Wilson Trailer Company

This manual has been prepared to help you operate your new Wilson trailer successfully, economically, and safely. Should you have any questions, we ask that you contact a Wilson Trailer Company factory representative immediately for a clear explanation.

We thank you for expressing your confidence in us through the purchase of your new Wilson Grain trailer.

We want you to know that it was designed to meet your specific needs for a grain trailer and was built for long life and low cost operation. With regular, proper maintenance and your common sense use, we are confident that it will do so.

Wilson
TRAILER COMPANY
Since 1890... A Good Name to Have Behind You!™

Additional owner's manuals and decal kits for this trailer are available without charge. (Rev.6-99)

This Manual Includes:

- **Certificate of Limited Warranty**
- **Disclaimer and Exclusive Remedies to Which the Sale is Subject.**

MODEL NO. _____ SERIAL NO. _____

This safety alert symbol is to raise your awareness to important messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

TABLE OF CONTENTS by SECTION

Normal Trailer Operation

This Wilson trailer is designed for operation within legal highway speed limits on reasonable road surfaces for the type of service it was built to perform, in accordance with the noted weight restrictions.

Normal use means the loading, unloading and transportation of uniformly distributed legal loads, in a manner which does not subject the trailer to stresses or impacts greater than imposed by reasonable use.

NOTICE

The maximum load indicated on the identification plate may not be a legal load on the highway you plan to use. States have differing laws and regulations affecting vehicle lengths and weights on roads that are not a part of the primary interstate road system.

This trailer was built to carry cargo within the two weight ratings on the identification plate located on the road side of the trailer near the front.

The GAWR (gross axle weight rating) is the structural capability of the lowest rated member of the running gear component: suspension and spring system, hub, wheels and drums, rims, bearings, brakes, axles, or tires.

The GVWR (gross vehicle weight rating) is the structural capability of the trailer when supported by the kingpin and axles with the load uniformly distributed throughout the cargo space.

Modification of Trailer

Any modification made to the trailer must comply with DOT and NHTSA regulations and must not compromise the gross vehicle weight rating (GVWR) of the trailer.
(Rev. 12-98)

WARNING

Any operation of the trailer outside the limitations stated in this manual will void any responsibility of Wilson Trailer Company for any of its results.

SAFETY

CAUTION

Personal Injury, death, and property damage may result from improper operation or unsafe practices. Be sure to read and follow all decals and emblems carefully.

Decals and Emblems

The following section contains the decals and emblems used on Wilson Self Unloader Trailers. Due to differences in configurations and equipment, your trailer may or may not use all the decals and emblems listed. Newer trailers may also have decals and emblems that differ from older trailers. Replace damaged or missing decals promptly. Decals kits for this trailer are available without charge.

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ABB-02388-C

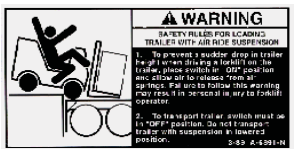
ABB-02222

ABB-02222-B

ABB-01505

AAA-06462-AL

AAA-06891-N



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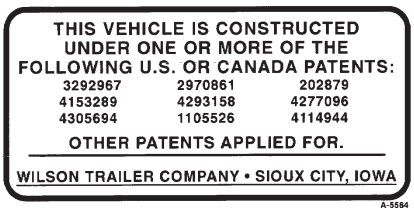

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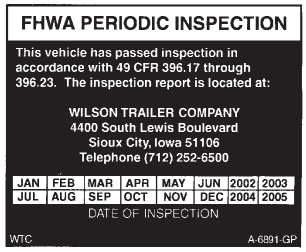

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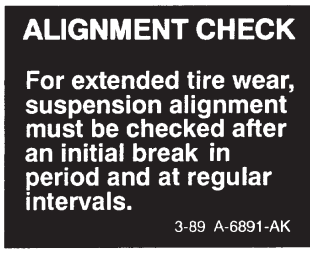

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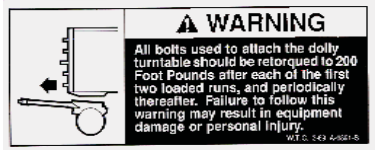

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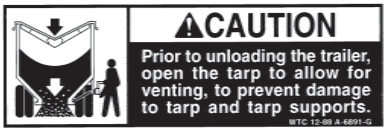

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(Rev. 8-11)

Decals and Emblems

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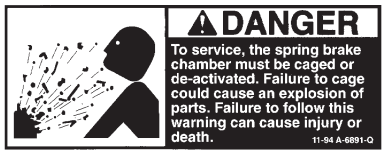
AAA-06891-Q



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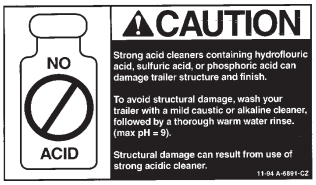
AAA-06891-C

AAA-06891-CZ



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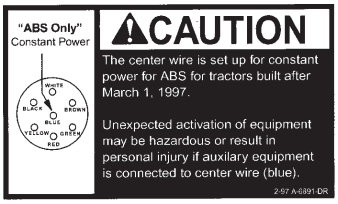

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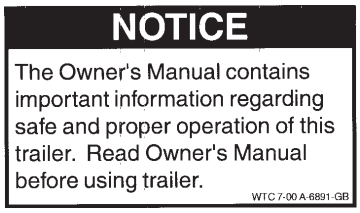

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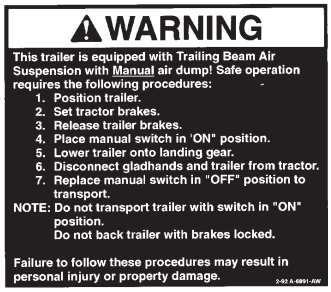

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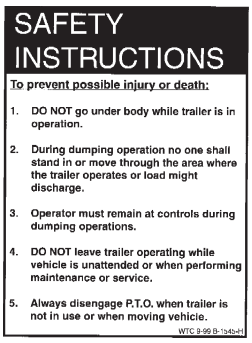

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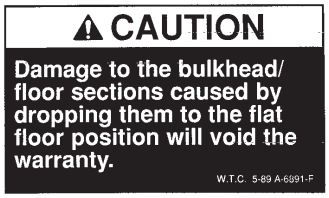

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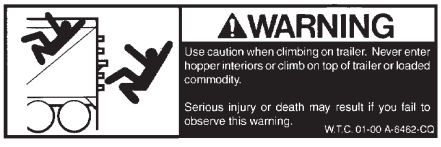

(Rev. 10-01)

SAFETY

Decals and Emblems

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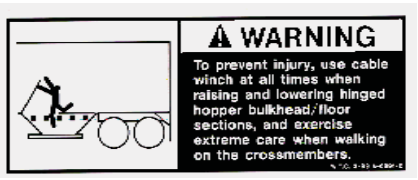
AAA-06891-P

AAA-06891-D



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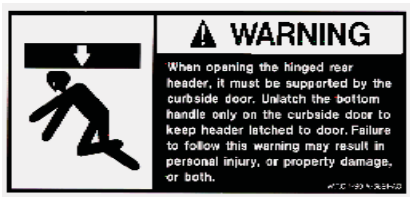

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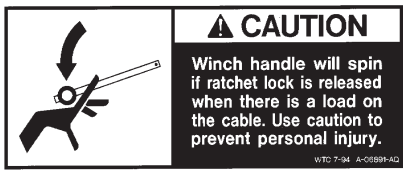

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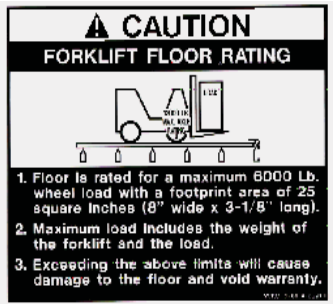

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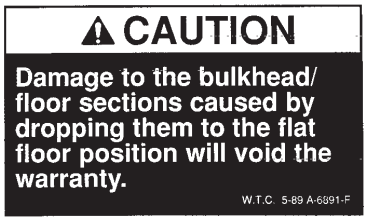

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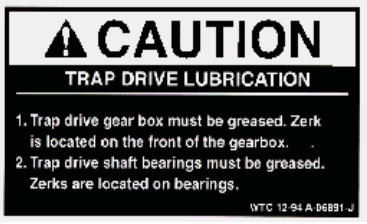


Wheel Torques

Proper torquing and retorquing the wheel nuts are critical to prevent the premature loss of wheel equipment. Refer to Page 3-4 for proper wheel nut torque values.

Wheels must be checked and retorqued after 50 to 100 miles of use. This is important every time you change a wheel.

WARNING

Be careful when making any inspections, hookups, and repairs to avoid personal injury. Make sure parking brakes are properly activated or that wheel chocks are in place to avoid sudden or unexpected movement of the trailer which could result in bodily injury.

If hoppers need to be swept to remove commodity elements, use caution and ONLY access the hopper from the ground through the open trap. Measures must be taken to assure your safety such as non-movement of the vehicle, solid surface for standing, appropriate clean out tools, and equipment. You must act responsibly for your safety.
(Rev. 3-00)

Federal Motor Vehicle Safety Standard 121

Your new Wilson trailer is equipped with an air brake system which will meet or exceed the requirements set forth in this federal regulation.

Mandatory 10/8/92 FMVSS-121 requires that the supply line be protected to 70 psi. Previously, pressure was near the 55 psi level.

The higher pressure protection levels require that supply line pressure levels be achieved before the pressure protection valve opens (opening pressures must be higher than closing pressures by design).

Keeping your compressor cut-in pressure at maximum levels (over 100 psi) is a clear advantage for peak operation of your entire system; we recommend using a 105 psi cut-in governor.

Air leaks at spring brake chambers, reservoir fittings, drain valves, drop hoses, and connections can cause the air system to perform less efficiently and the compressor to cycle too frequently.

If you suspect air system problems in either service brakes or spring brakes, don't hesitate:

- Use the "soap bubble" test at all connections throughout the air system to detect external leaks.
- Check for exhaust leaks at all valves to detect internal leaks.
- Check the actuator and spring brake push rod for proper movement in operational modes.

Should you still have a problem after going through the listed tests, contact your vehicle manufacturer's service representative.

(Rev. 6-01)

SAFETY

Rear Impact Guards

Effective January 26, 1998, all trailers must conform to FMVSS 223 and 224, which specify equipment and performance standards for rear impact guards on new semi-trailers. A R.I.G. (rear impact guard) has been installed on your trailer with rear tires 12 inches or more from the rear of the trailer.

Trailer R.I.G.'s are subject to impacts and stress in docking and loading operations. A damaged guard may not be as strong as originally manufactured and may not satisfy NHTSA performance standards.

Pre-trip inspections should be made of the guard to assure its integrity and strength. Broken welds, bent components, missing or loose fasteners, or other damage will likely affect its performance.

For these reasons, R.I.G. inspection, service, and repair records should be maintained. **Repairs and replacements must be in accordance with the original design specifications of the guard. In the event that a Wilson Trailer is impacted by another vehicle in a rear-end collision, photographs should be taken before any repair is made.** Any questions regarding repair or replacement can be directed to your Wilson representative.
(Rev. 10-08)

ABS Braking System

All trailers manufactured with air braking systems are required to have ABS (Anti-Lock Braking System).

The systems used on your grain trailer meet or exceed the FMVSS-121 requirement for ABS. The ABS system, specified a Midland Grau, Rockwell, or Bendix as a minimum for grain trailers, is a 4S/2M (4 sensor-2 modulator) system. The intended purpose of ABS is to help maintain control and reduce the likelihood of jackknife situations.

The ABS indicator light is located at the driver side rear of the trailer (effective 3-1-98). The lighting sequence is "on"-"off" upon initial startup. If a malfunction occurs, the light will come on and stay on until the problem is fixed.

NOTICE

ABS (Anti-Braking Systems) is a safety item and must be properly maintained. To operate an ABS equipped truck and trailer properly, during braking - *constant pedal force must be applied.*
(Rev. 2-98)

Backup Warning System

A backup warning system consisting of rear facing white lights and an audible alarm is available as an option on Wilson trailers . (Rev. 9-03)

The backup warning system is intended to indicate that the vehicle is backing up. Separate backup or spotlight options are available for illuminating the area behind the trailer.

The system is activated by rearward movement and will turn "ON" after a short distance has been traveled in the reverse direction and will turn "OFF" when the trailer stops moving backward or moves any distance forward.

The backup warning system draws power from the auxiliary (blue-center pin) circuit of the trailer's main electrical harness. ***The auxiliary circuit must be constantly powered from the tractor for the backup warning system to operate.***

Travel direction is determined by a sensor installed on the rearmost wheel end on the driver's (road) side of the trailer. Proper orientation of this sensor and the correct distance from the toner ring is critical for proper system operation.

If the backup warning system fails to operate properly:

1. Be sure the auxiliary (blue) circuit is powered continuously by the tractor.

2. Check cable connections to the sensor, main harness drop-off, control box, lights, and alarm.

3. Check the orientation of the backup warning sensor. The mark on the top of the sensor must be directly *away* from the axle within $\pm 15^0$ to function properly.

If, after checking these items, the system still does not function properly, contact Wilson Trailer Service Department for assistance.
(Rev. 4-01)

SAFETY

Over-The-Road Safe Handling

YOU AND YOUR SAFETY

1. You - the OPERATOR - have control of the most important factors that affect vehicle stability. Trailers are important tools in our transportation industry and, like any tool, are safe in the hands of a properly qualified operator.

2. The fifth wheel should be securely mounted to the tractor frame.

3. The driver should be familiar with the characteristics of the particular trailer and the load being transported.

4. The driver should be familiar with the nature of the roads and traffic which may be encountered during the trip.

5. Stability

CAUTION

Like any other vehicles, semi-trailers can tip or slide out of control if turns are negotiated at too high a speed or when making violent maneuvers such as abrupt lane changes or other evasive actions to avoid obstacles.

6. Within the relatively narrow confines of road laws limiting vehicle size and weight, together with the characteristics of available tires, suspensions, and other components, there is little that a manufacturer can do to affect the inherent stability of a trailer other than keeping the loading decks as low as feasible, considering the requirements for loading space and adequate tire clearance. This means that the major factors affecting operational stability are the knowledge and skill of the driver. The predominant causes of the rollover accidents are:

   - Excessive speed.
   - Violent swerving or turning.
   - Application of brakes or tractor power while turning.

Over-The-Road Safe Handling

- Entering curves at too high a speed may be caused by one of the following factors:

  a. Traveling at freeway speeds for long periods of time and failing to recognize the high speed of travel and reducing it before entering freeway interchanges or other curves requiring a reduced and controlled speed.

  b. Lack of familiarity with the vehicle characteristics to recognize its safe speed with relation to posted speed limits on curves, which are usually determined with automobile traffic in mind.

  c. Failure to reduce speed sufficiently when approaching congested traffic such as might be found at traffic signals on highways. With the advent of today's more powerful and higher torque engines, the original practice of maintaining momentum to avoid acceleration in traffic is outmoded.

7. Tire Characteristics: High pressure truck/trailer tires have different characteristics under high speed cornering conditions than do passenger car tires. As an extreme example, it is fairly common knowledge that a skilled race car driver can consistently "drift" his racer around tight turns where very high lateral "g" forces are encountered. However, truck/trailer tires which are designed for carrying high loads over long distances have substantially different characteristics, and their lateral stability becomes unpredictable when lateral forces approach .04 g. This means that commercial vehicles must be operated in a conservative manner when cornering.

8. Braking and Acceleration: Either braking or accelerating while cornering can significantly reduce the stability of the vehicle and should be avoided. The best driving practice is to decelerate to a safe conservative speed before entering a corner or approaching congested traffic, and then to apply only moderate power until a straight path has been reestablished.

(Rev. 1-98)

INSPECTION PROCEDURE BEFORE TRIP

WARNING

Be careful when making inspections, hookups, and repairs to avoid personal injury. Make sure parking brakes are properly activated or that wheel chocks are in place to avoid sudden or unexpected movement of the trailer which could result in bodily injury.

IMPORTANT

It is the Operator's responsibility to conduct a safe and accurate pre-trip inspection o fthe vehicle including brake condition and proper adjustments and be satisfied that the vehicle is in safe operating condition. See 49 CFR Parts 383 and 396.

Brake and Electrical Controls

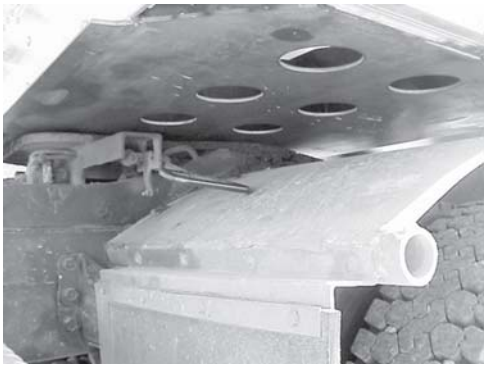
Proper operation of the brake system requires a good seal between the gladhands. Inspect the rubber washer on the gladhands for damage. Inspect the gladhands for cracks in the metal parts. The gladhand has a screen opening and this needs to be cleaned. Check air hoses for cracks and leaks. Check the operation of the brakes and slack adjusters. Drain the water from the air brake system each day by opening the drain cocks on the bottom of the air tanks. Observe the ABS function light for proper brake system operation as found in the ABS section under SAFETY.

Lights and Reflectors

The surfaces of the lights and reflectors need to be checked and cleaned. Inspect the electrical hookup for a clean and secure connection. Inspect all lights to see if they are working and check all brake and signal functions.

INSPECTION PROCEDURE BEFORE TRIP

Fifth Wheel and King Pin Engagement

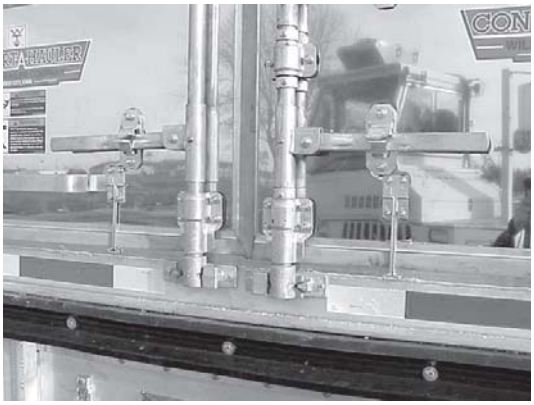


After hook up, check for positive engagement of the lower fifth wheel and king pin. Apply trailer brakes and attempt to move the tractor forward to insure that the fifth wheel and king pin are positively locked.

CAUTION

PLASTIC KING PIN LINERS (LUBE PLATE) cannot be installed on Wilson Trailer Company king pin assemblies unless factory equipped. A lube plate changes the king pin interface dimensions of the fifth wheel lock. This may result in coupling difficulties, premature lock wear, and a potential dropped trailer. Only trailers specifically designed for king pin plate liners may be so equipped.

Door Locks



Check all rear door locks before each trip to ensure that they are in proper working order. Any door lock keepers which show excessive wear should be replaced immediately. Care should be taken to keep the area around the door frame clear of any debris. A build-up of refuse may result in more pressure being applied to the locks than they were designed to withstand.

CAUTION

Door locks which show excessive wear should be replaced immediately.

Tires

Check tires frequently for cuts and abrasions. Check tire pressure daily and keep inflated as recommended by the tire manufacturer. Remove foreign objects that may be lodged in the tire threads or between dual tires.

INSPECTION PROCEDURE BEFORE TRIP

Hub Lubricants

Check and maintain proper level of lubricant in hubs.

Hubs using oil lubricant will have clear hub windows and the oil level will be clearly visible. Be sure the oil level is at the fill line noted on the hub window.

Hubs equipped with semi-fluid grease will retain the grease between the bearings and no lubricant visual check is possible at the hub window. Gray hub windows are installed on hubs with semi-fluid grease to identify the lubricant and prevent concern over no visible lubricant.

Outer bearings should be inspected every 100,000 miles following the procedures listed in the "Hub and Bearings: Bearing Lubricant - Semi-Fluid Grease" section of this manual. Additionally, hubs with semi-fluid grease should be periodically hand-checked for excessive heat or significant differences in temperature from one hub to another. To hand-check the hubs, immediately after driving at highway speeds for at least 50 miles touch each hub to test for heat build-up. Further inspection is needed if a hub is excessively hot or noticeably hotter than the other hubs on the trailer.
(Rev. 8-03)

NOTICE: Do not add oil to hubs equipped with semi-fluid grease.

If mixing of lubricants occurs, remove the lubricant and re-install the proper lubricant as soon as possible.
(Rev. 6-97)

Hub Maintenance

Unless otherwise specified on the trailer order, the dual wheel stud standout is 1-3/8" for both steel or aluminum wheels, as recommended by wheel manufacturers.

When a broken stud is replaced, the stud on each side of it should be replaced. If more than two stud are broken, replace all studs.

CAUTION

If longer studs with a wheel stud standout of 1-5/8" have been specifically requested and installed, they must be used only with aluminum wheels. Use of steel wheels may result in improper seating of inner capnuts, causing equipment damage, personal injury or both!

INSPECTION PROCEDURE BEFORE TRIP

Wheels and Rims

Check all wheel nuts for tightness after the first 50 to 100 miles of service and before each trip.

Check and maintain proper level of lubricant in wheel and nuts.

Check all metal surfaces thoroughly while making tire inspections and during tire changes. Look for:

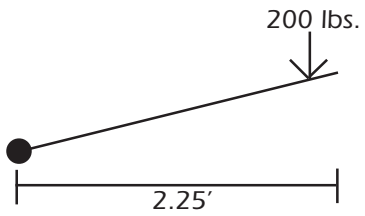
1. Excessive rust or corrosion build-up.
2. Cracks in metal.
3. Bent flanges or components.
4. Loose, missing, or damaged nuts or clamps.
5. Bent or stripped studs.
6. Incorrectly matched rim parts.

Replace damaged components, making sure that replacements are made with proper sized and type parts.

NOTICE

Excessively corroded or cracked rims are dangerous, particularly during removal. Deflate tires prior to removal of rims and wheels from the vehicle or personal injury could result.

Wheel Nut Torques



Torque for rim nuts or cap nuts is expressed in foot pounds, and is the force exerted in pounds multiplied by the lever arm or wrench length in feet.

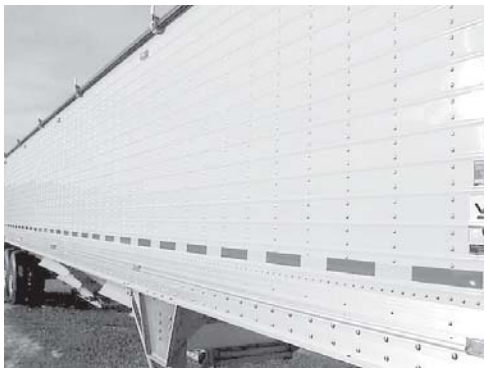
Example: 200 pounds x 2.25 ft. = 450 ft.lb.

INSPECTION PROCEDURE BEFORE TRIP

Mud Flaps

Be sure mud flaps are securely in place.

Side Structure



Check the trailer sides for inconspicuous damage to the top and bottom rails as well as the side structure. Any problems observed in the side structure should be corrected immediately to prevent the damage from extending further. Unrepaired damage could affect the safe load carrying capacity of the side structure.

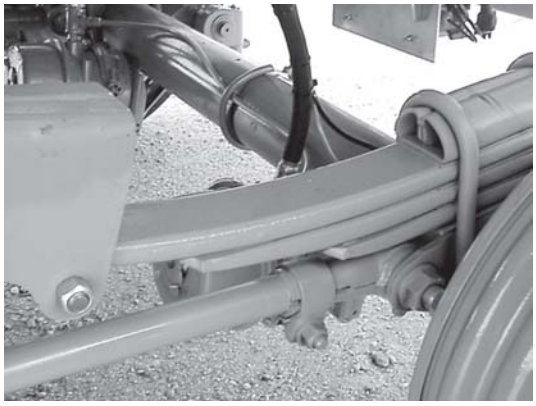
Air Ride Suspension

Before operating, the air ride must be set properly at the design height to get the correct load transfer to the suspension and the axle loads to balance.

Check if the air bags are fully inflated and free of cuts and debris. The air controls need to work correctly and freely. These consist of the "Full Suspension Dump" and the "Height Control Valve (HCV)" attached to the rear suspension hanger.

INSPECTION PROCEDURE BEFORE TRIP

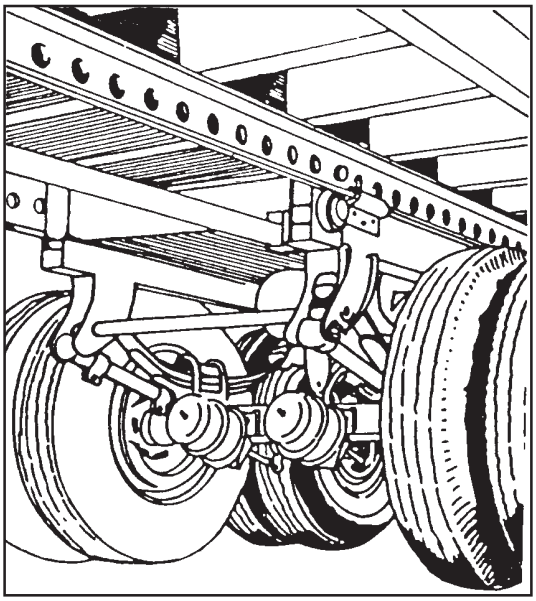
Spring Suspension



The spring suspension must be in good operating condition to transfer the loads equally to the axles.

Check the springs for cracked or broken springs. Check for loose or missing bolts. Check to see if the equalizer is free to operate.

Slider Suspension



The Hutch "Slider" features manual locking of the suspension by insertion of four lock pins, one at each corner of the lower unit.

REPOSITIONING YOUR SLIDER

1. Unlock handle and move manual stop bar to new location. Relock handle in place.
2. Pull bar to release spring-actuated lock pins. Lock pins are thus withdrawn and unit is free to be repositioned.
3. Set trailer brakes and slide trailer body forward with tractor to reduce weight on the tandem; slide trailer body backward to increase weight on the tandem.
4. After proper positioning is accomplished lock manual stop bar at rear of slider.

NOTICE

Always reposition the slider with the trailer on a level surface.

If trailer is equipped with a sliding tandem, be sure all four (4) lock pins are locked in place and the manual stop bar at the rear of the slider is locked before moving the trailer.

INSPECTION PROCEDURE BEFORE TRIP

Disc Wheel Installation

CAUTION

Insufficient mounting torque can cause wheel shimmy, resulting in damage to parts and extreme tire wear. Excessive mounting torque can cause studs and capnuts to break and discs to crack in stud hole area.

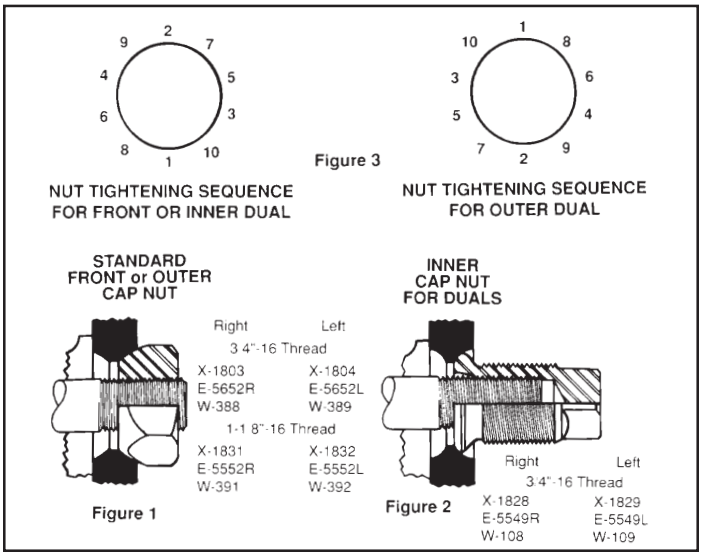
CAUTION

Be sure to use correct capnuts to match wheels. Grade 8 inner capnuts must be used with aluminum wheels.
Wheel torque to be 450-500 ft.lb.
(Rev. 9-97)

Check all parts for damage, including wheels and rims. Make sure that studs, nuts, and mounting faces of hub and wheels are free from grease. Replace any defective parts.

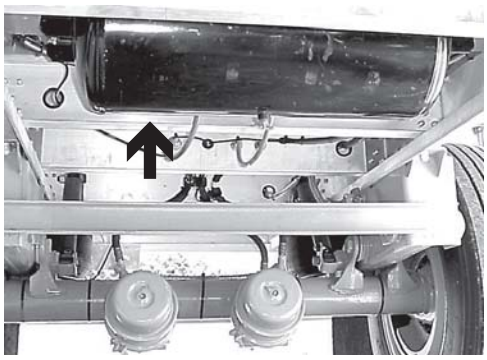
Mount inner dual wheel over studs, being careful not to damage threads. Draw up nuts alternating in sequence shown. Do not tighten fully to permit uniform seating of nuts and insure the even face-to-face contact of wheels and hub. Tighten nuts fully, using same alternating sequence, to 450 to 500 ft. lb. torque. Mount outer wheel and repeat the entire procedure. In each case, be sure to tighten wheel nuts only to torque shown and maintain them at that level through periodic checks.

Note: When inner cap nuts are retightened, be sure to loosen outer cap nuts several turns; then retighten them.

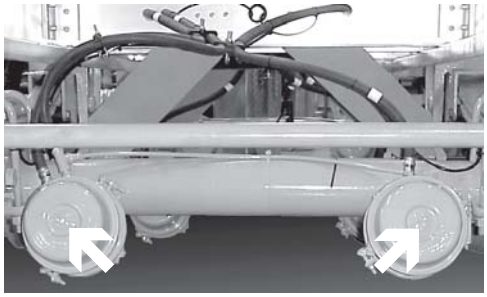


OPERATING INSTRUCTIONS

Parking/Emergency Braking System



(Figure 1)



(Figure 2)

This portion of the air brake system makes provision for parking a loaded vehicle on a grade and for emergency stopping in the event of a failure of air supply in the service brake system.

Air pressure within the parking brake chamber is required to release the spring brake. An air reservoir is provided to store enough air to release the brakes at least once by means of the tractor parking brake control, if there is an air line failure. (See Figure 1.)

In addition to the normal release of spring brake using air, a built-in manual release is provided (See Figure 2). It allows easy release of the spring brake for relining the brakes or for moving the trailer in the absence of air pressure.

Always install wheel chocks both in front and rear of the tires before manually releasing spring brakes.

Complete details for making adjustments on or replacements within the system can be found in the brake system manufacturer's supplement provided with this manual.

WARNING

Due to the presence of a highly compressed internal spring, do not attempt to disassemble the spring brake chamber without reading the manufacturer's procedure for disassembly. Then follow each step carefully.

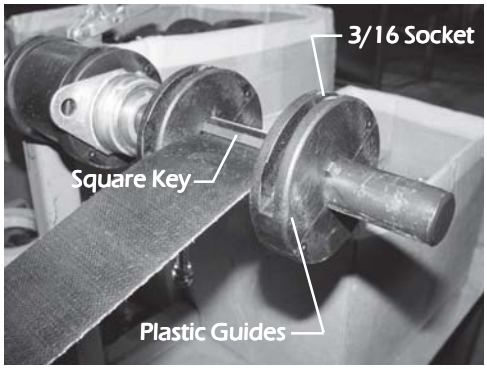
DANGER

To service, the spring brake chamber must be caged or de-activated. Failure to cage could cause an explosion of parts. Failure to follow this warning can cause injury or death.

To avoid injury, when servicing vehicle in limited access areas, be aware of surrounding trailer components.

OPERATING INSTRUCTIONS

Roller Trap Operation



If your trailer is equipped with the roller trap option, the straps should be checked for proper adjustment at initial use and occasionally thereafter. The straps should not be allowed to wear against or catch fasteners and other sharp objects.

ITEMS TO NOTE:

1. All straps come off over the top side of the shaft.

2. Tightening any pair of pull straps or return straps will tighten all four (4) straps. If the pull straps sag more than 2", the brackets that attach to the ends of the return straps must be slid away from the trap to tighten the straps. This bracket can also be turned around if more adjustment is needed.

3. DO NOT add wraps around the shaft to tighten the straps. The correct number of wraps around the shaft is 1-1/2 on the pull straps and 7-1/2 on the return straps for all traps of standard (approx. 31" long openings) size and 1 wrap on the pull strap and 9 wraps on the return strap for all 43" long trap openings.

4. DO NOT pull the end of the strap more than 1/2" beyond the pin that retains the strap to the shaft.

Conditions to look for to determine proper strap adjustment:

a. Straps should be tight (no slack) when the traps are completely open or closed. However, the straps should not be so tight that the doors cannot be opened or allowed to close completely.

b. With the trap door closed, the pull straps that run alongside the hopper must have 1 to 1-1/2 wraps remaining.

c. The brackets and U-bolts should be adjusted so that they are pointing the straps to run between the plastic guides.

OPERATING INSTRUCTIONS

Roller Trap Operation

Straps can be replaced by following the procedure outlined below:

a. Remove the U-bolt at end of strap from the door brackets and slip the U-bolt out of the loop at the end of the strap.

b. Remove the socket head cap screw (3/16" allen wrench) from each half of the plastic guides and split apart with a screwdriver to remove them from the shaft.

c. Remove square key and strap.

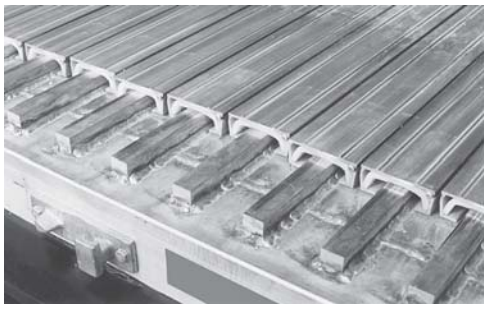
d. Center the new strap on the trough in the cross shaft placing the end of the strap within 3/8" of the square key keeping both centered over the trough.

e. Align the pairs of plastic guides around the shaft and square key and clamp into place with socket head cap screws.

f. Place the U-bolt back in the loop at the end of the strap and reattach to the door bracket after wrapping the strap around the shaft as directed in Item #3 on the previous page.

(Rev. 5-03)

WALKING FLOOR® Trailer



Consult Owner's Manual from KEITH® Manufacturing Company. The booklet contains a description of the operation and maintenance of your KEITH® RUNNING FLOOR™ II unloader as well as a troubleshooting guide and detailed, enlarged views of the various parts of the KEITH RUNNING FLOOR system. Refer to this owner's manual for warranty information and a warranty registration card that must be completed and returned for the warranty period to begin on the purchase date. If no purchase date is registered, the beginning of the warranty period will be the date of manufacture. Be sure that the serial number listed on the card coincides with the serial number plate located on the drive unit.

Please read and understand this entire booklet before operating the **KEITH RUNNING FLOOR II unloading system**.

(Rev. 8-99)

OPERATING INSTRUCTIONS

WALKING FLOOR® Trailer

CAUTION

Keep your hands, body parts, and loose clothing away from the floor slats and drive mechanism when the unloading system is in operation.

Maintenance for your new KEITH® RUNNING FLOOR™II and wet kit

1. For proper operation of your new trailer and wet kit, make sure the pressure and return lines are hooked-up in the correct sequence.
2. Change hydraulic return filter after first six hours of operation and then every six months after that.
3. During first two weeks of operation, it will be necessary to check and tighten all floor bolts. Eventually the bolts should retain tight. Loose floor bolts will cause serious damage to floor slats.
4. After the first week of operation, you must check and tighten the cylinder barrel clamps that fasten the cross drives to the cylinder, and the end cylinder rod plates that fasten the cylinders to the drive frame.
5. Finally, during the first couple of weeks of operation, check the check valve and tube clamps.

Recommended Bolt Torque Values for KRFII Drive

3/8"-16 UNC hex socket 82°flat head floor bolt	30 ft.lbs.
5/16"-18 UNC hex socket 82°flat head floor bolt	20 ft.lbs.
5/8"-11 UNC hex cap barrel clamp bolts (over torque may distort the barrel enough to bind the piston)	135 ft.lbs.
5/8"-11 UNC hex cap rod end plates	135 ft.lbs.
5/16"-18 UNC hex cap check valve and tube clamp bolts	20 ft.lbs.

CAUTION

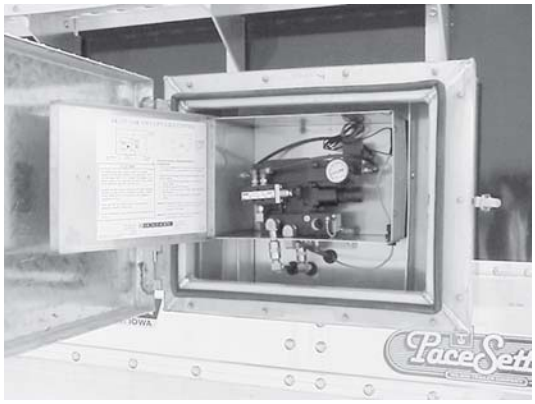
To prevent possible injury or death

DO NOT: 1) operate the floor with doors closed, 2) stand behind the trailer or in the discharge area, 3) make adjustments to the unloading mechanism, 4) operate the unloader when protective covers and screens are not in place, 5) go underneath the trailer, 6) leave the trailer unattended while the unloader is in operation.

ALWAYS: 1) disconnect the trailer from hydraulic power unit (PTO) before service and maintenance, 2) shut off power supply before going underneath the trailer, 3) stay away from any oil leaks when hydraulic pressure is high, 4) shut off the hydraulic unit (PTO) before moving the trailer.

OPERATING INSTRUCTIONS

Liftable Suspension



Liftable suspensions are suspensions that may be raised to lift the tires off the ground, reducing tire wear when the full carrying capacity of all the suspensions are not required.

Liftable suspensions are raised and lowered by activating the switch in the control box, typically mounted near the center on the driver's side of the trailer.

IMPORTANT

Raising a liftable suspension with the trailer loaded may overload and damage the remaining suspension(s), wheel components, and trailer frame.

Do not raise liftable suspensions on loaded trailers, even for low speed maneuvering.

CAUTION

This trailer is equipped with a liftable air ride suspension(s). All axles must be in the down position when the trailer is loaded.

Operating this trailer with an axle or liftable suspension(s) in the up position under loaded conditions may result in damage to the trailer.

Axle Auto Lower System aka "ILAS Valve"

If your trailer has a lift axle, it may also have a "Axle Auto Lower System" installed. This system senses the application of cargo weight into the trailer and automatically lowers the lift axle or axles when a specific cargo weight is reached.

This system is required in areas of Canada in order to get credit for the use of a lift axle. Also, in some cases this system may be installed by the factory to protect your trailer structure from cargo weight when the support of the lift axles is required. In those cases the lift axle will be automatically lowered to provide structural support to the trailer.

OPERATING INSTRUCTIONS

Axle Auto Lower System aka "ILAS Valve"

Tapering or disabling the system may void your warranty. Mechanical repairs or adjustments must be done by a factory approved service shop.

How It Works

Automatic "ILAS" Valve

Manual "ILAS" Valve

Suspension air bag pressure on a non-liftable axle is sensed bya special air valve, "automatic lower valve", aka, "ILAS" valve. When cargo is loaded onto the trailer, the pressure in the suspension bags increases. When a predetermined air pressure value is reached, the lift axles will be lowered and their suspension bags will receive pressure to suport the trailer.

The system may be one of two types, "Manual", or "Automatic" with manual overdrive. The "Manual" system will lower the axle by itself when cargo is applied but requires the operatro to raise the axle manually (after cargo has been removed) by operating a push knob on the "ILAS" valve. the "Automatic" with manual overdrive system will automatically lower and raise the axle according to cargo weight but allows the operator to force the lift axle down as desired and raise it again if there is little cargo weight.

There may be trailer configurations where the "Manual" system is the only one offered.

(Rev. 03-11)

WARNING

CRUSHING HAZARD

Raising and lowering of life axles is controlled automatically and may activate at any time. Keep clear of suspensions and tires at all times. Lower axle manually before servicing.

OPERATING INSTRUCTIONS

Air Ride Suspension

Special care must be used when backing, parking, and loading a trailer equipped with air ride suspensions.

NOTICE

TRAILING BEAM AIR SUSPENSION

Continuing to back a trailer with the trailer brakes locked will cause the air suspension beams to rotate and raise the bed of the trailer.

Excessive rotation of the air suspension beams may:

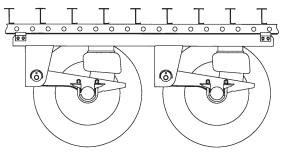
(A) Pull apart the shock absorbers.
(B) Damage the height control valve linkage.
(C) Over extend and fail the air springs.

Supporting the trailer on the landing gear with the beams rotated and the trailer brakes locked is dangerous! Tire rotation as the suspension beams return to their normal height will push the landing gear and may damage or fail the landing gear.

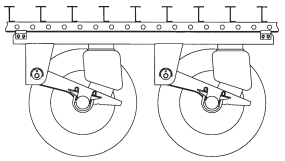
To prevent the above problems:

(A) DO NOT continue to back trailer with the trailer brakes applied.
(B) After positioning the trailer, disengage the trailer brakes, allow the suspension to return to its normal position, andreapply the trailer brakes prior to supporting the trailer on the landing gear.

PROPER POSITION



IMPROPER POSITION



OPERATING INSTRUCTIONS

Parking and Dock Walk

⚠ CAUTION

Personal injury or property damage could result from trailer movement due to failed landing gear resulting from dock walk.

When parking a trailer, eliminate dock walk conditions by completely exhausting the air suspension to lower the trailer before engaging the parking brakes.

Trailers equipped with air ride suspensions are subject to "dock walk", or forward creeping, when parked with the suspension inflated and the trailer brakes locked. This can be especially hazardous when the trailer is parked on the landing gear legs, as enough forward force can result with a loaded trailer to damage or buckle the landing gear legs and braces.

To reduce the possiblity of dock walk, Wilson Trailers are equipped with a two-position manual valve for exhausting the air suspensions. Activate the suspension exhaust before engaging the trailer's parking brakes and unhooking from the trailer.

The manual dump valve is typically located on the road side near the rear drop of the trailer. The "OFF" (fill) position is the normal operating position with the suspensions inflated. The "ON" (dumped) position exhausts the suspensions.

An optional automatic suspension dump valve is available in place of the manual valve. The automatic valve is activated to exhaust the suspension whenever the emergency air line pressure is zero, such as when the parking brakes are engaged or the gladhand is disconnected from the front of the trailers.

To position a trailer with automatic exhaust valves tightly against a loading dock in the lowered position, it may be necessary to Set the brakes and fully exhaust the suspension, release the parking brakes and quickly move the trailer backward slightly then re-engage the parking brakes before the suspension has time to inflate.
(Rev. 6-97)

NOTE

When the trailer is equipped with manual or automatic dump valves, it is the responsibility of the operator to ensure that the air suspensions are exhausted when the trailer is parked for loading and unloading and unhooked from the trailer.

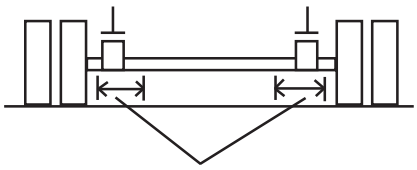
Rear axle dump valves are not recommended on a Wilson Grain trailer. Rear axle dump valves will void warranty.
(Rev. 10-00)

IMPORTANT

The parking brakes may engage more quickly than the suspension will exhaust, resulting in dock walk conditions. Allow the trailer to "walk" forward as the suspension exhausts by releasing the tractor brakes. Do not unhook from the trailer before exhausting the suspensions and setting the trailer brakes.

OPERATING INSTRUCTIONS

Tire/Wheel Changing Procedure



Jack Points

NOTE

It is acceptable to position a single lifting device near the center of an axle on an unloaded trailer only. Do not attempt to raise a loaded trailer with a single lifting device located at the center of an axle.

NOTE

It is the responsibility of the individual raising the trailer to ensure that the placement of the lifting equipment is secure and on an adequate structure.

Precautionary Notes:

Keep unnecessary personnel away when raising and lowering trailer and changing tires.

Do not climb under a raised trailer.

Do not leave a raised trailer unattended.

Avoid raising a loaded trailer whenever possible.

1. Position trailer on a level, hard surface capable of supporting the total vehicle weight and lifting equipment.

2. Set brakes and block wheels at other locations to prevent movement.

3. Be sure air ride suspensions are inflated and an air source is available to maintain inflation.

4. If a loaded trailer must be raised for changing tires, take appropriate precautions to reduce risk of tipping, load shifting, or structural damage, including:

Lower landing gear to support and stabilize the front of the trailer.

Use two lifting devices and raise both sides of the trailer evenly to prevent leaning and tipping.

5. Position the jacks or lifting devices under the axle, as close to the outer end as possible. Use care to avoid placement that will cause contact and damage to other components such as brake chambers, cam shafts, U-bolts, and slack adjusters.

6. Raise the trailer at a slow, steady rate until the tires to be removed are off the ground. If using two lifting devices, raise both sides of the trailer evenly to avoid leaning and tipping.

7. Position trailer supports under trailer frame or axle to prevent unexpected lowering of the trailer.

8. Remove the nuts securing the tires/wheels and remove the tire(s)/wheel(s) using a tire fork or a similar device to lift the tire(s).

OPERATING INSTRUCTIONS

Tire/Wheel Changing Procedure

NOTICE

Wheel nut torque must be checked within the first 50-100 miles of operation following installation. Failure to do so may lead to loose wheels and result in lost wheels and/or personal injury.

9. Install the replacement tire(s). Refer to the appropriate section of the Owner's Manual for specific instructions for hub piloted, stud piloted, or spoke wheel installation.

(Rev. 12-96)

10. Torque the securing nuts to the values specified in the appropriate wheel installation section.

Torque Values:

Hub Piloted	450-500 ft.lb.
Stud Piloted	450-500 ft.lb.
Spoke	200-260 ft.lb.

11. Remove trailer supports.
12. Lower the trailer to the ground at a slow, steady rate. If two lifting devices are used, lower both sides evenly to avoid leaning and tipping.

    Watch for pinch points to ensure no electrical or pneumatic lines will be damaged.

13. Remove lifting devices and check wheel nuts to ensure they are torqued to the specified values.
14. Inspect suspension components for damage or improper adjustment resulting from raising and lowering the trailer. Repair any damaged components as necessary.
15. Remove blocks from wheels.

(Rev. 12-96)

Spare Tire Carrier

WARNING

Loss of spare tire in transit can cause bodily injury or property damage. Transport only one spare tire at a time in the carrier. Wrap the chain tightly around the tire to eliminate slack and always fasten the end clasp to the chain.

Check regularly for bent tire carrier members and fatigue in welds, and for missing or loose rivets. Examine closely chain retainer. Replace or repair damaged, worn, or missing parts before using the spare tire carrier.

OPERATING INSTRUCTIONS

Loading/Unloading

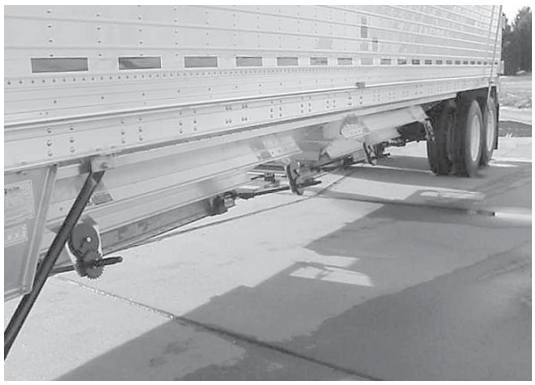
To prevent unexpected trailer movement, exhaust the air from the suspension and set the parking brakes before adding or removing cargo.

Summary of General Operational Guidelines

1. Do not back up a trailer with the trailer brakes engaged.
2. Do not park the trailer with the air suspension inflated.
3. Exhaust the air suspension before setting the parking brakes, unhooking from the tractor, or loading the trailer.

(Rev. 6-97)

Hopper Crank



For unloading ease, lubricate the trap opener grease fittings each month.

Backing

Backing a trailer equipped with air suspension with the trailer brakes locked will cause the suspension beams to rotate, raising the trailer bed and possibly damaging components. Trailer brakes must be released before backing.

OPERATING INSTRUCTIONS

King Pin and Fifth Wheel Lube Plates

Trailer king pins are built to tight tolerances to ensure positive and secure engagement with tractor fifth wheel coupler. Worn, damaged, or modified king pins can prevent proper coupling and may cause the trailer to unhook unexpectedly.

To ensure proper connection between the tractor and trailer:

- Do not use trailer king pins or tractor fifth wheels that are damaged, worn, or modified, or that are improperly equipped with lube plates (see below).
- Back the tractor firmly into the trailer until the king pin engages the fifth wheel coupler and locks.
- With the trailer brakes locked and before raising the trailer landing gear, pull the tractor forward to be sure the coupler is securely locked.

IMPORTANT

Avoid coupling problems:

- **Do Not install a lube plate on a trailer that is not specifically built for lube plates.**
- **Do Not operate a trailer built for a lube plate without a lube plate installed.**

Lube Plates

When properly installed and used, lube plates can increase equipment life and reduce regular maintenance by providing permanent lubrication between the tractor fifth wheel and trailer pickup plate. However, improper installation or misuse of lube plates can prevent proper coupling of tractors and trailers and may cause damage or rapid wear of king pin and fifth wheel parts. The thickness of a lube plate, either installed on a trailer not designed for it or removed from a trailer built for one, can prevent proper coupling of the trailer king pin with the tractor fifth wheel, possibly causing the trailer to unexpectedly disconnect from the tractor. Lube plates should only be used on trailers specifically designed and built with longer king pins and should not be removed from trailers designed to have them installed.

IMPORTANT

To avoid excessive wear on trailers equipped with an aluminum pickup plate:

- **Always attach the lube plate securely to the aluminum pickup plate.**
- **Do Not use quick-attach lube plates such as those that attach only to the king pin shaft with a retaining ring.**
- **Do Not use lube plates attached to the tractor fifth wheel.**

Lube Plates and Aluminum Pickup Plates

When lube plates are installed on trailers with aluminum pickup plates, the lube plate **must be securely attached to the aluminum pickup plate**. Grit or debris trapped between a lube plate and an aluminum pickup plate will rapidly wear the aluminum plate if the lube plate is allowed to move against the aluminum pickup plate.

HUB AND BEARINGS

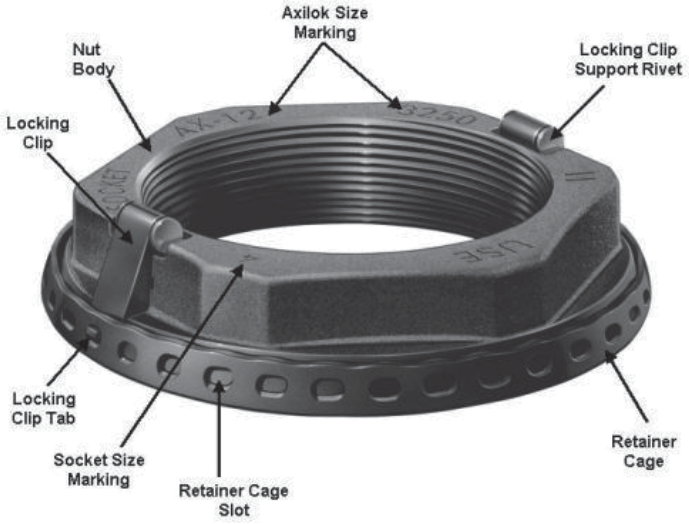
Axilok Nut Removal & Installation Procedures

WARNING

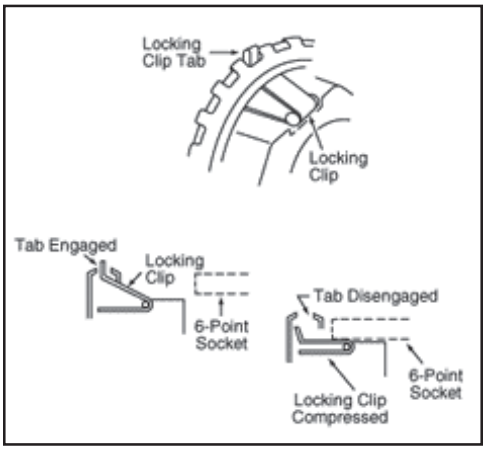
Do not use chisel, hammer, or any power tool to remove the Axilok product.

Equipment Required:

- 6-Point socket, sized according to the markings on the face of the Axilok.
  - AX-16-2625 3-1/4"
  - AX-12-3480 4-1/8"
- Torque Wrench
- Dial Indicator



Axilok Component View
FIGURE 1



Checking Position of Locking Clip Tabs
FIGURE 2

1. Install correct size 6-point socket completely over the hex of the Axilok. Be sure that both the locking clips are completely disengaged from the retainer cage, permitting free rotation. Refer to Figure 2.

2. Turn counterclockwise to remove Axilok. If Axilok does not move freely, stop removal. Check that the socket is completely and fully engaged on the Axilok and that the locking clips are fully retracted from the retainer cage slots. If Axilok still will not turn freely, rotate slightly clockwise, to tighten, and then loosen again. The nut should rotate counterclockwise freely.

3. Continue counterclockwise rotation until Axilok threads disenage from the spindle threads.

NOTE

Light burnishing of the retainer cage bearing surface after use is normal.

AXILOK	Socket Size 6-Point	Initial Torque (in foot-pounds)	Initial Backoff	Final Torque (in foot-pounds)	Final Backoff
AX-16-2625	3-1/4"	200	1/2 turn	75	1/8 turn
AX-12-3480	4-1/8"	200	1/2 turn	75	1/8 turn

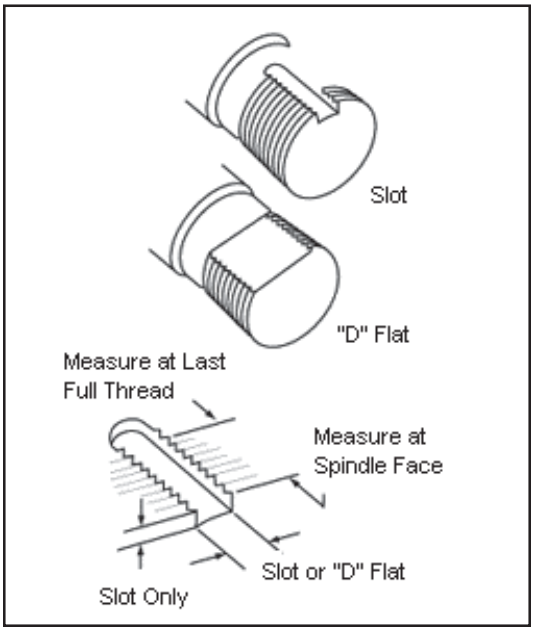
TABLE 1

HUB AND BEARINGS

Axilok Nut Pre-Installation Procedures

WARNING

Axilok may not be compatible with all axles currently in use. Do not use Axilok on an incompatible axle. Review appropriate manufacturer's bulletins for axles not compatible with Axilok. Inappropriate use could produce a "wheel off" condition, which may result in serious bodily injury and/or equipment failure. If Axilok has not been selected as standard equipment by the Original Equipment Manufacturer (OEM), do the following: Review axle manufacturer's bulletins to be sure axle is compatible with Axilok. OR, Remove hub to fully expose spindles and its slot or "D" flat. Carefully measure the width and depth of the spindle slot or "D" flat at the outboard end of the spindle and at the last full thread of the slot or "D" flat. If the measurements are identical, Axilok may be used. If not, DO NOT use Axilok on this spindle. Use a conventional wheel nut retaining system. Refer to Figure 3.



Measuring Spindle Slot or "D" Flat
FIGURE 3

Before installing Axilok, check the following:

1. Inspect Axilok for two locking clips. Refer to Figure 1.
   - Each locking clip should be securely fastened to the nut body and have a rivet that passes through the top of the locking clip body.
   - Each locking clip should have a locking clip tab protruding completely through the retainer cage adjustment slot (when properly aligned and not compressed by a socket). Refer to Figures 2, 4, and 5.
   - Locking clips should not be bent, cracked, or broken.
2. Inspect Axilok retainer cage condition.
   - There should be no cracks or other damage to the retainer cage.
   - Retainer cage should be secure to the nut body and not fall off when the locking clips are compressed by the socket.
   - The retainer cage tab or "D" flat should be free of damage, such as cracks, scarring, gouges, or distoration. Refer to Figure 3.
3. Inspect Axilok threads.
   - The threads should show no signs of wear or damage.
   - Wipe the threads to remove excess oil or debris.

HUB AND BEARINGS

Axilok Nut Pre-Installation Procedures

CAUTION

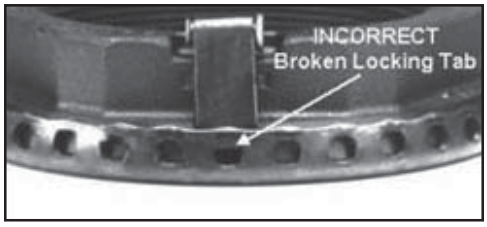
Do not use Axilok assembly with hubs that have internal bearing spacer systems except as directed by the vehicle manufacturer.

4. If Axilok fails any of the checks above, the Axilok is unfit for use. DO NOT USE. Replace the unfit Axilok with a new Axilok, and repeat all checks.

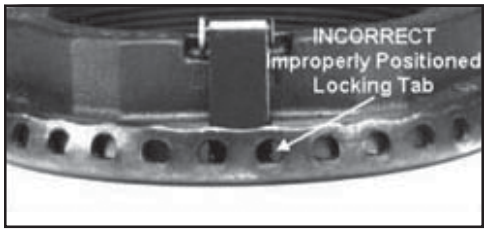
5. Free Rotation Inspection. This test will check for nut and socket compatibility.

- With correct size 6-point socket turned upside down, insert Axilok completely into the socket, compressing locking clips.
- Retainer cage should spin freely with no interference between locking clip tabs and retainer cage.
- If locking clip tabs interfere with rotation of the retainer cage, the socket is not fully compressing the locking clips. This indicates that the socket is the incorrect size, worn, or out of specifications and must be replaced. Refer to Figure 2.

Axilok Nut Installation Procedures



Locking Clip Tabs Broken
FIGURE 4



Locking Clip Tabs Improperly Positioned
FIGURE 5

NOTE

If installing Axilok on vehicles purchased from an OEM, with Axilok as original equipment, follow the OEM's specific installation instructions.

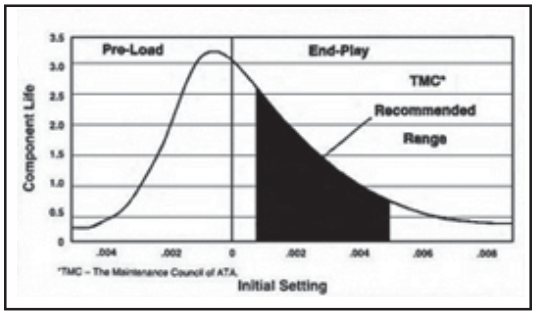
1. Before installation, perform pre-installation checks:

- Be sure the spindle slot is clean and free of burrs and foreign material before installing Axilok.
- Be sure the thread size is the same on both components.
- Put a few drops of oil through one of the retainer cage holes. This will ensure friction-free movement.

2. Put Axilok in the correct 6-point socket (refer to Equipment Required) and verify that the locking clips are compressed. Refer to Figure 2. Retainer cage should spin freely.

HUB AND BEARINGS

Axilok Nut Installation Procedures



3. Align Axilok retainer cage tab "D" flat with spindle slot or "D" flat. Be sure to start and run down the Axilok by hand. Do not use power tools. Rotate the socket clockwise until contacting bearing.

- Do not overtorque. Refer to Table 1 for specific torque values.
- Rotate the socket clockwise until contacting bearing.

4. Using a properly calibrated torque wrench, torque Axilok to the initial torque of 200 ft.lbs. while rotating hub.

- Back off 1/2 turn.
- Tighten to final torque while rotating hub. Refer to Table 1.
- Back off 1/8 turn. This will provide end play. Refer to Figure 6.

WARNING

If locking clip tabs do not protrude through the adjustment slots, rotate Axilok slightly clockwise. Refer to Figures 2, 4, and 5. If locking clip(s) are broken replace Axilok and repeat installation procedures.

5. Remove socket and verify locking clip tabs have engaged the adjustment slots in the retainer cage. Refer to Figures 2, 4, and 5.

6. Measure end play using a dial indicator. If correct end play is not achieved, adjust according to Adjustment Increments shown in Table 1.

- Rotate Axilok clockwise to reduce end play. (Example: from .004" to .002" end play.)
- Rotate Axilok counterclockwise to increase end play. (Example: from .001" to .003" end play.)
- This same procedure can be used to achieve a controlled pre-load condition. (Example: from .001" end play to .001" pre-load.)

7. After end play adjustment, make sure that both locking clip tabs are protruding through the slots in the retainer cage. Refer to Figures 2, 4, and 5.

HUB AND BEARINGS

Spindle Nut & Wheel Bearing Adjustment Procedures

PRO-TORQ® Installation Procedure & Wheel Bearing Adjustment

STEP 1

Remove the keeper from the nut
Use a screwdriver to carefully pry the keeper arm from the undercut groove on each side until the keeper is released.

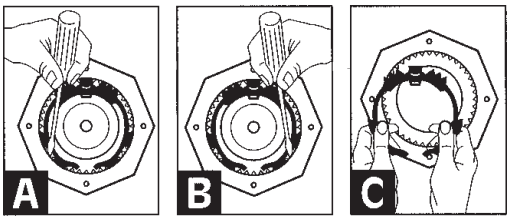
STEP 2

Seat the bearing
(With hub or hub/drum only)
A: 1. Tighten the nut to 200 ft-lbs. Spin the wheel at least one full rotation.
2. Tighten the nut to 200 ft-lbs. Spin the wheel at least one full rotation.
3. Tighten the nut to 200 ft-lbs.

B: Back the nut off until it is loose.

(With hub/drum/wheels)
A: Tighten the nut to 200 ft-lbs. while the wheel is rotating.

B: Back the nut off until it is loose.



STEP 1

STEP 3

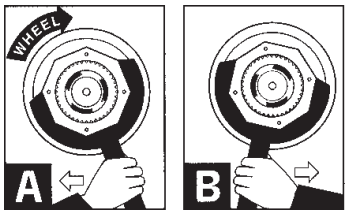
Adjust the bearing
Using a torque wrench

(With hub or hub/drum only)
A: 1. Tighten the nut to 100 ft-lbs. Spin the wheel at least one full rotation.
2. Tighten the nut to 100 ft-lbs. Spin the wheel at least one full rotation.
3. Tighten the nut to 100 ft-lbs.

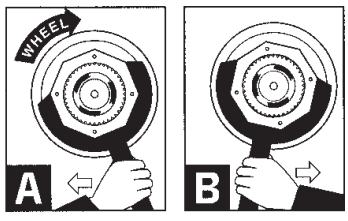
B: Back the nut off one raised face mark.

(With hub/drum/wheels)
A: Tighten the nut to 100 ft-lbs. while the wheel is rotating.

B: Back the nut off one raised face mark.



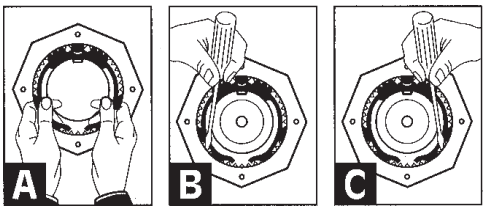
STEP 2



STEP 3

HUB AND BEARINGS

Spindle Nut & Wheel Bearing Adjustment Procedures



STEP 4

STEP 4

Install the keeper (Orange side facing out)

A: Insert the keeper tab into the undercut groove of the nut and engage the keyway tang in the axle keyway. Insert keeper tab with bent legs facing out.

B: Engage the mating teeth.

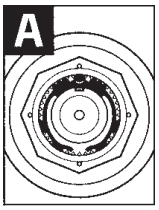
C: Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.

(For Steering Spindle Nut 448-4836, 448-4839, 448-4864, and 448-4865)

A: Align the flat of the keeper with the milled flat on the spindle and insert the single keeper tab into the undercut groove of the nut. Insert keeper tab with bent legs facing out.

B: Engage the mating teeth.

C: Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.



STEP 5

STEP 5

Inspect the installation

A: Make sure that the keeper tab and keeper arms are fully seated into the undercut groove. Inspect keyway tang to insure it does not contact the bottom of the keyway. If contact exists, immediately notify your PRO-TORQ® representative.

WARNING

Failure to follow this instruction could cause the wheel to come off and cause bodily injury. The PRO-TORQ® Spindle Nut is sold as an assembly with the keeper in place. DO NOT attempt to place the nut on the spindle or tighten or loosen the nut on the spindle while the keeper is locked inside the nut. Doing so may deform the keeper and allow the nut to unthread during operation. DO NOT bend or manipulate keyway tang in any way. Doing so may cause the tang to break off in service. Failure to back off the nut will cause the bearings to run hot and be damaged.

PRO-TORQ®

ADVANCED AXLE SPINDLE NUTS

HUB AND BEARINGS

Wheel Bearing Inspection

Periodic inspection of wheel bearings and lubricants as well as regular lubricant changes is necessary for good maintenance and maximum wheel bearing life. The hub and/or wheel assembly must be properly cleaned to obtain optimum bearing life. This also applies to field service. When adding or checking oil level, make certain cap and plug are cleaned. This will minimize the possibility of dirt and road grime entering the system. Do not allow parts that have been cleaned and dried to remain dry for long periods of time. If bearings are not to be used immediately, they should be packed and coated with wheel bearing lubricant and wrapped in clean waxed paper. This will prevent corrosion of bearing surfaces.

Bearing Lubricant

The lubricant change interval depends on the type of lubricant used, oil or semi-fluid grease. Oil levels should be checked at least every 1,000 miles (1,600 km), but can easily be checked in daily inspections. Oil should be changed whenever seals are replaced, brakes are relined, or at least once each year. Fill hubs with new oil to the level indicated on the hub window using HD80-90 heavy duty oil. Semi-fluid grease (gray hub windows) does not require regular changing, and need not be changed unless the lubricant becomes contaminated, leaks out, or is removed to replace seals or bearings.

To install semi-fluid grease:

1. Install the inner bearing, inner seal, and hub.
2. Fill the cavitiy between the bearing races with approximately 50% of the cavity with semi-fluid grease. (Rev. 10-00)
3. Install the outer bearing and adjust end play as noted in the "Wheel Bearing Adjustment Procedure" section.
4. Install the hub cap and seal. Do not put grease in the hub cap.

NOTE

The Integrated Sentinel Hub Cap includes a filtering system in the colored cap in the window. This colored cap in the center of the new hub cap is NOT to be removed. The lubricant is to be added through the pipe plug on the side of the hub cap.
(Rev. 6-04)

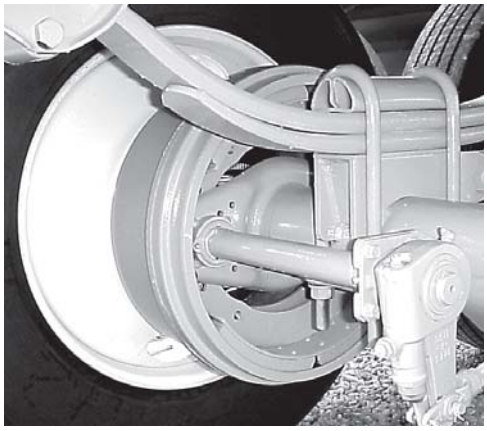
NOTE

Do not mix oil and semi-fluid grease lubricants or add oil to hubs equipped with semi-fluid grease.

Although mixing oil and semi-fluid grease lubricants are unlikely to cause component damage, it is recommended that mixed lubricants be removed and replaced with the proper lubricant as soon as possible.
(Rev. 7-97)

BRAKES

Brakes



Effective March 1, 1998, all trailers with air braking systems are required to have ABS (Anti-Lock Braking System). See your supplemental troubleshooting guide for specific details concerning operation and repair. If you have any questions or concerns contact your Wilson Trailer Company Sales Representative. (Rev. 1-98)

Proper maintenance of brakes is most vital. This includes lining inspection, and brake adjustment.

A schedule for the periodic adjustment, cleaning, inspection, and lubrication of the brake equipment must be made according to experience and the type of operation.

NOTICE

Wheel bearings must be correctly adjusted before brake adjustments are made.

Brakes must be adjusted as frequently as required for correct operation and safety. The adjustments must give correct clearance between the lining and drum, correct push rod travel, and correct balance between the brakes.

Brakes must be cleaned, inspected, lubricated, and adjusted every time the wheel hubs are removed.

During a major overhaul, the following parts must be carefully checked and replaced with genuine replacement parts if required:

NOTICE

Brake lining must not be permitted to wear to the point that the rivets or bolts touch the drum.

1. Backing plates or spiders for distortion and loose bolts.
2. Anchor pins for wear and correct alignment.
3. Brake shoes for wear at anchor pin holes or roller slots.
4. Camshaft and camshaft bushings for wear.
5. Shoe return springs must be replaced.
6. Brake linings for grease on the lining, wear, and loose rivets or bolts.
7. Drums for cracks, deep scratches, or other damage.

BRAKES

Spring Brake In-Service Checking Procedures

Haldex Spring Brakes should be inspected for proper operation on a routine basis. Inspection is recommended every 3 months or 25,000 miles.

IMPORTANT

Always Block Wheels to Prevent Vehicle from Rolling Before Performing any Brake Maintenance

1) Check overall condition of Foundation Brake Assembly including drums, shoes, lining, retainer/return springs, bushings and rollers.

2) Check for obvious Structural Damage to spring brakes, brake adjusters or cam shafts and replace per OEM specifications.

3) Hook up tractor or apply shop air and release parking brakes. Apply and fully release Parking Brakes several times while watching for brake adjuster movement. Adjusters should apply and retract at relatively the same distance for all wheel positions.

4) To verify equal push rod movement, measure each push rod from the Face of the Air Chamber to the Center of the Clevis Pin with brakes Fully Set or Parked. Apply air to chambers to release parking brakes and re-measure all wheel positions. All strokes should be within 1/8" of each other.

5) Applied Stroke at 90-100 p.s.i. can also be used to measure in a similar way as step #4. Apply Service Brakes instead of setting Spring (Emergency) Brakes and record before and after push rod measurements.

   Measured push rod stroke should NOT exceed the CVSA recommended maximum readjustment limit of 2" for Standard 30/30 chambers and 2-1/2" for Long Stroke 30/30's.

BRAKES

Spring Brake In-Service Checking Procedures

NOTE

Two styles of release tools are available, removable and permanently mounted depending on chamber model and manufacture.

6) To further verify proper spring brake operation, remove Dust Plug located in the parking spring end of chamber. Remove Caging Bolt (Release Tool) mounted in chamber side pocket. Insert by hand the T-End of release tool into the tool or inspection hole. Twist tool ¼ turn clockwise and positively engage and lock T-End into chamber slot.

7) If release tool cannot be engaged in chamber slot, closely examine the inspection hole with a flashlight and look for the Tool Slot being Offset to the Inspection Hole; thus preventing positive tool engagement. If slot is off center to inspection hole, replace the complete spring brake. **DO NOT continue to operate if this procedure cannot be accomplished.**

IMPORTANT

NEVER use Impact type tools on any spring brakes or permanent damage may result.

8) After release tool is installed and locked, install washer and jam nut. Run nut down to chamber base and tighten to 55 ft. lbs. with a hand wrench.

Measure the dimension from the face of the brake chamber to the tip end of the release tool. Perform same procedure for all Spring Brake positions. Measurements should be relatively the same for all brakes if parking sections are functioning properly.

IMPORTANT

NEVER use Impact type tools on any spring brakes or permanent damage may result.

9) Haldex Life Seal style chambers have the release tool permanently mounted in rear chamber housing. To check Life Seal parking sections, back off release tool nut Counter Clockwise until tool comes to a definite internal stop applying approximately 55 ft. lbs.

Measure dimension from face of brake chamber to the inside of the tool nut. Correct dimensions should be:

2.4″ to 2.56″ for Regular Stroke 30/30 chambers
2.9″ to 3.06″ for Long Stroke 30/30 chambers

IMPORTANT

DO NOT operate if proper release tool dimension cannot be achieved. Replace the complete spring brake as soon as possible.

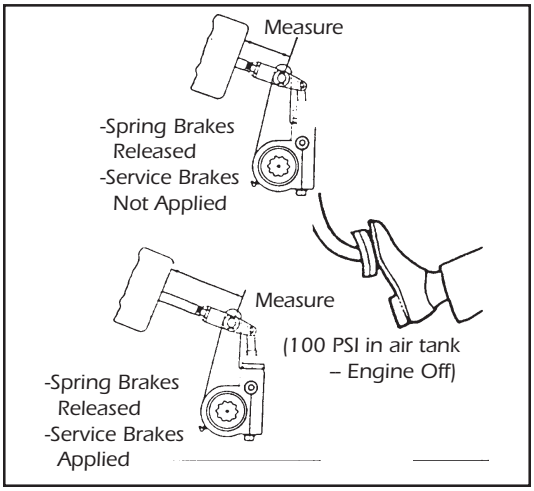
BRAKES

Automatic Slack Adjusters

NOTICE

The brake adjustment must be checked with 80-90 psi air pressure in the brake chambers when the brakes are fully applied. 80-90 psi in the air tanks with the ENGINE OFF will supply 80-90 psi in the chambers when the brakes are fully applied.

If necessary, run the engine to increase the pressure to 100 psi. If necessary, turn the engine off and apply and release the brakes to decrease the pressure to 100 psi.



MAXIMUM STROKE AT WHICH BRAKES MUST BE ADJUSTED. 80-90 PSI AIR PRESSURE IN THE AIR CHAMBER. CLAMP TYPE AIR CHAMBERS. CAM BRAKES.	
Chamber Type (Size)	Stroke length not to exceed:
9	1-3/8 inches
12	1-3/8 inches
16	1-3/4 inches
20	1-3/4 inches
24	1-3/4 inches
24 long stroke	2 inches
30	2 inches
36	2-1/4 inches

The following procedures are used to check the inservice adjustment (adjusted chamber stroke) of air brakes with slack adjusters. The procedures are divided into two groups:

1. Truck, tractor only, or tractor and trailer combination.
2. Trailer only.

TRUCK, TRACTOR ONLY, OR TRACTOR AND TRAILER COMBINATION

1. Check the gauges in the cab to make sure that the air pressure in the tanks is 80-90 psi with the engine off and the auxiliary spring chambers released.

2. With the brakes NOT APPLIED, measure the distance from the bottom of the air chamber to the center of the large clevis pin on all the brakes. Record each dimension.

3. Have another person apply and hold one full brake application.

4. Repeat Step 2 and measure WITH THE BRAKES APPLIED. Record each dimension.

5. Release the brakes.

6. Calculate the adjusted chamber stroke of each brake.

   a. Subtract the dimension that was measured in Step 2 from the dimension measured in Step 4.

   b. The difference between the two dimensions is the adjusted chamber stroke. The adjusted chamber stroke MUST NOT BE GREATER THAN THE STROKE LENGTH SHOWN BELOW for that size of air chamber.

   c. If the adjusted chamber stroke you measured is greater than the maximum stroke shown, inspect the slack adjuster.

BRAKES

Automatic Slack Adjusters

TRAILER ONLY

1. Connect the auxiliary air system to the SUPPLY or EMERGENCY port of the trailer's air system.

2. Increase the air pressure to 100 psi MINIMUM to release the auxiliary spring chambers.

3. With the brakes NOT APPLIED measure the distance from the bottom of the air chamber to the center of the large clevis pin on all the brakes. Record each dimension.

4. Connect a second auxiliary air system to the SERVICE port of the trailer air system.

5. Increase the air pressure of the second air system to 85 psi to apply the service brakes.

6. Repeat Step 3 and measure WITH THE SERVICE BRAKES APPLIED. Record each dimension.

7. Calculate the adjusted chamber stroke of each brake.

    a. Subtract the dimension that was measured in Step 3 from the dimension measured in Step 6.

    b. The difference between the two dimensions is the adjusted chamber stroke. The adjusted chamber stroke MUST NOT BE GREATER THAN THE STROKE LENGTH SHOWN IN THE CHART for the size of air chamber.

    c. If the adjusted chamber stroke you measured is greater than the maximum stroke shown in the chart, inspect the slack adjuster. See manufacturer's instructions.

(Rev. 2-93)

WHEEL INSTALLATION

Wheel Assemblies

Inspect parts and components for damage. Replace any defective parts.

Use only correctly matched parts when assembling and installing wheels. Incorrect parts can result in separation of the wheel components which can lead to a crash.

Assembling painted, dirty, or rusty components can prevent proper mating of parts. Make sure all mounting surfaces are clean and free of rust, dirt, or excessive paint. Freshly painted components must have adequate time to dry before assembly.

Make certain all tires are matched to within 3/4" of the same rolling circumference per the tire manufacturer's instructions. Do not use tires that do not meet this criterion. Doing so may result in unstable operation that can significantly reduce service life.

All components must be correctly installed and fasteners tightened to the recommended torque to assure maximum service life in accordance with the manufacturer's instructions. Failure to do so may result in serious injury or death.

Wide Base Single Tires & 2" Offset Wheels

Wilson Trailer recommends that customers using wide baseed super single tires and 2" offset wheel specify axles and hubs with the same inner and outer bearings.

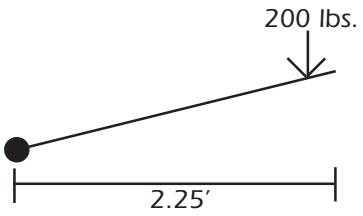
When using wide based super single tires and 2" offset wheels our vendors require using axles and hubs with the same inner and outer bearings due to the increased loading that occurs at the outer wheel bearings. Hendrickson will only allow straight spindle with the same inner/outer bearing on their axles/suspensions (Intraax/AANT) when running wide base super single tires. Meritor or IMT axles with the 2" offset wide base super single wheels require you use the same size inner/outer bearings.

The increased load from using wide based super single tires and 2" offset wheels on wheel ends with tapered bearings could result in bearing failure.

Wilson Trailer will not provide warranty to customers using wide based super single tires and 2" offset wheels with tapered bearings.

WHEEL INSTALLATION

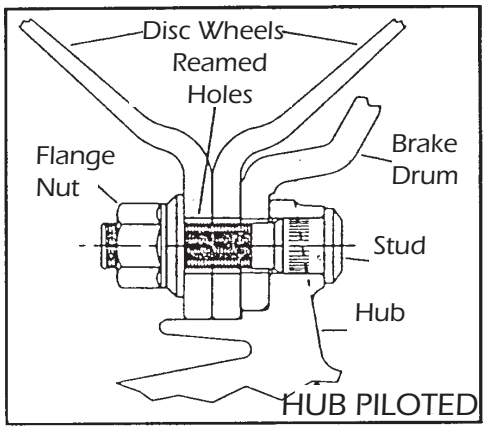
Wheel Nut Torques

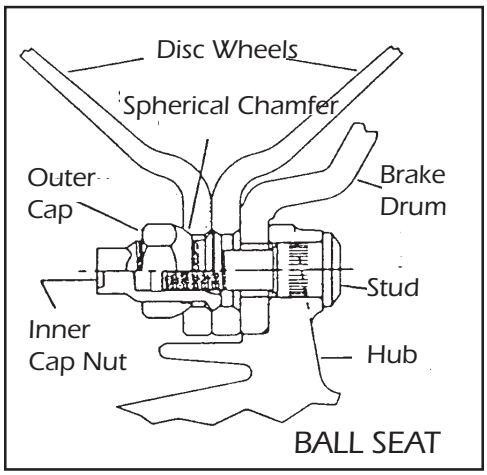


Torque for rim nuts or cap nuts is expressed in foot pounds, and is the force exerted in pounds multiplied by the lever arm or wrench length in feet.

Example: 200 pounds x 2.25 ft. = 450 ft.lb.

Hub Pilot Mount Disc Wheels



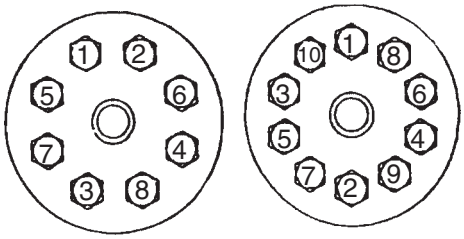


Hub piloted disc wheels have stud holes drilled straight through the wheel. Pilot bosses machined on the hub fit tightly into the center of the disc wheel. Hub piloted wheels may be steel or aluminum and are secured with single flange nuts.

CAUTION

Freshly painted wheels must have adequate time to dry. Wet paint will be compressed under the wheel nut clamping force and lead to loose wheels. Maximum allowable paint thickness is 1-1/2 mils (.0015").

HUB PILOTED TIGHTENING SEQUENCE



RECHECK TORQUE AFTER FIRST
50 TO 100 MILES OF SERVICE

- All threads are right hand metric.
- Tighten flange nuts to 50 ft.lbs. following sequence shown.
- Check disc wheels for proper positioning on pilots and proper sealing against drum back.
- Tighten flange nuts to 450-500 ft.lbs. torque following sequence shown.

WHEEL INSTALLATION

Hub Pilot Mount Disc Wheels

CAUTION

Insufficient mounting torque can cause wheel shimmy, resulting in damage to parts and excessive tire wear. Excessive mounting torque can cause stud, nut and wheel damage.

CAUTION

Wheel nut torque must be rechecked within the first 50-100 miles of operation following installation. Failure to do so may lead to loose wheels and result in lost wheels and a crash.

To Assure Proper Installation:

1. Do not mix hub piloted and ball seat mount disc wheels.

2. Use the correct flange nuts to match your wheels. Failure to do so may lead to loose wheels which significantly reduce product life and may result in a crash. Before proceeding with the installation of the disc wheel, make certain you are using the proper flange nuts. The hub piloted mounting uses M22 x 1.5 metric threads. The stud standout is at least 2.16". All studs have right hand threads.

3. Position the inner disc wheel over the studs and wheel pads being careful not to damage the stud threads. Make sure the disc wheel is flat against the mounting surface and there is clearance between the disc wheel taper and the brake drum.

4. Position the outer disc wheel over the studs and wheel pilot pads being careful not to damage the threads. Be sure the valve stems for both the inner and outer tires are accessible.

5. Install the flange nuts and tighten to 50 ft.lb. in the sequence shown on page 4-8. Note: On two piece flange nuts, apply a drop of oil between the nut and washer. **Make sure the flange washer is not seized to the nut.** Do not lubricate the mounting surface of the drum or wheel, or the stud threads. (Rev. 10-01)

6. Check both disc wheels to be sure they are properly seated on the hub assembly. If they are not, loosen the flange nuts and reposition the wheels.

7. Tighten the flange nuts to 450-500 ft.lb. dry thread torque in the sequence shown.

WHEEL INSTALLATION

Ball Seat Mount Disc Wheels

CAUTION

Grade 8 inner cap nuts must be used with aluminum wheels. Do not use Grade 5 inner cap nuts with aluminum wheels.

CAUTION

Insufficient mounting torque can cause shimmy, resulting in damage to parts and excessive tire wear. Excessive mounting torque can cause studs and cap nuts to break and discs to crack in stud hole area.

CAUTION

Wheel nut torque must be checked within the first 50-100 miles of operation following installation. Failure to do so may lead to loose wheels and result in equipment damage, lost wheels, and personal injury.

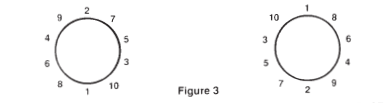


Figure 3

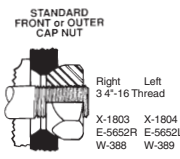


Figure 1

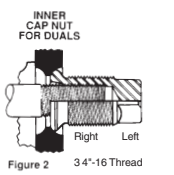


Figure 2

Ball seat mount disc wheels have chamfered stud holes and the center hole fits loosely over the center of the hub. Ball seat wheels may be steel or aluminum and are secured with inner and outer cap nuts.

To assure proper installation of ball seat mounted disc wheels:

1. Do not mix ball seat and hub piloted disc wheels.
2. Use the correct inner and outer cap nuts and studs to match your wheels. Failure to do so may lead to loose wheels which may significantly reduce product life and may result in a crash.
3. Mount the inner dual wheels over the studs, being careful not to damage the stud threads.
4. Install the inner cap nuts using right hand threads on the right (curb) side and left hand threads on the left (road) side of the trailer. Tighten to 50 ft.lb. in the sequence shown to seat the inner wheel.
5. Tighten the inner nuts using the same alternating sequence until a dry thread torque of 450-500 ft.lb. is reached.
6. Mount the outer wheel over the inner cap nuts, being careful not to damage the threads.
7. Install the outer cap nuts and tighten to 50 ft.lb. in the sequence shown for the outer dual.
8. Tighten the outer cap nuts using the same alternating sequence until a dry thread torque of 450-500 ft.lb. is reached.

NOTES

When inner cap nuts are re-tightened, the outer cap nuts must be loosened several turns so they do not bind on the outer wheel. Tighten the inner cap nuts then re-tighten the outer cap nuts.

WHEEL INSTALLATION

Spoke Wheel Installation

CAUTION

Rims must be correctly assembled, rim clamps must match the rim spacer width and rim clamp nuts must be correctly tightened to assure maximum service life and maximum safety.

To assure proper installation of spoke wheel equipment:

1. Slide the inside rim over the wheel so the 28 degree mounting surfaces mate. Be sure the valve stem is point out and is centered between the two spokes.

2. Slide the rim spacer over the wheel and against the inner rim.

3. Slide the outer rim over the wheel. Be sure the valve stem is pointing in and is centered between the same spokes as the inner valve stem.

4. Install the rim clamps and nuts. Lightly tighten the rim nuts until they are properly seated.

5. Tighten the rim nuts one quarter turn at a time in the order shown until tightened to 200-260 ft.lb. of dry thread torque.

CAUTION

Rim clamp nut torque must be checked within the first 50-100 miles of operation following installation. Failure to do so may lead to loose wheels and result in lost wheels and personal injury.

Rev. 8-96

Aluminum Wheel Installation

Before mounting aluminum hub-piloted wheels, generously coat the wheel pilot or hub pads with a non-water based lubricant such as Freylube or equivalent to minimize corrosion build-up. Do not lubricate the face of the wheel or the hub.

AIR SYSTEM COLD WEATHER OPERATION

Thawing Frozen Air Lines

"Prevention is the best medicine"

DO'S

1. Do maintain freeze prevention devices to prevent road calls. Check (daily) evaporators or injectors so as not to run out of methanol alcohol. Check the air dryer for proper operation and change the desiccant when needed.

2. Do thaw out frozen air lines and valves by placing vehicle in a warmed building. This is the only method for thawing that will not cause damage to the air system or its components.

DON'TS

1. Do not apply an open flame to air lines and valves. Beyond causing damage to the internal non-metallic parts of valves and melting or burning non-metallic air lines, THIS PRACTICE IS UNSAFE AND CAN RESULT IN VEHICLE FIRE!

CAUTION

Do Not pour any alcohol into service (red) gladhand. Doing this will result in valve failure and void the warranty.

Fluid in air lines also can cause a fluild lock and keep the brakes from fully releasing.

2. Air System Additives/Recommendations: The use of additives to thaw frozen air systems is sometimes required to get a trailer moving. While valve manufacturer's today use state of the art materials to provide the longest possible service life, the use of unapproved additives can affect valve service life.

If a de-icer agent must be added, it is **ONLY** acceptable in the Red or Emergency Side of the air system, **never in the Blue Control Side!**

Adding free liquid to the Blue control/Application line can end up accumlating on top of the valve piston and can, depending on substance composition and volume, **stop the function** of the valve.

Use only Methyl Alcohol as a de-icer. **DO NOT USE** Isopropyl Alcohol or Ethylene Glycol type Antifreeze. These substances will attack the Nitrile O-Rings in the valve, swell the O-Rings and remove the needed piston lubrication. If the wrong type of additive is added, valve function could cease and warranty will be declined.

Additives should be introduced through an alcohol injector or similar type mechanism if equipped. If not, a **small** amount of Methyl Alcohol is acceptable - only in the Red/Emergency side. Never pour more than 1/8 of an ounce into the Red gladhand, as a mist is all that is normally required and acceptable.
(Rev. 10-01)

AIR SYSTEM COLD WEATHER OPERATION

Reservoir Draining

Routine reservoir draining is the most basic step in reducing the possibility of freeze-up. While automatic drain valves relieve the operator of draining reservoirs on a daily basis, these valves MUST be routinely checked for proper operation.

Air Travel Through Brake Valves

Service Brakes: As driver presses the brake pedal, a "pulse" of air is put into the service line (blue). This air travels to the service relay valve. It enters the TOP of the valve and pushes a diaphragm down.

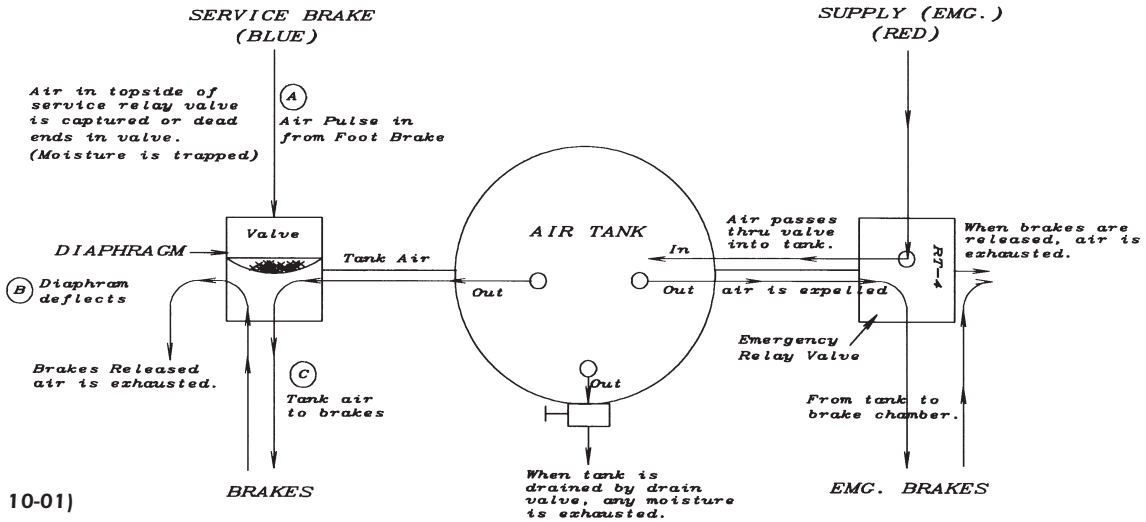
The diaphragm pushes on a spring loaded cylinder which opens up and lets TANK AIR pass to the brake chambers and applies force to activate the brakes. Upon release of foot, air in brake chambers exhausts out the bottom of service valve.

NOTE: The pulse air on top of the diaphragm dead ends there (so does any additive).

Emergency Relay Valve: Supply air (red) passes (>70 psi) through valve and into air tank and builds up pressure (120-140 psi).

If the parking brake valve or emergency brake cab valve is activated, the air supply is dumped (stopped) and an internal spring applies the force to activate the brakes and air is exhausted out the bottom of the emergency relay valve.

NOTE: Any additive introduced into emergency (red) side of air system will be exhausted. The only additive approved is methyl-alcohol.



(Rev. 10-01)

PROPER AXLE ALIGNMENT

Alignment Procedures

IMPORTANT

Your new WILSON trailer has been aligned at the factory with laser equipment. Re-aligning the axles will be the Owner's responsibility.
(Rev. 12-02)

Proper axle alignment is a vital part of trailer maintenance. Failure to maintain proper alignment may cause tire scrubbing and suspension component strain.

Your trailer's alignment should be checked regularly and the axles realigned when required to prevent unnecessary tire wear.

1. Check axle alignment with the trailer on a level surface, with tires properly inflated, trailer securely restrained, trailer brakes released, and with trailer loaded as closely as possible to typical loadings.

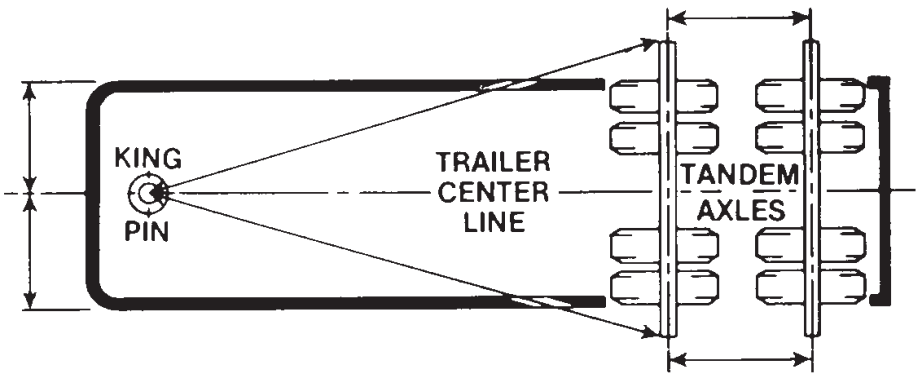
2. Check each dual tire set. Tires of each set must be matched to a maximum of 1/8" tire radius or 3/4" variation in circumference. Air pressure must be the same in all tires.

3. Using a steel measuring tape, measure from the center point on the bottom of the king pin to identical locations on each end of the front axle.

4. If these measurements differ by more than 1/16", adjust one end of the front axle forward or rearward until identical measurements are obtained on both ends. (See specific instructions for spring and air ride susensions.)

5. After the front axle is aligned and secured, measure from the end of the front axle to the end of the rear axle on each side.

6. If these measurements differ by more than 1/16", adjust one end of the rear axle forward or rearward until identical measurements are obtained on both ends. (See specific instructions of spring and air ride suspensions.)



PROPER AXLE ALIGNMENT

Alignment Procedures

Spring suspensions are equipped with screw adjusted torque arms located on the driver's (left) side of the trailer. Adjustment of the alignment is accomplished by turning the torque arm in or out, depending on the adjustment required.

1. Loosen the torque arm clamping bolts.
2. Move the left end of the axle forward (shorten the alignment measurement) by turning the torque arm to make it shorter.

   Move the left end of the axle rearward (lengthen the alignment measurement) by turning the torque arm out to make it longer.
3. Check the alignment measurements. Repeat the adjustment in Step 2, if necessary.
4. When the axle is correctly aligned, tighten the torque arm clamp bolts to 65 ft.lb.

NOTE

Check the clamp bolt torque within the first 50 to 100 miles of operation following alignment.

`

5. Check the alignment of the rear axle. Adjust, if necessary, using Steps 1 - 4.
6. Maintain proper distance between axles.

PROPER AXLE ALIGNMENT

Air Ride Suspensions

Alignment on air ride suspensions must be adjusted by moving one end of the axle forward or rearward.

Inspect hanger pivot bushings. Replace worn or damaged bushings before adjusting alignment.

Bolted "Quick-Align" Suspensions

Newer suspensions use a bolt at the suspension pivot connection, and eccentric collars for adjusting axle alignment.

To adjust Alignment:

1. Loosen the nut on the inside of the suspension hanger.

2. Adjust the left end of the axle forward (to shorten the alignment measurement) or rearward (to lengthen the alignment measurement) by turning the eccentric washer (Hendrickson) or hanger bolt (Neway) in the appropriate direction.

3. Snug the hanger bolts to 200 ft.lb. and check alignment measurements. Loosen the nut and repeat the adjustments in Step 2, if necessary.

4. When the axle is correctly aligned, tighten the hanger bolts as follows:

Hendrickson	**500-600 ft.lb.**
Neway RL228	**800 ft.lb.**

5. Check the alignment of the rear axle. Adjust, if necessary, using Steps 1-4.

NOTE

Retorque the suspension fasteners at the first 5,000 miles of operation, at regular periodic maintenance checks, and at every brake relining.

PROPER AXLE ALIGNMENT

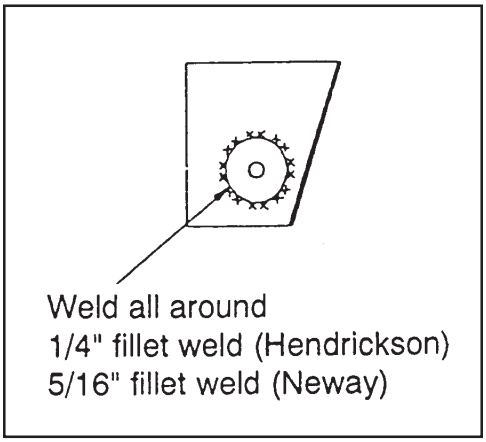
Welded Alignment Collar Suspension

Older model suspensions may have welded alignment collars. These require removing the weld between the collar and hanger, adjusting the alignment, and rewelding the collar to the hanger.

Be careful not to gouge or damage the hanger during weld removal.

NOTE

On Neway AR-93 suspensions, remove the weld only. DO NOT loosen the hanger bolt nuts. If the nuts have been loosened, retorque to 800 ft.lb.

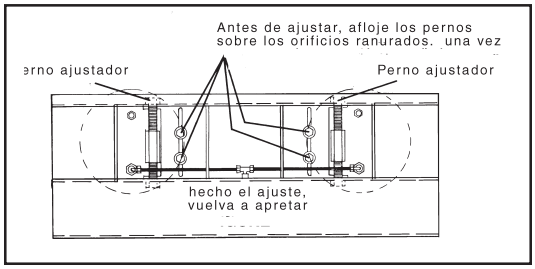


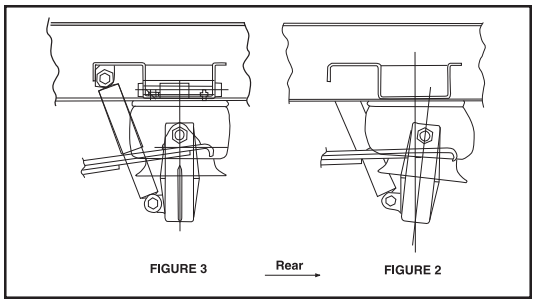
1. Grind or cut the weld between the alignment collar and the hanger.
2. Move the end of the axle forward (to shorten the alignment measurement) or rearward (to lengthen the alignment measurement) as needed.
3. Check the alignment measurements. Repeat the adjustment in Step 2 if necessary.
4. When the axle is correctly aligned, weld completely around the alignment collars to the hanger, using a 1/4" fillet weld for Hendrickson suspensions, or a 5/16" fillet weld for Neway suspensions using a E8018-C3 rod or equivalent.
5. Check the alignment of the rear axle. Adjust, if necessary, using Steps 1-4.
6. Clean up and repaint areas affected by grinding or heat.

(Rev. 8-96)

PROPER AXLE ALIGNMENT

SUPERIDE Air Ride





Final adjustment has to be made with the trailer loaded as close to normal capacity as possible. You will note at this time that the air spring beam will be tilted slightly to the rear (see figure 2). This tilt is caused by springs lengthening to the rear when loaded. This action causes adverse wear in the transverse rod. With trailer still loaded, loosen bolts located over slotted holes (see figure 1). With a 1-1/2" socket, or wrench, turn adjusting bolts clockwise. This will move the two air springs and upper transverse rod bracket to the rear. Continue adjusting until air springs and spring shoes are on the same centers (see figure 3). Retighten bolts located over slot holes.

Full Air Ride Suspension

Complete details for inspection and maintenance can be found in the air ride suspension manufacturer's supplement provided with this manual. See warning emblems on trailer pertaining to air ride suspension.

Spring Suspension

After 500 miles or not later than 30 days after purchase, check carefully all the maintenance points listed below and make any necessary adjustments. Torque recommendations are listed in ft.lb.

		New-Oiled	Clean-Dry
1.	3/4-16 U-Bolts	310 ft.lb.	420 ft.lb.
2.	1-14 Torque Arm Bolts	590 ft.lb.	790 ft.lb.
3.	5/8-18 Step Equalizer Bolts	130 ft.lb.	170 ft.lb.
4.	5/8-18 Spring Retainer Bolts	35 ft.lb.	50 ft.lb.
5.	1/2-20 Torque Arm Clamp Bolts	65 ft.lb.	85 ft.lb.

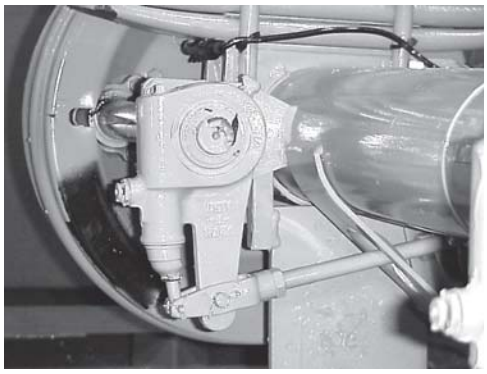
(Rev. 12-96)

Tandem alignment should be checked and corrected if necessary after this initial break in period.

Check all suspension bolts no less than every 6 months. They should be tightened to the above torque specifications. (Remember lubricants or sealants on the threads reduce torque readings drastically, and paint, corrosion, or road debris on the threads increase readings.)

PROPER AXLE ALIGNMENT

Spring Suspension



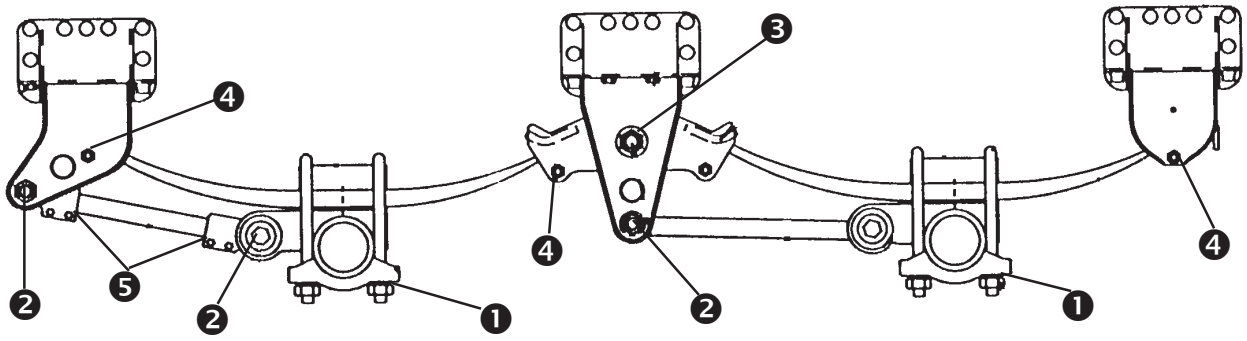
Check for and replace worn bushings in the equalizer and in the torque arm eye ends. Hutch suspensions are designed to make the replacement of bushings a fast, easy procedure.

CAUTION

To avoid injury, use discretion when servicing components in confined areas of trailer.

Use a good rubber lubricant on bushings before installation to prevent damage during installation. Be sure torque arm bolts are tightened back to 450 ft.lb. after replacing any torque arm bushings, and tighten equalizer step bolts back to 130 ft.lb. after replacing equalizer bushings.

Check the equalizers to see that there is no obstructions to their movement during operation. If equalizer movement is restricted by an obstruction, the axle "walk" will not be sufficient and damage could result.



PROPER AXLE ALIGNMENT

Holland SwingAlign Axle Alignment

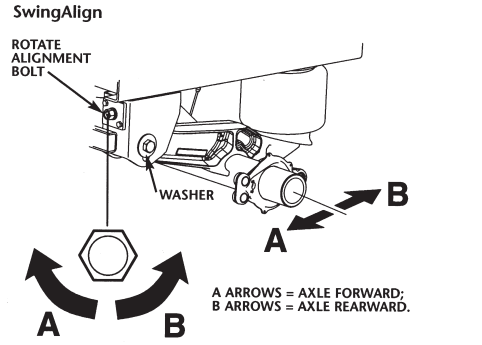


Figure 1

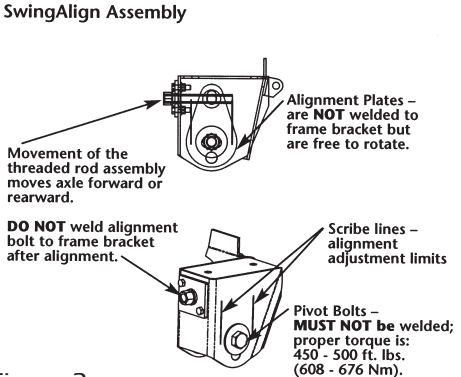


Figure 2

On the front face of the roadside frame bracket, rotate bolt head clockwise to move axle forward (A arrows); counter-clockwise to move axle rearward (B arrows). (See figure 1).

IMPORTANT

Two scribe lines on the side of the frame bracket indicate maximum adjustment for axle alignment, called "out of stroke" (in either direction - See figure 2). If the edge of the visible washer touches either scribe line the SwingAlign axle alignment adjustment is at its maximum.

IMPORTANT

The SwingAlign design maintains proper alignment without welding or without loosening of the pivot connection. If connection requires tightening, see Torque Chart below.

TORQUE CHART

Size	Torque Ft.Lbs.	Torque NM
3/4" - Shock Absorber	140-175	190-237
1-1/8" (Pivot Conn.)	450-500	608-676
1/2" - Air Spring	35-40	47-68
3/4" - Air Spring	30-40	41-54
1/2" - SwingAlignTM	50-60	68-81
Bolt Size	Socket Size	
1/2"	3/4"	
3/4"	1-1/8"	
1-1/8"	1-11/16" (deep well socket)	

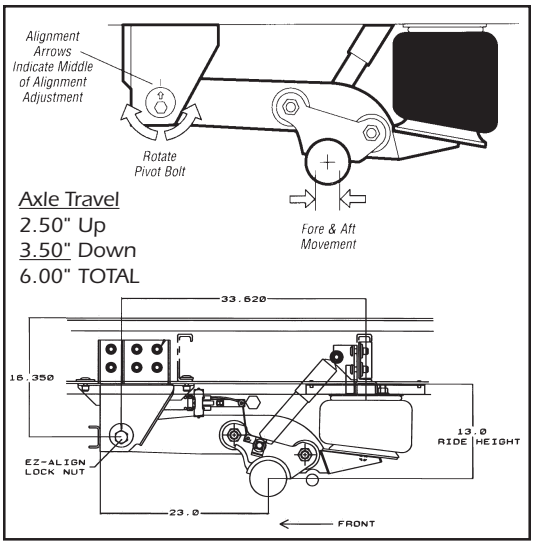
IMPORTANT

Torque requirements listed are for clean and lubricated threads. Use of special modifers, such as Anti-Seize or Never-Seize will void warranty and could lead to premature bolt failure or other component issues.

Reference Holland XL-AR432 Rev. A

PROPER AXLE ALIGNMENT

Neway EZ-Align Suspenson

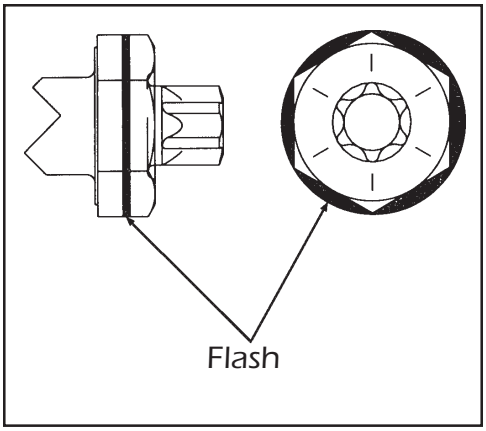


The RL-228 Neway Air Suspension alignment feature provides fore and aft axle movement by simply loosening the lock nut and rotating the bolt head clockwise or counter clockwise to get the desired axle position. The clutch style tooth mechanism provides a positive locking feature. (Rev. 10-00)

1. Loosen lock nut.
2. Rotate Bolt Head to achieve axle alignment.
3. **Torque Lock Nut to 800 ft. lbs.**

(Rev. 10-00)

Hendrickson w/Quik Align Suspension



Axle Adjustment Quik-Align Alignment collars

To ensure proper performance and clamp load, assemble properly and tighten the pivot connection to a torque of 550 ft.lbs. (±45 ft.lbs.). Failure to reach the required torque can result in a loose pivot connection and potentially damage the suspension and other components.

1. Replace pivot-connection hardware from the axle pivot connection being adjusted.

IMPORTANT

The QUIK-ALIGN pivot connection hardware can be reused one time prior to putting the trailer into service. If future realignment becomes necessary, use new pivot connection hardware. To reuse the shear-type bolt, grind or chisel off the flash (the excess metal around the sides of the hex head) from the bolt's hex head.

IMPORTANT

DO NOT APPLY ADDITIONAL LUBRICANT THAT CAN CAUSE OVERTIGHTENING OR FASTENER FAILURE.

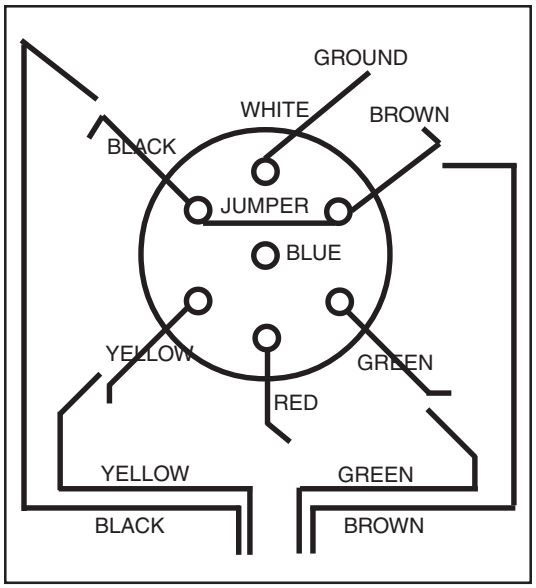
TRAILER SUSPENSION BOLT TORQUE VALUES

QUIK-ALIGN Pivot Connection	505 to 595 ft.lbs.
Welded Pivot Connection (1-1/8")	750 to 825 ft.lbs.
U-Bolts (HT Series)	475 to 525 ft.lbs.
Shock Bolts	210 to 235 ft.lbs.
Upper Air Spring Nuts	80 to 100 ft.lbs.
Lower Air Spring Nuts (HT Series)	40 to 50 ft.lbs.

(Rev. 10-00)

ELECTRICAL SYSTEM

Connector Wiring Diagram



(Rev. 2-98)

A 7-way plug is located on the front of your trailer. Each terminal carries current from your tractor electrical source through a circuit to the various electrical devices.

Individual circuits may be traced by the various wire colors. Shown below is the circuit wire color and the electrical device it serves.

For your convenience, coded schematic drawings show the location and color of each circuit for the various trailers.

1. BLUE: ABS - Constant Power (See CAUTION on Page 28.)
2. RED: Stop Lights, Driver's Side and Curb Side
3. BLACK: Clearance Lights and Tail Lights, Driver's Side, and License Plate Light
4. GREEN: Right Turn Signal
5. YELLOW: Left Turn Signal
6. BROWN: Clearance Lights and Tail Lights, Curb Side
7. WHITE: Ground

CAUTION

Connector Wiring Change
Notice to ALL Tractor Trailer Owners and Users

Federal Motor Vehicle Safety Standard No. 121, Air Brake Systems, was amended by the National Highway Traffic Safety Administration of DOT to require that truck tractors manufactured on or after March 1, 1997 provide constant power for a trailer's antilock brake system (ABS). Effective March 1, 2001 all trailers with ABS will provide for the activation of the fault warning light in the cab.

Tractors and trailers using a single 7-way electrical connector will have constant power for ABS on the center pin when the key switch is on and the ABS unit will communicate to the dash warning light through this wire!

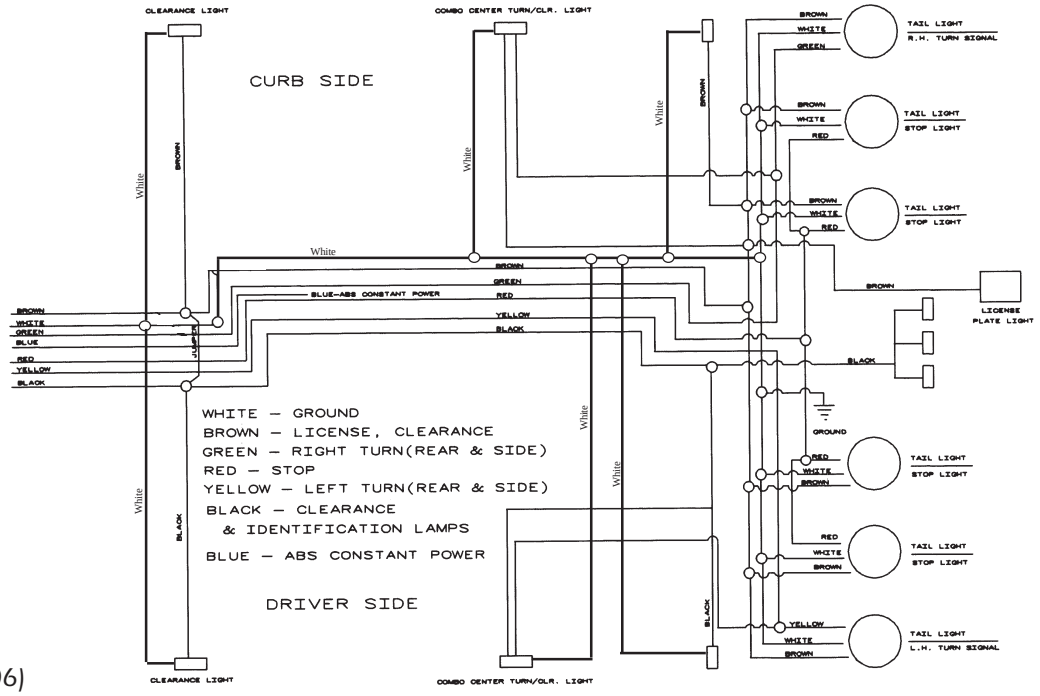
In certain uses of constantly powered center pin connector, unexpected or unintended activation of this equipment may be hazardous or result in personal injury.

Tractor-trailer owners and users who presently use the center pin for auxilary power to equipment other than ABS (for example, dome lights, backing lights, bottom dumps, sliding undercarriages, air ride dump valves, etc.) will be affected by this change.

BEFORE connecting your trailer to a tractor, **MAKE SURE** that the constantly powered center pin **WILL NOT UNINTENTIONALLY TURN ON TRAILER EQUIPMENT**. If you have any questions about your present wiring, or how to rewire your vehicles, you should contact the tractor, auxiliary equipment, and/or trailer manufacturer.
(Rev. 1-01)

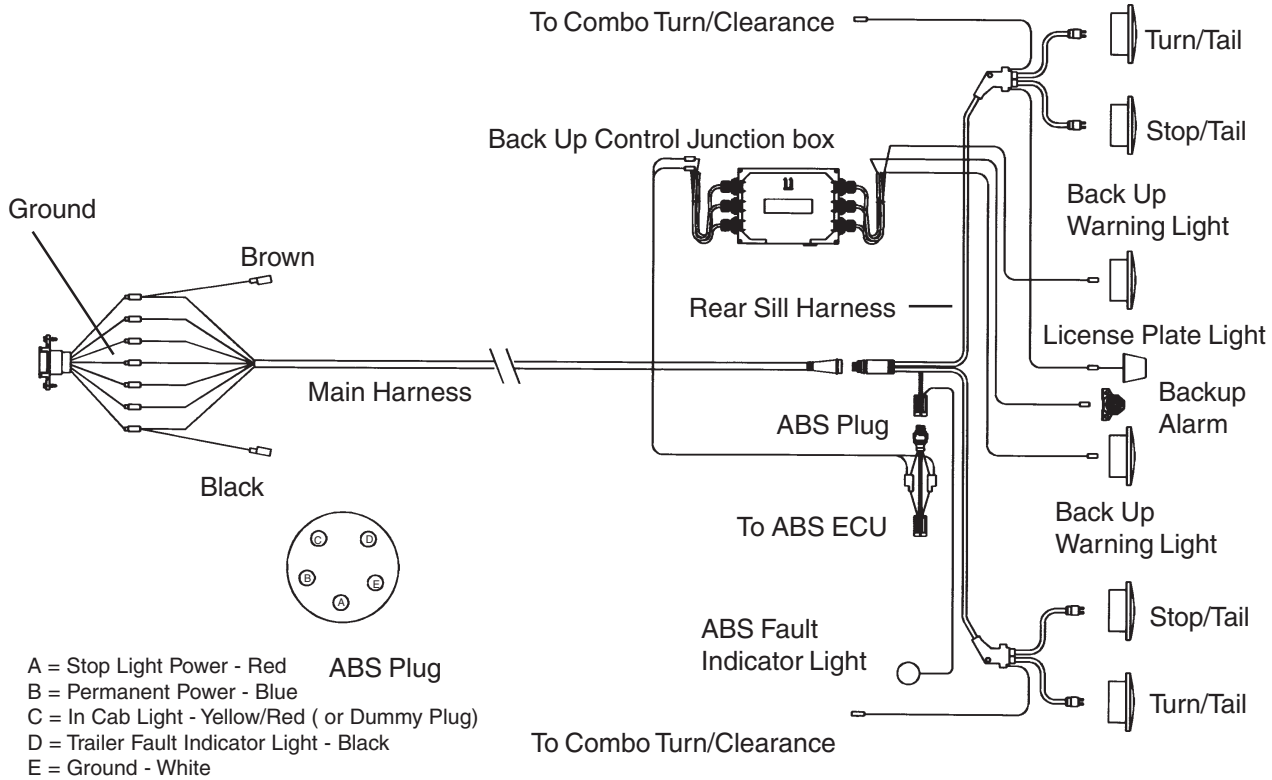
ELECTRICAL SYSTEM

Trailer Wiring Diagram



(Rev. 6-06)

Trailer Harness Diagram



(Rev. 1-01)

ELECTRICAL SYSTEM

Electrical Troubleshooting

Grote ULTRA BLUE SEAL

WARNING

THIS UNIT EQUIPPED WITH THE GROTE ULTRA BLUE SEAL ELECTRICAL SYSTEM.

PROBING/CUTTING/SPLICING OF ANY CABLE OR JUMPER HARNESS DESTROYS THE SEALED INTEGRITY.

CALL 1-800-457-9540 FOR ADDITIONAL INFORMATION AND LOCATION OF NEAREST GROTE SUPPLIER.

56-8237-60-A

PLACE THIS LABEL IN A CONSPICUOUS LOCATION

IMPORTANT NOTICE

DO NOT cut into the system. Cutting any part of the electrical system will void electrical warranty.

Be sure all electrical connections are greased properly for clean and secure connections.

TOOLS NEEDED:

- **Flat screw driver**
- **Test light**
- **Black tape (for additional strength ONLY)**
- **Dielectic grease ONLY**

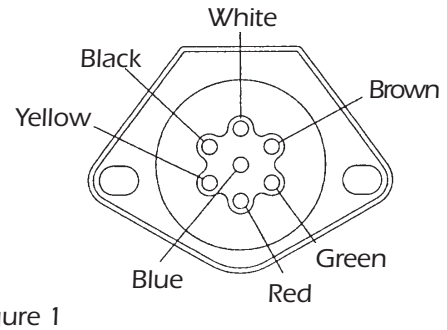


Figure 1

White = Ground
Black = Clearance, Running, License, Inside Light Switch (D.S.)
Yellow = Left Turn Signal
Blue = ABS Constant Power
Red = Stop
Green = Right Turn Signal
Brown = Clearance, Running (C.S.)

Clearance Light Not Working

1. Check for power at 7-way plug. (See fig. 1)
2. Check for proper ground behind light. Make sure you have a clean ground.
3. Check for corrosion. Corrosion may occur on wires, connections, lights (bulbs), and light and harness prongs.
4. Check for burned out light.
5. Check for unplugged wires. Make sure connections are completely sealed.

ELECTRICAL SYSTEM

Electrical Troubleshooting

Turn Signal (Rear) Not Working

1. Check for power at 7-way plug. (See fig. 1)
2. Check for corrosion. Corrosion may occur on wires, connections, lights (bulbs), and light and harness prongs.
3. Check for power at rear sill harness (See fig. 2 Detail "B"). First check at tail light for power. If no power, check where rear sill harness plugs into main harness.
4. Inspect main harness at 7-way plug. (See fig. 2)
5. Check for unplugged wires. Make sure connections are completely sealed.
6. Check for burned out light (both filaments).

Turn Signal (Side) Not Working

1. Check for power at 7-way plug (See fig. 1).
2. Check for corrosion. Corrosion may occur on wires, connections, lights (bulbs), and light and harness prongs.
3. Check for power at rear sill harness (See fig. 2 Detail "B"). First check tail light for power. If no power, check where rear sill harness plugs into main harness.
4. Inspect main harness at 7-way plug (See fig. 2).
5. Check for unplugged wires. Make sure connections are completely sealed (See fig. 2 Detail A).
6. Check for burned out light (both filaments).

(Rev. 6-06)

ELECTRICAL SYSTEM

Electrical Troubleshooting

Stop Light Not Working

1. Check for power at 7-way plug (See fig. 1).
2. Check for corrosion. Corrosion may occur on wires, connections, lights (bulbs), and light and harness prongs.
3. Check for power at rear sill harness (See fig. 2 Detail "B"). First check at tail light for power. If no power check where rear sill harness plugs into main harness.
4. Inspect main harness at 7-way plug (See fig. 2).
5. Check for unplugged wires. Make sure connections are completely sealed.
6. Check for burned out light (both filaments).

License Plate Light Not Working

1. Check for power at 7-way plug (See fig. 1).
2. Check for corrosion. Corrosion may occur on wires, connections, lights (bulbs), and light and harness prongs.
3. Check for burned out light.
4. Check for unplugged wires. Make sure connections are completely sealed.

No Lights

1. Check 7-way plug to see if plugged in(See fig. 1).
2. Inspect main harness or rear sill harness for damage or bad connections. Check ground at rear sill harness.
3. Inspect all lights and connections for power. One light with no power could short out entire system.
4. Trace wire on light with no power back to starting point. Check for bare, pinched, or corroded wires.

(Rev. 6-06)

ELECTRICAL SYSTEM

Electrical Troubleshooting

Dim Lights

1. Check 7-way plug to see if plugged in(See fig. 1).
2. Disconnect wires from main harness one at a time until remaining lights come on. This will show which wire is shorting out the system.
3. Check all grounds. Make sure you have clean grounds.
4. Check for corrosion. Corrosion may occur on wires, connections, lights (bulbs), and light and harness prongs.

Only One Side Working

1. Check jumper wire behind 7-way plug to see if connected to black and brown wire.
2. Check all grounds on side not working. Make sure you have a clean ground.
3. Check for damaged harness or pinched wires.

Back Up Lights Not Working (Optional)

1. Check 7-way plug. Check connections from 7-way plug all the way to wire that connects to back up lights.
2. Check all grounds connected to back up lights. Make sure you have clean grounds.
3. Check lights.

Feedback (Dim lights or lights on that should not be on)

1. Check ground on turn lights for good clean ground.
2. Check grounds at rear sill harness elbow (See fig. 2 Detail "A").
3. Make sure grounds are clean so that current does not feedback through trailer.

ELECTRICAL SYSTEM

Electrical Troubleshooting

Adding Additional Lights

1. **DO NOT CUT INTO SYSTEM**
2. Must have proper length of jumper harness to connect extra lights.
3. Install extra lights making sure all connections are properly sealed.
4. **If any problems or questions, see your dealer.**

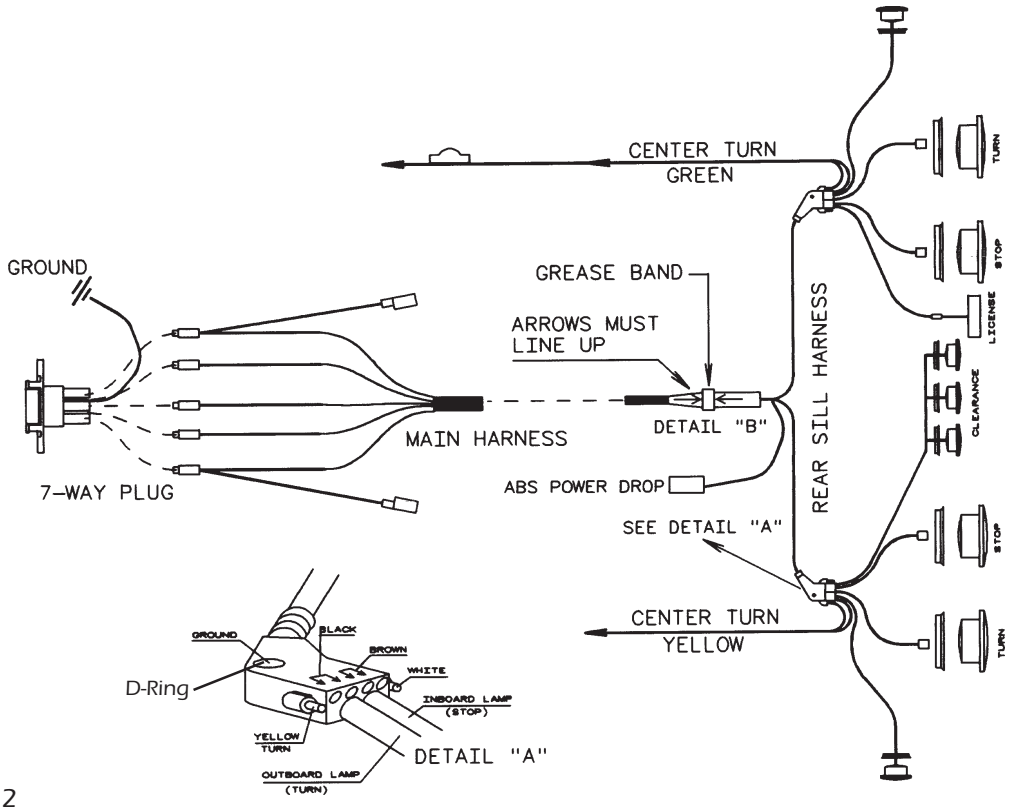


Figure 2

ELECTRICAL SYSTEM

Grote UBS Installation Instructions

NOTE

ALL ports, except for those being used, on the rear sill elbow should contain a dummy plug to insure that no contaminants enter your sealed harness system.

Rear Sill to Lamp Connections

1. Assemble the four connections on rear sill harness to appropriate lamps. Insure that the plug is fully seated in the lamp.

2. Assemble lamp with assembled plug to the chassis and rotate the lamp as necessary to insure that the connection is not put in a strained situation.

System Notes

1. All references to grease are referring to Grafo Sealing Compound 112X or equivalent.

2. When using Grote's 2" or 1-1/2" lamps, it is preferred that a double seal style pigtail be used due to its superior sealing capabilities.

(Rev. 1-95)

ABS Valve Cap Securement

To make sure the plastic boots on your ECU valves stay on when the port is not being occupied with a connector, first, remove the boot and grease it with die-electric sealant then re-install the boot, close the clasp and install a zip tie as shown in the picture and pull it tight with the zip tie tool.

(Rev. 03-11)

ELECTRICAL SYSTEM

Grote UBS Installation Instructions

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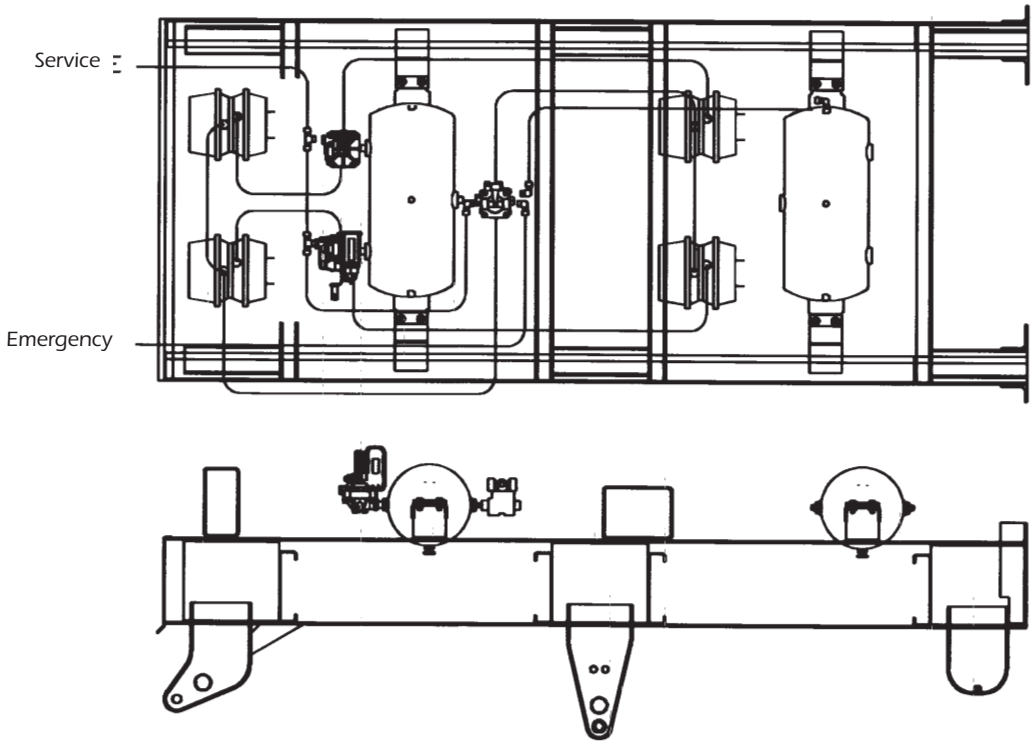
(Rev. 1-95)

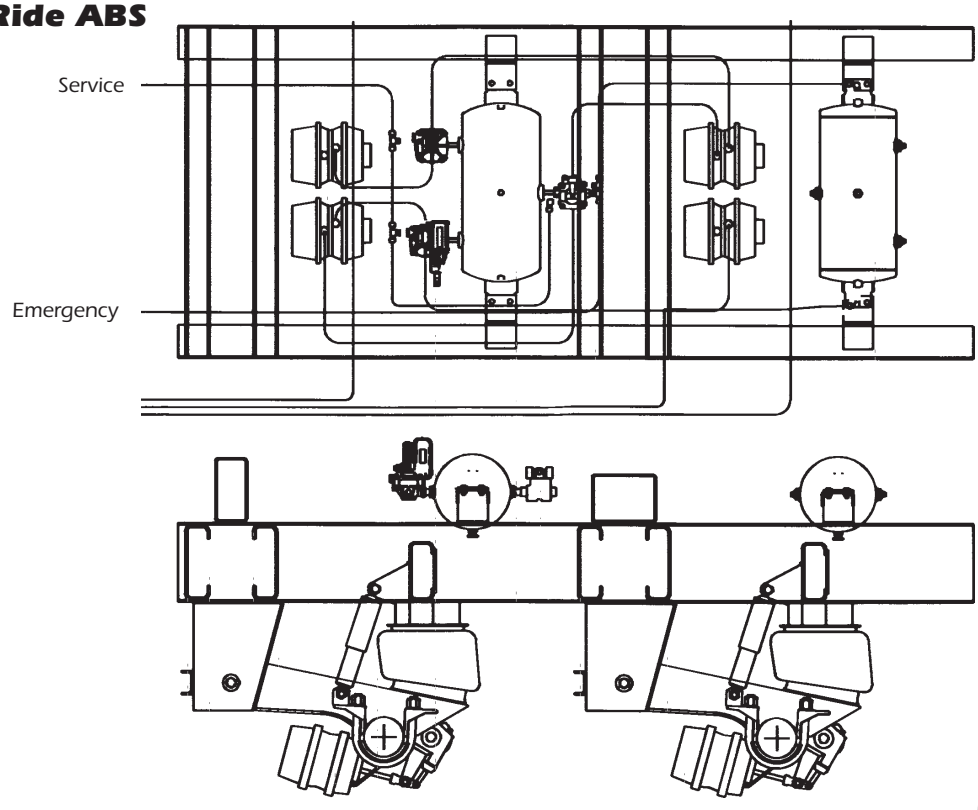
PNEUMATIC SYSTEM

Spring ABS



(Rev. 11-00) D7121FA

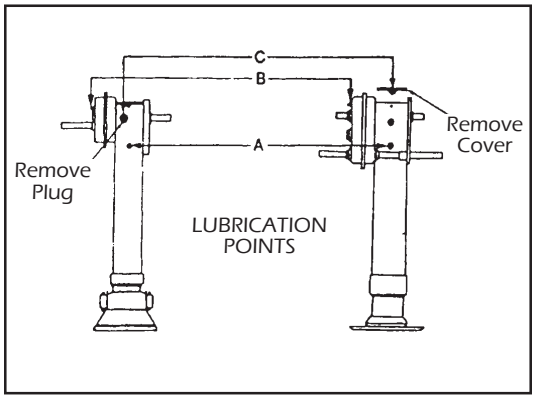
Air Ride ABS



(Rev. 11-00) D7121EE

LANDING GEAR

Landing Gear



Austin-Westran (Kysor) Model 400 landing gear is standard on most trailers. All landing gear require periodic maintenance. Although your landing gear was adequately greased with high quality lubricants when manufactured, it will be necessary to periodically supplement this lubrication to maintain satisfactory performance for your particular application. Re-lubrication should be part of your preventive maintenance program and should be done semiannually or more often, if required. (Rev. 6-05)

Lubricate as follows:

1. With the landing gear legs fully retracted lube each leg through grease fitting(s) provided (Item A).
2. Lubricate the gearbox, using the grease fitting provided (Item B).
3. Lubricate the bevel gearbox by removing the bevel gearbox cover or the plastic plug (Item C).

MAINTENANCE:

4. Lubricate with Lithium EP or equal grease at 6 month intervals (5-places) with lower leg extended 2" from full retraction.
5. Lubricate with No. 30 Mach oil at 6 month intervals (6-places).
6. Upon removal of any covers apply water resistant sealant prior to assembly.

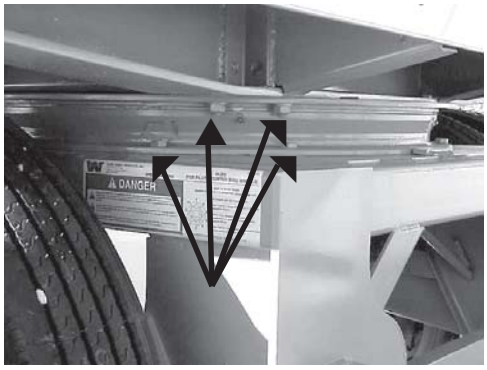
(Rev. 6-05)

For **LOW TEMPERATURE OPERATIONS** (operations where the trailer may be located in -50^{0}F to +20^{0}F for extended periods of time), a low temperature grease is recommended. Landing gear manufacturers recommend Fiske Bros. Lubriplate Art. & Mil.

For **COLD WEATHER OPERATIONS**, it is also recommended to fill all gearboxes approximately 3/4 full with grease. This helps minimize moisture accumulation, which can freeze, causing hard gear cranking.

PULL TRAILER DOLLY OPERATIONS

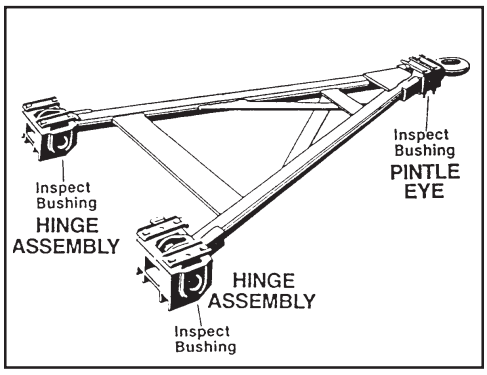
Pull Trailer Dolly Connections



Dollies are designed for heavy duty service with a minimum of servicing. But they do require adequate fastenings; that is, the bolts must be kept tight.

High strength bolts, nuts, and hardened washers are used in the dolly attachment. These bolts should be tightened to 200 ft.lb. of torque. This procedure should be followed after each of the first 2 loaded runs, and every 3 months thereafter.

Wilson Pull Trailers are equipped with a drawbar assembly that has shock absorber-type pintle eye and hinge assemblies. The purpose is to reduce equipment stress and driver fatigue resulting from jolting caused by starts and stops and road impact.



The pintle hook and two hinge assemblies should be checked visually on a monthly schedule. This can be done by applying the brakes on the Pull trailer and attempting to move the front unit forward while a second individual visually checks for any abnormal end play both at the pintle eye and hinge bushings.

The bushing housing inside the pintle eye and hinge mounting castings should be removed and replaced with new bushings after a maximum service life of approximately 50,000 miles.

The dolly is provided with two safety cables. Each one is to be connected individually to a different hook loop located to each side of the pintle hook on the towing vehicle prior to transporting. Inspect the cables and cable connections every time they are used. Replace immediately any worn or defective connections or frayed cable.

GENERAL MAINTENANCE

Fastenings

King pin and tandem sub-assemblies are attached to the trailer side with zinc plated steel fastenings.

CAUTION

Each month, check to see that all zinc plated steel fasteners are in place. If any are missing or loose, they should be replaced immediately.

Corrosive Deterioration

Various chemicals can cause severe corrosive damage to your aluminum grain trailer. To prevent severe damage to your trailer due to corrosion, contact Wilson Trailer Company to verify that the materials you are hauling are compatible with the aluminum alloys used in the construction of the trailer.

Corrosive deterioration caused by incompatible materials excluded from the warranty.

The most important maintenance to prevent corrosion is cleaning. Your trailer should be washed out after each load to minimize corrosion when hauling such items as salt, fertilizer, etc.

Trailer Washing

Trailer washing is an important step in decreasing future maintenance. The trailer should be washed with soap and water using a relatively soft bristle brush. Various chemicals can cause severe corrosive damage to aluminum. The use of acid in any concentration to clean the trailer will void the warranty.

A number of products hauled in the trailer will also lead to corrosion if the products are allowed to build up. Products that build up on the aluminum and steel members in the tandem and king pin areas should be routinely washed off.

GENERAL MAINTENANCE

King Pin Inspection and Maintenance

Regular Maintenance:

- Keep tractor fifth wheel plates and trailer pickup plates well lubricated with good quality grease.
- Remove and replace grease when it becomes contaminated with grit.
- Inspect and maintain tractor fifth wheel per manufacturer's recommendation.

At least four times each year or approximately every 25,000 miles (more frequently under severe conditions):

- Clean the king pin area of the trailer. Remove all dirt and grease to give a clear view.
- Inspect the king pin shaft, trailer pickup plate, and surrounding structure for wear and damage. If possible, inspect the support structure above the king pin.
- Make repairs as needed. **Do Not continue to use a damaged trailer.**
- Apply new, clean grease to the pickup plate.

King Pin with Lube Plate

- Inspect the lube plate for wear and contamination.
- Inspect the lube plate fasteners to be sure the plate is securely attached.
- Replace the lube plate and/or fasteners as needed.
- Do Not apply grease to lube plate.

NOTE

Use new fasteners whenever a lube plate is replaced.

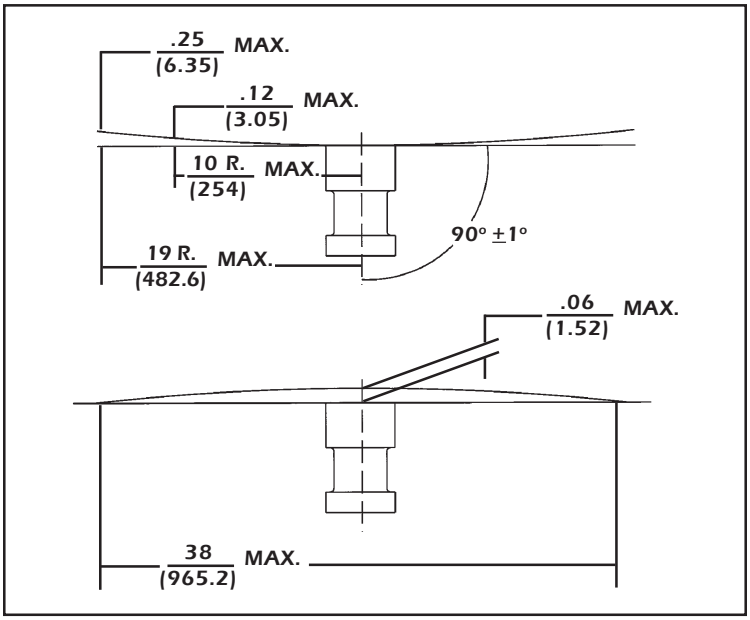
IMPORTANT

To avoid excessive wear on trailers equipped with an aluminum pickup plate:

- Always attach the lube plate securely to the aluminum pickup plate.

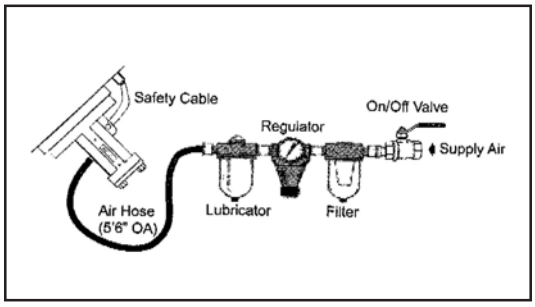
- Do Not use quick-attach lube plates such as those that attach only to the king pin shaft with a retaining ring.

- Do Not use lube plates attached to the tractor fifth wheel.



GENERAL MAINTENANCE

Vibrator Operation and Maintenance



Air Supply Information

- All vibrators should be operated with regulated and lubricated air supply. Use SAE 10 or lighter. Mix anti-freeze or kerosene with oil in extremely cold environments.
- 20 to 80 psi air pressure is adequate in most cases. Excessive pressure will greatly reduce efficiency and cause excessive wear to vibrator and structure.
- Continuous vibration is not usually necessary. Short bursts will usually dislodge stubborn material.

Periodic Maintenance

- Inspect mounting welds for any cracks and repair if necessary.
- Make sure mounting bolts are tightened properly.
- Check filter and drain bowl to remove water and other contaminants.
- Check lubricator and add oil if necessary.
- Check air leaks in valves and hoses.

Troubleshooting

<u>If vibrator will not operate:</u>

- Check for adequate air pressure.
- Check that quick-opening valve is operating properly, and that vibrator is within 15 feet of valve.
- Check for broken springs in SS or SI models.
- If piston is within 15 degrees of horizontal when mounted, a start spring must be used.

<u>If vibrator is sluggish or slow to start:</u>

- Check interior for airline trash, make sure that filter is not clogged.
- Check for proper lubrication.
- Check for defective operating valve.
- Check for loss of air supply pressure or volume.

Rev. 03-11

CONSUMER INFORMATION

Reporting Safety Defects

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 Wilson Trailer Company.

If NHTSA receives similar complaints, it may open an investigations, 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 Wilson Trailer Company.

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

(Rev. 8-08)

Keep Informed

All information contained in this manual, including illustrations, dimensions, and specifications are based on the latest product information available at the time of publication approval.

Changes are being made continually to improve the product. The right is reserved to make changes in materials, equipment, design, specifications, and models, and to discontinue models without additional notice or obligations.

Keep informed about continued product changes by remaining in contact with a Wilson Trailer Company authorized grain representative on a regular basis.

CONSUMER INFORMATION

Customer Assistance

When it comes to service, repair and parts, remember that your Wilson Trailer Company authorized grain representative knows your vehicle best. Contact him to help you with these matters. He is sincerely interested in seeing that you are completely satisfied with your need.

If you need help in locating the Wilson Trailer Company authorized grain representative nearest you, call us at 800-798-2002 and ask for Dealer Information Services.

If you are looking for the nearest Wilson repair facility refer to the **Authorized Repair Facility** list supplied with your trailer owner's manual materials.

CONSUMER INFORMATION

Certificate of Limited Warranty

The following warranty is given to the owner of each new Wilson trailer sold by Wilson Trailer Company or its authorized dealers in the United States and Canada during the period of time and upon the conditions set out in the Extended Warranty Schedule.

Warranty Coverage

Wilson Trailer Company will repair or replace, at its option, any factory-installed part that is defective in material or factory workmanship under normal use, maintenance and service. Normal use excludes any operation in excess of GWVR (gross vehicle weight rating) and any use the Owner's Manual states is not recommended. Warranty repairs will be made and adjusted in accordance with the Extended Warranty Schedule as it appears on the following page. Any repaired or replaced parts are covered only for the remainder of this warranty. All parts replaced under this warranty become the property of Wilson Trailer Company.

This warranty begins on the date the trailer is delivered to the first retail purchaser or the date it is first placed into service as a demonstrator or leased trailer, whichever comes first.

Non-coverage Items

This warranty does not cover the following items:

- Tires.
- Axles, wheels, tires, suspension, trailer frame and other components and structure damaged through the use of single axle dump valves.
- Non-standard features or items specified by the purchaser.
- Parts that fail due to lack of required maintenance or use of non-equivalent parts.
- Normal wear or deterioration on any part.
- Any trailer normally driven outside the United States or Canada.
- The replacement of expendable maintenance items when the replacement is not due to a defect in material or factory workmanship.

CONSUMER INFORMATION

Certificate of Limited Warranty

To Get Warranty Service

Parts claimed to be defective in material or workmanship must be brought to the attention of Wilson Trailer Company or the selling dealer by taking the trailer to the dealer or by written notification within ten (10) days of discovery, and any repairs or replacement must be commenced within forty-five (45) days thereafter. Wilson Trailer Company has the right to inspect the claimed defect and determine whether the part is covered by this warranty. If you cannot get warranty service, or you are dissatisfied with the service or with a warranty decision, contact Technical Service and Claims Manager, Wilson Trailer Company, P.O. Box 6300, Sioux City, IA 51106.

Owner's Responsibility

As the owner of this trailer, you have the responsibility to perform the required maintenance at the proper intervals and make reasonable and normal use of the trailer.

Limitations and Disclaimers

Wilson Trailer Company disclaims any responsibility for any loss of time or use of the parts or trailers in which the parts are installed, transportation, cargo loss, or other incidental or consequential damage. Any implied warranties, including the implied warranty of merchantability and fitness for a particular purpose, are limited to the duration of this written warranty. Wilson Trailer Company makes no warranty as to quality or performance of its trailer other than set forth above.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you special legal rights, and you may also have other rights which vary from state to state.

Wilson Trailer Company

Serial Number _____

G.V.W. Rating _____

Purchased By _____

Date In Service _____

Selling Dealer _____

By _____
(Authorized Signature)

CONSUMER INFORMATION

Extended Warranty Schedule

Per Written Warranty Conditions Covering Defect in Material and Workmanship as to Construction and Assembly and Installation Only.

% Allowable to owner (from date in service to original purchaser) for Material and Labor excluding component parts and accessories.	Vendor Items Suspensions Axles Hubs & Drums Bearings & Races Oil Seals Wheels Tires Lights & Wiring Harness Air Brake Valves & ABS Components. Axle Springs Landing Gear Assemblies Roll Tarps & End Caps Trap Opener Gear Box Air Lines and Fittings Pre-Painted Side Material	Side Structures Metal Front and Rear Assemblies Metal Crossmembers King Pin Assembly Metal Under Carriage Assemblies & Sub-Frames Hopper & Trap Assemblies Upper Slope Assemblies Direct Drive Trap Openers	Paint on Steel Components
%	MONTHS	MONTHS	MONTHS
100 0	Use Vendor's Warranty Schedule	1 - 36 Over 36	1 - 12 Over 12

This warranty shall not apply from owner operation exceeding the GVWR rating of the trailer.

(Rev. 11-12)

WILSON TRAILER COMPANY

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7-01

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