Patent Pending

Owner's Manual

Thank you purchasing our ANTs (Advanced Nimble Trailer System) and we hope you are able to utilize it to its fullest capabilities. Please complete this information for future reference; the Vehicle Identification Number (VIN) is located on the upper front left side of the trailer.

⚠ WARNING

This Owner's Manual contains safety information and instructions for your trailer.

You must read this manual before loading or towing your trailer.

You must follow all safety precautions and instructions.

Date of Purchase	
VIN	
Gross Vehicle Weight Rating (GVWR)	6364 kg (14,000 lbs)
Gross Axle Weight Rating (GAWR)	3182 kg (7000 lbs)
Tire Size	235/80R16
Tire Cold Inflation Pressure	620kPa (90psi)

Davis Village Solutions, LLC
167 Davis Village Road
New Ipswich, NH 03071
www.davisvillagesolutions.com
(906) 353-5151

Our trailers are built with components produced by various manufacturers. Some of these items have separate instruction manuals. Keep all manuals provided with your trailer in a safe place at all times. Where this manual indicates that you should read another manual, and you do not have that manual, contact Davis Village Solutions, LLC for assistance. We have manuals for the axles/brakes/suspension, ball-hitch coupler, remote control, and the jack.

Table of Contents

SAFETY

For your safety, read and understand this manual before operating your trailer. If there are any questions about information in this manual, please contact Davis Village Solutions, LLC.

Safety Alert Symbols and Signal Words

⚠ WARNING

This Owner's Manual contains safety information and instructions for your trailer.

You must read this manual before loading or towing your trailer.

You must follow all safety precautions and instructions.

The safety information in this manual is denoted by the safety alert symbol:

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

DANGER

DANGER - Indicates a hazardous situation, which, if not avoided, WILL result in death or serious injury.

WARNING

WARNING - Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION - Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

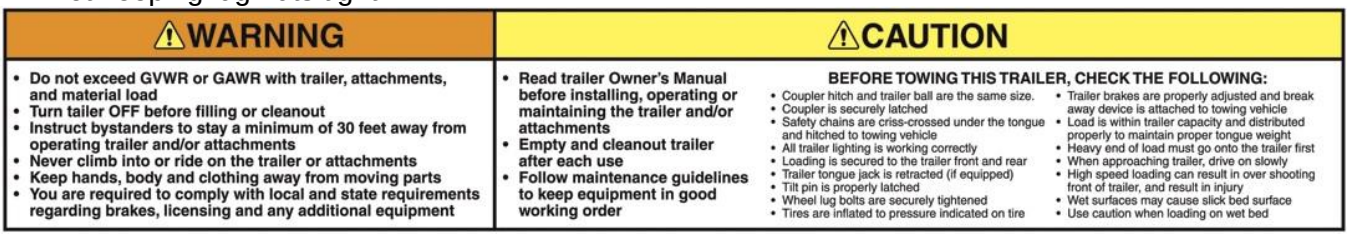
NOTICE

NOTICE - Indicates a situation that could result in damage to the equipment or other property.

Major Hazards

Loss of control of the trailer or trailer/tow vehicle combination can result in death or serious injury. The most common causes for loss of control of the trailer are:

- Improper sizing the trailer for the tow vehicle, or vice versa.
- Excessive Speed: Driving too fast for the conditions.
- Failure to adjust driving behavior when towing a trailer.
- Overloading and/or improper weight distribution.
- Improper or mis-coupling of the trailer to the hitch.
- Improper braking and steering under sway conditions.
- Not maintaining proper tire pressure.
- Not keeping lug nuts tight.

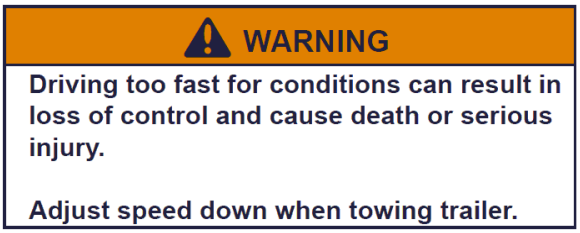


Improper Sizing of the Trailer to the Tow Vehicle

Trailers that weigh too much for the towing vehicle can cause stability problems, which can lead to death or serious injury. The additional strain put on the engine and drive-train may lead to serious tow vehicle maintenance problems. Do not exceed the maximum towing capacity of your tow vehicle. The towing capacity of your tow vehicle, in terms of maximum Gross Trailer Weight (GTW) and maximum Gross Combined Weight Rating (GCWR) can be found in the tow vehicle Owner's Manual.

Driving Too Fast

With ideal road conditions, the maximum recommended speed for safely towing a trailer is 60 mph. If you drive too fast, the trailer is more likely to sway, thus increasing the possibility for loss of control. Also your tires may overheat, thus increasing the possibility of a blowout.



Failure to Adjust Driving Behavior When Towing a Trailer

When towing a trailer, you will have decreased acceleration, increased stopping distance, and increased turning radius (which means you must make wider turns to keep from hitting curbs, vehicles, and anything else that is on the inside corner). Furthermore the trailer will change the handling characteristics of your towing vehicle, making it more sensitive to steering inputs and more likely to be pushed around in windy conditions or when being passed by large vehicles. In addition, you will need a longer distance to pass, due to slower acceleration and increased length. With this in mind:

- Be alert for slippery conditions. You are more likely to be affected by slippery road surfaces when driving a tow vehicle with a trailer, than driving a tow vehicle without a trailer.
- Anticipate the trailer “swaying.” Swaying can be caused by excessive steering, wind gusts, roadway edges, or by the trailer reaction to the pressure wave created by passing trucks and busses.
- When encountering trailer sway take your foot off the gas, and steer as little as possible in order to stay on the road. Use small “trim-like” steering adjustments. Do not attempt to steer out of the sway; you’ll only make it worse. Also, do not apply the tow vehicle brakes to correct trailer swaying. On the other hand, application of the trailer brakes alone will tend to straighten out the combination, especially when going downhill.
- Check rearview mirrors frequently to observe the trailer and traffic.
- Use lower gear when driving down steep or long grades. Use the engine and transmission as a brake. Do not ride the brakes, as they can overheat and become ineffective.
- Be aware of your trailer height, especially when approaching bridges, roofed areas and around trees.

Trailer Not Properly Coupled to the Hitch

It is critical that the trailer be securely coupled to the hitch ball, and that the safety chains and emergency break-away brake cable are correctly attached. Uncoupling may result in death or serious injury to you and to others.

WARNING

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

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

Hitch size must match coupler size.

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

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

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

WARNING

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

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

Proper Use of Safety Chains

If your trailer comes loose from the hitch for any reason, we have provided safety chains so that control of the trailer can still be maintained.

WARNING

Improper rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

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

Fasten chains to frame of tow vehicle.

Do not fasten chains to any part of the hitch unless the hitch has holes or loops specifically for that purpose.

Proper Connection of Breakaway Brake

If equipped with brakes your trailer will be equipped with a breakaway brake system that can apply the brakes on your trailer if your trailer comes loose from the hitch ball for any reason. You will have a separate set of instructions for the breakaway brake if your trailer is so equipped. The breakaway brake system, including battery, must be in good condition and properly rigged to be effective.

⚠ WARNING

An ineffective or inoperative breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or hitch fails.

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

Before towing trailer, test the function of the breakaway brake system. If the breakaway brake system is not working, do not tow the trailer. Have it serviced or repaired.

Mismatch of Trailer and Hitch

⚠ DANGER

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

Use of a hitch with a load rating less than the load rating of the trailer can result in loss of control and may lead to death or serious injury.

Use of a tow vehicle with a towing capacity less than the load rating of the trailer can result in loss of control, and may lead to death or serious injury.

Unsafe Tire, Lug Nuts or Wheels

Trailer tires and wheels are important safety items and it is essential to inspect the trailer tires before each tow.

If a tire has a bald spot, bulge, cut, cracks, or is showing any cords, replace the tire before towing. If a tire has uneven tread wear, take the trailer to a service center for diagnosis. Uneven tread wear can be caused by tire imbalance, axle misalignment or incorrect inflation. Tires with too little tread will not provide adequate frictional forces on wet roadways and can result in loss of control, leading to death or serious injury. Improper tire pressure causes increased tire wear and may reduce trailer stability, which can result in a tire blowout or possible loss of control.

Before each tow you must check the tire pressure; the proper tire pressure is listed on the Certification / VIN label, mounted on the front left side of the trailer, and should be checked when tires are cold. Allow 3 hours cool-down after driving as much as 1 mile at 40 mph before checking tire pressure.

WARNING

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

Improper tire pressure may cause unstable trailer. Blowout and loss of control may occur. Death or serious injury can result.

Make sure of proper tire pressure before towing trailer.

The tightness of the lug nuts is very important in keeping the wheels properly seated to the hub. Before each tow, check to make sure they are tight.

WARNING

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

Death or injury can occur if wheel comes off.

Tighten lug nuts or bolts before each tow.

The proper tightness (torque) and tightening sequence for lug nuts is listed in the “Inspection and Service Instructions” section of this manual. Lug nuts are also prone to loosen after first being assembled. When driving a new trailer (or after wheels have been remounted), check to make sure they are tight after the first 10, 25 and 50 miles of driving and before each tow thereafter. Failure to perform this check can result in a wheel separating from the trailer and a crash, leading to death or serious injury.

WARNING

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

Verify wheel nuts or bolts are tight before each tow.

WARNING

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

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

Improper Loading

The total weight of the load you put in or on the trailer, plus the empty weight of the trailer must not exceed the trailer's Gross Vehicle Weight Rating (GVWR). If you do not know the empty weight of the trailer plus the cargo weight, you must weigh the loaded trailer at a commercial scale.

WARNING

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

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

Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.

Unsafe Load Distribution

Uneven load distribution can cause tire, wheel, axle or structural failure; be sure your trailer is properly loaded. Distribute the cargo as evenly as possible over the axles as improper front /rear load distribution can lead to trailer swaying or poor tow vehicle handling. Trailer sway results from tongue weights that are too low, and poor tow vehicle stability results from tongue weights that are too high.

Refer to the LOADING AND UNLOADING section for more information.

WARNING

Improper tongue weight (load distribution) can result in loss of control of the trailer, leading to death or serious injury.

Make certain that tongue weight is within the allowable range.

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

A flowable load must be evenly distributed throughout the body.

Shifting Cargo

Since the trailer “ride” can be bumpy and rough, you must secure your cargo so that it does not shift while the trailer is being towed.

The door latch is equipped with a catch that has a hole for a linchpin, use a linchpin or lock to prevent the door latch from opening.

WARNING

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

Always secure door latch after closing.

Place a linchpin in the catch.

WARNING

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

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

Inappropriate Cargo

A utility trailer must not be used to carry certain items, such as people, containers of hazardous substances or containers of flammable substances. Do not transport flammable, explosive, poisonous or other dangerous materials in your trailer. The exception is fuel in the tank of a vehicle or equipment being hauled.

⚠ WARNING

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

⚠ WARNING

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

The exception is fuel in the tank of a vehicle or equipment being hauled.

Inoperable Brakes, Lights or Mirrors

Be sure that the electric brakes and all of the lights on your trailer are functioning properly before towing your trailer. Electric brakes and lights on a trailer are controlled via a connection to the tow vehicle, generally a multi-pin electrical connector. Check the trailer tail lights by turning on your tow vehicle headlights. Check the trailer brake lights by having someone step on the tow vehicle brake pedal while you look at trailer lights. Do the same thing to check the turn signal lights. The trailer has electric brakes; your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer in order to confirm that the electric brakes operate. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle cab. You should feel the operation of the trailer brakes.

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

⚠ WARNING

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

Before each tow:
- **Check that the electric bakes work by operating the controller inside the tow vehicle.**
- **Check that all lights and turn signals work.**

Hazards from Modifying Your Trailer

Modification of the trailer structure or alteration of your trailer can make the trailer unsafe and will void all warranty options. Before making any alteration to the trailer, contact Davis Village Solutions, LLC and describe the alteration you are contemplating.

Alteration of the trailer structure or modification of mechanical, electrical, hydraulic or other systems on your trailer must be performed only by qualified technicians who are familiar with the system as installed on your trailer.

DANGER

Never alter or substitute any hydraulic system component. Death or serious injury may result.

An altered or component substituted hydraulic system may malfunction resulting in the tilt body falling without warning.

Hazards for Tilt Trailers

A tilt trailer is specifically designed for hauling cargo that can be emptied by tilting, and in some cases, hauling equipment. It is not for transporting livestock. The major hazards associated with tilt trailers are:

- Overloading
- Improper weight distribution; both side to side and front to back.
- Getting under a raised tilt body.
- Modifying or altering hydraulic components.
- Modifying or altering tilt controls.
- Not unloading or loading from a solid and level foundation.
- Not fully opening rear doors when dumping.
- Jerking the trailer, or hydraulics, to loosen the load.
- Trailer coming near or contacting overhead power lines when body is raised.

DANGER

Never alter or substitute any hydraulic system component. Death or serious injury may result.

An altered or component substituted hydraulic system may malfunction resulting in the tilt body falling without warning.

WARNING

A soft and/or uneven surface may cause the tow vehicle and trailer to tip over when the tilt body is raised.

Raise the tilt body ONLY if the tow vehicle and trailer are both on a firm and level surface.

⚠ WARNING

An overloaded trailer or improperly distributed load can result in death or serious injury.

An overloaded trailer can cause the hydraulic system to malfunction, resulting in the tilt body falling.

A load that is improperly distributed in the trailer can result in the trailer tipping over when the tilt body is raised.

⚠ WARNING

Electrocution hazard.

Tilt body coming near or contacting power lines can cause electrocution.

Electrocution can occur without contact.

Verify there are no overhead power lines over or near the trailer before raising tilt body.

⚠ WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Trailer Towing Guide

Driving a vehicle with a trailer in tow is vastly different from driving the same vehicle without a trailer in tow. Acceleration, maneuverability and braking are all diminished with a trailer in tow. It takes longer to get up to speed; you need more room to turn and pass and more distance to stop when towing a trailer. You will need to spend time adjusting to the different feel and maneuverability of the tow vehicle with a loaded trailer. Because of the significant differences in all aspects of maneuverability when towing a trailer, the hazards and risks of injury are also much greater than when driving without a trailer. You are responsible for keeping your vehicle and trailer in control, and for all the damage that is caused if you lose control of your vehicle and trailer.

As you did when learning to drive other vehicles, find an open area with little or no traffic for your first practice trailering. Before you start towing the trailer, you must follow all of the instructions for inspection, testing, loading and coupling. Also, before you start towing, adjust the mirrors so you can see the trailer as well as the area to the rear of it. Drive slowly at first, 5 mph or so, and turn the wheel to get the feel of how the tow vehicle and trailer combination responds. Next, make some right and left hand turns. Watch in your side mirrors to see how the trailer follows the tow vehicle. Turning with a trailer attached requires more room.

Stop the rig a few times from speeds no greater than 10 mph. If your trailer is equipped with brakes, try using different combinations of trailer/electric brake and tow vehicle brake. Note the effect that the

trailer brakes have when they are the only brakes used. When properly adjusted, the trailer brakes will come on just before the tow vehicle brakes.

It will take practice to learn how to back up a tow vehicle with a trailer attached. Take it slow. Before backing up, get out of the tow vehicle and look behind the trailer to make sure that there are no obstacles. Some drivers place their hands at the bottom of the steering wheel, and while the tow vehicle is in reverse, “think” of the hands as being on the top of the wheel. When the hands move to the right (counter-clockwise, as you would do to turn the tow vehicle to the left when moving forward), the rear of the trailer moves to the right. Conversely, rotating the steering wheel clockwise with your hands at the bottom of the wheel will move the rear of the trailer to the left, while backing up. If you are towing a bumper hitch rig, be careful not to allow the trailer to turn too much, because it will hit the rear of the tow vehicle. To straighten the rig, either pull forward, or turn the steering wheel in the opposite direction.

Safe Trailer Towing Guidelines

- Recheck the load tie downs to make sure the load will not shift during towing.
- Before towing, check coupling, safety chains, safety brake, tires, wheels and lights.
- Check the lug nuts or bolts for tightness.
- Check coupler tightness after towing 50 miles.
- Adjust the brake controller to engage the trailer brakes before the tow vehicle brakes. Follow the instructions given with the brake controller manufacturer’s literature.
- Use your mirrors to verify that you have room to change lanes or pull into traffic.
- Use your turn signals well in advance.
- Allow plenty of stopping space for your trailer and tow vehicle.
- Do not drive so fast that the trailer begins to sway due to speed. Generally never drive faster than 60 m.p.h.
- Allow plenty of room for passing. A rule of thumb is that the passing distance with a trailer is 4 times the passing distance without a trailer.
- Shift your automatic transmission into a lower gear for city driving.
- Use lower gears for climbing and descending grades.
- Do not ride the brakes while descending grades; they may get so hot that they stop working. Then you will potentially have a runaway tow vehicle and trailer.
- To conserve fuel, don't use full throttle to climb a hill. Instead, build speed on the approach.
- Slow down for bumps in the road. Take your foot off the brake when crossing the bump.
- Do not brake while in a curve unless absolutely necessary. Instead, slow down before you enter the curve.
- Do not apply the tow vehicle brakes to correct extreme trailer swaying. Instead, lightly apply the trailer brakes with the hand controller.
- Make regular stops, about once each hour. Confirm that the coupler is secure to the hitch and is locked, electrical connectors are made, there is appropriate slack in the safety chains, there is appropriate slack in the breakaway switch pull pin cable, the tires are not visibly low on pressure, and the cargo is secure and in good condition.

Additional Hazards

Battery and Charger

A battery charger is used to charge the battery from an external power source. Caution should be used when charging battery. Batteries produce explosive gas during normal operation. Do not smoke or have sparks or open flames near battery compartment. Batteries contain sulfuric acid which can cause severe burns and blindness if exposed to skin or eyes. Always use eye and skin protection when working around batteries. If you are exposed to the acid, flush with water for 15 minutes and get prompt medical attention.

The charger must be properly connected to 120 Volt outlet to charge your battery safely. Make sure that the connections to the battery are tight. Connect to your trailer using a grounded extension cord designed for outdoor use. Plug into a “GFI” (Ground Fault Interrupted) receptacle to prevent possible shock.

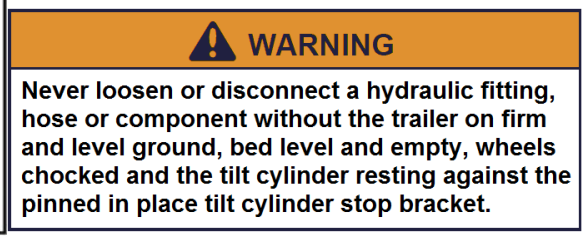
WARNING

To reduce the risk of explosion, explosive gases, or injury while using your battery charger, follow the precautions listed below:

- **Read all instructions and cautions printed on the battery charger and battery.**
- **Conect the charger with a 3-prong (grounded) outdoor power cord to a "GFI" outlet.**
- **Always charge in a well ventilated area.**
- **To reduce risk of electrical shock, unplug the charger from the putlet before attempting any maintenance or cleaning.**
- **Do not operate the charger if it has a damaged power cord or plug. Have the cord replaced.**

Hydraulic Power Unit

A hydraulic power unit is used on this trailer. The hydraulic system is under extreme pressure. Pressure will be in the hydraulic cylinder(s) and line(s) even when the power unit is not operating. Loosening or removing hydraulic lines or components can result in unexpected movement of the trailer or load resulting in death or serious injury.



In the event of a system leak, hydraulic fluid can be expelled at high velocity piercing the skin and entering the blood stream. Wear eye and skin protection when servicing the hydraulic system. Do not wear jewelry or metal objects when servicing the power unit.

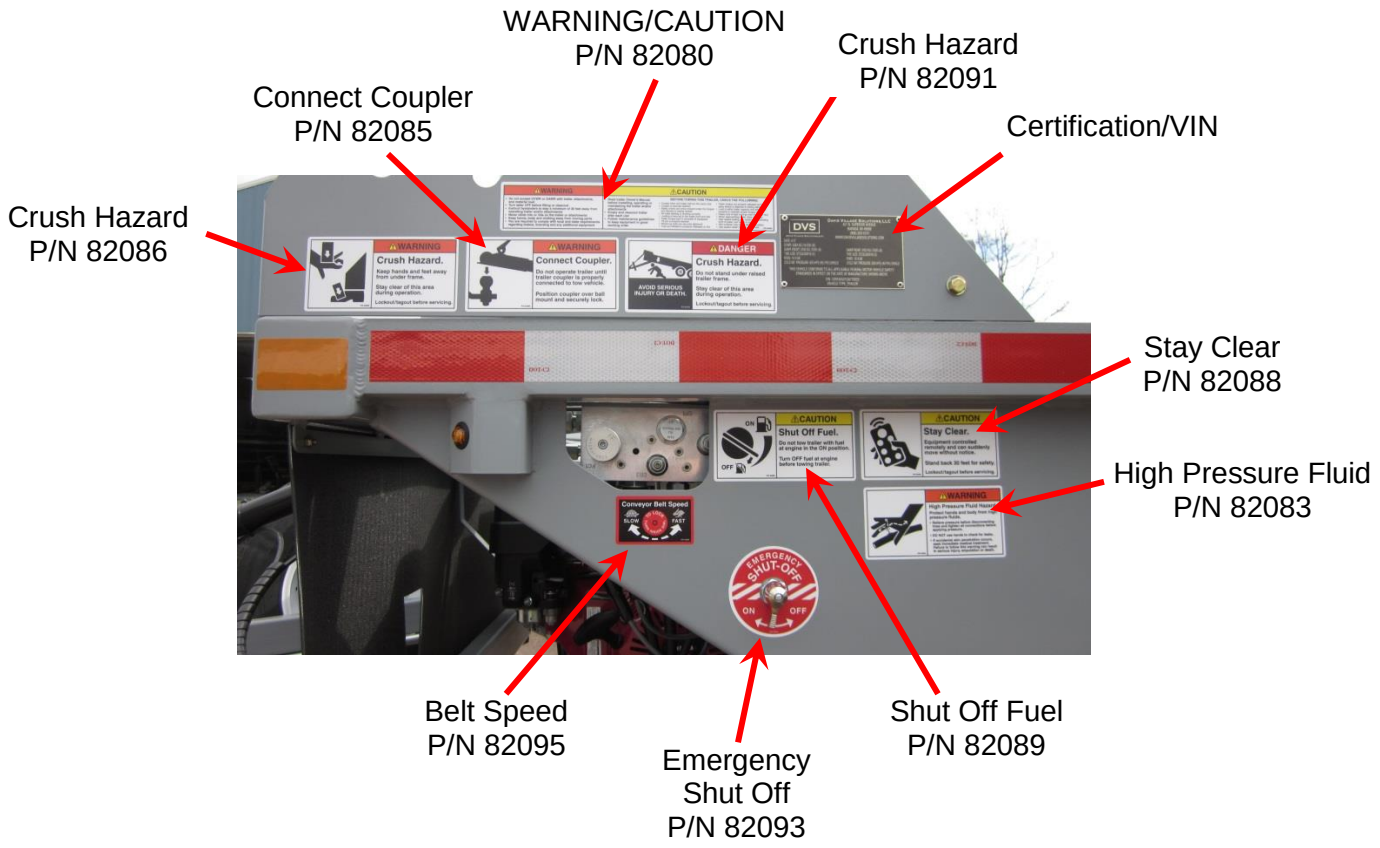
Safety Warning Labels on Trailer

WARNING

To protect you and others against death or serious injury, all of the labels shown must be on the trailer and must be legible.

If any of these labels are missing or cannot be read, contact Davis Village Solutions, LLC or call 1-906-353-5151 for free replacement labels.

Front Driver's Side



Rear Road Side

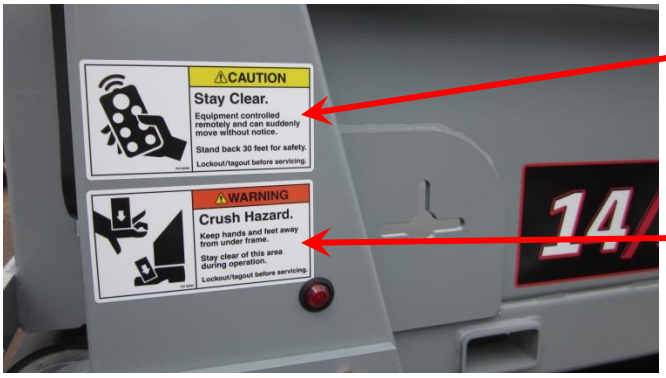
Stay Clear
P/N 82088

Crush Hazard
P/N 82086

Rear Door

Crush Hazard
P/N 82087

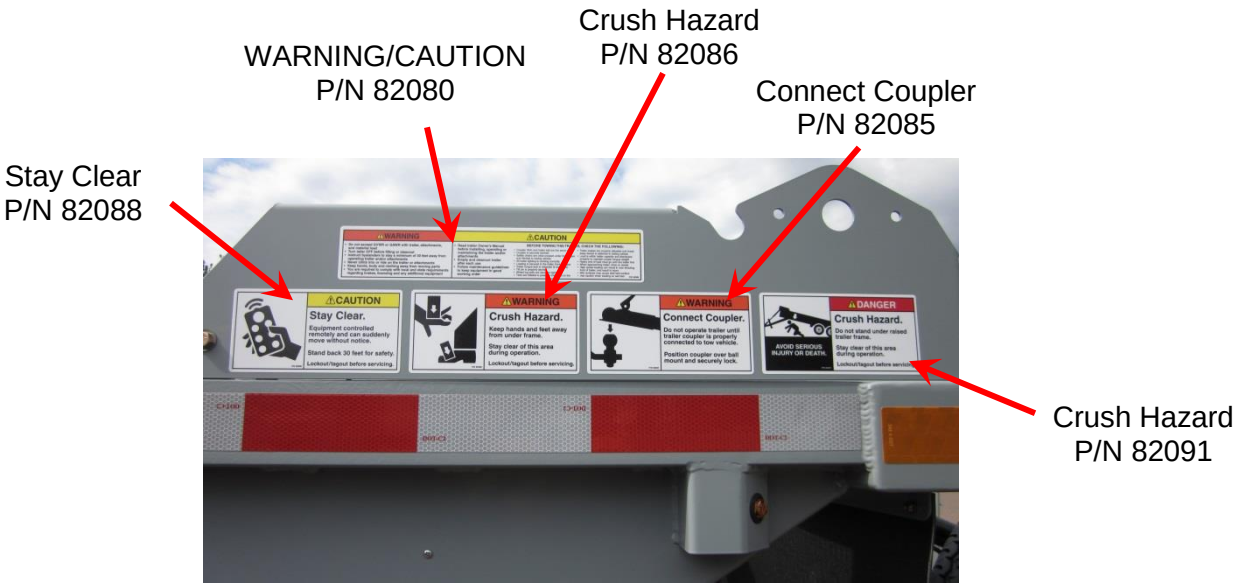
Rear Curb Side



Stay Clear
P/N 82088

Crush Hazard
P/N 82086

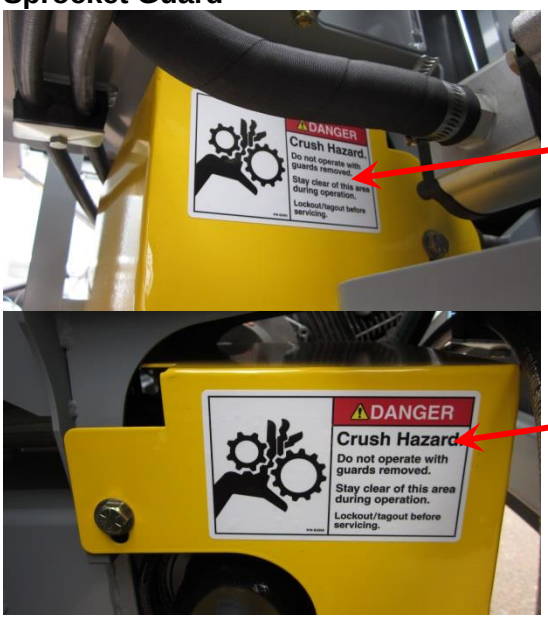
Front Curb Side



Front Tongue

Tilt Cylinder and Front Corners

Sprocket Guard



Tilt Cylinder Stop Bracket

Bulkhead

Pull Force
P/N 82094

Crush Hazard
P/N 82087

Slip Hazard
P/N 82090

Bulkhead Arms

Pinch Point
P/N 82081

Pinch Point
P/N 82081

Pinch Point
P/N 82081

Pinch Point
P/N 82081

Front Frame Cross Support

Reporting Safety Defects

If you believe that your vehicle has a defect that could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying:

Davis Village Solutions, LLC
167 Davis Village Road
New Ipswich, NH 03071
(906) 353-5151

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or the trailer manufacturer.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); or go to http://www.safercar.gov; or write to:

Administrator, NHTSA,
1200 New Jersey SE,
Washington, DC 20590

You can also obtain other information about motor vehicle safety from http://www.safercar.gov.

TIRE SAFETY INFORMATION

This portion of this manual contains tire safety information as required by 49 CFR 575.6.

- **Trailer Tire Information**
- **Steps for Determining Correct Load Limit - Trailer**
- **Steps for Determining Correct Load Limit – Tow Vehicle**
- **Glossary of Tire Terminology**
  Includes definitions for: “cold inflation pressure”, “maximum inflation pressure”, “recommended inflation pressure”, and other non-technical terms.
- “Tire Safety Everything Rides On It”

Information from the NHTSA brochure entitled “Tire Safety – Everything Rides On It” 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.
  C. Determining compatibility of tire and vehicle load capabilities.
  D. Adverse safety consequences of overloading on handling and stopping on tires.

Trailer Tire Information

Trailer tires may be worn out even though they still have plenty of tread left. This is because trailer tires have to carry a lot of weight all the time, even when not in use. It is actually better for the tire to be rolling down the road than to be idle. During use, the tire releases lubricants that are beneficial to tire life. Using the trailer tires often also helps prevent flat spots from developing.

The main cause of tire failure is improper inflation. Check the cold tire inflation pressures at least once a week for proper inflation levels. “Cold” means that the tires are at the same temperature as the surrounding air, such as when the vehicle has been parked overnight. Wheel and tire manufacturers recommend adjusting the air pressure to the trailer manufacturer’s recommended cold inflation pressure, in pounds per square inch (PSI) stated on the trailer’s Federal Certification Label when the trailer is loaded to its gross vehicle weight rating (GVWR). If the tires are inflated to less than the recommended inflation level or the GVWR of the trailer is exceeded, the load carrying capacity of the tire could be dramatically affected. If the tires are inflated more than the recommended inflation level, handling characteristics of the tow vehicle/trailer combination could be affected.

Tires can lose air over a period of time; tires can lose 1 to 3 PSI per month. This is because molecules of air, under pressure, weave their way from the inside of the tire, through the rubber to the outside. A

drop in tire pressure could cause the tire to become overloaded, leading to excessive heat buildup. If a trailer tire is under-inflated, even for a short period of time, the tire could suffer internal damage.
High speed towing in hot conditions degrades trailer tires significantly. As heat builds up during driving, the tire's internal structure starts to breakdown, compromising the strength of the tire. It is recommended to drive at moderate speeds.

Statistics indicate the average life of a trailer tire is about five years under normal use and maintenance conditions. After three years, replacing the trailer tires with new ones should be considered, even if the tires have adequate tread depth. Some experts claim that after five years, trailer tires are considered worn out and should be replaced, even if they have had minimal or no use; it is best to have your tires inspected by a tire supplier to determine if your tires need to be replaced.

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

Steps for Determining Correct Load Limit - Trailer

Determining the load limits of a trailer includes more than understanding the load limits of the tires alone. On all trailers there is a Federal Certification / VIN label that is located on the forward half of the left (road) side of the unit. This Certification / VIN label will indicate the trailer's Gross Vehicle Weight Rating (GVWR). This is the most weight the fully loaded trailer can weigh. It will also provide the Gross Axle Weight Rating (GAWR). This is the most a particular axle can weigh. If there are multiple axles, the GAWR of each axle will be provided.

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 dealer to discuss the weighing methods needed to capture the various weights related to the trailer. This would include the weight empty or unloaded, weights per axle, wheel, hitch or king-pin, and total weight.

Excessive loads and/or under inflated tires can cause tire overloading and abnormal tire flexing. 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; this value should never exceed the maximum cold inflation pressure stamped on the tire.

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 Certification / VIN 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.

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. Determine the combined weight of the driver and passengers who will be riding in your vehicle.
2. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.
3. The resulting figure equals the available amount of cargo and luggage capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. (1400-750 (5 x 150) = 650 lbs.).
4. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in Step # 3.
5. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult the tow vehicle's manual to determine how this weight transfer reduces the available cargo and luggage capacity of your vehicle

Glossary of Tire Terminology

Accessory weight: The combined weight (in excess of those standard items which may be replaces) of automatic transmission, power steering, power brakes, power window, 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 piles in the tire.

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 the 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 pressure than a 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 cold inflation pressure to which a tire may be inflated.

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

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

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

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

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

Non-pneumatic tire assembly: A non-pneumatic tire, alone or in combination with a wheel or wheel center member, which can be mounted on a vehicle.

Normal occupant weight: This means 68 kilograms (150 lbs.) times the number of occupants specified in the second column of Table I of 49 CFR 571.110.

Occupant distribution: The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.

Open Splice: Any parting at any junction of tread, sidewall, or innerliner that extends to cord material.

Outer diameter: The overall diameter of an inflated new tire.

Overall width: The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.

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 the 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 non-pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic tire and provides the connection between tire and the vehicle.

Wheel-holding fixture: The fixture used to hold the wheel and tire assembly securely during testing.

Snow Tires: In some heavy snow areas, local governments may require true snow tires, those with very deeply cut tread. These tires should only be used in pairs or placed on all four wheels. Make sure you purchase snow tires that are the same size and construction type as the other tires on your vehicle.

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 can be obtained and downloaded from NHTSA, free of charge, from the following web site:

http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires_index.html

Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires. These actions, along with other care and maintenance activities, can also:

- Improve vehicle handling
- Help protect you and others from avoidable breakdowns and accidents
- Improve fuel economy
- Increase the life of your tires.

This booklet presents a comprehensive overview of tire safety, including information on the following topics:

- Basic tire maintenance
- Uniform Tire Quality Grading System
- Fundamental characteristics of tires
- Tire safety tips.

Use this information to make tire safety a regular part of your vehicle maintenance routine. Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

Safety First–Basic Tire Maintenance

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

Finding Your Vehicle's Recommended Tire Pressure and Load Limits

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:

- Recommended tire size
- Recommended tire inflation pressure
- Vehicle capacity weight (VCW–the maximum occupant and cargo weight a vehicle is designed to carry)
- Front and rear gross axle weight ratings (GAWR– the maximum weight the axle systems are designed to carry).

Both placards and certification labels are permanently attached to the vehicle door edge, door post, glove-box door, or inside of the trunk lid. You can also find the recommended tire pressure and load limit for your vehicle in the vehicle owner's manual.

Understanding Tire Pressure and Load Limits

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure– measured in pounds per square inch (psi)–a tire requires to be properly inflated. (You will also find this number on the vehicle information placard expressed in kilopascals (kPa), which is the metric measure used internationally.)

Manufacturers of passenger vehicles and light trucks determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.)

Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

Checking Tire Pressure

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

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

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets.

The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. Therefore, to get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

Steps for Maintaining Proper Tire Pressure

- Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
- Step 2: Record the tire pressure of all tires.
- Step 3: If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get to the correct pressure.
- Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add.
- Step 5: At a service station, add the missing pounds of air pressure to each tire that is underinflated.

- Step 6: Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure).

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

Tire Size

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

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 1/16 of an inch. Tires have built-in tread wear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear "even" with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, you are ready for new tires.

Tire Balance and Wheel Alignment

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

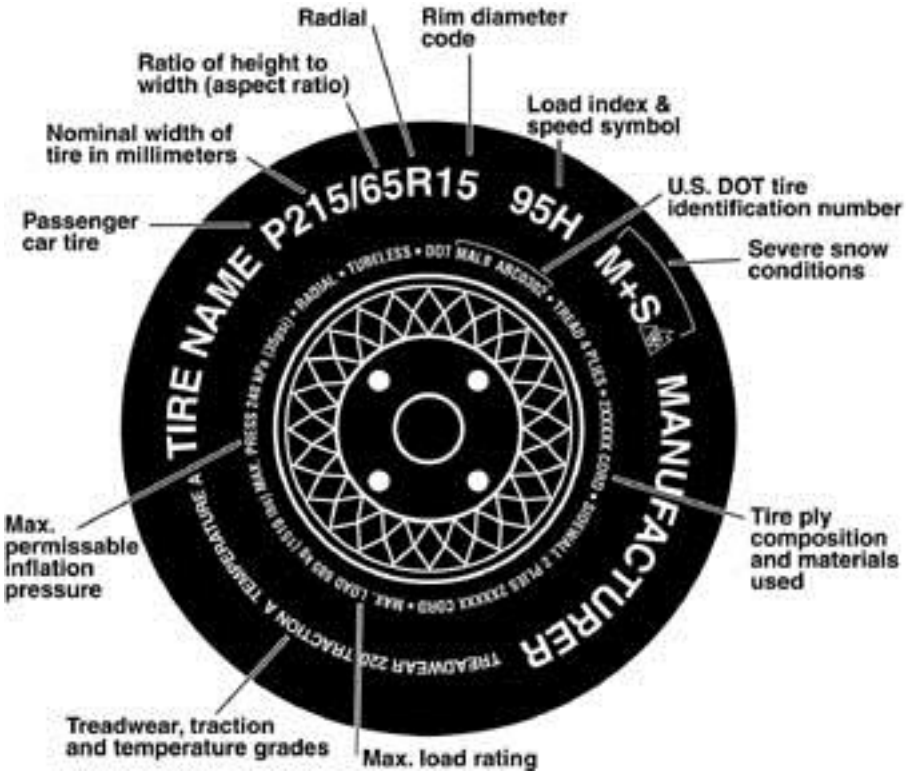
Tire Repair

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

Tire Fundamentals

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

Information on Passenger Vehicle Tires



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

U.S. DOT Tire Identification Number: The Identification Number 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.

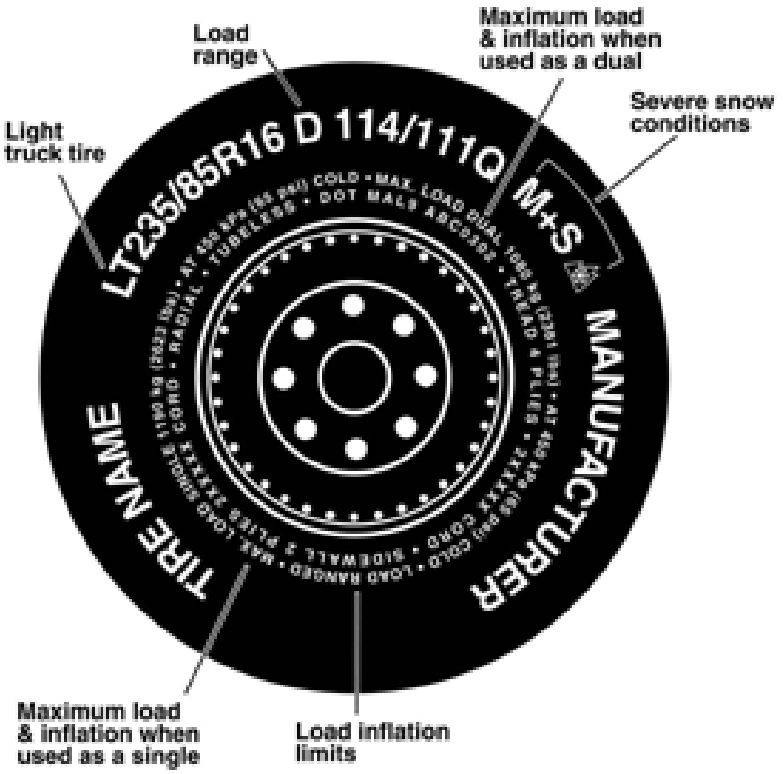
Uniform Tire Quality Grading System (UTQGS) Information

Treadwear Number: This number indicates the tire's relative wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire grade of 400 should wear twice as long as a tire grade of 200.

Traction Letter: This letter indicates a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your car on wet roads in a shorter distance than a tire with a lower grade. Traction is graded from highest to lowest as "AA", "A", "B", and "C".

Temperature Letter: This letter indicates a tire's resistance to heat. Sustained high temperature (for example, driving long distances in hot weather), can cause a tire to deteriorate, leading to blowouts and tread separation. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or "C".

Information on Light Truck Tires



Tires for light trucks have other markings besides those found on the sidewalls of passenger tires.

LT: The "LT" indicates the tire is for light trucks.

ST: An "ST" is an indication the tire is for trailer use only.

Max. Load Dual kg(lbs) at kPa(psi) Cold
This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle).

Max. Load Single kg(lbs) at kPa(psi) Cold
This information indicates the maximum load and tire pressure when the tire is used as a single.

Load Range
This information identifies the tire's load-carrying capabilities and its inflation limits.

Tire Safety Tips

Preventing Tire Damage

- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.

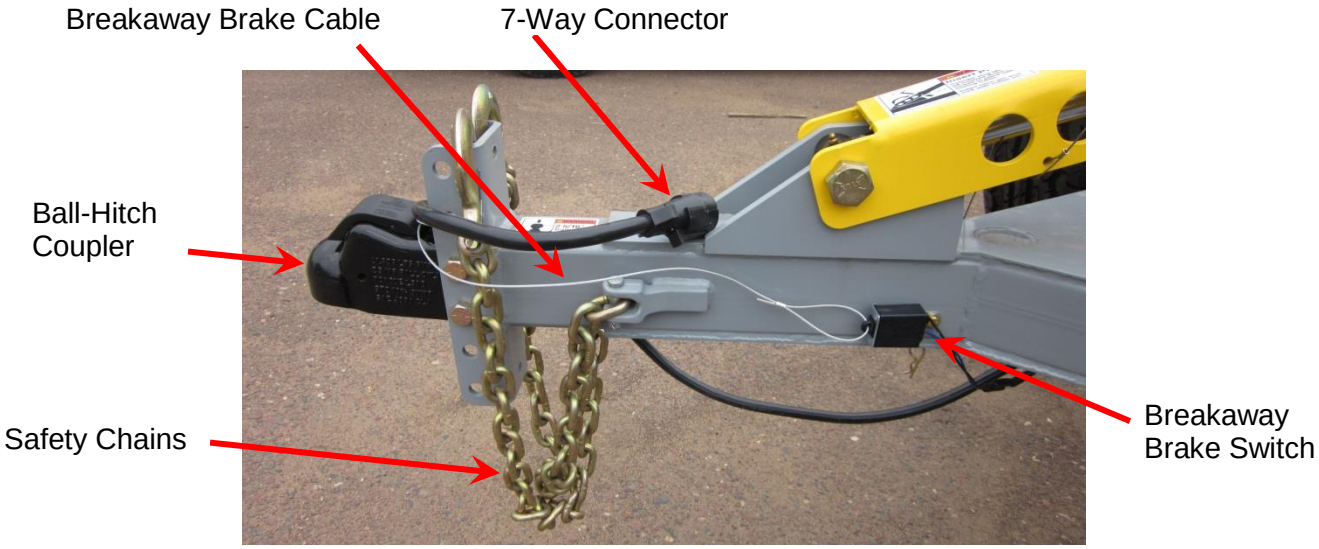
Tire Safety Checklist

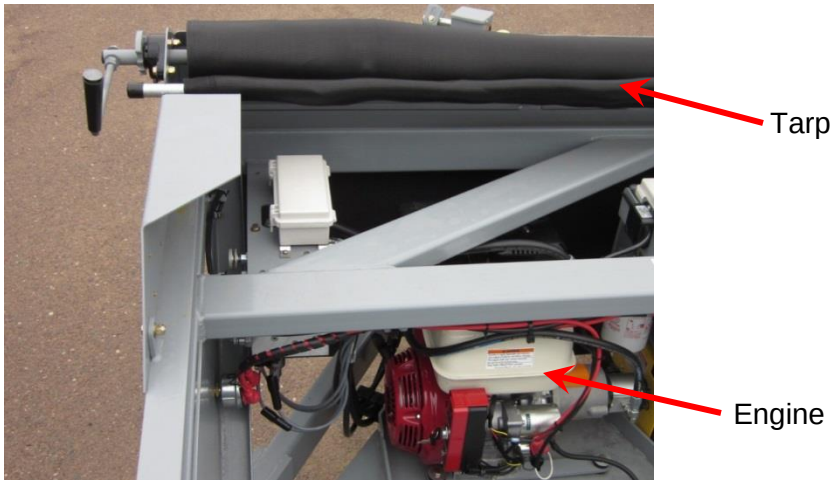
- Check tire pressure regularly (at least once a month), including the spare.
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure your tire valves have valve caps.
- Check tire pressure before going on a long trip.
- Do not overload your vehicle. Check the Tire Information label or Owner's Manual for the maximum recommended load for the vehicle.

COMPONENTS

The following section identifies components on the trailer and tow vehicle.

Ball-Hitch Coupler	**Remote Control Junction Box**
Safety Chains	**Belt Unload Speed Control**
Breakaway Brake Cable	**Trailer Lights and Breakaway Box**
7-Way Connector	**Hydraulic Drive Motor and Drive Sprocket**
Breakaway Brake Switch	**Hydraulic Manifold**
Tarp	**Manual Overrides**
Engine	**Tilt Cylinder**
Hydraulic Tank & Battery	**Landing Leg or Jack**
Ground Clearance Support Brackets	**Tongue and Frame Pivot Bolts**

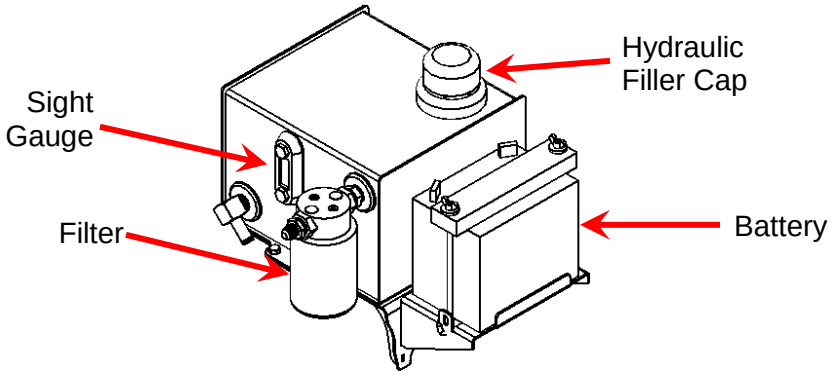



Tarp
Engine

Hydraulic Tank & Battery

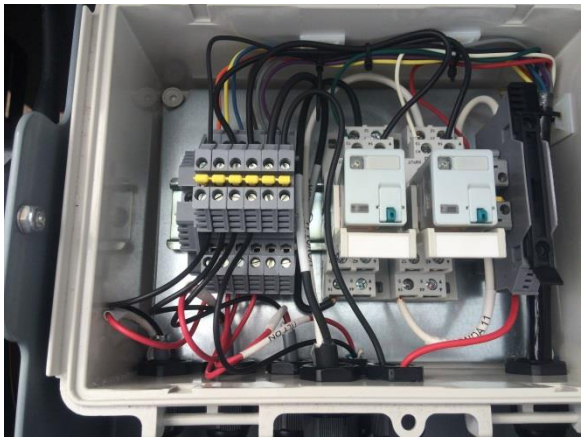
The hydraulic tank and battery are located in near the center front of the trailer in front of the bulkhead. Check the hydraulic fluid level regularly with the sight gauge on the left side.

Capacity: approximately 3.5 gallons AW32 Hydraulic fluid or equivalent.



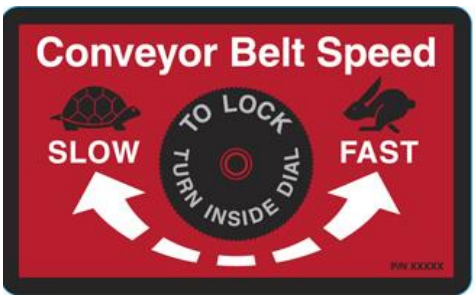
Remote Control Junction Box

This junction box is located on the front top center of the trailer.
All wires inside are individually labeled; this box contains one fuse and two relays for trailer operation.



Belt Unload Speed Control

To increase speed, turn this valve counterclockwise.
To decrease speed, turn valve clockwise

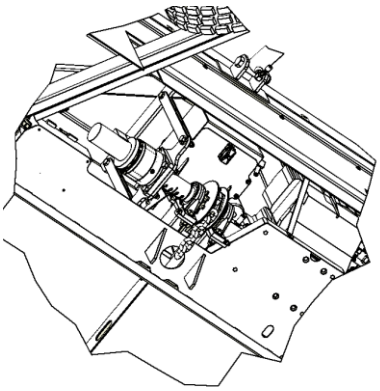


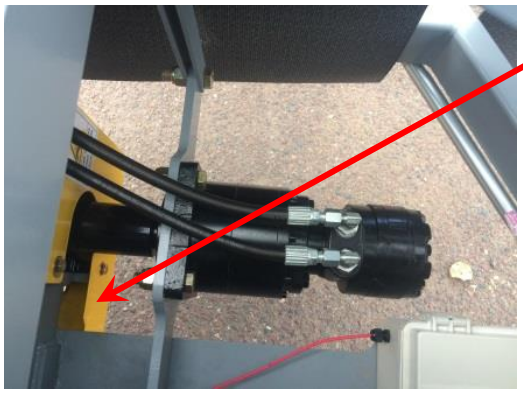
Trailer Lights and Breakaway Box

This box is located on the front right side of the trailer.

Hydraulic Drive Motor and Drive Sprocket

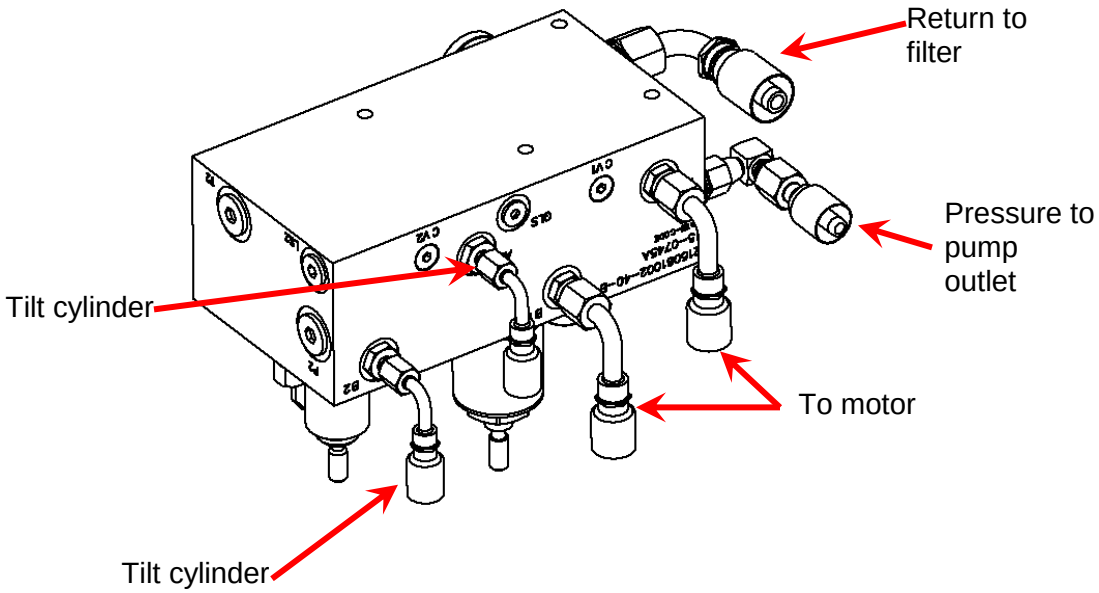
The hydraulic motor operates the chain drive sprocket and is located in the front center of the trailer; the guard must remain in place except when servicing.





Hydraulic Manifold

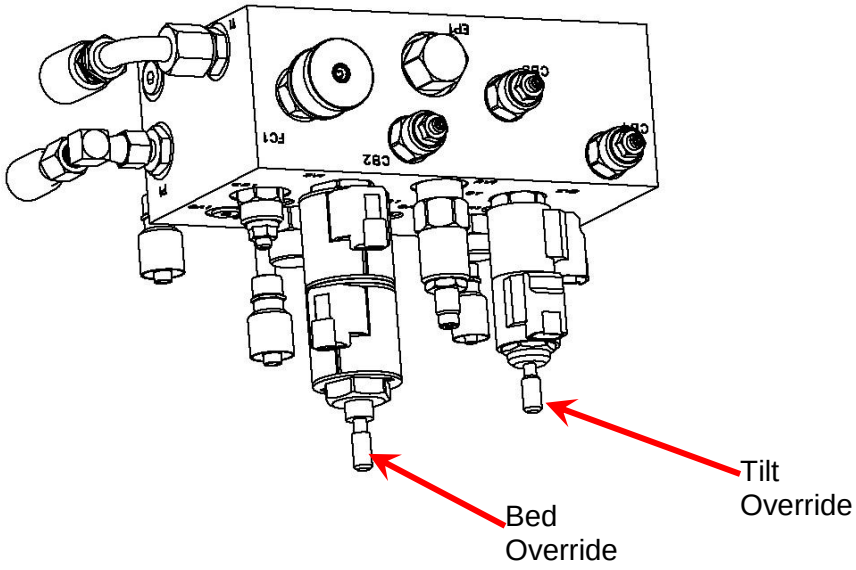
The Hydraulic manifold is located above the engine on the upper left side of the trailer.



Manual Overrides

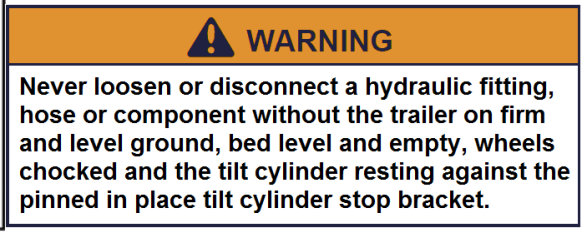
The Bed IN/OUT and Tilt UP/DOWN override valves are located on the bottom of the hydraulic manifold and can be utilized if needed.

- Push respective valve IN for Bed OUT or Tilt UP
- Pull respective valve OUT for Bed IN or Tilt DOWN.



Tilt Cylinder

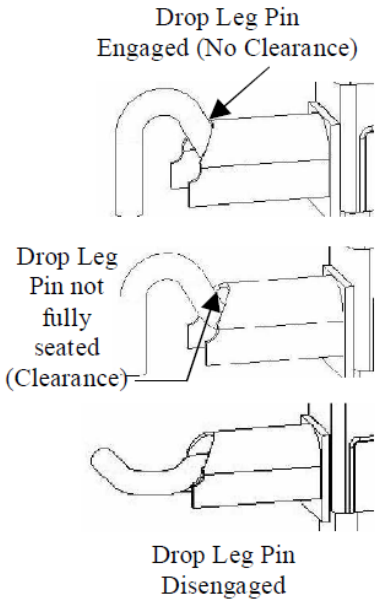
The tilt cylinder is connected to the tongue and bed of the trailer. Make sure tilt stop bracket is pinned in place when towing and/or repairing any other item on the trailer.



Jack Drop Leg

WARNING: Drop leg will naturally fall.

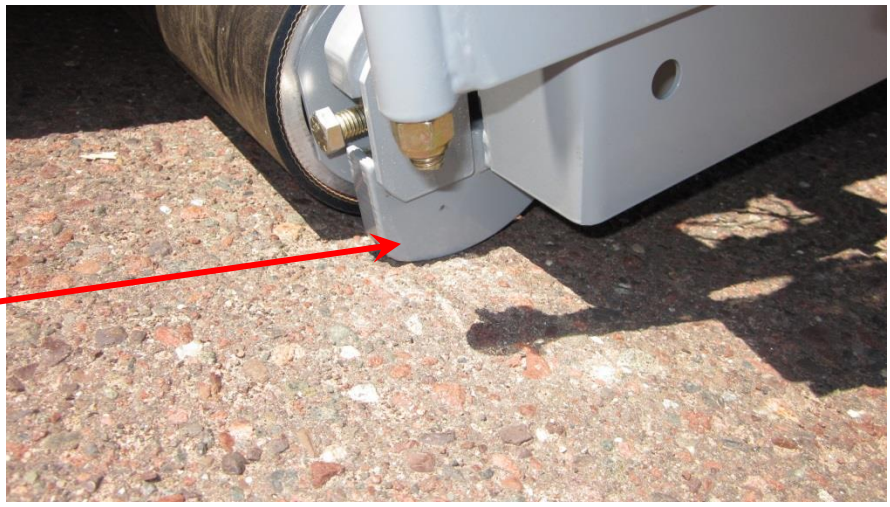
1. Verify that the trailer jack is not supporting any load.
2. If retracted, grasp the handle of foot plate to control the fall of the drop leg.
3. Disengage drop leg pin by rotating to the disengaged position.
4. Carefully move the drop leg to the desired position.
5. Engage drop leg pin by rotating to the engaged position and into the desired adjustment hole.
6. Verify that the drop leg pin is fully inserted into the jack by checking for no clearance between the drop leg pin and housing. If you see clearance, you must adjust the drop leg to fully seat the pin into the hole location. You may need to lubricate the drop leg pin assembly; if unable to fully seat the pin DO NOT USE.



NOTE: Before using the jack read **Uncoupling the Trailer** on page 60.

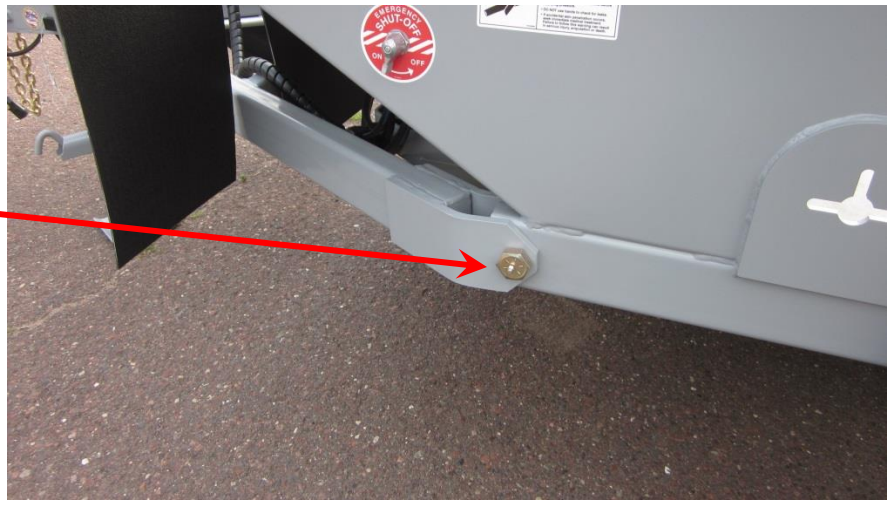
Ground Clearance Support Brackets

Ground Clearance Support Bracket



Tongue and Frame Pivot Bolts

Pivot Bolt with Grease Zerk



Additional Components

NOTE: These items are not included with your trailer purchase and we recommend you review these and determine if they are needed for your tow vehicle.

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

Brake Controller: The brake controller is part of the tow vehicle and is essential in the operation of the electric brakes on the trailer. If your trailer has electric brakes it requires a brake controller be installed at the driver’s position. The brake controller is not the same as the safety breakaway brake system that is installed on the trailer.

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

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

Electrical Connector: An Electrical Connector connects the light and brake systems on the trailer to the light and brake controls on the towing vehicle.

Heavy Duty Engine Oil Cooling System: The tow vehicle engine works harder when a trailer is being towed. Depending on the size of the trailer, you may need to install a separate engine oil cooler. Inadequate cooling may result in sudden engine failure. Ask the tow vehicle dealer if it is necessary to install a heavy duty cooling system.

Automatic Transmission Oil Cooler: The automatic transmission of a towing vehicle handles more power when a trailer is being towed. Inadequate cooling will shorten transmission life, and may result in sudden transmission failure. Ask the tow vehicle dealer if it is necessary to install a separate oil cooler for the automatic transmission.

Fire Extinguisher: It is sensible to have a fire extinguisher in the tow vehicle. Check the fire extinguisher at least once a month. If the fire extinguisher is discharged even partially, it must be recharged. Follow the fire extinguisher manufacturer’s instructions for recharging the extinguisher after use.

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

TRAILER CONNECTION TO TOW VEHICLE

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

Use an Adequate Tow Vehicle and Hitch

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

⚠ DANGER

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

Use of a hitch with a load rating less than the load rating of the trailer can result in loss of control and may lead to death or serious injury.

Use of a tow vehicle with a towing capacity less than the load rating of the trailer can result in loss of control, and may lead to death or serious injury.

Trailer Information

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

MANUFACTURER	Name of trailer manufacturer.
DATE OF MANUFACTURE	Month and year the trailer was manufactured.
GVWR	The Gross Vehicle Weight Rating is the maximum allowable gross weight of the trailer and its contents. The gross weight of the trailer includes the weight of the trailer and all of the items within it (such as cargo and other supplies).
GAWR	The Gross Axle Weight Rating is the maximum gross weight that an axle can support. It is the lowest of axle, wheel, or tire rating. Sometimes the tire or wheel rating is lower than the axle manufacturers rating, and will then determine GAWR. The sum total of the GAWR for all trailer axles may be less than the GVWR for the trailer, because some of the trailer load is carried by the tow vehicle, rather than by the trailer axle(s). The total weight of the cargo and trailer must not exceed the GVWR, and the load on an axle must not exceed its GAWR.
TIRE SIZE	The tire size and load range for your trailer.
RIMS	The rim size for your trailer.
PSI	The tire air pressure (kPa / PSI) measured with tires cold.
VIN	The Vehicle Identification Number.
CERTIFICATION STATEMENT	This trailer meets all the Federal Motor Vehicle Safety Standards in effect on the date of manufacture shown above.

Tow Vehicle

When equipping a new vehicle or an older vehicle to tow a trailer, ask the vehicle dealer for advice on how to outfit the tow vehicle. Vehicle manufacturers will provide you with the maximum towing capacities of their various models, as well as the GCWR. No amount of reinforcement will modify the towing capacity a towing vehicle has.

Coupling and Uncoupling the Trailer

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

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

Ball-hitch coupler: The trailer connecting mechanism by which the connection is actually made to the trailer hitch. This does not include any structural member, extension of the trailer frame, or brake controller.

Hitch: The connecting mechanism including the ball support platform and ball and those components that extend and are attached to the towing vehicle, including bumpers intended to serve as hitches.

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

7-way trailer lighting (and braking) electrical connector: A device that connects electrical power from the tow vehicle to the trailer. In addition, if your trailer has a separate braking system, the electrical connector will also supply power to the trailer brakes from the tow vehicle.

Breakaway switch: If the trailer becomes uncoupled from the tow vehicle, the breakaway switch lanyard, attached independently to the tow vehicle hitch, will pull a pin in the emergency electrical breakaway switch on the trailer. The breakaway switch is activated by a battery on the trailer to energize the trailer brakes independently of the towing vehicle.
It is important to check the state of charge of the emergency breakaway battery before each trip. Simply pull the pin out of the switch by hand and then try to pull the trailer. If you feel a significant drag force the brakes are activated. Be sure to re-insert the pin in the breakaway switch. Also be sure to allow enough slack in the breakaway brake lanyard such that the switch will only activate (pin pulls out) if the coupler connection comes loose.

Jack: A device on the trailer that is used to raise and lower the trailer tongue.

Ball-Hitch Coupler

A ball-hitch coupler connects to a ball that is located on or under the rear bumper of tow vehicle.
We have utilized a ball-hitch coupler that is suitable for the size and weight of the trailer. The load rating of the coupler is listed on the coupler. The ball size is listed on a decal located on the trailer tongue. You must provide a hitch and ball for your tow vehicle that meets or exceeds the GVWR of the trailer. The ball size must be the same as the coupler size. If the hitch ball is too small, too large, is underrated, is loose or is worn, the trailer can come loose from the tow vehicle, and may cause death or serious injury.

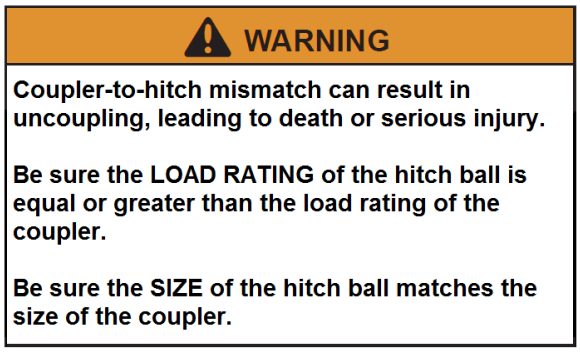
The tow vehicle, hitch and hitch ball must have a rated towing capacity equal to or greater than the trailer gross vehicle weight rating (GVWR).

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

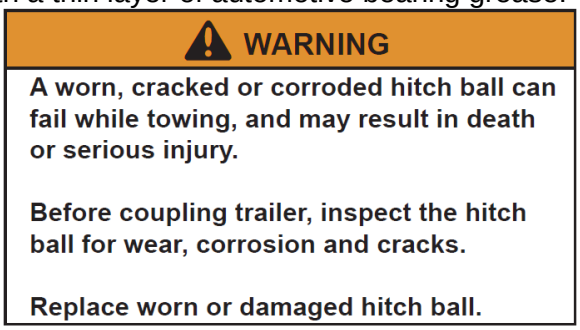
The ball size and load rating (capacity) are marked on the ball; hitch capacity is marked on the hitch.

Before Coupling the Trailer to the Tow Vehicle

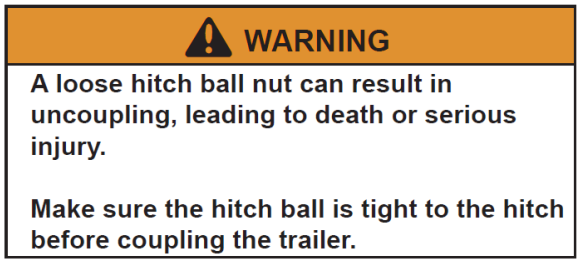
1. Be sure the size and rating of the hitch ball match the size rating of the coupler. Hitch balls and couplers are marked with their size and rating.



2. Wipe the hitch ball clean and inspect it visually and by feel for flat spots, cracks and pits.
3. Lubricate hitch ball with a thin layer of automotive bearing grease.



4. Rock the ball to make sure it is tight to the hitch and visually check that the hitch ball nut is solid against the lock washer and hitch frame.



Prepare the Coupler and Hitch

5. Wipe the inside and outside of the coupler clean and inspect it visually for cracks and deformations; feel the inside of the coupler for worn spots and pits.
6. Be sure the coupler is tight to the tongue of the trailer. All coupler fasteners must be visibly solid against the trailer frame.
7. Raise the bottom surface of the coupler to be above the top of the hitch ball.

Couple the Trailer to the Tow Vehicle

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

⚠ WARNING

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

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

9. This trailer uses an eZ-Latch coupler manufactured by Demco. Please see the Demco website at www.demco-products.com for further information. Per the Demco manual:

“All Demco eZ-Latch couplers are tested and rated without the use of a safety pin and are not required for the couplers to be used in safe operation. A security hole is available on all the eZ-Latch couplers to be in correlation with a lock for theft deterrence.”

10. eZ-Latch couplers do not require users to lift the handle for the coupler to engage the ball. Position the ball in the center of the ball socket or slightly forward, then begin to lower the coupler with the jack on the trailer.

    If the coupler does not line up with the hitch ball, adjust the position of the tow vehicle.

11. At the mid-way point when lowering the trailer, the stem on the handle will begin to rise up allowing the ball to enter the ball socket.

12. Lower the trailer tongue until the coupler fully engages the hitch ball. Once the ball has fully engaged the socket the ball keeper will snap back into place.

13. Be sure the coupler is all the way on the hitch ball and the coupler locking mechanism is engaged. A properly engaged locking mechanism will allow the coupler to raise the rear of the tow vehicle. Using the trailer jack, test to see that you can raise the rear bumper of the tow vehicle by 1 inch, after the coupler is engaged and secured to the hitch ball.

NOTICE

The tongue jack can be damaged by overloading. Do not use the tongue jack to raise the tow vehicle more than 1 inch.

14. If the coupler cannot be secured to the hitch ball, do not tow the trailer.
15. Lower the trailer so that its entire tongue weight is held by the hitch, and continue retracting the jack to its fully retraced position.
16. Fully retract jack drop leg if equipped.

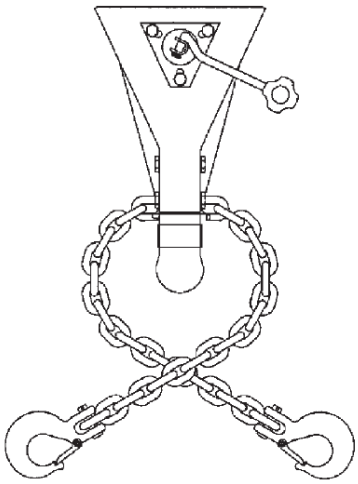
⚠ CAUTION

Drop leg jacks may be spring loaded and may rapidly return to the raise position when released.

Keep clear when releasing drop legs.

Rig the Safety Chains

17. Visually inspect the safety chains and hooks for wear or damage. Replace worn or damaged safety chains and hooks before towing.
18. Safety chains must crisscross under the coupler so if the trailer uncouples, the safety chains will act as a cradle, catching the trailer coupler and holding the tongue up above the road. Loop around a frame member of the tow vehicle or to holes provided in the hitch system, but do NOT attach them to an interchangeable part of the hitch assembly.



19. Attach hooks up from underneath the hole. Do not just drop into hole.
20. Provide enough slack in chains to permit tight turns, but not be close to the road surface to drag.

⚠ WARNING

Improper rigging of the safety chains can result in loss of control of the trailer and tow vehicle, leading to death or serious injury, if the trailer uncouples from the tow vehicle.

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

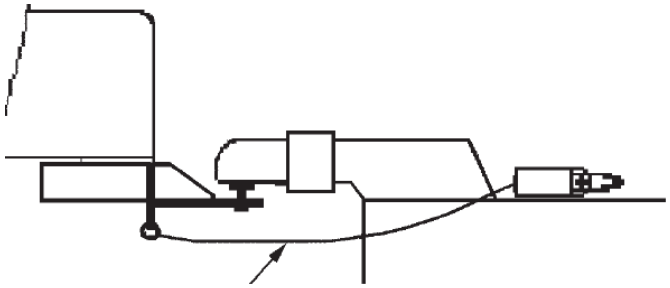
Fasten chains to frame of tow vehicle.

Do not fasten chains to any part of the hitch unless the hitch has holes or loops specifically for that purpose.

Attach Breakaway Brake Lanyard

If the coupler or hitch fails, a properly connected and working breakaway brake system will apply the trailer brakes. The safety chains will keep the tow vehicle attached and as the trailer brakes are applied, the trailer/tow vehicle combination will come to a controlled stop.

21. Connect the lanyard to the tow vehicle so that the electric brake pull pin will be pulled out before all of the slack in the safety chains is taken up. Do not connect the lanyard to a safety chain, hitch ball or hitch ball assembly. This would keep the breakaway brake system from operating when it is needed.



Connect the 7-way Electrical Cable

22. Connect the trailer lights to the tow vehicle's electrical system using trailer 7-way electrical connector.
23. Check all lights for proper operation. Repair or replace non-working lights before towing trailer.
24. Check electric brakes for proper operation using brake controller mounted in the cab.

⚠ WARNING

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

Before each tow:

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

Test Electric Brakes

Your trailer has electric brakes and your tow vehicle will have an electric brake controller that sends power to the trailer brakes. Before towing the trailer on the road, you must operate the brake controller while trying to pull the trailer in order to confirm that the electric brakes operate.

25. While towing the trailer at less than 5 mph, manually operate the electric brake controller in the tow vehicle. You should feel the operation of the trailer brakes. If the trailer brakes are not functioning, the brake system MUST be evaluated to determine the cause of the problem and corrective action MUST be taken before the trailer is used.
26. Use this procedure each time you tow the trailer to check brake system operation.

Test Electric Breakaway Brakes

The breakaway brake system includes a breakaway brake controller, a switch with a pull pin and lanyard and a battery. The breakaway brake battery provides power to the breakaway brakes and is charged by the tow vehicle.

The breakaway brake battery is located inside the trailer light and brake junction box which is mounted near the front right corner of the trailer.

⚠ CAUTION

Extreme cold weather can degrade battery performance and cause brakes to not operate properly.

Check battery charge level before towing.

Do not tow the trailer if the battery requires recharging. A discharged brake battery will not activate the brakes if the trailer uncouples from the tow vehicle. The battery must be fully charged before towing the trailer.

27. To test the breakaway brake battery, remove the pull pin from the switch and attempt to pull the trailer forward. You should feel the trailer resisting being towed. The wheels will not necessarily be locked. If the brakes do not function, do not tow the trailer until brakes or battery, are repaired.

Immediately replace the pull pin; the breakaway brake battery discharges rapidly when the pull pin is removed.

⚠ WARNING

An ineffective or inoperative breakaway brake system can result in a runaway trailer, leading to death or serious injury if the coupler or hitch fails.

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

Before towing trailer, test the function of the breakaway brake system. If the breakaway brake system is not working, do not tow the trailer. Have it serviced or repaired.

Do not tow the trailer with the breakaway brake system ON because the brakes will overheat which can result in permanent brake failure.

⚠ WARNING

Failure to replace the pullpin can result in ineffective brakes, leading to loss of control, serious injury or death.

Breakaway Battery Testing

1. Disconnect the 7-way electrical connector from the towing vehicle before pressing the TEST feature. Otherwise you will be testing the towing vehicle's battery.
2. Press TEST to check the breakaway battery voltage level.
3. If the trailer is plugged into the tow vehicle, the yellow "Charging" light will always be on
4. The LED assembly will only work with 12-volt batteries. The lower the battery voltage goes, the dimmer the LEDs will illuminate
5. If the red light illuminates when the test button is pushed, the battery charge is low. If the charge is low, connect the trailer plug to the tow vehicle so the Break-Away Kit can charge. The amber light will illuminate indicating the battery is charging. The battery should re-charge in about twenty minutes.

If you do not use your trailer for three or more months, or during winter months:

1. Store the battery indoors
2. Charge the battery every three months.

Replace the breakaway brake battery according to the intervals specified by battery manufacturer.

Uncoupling the Trailer

Before uncoupling the trailer, it is critical to have some tongue weight. That is, the trailer tongue must exert a downward force on the hitch.

Follow these steps to uncouple the trailer from the tow vehicle:

1. Park the empty trailer on a firm level surface and chock the rear trailer tires.
2. Disconnect the 7-way electrical connector.
3. Disconnect breakaway brake switch lanyard from tow vehicle.
4. Disconnect safety chains from tow vehicle.
5. Verify the tilt cylinder stop bracket is in place and pinned.
6. Release the coupler.
7. Before extending trailer jack, make certain the ground surface below the jack pad will support the tongue load.
8. Extend jack drop leg.

CAUTION

Drop leg jacks may be spring loaded and may rapidly return to the raise position when released.

Keep clear when releasing drop legs.

9. Rotate jack handle to extend the jack and transfer the weight of the trailer tongue to the jack.
10. Raise the trailer coupler above the tow vehicle hitch ball.

Tongue Weight

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

WARNING

Improper tongue weight (load distribution) can result in loss of control of the trailer, leading to death or serious injury.

Make certain that tongue weight is within the allowable range.

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

A flowable load must be evenly distributed throughout the body.

If there is too much tongue weight, the tow vehicle is prone to jack-knife and the front wheels of the tow vehicle can be too lightly loaded and cause loss of steering control and traction, if the front wheels are driving. In addition to tow vehicle control, tongue weight is necessary to insure that the trailer axle(s) do not exceed their Gross Axle Weight Rating (GAWR).

In the following table, the second column notes the rule of thumb percentage of total weight of the trailer plus its cargo (Gross Vehicle Weight, or "GVW") that should appear on the tongue of the trailer. For example, a large trailer with a loaded weight of 6,000 pounds, should have 10-15% of 6,000 pounds (600-900 lbs.) on the hitch.

Tongue Weight as a Percentage of Loaded Trailer Weight	
Type of Hitch	Percentage of Loaded Trailer Weight
Ball Hitch (or Bumper Hitch)	10-15% for larger trailers 6-10% for smaller utility trailers

Checking Tongue Weight

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

For most trailers it is easier to go to a truck stop where there is a "certified" scale. Pull the tow vehicle only onto the scale and get the weight. This weight must be less than your tow vehicle's GVWR.

Pull the trailer onto the scale and decouple it from the tow vehicle, leaving just the trailer on the scale. Get a "ticket", which lists the total trailer weight. Re-connect the trailer to your tow vehicle and the drive the tow vehicle wheels off the scale, just leaving the trailer axles on the scale. Get a second "ticket", which lists the trailer's axle weight. Simply subtract the axle weight from the total weight to determine the hitch weight.

While you are at the scale, you should weigh the entire combination vehicle. This result should be less than the Gross Combined Weight Rating (GCWR) for your towing vehicle. Some scales allow you to get individual axle weights also. If this is possible, get the tow vehicle front and rear axle weights to make sure they are in the same proportion as the tow vehicle alone, and that the rear axle is not overloaded.

NOTICE
The tongue jack can be damaged by overloading. Do not use the tongue jack to raise the tow vehicle more than 1 inch.

Adjust Ball-Hitch Coupler Height

The height of the ball-hitch coupler on the trailer or the tow vehicle hitch must be adjusted so that the trailer, when loaded to rated capacity, is level while connected to the tow vehicle. A level trailer allows equal weight distribution on the axles. The following instructions explain how to adjust the height of the ball-hitch coupler.
Refer to the tow vehicle or hitch manufacturers manual to adjust the height of the hitch if needed.

The coupler has 4 available positioning holes for mounting.

⚠ WARNING

Improper ball-hitch coupler height adjustment can result in overloaded tires, blowout and loss of control, leading to death or serious injury.

Adjust the ball-hitch coupler so that the loaded trailer is level.

To adjust the height:

1. Connect trailer to tow vehicle and load the trailer to rated capacity. Park the tow vehicle and trailer on a firm level surface.
2. Stand away from the trailer and visually verify if the trailer is level front-to-rear. If the front of the trailer is higher than the rear, the coupler must be raised. If the front of the trailer is lower than the rear, the coupler must be lowered.
3. Uncouple trailer from tow vehicle. (See Uncoupling the Trailer)
4. Using 15/16” wrenches, remove the (4) 5/8” Grade 8 lock nuts and (4) Grade 8 hex cap screws on coupler. Discard used lock nuts.

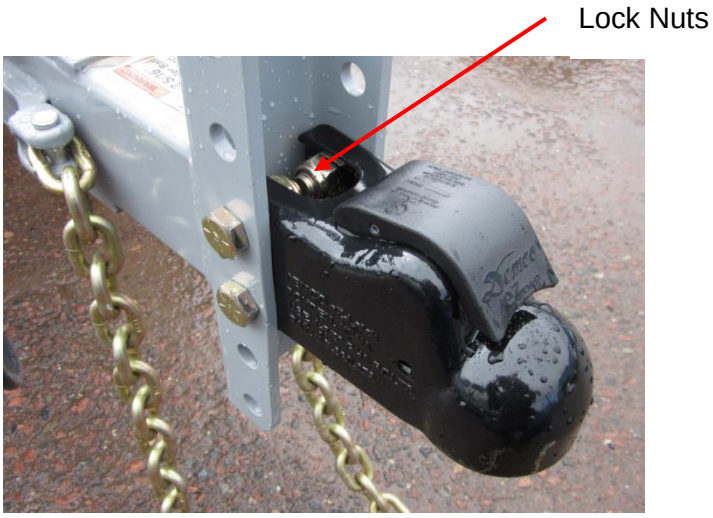
⚠ WARNING

Used lock nuts are prone to loosen, resulting in the hitch separating from the trailer, which can lead to death or serious injury.

NEVER re-use a lock nut.

Use new lock nuts each time the hitch height is adjusted.

5. Raise or lower the coupler as necessary.
6. Install cap screws and NEW 5/8” Grade 8 lock nuts.
7. Apply Loctite 242 to lock nuts and tighten nuts to 150 lb. ft. of torque.
8. Couple the trailer to the tow vehicle; verify that the trailer is level front to rear. Repeat steps above if needed.
9. Unload trailer (see Loading and Unloading the Trailer) and disconnect from tow vehicle (see Uncoupling the Trailer).



TRAILER OPERATION

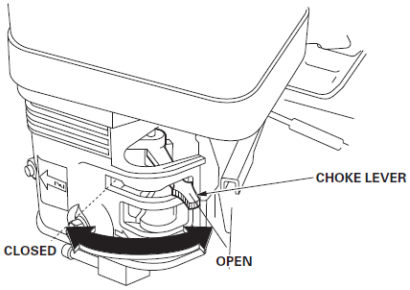
Please refer to the Honda GX390 manual for engine specifications, registration and maintenance.

1. Move gas lever on engine to ON, NOTE the gas must be turned off while towing and should only be ON when operating the trailer; gas can bleed back and flood the engine if left ON when not in use.

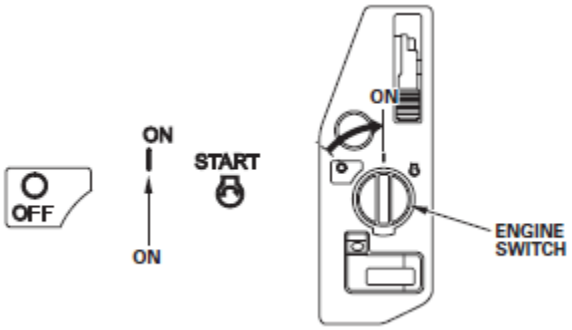
2. Turn Master Switch ON.

3. Check that the gas tank is near full. A low fuel level tank can cause the engine to run out of fuel when the trailer bed is fully tilted up.

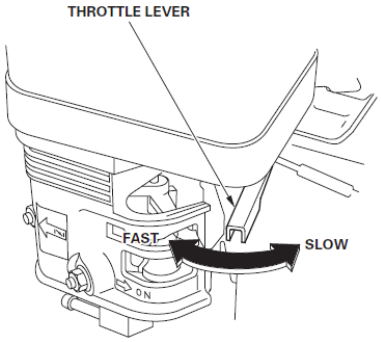
4. Choke engine if needed and start engine with remote.



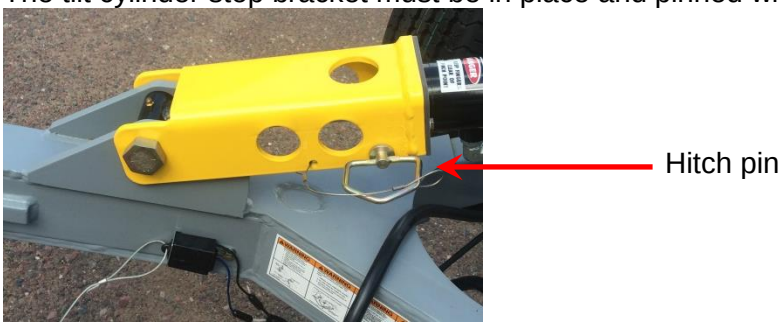
5. NOTE: The engine has been shipped with the engine switch in the ON position and with our remote control system; the engine switch should stay in the ON position. Move switch to ON if needed.



6. Adjust the throttle if needed.



7. Follow the loading and unloading steps.
8. Using the remote, shut the engine off when not in use. Move the gas lever to the off position so it doesn't bleed back into the engine when trailering.
9. The tilt cylinder stop bracket must be in place and pinned when trailer is in tow.



Remote Control Transmitter

This trailer is equipped with a remote control and may move without warning. Prior to operation walk around trailer to ensure the area is clear of objects and people.

Operate the remote control from a safe distance. Always maintain possession of the remote control while the trailer is in use.

Remote Control Buttons

Following is a description of the remote control buttons and its operation. Practice operation of the trailer with an empty trailer coupled to the tow vehicle.

POWER: Enables the remote control transmitter.

ENGINE OFF: Turns the engine off.

ENGINE ON: Engages the engine starter. Note: The engine key switch must be in the ON position. A cold engine may require using the manual choke to start.

BED OUT: Moves the bulkhead and conveyor belt towards the rear.

BED IN: Moves the bulkhead and conveyor belt towards the front.

TILT DN: Tilts the front of the trailer DOWN.

TILT UP: Tilts the front of the trailer UP.

AUX: Used for optional accessories.

Remote Transmitter Operation

1. Powering the belt in the “BED IN” direction and/or using the “TILT DOWN” or “TILT UP” feature can be used to assist in loading the trailer. Fixed loads must be secured to prevent tipping over or sliding when the trailer bed is tilted or powered in either direction.

2. Powering the belt in the “BED OUT” direction and/or using the “Tilt Down” or “Tilt Up” feature can be used to assist in unloading the trailer. Fixed loads must be secured to prevent tipping over or sliding when the trailer bed is tilted or powered in either direction.

Remote Transmitter Synchronizing Procedure

If a new remote transmitter is needed, synchronizing is required.

1. Turn the remote transmitter OFF and turn the receiver off by turning the master switch OFF.
2. Press and hold the POWER button for more than 10 seconds. Both LEDs will start blinking.
3. Turn on the receiver by turning the master switch ON.
4. Wait a few seconds until just the green LED begins to blink rapidly on the transmitter.

LOADING AND UNLOADING

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

- Overall load weight
- Load weight distribution
- Proper tongue weight
- Securing the load properly

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

The load distribution must be such that no component part of the trailer is loaded beyond its rating. This means that you must consider the rating of the tires, wheels and axles. For tandem axles, you must make sure that the front-to-rear load distribution does not result in overloading any axle.

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

⚠ WARNING

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

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

Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.

⚠ WARNING

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

⚠ WARNING

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

The exception is fuel in the tank of a vehicle or equipment being hauled.

Hazards for Tilt Trailers

A tilt trailer is specifically designed for hauling cargo that can be emptied by tilting, and in some cases, hauling equipment. It is not for transporting livestock or horses. The major hazards associated with tilt trailers are:

- Overloading
- Improper weight distribution; both side to side and front to back.
- Getting under a raised tilt body.
- Modifying or altering hydraulic components.
- Modifying or altering tilt controls.
- Not unloading from a solid and level foundation.
- Not fully opening rear doors when unloading.
- Jerking the trailer, or hydraulics, to loosen the load.
- Trailer coming near or contacting overhead power lines when body is raised.

DANGER

Never alter or substitute any hydraulic system component. Death or serious injury may result.

An altered or component substituted hydraulic system may malfunction resulting in the tilt body falling without warning.

WARNING

A soft and/or uneven surface may cause the tow vehicle and trailer to tip over when the tilt body is raised.

Raise the tilt body ONLY if the tow vehicle and trailer are both on a firm and level surface.

WARNING

An overloaded trailer or improperly distributed load can result in death or serious injury.

An overloaded trailer can cause the hydraulic system to malfunction, resulting in the tilt body falling.

A load that is improperly distributed in the trailer can result in the trailer tipping over when the tilt body is raised.

WARNING

Never loosen or disconnect a hydraulic fitting, hose or component without the trailer on firm and level ground, bed level and empty, wheels chocked and the tilt cylinder resting against the pinned in place tilt cylinder stop bracket.

Do not transport people, containers of hazardous substances, or cans of flammable liquids. However, fuel in the tank of vehicles or equipment may be carried in the trailer.

WARNING

Electrocution hazard.

Tilt body coming near or contacting power lines can cause electrocution.

Electrocution can occur without contact.

Verify there are no overhead power lines over or near the trailer before raising tilt body.

Loading Bulk Materials

Determine the payload, or cargo capacity, by subtracting the empty weight of the trailer from the GVWR given on the Certification / VIN tag. Determine the density of the material to be loaded so that you will know, approximately, how many cubic yards of material may be safely loaded, carried and unloaded.

1. Securely couple the trailer to the tow vehicle. This is essential because the tongue can rise during loading. To measure the tongue weight you will have to uncouple the trailer after it is loaded if needed.

⚠ WARNING

Trailer must be coupled to tow vehicle before loading.

2. Park the trailer and tow vehicle on a firm and level surface, both side-to-side and front-to-rear.
3. Check the trailer body for damage. Repair before loading trailer.
4. Clear the area around the trailer of people and objects.
5. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
6. Level the trailer bed. Make sure the bulkhead is fully forward. Turn the trailer, master switch and fuel OFF.
7. Chock both the front and rear tires of the TOW vehicle.
8. Make sure rear trailer doors are closed and latched.
9. Tell the loader operator the GVWR of your trailer. The loader operator will have an approximate weight of the material to be loaded.
10. Use common sense when loading. If you are uncertain of the weight of the material, load a small amount and weigh your trailer. It is much easier to add to a light load than to remove material from an overloaded trailer.
11. Level (evenly distribute) the load within the trailer from front to back and from side to side.

⚠ WARNING

Trailer, hitch or tilt body can fail. You or others can die or be seriously injured.

Load in the trailer must not exceed capacity and must be distributed evenly.

12. If material may blow out while driving, tarp the trailer.
13. If the trailer is overloaded, DO NOT attempt to raise the tilt body. The excess material must be removed by tools or equipment designed for this purpose, or by hand.
14. The side tarp rails are to be used only to secure a cover for equipment or any materials in transport.
15. Remove tow vehicle wheel chocks.

⚠ WARNING

Unsecured rear doors can cause a driving hazard.

Do not operate trailer without properly securing rear door latches.

Loading Fixed Loads – with Level Trailer Bed

Fixed loads include palletized materials, skid-steer loaders, mowers, etc.
Fixed loads should be loaded evenly throughout the trailer. Too much load in the front portion will strain and possibly overload the hydraulic tilt cylinder. Too much load in the rear can lead to trailer swaying at highway speeds.

1. Securely couple the trailer to the tow vehicle. This is essential because the tongue can rise during loading. To measure the tongue weight you will have to uncouple the trailer after it is loaded if needed.

WARNING

Trailer must be coupled to tow vehicle before loading.

2. Park the tow vehicle and trailer on a firm and level surface, both front-to-back and side-to-side. Attempting to load on a soft or uneven surface may cause the trailer to overturn, which can result in death or serious injury. Do not transport people, containers of hazardous substances, or cans of flammable liquids. However, fuel in the tank of vehicles or equipment may be carried in the trailer.

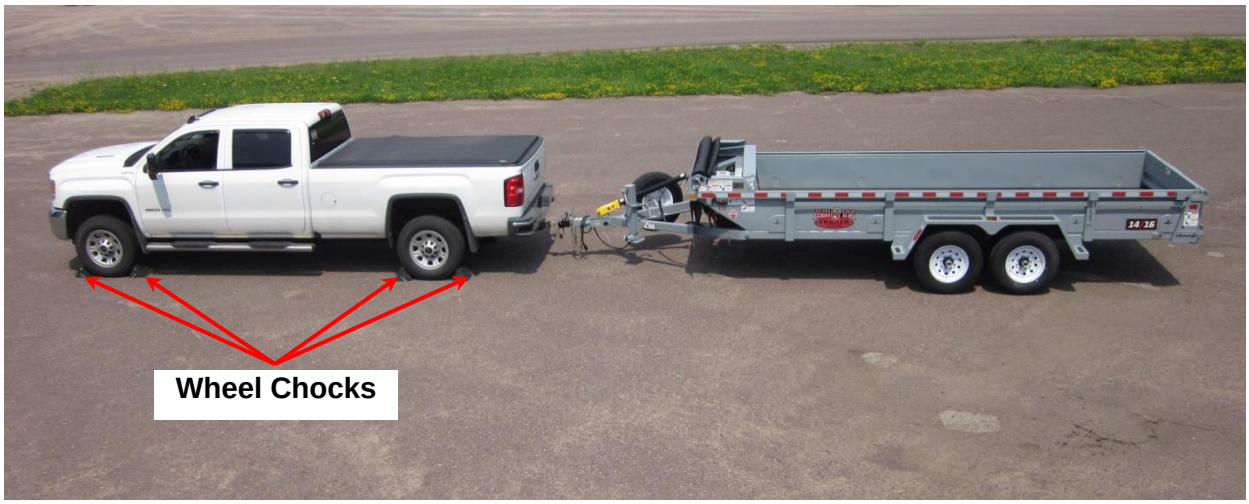
WARNING

Load can suddenly move or topple, which can result in death or serious injury.

Do not load or unload trailer unless coupled to tow vehicle and is on a firm and level surface.

3. Check the trailer body for damage. Repair before loading trailer.
4. Inspect tie downs for any cracks. Repair before loading trailer.
5. Clear the area around the trailer of people and objects.

6. Chock both the front and rear tires of the TOW vehicle.



7. Open both rear doors and secure doors in the open position.
8. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
9. Level the trailer bed. Move the BED OUT to the position needed that once loaded, material or equipment will be evenly loaded throughout the trailer.
10. Before moving the equipment, consider the load that heavier items will put on the rear axle and tires. You may need to place jack stands under the two ground clearance support brackets so the weight of the cargo does not raise the front of the trailer during loading. The ground clearance brackets are located in each rear corner of the trailer. The jack stands must be placed to not interfere with the operation of the belt.

⚠ WARNING

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

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

Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.

11. Load the material or equipment by hand or if using a forklift, place the pallet on the belt.

12. Move the BED IN to center the load as much as possible. The operator must be experienced and skilled to perform the loading and unloading.
13. Turn the trailer, master switch and fuel OFF.
14. Secure the cargo to the trailer at the proper tie down locations using appropriate straps, chains and tensioning devices. Refer to https://www.fmcsa.dot.gov for regulations regarding cargo securing rules.

⚠ WARNING

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

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

15. The side tarp rails are to be used only to secure a cover for equipment or any materials in transport.
16. Close and secure rear doors.
17. Remove jack stands from under ground clearance support brackets.
18. Remove tow vehicle wheel chocks.

Loading Fixed Loads - with Bulkhead Pull Ring

Fixed loads should be loaded evenly throughout the trailer. Too much load in the front portion will strain and possibly overload the hydraulic cylinder. Too much load in the rear can lead to trailer swaying at highway speeds.
Read and understand the tilt operating procedure before loading.

1. Securely couple the trailer to the tow vehicle. This is essential because the tongue can rise during loading. To measure the tongue weight you will have to uncouple the trailer after it is loaded if needed.

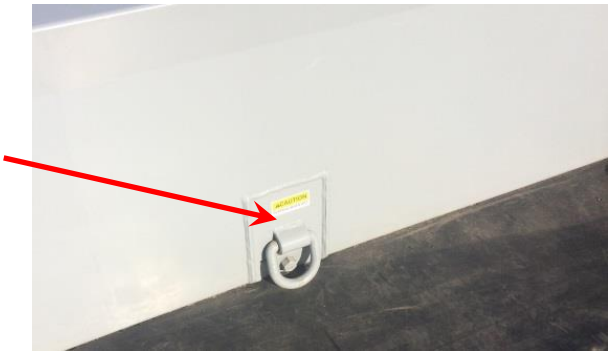
> **⚠ WARNING**
>
> **Trailer must be coupled to tow vehicle before loading.**

2. Park the tow vehicle and trailer on a firm and level surface, both front-to-back and side-to-side. Attempting to load on a soft or uneven surface may cause the trailer to overturn, which can result in death or serious injury. Do not transport people, containers of hazardous substances, or cans of flammable liquids. However, fuel in the tank of vehicles or equipment may be carried in the trailer.

> **⚠ WARNING**
>
> **Load can suddenly move or topple, which can result in death or serious injury.**
>
> **Do not load or unload trailer unless coupled to tow vehicle and is on a firm and level surface.**

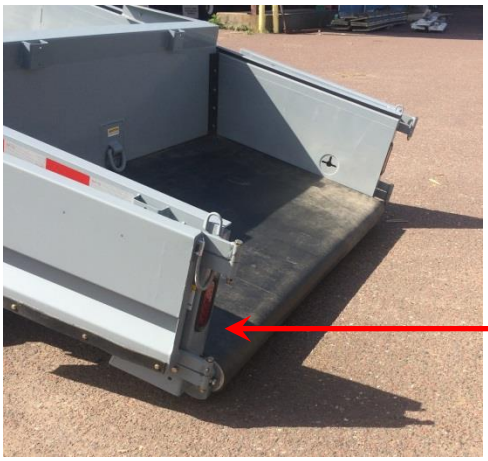
3. Clear the area around the trailer of people and objects.
4. Chock both the front and rear tires of the TOW vehicle.
5. Check the trailer body for damage. Repair before loading trailer.
6. Inspect tie downs for any cracks. Repair before loading trailer.
7. Inspect the “D” ring tie down for any cracks. Repair before loading trailer.

“D” ring tie down



8. Open the rear doors and secure doors in the open position.
9. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
10. With the remote, bring the bulkhead/BED OUT to the position needed that when loaded the load will be evenly distributed throughout the trailer.

11. Tilt UP fully until both rear ground clearance support brackets are resting on a firm surface. Be aware that heavier loads can bottom out the belt idler and/or damage the belt.



Consider levelness of loading surface. Belt must have ground clearance to operate.

12. Place the load near the center of the back of the trailer and secure with straps or a chain. Attach the straps or chain to the “D” ring.

13. Pull the load into the trailer with the BED IN function until it is centered as well as possible in the trailer. Make sure the belt is not dragging on the ground as the load is pulled into the trailer.

14. Tilt the trailer DOWN until the hydraulic tilt cylinder is resting against the tilt cylinder stop bracket. Make sure the tilt cylinder stop bracket is pinned in place for transporting.

⚠ WARNING

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

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

Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.

15. Turn the trailer, master switch and fuel OFF.
16. Secure the cargo to the trailer at the proper tie down locations using appropriate straps, chains and tensioning devices. Refer to https://www.fmcsa.dot.gov for regulations regarding cargo securing rules.

⚠ WARNING

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

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

17. The side tarp rails are to be used only to secure a cover for equipment or any materials in transport.
18. Close and secure rear doors.
19. Remove tow vehicle wheel chocks.

Securing Cargo

Since the trailer cargo is subjected to longitudinal (front / back) and lateral (side / side) forces you must secure all cargo that is not flowable, so that it does not shift while the trailer is being towed.

⚠ WARNING

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

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

Refer to https://www.fmcsa.dot.gov for regulations regarding cargo securement rules.
The side tarp rails are to be used only to secure a cover for equipment or any materials in transport.

Tarping

Bulk material must be covered with the mesh tarp while trailering.

1. The side tarp rails are to be used only to secure a cover for equipment or any materials in transport.
2. Rotate the tarp handle slightly clockwise to release pressure on locking pawl.
3. Lift up and rotate pawl away from ratchet teeth.
4. Unroll tarp along both sides evenly and secure into metal hoops on the back of the trailer, use rubber straps to hold the sides of the mesh tarp down to the side tarp rails.
5. Snug tarp up with crank handle and rotate locking pawl into place.
6. Roll up tarp evenly and secure into place when not in use.

Unloading Bulk Materials

Read and understand the tilt operating procedure before unloading.

1. Be sure that the trailer is securely coupled to the tow vehicle. This is essential because the tongue can rise during unloading.

WARNING

Trailer must be coupled to tow vehicle before loading.

2. Park the tow vehicle and trailer on a firm and level surface, both front-to-back and side-to-side. Attempting to load on a soft or uneven surface may cause the trailer to overturn, which can result in death or serious injury.
3. Clear the area around the trailer of people and objects. Roll up the tarp and secure in place.
4. Chock both the front and rear tires of the TOW vehicle.
5. Standing away from the trailer, open the rear doors and secure in the open position. Do not push any material out until the doors have been opened.

CAUTION

Loaded materials can exert pressure against rear doors. This may cause the doors to swing out with force, causing serious injury.

Stand away from trailer to unlatch rear doors.

6. Standing clear of the trailer, determine if the BED OUT, TILT UP or both need to be utilized to unload.

WARNING

A soft and/or uneven surface may cause the tow vehicle and trailer to tip over when the tilt body is raised.

Raise the tilt body ONLY if the tow vehicle and trailer are both on a firm and level surface.

WARNING

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

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

Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.

⚠ WARNING

Raised tilt body can drop or tip over suddenly. You and others can be seriously injured or die.

YOU MUST:

Have trailer on level, firm ground before raising tilt body.
Keep others away while loading or unloading.
Always maintain possession of remote control while trailer is in use.

Never leave the trailer when the tilt body is raised.

Have the tilt body down before moving trailer.

Have tilt body lowered and tilt cylinder resting against pinned tilt cylinder stop bracket before getting under tilt body.

Never assist lift cylinder (i.e., with a jack, crane heavy equipment etc.)

If the load does not leave the tilt body, lower the tilt body and manually free the load.

Never attempt to free a load from a raised tilt body.

7. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
8. Push the TILT UP button on the remote control device until the bed reaches approximately the halfway point of its tilting angle. Never leave the control device when operating the tilt feature. The belt can also be utilized at this same time by pushing the BED OUT button.
9. Discontinue pushing the TILT UP and BED OUT button and walk to the rear of the trailer so you can estimate if there is enough space for the remainder of the load to be safely emptied. (If not, then you need to lower the tilt bed, un-chock the tow vehicle and pull the trailer forward and re-chock the tow vehicle. Then repeat Step 8).
10. Stand clear of the tilt body and raise the bed to the three quarter point of the maximum tilt angle. Stop the tilt function and walk to the rear to check to see if there is enough space to continue unloading.
11. Repeat the process until the load has been completely emptied.
12. If the load has not completely emptied DO NOT drive forward and stop quickly to “shock” the load out of the bed. Also DO NOT “jerk” the control button up and down to dislodge the load. Dislodge a stuck load by lowering the tilt body to level and remove the material by hand or with other tools.
13. Level the tilt body and pin the tilt cylinder stop bracket in place.
14. Turn the trailer, master switch and fuel OFF.
15. Close and secure rear doors.
16. Remove tow vehicle wheel chocks.

Unloading Bulk Materials While Kneeling

The Tilt DOWN feature allows the trailer to adjust the unloading height by raising the back of the trailer. This can be utilized to unload bulk materials into a wheelbarrow or other equipment.

1. Be sure that the trailer is securely coupled to the tow vehicle. This is essential because the tongue can rise during unloading.

> **WARNING**
>
> **Trailer must be coupled to tow vehicle before loading.**

2. Park the tow vehicle and trailer on a firm and level surface, both front-to-back and side-to-side. Attempting to load on a soft or uneven surface may cause the trailer to overturn, which can result in death or serious injury.
3. Clear the area around the trailer of people and objects. Roll up the tarp and remove the tie downs.
4. Chock both the front and rear tires of the TOW vehicle.
5. Standing away from the trailer, open the rear doors and secure in the open position. Do not push any material out until the doors have been opened.

> **CAUTION**
>
> **Loaded materials can exert pressure against rear doors. This may cause the doors to swing out with force, causing serious injury.**
>
> **Stand away from trailer to unlatch rear doors.**

⚠ WARNING

A soft and/or uneven surface may cause the tow vehicle and trailer to tip over when the tilt body is raised.

Raise the tilt body ONLY if the tow vehicle and trailer are both on a firm and level surface.

⚠ WARNING

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

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

Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.

⚠ WARNING

Raised tilt body can drop or tip over suddenly. You and others can be seriously injured or die.

YOU MUST:

Have trailer on level, firm ground before raising tilt body.
Keep others away while loading or unloading.
Always maintain possession of remote control while trailer is in use.

Never leave the trailer when the tilt body is raised.

Have the tilt body down before moving trailer.

Have tilt body lowered and tilt cylinder resting against pinned tilt cylinder stop bracket before getting under tilt body.

Never assist lift cylinder (i.e., with a jack, crane heavy equipment etc.)

If the load does not leave the tilt body, lower the tilt body and manually free the load.

Never attempt to free a load from a raised tilt body.

6. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
7. Push the TILT UP button on the remote control device until the hydraulic cylinder body moves slightly away from the tilt cylinder stop bracket.
8. Unpin the tilt cylinder stop bracket and rotate it away from the cylinder rod.
9. Push the TILT DOWN button until the cylinder body bottoms or the rear of the trailer is at the desired unloading height.
10. Stand clear of the trailer and using the remote, push the BED OUT button to unload the material.
11. Level the tilt body and pin the tilt cylinder stop bracket in place.
12. Turn the trailer, master switch and fuel OFF.
13. Close and secure rear doors.
14. Remove tow vehicle wheel chocks.

Unloading Fixed Loads While Level

1. Be sure that the trailer is securely coupled to the tow vehicle. This is essential because the tongue can rise during unloading.

> **⚠ WARNING**
>
> **Trailer must be coupled to tow vehicle before loading.**

2. Park the tow vehicle and trailer on a firm and level surface, both front-to-back and side-to-side. Attempting to load on a soft or uneven surface may cause the trailer to overturn, which can result in death or serious injury.
3. Clear the area around the trailer of people and objects.
4. Trailer bed must be level with the tilt cylinder resting against pinned tilt cylinder stop bracket.
5. Chock both the front and rear tires of the TOW vehicle.
6. Standing away from the trailer, open the rear doors and secure in the open position.
7. Remove tie downs from equipment.
8. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
9. Before moving the equipment, consider the load that heavier items will put on the rear axle and tires. You may need to place jack stands under the two ground clearance support brackets so the weight of the cargo does not raise the front of the trailer while unloading. The ground clearance brackets are located in each rear corner of the trailer. The jack stands must be placed to not interfere with the operation of the belt.

> **⚠ WARNING**
>
> **An overloaded trailer can result in loss of control of the trailer, leading to death or serious injury.**
>
> **Do not exceed the trailer Gross Vehicle Weight Rating (GVWR) or a Gross Axle Weight Rating (GAWR).**
>
> **Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.**

10. Standing clear of the trailer push the BED OUT button. Unload the equipment once it gets to the back of the trailer with a forklift. Repeat process as needed. The operator must be experienced and skilled to perform the loading and unloading.
11. Turn the trailer, master switch and fuel OFF.
12. Close and secure rear doors.
13. Remove jack stands from under ground clearance support brackets.
14. Remove tow vehicle wheel chocks.

Unloading Fixed Loads with Bulkhead Pull Ring

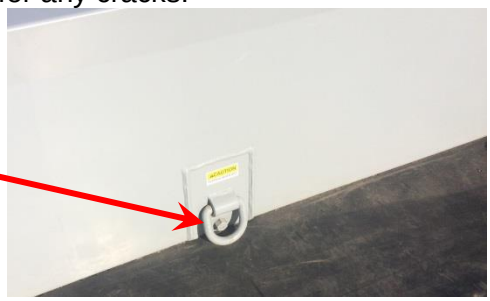
1. Be sure that the trailer is securely coupled to the tow vehicle. This is essential because the tongue can rise during unloading.

WARNING

Trailer must be coupled to tow vehicle before loading.

2. Park the tow vehicle and trailer on a firm and level surface, both front-to-back and side-to-side. Attempting to load on a soft or uneven surface may cause the trailer to overturn, which can result in death or serious injury.
3. Clear the area around the trailer of people and objects.
4. Trailer bed must be level with the tilt cylinder resting against pinned tilt cylinder stop bracket.
5. Chock both the front and rear tires of the TOW vehicle.
6. Inspect the “D” ring tie down for any cracks.

“D” ring tie down



7. Open the rear doors and secure in the open position.
8. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
9. With the bed level secure the fixed load to the “D” ring using chains or straps.
10. Remove chains and/or straps that were used to secure the load during transport.
11. The operator must be experienced and skilled to perform the unloading.
12. Before operating the trailer, consider the load that heavier items will put on the rear axle and tires.

WARNING

A soft and/or uneven surface may cause the tow vehicle and trailer to tip over when the tilt body is raised.

Raise the tilt body ONLY if the tow vehicle and trailer are both on a firm and level surface.

WARNING

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

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

Do not load or unload a trailer in a way that the weight on any tire exceeds its rating.

13. Standing clear of the trailer, TILT UP fully until both rear ground clearance support brackets are resting on a firm surface.

WARNING

Raised tilt body can drop or tip over suddenly. You and others can be seriously injured or die.

YOU MUST:

Have trailer on level, firm ground before raising tilt body.
Keep others away while loading or unloading.
Always maintain possession of remote control while trailer is in use.

Never leave the trailer when the tilt body is raised.

Have the tilt body down before moving trailer.

Have tilt body lowered and tilt cylinder resting against pinned tilt cylinder stop bracket before getting under tilt body.

Never assist lift cylinder (i.e., with a jack, crane heavy equipment etc.)

If the load does not leave the tilt body, lower the tilt body and manually free the load.

Never attempt to free a load from a raised tilt body.

14. Press the BED OUT button until the load first contacts the ground.

NOTE: Depending on the load the belt may continue to push the load out onto the ground. If so, press the BED OUT button until the load is fully resting on the ground and skip to step 21.

15. If the load just slips on the belt when pressing BED OUT, the trailer will have to be moved forward. To facilitate this, you will need help from another person. First make sure the tow vehicle and trailer are on level ground and the trailer rear ground clearance support brackets are resting on a firm surface.
16. Turn the trailer, master switch and fuel OFF.
17. Have the other person set the emergency brake on the tow vehicle and start the tow vehicle.
18. Next, you are to remove the wheel chocks from the tow vehicle.
19. Follow trailer operation instructions and turn the master switch, fuel and engine ON.
20. Have the tow vehicle operator step on the brakes and release the emergency brake.

21. Have the tow vehicle operator put the vehicle in NEUTRAL and take their foot off the brake. The tow vehicle and trailer should not move. Have tow vehicle operator stay in the vehicle.
22. Press the BED OUT button and the load should ease the trailer and tow vehicle forward until the load is fully on the ground.
23. Have tow vehicle operator put vehicle in PARK.
24. Turn the trailer, master switch and fuel OFF.
25. Remove the securing straps and/or chains from the load and “D” ring.
26. Move the tow vehicle forward 5-10 feet.
27. Level the trailer by pushing the TILT UP button and pin the tilt cylinder stop bracket in place.
28. Turn the trailer, master switch and fuel OFF.
29. Close and secure rear doors.

CHECKING THE TRAILER BEFORE EACH TOW

Pre-Tow Checklist

Before towing, double-check all of these items:

ITEM	Verification Check
Tires, wheels and lug nuts	
Tire Pressure. Inflate tires on trailer and tow vehicle to the pressure stated on the Certification/VIN label of the vehicle.	
Coupler secured and locked	
Test Tail, Stop, and Turn Lights	
Test trailer brakes	
Safety breakaway switch cable fastened to tow vehicle, not to safety chains	
Tongue weight and weight distribution set-up	
Doors and gates latched and secured	
Safety chains properly rigged to tow vehicle, not to hitch or ball	
Cargo properly loaded, balanced and tied down	
Tilt Cylinder stop bracket in place and pinned	
Fire extinguisher	
Flares and reflectors	

Make Regular Stops

After each 50 miles, or one hour of towing, stop and check the following items:

- Coupler secured Safety chains are fastened and not dragging
- Cargo secured
- Cargo door latched and secured
- Tires are not visibly low or flat

BREAKING-IN A NEW TRAILER

Retighten Lug Nuts at First 10, 25 & 50 Miles

Wheel lugs can shift and settle quickly after being first assembled, and must be checked after the first 10, 25 and 50 miles of driving. Failure to perform this check may result in a wheel coming loose from the trailer, causing a crash leading to death or serious injury.

⚠ WARNING

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

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

Adjust Brake Shoes at First 200 Miles

Brake shoes and drums experience a rapid initial wear. The brakes must be adjusted after the first 200 miles of use, and each 3,000 miles thereafter. Some axles are fitted with a mechanism that will automatically adjust the brake shoes when the trailer is “hard braked” from a rearward direction. Read your axle and brake manual to see if your brakes adjust automatically. If you do not have the axle and brake manual, call Davis Village Solutions, LLC.

A hard stop is used to:

- Confirm that the brakes work.
- Confirm that the trailer brakes are properly synchronized with the tow vehicle brakes using the brake controller in the tow vehicle.
- Adjust the brake shoes as necessary.

Synchronizing the Brake Systems

Trailer brakes are designed to work in synchronization with the brakes on the tow vehicle. When the tow vehicle and trailer braking systems are synchronized, both braking systems contribute to slowing, and the tongue of the trailer will neither dive nor rise sharply.

To insure safe brake performance and synchronization, read and follow the axle/brake and the brake controller manufacturers’ instruction completely before attempting any synchronization procedure.

⚠ WARNING

If trailer and tow vehicle brakes do not work properly together, death or serious injury can occur.

Road test the brakes in a safe area at no more than 30 m.p.h. before each tow.

INSPECTION, SERVICE & 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, contact Davis Village Solutions, LLC. Note: In addition to this manual, also check the relevant component manufacturer's manual.

Inspection, Service & Maintenance Summary Charts

Inspection and Service before Each Use		
Item	**Inspection/Service**	**Manual Reference Section**
Breakaway Brakes (Electric)	Check Operation	pg 58 Test Electric Breakaway Brakes
Breakaway Battery	Fully charged, connections clean	pg 59 Breakaway Battery Testing
Brakes (Electric)	Check Operation	pg 57 Test Electric Brakes and pg 88 Synchronizing the Brake Systems
Shoes and Drums	Adjust	pg 88 Adjust Brake Shoes
Ball Coupler & Hitch Ball	Inspect	pg 53 Before Coupling the Trailer to the Tow Vehicle and pg 94 Coupler and Ball
Safety Chains & Hooks	Check for wear and damage	pg 56 Rig the Safety Chains
Tires	Check tire pressure when cold. Inflate as needed.	pg 97 Tires
Hydraulic Fluid Level	Check level on sight gage	pg 106 Hydraulic Components and pg 107 Hydraulic Reservoir
Wheels - Lug Nuts	Check for tightness. Tighten. For new and remounted wheels, check torque after first 10, 25, & 50 miles of driving and after any impact.	pg 88 Retighten Lug Nuts at First 10, 25 & 50 Miles pg 94 Lug Nuts
Tail, stop and turn lights	Check Operation	pg 105 Lights and Signals and pg 111 Trailer Wiring
Conveyor Belt	Inspect for rocks and debris under belt	pg 103 Belt Debris

Inspection and Service Each 3 Months or 3,000 Miles		
Item	**Inspection/Service**	**Manual Reference Section**
Lubrication - door hinges	Inspect for wear. Replace warn parts. Grease.	pg 101 Door Grease Points
Lubrication - tongue and frame pivot bolts	Inspect for wear. Replace warn parts. Grease.	pg 49 Tongue and Frame Pivot Bolts
Main Starting Battery	Fully charged, connections clean	pg 44 Hydraulic Tank & Battery
Structure - Hinges and Doors	Inspect. Repair or replace damaged worn or broken parts	pg 93 Trailer Structure
Shoes and Drums	Adjust	pg 108 Manually Ajusting Brake Shoes
Structure - Drive Chain	Inspect for wear.	pg 104 Chain Wear

Inspection and Service Each 6 Months or 6,000 Miles		
Item	**Inspection/Service**	**Manual Reference Section**
Brake Magnets	Inspect for wear and current draw.	pg 109 Magnets for Electric Brakes
Brake Controller	Check for correct amperage and modulation.	See Controller Mfr's Manual
Brake Pins, Roller and Adjusters	Clean and inspect	See Dexter Axle Manual
Tires	Rotate @ 5,000 miles	pg 97 Tires
Tires	Inspect sidewalls and tread wear. Replace if sidewall worn, has a bulge or treads are worn.	pg 97 Tires
Lubrication - Tilt Cylinder	Inspect for wear, grease zerk each end	pg 101 Tilt Cylinder
Lubrication - Drive Sprocket	Inspect for wear, grease zerk on each bearing	pg 104 Drive Sprocket Maintenance
Lubrication - Tarp Bearing	Grease	pg 100 Tarp Roller
Lubrication - Wheel Bearings	Inspect and confirm free running	See Dexter Axle Manual

Inspection and Service Each Year or 12,000 Miles		
Item	**Inspection/Service**	**Manual Reference Section**
Brake Shoes and Drums	Inspect for wear or scoring. Replace per manufacturer's specifications	See Dexter Axle Manual and pg 108-109 Brakes
Tilt Cylinder	Check for leaks, sticking or scoring.	pg 101 Tilt Cylinder
Wheel Bearings	Inspect for wear, clean and repack with grease.	See Dexter Axle Manual and pg 95
Structure - Frame Members and Fasteners	Inspect all frame members and fasteners. Repair or replace any damaged, worn or broken parts.	pg 93 Trailer Structure
Structure - Welds	Inspect all welds. Repair as needed.	pg 93 Trailer Structure
Structure - Axle attachment bolts	Inspect for wear, loosening fasteners, or elongation of bolt holes.	pg 93 Trailer Structure
Lubrication - Jack	Grease gears at zerk fitting	pg 101 Landing Leg or Jack
Structure - Wheel Rims	Inspect for cracks and dents. Replace as needed	pg 96 Wheel Rims

Inspection and Service Instructions

WARNING

Worn or broken suspension parts can cause loss of control and injury may result.

Have trailer professionally inspected annually and after any impact.

To perform many of the inspection and maintenance activities, you must:

1. Empty the trailer.
2. Place the trailer on firm and level ground.
3. Level the trailer bed and make sure the tilt cylinder is resting against pinned tilt cylinder stop bracket.
4. Have the trailer uncoupled from the tow vehicle.
5. Place each corner of the main trailer frame on secured jack stands.
6. Support the trailer tongue using the trailer jack.
7. Never start the engine while under 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. The tongue of the trailer is to be supported by the front trailer jack. The tilt cylinder must be resting against the pinned in place tilt cylinder stop bracket.

WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

WARNING

Crushing hazard.

The tow vehicle and trailer could be inadvertently moved while a person is under the trailer.

The tow vehicle engine must be off, ignition key removed and parking brakes set before entering the area under the trailer.

Before going under the trailer for maintenance remove the key from the engine, turn the master switch OFF and maintain possession of the remote control.

Trailer Structure

Wash the trailer as needed with a power washer and a detergent solution. If the trailer is damaged in any way, verify that the frame, tongue and all components are not compromised before using the trailer.

WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Fasteners and Frame Members

Inspect all fasteners and structural frame members for bending and other damage, cracks, or failure. Contact Davis Village Solutions, LLC regarding any damage to structural frame members.

Replace any damaged fastener with the same size, material and Grade as the original. Most fasteners on the trailer are Grade 8. If you have any questions about the condition or Grade of fastener contact Davis Village Solutions, LLC.

WARNING

Broken or damaged fasteners can cause injury or damage to trailer and contents.

Inspect for, and repair all damaged parts at least once a year.

WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Welds

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

WARNING

Do not attempt to repair a cracked or broken weld unless you have the skills and equipment to make the repair.

Improper weld repair will lead to early failure of the trailer structure and serious injury or death.

WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Coupler and Ball

Before each tow, coat the ball with a thin layer of automotive bearing grease to reduce wear and ensure proper operation.

Check the locking device that secures the coupler to the ball for proper operation. Keep the ball pocket and latch mechanism clean. Dirt or contamination can prevent proper operation of the latching mechanism. The coupler latch lever must be able to rotate freely and automatically snap into the latched position.

If you see or feel evidence of wear, such as flat spots, deformations, pitting or corrosion, on the ball or coupler, immediately have your dealer inspect them to determine the proper action to prevent possible failure of the ball and coupler system. All bent or broken coupler parts must be replaced before towing the trailer.

This trailer uses an eZ-Latch coupler manufactured by Demco. Please see the Demco website at www.demco-products.com for further information.

Lug Nuts

Lug nuts or bolts are prone to loosen right after a wheel is mounted to a hub.

⚠ WARNING

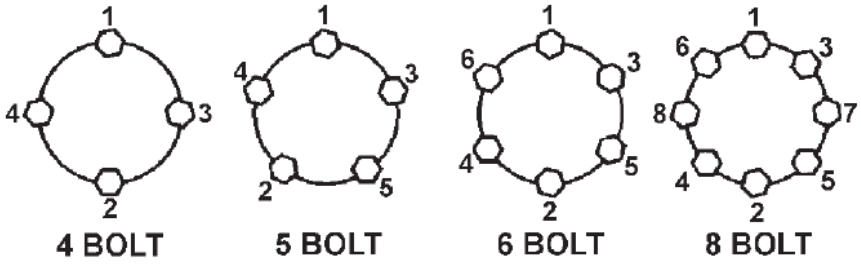
Lug nuts or bolts are prone to loosen after being first assembled. Death or serious injury can result.

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

Stud Size	Maximum Torque
½-20 UNF, class 2A	120 Ft. Lbs.

Tighten the lug nuts or bolts in three stages to the final torque for the axle size on your trailer, to prevent wheels from coming loose. Tighten each lug nut or bolt in the order shown in the following figure. Use a calibrated torque wrench to tighten the fasteners. Verify that wheel studs are free of contaminates such as paint or grease, which may result in inaccurate torque readings. Over-tightening will result in breaking the studs or permanently deforming the mounting stud holes in the wheels, and will void the axle warranty.

Wheel Torque Sequence



WARNING

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

Death or injury can occur if wheel becomes off.

Tighten lug nuts or bolts before each tow.

Wheel Bearings

A loose, worn or damaged wheel bearing is the most common cause of brakes that grab.
To check your bearings, jack up the trailer and secure it on adequate capacity jack stands. Check wheels for side-to-side looseness. If the wheels are loose, or spin with a wobble, the bearings must be serviced or replaced.

WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Grease should be replaced every 12,000 miles or 12 months, all old grease should be removed from the wheel hub cavity and bearings before replacing; do not mix grease types.
See axle manufacturer's manual for detailed bearing inspection and repacking procedure.

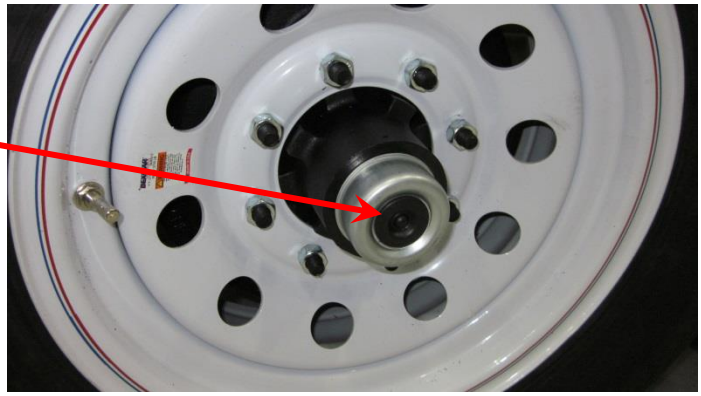
Wheel Bearing Lubrication

1. Remove the rubber plug from the end of the grease cap.
2. Place a standard manual grease gun onto the grease fitting located in the end of the spindle. Make sure the grease gun nozzle is fully engaged on the fitting.
3. While rotating the hub, pump grease slowly into the fitting. The old displaced grease will begin to flow back out the cap around the grease gun nozzle.
4. When the new grease is observed, remove the grease gun, wipe off any excess, and replace the rubber plug in the cap.

Grease specification

Thickener Type	Lithium Complex
Dropping Point	215°C (419°F) minimum
Consistency	NLGI No.2
Additives	EP, Corrosion and Oxidation Inhibitors
Viscosity Index	80 Minimum

Remove rubber cover and grease wheel bearings with a grease gun.



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. Inspect annually for cracks & dents even if no obvious impact has occurred. Replace any damaged wheel.

⚠ WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Tires

Before each tow, check the tire pressure (including the spare) 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 a period of time.

Under inflation reduces the load carrying capacity of the tire and may cause sway and control problems.

⚠ WARNING

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

Check tires before each tow.

⚠ WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

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.

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

Tire Inspection Chart

Wear Pattern		Cause	Action
	**Center Wear**	Over Inflation	Adjust pressure to particular load per tire catalog
	**Edge Wear**	Under Inflation	Adjust pressure to particular load per tire catalog
	**Side Wear**	Loss of camber or overloading	Make sure load doesn't exceed axle rating. Align at alignment shop.
	**Toe Wear**	Incorrect toe-in	Align at alignment shop.
	**Cupping**	Out-of-balance	Check bearing adjustment and balance tires.
	**Flat Spots**	Wheel lockup & tire skidding	Avoid sudden stops when possible and adjust brakes.

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.

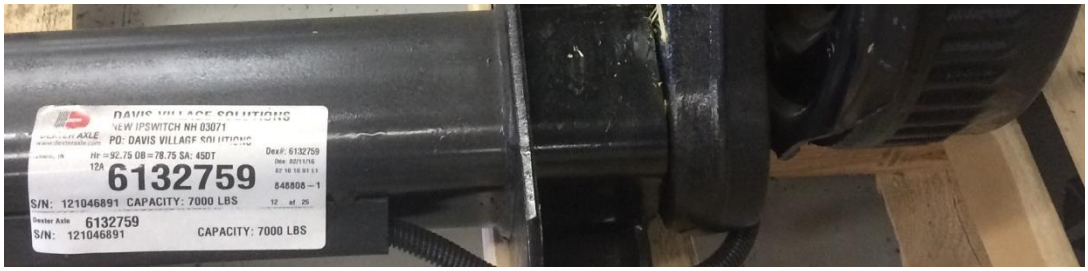
Dexter Axle Identification

The nine digit number can be found on this label or stamped in the center, rear side of the axle.

WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.



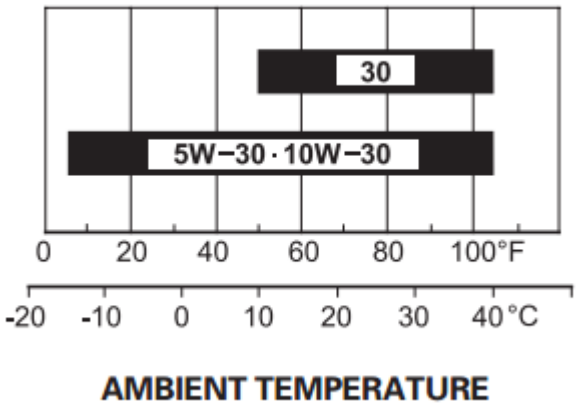
Battery

Your trailer is outfitted with a battery. A fully charged battery will insure proper operation. See Battery and Charging (pg. 21).

If you do not plan on using the trailer for an extended period, remove the cables from the battery terminals. The battery must be kept in a charged condition during storage. The battery could freeze and break if it becomes discharged.

Engine
Please refer to your Honda GX390 manual for in-depth engine information.

Engine Oil
SAE 10W-30 is recommended for general, all-temperature use. Other viscosities are given in the engine manual and may be used when the average temperature is outside the range shown in the engine manual.



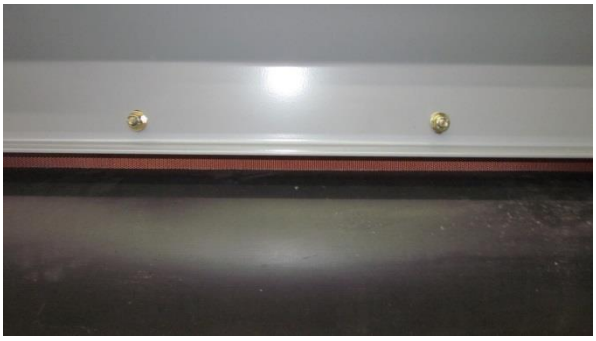
Engine Ground
The engine ground is located on the center frame member above the hydraulic tank and battery.

Guards and flaps
Check sprocket chain guard, front mud flap and bulkhead plastic guards for cracking and replace if needed.

Rear Door Seals

Seals are located on the inside of the rear doors to prevent bulk material from falling out. To adjust:

1. Use 7/16” wrenches, loosen the ¼” nuts that hold the seal in place.
2. With the rear doors closed, slide the rubber seal down in the slots until the strip seal is touching or slightly above the main bed belt.
3. Tighten the nuts.



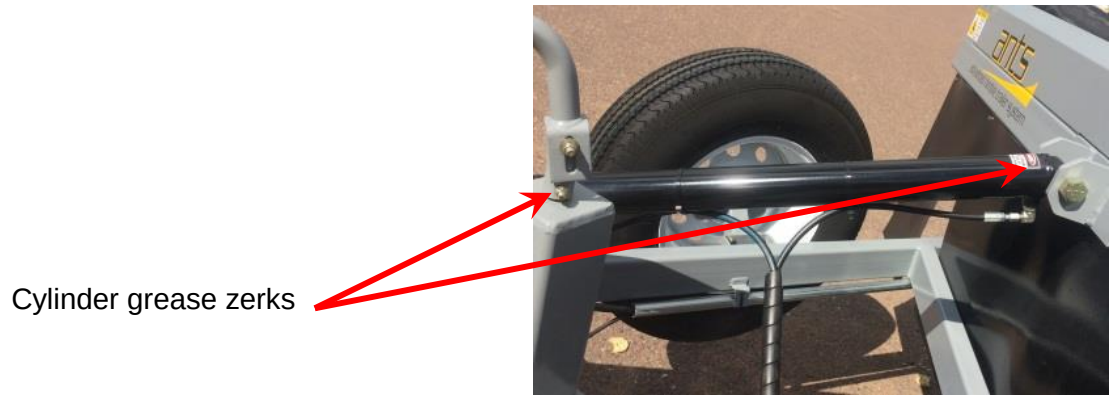
Tarp Roller

The tarp roller is equipped with greasable bearings, grease each side regularly. Replace pressed block bearings on both ends of roller simultaneously if needed. Replace tarp if ripped or torn.

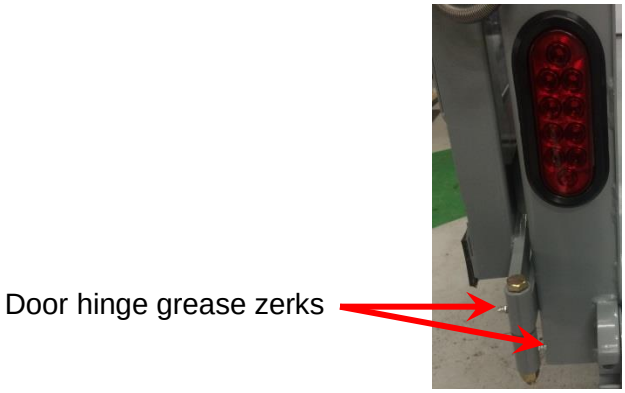
Grease Zerk

Tilt Cylinder

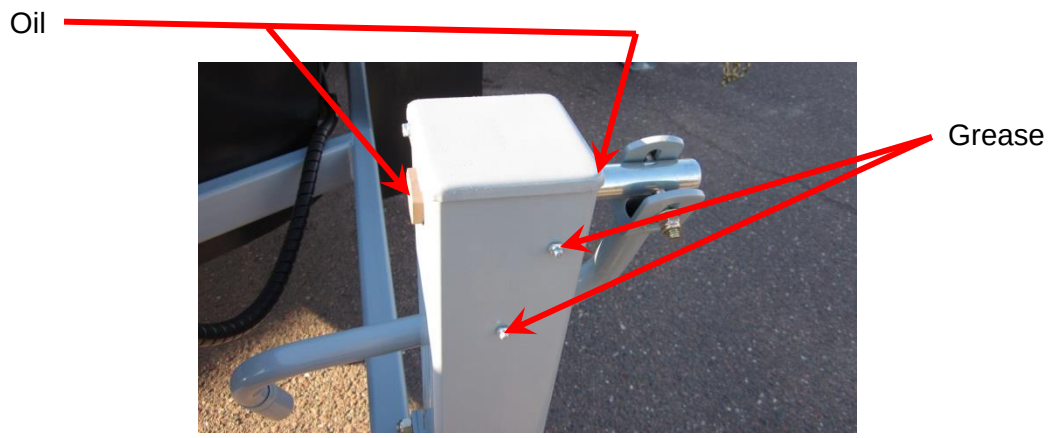
Grease zerks are located in each end of the cylinder, grease regularly. Replace cylinder if leaking or bent.



Door Grease Points



Landing Leg or Trailer Jack



The following procedures should be performed at least annually:

1. The gears, bushings and screw of the jack must be kept lubricated. Apply a small amount of automotive grease at the grease zerks. Rotate the jack handle to distribute the grease evenly.
2. A lightweight oil must be applied to the input shaft bushings at both sides of the jack or gearbox.

3. The drop leg pin must be kept clean and lubricated with lightweight oil.

Belt Wear

The slider belt is constructed of a black rubber protective covering over the top of the belt carcass. The carcass is the fabric tension carrying portion of the belt. The carcass is orange and slides on the trailer bed.

1. Clean the belt with water and a mild detergent. Wash the black rubber surface with the bulkhead in the full BED IN position. Wash the carcass with the bulkhead in the full BED OUT position.
2. Visually inspect both sides of the belt for damage.

WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

3. Inspect the belt at each end to make sure the belt has not pulled away from the clamp plates. Belt holes used to clamp the belt should not be visible and the entire edge of the belt should be even and parallel with the clamp plates.

The main concern is damage to the belt carcass. Contact Davis Village Solutions, LLC if you have questions regarding belt damage.

WARNING

A worn belt can fail causing a load or the trailer to become unstable resulting in death or serious injury.

Belt Debris

Visually check for gravel, rocks, other debris that is between the belt and rear roller. These can be seen as bumps in the belt as it rotates about the rear rollers.

1. Open the rear doors and secure to sides with chain.
2. Turn engine ON and press the BED OUT button to move the bulkhead all the way to the rear of the trailer.
3. Turn engine and master switch OFF.
4. Sweep out the trailer bed.
5. Working from one side of the trailer, use a power washer to rinse off the belt carcass.
6. Turn engine ON and press the BED IN button to move the bulkhead all the way to the front of the trailer.
7. Turn engine and master switch OFF.

⚠ WARNING

Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Belt Tracking Adjustment

Before adjusting the belt tracking the belt should be free of debris and the belt tension should be checked. See “Belt Debris” and “Belt and/or Chain Replacement”.

If the belt is tracking to one side at the rear of the trailer adjust the jack bolts and the rear of the trailer. The center bracket is fixed. In general the 2 jack bolts should be adjusted about the same and the rear rollers inline and parallel to the back of the trailer

If the belt is pulling away from the right side as shown below then tighten the jack bolt on the left side. (Unless the left side jack bolt is longer than the right then loosen the right side). Turn the jack bolt about ½ turn. Run the belt out, run the belt in to check the tracking. Repeat as needed.

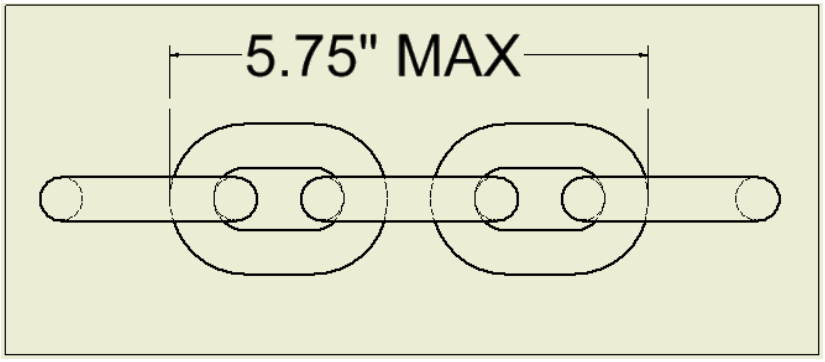
Check belt tension when completed.

Chain Wear

Replace the 1/2 inch Grade 100 chain when measurement shown is 5.75” or greater.

WARNING

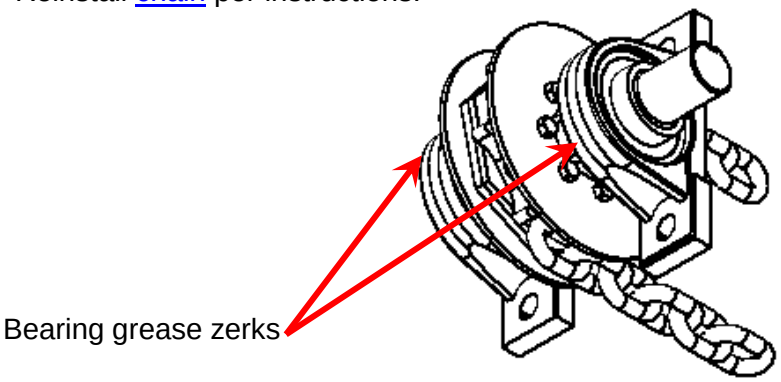
A worn chain can fail causing a load or the trailer to become unstable resulting in death or serious injury.



Drive Sprocket Maintenance

The drive sprocket shaft has two greaseable pillow block bearings. To replace bearings:

1. Park trailer on level ground & lock tilt cylinder.
2. Remove chain per chain replacement instructions.
3. Remove set screws from motor shaft and then slide towards the left side of the trailer.
4. Unbolt bearings and replace.
5. Reinstall chain per instructions.



Trailer Connection to Tow Vehicle

Check cables and connectors for corrosion or bent pins and clean or replace if necessary.

Lights and Signals

Before each tow, check all lights for proper operation. Trailer lights are connected to the tow vehicle's electrical system using the 7-way electrical connector. Repair or replace non-working lights before towing trailer.

The Trailer Lights & Brakes Junction Box is located in the forward right hand side of the trailer.

⚠ WARNING

To avoid risk of collisions, all lights must work.

Check all lights before each tow.

The junction box contains the brake breakaway box and all of the trailer light connections.

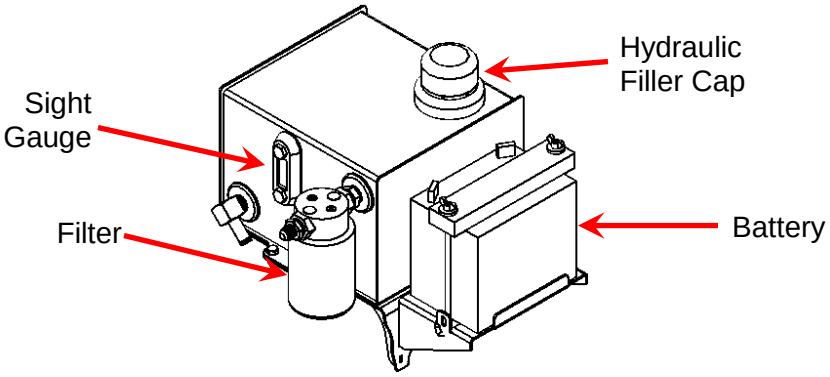
1. If an individual light is not working, check the DIN rail connections inside the Trailer Lights & Brakes Junction Box and then the ground connection for that light. Replace if necessary.

2. If all the lights are not working, check the 7-way electrical connector and the ground coming out of the Trailer Lights & Brakes Junction Box. This box is grounded close by and is exposed to the weather so check if the ground is tight and/or clean if corroded.

Hydraulic Components

Do not alter or substitute any hydraulic components on the ANTs trailer. The tilt system is designed with each component being compatible with the safe and reliable operation of the tilt system. Under no circumstances should you alter the hydraulic pressure or flow rate to the tilt system. Always have the hydraulic system repaired or maintained by a qualified technician.

Change filter annually or more frequently if used heavily.



DANGER

Never alter or substitute any hydraulic system component. Death or serious injury may result.

An altered or component substituted hydraulic system may malfunction resulting in the tilt body falling without warning.

WARNING

High Pressure Fluid Hazard.

Protect hands and body from high pressure fluids.

- **Relieve pressure before disconnecting lines and tighten all connections before applying pressure.**
- **DO NOT use hands to check for leaks.**
- **If accidental skin penetration occurs, seek immediate medical treatment. Failure to follow this warning can result in serious injury, amputation or death.**

WARNING

Never loosen or disconnect a hydraulic fitting, hose or component without the trailer on firm and level ground, bed level and empty, wheels chocked and the tilt cylinder resting against the pinned in place tilt cylinder stop bracket.

Hydraulic Reservoir

Check fluid level on the site gauge prior to towing the trailer. Use a quality AW32 hydraulic fluid or equivalent with anti-wear properties, rust and oxidation inhibitors.

Always have the hydraulic system repaired or maintained by a qualified technician. Should the Hydraulic Reservoir need servicing, disconnect the ground wire first. Next disconnect the positive wire from the power unit battery to prevent inadvertent operation while servicing the unit. Reconnect the battery in reverse order to prevent tools from contacting the frame and short circuiting the battery. Please contact us for service information on your power unit.

DANGER

Never alter or substitute any hydraulic system component. Death or serious injury may result.

An altered or component substituted hydraulic system may malfunction resulting in the tilt body falling without warning.

WARNING

High Pressure Fluid Hazard.

Protect hands and body from high pressure fluids.

- **Relieve pressure before disconnecting lines and tighten all connections before applying pressure.**
- **DO NOT use hands to check for leaks.**
- **If accidental skin penetration occurs, seek immediate medical treatment. Failure to follow this warning can result in serious injury, amputation or death.**

WARNING

Never loosen or disconnect a hydraulic fitting, hose or component without the trailer on firm and level ground, bed level and empty, wheels chocked and the tilt cylinder resting against the pinned in place tilt cylinder stop bracket.

BRAKES

The following sections describe the basic operation, inspection and maintenance for the brakes used on your trailer. For further information, refer to the axle manufacturer's manual.

⚠ WARNING

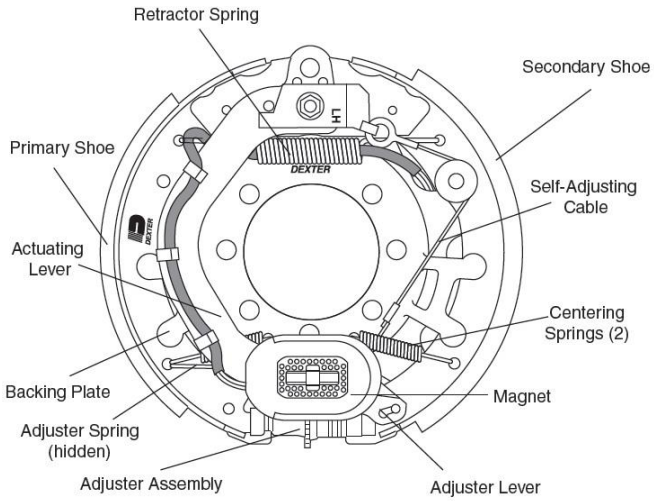
Never go under your trailer unless it is on firm and level ground, uncoupled from tow vehicle, resting on properly placed and secured jack stands, master switch is off, and you are in possession of the engine key.

Never start the engine while under the trailer.

Trailer Brakes – Electric

The electric brakes on your trailer are similar to the drum brakes on some vehicles. The main difference is that vehicle drum brakes are actuated by hydraulic pressure and these trailer brakes are actuated by an electromagnet.

Brake Shoes and Drums



Left Hand or Road Side Brake Shown

Manually Adjusting Brake Shoes

Brakes should be adjusted after the first 200 miles when the shoes and drums have "seated" and every 3,000 miles or if performance requires it earlier. If manual adjusting is needed, follow these steps:

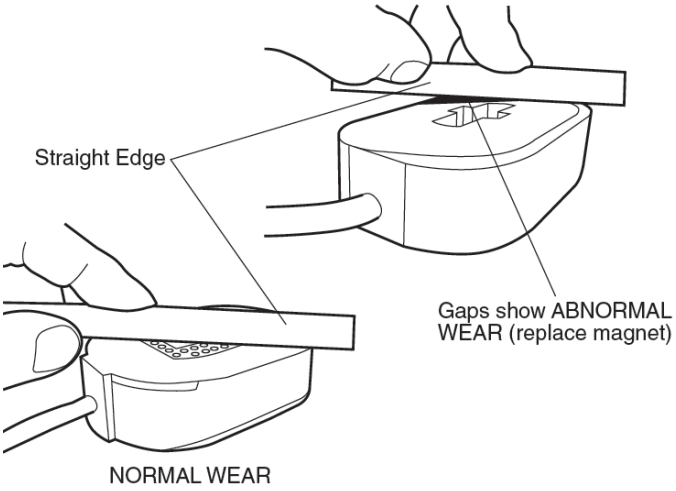
1. Jack up the trailer on the frame and secure it on jack stands. Make sure the wheel and drum rotate freely.
2. Remove the adjusting hole cover from the adjusting slot on the bottom of the brake backing plate.
3. With a screwdriver or standard adjusting tool, rotate the star wheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel difficult to turn.
4. Then rotate the star wheel until the wheel turns freely with a slight lining drag.

5. Replace the adjusting hole cover and lower the trailer to the ground. Repeat the procedure for all brakes. For best results, the brakes should all be set at the same clearance.

Magnets for Electric Brakes

Your electric brakes are activated with high quality electromagnets that are designed to provide the proper input force and friction. Your magnets should be inspected yearly and/or replaced if worn unevenly or abnormally. For best results, the magnet should be flat.

Replace magnet if uneven or if any part of the magnet coil has become visible through the friction material facing of the magnet; the drum must be replaced when replacing magnets and magnets should be replaced in pairs on both sides of the axle.



Shoes and Linings

Replace brake linings if the lining is:

- worn to 1/16” or less
- contaminated with grease or oil
- abnormally scored or gouged or when replacing drums

If replacing, make sure to replace on both sides of the axle to retain brake balance. The brakes must be reseated with the new components by applying the brakes 20-30 times from an initial speed of 40 mph and slowing the vehicle to 20 mph. Allow time to cool between applications. This procedure allows the brake shoes to seat to the drum surface.

Proper brake function is critical to the safe operation of this trailer and tow vehicle, if you are unable to resolve a problem, please contact the nearest repair facility.

Breakaway Battery

This battery supplies the power to operate the trailer brakes if the trailer uncouples from the tow vehicle. Be sure to check, maintain and replace the battery according to the battery manufacturer's instructions.

⚠ CAUTION

Extreme cold weather can degrade battery performance and cause brakes to not operate properly.

Check battery charge level before towing.

Breakaway Switch

This switch engages the electric brakes if the trailer uncouples from the tow vehicle. To check for proper functioning of the switch, battery and brakes, you must pull the pin from the switch and confirm that the brakes apply to each wheel. You can do this by trying to pull the trailer with the tow vehicle, after pulling the pin. The trailer brakes may not lock, but you will notice that a greater force is needed to pull the trailer.

⚠ WARNING

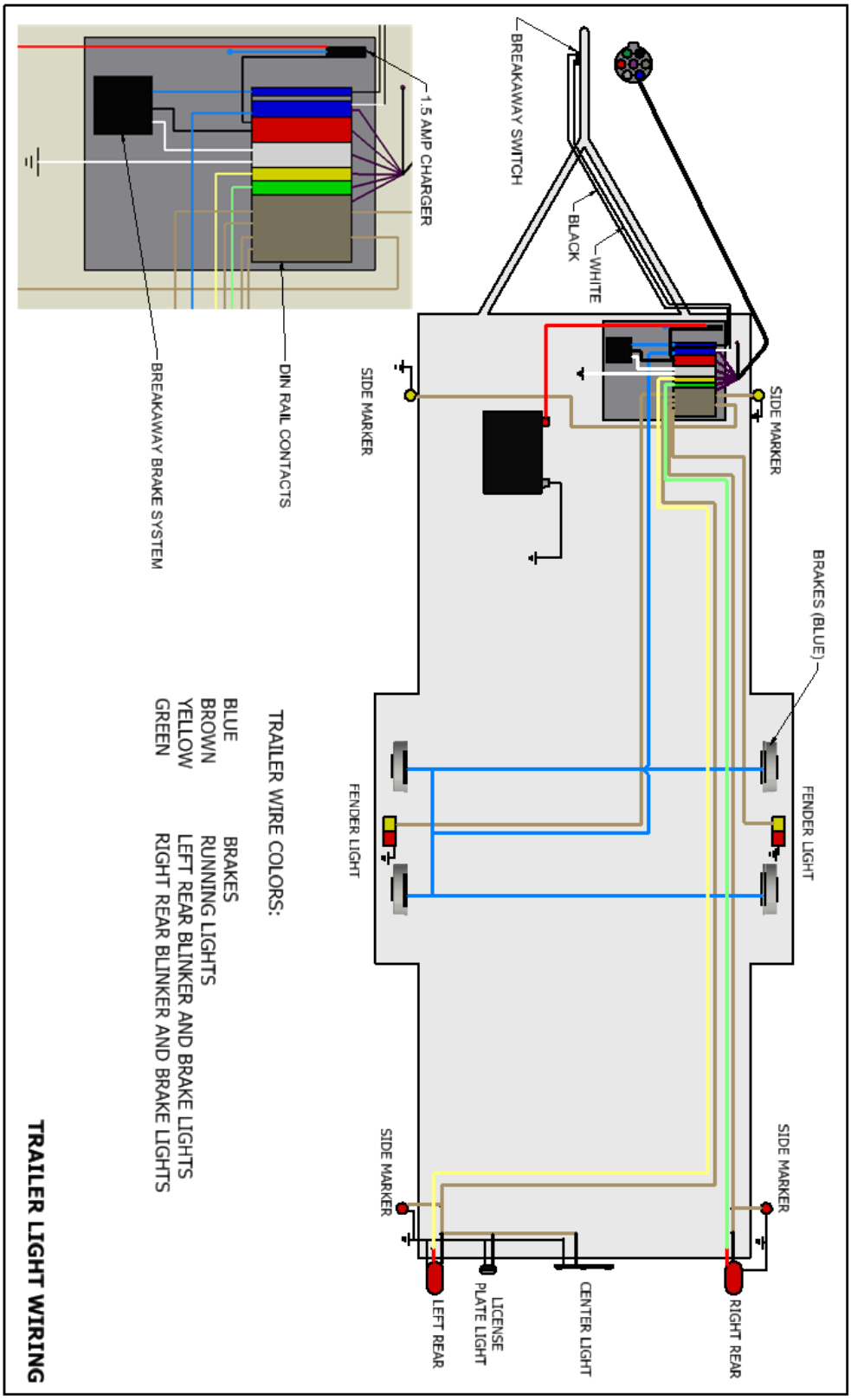
If electric breakaway brakes do not operate when trailer is uncoupled from the tow vehicle, death or serious injury can occur.

Check emergency breakaway brake system before each tow.

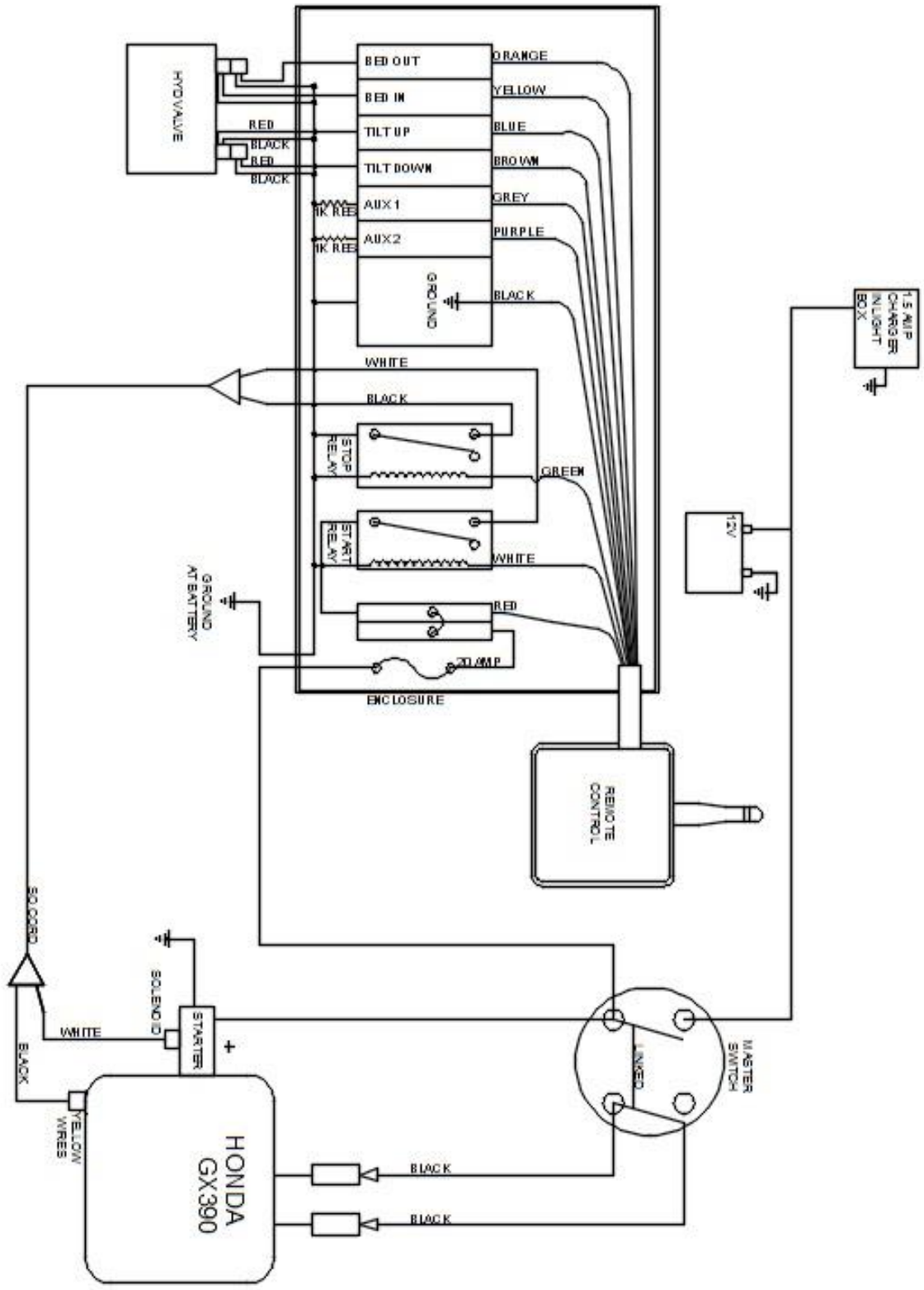
Tow Vehicle Operated Electric Brakes

The electric brakes that operate in conjunction with the tow vehicle brakes must be "synchronized" so that braking is properly distributed to the tow vehicle brakes and the trailer brakes. For proper operation and synchronization, read and follow the axle/brake and the brake controller manufacturers' instructions. If you do not have these instructions, contact Davis Village Solutions, LLC.

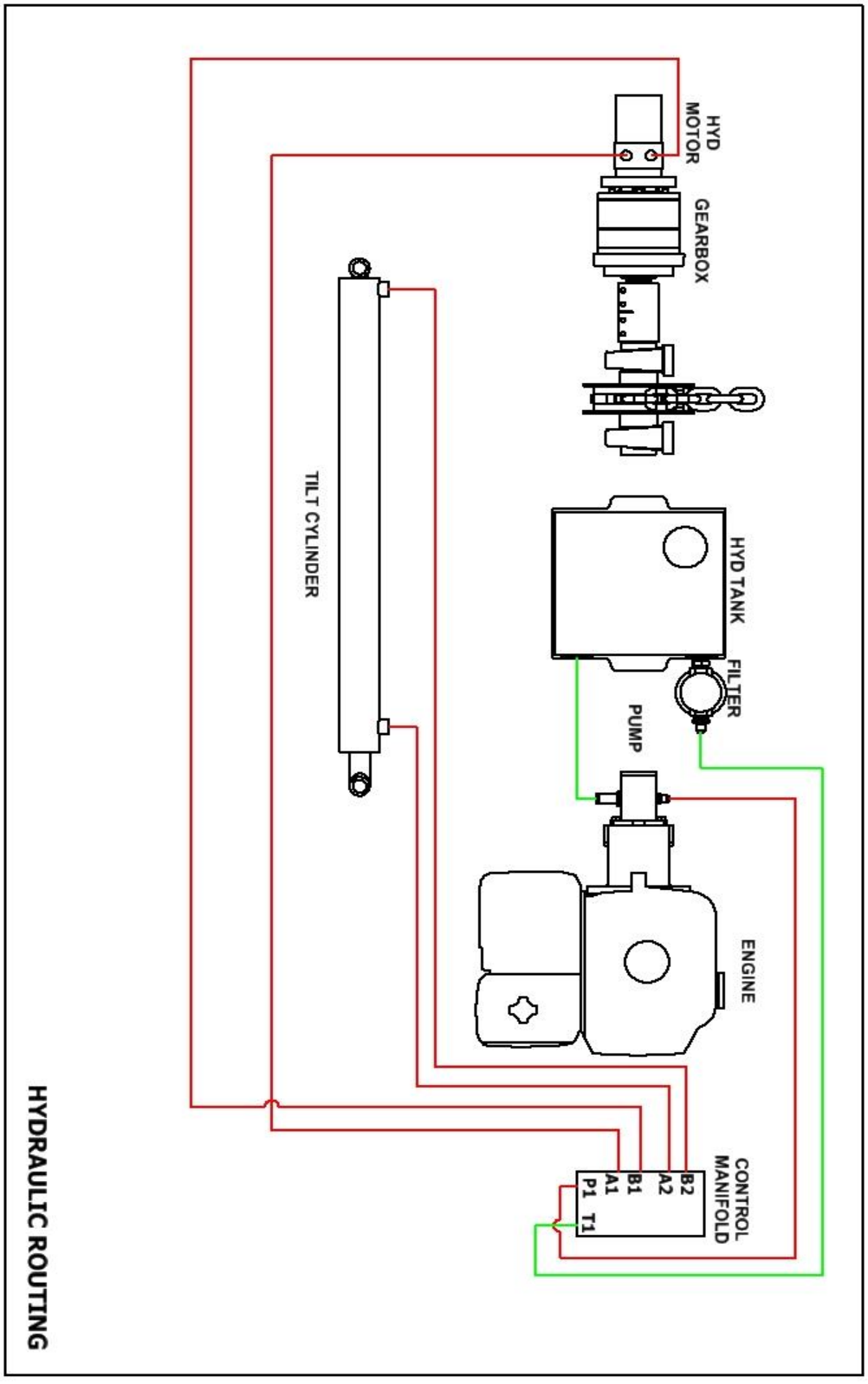
Trailer Light Wiring



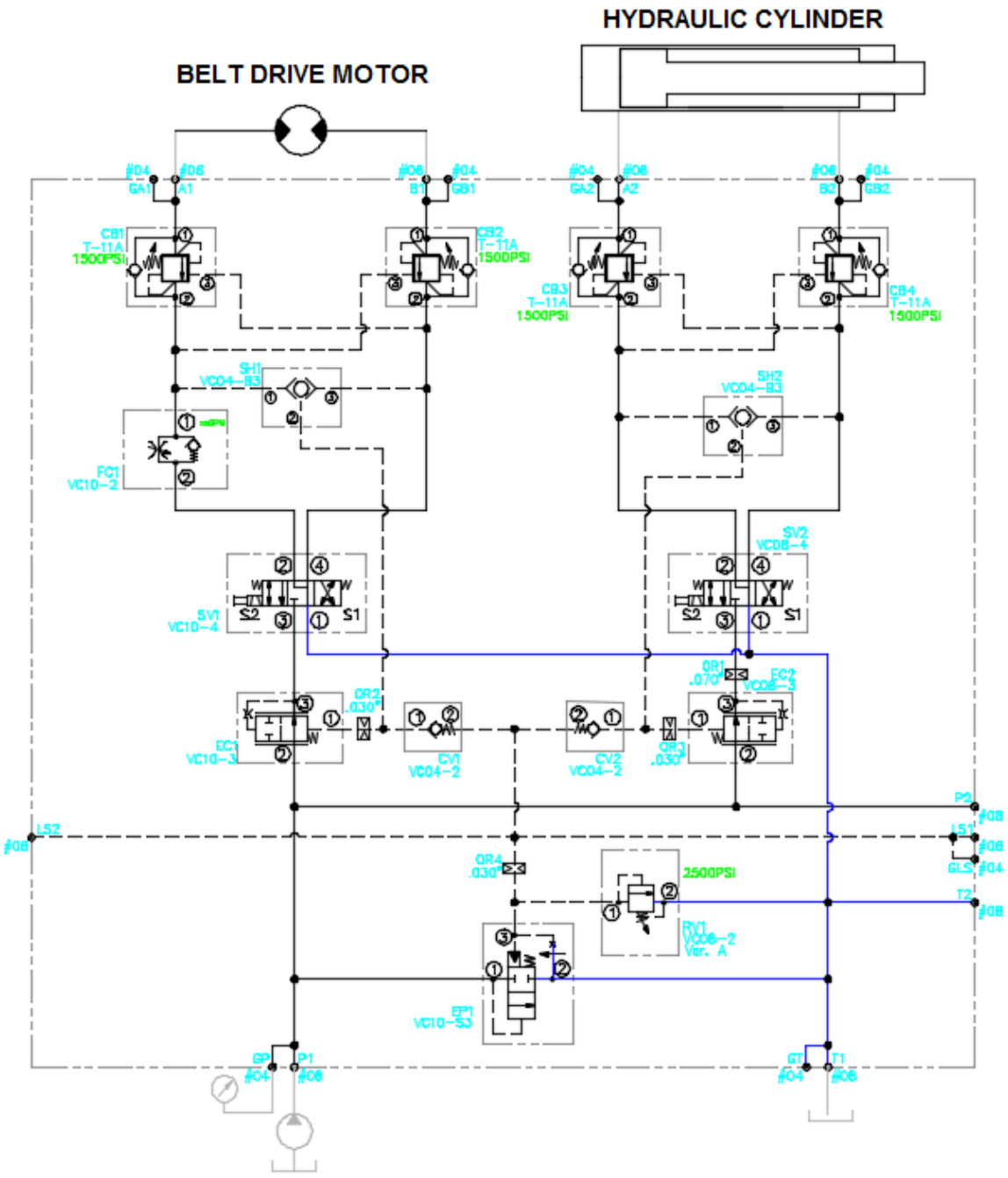
Trailer Remote Wiring



Hydraulic Routing



Hydraulic Schematic



TRAILER STORAGE

Preparation

If your trailer needs to be stored for an extended period or over the winter, it is important that it be prepared properly.

1. Remove the emergency breakaway battery and store indoors; charge the battery once every 90 days.
2. Disconnect the trailer battery by removing the cables and store inside if possible. A frozen battery can break and discharge.
3. Jack up the trailer and place jack stands under the frame so the weight is off the tires. Never place jacks on the axle tube.
4. Lubricate moving parts like the hitch, suspension and other parts that are weather exposed.
5. If desired, remove brake drums then clean and lubricate moveable brake components and reinstall. Inspect bearings then clean and lubricate.

After Prolonged Trailer Storage Inspection Procedure

Before removing trailer from jack stands:

1. Inspect suspension for wear.
2. Inspect brakes and bearings for wear then clean and lubricate if not done when prepping for storage.
3. Check brake magnets with an ohmmeter; the magnets should be at 3.2 ohms. If shorted or worn excessively, they must be replaced.
4. Inspect oil and grease seals for wear or nicks, replace if needed.
5. Lubricate hub bearings.
6. Reinstall hubs and adjust, then mount and tighten wheels.
7. Remove jack stands and lower to the ground.
8. Follow Inspection Chart for every use before towing.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