springs, or broken springs should be replaced using the following method.

1. Support the trailer with the wheels just off the ground. Do not lift or place supports on any part of the suspension system.
2. After the unit is properly supported place a suitable block under the axle tube near the end to be repaired. This block is to support the weight of the axle only so that suspension COMPONENTS can be removed.
3. Disassemble the U-bolts, nuts, and tie plates.
4. Remove the spring eye bolts and remove the spring and place on a suitable work surface.
5. If the spring eye bushings are to be replaced, drive out the old bushing using a suitable drift punch.
6. Drive the new bushing into the spring eye using a piloted drift punch or a close-fitting bolt inserted through the bushing.
7. Reinstall replaced components in reverse order.

NOTE: For multiple axle units, the weight of each axle must be supported as outlined in step 2 before disassembly of any component of the suspension system.

If the equalizer or equalizer bushing must be replaced, follow the instructions above for lifting and supporting the trailer unit and then proceed as follows:

1. With both axles blocked up, remove the spring eye bolt, shackle bolt, and equalizer bolt from the equalizer to be repaired or replaced.
2. Take the equalizer to a suitable work surface and remove the worn bushings using a drift punch.
3. Drive the new bushing into place using a piloted drift punch or a close-fitting bolt through the bushing.
4. Reassemble in reverse order.

All the pivot points on your suspension system have been fitted with anti-friction bearing materials which do not require routine lubrication. However, when otherwise servicing the unit, these pivot points may be lubricated if you so desire.

9.16 BRAKE SYSTEM TROUBLESHOOTING

The most common reason for poor brake performance is improper brake adjustment. The first step in correcting brake problems is to adjust the brakes. (Section 9.3) This standard maintenance should be performed according to the schedule in Section 8.

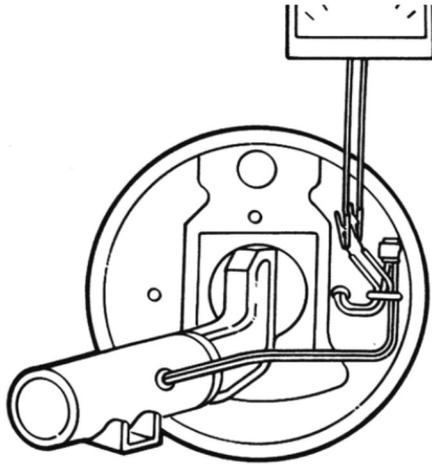
The second most common problem is faulty, improperly installed or improperly used wiring or electrical components. These

components are not supplied or installed by your dealer but can greatly affect the performance of the brakes.

If none of the brakes are working, they probably have no power. If all the brakes experience the same problem, it is probably caused by an improper signal to the brakes. Possible causes include operator error, improper synchronization, faulty controller or break-away switch and any wiring or circuit problem. The first step in isolating brake problems is to identify the amount of power going to the brakes.

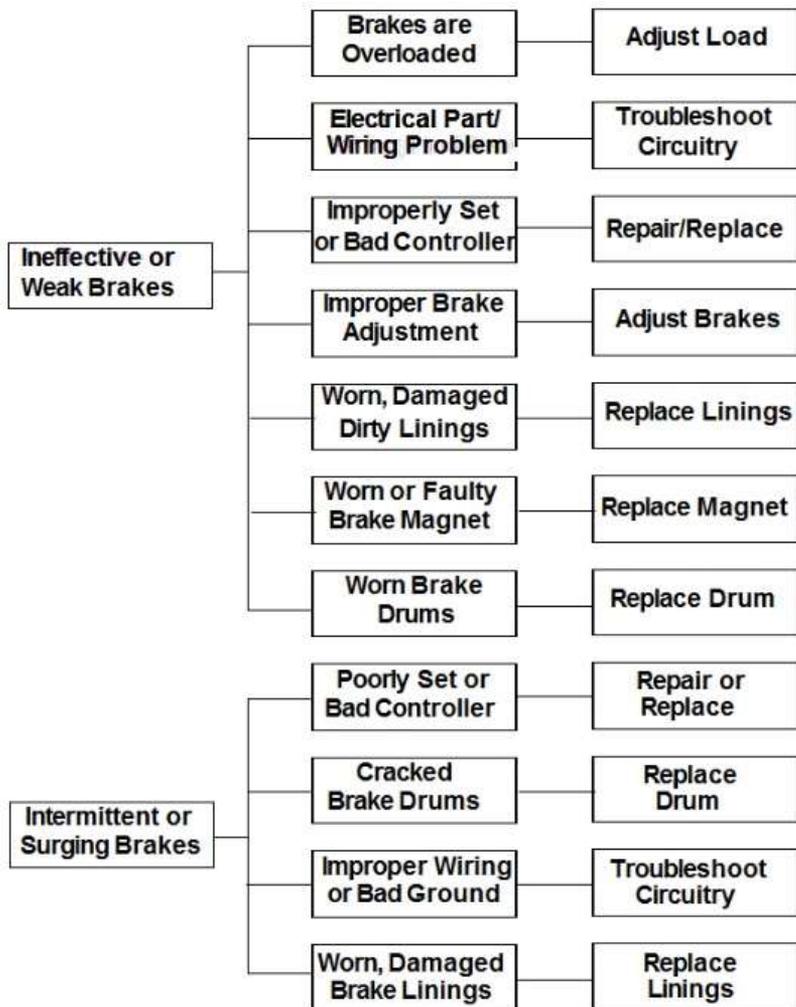
System voltage is measured at the magnets by connecting a volt meter to the magnet lead wires. Connect the trailer wire connector to the tow vehicle. The engine of the tow vehicle should be running. The voltage should start at 0 volts. As the controller bar is slowly actuated, it should gradually increase to about 12 volts. If the increase is not gradual the brakes would apply instantaneously. The lower the threshold voltage the smoother the brakes will apply.

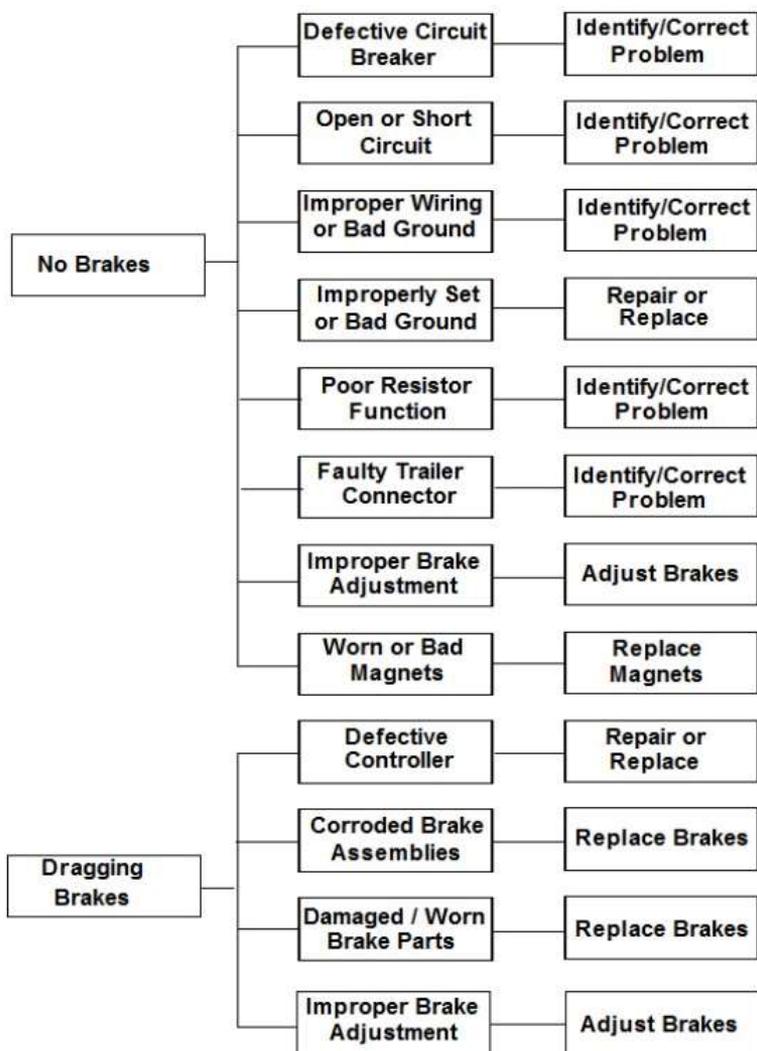
System amperage is the amperage being drawn by all brakes on the trailer. Single magnet amperage can be measured with an ammeter attached at the magnet lead wires. Follow procedure above. Each magnet should draw about 3 amps at 12 volts. To check the total system the controller output to the brakes must be disconnected and the ammeter put into series in the circuit. With magnets cold (70°F), the ammeter should read about 3 amps for each brake or 12 amps for a tandem axle trailer (4 brakes). (Amperage is affected by the length and gauge of wire between ammeter and brake as well as between the power source and brakes.)

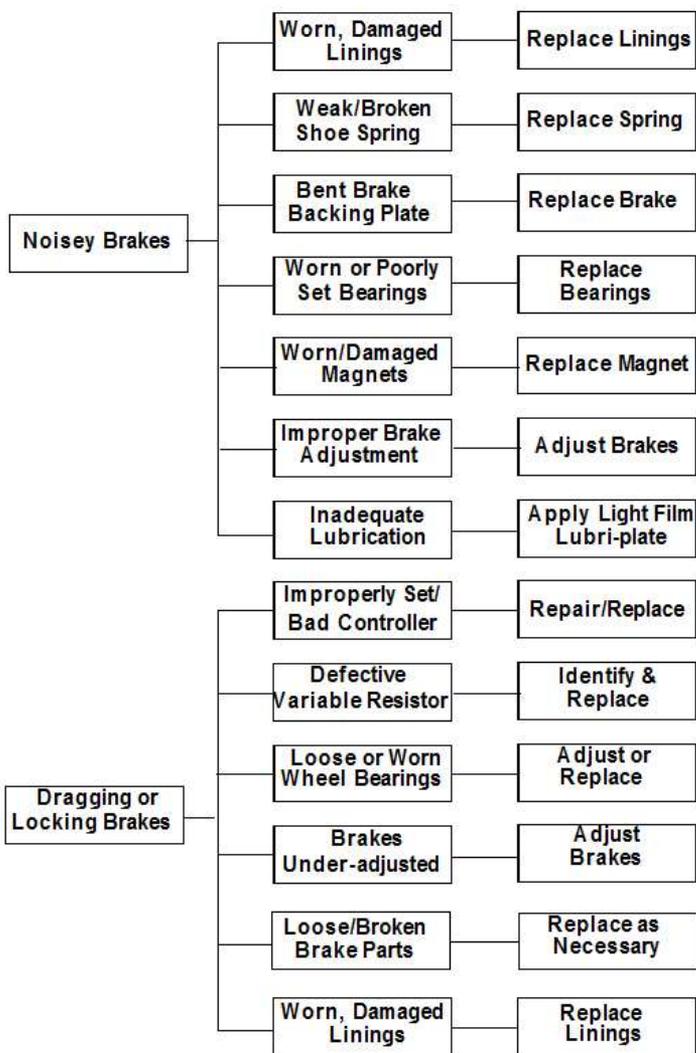


Many brake problems result from faulty wiring or a faulty component in the circuit. Contact Kaufman Trailer Parts for brake system electrical components.

9.16.1 BRAKE TROUBLESHOOTING TREES







9.17 DRAIN AND REPLACE HYDRAULIC FLUID

It is recommended that you drain and change the fluid in the hydraulic system every year to remove condensation and entrapped debris.

Remove the fill plug and suck the fluid out of the reservoir using a suction pump. When as much fluid as possible is removed, refill the reservoir with new automatic transmission fluid (ATF), such as Dexron 3. Fill the reservoir to within 2" to the top of the reservoir.

The fill cap is also the breather for the reservoir. If the fill cap has evidence of contamination around the breather, clean or replace the breather.

Cycle the lift up and down several times and then check the level again. Add if necessary.

9.18 HYDRAULIC PUMP REPLACEMENT

If the pump requires replacement, it is important to flush any debris out of the hoses, fittings and cylinder. Disconnect electrical connections at the battery before removing the pump.

(Remove negative cable first followed by the positive cable). When replacing the pump assembly, torque the mounting bolts to 33 lb. ft. (45 Nm). After replacement, and all hydraulic connections complete, install new ATF fluid into the reservoir. Connect the positive battery cable, followed by the negative cable.

Crawl under the trailer (with the dump body in the full lowered position) and place a small drain container under the fitting at the

base of the hoist cylinder. While wearing safety glasses, crack the hose fitting at the base end of the cylinder. Press the “UP” function button on the controller until a steady stream of fluid comes from the fitting. Tighten the fitting. This procedure will help bleed the air from the system. Check the reservoir fluid level and fill to 2” (51 mm) below the top. Cycle the hoist up and down a few more times, then, check the fluid level again. Add fluid if necessary.

9.19 HITCH MAINTENANCE

Every six months, inspect the hitch components. Keep the ball pocket and mechanism clean. Lubricate all hitch pivot points with SAE 30 motor oil. When replacing a hitch, the load rating must match or exceed the GVWR of the trailer.

9.20 LANDING LEG OR JACK

If a grease fitting is present, use a grease gun lubricate the jack mechanism. Grease the gears in the top of hand-cranked jacks once a year, by removing the top of the jack and pumping or hand packing grease into the gears.

9.21 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. Replace any damaged wheel or wheels immediately. Inspect the wheels for damage every year, as part of yearly maintenance.

9.22 TIRES

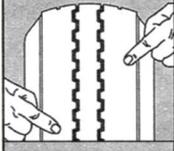
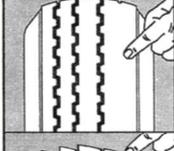
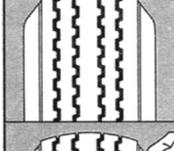
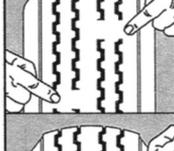
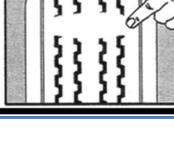
Before each tow, check the tire pressure to make sure it is at the level indicated on the tire sidewall or VIN label. Tire pressure must be checked while the tire is cold. Do not check tire pressure immediately after towing the trailer. Allow at least three hours for the tires to cool, if the trailer has been towed for as much as one mile. Tires can lose air over time.

Replace the tire before towing the trailer if the tire treads have less than 2/32-inch depth or the telltale bands are visible.

A bubble, cut or bulge in a side wall can result in a tire blowout. Inspect both side walls of each tire for any bubble, cut or bulge; and replace a damaged tire before towing the trailer.

If you are storing your trailer for an extended period, make sure the tires are inflated to the maximum rated pressure indicated on the sidewall or VIN label and that you store them in a cool, dry place such as a garage. Use tire covers to protect the tires from the harsh effects of the sun.

9.23 TIRE WEAR DIAGNOSTIC CHART

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

Kaufman Trailers

“Nobody Sells A Quality Trailer for LESS

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