WABASH™

Operator's Manual

Dry and Refrigerated Van Trailers

This manual contains important safety information. Read manual carefully. Keep manual with trailer at all times.

Part Number: 25001308 Rev. B

WARRANTY

Your Wabash® trailer warranty is defined in your Purchase Agreement and its detailed Terms and Conditions. If you believe you have a valid warranty claim, please contact your sales representative or Wabash customer service for assistance.

Wabash Warranty Department:
(800) 247-2548

Normal Trailer Use Statement

Your Wabash® trailer is designed, engineered, and manufactured to provide years of safe, dependable service. To ensure reliable service, the trailer must be properly maintained, used in normal service, and free from accident or collision damage. “Normal service” means the loading, unloading and carriage of uniformly distributed legal loads of non-corrosive, properly secured cargo.

- The vehicle must be operated on well-maintained public roads.
- Gross vehicle and axle weights must not exceed the labeled ratings.
- The maximum payload of the trailer is the Gross Vehicle Weight Rating (GVWR) less the trailer weight.
- The payload must be uniformly distributed or as specified in the section covering the Floor System
- Cargo is properly loaded, blocked, and braced to prevent load shifts and comply with all relevant sections of Title 49 of the Department of Transportation Federal Motor Carriers Safety Regulations.

INTRODUCTION

Message to the Owner and Operator

Congratulations on your new trailer purchase. You have just purchased the highest-quality semitrailer on the road today. With proper use and maintenance, your Wabash trailer will give you years of safe, dependable service.

This manual will acquaint you with the operation and maintenance of your Wabash trailer and highlight important safety information. The information in this publication applies to standard Wabash specifications only. All variations in specifications cannot be covered in this manual. For operation, maintenance, and service instructions pertaining to components not manufactured by Wabash, please refer to the component manufacturers' information. Instructional and informational decals shown herein are for example only, were current at the time of publication, and may not exist on our specific trailer based on the components specified and/or used.

Please read this publication carefully and follow these recommendations. It is also important that you pass this information on to any operators who may use Wabash trailers.

If you have any questions, do not hesitate to contact your sales representative or the nearest Wabash Trailer Center location for answers.

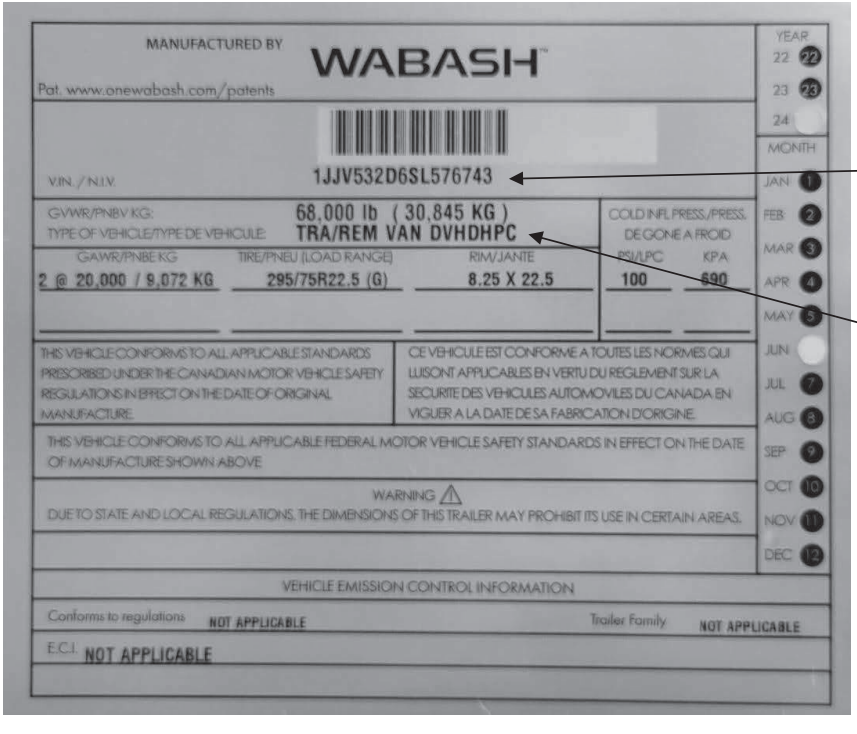
Thank you for choosing Wabash for your trailer needs.

Identification

The official Vehicle Identification Number (VIN) used for title, registration, and identification purposes is listed on the 5" x 7" silver tag located on the trailer's front wall. The VIN tag also contains information specific to your trailer including: model, date of manufacture, Gross Vehicle Weight Rating (GVWR), and Gross Axle Weight Rating (GAWR). When contacting Wabash, always refer to the VIN to obtain parts, repair information and details related to the trailer warranty.

NOTE: *The load ratings for this trailer may not be legal in all states. Check all applicable laws.*

Example VIN Tag



How To Use This Operator's Manual

This manual is organized and written for the end user of the trailer. Following these guidelines as well as proper use and maintenance will help to ensure safe, dependable service.

This manual provides valuable information regarding required inspections and maintenance. It also provides important information for safe operation of the trailer. You must read and follow this manual. Do not lose or destroy this valuable reference. If this manual is lost or destroyed, contact your sales representative or the nearest Wabash Trailer Center location for a replacement. Or, visit onewabash.com/vans-operator-manual to download a copy.

Trailer Accessories

This manual does not provide information on the installation, inspection, or maintenance of trailer accessories that may have been installed on your trailer during or after manufacture by Wabash National. Such accessories may include, but are not limited to, DuraPlate AeroSkirts® or other aerodynamic assistance devices, toolboxes, or belly boxes.

Please refer to the installation or care manuals provided by the manufacturer of the accessory items for maintenance, inspection, and care instructions relating to those accessories.

SAFETY

Note
The descriptions and specifications contained in this manual were in effect at the time the manual was approved for printing. Wabash reserves the right to discontinue models at any time, or to change specifications and design without notice and without incurring obligations.

Safety Advisory Labels

This manual contains Safety Information Advisory Labels to identify potential hazards for persons using, operating, and servicing this trailer. Information preceded by one of these signal words must be observed to minimize the risk of injury to the driver, service personnel, and the general public, as well as to prevent improper service methods that may damage the vehicle or cause it to be unsafe. The following definitions indicate the use of signal words as they appear throughout this manual:

⚠ DANGER:
Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

⚠ WARNING:
Indicates a hazardous situation that could result in death or serious injury if not avoided.

⚠ CAUTION:
Indicates a hazardous situation that may result in minor or moderate injury if not avoided.

NOTICE:
Conveys important information about equipment or procedures that are not related to personal safety but are necessary for proper operation or to avoid property damage.

Additional **Notes** and **Service Hints** are used to emphasize the importance of a procedure when a specific operation, practice, or condition is essential.

Safety Instructions

- Follow applicable federal, state, provincial, and local laws, rules and regulations.
- Prior to operation, visually inspect the trailer and its components and replace components if they are damaged prior to operation.
- Ensure the trailer brakes are correctly adjusted and functioning properly.
- Ensure all lights are operating properly and all reflectors are in good condition and not damaged.
- Exercise extreme caution when entering and exiting the trailer. Always maintain three points of contact. Never climb steps that are not firmly attached or properly maintained.
- Ensure all tires are in good condition and properly inflated in accordance with the manufacturer's recommendation.
- Ensure the tractor is properly attached to the trailer.
- Check to ensure the bogie lock pins are fully engaged into the suspension slide rails, if applicable.
- Visually inspect structural components (including sidewalls, roof, rub rail, floor, doors, landing gear, rear impact guard, coupler and kingpin). Check for damage, dents and corrosion. Any trailer with structural damage needs to be taken out of service and repaired.
- DO NOT operate the trailer with damaged structural, electrical, air, or brake components, rear impact guard, cargo securement hardware, or reflective tape.
- Never perform maintenance unless you are properly trained.
- Repair and/or replace components with the same type of approved parts.
- It is the responsibility of the driver to back up the vehicle in a safe manner, ensuring the area is clear of people and obstructions.

⚠ ***WARNING:***
Use caution when backing the trailer and maneuvering. Be aware of blind areas and personnel or unseen hazards.

- Ensure the trailer is properly secured on a firm, level surface when performing trailer maintenance and inspections.
- Read, understand, and comply with all instructions noted on all labels affixed to the trailer.

⚠ **WARNING:**
Never transport people in a trailer. It is illegal and a direct threat to human life to transport people in a trailer.

SYSTEMS & FEATURES

Kingpin and Upper Coupler

The upper coupler is a heavy fabricated steel assembly attached to the lower front of the trailer, which includes the kingpin. The kingpin provides the connection for pulling by the tractor fifth wheel.

⚠ **WARNING:**
Damage to the kingpin, upper coupler structure and connecting fasteners will compromise the structural integrity of the trailer.

Ensure all replacement fasteners are of the same diameter, design, and strength rating as the original equipment manufacturer.

⚠ **WARNING:**
Never operate a trailer without first inspecting and verifying a proper coupling.

A visual inspection is required by law. Some improper couplings can pass a pull test. Sound alone is not reliable. A visual inspection is mandatory.

Floor System

The trailer floor system includes decking, floor supports/crossmembers, lower sidewalls, and baserail connection fastener.

Regular inspection of the floor system is important to ensure safe use of the vehicle.

The load rating capacity of a floor system varies depending on the model of your trailer.

Contact your sales representative or the nearest Wabash Trailer Center to verify the load rating capacity of this trailer.

Floor System (cont.)

⚠ ***CAUTION:***
Inspect all floor system components prior to loading and unloading.

Floor Care Guidelines:
- Do not damage or compromise the integrity of the floor with excessive nailing in a localized region.
- Do not expose the floor or body components to corrosive materials and solvents. Transporting corrosives may void the warranty.
- All flooring repairs must be performed using materials with identical section properties, thickness, and type/specification of wood or aluminum.

Prior to loading or unloading, verify there are:
- No delaminated and/or broken wood boards.
- No deformed, cracked, or wavy aluminum boards.
- No missing or loose fasteners in decking or baserail connections.
- No bent and/or cracked crossmembers
- No cuts or structural damage on lower section of sidewalls.

⚠ ***CAUTION:***
During Loading:
- Do not exceed the GVWR or GAWR.
- Improper loading, load distribution, and cargo securement can damage the floor system.
- Ensure trailer is on a solid, level surface while loading.
- Tandem suspension should be placed in rearmost position when loading.
- Use dock boards and leveling equipment for forklift entry.
- Avoid pallets with small footprints to reduce chance of puncture.

⚠ ***CAUTION:***
Load Distribution

- Cargo should be uniformly distributed along the length of the trailer from front to rear.
- Cargo should be uniformly distributed along the width of the trailer from side to side. A heavy load should not be loaded on a single side. Place load so that the weights are equal on rear tires to prevent overloading.
- Cargo can be concentrated up to 25,000 lbs spread over 10 ft of trailer length. The load must be evenly distributed over a 10 ft length.
- Cargo should be properly loaded, blocked, and braced to prevent load shifts and to comply with the following sections of Title 49 of the Department of Transportation Federal Motor Carriers Safety Regulations at FMCSA's official web site: www.fmcsa.dot.gov
- Section 393.100 - 393.112 – General rules for cargo securement
- Section 393.114 - Requirements for front end structures used as part of a cargo securement system.
- Section 393.122 - Rules for securing paper rolls

Roof System

The trailer roof system includes roof sheet, roof bows, and fastener connections to the top rail. Regular roof inspections are important to ensure safe operation of the vehicle. Wabash's standard roof material is an aluminum sheet or optional translucent material. The roof structure is a critical element of the trailer. The roof sheet and roof bows provide stability to the top rails and sidewalls.

⚠ ***CAUTION:***
Damage to the roof system can cause instability of the upper sidewalls, resulting in buckling and collapse of the trailer

- When operating your trailer, ensure proper clearance so the trailer's roof will not strike objects (e.g., bridges, underpasses, garage bay doors, trees, etc.).
- Prior to loading the trailer, inspect the roof to ensure it does not have cracks, tears, missing rivets, loss of bow bonding to the roof sheet and/ or loose roof sheet, or puncture damage.
- Promptly replace damaged or missing roof bows.
- When repairing a roof, always use an aluminum sheet or similar-type translucent material of the original thickness.
- During winter use, remove heavy snow and ice buildup. Parking next to buildings during winter may increase the chances of heavy snow loads.
- Damaged roofs can cause water leakage, resulting in cargo damage.

Doors

⚠ WARNING:
Be aware that interior cargo may shift or fall when opening the doors.

Swing Doors

The trailer swing door system includes door panels with seals, hinges, door-locking hardware, and door tiebacks. Regular inspection of the swing door system is important to ensure safe operation of the vehicle.

The primary function of the doors is to provide a weathertight seal. When properly closed, the rear doors hold the body square and provide structural integrity. It is important that the lock rod hardware draws the doors tight and holds the rear frame square. Swing doors will provide safe, dependable service if routinely inspected and properly maintained.

Be sure to read, understand, and comply with all instructions noted on all labels affixed to the door.

⚠ WARNING:
Follow the guidelines below to avoid potentially hazardous situations, that may result in death or serious injury.

- Always open one door at a time.
- In high-wind conditions, use caution when operating doors.
- Never operate equipment with the trailer doors open except when backing into and/or pulling away from a loading dock.
- Drivers should never position themselves inside the swing path of an open door without first ensuring the door is properly secured.
- Inspect hardware including hinges, door-locking hardware, and door tiebacks to ensure there are no damaged or broken components.
- When doors are open, always ensure the doors are properly secured to the sidewalls with door tiebacks.

Swing Doors (cont.)

- Check doors, hinges, lock rods, and holdback devices for damage or distortion from impact.
- Door seals are subject to wear and damage. They must be routinely checked and repaired or replaced to ensure a tight, weatherproof closure that protects cargo.

Overhead Doors

The trailer overhead door system includes door panels, tracks, a door-operating assembly, and locking hardware. Regular inspection of the overhead door system is important to ensure safe vehicle operation.

When the overhead door is in operation, the movement is assisted with the help of a pretensioned spring. When stopped, a properly counterbalanced door should remain at any given position. If the door leaves the floor by itself when the latch is released, the spring tension is wound too tight. If the door has the tendency to drop when stopped, it should be inspected and adjusted or repaired by qualified personnel.

Be sure to read, understand, and comply with all instructions noted on all labels affixed to the door.

⚠ WARNING:
High-tension springs can cause serious injury or death. All repairs and adjustments must be made by trained service personnel.

Before Operating

- Do not manually operate the door with a broken counterbalance spring. The door will not be counterbalanced and will free-fall when opened.
- Inspect all fasteners. Tighten or replace loose fasteners on the lift handle, lock, pull strap, and hinges. Inspect the pull strap and replace it if frayed or damaged.
- Do not tie anything to the pull strap – longer pull straps are available if required.

During Operation

- Check handle movement. Lubricate the handle with light oil if movement is stiff. Have any worn or damaged latch/locking assembly parts replaced.

Overhead Doors (cont.)

- Check door movement. If the door is hard to move, lubricate the rollers, counterbalance spring and bearings. Have damaged or worn rollers and hinges replaced. Do not operate the door if it becomes extremely difficult to move. Have a trained mechanic inspect it.
- Check cable attachments. Have frayed, damaged or worn cables replaced. Cable drums should be snug against the bearings.
- Make sure tracks and door openings are not obstructed through the full range of travel.
- Never operate the trailer with the doors open except when backing into a loading dock. Refer to the Maintenance and Lubrication section for door lubrication information.

⚠ ***CAUTION:***
The frequency of door maintenance will vary with climate conditions and application.

Rear impact Guard

The rear impact guard (RIG) consists of vertical and horizontal structural components, a certification label, welds, and hardware. The guard works as a system in conjunction with the trailer's rear frame and understructure.

Your Wabash trailer rear impact guard meets and exceeds the requirements of United States Federal Motor Vehicle Safety Standards 49 CFR Sections 571.223 and 571.224 and Canadian Motor Vehicle Safety Standard 223. These standards include requirements for strength, energy absorption, dimensions, and testing. At the time of manufacture, a certification label is placed on the forward-facing surface of the guard horizontal member to verify that it meets all requirements.

⚠ **WARNING:**
It is illegal to replace a missing or damaged certification label without proof that the rear impact guard in question has been tested to verify that it meets these United States and Canadian safety requirements. Wabash does not authorize or approve of any party replacing a missing or damaged certification label without seeking the express permission of Wabash.

It is extremely important to inspect the rear impact guard during the driver's daily inspections. Inspect and verify the welds are not cracked, fasteners are intact and secure, and structural components are not buckled or bent. Wabash offers new OEM replacement parts and repair components.

⚠ **WARNING:**
DO NOT use the trailer if the rear impact guard is structurally damaged. Repair or replace immediately. If the rear impact guard is structurally damaged, do not use the trailer until repaired.

Any RIG that has been damaged to the point that it no longer complies with the requirements of Federal Motor Vehicle Safety Standards and/or the Canadian Motor Vehicle Safety Standards must be replaced or repaired to its original condition.

Landing Gear

The trailer landing gear assembly includes mounting plates, support braces, legs, a cross shaft, a crank handle, and hardware attaching the various components. Regular inspection and maintenance is important to ensure safe operation of the landing gear.

The landing gear system has two speeds: high and low. Low gear provides the power necessary for lifting the trailer under load. High gear provides for quick leg extension and retraction without load.

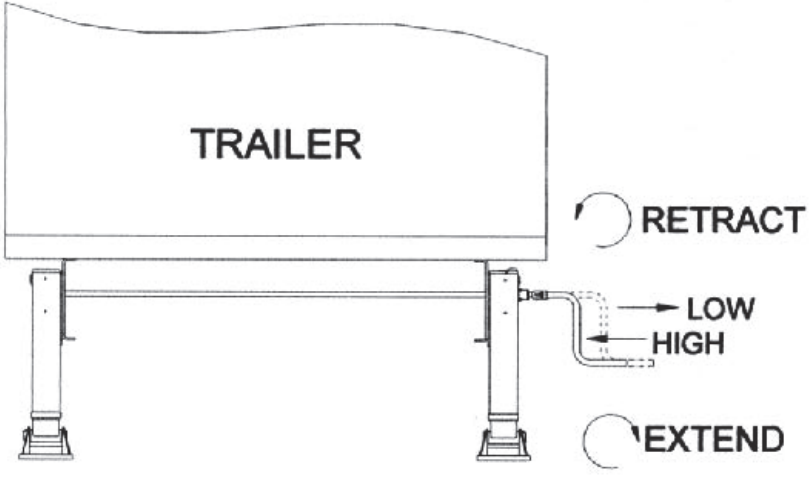
⚠ **WARNING:**
Follow the guidelines below to avoid potentially hazardous situations that may result in death or serious injury.

- Do not uncouple the tractor from the trailer until the landing gear support legs have been extended, contact the ground, and support the weight of the trailer.
- Always Park the trailer on a solid, level surface. Always ensure the trailer parking brakes are applied or use chock blocks for safety when coupling or uncoupling the trailer.
- After gear selection, ensure full engagement of the input shaft into the crank handle. Do not depend on the retaining bolt to transfer the rotation from the handle to the input shaft.
- Prior to operation, inspect all hardware, including the bolt that attaches the handle to the input shaft.
- Maintain firm footing and grip when cranking. Be especially cautious when standing on slippery surfaces.
- Always stow the handle when not in use.
- Ensure regular maintenance and lubrication according to the component manufacturer guidelines.

Landing Gear Operating Instructions

- Push crank handle in for high gear.
- Pull crank handle out for low gear.
- Turn crank:
  Counterclockwise — retract
  Clockwise — extend

NOTE: *Both inside mount and outside mount styles of landing gear operate in the same manner.*



Electrical System

The electrical system includes mounting 7-way receptacle, wiring, lamps, and various other accessories. Regular inspection of the system is necessary for the safe operation of the vehicle.

The electrical system of your Wabash trailer meets or exceeds all federal and state requirements in effect at the time of manufacture.

NOTE: *Wabash's standard front marker lights for US domiciled trailers are PC-rated (visible over 180 degrees) and mounted for protection from damage on the trailer's sides. This mounting arrangement complies with required regulations and satisfies the requirement for lights on the front. (See FMVSS 49 CFR Section 571.108.)*

For the electrical system to operate properly, the tractor must supply a reliable power source of 12 volts DC from the tractor pigtail to the trailer 7-way receptacle. The 7-way receptacle is equipped with a hinged cover that locks the connection in place and protects it from exposure to dirt and water when not in use.

Wiring for most Wabash trailers is shown in the illustration on Page 22.

To achieve the best performance and extend the life of the trailer lighting:

- Keep all lamps and reflectors clean for optimum visibility and safety.
- Never use a test probe to pierce wire insulation.
- Punctures to the wire jacket will allow moisture to collect on the wire strands, corroding critical connections.
- Regularly inspect your wiring junctions and grounds for poor connections and/or corrosion.
- Clean and grease them with a dielectric grease as necessary.
- Regularly inspect your wiring harness for damage and/or unsupported wiring.
- When maintaining the electrical system, verify only original components are used.

⚠ ***CAUTION:***
Always turn your trailer lights off while positioned at a loading dock.

⚠ **WARNING:**
Never operate the trailer with any nonfunctioning light.

Air Systems

The air systems consist of service and emergency gladhands, plumbing, reservoirs, and brake and suspension valves. Regular inspection of the systems is vital to the safe operation of the vehicle.

One of the most important preventive maintenance practices for operators is the routine draining of all air reservoirs to remove moisture and inspecting for contaminants. Care must be taken to ensure foreign matter does not enter the trailer's air systems through the front gladhands, either from the tractor or open, exposed gladhands. It is recommended that all tractors be equipped with air dryers.

⚠ ***CAUTION:***
Follow the guidelines below to avoid potentially hazardous situations.

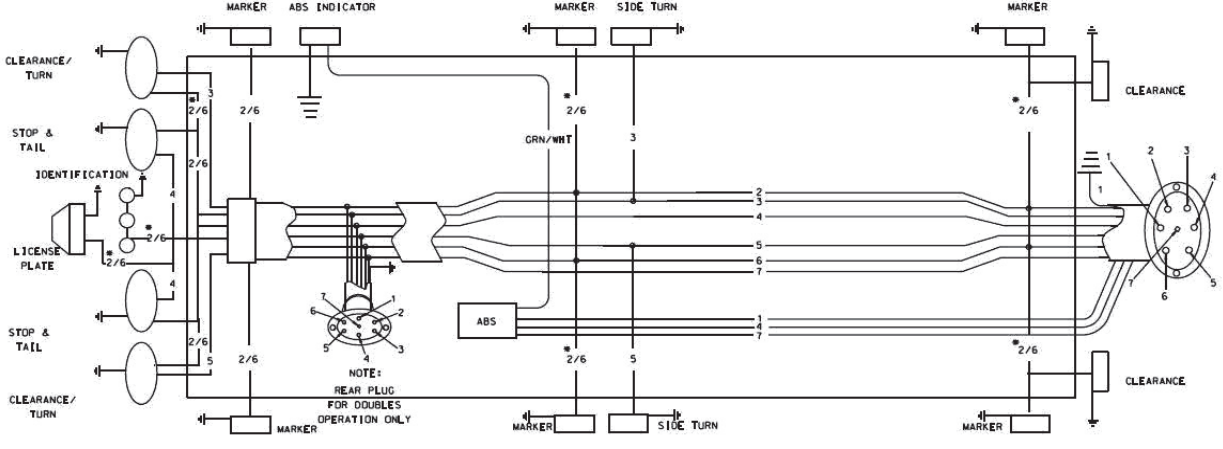
- Monitor tractor air gauges indications of unusual air consumption.
- Routinely clean gladhand screens and open reservoir petcocks to drain moisture from the tractor and trailer reservoirs.
- Never operate the trailer until air gauges indicate the system is fully charged and stabilized.

Standard Wabash Van Wiring Schematic

J560 CONN

CONDUCTOR NO.	COLOR	LAMP AND SIGNAL CIRCUIT
1	WHITE	GROUND RETURN TO TOWING VEHICLE
2	BLACK	CLEARANCE, SIDE MARKER, AND IDENTIFATION LAMPS
3	YELLOW	ROADSIDE REAR & SIDE TURN SIGNAL AND HAZARD LAMPS
4	RED	STOP LAMPS, ABS
5	GREEN	CURBSIDE REAR & SIDE TURN SIGNAL AND HAZARD SIGNAL LAMPS
6	BROWN	TAIL, CLEARANCE, SIDE MARKER AND LICENSE PLATE LAMPS
7	BLUE	FULL TIME ABS

* DENOTES WNC STANDARD



Brake System

The brake system consists of an air system (reservoir, service valve, emergency valve, and air lines), anti-lock brake system (ABS) (wheel speed sensors, tone rings, warning lamp, electronic and pneumatic control modules), and foundation brakes. (slack adjusters, S-cams, brake chambers, shoes or pads, and drums or rotors).

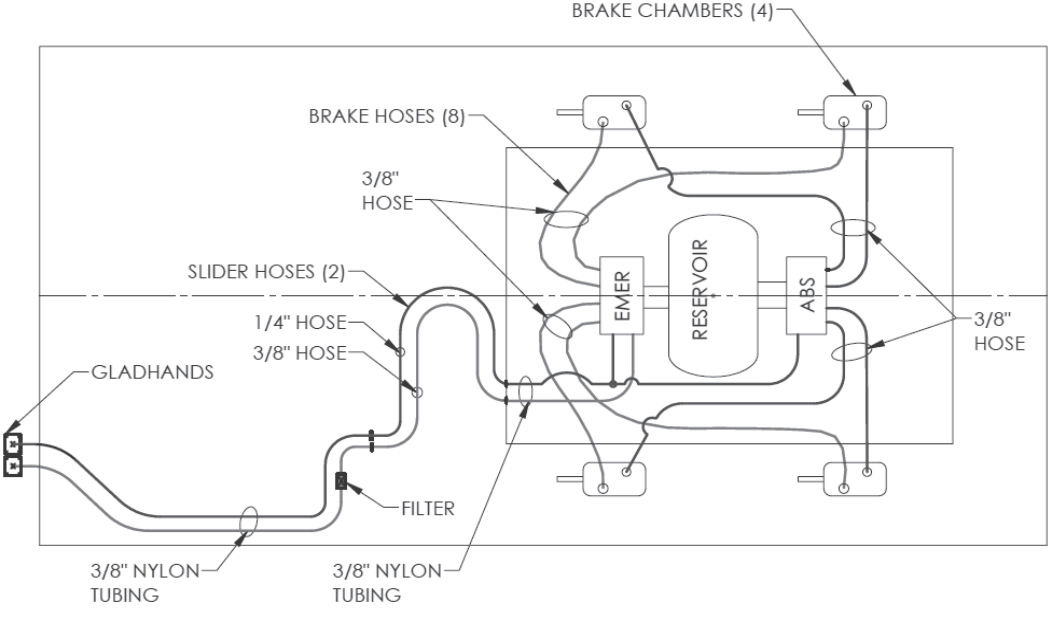
Brake Air System

Trailer brakes are controlled by the tractor brake system. The trailer brake system has two functional systems: supply (emergency) and service.

The supply system connects with the tractor through the red gladhand. It provides a constant supply of air to the trailer and releases the parking brakes and fills the trailer air reservoir.

The service system connects with the tractor through the blue gladhand. It provides a signal for trailer brake application when tractor brakes are applied. Service brakes apply when the tractor brake pedal is depressed, sending an air signal to the trailer service valve. The relay valve sends reservoir air to the trailer's brake chambers, which then actuate the trailer brakes. When the tractor brake pedal is released, the air signal vents, and the brakes are released.

Typical Trailer Brake Air System



Brake Air System (cont.)
The trailer is equipped with spring-applied emergency/parking brakes. The brake air chambers have two sections, one of which contains the emergency/parking brake spring. When no supply air is present, the emergency/parking brake springs mechanically apply the brakes. This function serves as a "fail safe" in case the trailer disconnects from the tractor or there is a significant loss in system pressure.

Trailers are usually equipped with a spring brake priority emergency valve. This dedicates air to releasing the spring brakes before charging the reservoir and supplying the suspension system. To ensure the reservoir and suspension are properly charged, do not operate the trailer until the tractor air gauges indicate the systems are fully charged and stabilized.

The trailer brakes should be inspected frequently for serviceability. Any missing, broken, or disconnected component is hazardous and could result in an accident or breakdown. The trailer should never be placed in service when any of the listed conditions exist. Trailer brake systems will perform safely and efficiently as long as they are properly maintained as part of a comprehensive maintenance program.

⚠ WARNING:
Do not operate the trailer with any brake defects or with the brakes out of adjustment.

- Inspect and adjust trailer brakes according to DOT requirements and a preventive maintenance program.
- Inspect the gladhand connection seals, and repair as needed.
- Inspect air hoses and connections and repair as needed.
- Never use antifreeze and/or additives in the air system.
- Equipping the tractor with an air dryer is recommended.
- Ensure the tractor and trailer gladhands are free of contamination when coupling.
- Monitor the tractor air gauges for signs of unusual air consumption.
- Check and clean the gladhand screens.
- Routinely open all reservoir petcocks to drain moisture from the reservoirs.

Anti-Lock Brake System

The trailer's anti-lock brake system (ABS) includes wheel speed sensors, tone rings, warning lamp, and electronic and pneumatic control modules.

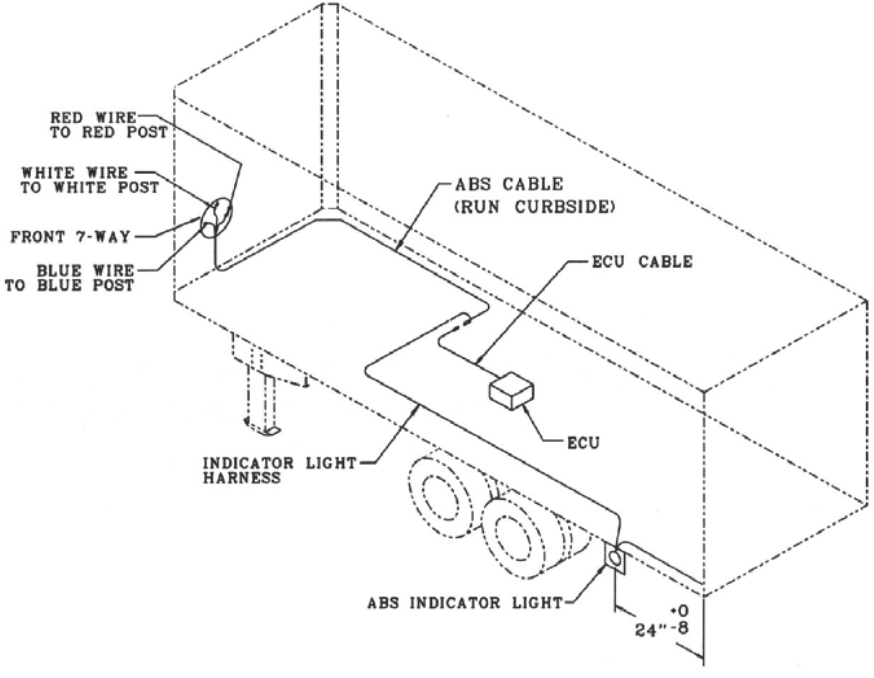
The ABS continuously monitors wheel speed and controls braking during extreme braking applications. When the Electronic Control Unit (ECU) detects an extreme braking application, the unit activates the appropriate pneumatic control valve, and brake air pressure is controlled. If the ABS malfunctions, the trailer will have non-ABS assisted braking. It is important to have a damaged ABS system repaired immediately.

Vehicle safety is your responsibility!

⚠ WARNING:
The ABS indicator light located at the trailer's left rear corner should turn on and off when electrical power is initially applied to the antilock brake system. If the lamp does not turn on, it may be defective and must be repaired. If the lamp turns on and remains on while power is continuously applied, the ABS system must be inspected and repaired by a qualified service facility. Failure to take action can result in property damage, serious injury, or death. Do not use the trailer if the ABS system is malfunctioning.

You must operate your vehicle as safely as possible. While the ABS can help you bring your vehicle to a controlled, safe stop in severe braking situations, ABS cannot compensate for excessive speed, inattentive driving, or improper handling of your vehicle. Safety is up to you.

ABS Electrical System Diagram



Foundation Brake System

The foundation brake system consists of the mechanical components in the overall brake system, including brake chambers, slack adjusters, S-cams, shoes/drums (drum brakes) or pads/rotors (disc brakes). See the foundation brake diagrams on the following pages.

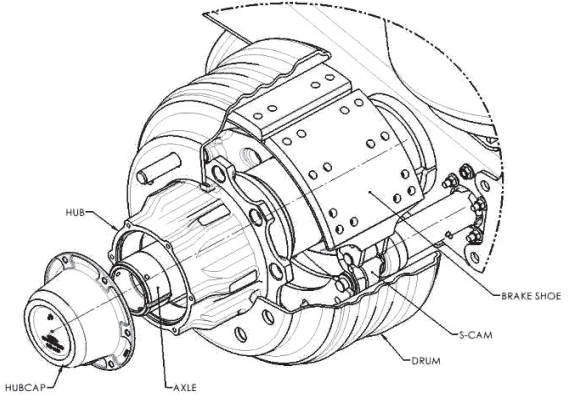
During a service brake application, the brake chambers convert air pressure to mechanical force through the slack adjusters and camshafts to apply the brakes. All trailer brake chambers perform both service and parking brake functions. The service brake stops the trailer from a signal from the tractor.

The parking brake applies when the driver applies the parking brake. The parking brake also applies automatically when the air supply is unintentionally lost. During routine maintenance or in emergency situations, it may be necessary to move the trailer before air pressure can be restored. In such cases, the mechanical spring brake can be manually backed off and released.

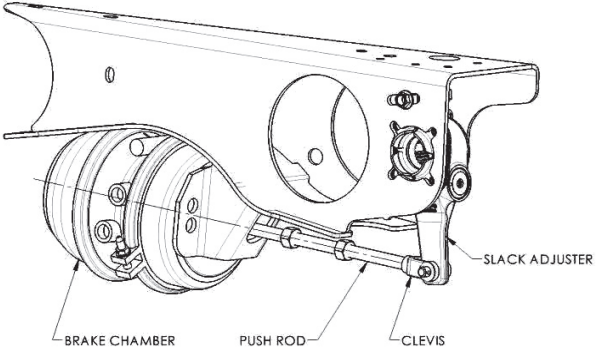
⚠ WARNING:
Always chock the wheels securely to prevent any trailer movement before releasing the spring parking brakes. See the brake chamber manufacturer's service manual for details on how to manually release the spring brake.

It is standard practice for most brake chamber suppliers to attach a caging bolt to the exterior housing for emergency purposes.

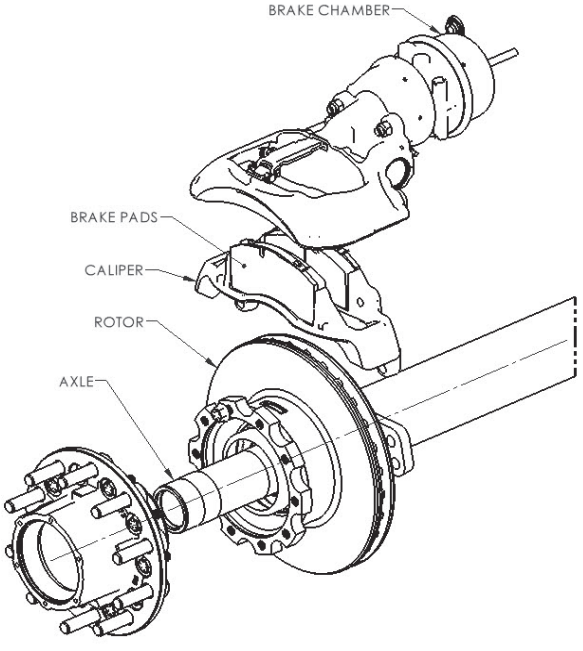
Typical Drum Brake Hub Components (hub partially cut away)



Typical Drum Brake Actuation Components (axle and S-cam components hidden)



Typical Disc Brake Components
(exploded view)



Foundation Brake System (cont.)

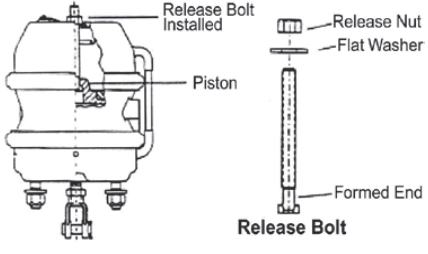
To cage the spring:

a) Remove the plastic end cap.
b) Insert the special release bolt in the center-hole opening. Be sure the formed end of the bolt engages the piston until it bottoms out.
c) Turn the release bolt 1/4-turn clockwise and pull the bolt outward to lock the formed end into the piston.
d) Install a flat washer and release nut on the end of the release bolt and tighten the nut down against the surface.
e) Using a 3/4" open-end wrench, turn the nut clockwise to tighten against the chamber housing.
f) While performing this procedure, check the service chamber pushrod to ensure it is retracting.
g) Continue to tighten the nut clockwise until the spring is fully compressed and the chamber piston is fully retracted.

NOTE: *To reactivate the spring brake from a released position, perform these steps in reverse order.*

⚠ WARNING:
Do not operate trailer if the spring brakes are caged or deactivated. If the spring brakes are caged or deactivated, the vehicle will not have emergency or parking brakes. The vehicle must not be driven in traffic or parked without blocking the wheels in this state. It is important to understand that a caged spring brake eliminates the emergency breakaway feature of the system and represents a potential hazard.

The trailer should not be released into service while the spring brake is inoperative.



Foundation Brake System (cont.)

⚠ WARNING:
Do not disassemble or attempt to repair a spring brake chamber. Serious personal injury could result from accidental sudden release of the high-energy spring.

The slack adjuster functions as a lever in the drum brake system. It converts the linear force of the brake chamber into torque, which forces the brake shoes against the drums. Trailers are built with automatic slack adjusters. Automatic adjusters ensure constant brake shoe force by maintaining brake shoe to drum clearance. Only drum brake axles use slack adjusters. They are not used with disc brakes.

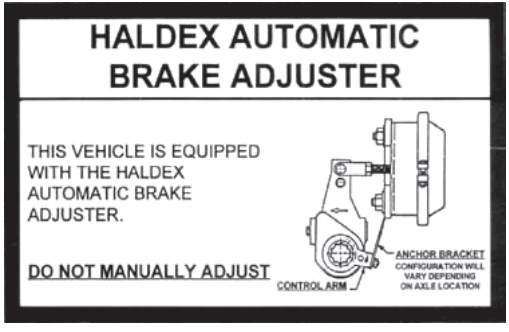
Disc brakes function with a brake chamber applying linear force to a caliper/carrier assembly containing brake pads. The pads apply friction by squeezing both sides of a steel rotor that is attached to the rotating hub. The automatic slack adjustment mechanism Is contained within the caliper assembly in a disc brake system.

⚠ WARNING:
Service brakes and parking brakes must be inspected by the driver before and after operation. NEVER operate a trailer with defective brakes.

- Verify the brake chamber plastic end cap is in place to seal out dirt and contaminants.
- Visually inspect all components for broken or missing parts, damage, and corrosion.
- Ensure the service brake chamber clamping ring is secure and damage-free.
- If a defect is suspected, place the vehicle out of service until a qualified mechanic can perform repairs.

⚠ WARNING:
Before entering traffic, check the operation of the trailer brakes to ensure they are in proper working order. Operate the foot pedal, dash control valves, and hand valve to verify the brakes apply and release each time. Listen and be alert for air leaks during each type of brake application.

Example of Slack Adjuster Decal



Leaf Spring Suspension

The leaf spring suspension consists of spring hangers, spring seats, equalizer bushings, leaf spring assemblies, torque arms, and U-bolts. See the leaf spring suspension diagram on the following page.

Care and maintenance are required to ensure satisfactory service life. The springs must be tightly clamped to the spring seat and axle to prevent any movement between U-bolts. Excessive movement can result in misalignment of axles. It is important that spring U-bolts be checked for proper tightness regularly. Leaf spring suspension inspection and maintenance requirements are available at the component manufacturer's websites.

For example, the Hutchens suspension's torque requirements are reflected in the diagram on this page. Make sure you follow the manufacturer's requirements for your specific make and model of suspension.

⚠ WARNING

SAFETY ALERT! (1) FOLLOW ALL TORQUE REQUIREMENTS. (2) DO NOT USE ANY COMPONENT WITH VISIBLY WORN OR DAMAGED THREADS. FAILURE TO FOLLOW THESE SAFETY ALERTS CAN LEAD TO LOSS OF VEHICLE CONTROL, PROPERTY DAMAGE, SERIOUS PERSONAL INJURY OR DEATH.

Hutchens Suspension Torque Requirements
9600-9700 Series (Decal Part Number 16086-01 Rev. J)

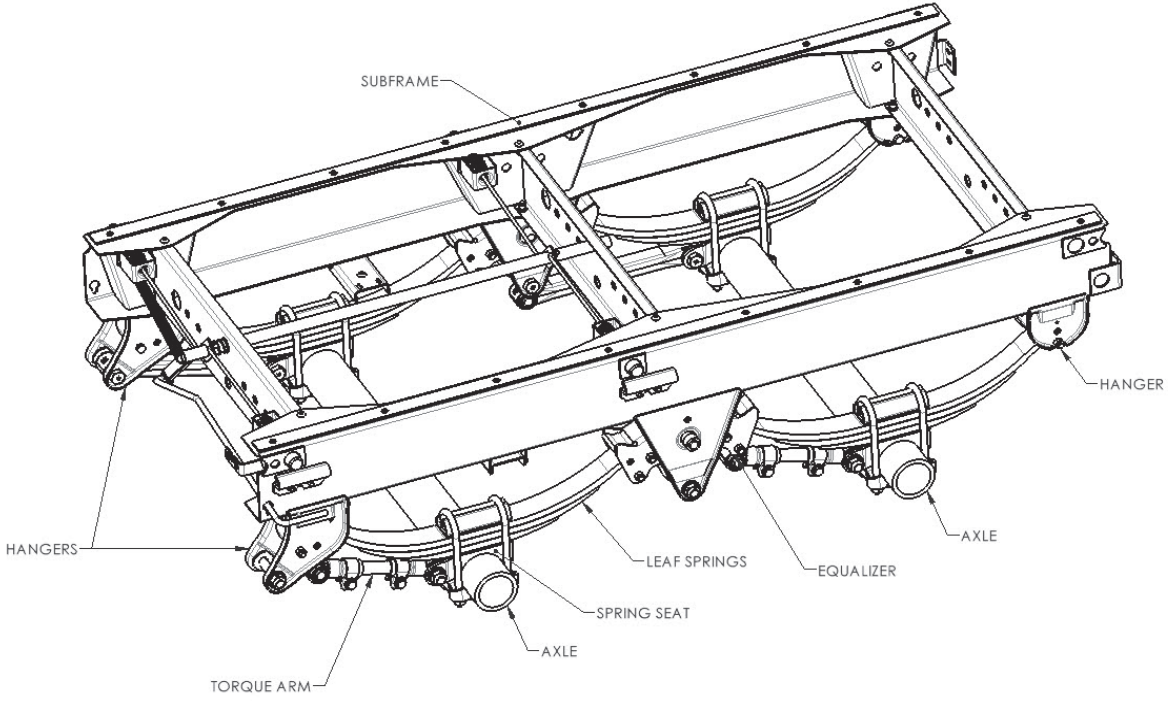
After an initial break in period, approximately 1000 miles, and at least every 4 months periodically thereafter, ALL bolts and nuts should be checked to insure that recommended torque values are being maintained.

Oiled torque values listed are for new fasteners with lubricated threads. It is recommended that new installations be performed with oiled fasteners. For dry threads which have been in service, use the higher torque values which are noted below.

	OILED	DRY
1 1/8-7 (9600 / 9700 Rocker Bolt)	590 lb-ft	790 lb-ft
1-14 or 1-8 (9700 Radius Rod Bolt)	540 lb-ft	720 lb-ft
7/8-14 (Axle U-Bolts & 9600 Radius Rod Bolt)	350 lb-ft	470 lb-ft
3/4-16 (Axle U-Bolts)	310 lb-ft	420 lb-ft
5/8-18 (Radius Rod Clamp Bolt)	130 lb-ft	170 lb-ft
5/8-18 (Spring Retainer Bolt)	35 lb-ft	50 lb-ft

HUTCH Hutchens Industries — Hutchens Industries, Inc., P.O. Box 1427, Springfield, Missouri 65801-1427 Toll Free 1 (800) 654-8824

Typical Leaf Spring Suspension



Air-Ride Suspension

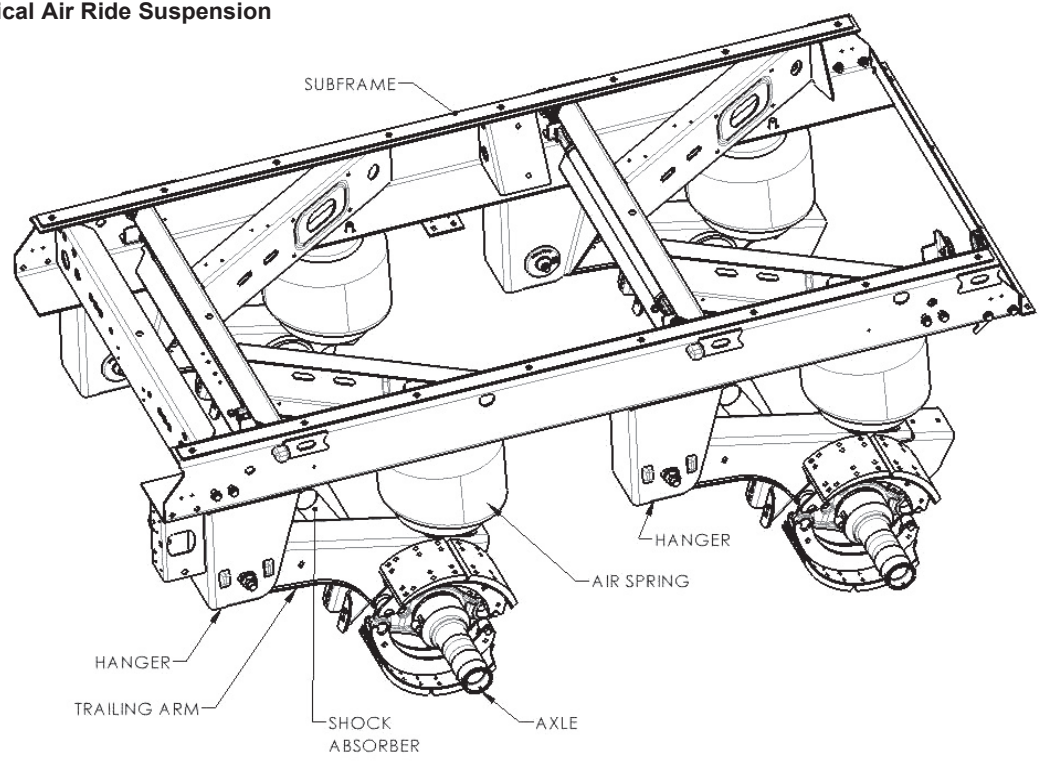
The air-ride suspension system consists of frame brackets, suspension links, axle connections, air springs, shock absorbers, and a height control valve. See the air-ride suspension diagram on the following page.

The air-ride suspension is designed to provide a level, cushioned ride throughout all legal load ranges. The height control valve maintains the suspension ride height by regulating air to the air springs. Trailers are typically equipped with a spring brake priority emergency. This dedicates air to releasing the spring brakes first, before charging the reservoir and supplying air to the suspension system. To ensure the reservoir and suspension are properly charged, do not operate the trailer until the tractor air gauges indicate the system is fully charged and stabilized.

In compliance with DOT requirements, the suspension system should be inspected before and after operation:

- Check each air spring to verify sufficient inflation. Fill each spring to equal firmness and verify there is no physical damage present.
- Check all shock absorbers for leaking or damage.
- Check the height control valve to ensure the linkage is properly connected.

Typical Air Ride Suspension

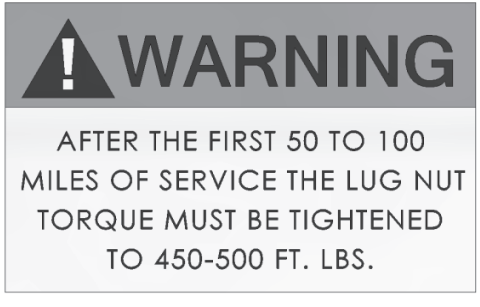


Hubs

⚠ **WARNING:**
Cracked wheels, loose nuts, or missing studs are extremely hazardous and may cause accidents or breakdowns.

Wabash trailer wheel nuts are torqued at the factory but must be re-torqued after being put into service. Torque to 450-500 ft-lbs after the first 50-100 miles and after wheels are removed for maintenance or repairs.

Lug nuts should always be tightened in a cross-pattern sequence as shown in the diagram on this page.



Check hub gaskets and seals for lubrication leaks before each trip. Leaking seals can cause damaged wheel bearings and possible failure of the wheel-end assembly.

Hubs should be mounted and balanced properly and in accordance with the hub manufacturer's instructions prior to operation of the trailer.

MAINTENANCE & LUBRICATION

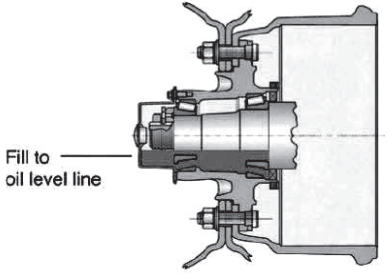
Wheel End Lubrication

Two types of lubrication are used in wheel ends: oil or semi-fluid grease. If oil is used, check the oil level in all hubs before every trip. Add oil when low, but only to the level indicated by the mark on the hubcap face. Too much oil may cause leaks

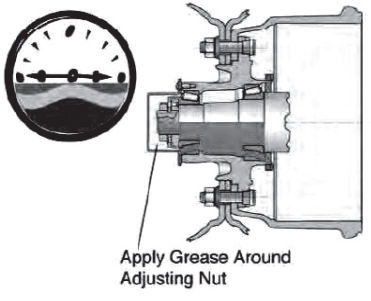
Semi-fluid grease will be indicated by a label on the wheel end or trailer. There is no oil level viewing window in the hubcap. Though there is no way to visually check the lubrication level, you must still inspect the wheel ends before every trip to ensure there are no lubrication leaks. Grease around the inner hub seal or grease contamination on the inside of a wheel and tire indicates a possible leak and requires immediate service.

Wabash recommends compliance with TMC Recommended Practice No. 631 with respect to wheel-end-lubrication inspection, maintenance, and service. This Recommended Practice states that a hub should be filled with semi-fluid grease to the 3 o'clock-and-9 o'clock level (cavity filled 50% full).

Lubrication Fill – Oil (Static)



Lubrication Fill – Semi-Fluid Grease (No. 00)



⚠ **WARNING:**
Follow the guidelines below to avoid potentially hazardous situations that may result in death or serious injury.

- Never mix oil and semi-fluid grease in the same wheel end.
- Always use the same type of oil or semi-fluid grease in the same wheel end.
- Consult your local lubricant supplier for product recommendations.

Door Maintenance

Lubricate the door counterbalance, bearings, rollers, hinges, and locking handle regularly with a dry spray lubricant according to manufacturer's recommendations. When lubricating, wipe dirt residue and buildup from the roller tracks. Do not use any petroleum-based lubricant on the rubber door seals.

⚠ ***CAUTION:***
The frequency of door maintenance will vary with climate conditions and use.

Tire Care

Limiting Factors and Load Limits

Always maintain proper tire pressure and stay within tire load limits. Tire pressure should be measured when tires are cold. The total load capacity per tire must not exceed the tire manufacturer's specified load rating. Each tire has its size, load rating, and maximum pressure molded in the sidewall face. The Vehicle Identification Number (VIN) plate on the front wall of your trailer also provides the Gross Axle Weight Rating (GAWR), tire size, load rating, and inflation pressure.

⚠ WARNING:
Inspect the tires acording to the following guidelines listed below to avoid potentially hazardous situations that may result in death or serious injury.

- Inspect the tires for nails and other objects embedded in the rubber.
- Inspect the treads for stones and other objects lodged between duals.
- Inspect the tires for abrasions, cuts, dry rot, or other damage.
- Inspect the condition of the treads to ensure proper, even wear and DOT tread-depth compliance.
- Check that the dual tires on any axle end are of the same diameter.
- Inspect the tire valve stems for damage and missing valve caps.
- Never operate equipment with tires that have low or no pressure.
- When replacing tires and rims, make sure they are replaced with the same size, type, and load rating. (Original tire size and inflation pressure can be found on the VIN label).

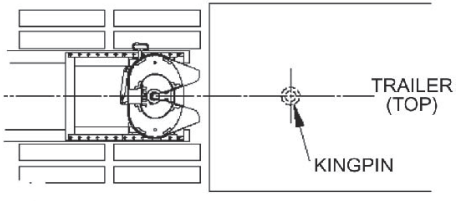
OPERATION

Hookup/Coupling and Uncoupling

Inspect the trailer coupler and kingpin for damage, cracking, excessive corrosion, and wear. Never operate a tractor/trailer combination that is not properly coupled.

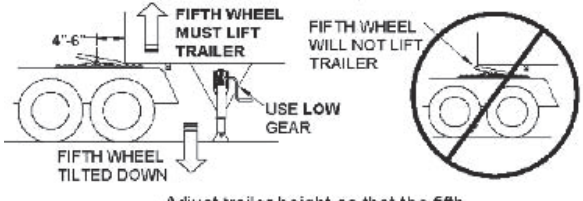
The Wabash standard kingpin setting (distance from front of trailer) is 36", but other settings are available. Confirm compatibility with the tractor before coupling.

Position the tractor directly in front of the trailer, never back under the trailer at an angle. This can result in damaged landing gear.



Inflate tractor air suspension and back up **close** to the trailer centering the kingpin with the throat of the fifth wheel and **STOP!**

Adjust the trailer height so that the trailer contacts the fifth wheel approximately 6" behind the pivot. IMPORTANT! When coupling, you must lift the trailer to ensure proper engagement of the kingpin to the fifth wheel.



Adjust trailer height so that the fifth wheel will lift the trailer.

Back up the trailer carefully, slowing to a near stop until the fifth wheel locks.

Pull forward in low gear to test the coupling. This initial check also confirms the trailer parking brakes are applied.

⚠ **WARNING:**
Visually inspect and verify proper coupling before operating trailer. A visual inspection is required by law. Some improper couplings can pass a pull test. Sound alone is not reliable. A visual inspection is mandatory.

- Visually inspect the coupling using a flashlight.
- Ensure there is no space between the upper coupler and fifth wheel.
- Ensure the fifth wheel jaws have closed around kingpin shank.
- Ensure the locking lever is in the “locked” position.
- Inspect and connect the airlines and electrical cord, ensuring proper clearance.
- Fully retract the landing gear and stow the crank handle. Use low gear until the legs are no longer in contact with the ground.

Sliding the Tandem

Most Wabash trailers have sliding tandems to allow for bridge law compliance, maneuverability, or to comply with loading dock safety requirements. Sliding tandems are held in place by a locking pin mechanism operated by a pull handle or air-operated control.

⚠ ***CAUTION***
Exercise caution when repositioning the tandem location. Do not position any part of your body under the trailer while it is moving.

The proper method of sliding the tandem:

1. Position the tractor and trailer in a straight line on level ground and note the position of the vehicle in reference to how far the trailer should travel before reaching the desired tandem position.
2. Set the parking brakes and proceed to the bogie lock pin release handle or button.
3. After assuming a safe, firm stance, manually disengage the bogie lock pins.
4. After returning to the tractor, ease forward or backward in the lowest gear range available (walking speed) to the desired suspension location. If the bogie lock pins are in a bind and the tandem fails to slide, it may be necessary to apply minimal force in a forward and rearward direction to allow the pins to completely disengage. The driver must be prepared to stop immediately upon low-speed contact with the front or rear stop bar.
5. Once the tandems have been repositioned and the tractor's parking brakes are set, the driver must visually inspect and verify all locking pins are fully engaged in the slide rails and the handle is in the locked position or the button released. The trailer can then be operated.
6. Only when there is minimal traction from rain, snow, or gravel it may be necessary to apply the trailer parking brakes while traveling at a minimal speed. This practice aids in breaking the friction between the tandem and slide rails and is acceptable as long as the driver slows to a creep just before contacting either the forward or rear stop bar.

An example of a trailer sliding tandem warning label can be found on the following page.
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⚠WARNING

FAILURE TO LOCK THE SLIDING SUSPENSION CAN CAUSE A LOSS OF VEHICLE CONTROL, DEATH, SERIOUS BODILY INJURY, AND PROPERTY DAMAGE.

Hutchens Slider Series (Decal Part Number 16088-01 Rev. D)

THIS TRAILER IS EQUIPPED WITH A SLIDING SUSPENSION THAT MUST BE SECURELY LOCKED PRIOR TO OPERATION. THE SLIDING SUSPENSION IS LOCKED WHEN THE MAIN BODY OF EACH LOCK PIN EXTENDS THROUGH THE HOLES IN THE RAILS. BEFORE PULLING THE TRAILER, THE SLIDING SUSPENSION MUST BE CAREFULLY INSPECTED TO ENSURE IT IS PROPERLY POSITIONED AND THE MAIN BODY OF EACH LOCK PIN DOES EXTEND THROUGH THE HOLE IN THE RAILS. BEFORE PULLING THE TRAILER, APPLY TRAILER BRAKES AND GENTLY ROCK TRAILER BACKWARDS AND FORWARDS TO ENSURE SLIDING SUSPENSION IS SECURE.

TO POSITION THE SLIDING SUSPENSION:

1. Set both tractor and trailer brakes.
2. Remove locator bar from behind slider and move to desired location.
3. To release the lock pins, pull operating handle all the way out and lock in place.
4. Release the tractor brakes and carefully drive forward or backward until the sliding suspension is at the desired location.
5. Release operating handle and visually check all lock pins for locking. The main body of each lock pin must extend through the holes in the rails.
6. Lock locator bar in both body rails immediately behind slider.
7. With the trailer brakes applied, gently rock trailer backward and forward to ensure sliding suspension is properly locked and follow procedures set out above before pulling the trailer. The lock pins must be checked at each stop to ensure each is locked.

HUTCH Hutchens Industries

Hutchens Industries, Inc., P.O. Box 1427, Springfield, Missouri 65801-1427 Toll Free 1 (800) 654-8824

Refrigerated-Trailer Cooling Unit

If your Wabash trailer is a refrigerated van, it is essential that you inspect and maintain your refrigeration unit according to the manufacturer's recommendations.

Safety Appliances

Use all steps and handholds with caution. Such components are subject to wear, damage, and environmental conditions. Do not use these components unless they are firmly attached and properly maintained. Use extreme caution when steps are wet. Remove ice prior to use. Steps and handholds are not provided for performing maintenance on the cooling unit.

- Never climb steps that are not firmly attached or properly maintained.
- Use caution when stepping on/off trailer steps. Step on only supported, nonslip surfaces intended for this purpose

INSPECTION

Operator's Pre-Trip Inspection

Drivers are responsible for making sure they conduct a written pre-trip inspection in accordance with CFR 329.7. The pre-trip inspection should include, but not be limited to the following:

- Make sure the vehicle has current registration, DOT inspection, license plate, and bill of lading.
- Verify the fifth wheel is engaged and locked.
- Inspect the electrical connector and verify it is fully seated. Make sure the cord is unobstructed and not damaged.
- Inspect the air hoses/gladhands for chafing, defective seals, and/or leaking.
- Make sure the landing gear legs are fully raised and the handle is stowed securely.
- Turn on all lights and 4-way flashers. Inspect and clean all lights and reflective tape.
- When applicable, inspect the sliding tandem lock pins to ensure full engagement. Check that the hold-down brackets are in place and not damaged.
- Ensure the trailer brakes, including the ABS system, are properly adjusted and the system is functioning properly.
- Inspect the trailer rims for any defects and loose or missing lug nuts.
- Ensure proper wheel-end lubrication. Check hub gaskets and seals for lubrication leaks. If a leak is evident, maintenance is required.
- Inspect the trailer tires for damage, tread depth, and proper inflation.
- Ensure that the splash guards/mud flaps are intact and securely attached.
- If applicable, ensure that aerodynamic skirts are intact and securely attached.
- Make sure all doors are secured.
- Inspect the rear impact guard to ensure welds are not cracked, fasteners are intact and secure, and structural components are not buckled, bent, or cracked.

⚠Warning: Do Not use the trailer if any of the components or systems are damaged. Repair or repair the components or systems before use.

Operator's Pre-Trip Inspection (cont.)

- When driving away, apply the trailer brakes and gently rock the trailer backward and forward.
- Make sure the sliding undercarriage is properly locked. Exit the truck cab and again visually check to verify proper pin engagement.
- Ensure overall trailer safety.

⚠ WARNING:
Always follow the vehicle and component manufacturer's instructions when operating sliding undercarriages.

⚠ WARNING:
Any motor vehicle should not be operated in such a condition as to likely cause an accident or breakdown of the vehicle.

The above list is not all-inclusive. Operators are responsible for ensuring the truck and trailer comply with all applicable DOT regulations.

CONCLUSION

Reporting Claims and Safety Defects

With regular care and maintenance, your Wabash National trailer will provide years of safe and dependable use. If you have a question regarding your trailer, please contact your sales representative or Wabash Customer Service at (765) 771-5300.

Your trailer was engineered, manufactured, and inspected to ensure compliance with all applicable Department of Transportation (DOT) safety requirements. If you detect a defect that could cause an accident or injury, or if you wish to report an accident or injury, please contact Wabash Warranty at (800) 247-2548.

Thank you for selecting a Wabash trailer. Always inspect, maintain, and operate your Wabash trailer with safety as the number one priority.

If you believe that your vehicle has a defect which 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 Wabash.

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 Wabash.

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

Administrator, NHTSA
400 Seventh Street, SW.
Washington, DC 20590

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

QMS-F-0604 Rev.3