Wilson Trailer Company

SELF UNLOADER TRAILER OWNER'S MANUAL

This manual has been prepared to help you operate your new Wilson Patriot 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 Patriot Self-Unloader trailer.

We want you to know that it was designed to meet your specific needs for a self-unloader conveyor 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
Since 1890... A Good Name to Have Behind You!™

Additional owner's manuals and decal kits for this trailer are available without charge.

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.

WILSON Reference Guide - Self-Unloader

IMPORTANT

Thank you for purchasing a new Wilson Trailer. If you are a first time purchaser or a long time customer this guide is a starting point to better understanding your Wilson trailer.

- Inspect your trailer to ensure that all is correct and completed as ordered with release agent or sales agent.

- Trailer Packet - This packet contains information regarding specific components on your trailer.

- Maintenance Schedule - Please refer to the maintenance schedule in the Owner's Manual. This document contains important information about maintenance, lubrication, and torque requirements. Some highlights:
  a. Check wheel torque within the first 50 to 100 miles (450 to 500 ft-lbs. dry).
  b. Suspension Torque Requirements (See emblems on trailer or maintenance manual for specific suspensions).
  c. Several daily inspections are required of all operators. Refer to the Owner's Manual for details.
  d. Lubrication. Refer to the Owner's Manual for details.
     1. Check hub oil daily, change every 100,000 miles (every year minimum).
     2. Lubricate auto slacks and Cam bushings every 25,000 miles or semi-annually.

- Warranty - The Wilson Warranty Department will need to be contacted in advance for warranty repairs and a claim number issued for such repairs that are warrantable. (800-798-2002)

Trailer Serial Number _____

Responsible Facility _____

Customer Name _____

Owner's Manual to Customer ☐ Yes ☐ No

In-Service Date _____

Date Returned _____

Date of Inspection _____

Service Manager Signature _____

Wilson TRAILER
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Maintenance Reference Guide Self-Unloader 03-2022

MAINTENANCE SCHEDULE

Milage Reading	Time	Initial/Date	Initial/Date	Initial/Date	Initial/Date

SUSPENSION CHECK

1. Suspension Torque Requirements (see emblems on trailer or maintenance manual for specific suspension).
   Spring Ride - First 1,000 miles - every 4 months periodically afterwards.
   Air Ride - First 3 months or 5,000 miles - every routine p.m. - every brake realigning.

	DAILY				

2. Check suspension for damage (cracks, loose or missing fasteners).

	DAILY				

3. Check air ride suspensions for conditions of bushings, air leaks, and shock absorbers.

	DAILY				

4. Check spring condition for free movement of equalizer, condition of bushings, loose fasteners, and any type of cracking or damage to the spring leafs.

	DAILY				

5. Check suspension and subframe fasteners for movement.

	DAILY				

WHEELS, RIMS, TIRES

1. Check all wheel nuts for tightness and should be torqued to 450 to 500 ft-lbs. (dry) after 50 to 100 miles of service - weekly thereafter.

	WEEKLY				

2. Check tires for cuts and abrasions.

	DAILY				

3. Check tire inflation.

	DAILY				

4. Check wheel stud condition for stripped and damaged threads (if damaged see Owner's Manual). Reference Manual for: a) vendor maintenance information concerning loading, inflation-maintenance procedures; b) replacing damaged components, part number and type.

	DAILY				

LIGHTS, REFLECTIVE DEVICES, BRAKES and ELECTRICAL CONTROLS

1. Check and clean all lamps, reflectors, and conspicuity tape.

	DAILY				

2. Check 7-way electrical connection.

	DAILY				

3. Check air brake gladhands for cracked housing and for rubber washer damage.

	DAILY				

4. Check air hoses and air lines for cracking and chafing.

	DAILY				

5. Check the operation of brakes. Check for operations within stroke limits. Check for damaged, loose, or missing components.

	DAILY				

6. Drain moisture from air brake system by opening the drain cocks on air tanks.

	DAILY				

7. Check ABS warning lamp for system status.

	DAILY				

FIFTH WHEEL and KING PIN

1. Inspect king pin and its structure on the trailer for damage, any type of cracking, or unusual wear.

	DAILY				

2. Inspect coupling for positive engagement for the fifth wheel and king pin.

	DAILY				

TARP SYSTEM

1. Check to be sure the tarp is in serviceable condition.

	DAILY				

2. Insure that the latching system is in good working order.

	DAILY				

3. Check proper operation of electric tarp system if on trailer. Reference manual for tarp securement prior to travel to prevent damage.

	DAILY				

TRAILER BODY and STRUCTURAL COMPONENTS

1. Visually check trailer body, suspension, sub-frame, rear shaft supports, etc. for any cracking, deterioration, or any loose or missing fasteners.

	DAILY				

2. Check trailer sides for damage, sharp bends, ripples, or missing fasteners.

	DAILY				

3. Inspect interior polyurethane liner for loose panels or fasteners.

	DAILY				

Milage Reading	Time	Initial/Date	Initial/Date	Initial/Date	Initial/Date

LUBRICATION

1. Hub Oil - Check daily - Change every 100,000 miles (every year minimum).

	DAILY				

2. Auto Slacks - every 25,000 miles or semi-annually.

	MILEAGE/HR				

3. Cam Bushings - every 25,000 miles or semi-annually.

	MILEAGE/HR				

4. Inspect for proper lubrication of 5th wheel plate.

	DAILY				

5. Check chain lubrication. Apply oil as required.

	DAILY				

6. Grease bearings of front shaft and rear shaft.

	WEEKLY				

7. Check fill level of planetary drive (gearbox) .

	DAILY				

8. Change planetary drive oil after first 50 hours of belt operation.

	MILEAGE/HR				

9. Change planetary drive oil after every 1000 hours of operation.

	MILEAGE/HR				

10. Change planetary drive oil after one year from the last oil change.

	ANNUALLY				

CONVEYOR BELT SYSTEM

1. Inspect conveyor chain for damage, unevenness, excessive wear, or loose parts.

	DAILY				

2. Check for loose, torn, or missing conveyor flaps.

	DAILY				

3. Check for loose, damaged, or missing conveyor return support guides.

	DAILY				

4. Check for proper chain tension and ensure chain is centered at gauge bulb.

	DAILY				

5. Check under flaps to inspect floor polyurethane liner.

	WEEKLY				

6. Inspect front and rear sprockets for excess wear or poor contact of teeth.

	WEEKLY				

HYDRAULIC SYSTEM

1. Hydraulic fluid - change every 1000 hours or yearly, whichever comes first.

	MILEAGE/HR				

2. Check in-line pressure filter relief valve indicator.

	DAILY				

3. Visually inspect for hydraulic fluid leakage at the hydraulic controls.

	DAILY				

4. Check for smooth and normal control lever movement of directional control valves, conveyor belt flow control valve, and two-speed selector valve before and during operation.

	DAILY				

5. Check for normal reading on hydraulic pressure gauge.

	DAILY				

6. Check for normal function of cylinders; door locks, main door, drive motor, two speed selector.

	DAILY				

7. Inspect all hoses and fittings for leaks or damage: Tractor connection fittings, hoses at front of trailer, over kingpin, inner drivers side wall, in-line pressure filter and oiler system, control system and drive motor, rear door.

	DAILY				

REAR DOOR

1. Check for door operation without lurching or uneven movement at hinges.

	DAILY				

2. Inspect main door, auxilary, and lock cylinders for leaks

	DAILY				

3. Inspect door hoses, fittings, and bulkhead connections for leaks or damage.

	DAILY				

4. Check for door locks to fully retract and extend, and for bearing engagement.

	DAILY				

5. Inspect main and auxilary door for intact seals and check for complete closing.

	DAILY				

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 by calling Wilson Trailer Company Parts Department (800-728-5334).

ABB-02672

ABB-01505

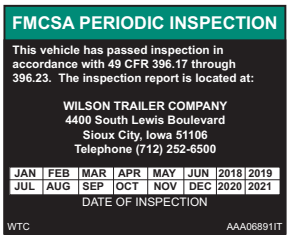
AAA-06891-SJ

AAA-06891-SO

AAA-06891-SP

AAA-05604

AAA-06891-IT



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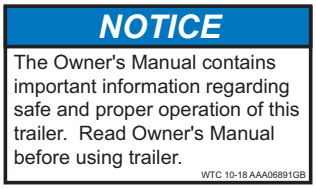

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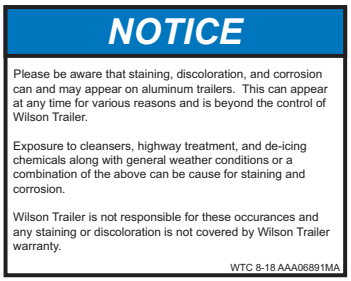

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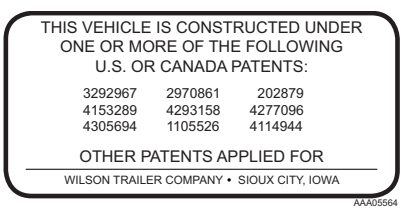

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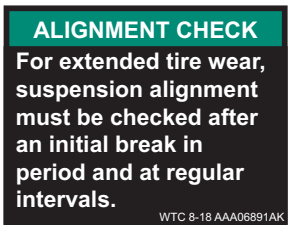

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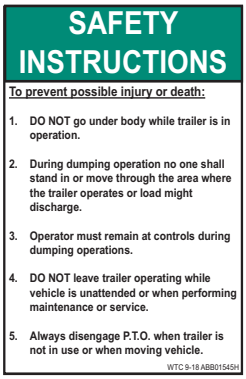

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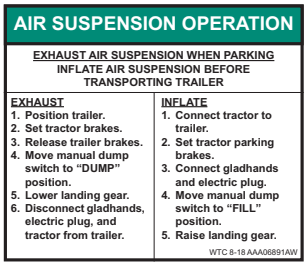


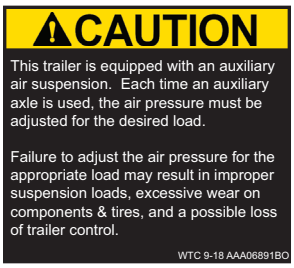
(Rev. 06-21)

Decals and Emblems

AAA-06891-CZ

AAA-06891-GT

AAA-06891-BO



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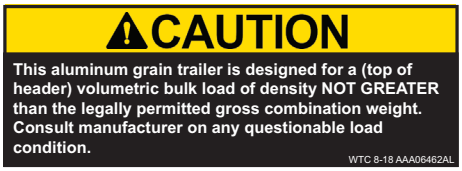
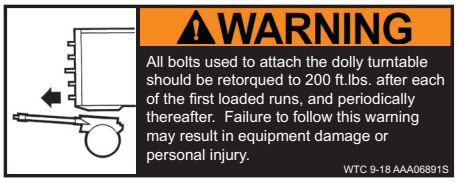


AAA-06891-AH

AAA-06891-S



AAA-06891-C

AAA-06891-FC

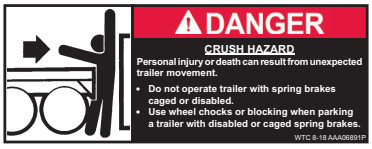
AAA-06891-AS

ABB-02332-C

AAA-06462-CO

AAA-06891-Q

AAA-06891-P



(Rev. 01-19)

SAFETY

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)

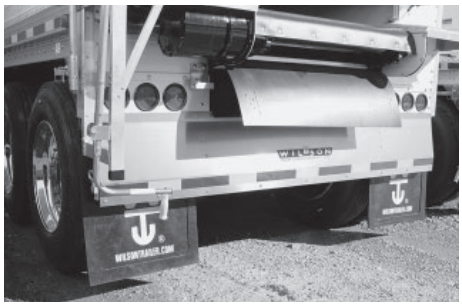
Wheel Torques

Proper torquing and retorquing the wheel nuts are critical to prevent the premature loss of wheel equipment. Refer to Page 4-10 for proper wheel torque values.

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

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 colision, 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 self-unloader trailer meet or exceed the FMVSS-121 requirement for ABS. The ABS system, specified a Meritor Wabco is a minimum for self-unloader trailers, is a 2S/1M (2 sensor-1 modulator) system. The intended purpose of ABS is to help maintain control and reduce the likelihood of jackknife situations. (Rev. 1-05)

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-Lock Brake System) 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. 1-05)

SAFETY

Backup Warning System

A backup warning system consisting of rear facing white lights and an audible alarm are 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) 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)

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.

SAFETY

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

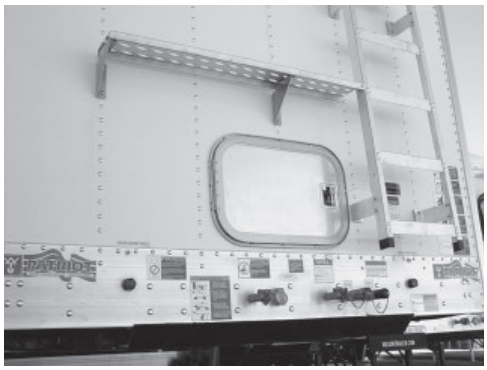
WARNING

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

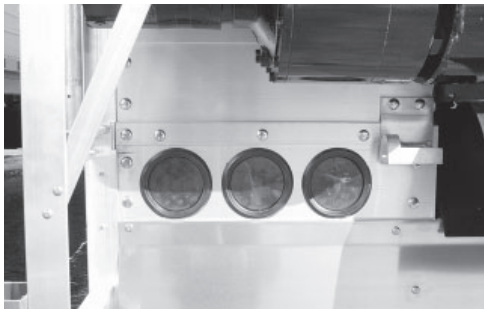
It is the Operator's responsibility to conduct a safe and accurate pre-trip inspection o fthe vehicle including brake condition and proper adjustments and be satisfied that the vehicle is in safe operating condition. See 49 CFR Parts 383 and 396.

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.

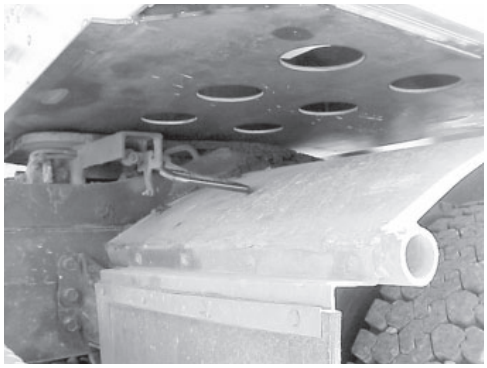
Lights and Reflectors



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. 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 door locks and safety latches before each trip to insure that they are in proper working order. Any doors or keepers which show excessive wear should be replaced immediately. Care should be taken to keep 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.

On trailers equipped with slide up doors, always latch the lower cam locks to ensure tight door seal and support of lower door corners during unloading procedures through the slider opening. Failure to latch cam locks will cause damage to lower edges of door from pressure placed by product during unloading procedures. ***Damage to door for this reason is not covered by manufacturers warranty.*** (Rev. 1-05)

CAUTION

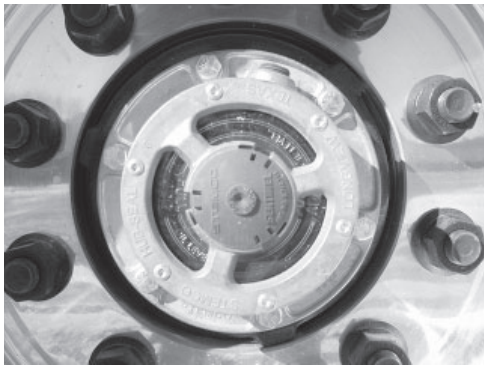
Door and safety latches which show excessive wear should be replaced immediately.

INSPECTION PROCEDURE BEFORE TRIP

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.

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.

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 hubs.

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.

INSPECTION PROCEDURE BEFORE TRIP

Mud Flaps

Be sure mud flaps are securely in place.

Side Structure

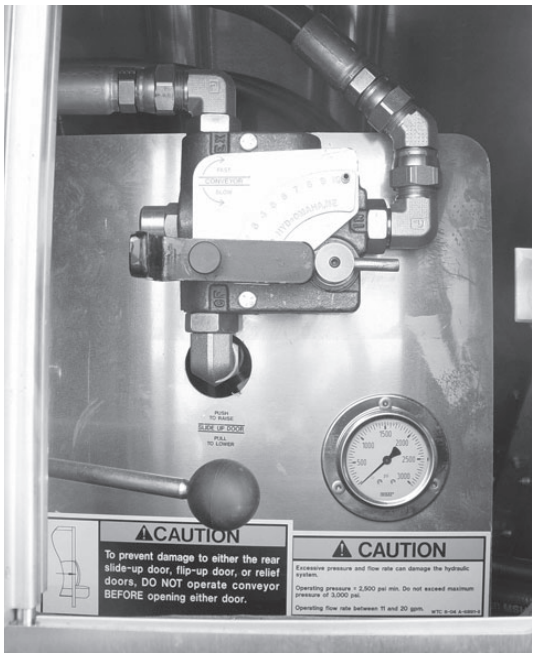
Check the trailer sides for inconspicuous damage to the top and bottom rails as well as the side structure. Any problems observed in the side structure should be corrected immediately to prevent the damage from extending further. Unrepaired damage could affect the safe load carrying capacity of the side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

Belt and Chain

Check the rear drive shaft hydraulic flow control to make sure it is "OFF". Look at the conveyor under the trailer for any torn flaps that may have been torn loose from the crossbars that may be blown off the trailer in transit. During cold weather, run the conveyor before loading and make sure that the tandem and king pin areas are not filled with frozen mud. If a buildup of mud occurs in the king pin and tandem areas and the conveyor freezes down, serious trailer damage will occur. The damage from frozen mud buildup will stretch the chain, tear off flaps and break the front shaft bearing mounting brackets.
(Rev. 1-05)

OPERATING INSTRUCTIONS

Unloading with Tractor PTO System



CAUTION

Always stand clear of the rear of the trailer when unloading. The load may fall when the rear doors are opened.

With a tractor power take-off driven pump, the hydraulic hoses are connected to the tractor. The pressure hose is connected to the pressure coupling and the return hose is connected to the return coupling.

1. Make sure that the hydraulic flow control valve is "OFF" before engaging the PTO. The rear drive motor control is a flow control valve with rotating lever. (Rev. 1-05)

A hydraulic pressure gauge at the rear of the trailer reads system pressure at all times. The system pressure will be below 500 psi when the motor control is "OFF" and the hydraulic directional valve for controlling door functions is not being used. Gauge pressures higher than 500 psi during the initial tractor hookup to the PTO system indicates that the pressure and return hoses at the front of the trailer have been crossed. Switch the pressure and return line couplings on the hoses coming from the tractor.

2. Open the rear doors. Secure side swinging doors to the side of the trailer.

3. Open the flow control valve slowly to get the needed unload speed.

NOTE

The conveyor is designed only to unload and rotate toward rear of trailer. It is important the hydraulic hoses are connected properly so the conveyor rotates in the proper direction. If the hoses are reversed and the conveyor operates in the wrong direction, damage will occur to the front shaft, idler bearings and take up assembly. Damage due to improper hose connection is not covered under manufacturers warranty.
(Rev. 9-02)

NOTE

The hydraulic flow control has a pre-set bypass of 2500 psi. This can be adjusted manual by removing the hexagon cover on the side of the flow control. Adjustment is made with an allen head hex key, turning clockwise to increase pressure. (Rev. 1-05)

Tractor PTO System "Wet Kit" Specifications

PTO: (Power Take Off)	100%-130%
Gear Pump Requirements:	11 to 20 gpm (gallons per minute)
(volume = speed)	@ approx. 900-1200 rpm
Reservoir Capacity:	Minimum 6 gallons
Hydr. Pressure Requirements:	2500-3000 psi
Relief/Bypass Settings:	2500 psi
Hydraulic Quick Coupler:	1" Pioneer Quick Couplers
(for tractor)	Pressure - #4010-6P (male)
	Return - #4050-6P (female)

(Rev. 1-05)

OPERATING INSTRUCTIONS

Unloading with Gas Engine Driven Hydraulic Pump

NOTE

The conveyor control when using the gas engine driven pump is a needle flow control valve with detented 180-degree rotation. The conveyor control when using the tractor PTO supply is a flow control with locking thumb-wheel on the lever. Both will be on a trailer having the gas engine and tractor PTO supply options.

CAUTION

Do not fill gas engine fuel tank when engine is warm. Follow gas engine manufacturer's specifications for operating and servicing instructions.

CAUTION

Always stand clear of the rear of the trailer when unloading. The load may fall when the rear doors are opened.

1. Make sure the needle flow control valve is "OFF". The needle flow control valve is located at the rear of the trailer and black plastic handle points forward.
2. Start the gas engine. Raise gas engine idle speed to high idle. Refer to Engine Operators Manual for service instructions. Move push/pull spool valve to "Door" Operation.
3. Open the rear door as directed in "Rear Door Operating Instructions" as provided in this manual.
4. Move push/pull spool valve to select the conveyor unload operation.
5. Rotate the black handle of the needle valve to control conveyor speed. The needle flow control valve is capable of 180-degrees of rotation with detented set points to assist with maintaining the conveyor speed.
6. Return the needle flow control valve handle back to "OFF" when unloading is completed. (Rev. 1-05)

System maximum hydraulic pressure is set around 2000 psi. A relief valve is located above the hydraulic reservoir in the pressure line. This relief valve is adjustable using an Allen wrench on the adjustment under the cap. The lock nut under the cap must be loosened before adjustments can be made. This is only one of two controls that limit system pressure.

The pump had load sensing and pressure limiting control. The load sense control port on the pump connects to the hydraulic circuit opposite the pressure gage at the rear of the trailer. This allows the engine to start and run at no load as long as there is no demand for flow: the needle flow control valve is shut "OFF".

The pressure limiting control is set so that the maximum system pressure can be reached and maintained without killing the engine. Raising the limiting control pressure too high may cause the engine to kill when the needle flow control valve is opened to operate the conveyor. Opening the needle flow control valve too fast will also cause the engine to kill as the compensator reacts too quickly to the increased demand. The engine will kill more often when the pressure limiting control is adjusted closer to the maximum torque the engine can provide. The pressure limiting control hex screw adjustment knob is located at the very bottom of the pump at the end of the load sense control arm.

When operating the rear door, open the needle flow control valve only one or two detent positions. Due to the low flow requirements for the door and the "all on" or all off" feature of the directional valve, the pump compensator can react too quickly and kill the engine if the needle flow control valve is opened too far and then the directional valve is used to raise or lower the rear door. (Rev. 3-02)

OPERATING INSTRUCTIONS

Unloading with 220 VAC Electric Motor Driven Pump and PTO Combination

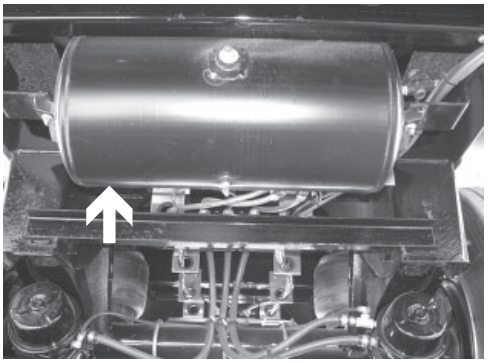
CAUTION

Always stand clear of the rear of the trailer when unloading. The load may fall when the rear doors are opened.

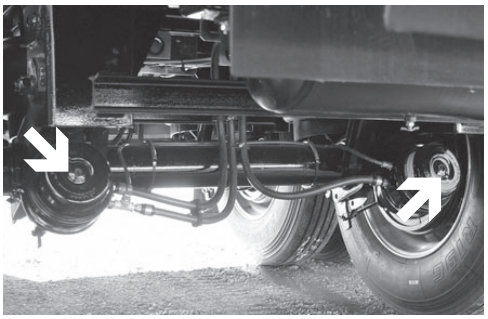
1. Plug power supply cord into 220 volt supply.
2. Open rear door of the trailer.
3. Turn on the electric motor using the rotary electrical contact switch, which is in plastic box on rear of trailer under the L.H. tail fin.
4. The control rod extending through rear door of trailer controls teh conveyor speed. Pull control rod outward to engage hydraulic pump, causing conveyor to rotate. A friction lock on rear panel of trailer can be adjusted to maintain control rod position.
5. Disengage the hydraulic pump when unloading is complete. Turn off the rotary electrical contact switch and unplug the power cord.

(Rev. 1-05)

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.

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.

OPERATING INSTRUCTIONS

Parking/Emergency Braking System

DANGER

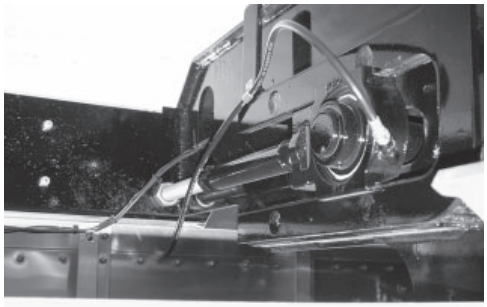
To service, the spring brake chamber must be caged or de-activated. Failure to cage could cause an explosion of parts. Failure to follow this warning can cause injury or death.

To avoid injury, when servicing vehicle in limited access areas, be aware of surrounding trailer components. (Rev. 1-97)

Adjusting the Conveyor Chain

CAUTION

The conveyor drive flow control valve and the tractor engine must be off during all chain tightening procedures or serious bodily injury may result.



Grease front take up bearing weekly.

The conveyor chain needs to be tight enough to keep the chain engaged with the drive sprockets at the rear of the trailer. Excess chain slack can cause the chain to jump off the rear sprockets. Slack in the chain is evident while the conveyor is in operation and the chain will "pop" as it straightens out to feed back through the tandem. A chain take-up mechanism is located on both sides of the front shaft with the adjuster nuts located on the lower front sill of trailer.

The take-up frame allows the front shaft to be moved approximately 13". Removal of chain links is necessary over time to tighten the chain when the limit of adjustment is reached.

Adjusting Chain Slack

The chain should align with or be within 6" below of the bulb on the chain tension guide located just ahead of the tandem. (Factory installed chains are installed 2" above bulb for chain break in.) Adjustment to left and right chain take up screws should always be adjusted the same amount to insure both chains apply equal tension. (Rev. 10-13)

Removing LInks from Chain

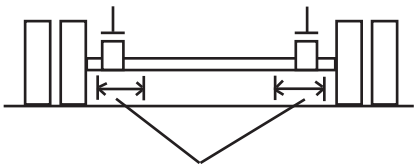
1. Run the conveyor to position a chain splice in the drop ahead of the tandem.
2. Back down the front shaft take-up units to slacken the conveyor chain by loosening jam nuts on inner side of bearing adjuster bolts.
3. Pull together two consecutive crossbars located on either side of a chain splice and remove links as needed.

When needing to remove more than one link, equal number of links should be removed from both chains. A typical conveyor has a splice link every 9-10 feet. Remove links from both chains to keep an equal number of links between each crossbar. Spot weld the heads of splice link pins when operation is complete.

4. Tighten up the conveyor chains using the front shaft take-up frames when no more links can be removed.
5. Tighten front adjuster jam nuts after adjustment is made. (Rev. 1-05)

OPERATING INSTRUCTIONS

Tire 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 and remove the tire(s) using a tire fork or a similar device to lift the tire(s).
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.
10. Torque the securing nuts to the values specified in the appropriate wheel installation section.

(Rev. 12-96)

OPERATING INSTRUCTIONS

Tire 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.

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)

Liftable / Steerable Axles

CAUTION

Backing a trailer with steerable axle in the unlocked, down position can result in unpredictable trailer movement and structural damage. Always lift the steerable axle or lock it straight before backing the trailer.

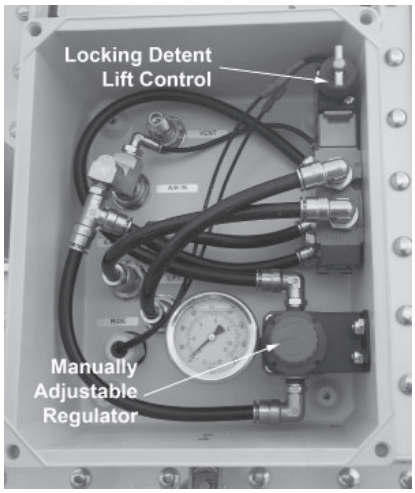
LIftable/steerable axles, also called auxiliary axles, are designed to steer with the trailer so that drag forces are reduced during turns with all axles on the ground. Single tires are used to provide clearance with the trailer frame when the axle steers. The rated auxiliary axle capacity is stated on the trailer VIN plate. The actual load carried by the auxiliary axle is controlled manually by a regulator valve in the control box. Adjust the regulator to increase or decrease the auxiliary axle load to the desired level.

Steering is achieved through the "leading caster" geometry in the auxiliary axle pivots and is similar to the wheels on a typical office chair or shopping cart. This causes the tires of the auxiliary axle to follow the direction of the other axles in the forward direction only. Steerable axles must either be locked straight or lifted when backing up. If the trailer is backed up with the steerable axle unlocked and lowered, the tires will steer sideways and bind against the steering stops making the trailer difficult to control and possibly causing damage to the auxiliary axle or trailer frame.

(Rev. 04-20)

OPERATING INSTRUCTIONS

Liftable, Regulated Axle (Dial Down) BEFORE MID 2020 BUILD DATE



For trailers equipped with a Liftable, Regulated axle, the air controls are on the roadside of your trailer. This box contains a 160 psi regulator along with a locking detent lift control valve, and a manually adjustable regulator knob. The regulator is adjusted manually to control the pressure of the lift axle ride bags.

Validate Your Load

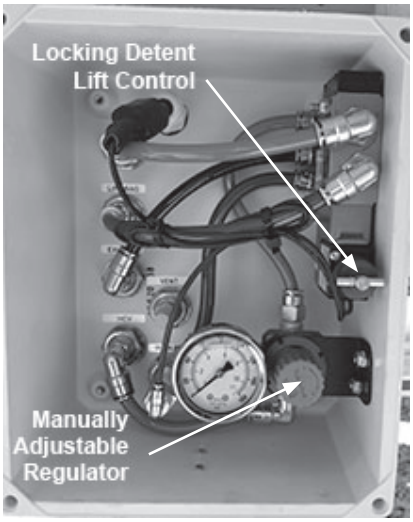
To control the load on your lift axle, with the trailer loaded, pull the regulator knob and turn to the desired pressure. This can be accomplished by placing the lift axle on a scale while the adjustment is taking place. Once the desired load is on the axle, push the knob to lock the adjustment in place.

Operating Lift Axle

To lift or lower the axle, rotate the locking detent lift control on the valve counterclockwise 1/4 turn to a horizontal position to lift and then back clockwise 1/4 turn to a vertical position to lower the axle. The lift axle needs to be lifted when the trailer is empty and lowered when the trailer is loaded. **Lowering a "preset" axle when the trailer is empty will lift other axles off the ground.**

If the axle were to be connected to an electical power, **the lift has a personal safety feature** that will lift the axle when the power is disrupted.

AFTER MID 2020 BUILD DATE



For trailers equipped with a Liftable, Regulated axle, the air controls are in a box that appears similar to the one pictured here. This box contains a manually adjustable pressure regulator along with a locking detent lift control valve. The regulator is adjusted manually to control the pressure of the lift axle ride bags and hence the load on the axle. The source of pressure is taken from the ride bags on other non-lifting axles. This is done to limit the available pressure to the lift axle. **It is still the customer's responsibility to not set the pressure too high and overload the lift axle.**

Validate Your Load

To control the load on your lift axle, rotate the locking detent lift control on the valve counterclockwise 1/4 turn to a horizontal position to lift the axle and then back clockwise 1/4 turn to a vertical position to lower the axle. The lift axle needs to be lowered when the trailer is loaded. **Lowering a "preset" axle when the trailer is empty will decrease the ground load of other axles possible leading to reduced control and braking power. Liftable, Regulated Axles should be lifted when the trailer is empty.**

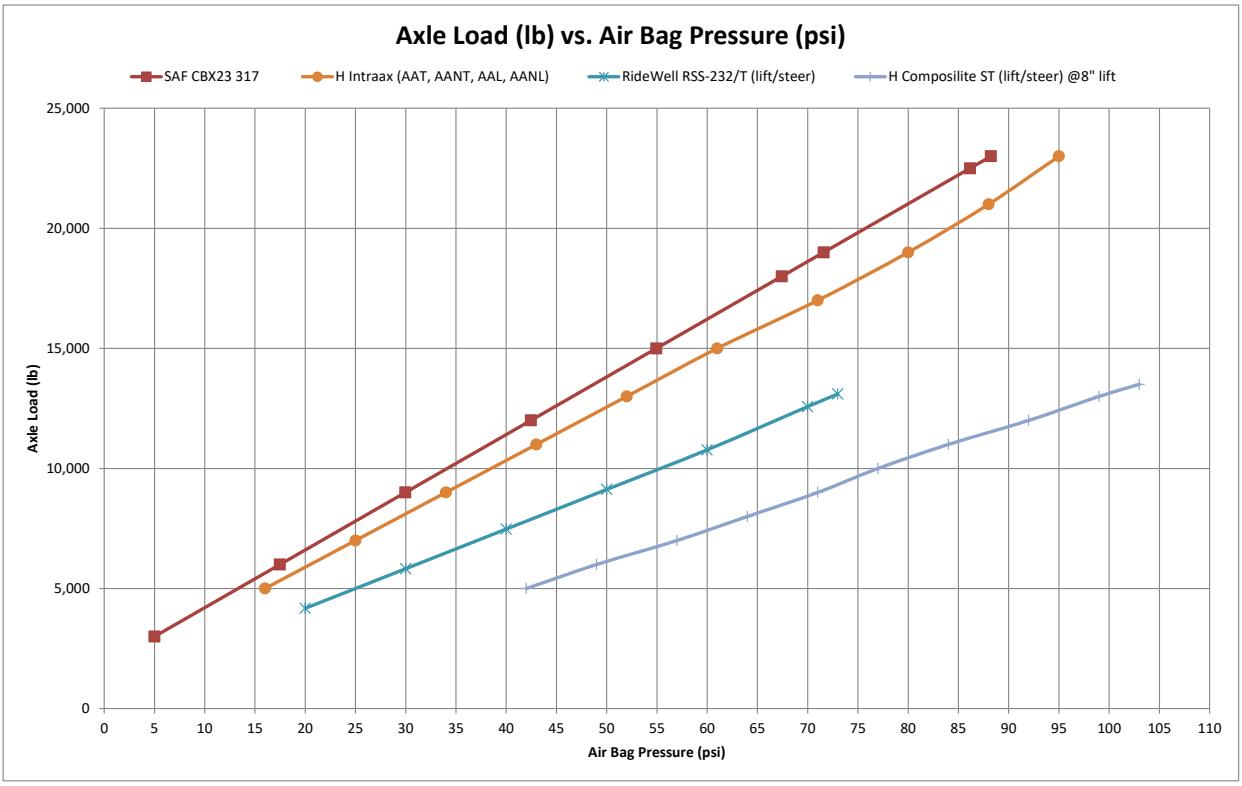
(Rev. 08-20)

NOTE

Loading the axle should never exceed the wheel, tire, or axle rating. This is listed on the Federal Registration Plate under the GAWR Rating.

OPERATING INSTRUCTIONS

Load vs Pressure Chart



Actual values can vary depending on various factors (ex. Ride height). Use this graph as a guide. Set values conservatively. Verify actual axle load on a scale.

For singled out axles:
Do not exceed 12,000 lb on any singled out (half a dual on each wheel end) axle. Verify individual axle load on a scale.

Note: Some lift box configurations will only read pressure at the guage with a load on the trailer.

If in doubt as to your suspension type set the dial down pressure at 30 psi and fine tune on a scale with a conservative load on the trailer.

(Rev. 04-14)

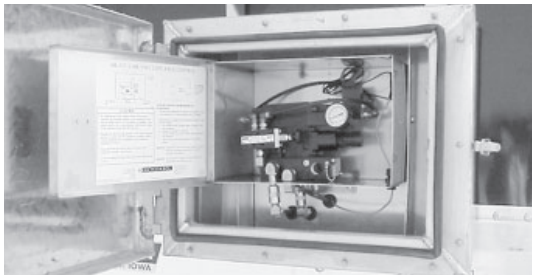
OPERATING INSTRUCTIONS

Liftable Suspensions

CAUTION

This trailer is equipped with a liftable air ride suspension(s). All axles must in 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.



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.

IMPORTANT

Always lower liftable suspensions and exhaust the full suspension dump before loading the trailer.

(Rev. 12-96)

Swing to Side Door with Slide Up Gate

CAUTION

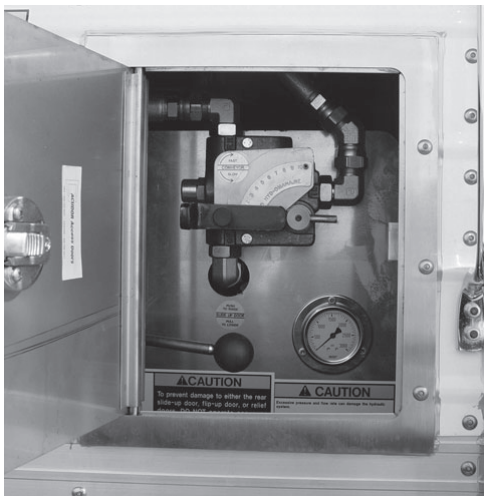
Always stand clear of the rear of the trailer when unloading. The load may fall when the rear doors are opened.

CAUTION

Do not operate the conveyor when the doors are closed or damage to the trailer will result. When unloading through the slide up gate, the LOWER door latches must be locked.

OPERATING INSTRUCTIONS

Swing to Side Door with Slide Up Gate



To open the hydraulic controlled slide up gate with PTO system:

1. Pressurize the system by engaging the tractor PTO.
2. Move the directional valve handle up to raise the door.
3. Move the directional valve handle down to lower the door.

To open the slide up gate with the gas engine or electric driven pump system:

1. Use the push / pull valve to switch from "conveyor" to "door".
2. Engage the pump as instructed in the "Unloading" procedure. Increase gas engine high idle speed.
3. Move the directional valve handle up to raise the door.
4. Move the directional valve handle down to lower the door.

Swing the Door to the Side:

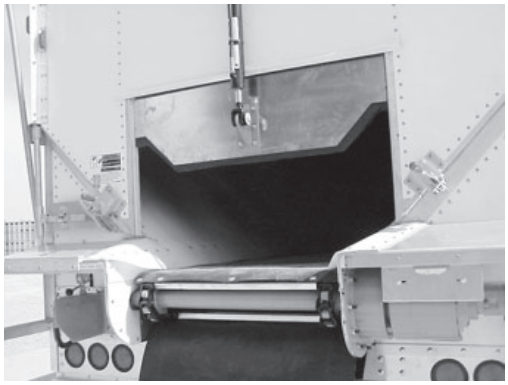
1. The slide up gate must be opened to clear the rear skirts following the procedure above.
2. Unlock the two lower door clamps located on each side of the slide up gate.
3. Unlock the lock rod handle and pull the door towards you while moving to the right side of the trailer.

4. Walk the door to the right side of the trailer using your left arm and hand on the door - keep clear of the load!
5. Secure the door to the right side of the trailer with tie back.
6. Reverse the procedure when closing the door.
7. Be sure to latch the cam locks at lower edge of door to insure sound seal and door support.

(Rev. 1-05)

OPERATING INSTRUCTIONS

Slide Up Door Sealing



Standard Dry Seal

Wet Seal

To provide for the proper seal at the bottom of the slide up gate, determine your door seal type: (dry seal or wet seal)

a. Standard "dry" seal.

The lower edge of a dry seal door is straight and has no notches. To seal this door, lower the door down, directly above a chain crossbar, on top of flaps.

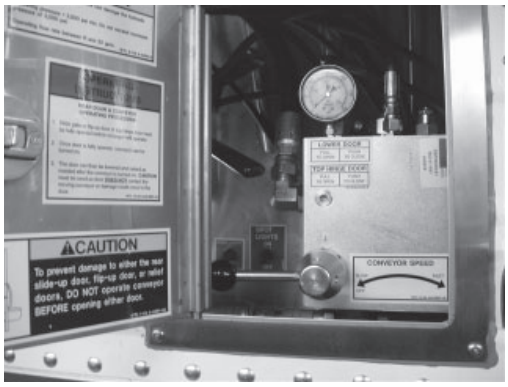
b. Wet seal.

The lower edge of a wet seal door has notches cut into the seal above the chains. The conveyor has to be stopped so that the door comes down between two crossbars. The preceding flap is flipped over to allow the door to seal on the floor liner.

Make sure lower cam locks are properly adjusted and latched to insure tightest door sealing.

(Rev. 1-05)

Rear Door & Conveyor



Operating Procedures

1. Slide gate or flip up door or top hinge door must be fully opened before conveyor will operate.
2. Once door is fully opened, conveyor can be turned on.
3. The door can then be lowered and raised as needed after the conveyor is turned on. CAUTION must be used so door DOES NOT contact the moving conveyor or damage could occur to the door.

CAUTION

Door must not come in contact with the moving conveyor or damage could occur to the door.

OPERATING INSTRUCTIONS

Swing to Side Door with Flip Up Gate

CAUTION

Always stand clear of the rear of the trailer when unloading. The load may fall when the rear doors are opened.

To swing the door to the side:

1. The flip up lower portion must be opened to clear the rear tail fins.
2. Unlock the door lock rod handle and pull the door towards you while moving to the right side of the trailer.
3. Walk the door to the right side of the trailer using your left arm and hand on the door to keep clear of the load.
4. Lower the flip up gate down and secure the door to the right side of the trailer with the door hold back on side of trailer.
5. Reverse the procedure when closing the door.
6. Make sure the cantilever hydraulic latch mechanism has complete extensions closing lower door fully to insure best door seal. Close lower door portion so it seals directly over flaps and crossbar.

(Rev. 1-05)

To open the hydraulic controlled flip up gate with PTO system:

1. Pressurize the system by engaging the tractor PTO.
2. Move the directional valve handle up to raise the door.
3. Move the directional valve handle down to lower the door.

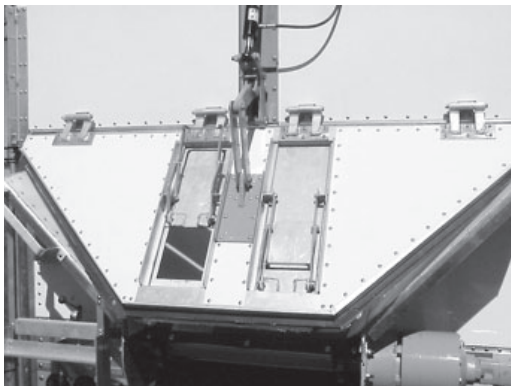
To open the flip up gate with the gas engine or electric driven pump system:

1. Use the push / pull valve to switch from "conveyor" to "door".
2. Engage the pump as instructed in the "Unloading" procedure. Increase gas engine high speed idle.
3. Move the directional valve handle up to raise the door.
4. Move the directional valve handle down to lower the door.
5. Make sure the cantilever hydraulic latch mechanism has complete extensions closing lower door fully to insure best door seal.

(Rev. 1-05)

OPERATING INSTRUCTIONS

Grain Relief Door Option



With the grain relief doors built into the flip up gate, some of the load can be gravity discharged off the back of the load before the flip up gate is opened. Do not run the conveyor with only the grain relief doors open. Lifting the handle on the scissors linkage opens the grain relief doors.

By running the conveyor in an attempt to force product through grain relief gates only and not opening lower door, will damage lower door. **Damage due to this operation is not covered by manufacturers warranty.**

(Rev. 9-02)

Door Protection Valve

This trailer is equipped with a door protection valve to reduce the potential for damage to the rear door caused by operation of the conveyor with the door closed.

Features:

1. The conveyor belt will not move unless, either, the slide gate door, the top hinge door or the flip-up door is opened fully. (Depending on which door option you have.)
2. The hydraulic system will reset automatically if the conveyor belt has not moved after a short length of time.
3. The slide gate can be operated at any time. It has a dedicated oil supply independent of the conveyor belt speed.

Reading Pressures:

1. The door protection valve is able to read the output pressure of the tractor PTO or self-contained power unit whichever is used, as long as it is less than the trailer system relief pressure of the door protection valve (which is 2900 PSI).

To Read This Pressure:

- Turn on the tractor PTO or power unit.
- Run at operating RPM.
- Open side access door on driver's side rear side wall where hydraulic controls are. Open door part way to clear the belt by a few inches.
- Turn on the conveyor belt handle (the belt should not move).
- Read pressure on the gauge located on top of the block. The pressure on the gauge will be the lower of the two.
- Return conveyor belt handle to zero.

OPERATING INSTRUCTIONS

Door Protection Valve

2. DCV Relief Reading: The door protection valve can be also read the pressure of the directional control valve (door handle functions). First turn on the PTO or power unit. Open slide gate door to full stroke. Read gauge on door protection valve when door maxs out, this is the trip pressure that enable the conveyor circuit. Close door full stroke. Read the gauge, this is the auxiliary function relief pressure.

3. Do not adjust any of the cartridges on the door protection valve. All are pre-set at WTC.

4. The door protection system will reset and disable the conveyor each time the conveyor is left idle more than a few moments. The door must be raised to the top of its stroke to enable the belt again.

Operation of the Door Protection Valve

NOTE

Tractor PTO or power unit must be able to produce 2500 PSI, to adequately operate this trailer.

NOTE

If the conveyor belt handle was left on after the last load by accident, the conveyor belt will not move when the PTO or power unit is turned on. If this should happen, turn off the conveyor belt handle, and refer to Step 2 for correct belt start-up.

TO CHECK THIS PRESSURE, SEE STEP 4 OF DOOR PROTECTION VALVE.

1. Turn on tractor PTO or power unit. Set at operating RPM.

2. Open slide gate, if the trailer has one, or if not, open the top hinge door or flip us door until it is fully opened. Once the door is fully opened, then the conveyor belt can be turned on. Also at this time the door can be lowered and raised as needed to regulate the flow of product unloading. (DO NOT lower door onto moving conveyor belt.)

3. If you stop the operation of the conveyor belt, the system will stay active for a short length of time. This means you can turn the conveyor belt back on again during this short length of time. After that time frame, the system will reset itself and then you will have to refer back to Step 2 to reactivate the conveyor belt. (The door does not need to be lowered and raised again to reactivate the conveyor. Operating the lever to raise the door against the top of the stroke will enable the conveyor.)

Tractor Hydraulic Couplers

Standard: 1" Pioneer quick coupler
Pressure Line: Pioneer #4010 GP Male
Return Line: Pioneer #4050 GP Female
Full Set: Pioneer #4000 GP

Tractor Hydraulic Requirements:

1. Tractor PTO/Power Unit: Be able to produce 2500 PSI pressure
2. Tractor PTO: Relief set between 2400 - 2500 PSI
3. Minimum Oil Reservoir capacity: 10 gal. (20+ recommended)
4. Recommended System Output: 15 to 20 GPM
5. Be sure all winged couplers, if used, are properly connected prior to start up.
6. Maintain a clean hydraulic system. Change filters regularly.

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.

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 alum. 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**

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 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.

OPERATING INSTRUCTIONS

Chain Adjustment Procedures

Checking the Chain Tension

Chain tension is visually checked with the conveyor stationary (not rotating or under load). Inspect the chain as it aligns with the "Chain Tension Gauge" on the driver's side in the belly of the trailer just ahead of the suspension subframe. For the best chain tension, the chain should align with or be within 6" below of the bulb on the chain tension gauge. (Factory installed chains are installed 2" above bulb for chain break in.) (Rev. 10-13)

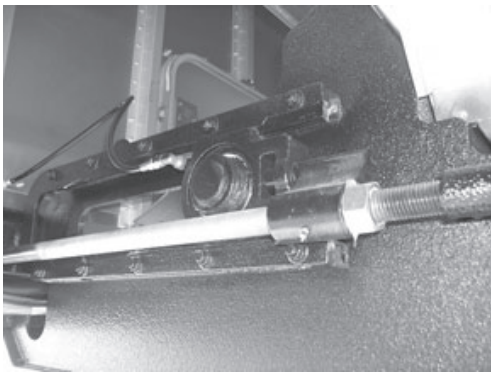
Adjusting the Chain Tension

After inspection of the chain tension in relation to the "Chain Tension Gauge" and you have found the chain to be more than 6" below, it is time to adjust the chain tension. (Rev. 10-13)

Tension adjustment is made at the front of the trailer. On each side of the king pin upper coupler there is a take up bearing assembly with a threaded rod (adjustment shaft) and locknut. The locknut must first be loosened to allow rotation of the adjustment shaft. Turn the adjustment shaft nut located on the front lower channel of the trailer in a clockwise direction to tighten the chain tension.

IMPORTANT

Adjustment to both left and right adjustment shafts must ALWAYS be the same amount to insure equal tension on each chain. Failure to adjust both sides equally could lead to premature front shaft or bearing failure.



When the chain is aligned with or near the bulb on the "Chain Tension Gauge", tighten the adjuster rod locknut. If the front idler shaft assembly is at the extreme front end of the horizontal slot in the king pin side plate where there is no longer any room to move the front shaft forward to tighten the chain, links now need to be removed from the chain to achieve proper chain tension.

Removing Chain Links for Best Chain Tension

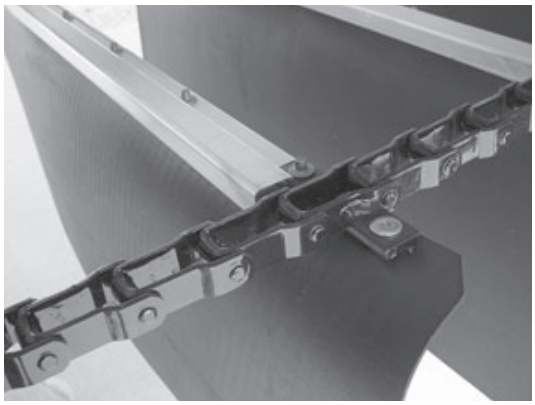
Rotate the conveyor, stopping it when a master/splice link in the chain is midway between the front of the suspension subframe and the center chain support in the middle of the belly. (Master link/splices will be located every 9-10 feet in the chain.)

OPERATING INSTRUCTIONS

Chain Adjustment Procedures

IMPORTANT

Make certain that the hydraulic system is disconnected from the source and no one will rotate the conveyor during the chain tension adjustment.



NOTE

Certain caustic feeds and fertilizer products will corrode the cotter key and allow the pin to vibrate out and allow the chain to come apart if the pin is not tack welded into place.

Connect a cable come along tool to each chain strand, with room to work on the master/splice link. Loosen the front shaft adjustment locknuts and back off the front adjustment shaft so the front idler shaft assembly can be pulled all the way to the rear of the slot in the king pin side plates. Pull the chains together with the come along so there is adequate droop in the chain to work - this will pull the front idler shaft rearward in the slot.

Remove cotter key from master pin and grind away the security weld on the pin. Press/drive out the pin from the link and the chain will come apart. It is common to remove up to 5 links (1 link w/crossbar and flap and 4 bare links) when removing links for proper front idler shaft location in the king pin side plate slot.

Re-assemble the chain with new master link pins and install the cotter key. Adjust the chain tension by following the guidelines as outlined above. Once the chain tension is correct and the front shaft is near the rear of the slot in the king pin side plate, the process is near completion. After confirming the correct tension and shaft location, engage the hydraulic system and rotate the conveyor a few rotations to ascertain correct chain tension. Once the tension is correct, tack weld the new master link pin to the link.

Trailer Loading

The Trailer should be loaded evenly from front to rear. The tarp bows can be swung to the side to facilitate loading as needed. Check all rear door locks and latches for proper engagement before loading.

NOTE

When loading sand, gravel, or abrasive product, load from the rear of the trailer to the front. This will allow the product to force the conveyor flaps to lay flat, keeping the abrasive product from getting under chain/flaps, which can cause premature floor liner wear. (Rev. 1-05)

GENERAL MAINTENANCE

Wilson Trailer Washing

NOTICE

Please be aware that staining, corrosion, and discoloration can and may appear on aluminum trailers. This can appear at anytime for various reasons and is beyond the control of Wilson Trailer.

Exposure to cleaners, highway treatment, and de-icing chemicals along with general weather conditions or a combination of the above can be cause for staining and corrosion.

Wilson Trailer is not responsible for these occurances and any staining or discoloration is not covered by Wilson Trailer warranty. (Rev. 8-15)

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 corrosion damage to aluminum. The use of acid or alkaline cleaners outside of the recommended pH range will void the warranty.

Improper washing may permanently stain bare aluminum or damage painted surfaces. Painted and natural skin trailers do not have a clear topcoat to protect from damage.

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.

Steps for washing:

- Trailer must be cool, in shade. Do not wash a hot trailer.
- Wet surfaces with cool, 70-80 deg F, water. Do not use a "hotsy".
- Wash with cool soap and water mix having a pH between 5 and 8. (test pH with a pool/spa test strip). Use a soft bristle brush.
- Immediately rinse thoroughly with water which can be cool or warm.
- Dry in shade. (Rev. 12-21)

Conveyor Chain Lubrication

NOTE

There is absolutely NO warranty, expressed or implied, on the chain or drive system if the system is not maintained properly, is misused or is overloaded. This includes, but is not limited to the hauling of corrosive materials such as fertilizer, sludge, brewer's mash, corn gluten, and distillers grain. (Rev. 1-16)

The chain life will be extended with proper lubrication and adjustment. The chain must be lubricated routinely when used regularly. The chain must be lubricated on the return side under the trailer ahead of suspension. Use a pump action oil can or hand pump sprayer to apply a light coat of lubricant on the chain. Move the conveyor as necessary to position each section of chain in the return slide area.

If loud popping noise is heard during chain rotation, this is a clue that the chain may need lubrication. (Rev. 1-05)

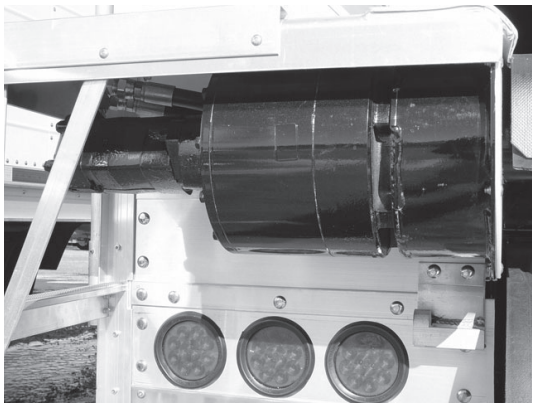
Petroleum based lubricants should NOT be used on chains exposed to livestock feeds or products for human consumption. Food grade oils are necessary for these applications. (Rev. 9-02)

CAUTION

Do not lubricate the chain while the conveyor is running. Cotter keys and connecting links on the chain may catch clothing and cause severe bodily injury.

GENERAL MAINTENANCE

Planetary Drive



The planetary drive (gearbox) is located on the roadside end of the rear drive shaft. The drive unit mounting bolts and oil level should be checked during initial use and periodically after that. Lack of oil or no oil in the gearbox is the leading cause of gearbox failure.

In Normal applications use an extreme pressure lubricant API-GL-5 or one of the approved grades depending on the expected operating conditions shown in the chart below.

Lubrication Type:

SAE Vicosity Grade	Minimum Outside Temp. Expected in Service
75W-90	-40 F (-40 C)
80W or 80W-90	-15 F (-26 C)
85W or 85W-90	10 F (-12 C)
90	35 F (2 C)

Change Interval:

Change the oil in the gearbox after the first 50 hours of operation. Subsequent oil changes are every 1000 hours or yearly, whichever comes first.

Amount of Lube:

The gearbox should be half full with 54 oz. (slightly less than 1/2 gallon) of oil. Two plugs are located on the end of the gearbox housing for draining and filling. The oil level check plug is on the side of the gearbox housing and located on the horizontal centerline. Remove the oil check plug when filling the gearbox. Fill gearbox until lube is visible at the check plug.

Hydraulic Drive Motor

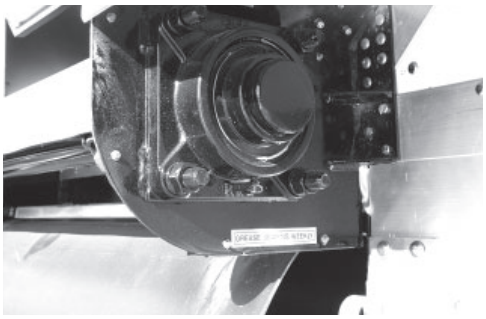
The motor is mounted on the planetary drive. For optimum performance and life, a 15-minute run-in period at low load and medium flow is recommended.

Front Conveyor Shaft and TakeUp Frame

Grease the front shaft bearings weekly. Grease zerks on front lower sill feeds grease to the take-up bearings. Grease the take-up frame adjustment screws to limit corrosion. When tightening the conveyor chain, alternate adjustments between left and right hand screws. Maintain equal adjustment on both sides.

GENERAL MAINTENANCE

Rear Drive Shaft



The rear drive shaft assembly and sprockets are to be inspected for wear. Keep the plastic end shields in place to keep rocks and soil from wearing grooves in the shaft. Grease the end bearing weekly. Check for loose bolts in the end hub at each gearbox oil change interval. (Rev. 1-05)

The rear shaft is made out of alloy steel that requires special preheating prior to welding. Welding replacement sprockets on the shaft without the proper preheat before welding will reduce the life of the shaft.

Hydraulic Pressure Gauge

The pressure gauge located near the hydraulic controls behind the side hinged door in the trailer sidewall, is an important maintenance tool. The gauge reads the system pressure as required to run the conveyor and rear doors. Only when the conveyor stalls under load or a door cylinder reaches the end of stroke does the gauge read the relief setting that the system is set at. The flow control valve has a relief valve to limit maximum system pressure.

The hydraulic and conveyor system is designed to operate at a maximum of 2500 psi. The relief valve setting is factory set at or below 2500 psi. If the conveyor flow control valve is open and the conveyor does not move, the pressure indicated on the gauge should be noted. The relief valve setting can be increased or decreased by turning the screw located on the flow control valve. The screw is located under a protective hex cap and turning clockwise will increase system maximum pressure. The adjustments to the screw should be made in 1/8th increments of rotation. If the conveyor fails to move at 2500 psi system pressure, contact your Wilson Trailer Company sales representative. (Rev. 1-05)

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!

HUB AND BEARINGS

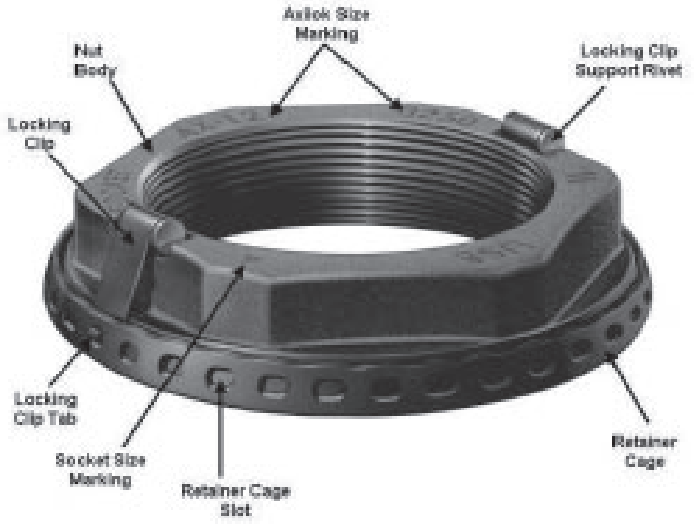
Axilok Nut Removal & Installation Procedures

WARNING

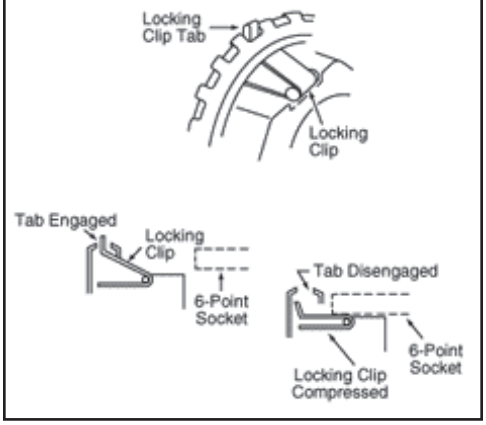
Do not use chisel, hammer, or any power tool to remove the Axilok product.

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

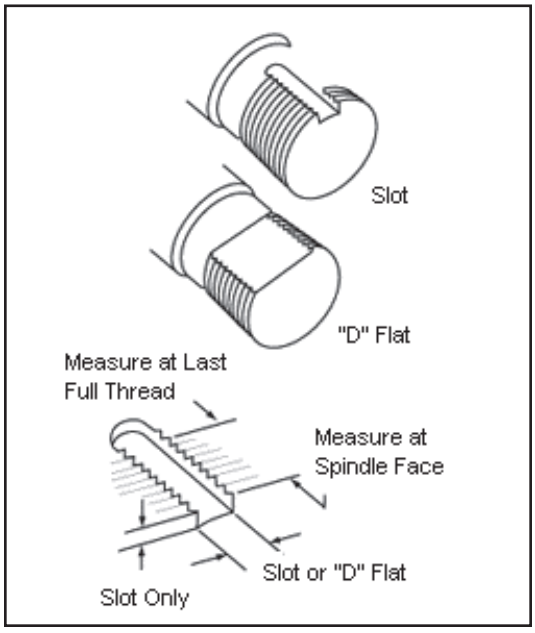
TABLE 1

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

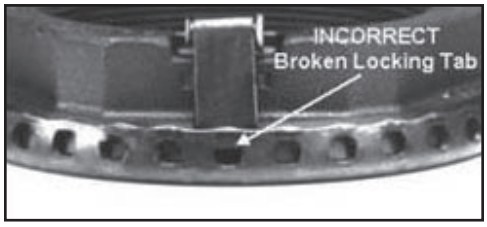
Do not use Axilok assembly with hubs that have internal bearing spacer systems except as directed by the vehicle manufacturer.

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.

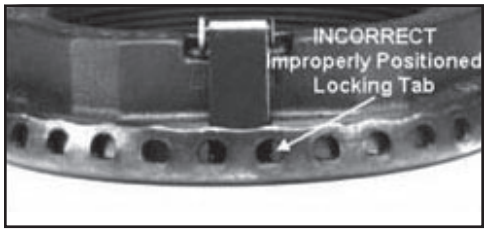
5. Free Rotation Inspection. This test will check for nut and socket compatibility.

- 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.

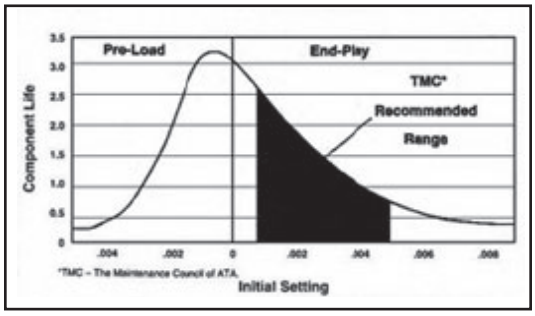
1. Before installation, perform pre-installation checks:

- 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.

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.

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.

HUB AND BEARINGS

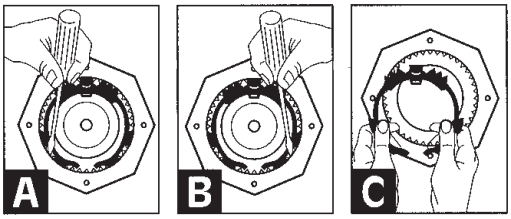
Spindle Nut & Wheel Bearing Adjustment Procedures

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.

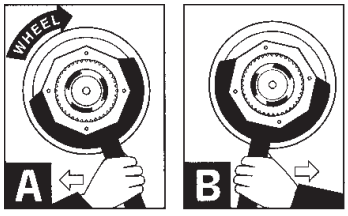


STEP 1

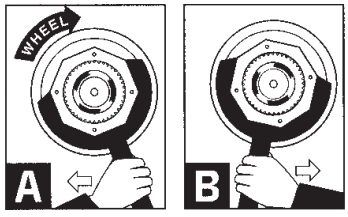
STEP 3
Adjust the bearing
Using a torque wrench

(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.

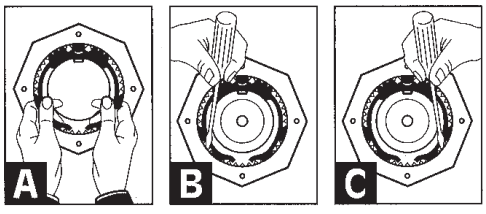


STEP 2



STEP 3

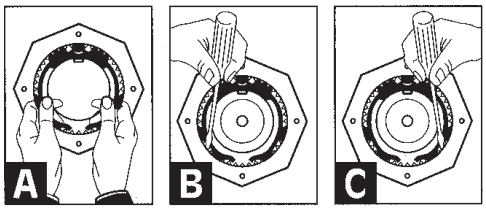
STEP 4
Install the keeper (Orange side facing out)
A: Insert the keeper tab into the undercut groove of the nut and engage the keyway tang in the axle keyway. Insert keeper tab with bent legs facing out.
B: Engage the mating teeth.



STEP 4

HUB AND BEARINGS

Spindle Nut & Wheel Bearing Adjustment Procedures

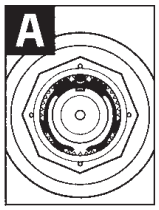


STEP 4

STEP 4 (Continued)

Install the keeper (Orange side facing out)

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)



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.

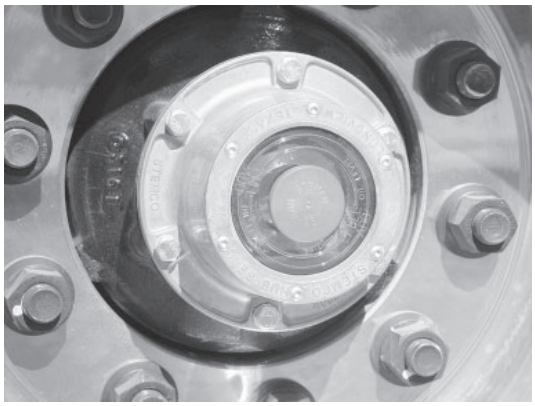
PRO-TORQ®
ADVANCED AXLE SPINDLE NUTS
PRO-TORQ® is a registered trademark of STEMCO Inc.

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.

HUB AND BEARINGS

Bearing Lubricant



Vented hub caps are used with both oil and semi-fluid grease lubricants.

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, brake linings are replaced, or at least once each year. Fill hubs with new HD80-90 heavy duty oil to the level indicated on the hub window.

Semi-fluid grease (gray hub windows) does not require regular changing, and does not need to be changed unless the lubricant becomes contaminated, leaks out, or is removed to replace seals or bearings.

100,000 mile inspection of semi-fluid grease
Hubs without fill plug:

1. Remove the hub cap and outer bearing. Inspect the bearing for discoloration, restricted movement, rust or unusual wear.
2. Check for proper level of semi-grease lubricant. Adequate lubricant level is approximately 50% of the hub capacity, or at the center line of the axle spindle.
3. Check the consistency of the semi-fluid grease.
   - If the grease consistency is sloppy or runny it is suitable for continued service.
   - If the grease is gritty, it is contaminated with dirt and must be replaced.
   - If the grease is milky, it is contaminated with water and must be replaced.
4. Check the seals for leakage. Replace as needed.
5. If the lubricant and all parts are good, add lubricant as necessary to fill 50% of the hub volume (see instructions below) and reassemble the hub.

(Rev. 05-18)

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. 7-04)

BRAKES

Bearing Lubricant

NOTE

Discoloration is normal with extended service.

High milage or old seals should be replaced regardless of their appearance as it is likely to be a long time before the next service.

NOTE

If using a pump, be sure the grease is not aerated or underfilling may result. A template or shield may be used to hold the semi-fluid grease in the hub while filling.

NOTE

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

Hubs with fill plug on the hub:

1. Remove the fill plug from side of hub.
2. Rotate the hub until the fill plug is at 3 o'clock or 9 o'clock (approx. horizontal). Grease should drip from the fill plug hole. If the hub must be turned below horizontal for the grease to drip out, the lubricant is low and grease must be added.
3. Check the consistency of the semi-fluid grease.
   - If the grease consistency is sloppy or runny it is suitable for continued service.
   - If the grease is gritty, it is contaminated with dirt and must be replaced.
   - If the grease is milky, it is contaminated with water and must be replaced.
4. Check the seals for leakage. Replace as needed.
5. If the semi-fluid grease level is low, rotate the hub so that the fill plug is up and add grease through the hole, checking the level frequently until grease drips from the fill hole when rotated to be horizontal.
6. Reinstall the fill plug in the hub.

To install semi-fluid grease:

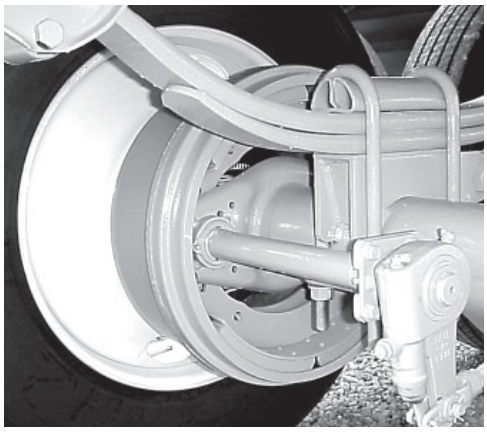
1. Apply a light coat of grease to all parts and surfaces.
2. Install the inner bearing, inner seal, and hub.
3. Fill the cavitiy between the bearing races to approximately 50% of the cavity with semi-fluid grease. (Rev. 10-00)
4. Install the outer bearing and adjust end play as noted in the "Wheel Bearing Adjustment Procedure" section.
5. Install the hub cap and seal. Apply only a thin coat of grease to the inside of the hub cap to prevent rust. Do not put grease in the hub cap and do not plug the hub cap vent.

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

(Rev. 05-18)

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

Brakes

NOTICE

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

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:

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.

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.

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.

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.

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.

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

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

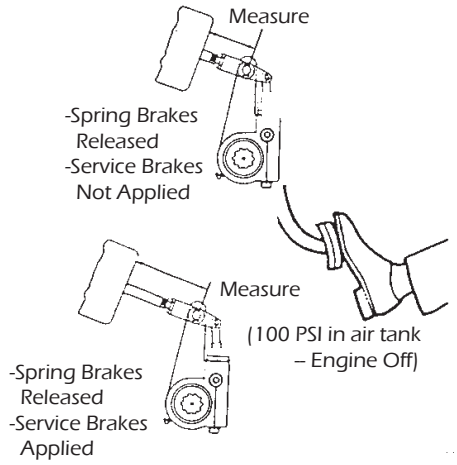
BRAKES

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 80-90 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 85-90 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.

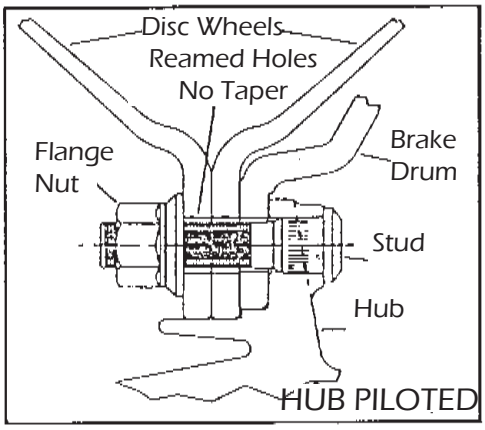
Wilson Trailer will not provide warranty to customers using wide based super single tires and 2" offset wheels with tapered bearings.

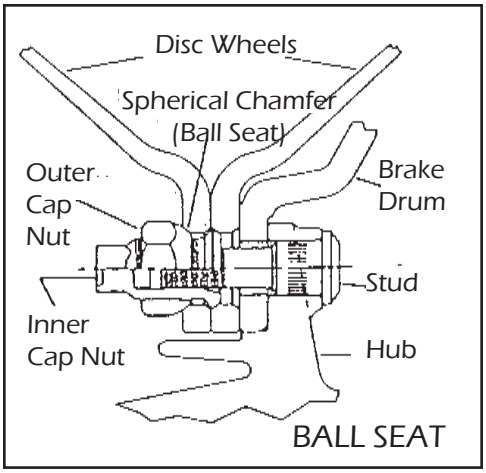
WHEEL INSTALLATION

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.

Hub Pilot Mount Disc Wheels



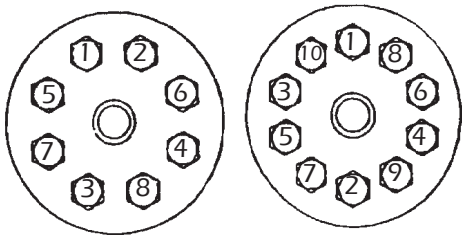


Hub piloted disc wheels have stud holes drilled straight through the wheel. Pilot bosses machined on the hub fit tightly into the center of the disc wheel. Hub piloted wheels may be steel or aluminum and are secured with single flange nuts.

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.

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 studs, nut and wheel damage.

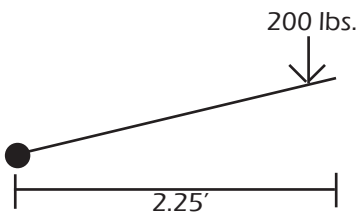
CAUTION

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 sureface 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 4-11. 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.
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 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.

WHEEL INSTALLATION

Ball Seat Mount Disc Wheels

CAUTION

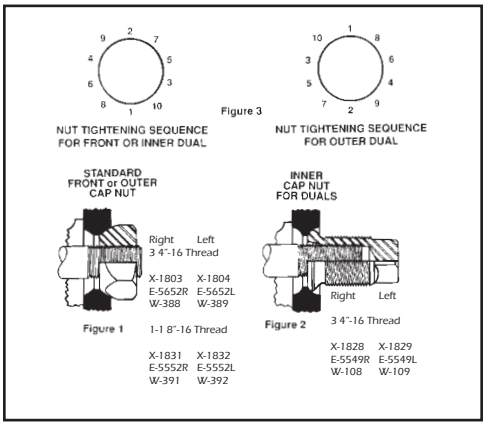
Grade 8 inner cap nuts must be used with aluminum wheels. Do not use Grade 5 inner cap nuts with aluminum wheels.

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.



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.

<u>To assure proper installation of ball seat mounted disc wheels:</u>

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.

<u>NOTES</u>

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.

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 (blue) 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.

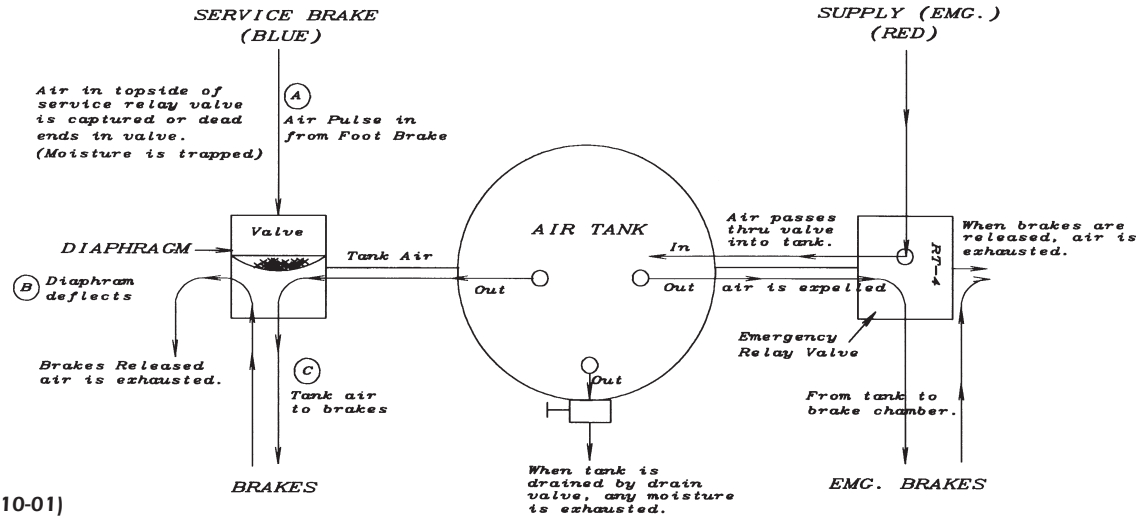
The diaphragm pushes on a spring loaded cylinder which opens up and lets TANK AIR pass to the brake chambers and applies force to activate the brakes. Upon release of foot, air in brake chambers exhausts out the bottom of service valve.

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.

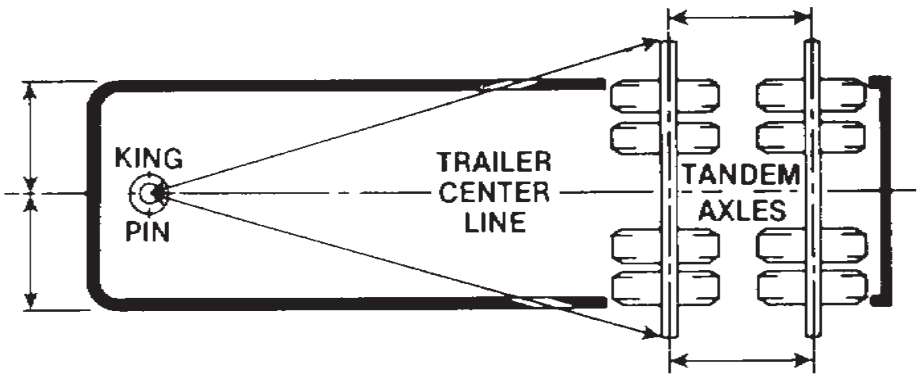
2. Check each dual tire set. Tires of each set must be matched to a maximum of 1/8" tire radius or 3/4" variation in circumference. Air pressure must be the same in all tires.

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 45-50 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.

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

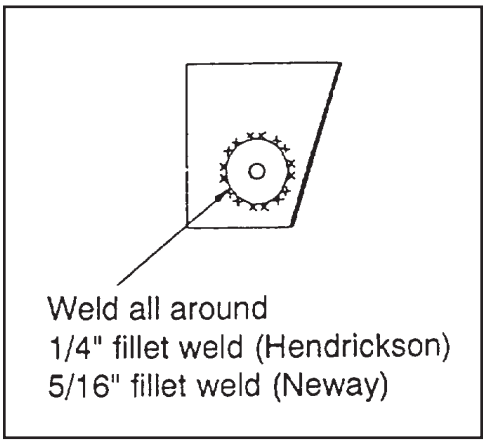
Welded Alignment Collar Suspension

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

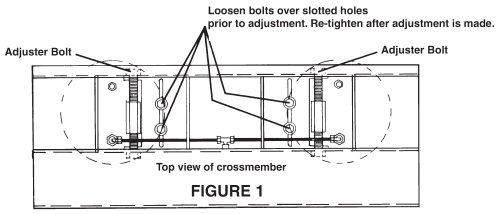


FIGURE 1

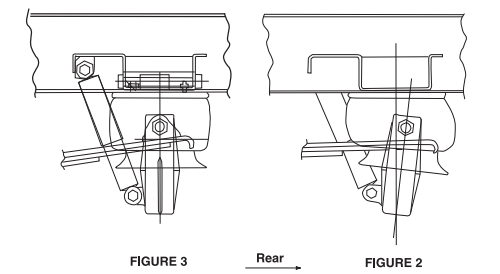


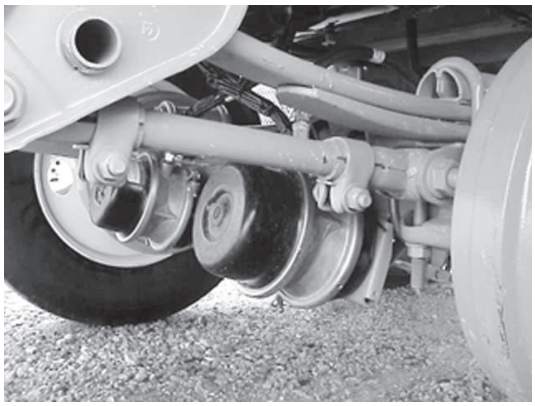
FIGURE 3 FIGURE 2

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 untl 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.

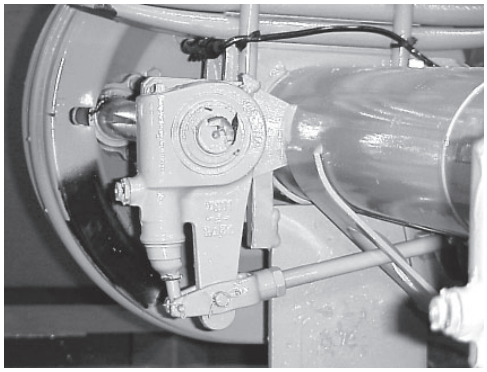
(Rev. 12-96)

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



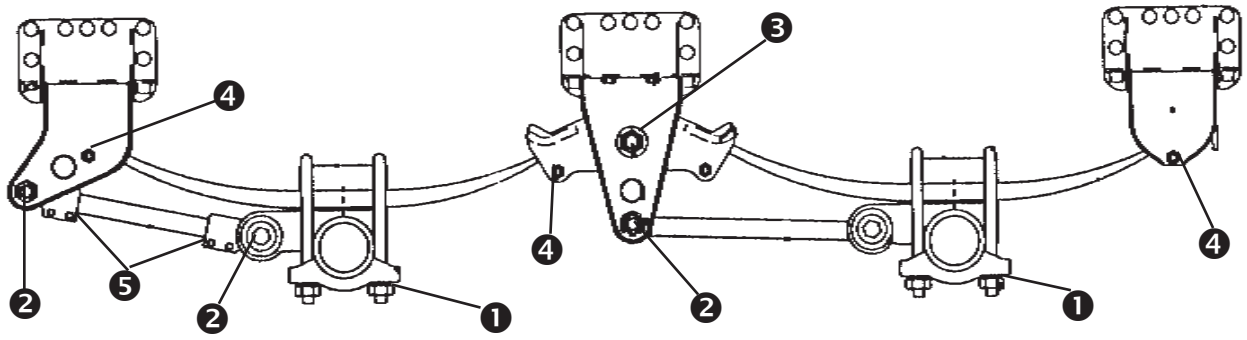
Check for and replace worn bushings in the equalizer and in the torque arm eye ends. Hutch suspensions are designed to make the replacement of bushings a fast, easy procedure.

CAUTION

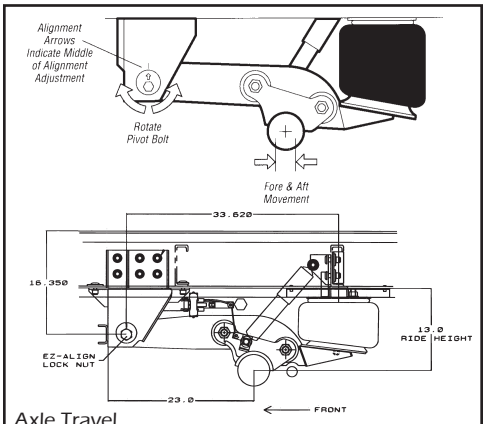
To avoid injury, use discretion when servicing components in confined areas of trailer.

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.



Neway EZ-Align Suspenson



Axle Travel
2.50" Up
3.50" Down
6.00" TOTAL

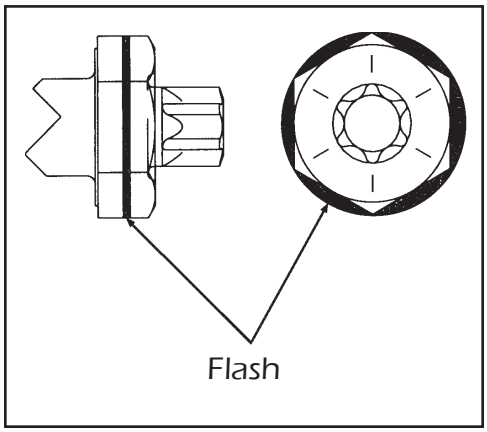
(Rev. 10-00)

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.

PROPER AXLE ALIGNMENT

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.

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.

IMPORTANT

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

(Rev. 10-00)

PROPER AXLE ALIGNMENT

Holland SwingAlign Axle Alignment

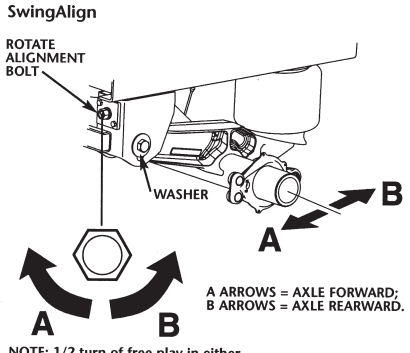


Figure 1

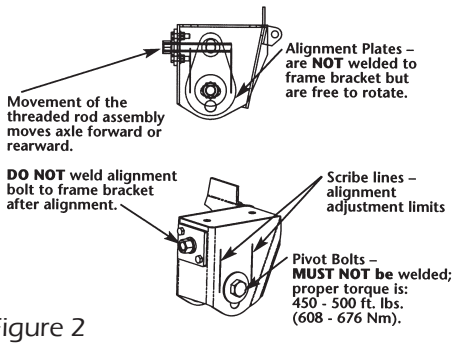


Figure 2

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.)	550-600	746-813
1/2" - Air Spring	30-40	41-54
3/4" - Air Spring	40-45	54-61
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)

REQUIRED RE-TORQUING SCHEDULE:

- ***All fasteners after first three (3) months or 5,000 miles.***
- ***At every routine preventive maintenance.***
- ***At every brake relining.***

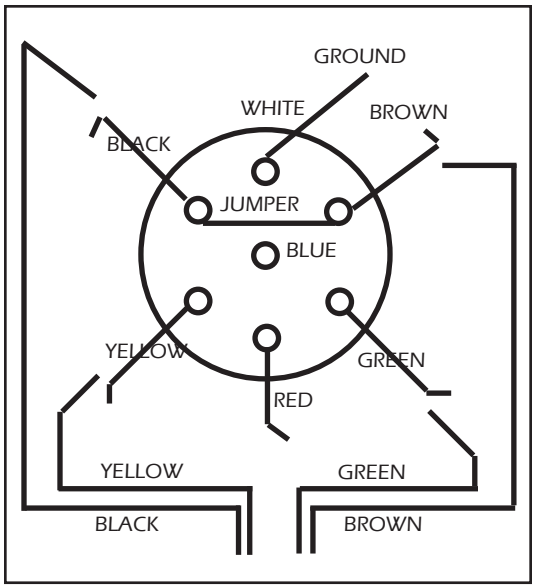
IMPORTANT

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-AR436 Rev. F

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!

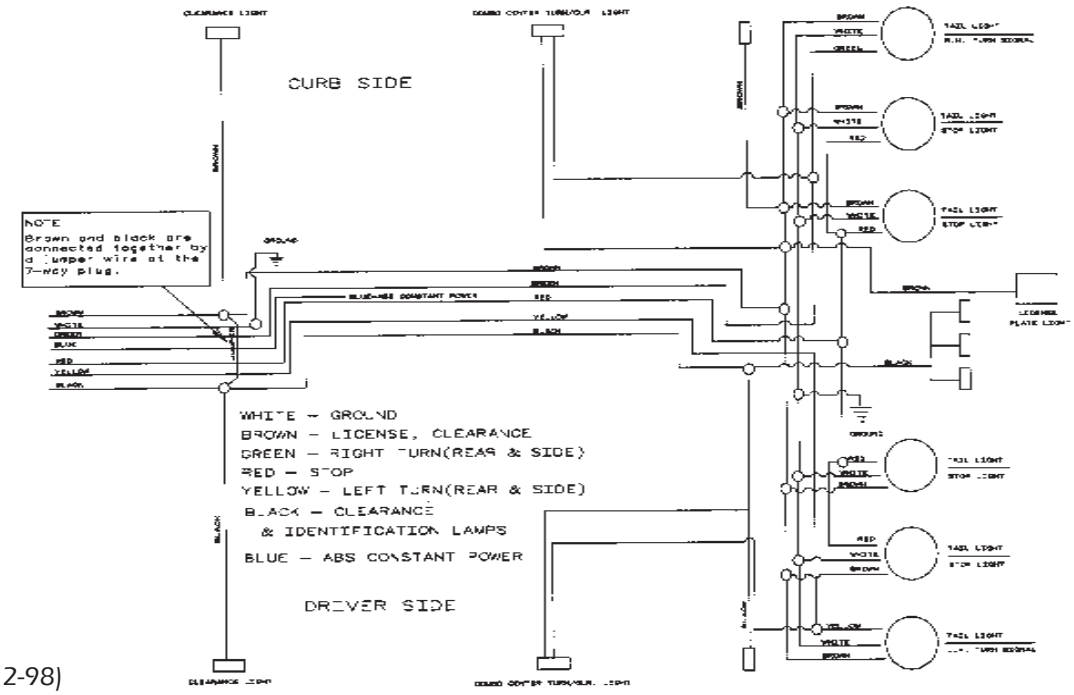
In certain uses of constantly powered center pin connector, unexpected or unintended activation of this equipment may be hazardous or result in personal injury.

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)

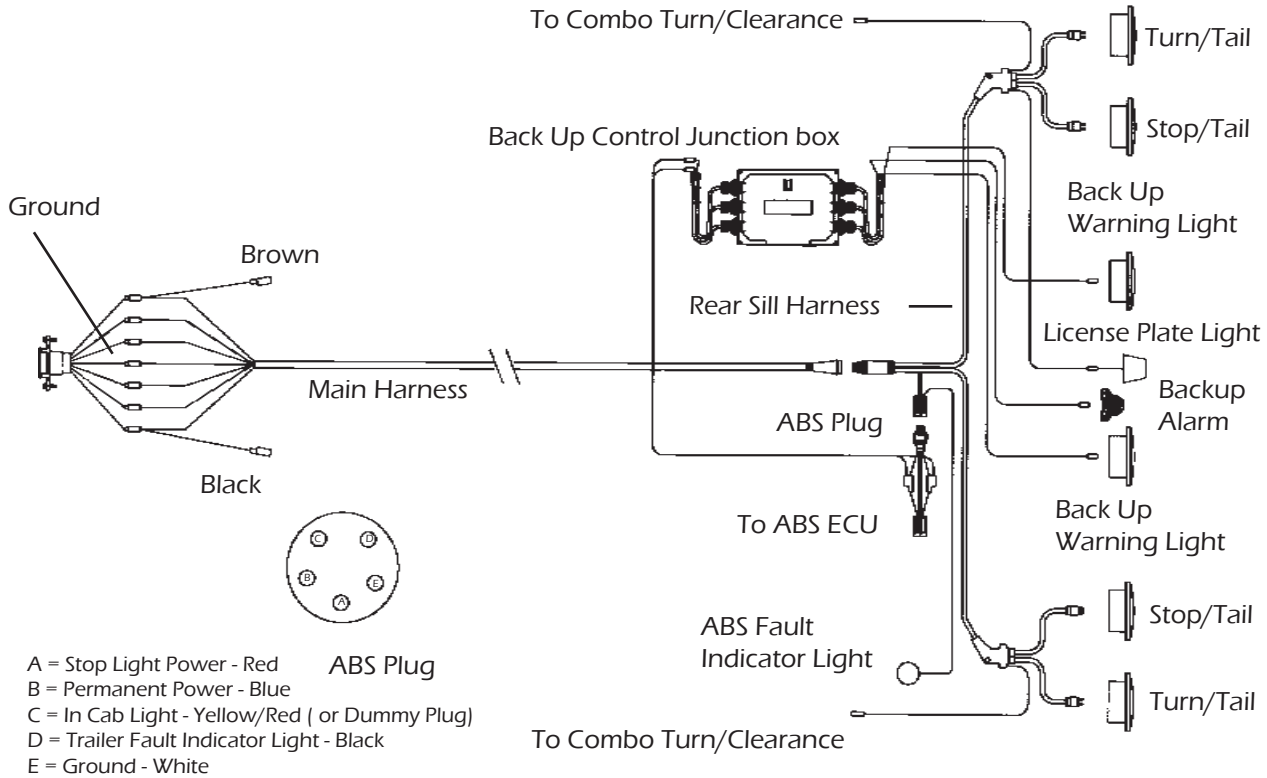
ELECTRICAL SYSTEM

Trailer Wiring Diagram



(Rev. 2-98)

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

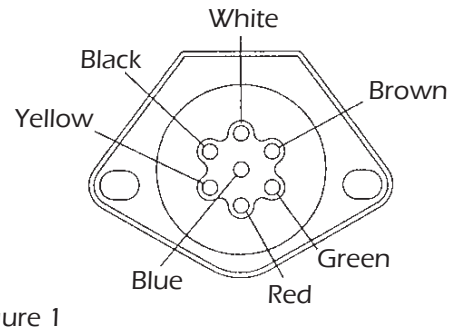


Figure 1

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 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 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.
5. Inspect main harness at 7-way plug. (See fig. 2)
6. Check for unplugged wires. Make sure connections are completely sealed.
7. 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 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 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.
5. Inspect main harness at 7-way plug (See fig. 2).
6. Check for unplugged wires. Make sure connections are completely sealed (See fig. 2 Detail A).
7. Check for burned out light (both filaments).

ELECTRICAL SYSTEM

Electrical Troubleshooting

Stop 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 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.
5. Inspect main harness at 7-way plug (See fig. 2).
6. Check for unplugged wires. Make sure connections are completely sealed.
7. 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 proper ground behind light. Make sure you have 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.

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.

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.

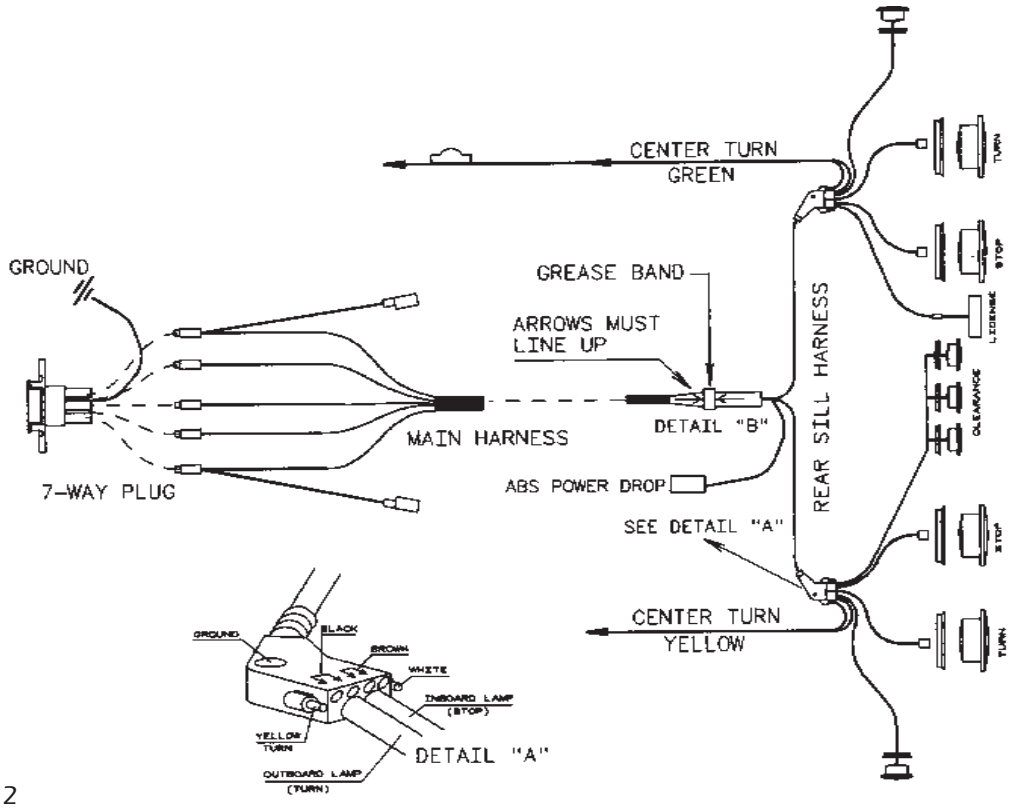


Figure 2

ELECTRICAL SYSTEM

Grote UBS Installation Instructions

Nose Box

1. Insert the Grote Ultra Blue nosebox plugs from main harness onto receptacle, insuring each plug is fully seated.

   NOTE: On systems containing (5) or (6) conductors, the unused terminals on the 7-pin receptacle should be covered with Grote dummy plug 01-9950-77.

2. Secure nosebox housing to trailer with appropriate number of 5/16" bolts. Depending on nosebox being used, this would be 2, 3, or 4.

   NOTE: All female connectors used on powered circuits should be greased at time of connection.

Main to Rear Sill Connections

1. Mount plastic joint clamp, supplied with the rear sill harness, to chassis with (1) #8-18 x 1/2" screw or equivalent.

2. Connect main harness 7-way plug to rear sill harness and insure that the plugs are fully seated.

3. Insert connection into previously mounted clamp, assemble, and fill with grease.

Rear Sill Elbow Mounting

1. Apply grease to D-ring side of elbow, assemble a large washer to a #14 x 1-1/4" self-tapping screw (or equivalent) and assemble elbow to chassis. Repeat for other side of chassis.

   NOTE: D-ring should be mounted next to chassis to insure proper grounding of the UBS harness.

2. Remove only the dummy plugs from the female ports on the rear sill harness that will be used to power the body harnesses. Insert body harnesses (tracking, I.D., and license), with "STANDARD" UBS plugs, into the ports on the rear sill harness where the dummy plugs are removed. Insure that all male plugs are fully seated at this connection.

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.

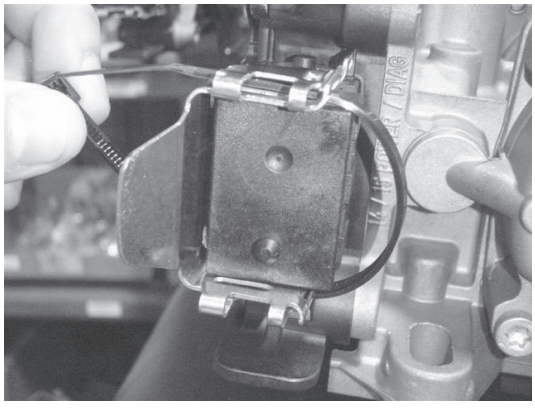
System Notes

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

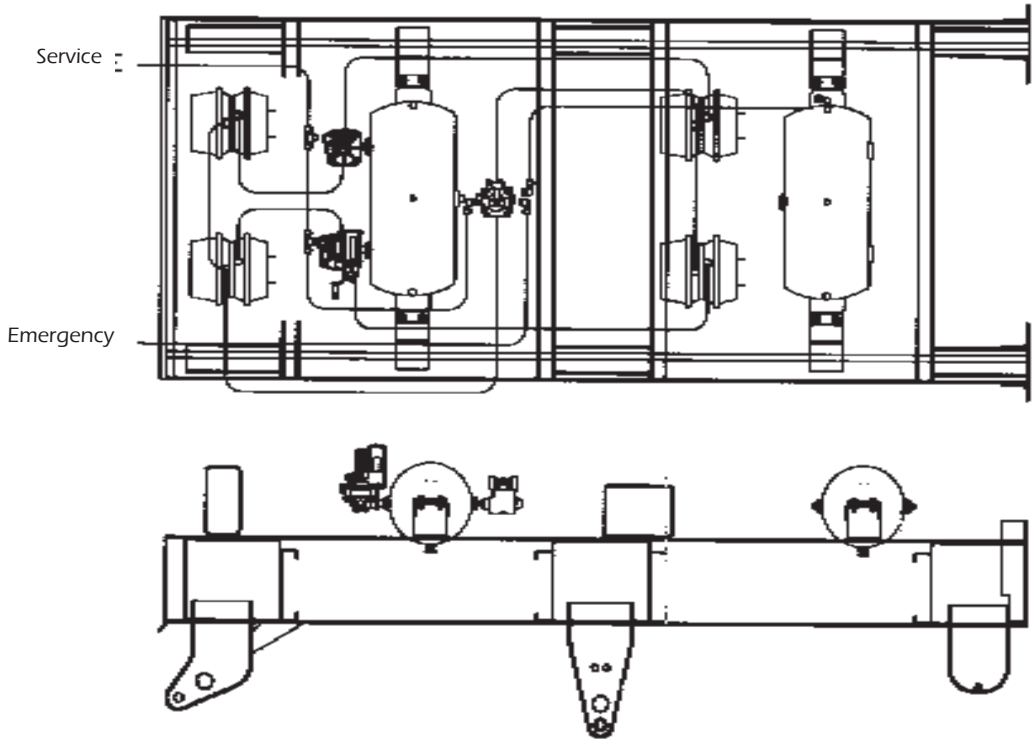


To make sure the plastic boots on your ECU valves stay on when the port is not being occupied with a connector, first, remove the boot and grease it with die-electric sealant then re-install the boot, close the clasp and install a zip tie as shown in the picture and pull it tight with the zip tie tool.

(Rev. 04-11)

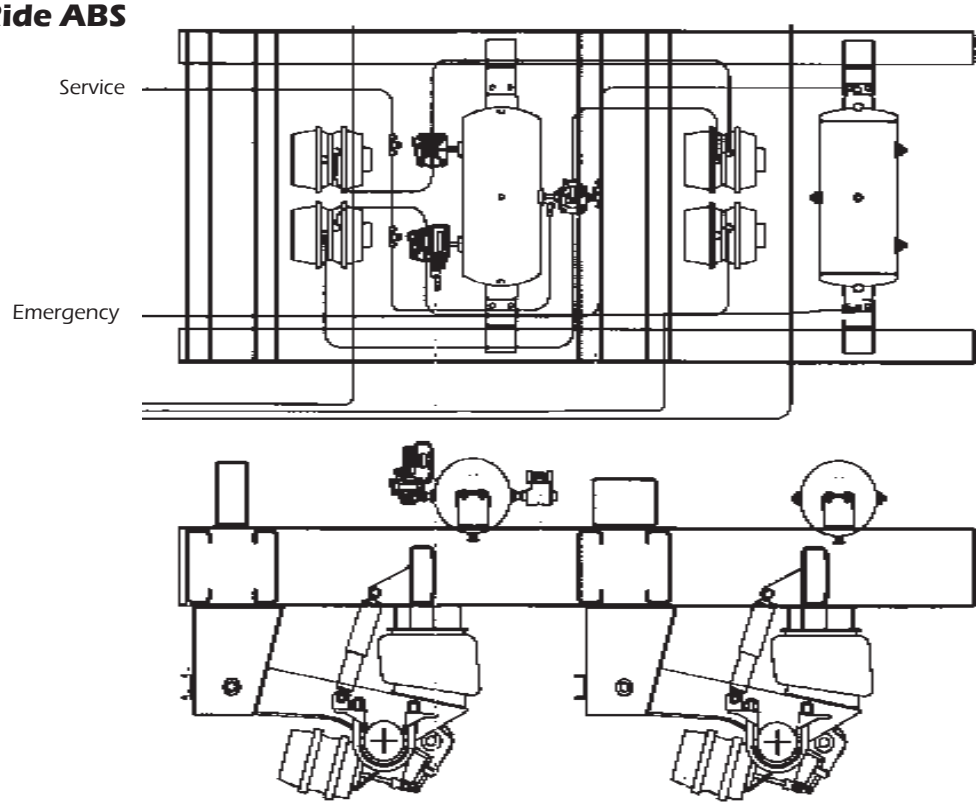
PNEUMATIC SYSTEM

Spring ABS



(Rev. 11-00) D7121FA

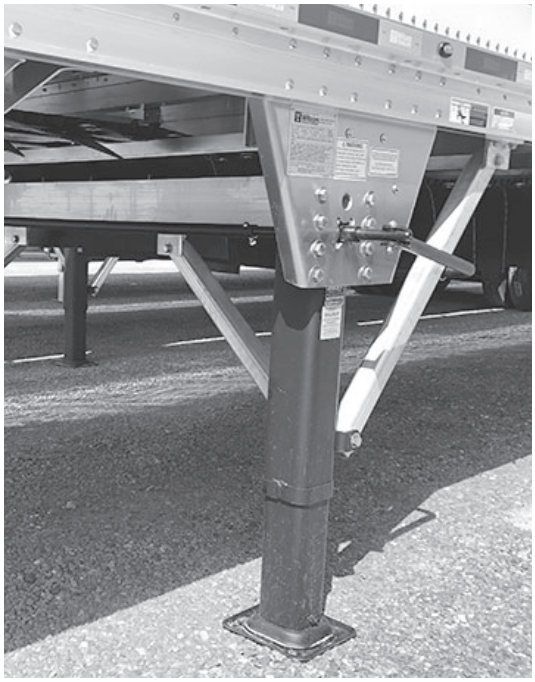
Air Ride ABS



(Rev. 11-00) D7121EE

LANDING GEAR

Landing Gear

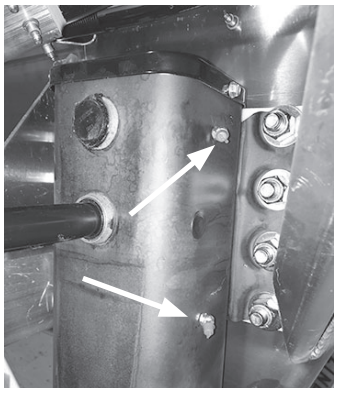


JOST UL550 Series Landing Gear is standard. It is part of Jost's 10 year Magnum Series, a low maintenance landing gear. Jost recommends one lubrication cycle after the first five years.

LUBRICATE:

The only solution for corrosion issues is regular re-lubing of the legs in both gearbox (upper grease zerk) and the screw/nut cavity (lower grease zerk). This action will place a fresh coat of grease on all surfaces protecting them from rust.

1. Lubricate at least every 5 years and more frequently in applications where the landing gear are exposed to excessive moisture (liquid salt water spray), dust, or if they are not used for extended periods.
2. Lubricate with the trailer securely coupled to a tractor.
3. Employ a lubricant compatible with the original type of grease used:
   Standard - Lithium base 1-2% Moly EP-2
   Low temperature - Artic-grade, all weather white grease



WARNING

Do not use any lubricants containing Teflon.

Bevel Gear Lubrication Instructions:

Lubricate in the top grease fitting as shown in Fig. 1. At least 4 oz. (50 pumps on a hand grease gun).

Lift Screw/Nut Lubrication Instructions:

1. Fully Retract the landing gear, then using high gear extend 7 turns.
2. Lubricate in the bottom grease fitting as shown in Fig. 1. At least 4 oz. (50 pumps on a hand grease gun).
3. Extend and retract the landing gear to apply grease to the entire length of the screw.

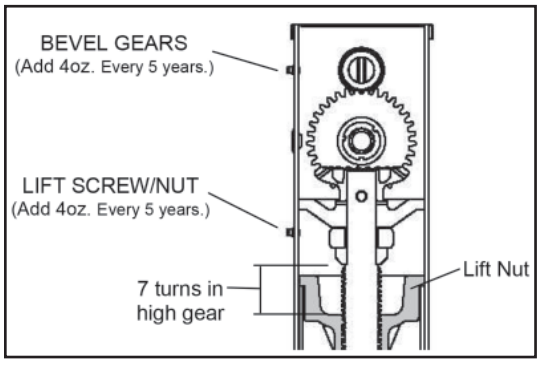


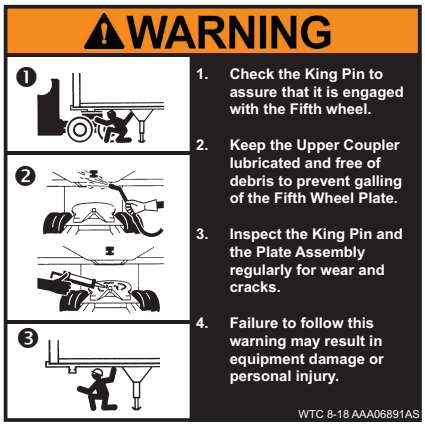
Figure 1

Please refer to the Jost Owner's Manual provided with your trailer for additional information on the operation, inspection, and maintenance.

(Rev. 06-21)

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.

NOTE

Use new fasteners whenever a lube plate is replaced.

- Do Not apply grease to lube plate.

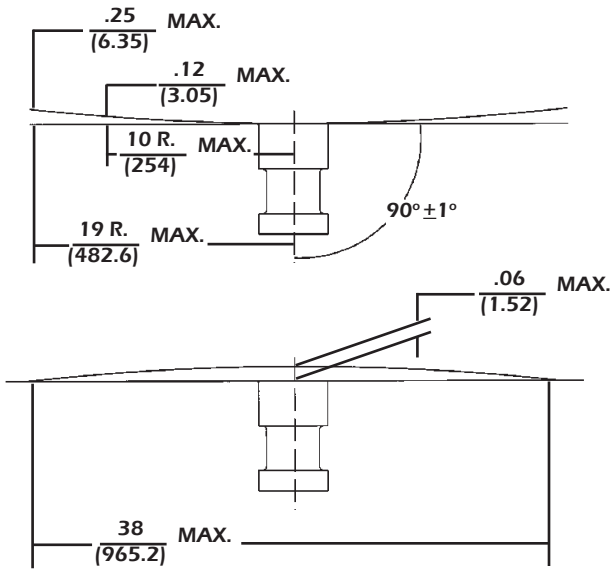
GENERAL MAINTENANCE

King Pin Inspection and Maintenance

IMPORTANT

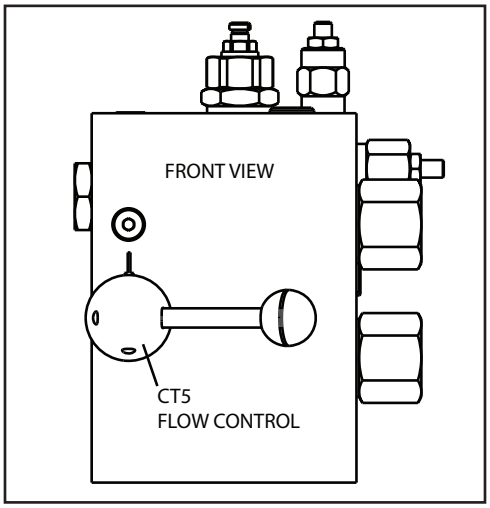
To avoid excessive wear on trailers equipped with an aluminum pickup plate:

- **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.**



HYDRAULIC SYSTEM

Hydraulic System Troubleshooting



Having to Restart System After Moving Trailer Forward

Possible Cause: System is resetting too fast.

1. Remove CT8, take apart and clean.
2. Adjust CT8 by loosening lock nut on top and turning screw counterclockwise 1/2 turn at a time.

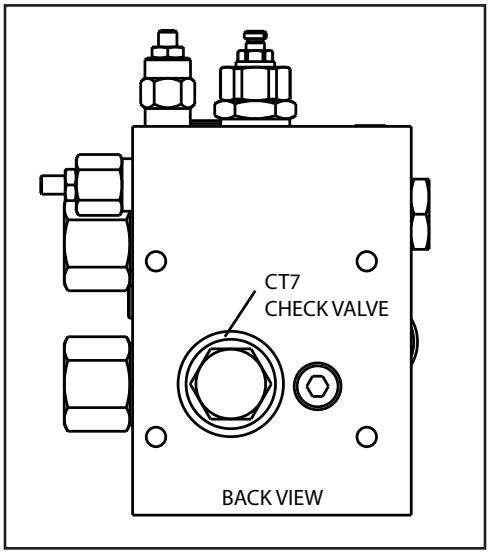
Door Functions Run Slow or not at All

Possible Cause: CT3 Orifice getting plugged.

1. Clean Orifice

Possible Cause: CT2 Spool not working properly.

1. Remove and clean.



Slide Up Door Only Opens Slow or not at All

Possible Cause: PO Check valve not working properly.

1. Remove cartridge, clean and try again.
2. Bypass PO check valve to see if door works.

Possible Cause: CT3 getting plugged.

1. Clean orifice.

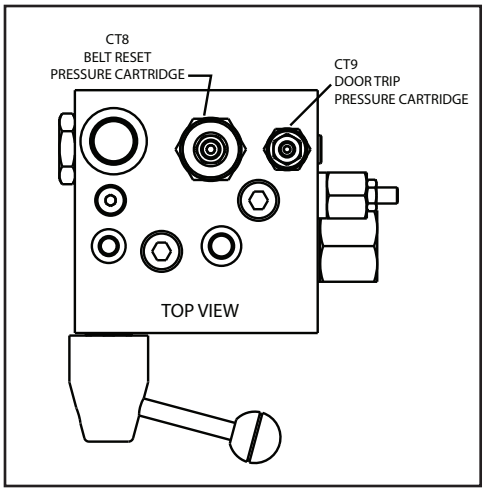
Possible Cause: CT2 spool not working properly.

1. Remove and clean.

System Goes Over Relief at Startup and Belt Does Not Shut off

Possible Cause: Window in handle cartridge CT5 needs to be adjusted.

1. Remove handle and turn stem until belt turns off.



Belt Will Not Run

Possible Cause: CT8 or CT9 not opening.

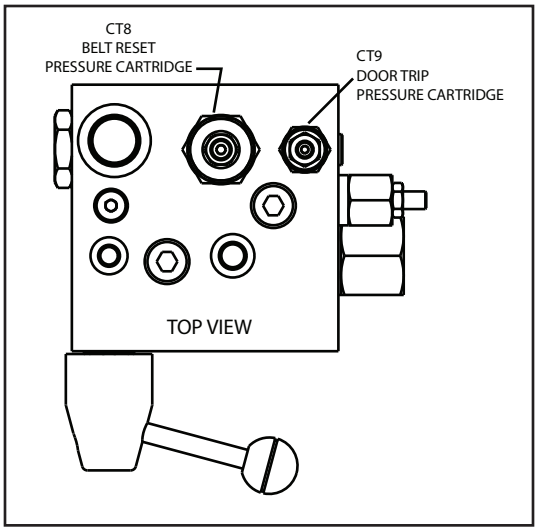
1. Perform door up and door down test to find out which one is not opening.

Possible Cause: CT9 not opening.

1. Verify the door is opened all the way up against stop and pressure reaches 1300 psi.
2. Take out and clean.
3. Adjust.
4. Replace.

HYDRAULIC SYSTEM

Hydraulic System Troubleshooting



Belt Will Not Run

Possible Cause: CT8 not opening.

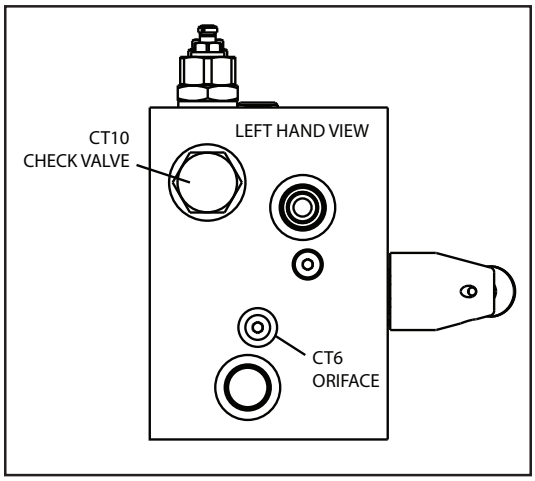
1. Remove and clean.
2. Adjust.
3. Replace.

Possible Cause: CT4 spool not working properly.

1. Remove and clean.

Possible Cause: Low pressure.

1. Remove and clean CT1.
2. Check tractor relief setting.
3. Low oil level.
4. Trackor pump going out.
5. Remove and clean CT4.



Belt Running Slow

Possible Cause: Tractor pump not working properly.

1. Get checked out.

Possible Cause: Tractor relief going bad or set too low.

1. Get checked out.

Possible Cause: Reservoir level too low.

1. Fill up reservoir.

Possible Cause: CT1 relief not working properly, staying open and allowing oil to dump back to tank.

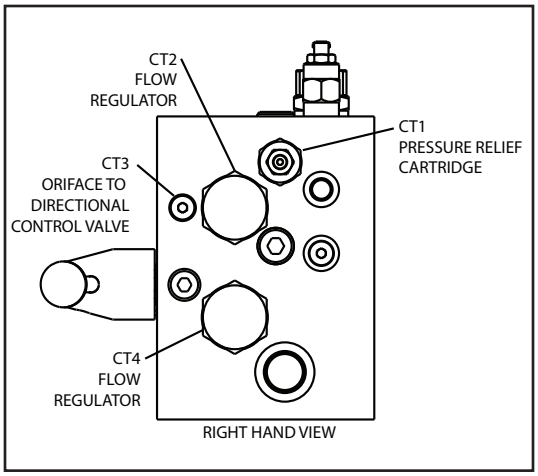
1. Remove and exercise spring.

Possible Cause: CT2 or CT4 spools not working properly.

1. Remove and clean.

Possible Cause: CT5 handle cartridge o-rings damaged or missing.

1. Remove and inspect.



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 NHSTA, you may call the Vehicle Safety Hotline toll-free 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 self-unloader representative on a regular basis.

CONSUMER INFORMATION

Customer Assistance

When it comes to service, repair and parts, remember that your Wilson Trailer Company authorized self-unloader 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 self-unloader 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.

Tire Registry Information

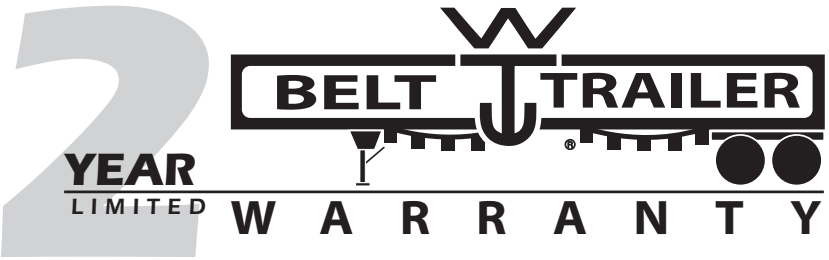
The purpose of tire registration is to enable the tire manufacturer to contact you directly in the event of a recall. While a recall is unlikely, it's important to make sure your tires are properly registered.

You can find a complete and up-to-date list of current tire manufacturers whose tires are commonly used on Wilson trailers at the following link on our website:

http://www.wilsontrailer.com/tire-registry-information

(Rev. 09-20)

CONSUMER INFORMATION



Warranty Coverage

Wilson Trailer 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 GVWR (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. 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. 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 and continues for a period of (2) two years.

Non-Coverage Items

Tires: Wilson Trailer provides no warranty coverage on tires. Tires are covered under the manufacturer's warranty.
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.
Any pre-owned trailer.

Major Component Coverage

1 Year Coverage

- Major Structural Components - Parts & Labor
- Coating on Steel Parts – Parts and Labor Covered
- 18 oz Shurco Tarps – Parts Only + Electronics + 22 oz Tarps
- Sioux City Tarps – Parts Only
- Lift Axle Control Box
- Air Lines & Fittings
- Wheel Seals – 1-6 Months $150 Parts + labor per wheel end – 7-12 months $75 Parts and Labor per wheel end

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CONSUMER INFORMATION

Major Component Coverage

2 Year Coverage
- Major Structural Components - Parts & Labor (50%)
- Shurco Diamond Core Tarp – Parts Only
- Shocks – Parts and ½ Hour labor
- Air Springs – Parts and ½ Hour Labor 1 year - Parts only through year 2
- All components manufactured by Wilson Trailer

3 Year Coverage
- Shurco 4500 Electric Tarp Motor – Parts Only

5 Year Coverage - Vendor only coverage
- Landing Legs – Parts and Labor
- Aluminum Wheels – Parts
- Steel Wheels – Parts (Excludes Finish
-

6 Year Coverage - Vendor only coverage
- Slack Adjusters – Parts

7 Year Coverage - Vendor only coverage
- 7-way receptacle
- Wiring Harnesses - Parts and Labor covered for 3 years – parts only coverage thereafter through year 7

10 Year Coverage - Vendor only coverage
- Grote LED lights (Parts and Labor covered for 3 years – parts only coverage thereafter through year 10)

To Get Warranty Service

Parts claimed to be defective in material or workmanship must be brought to the attention of Wilson Trailer 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 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, 1-800-798-2002, Wilson Trailer, P.O. Box 6300, Sioux City, IA 51106.

Owner's Responsibility

As the **FIRST RETAIL PURCHASER** of the trailer, you have the responsibility to perform the required maintenance at the proper intervals and make reasonable and normal use of the trailer.

The **FIRST RETAIL PURCHASER** needs to contact Wilson Trailer's Warranty Department at the 1st sign of a defect in material or workmanship at 1-800-798-2002 to get the claim on record.

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CONSUMER INFORMATION

Warranty Work

All warranty work must be performed at a repair shop approved in advance by Wilson Trailer Company.

Limitations and Disclaimers

Wilson Trailer 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 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.

To file a claim or if you need answers to questions about this warranty, contact the Wilson Trailer Warranty Department:

Wilson Trailer, PO Box 6300, Sioux City, IA 51106
800-798-2002

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

www.wilsontrailer.com
email: warranty@wilsontrailer.com

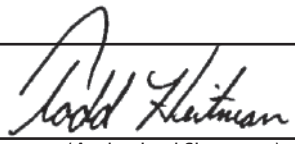
Serial Number _____

G.V.W. Rating _____

Purchased By _____

Date In Service _____

Selling Dealer _____

By  _____
(Authorized Signature)

(Rev. 02-24)

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