

# Wilson Trailer Company

# FLATBED TRAILER OWNER'S MANUAL



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

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

We want you to know that it was designed to meet your specific needs for a flatbed 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.



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

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This Manual Includes:

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

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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.

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## 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.



### CAUTION

**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)

## Trailer Styles

Wilson Trailer Company offers a variety of steel/aluminum flatbed trailers. Loading, operation, and maintenance characteristics may vary between trailers. Be sure you know the specifics of your trailer including its capacities and limitations. The vehicle identification (VIN) contains important information about your trailer and is found on the metal information plate near the road side landing gear. Have the serial number (last six digits of the VIN) available when contacting Wilson Trailer Company regarding your trailer.



### WARNING

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

# SAFETY



CAUTION

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

## Decals and Emblems



The following section contains the decals and emblems used on Wilson flatbed 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.

AAA-05604



AAA-06891-GP

FHWA PERIODIC INSPECTION

This vehicle has passed inspection in accordance with 49 CFR 396.17 through 396.23. The inspection report is located at:

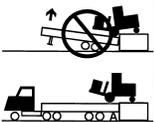
WILSON TRAILER COMPANY  
4400 South Lewis Boulevard  
Sioux City, Iowa 51106  
Telephone (712) 252-6500

JAN	FEB	MAR	APR	MAY	JUN	2002	2003
JUL	AUG	SEP	OCT	NOV	DEC	2004	2005

DATE OF INSPECTION

WTC A-6891-GP

AAA-06891-GO



⚠ WARNING

Personal injury or equipment damage can result from a tilting trailer.

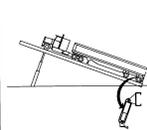
DO NOT drive onto or load a trailer with set ahead suspension that is not hooked to a tractor or supported at the rear.

To prevent trailer tilting to the rear:

1. Exhaust trailer air suspension.
2. Leave a tractor hooked to the trailer, or support the rear of the trailer.

See Owner's Manual for additional information. WTC 610-A-6891-GO

AAA-06891-AT



⚠ WARNING

This trailer is equipped with Air Ride Suspension! Safe and dump operation requires:

1. Use of shock straps.
2. Air dumped from system with brakes released.
3. Rear wheel backed against axle stops of ramp.
4. Tractor and trailer brakes locked before raising lift.
5. Standing clear of rear of trailer during unloading.

Failure to do so could lead to personal injury or property damage. 12-99 A-6891-AT

AAA-05564

THIS VEHICLE IS CONSTRUCTED UNDER ONE OR MORE OF THE FOLLOWING U.S. OR CANADA PATENTS:

3292867	2970861	202879
4153289	4293158	4277096
4305694	1105526	4114944

OTHER PATENTS APPLIED FOR.

WILSON TRAILER COMPANY • SIOUX CITY, IOWA

AAA-06891-N



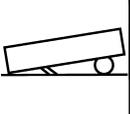
⚠ WARNING

PERSONAL INJURY MAY RESULT FROM SUDDEN DROP IN TRAILER HEIGHT!

1. To prevent a sudden drop in trailer height when driving a forklift on the trailer, place switch in "DUMP" position and allow all air to release from air springs.
2. To transport trailer, switch must be in "FILL" position. Do not transport trailer with suspension in lowered position.

WTC 610-A-6891-N

AAA-06891-GC



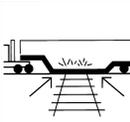
⚠ WARNING

Equipment damage or crushing and injury can occur when air suspension pressure leaks off.

Exhaust air suspension before disconnecting from trailer.

WTC 610-A-6891-GC

AAA-06891-DH



⚠ CAUTION

Trailers with low ground clearance can become stuck on raised areas such as railroad crossings, curbs, and dips.

If trailer becomes stuck on a railroad crossing contact the railroad authorities immediately.

To avoid hang-ups be aware of trailer ground clearance and possible obstacles that might contact the trailer and prevent movement.

110-A-6891-DH

AAA-06891-AK

ALIGNMENT CHECK

For extended tire wear, suspension alignment must be checked after an initial break in period and at regular intervals.

3-89 A-6891-AK

AAA-06891-O

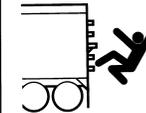


⚠ CAUTION

Do not drill or weld to main beams. Failure to follow this caution will void warranty and may result in beam failure.

3-89 A-6891-O

AAA-06462-BE

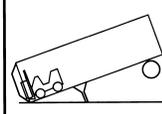


⚠ WARNING

Use discretion when climbing on the trailer to prevent personal injury.

11-94 A-6462-BE

AAA-06891-BD



⚠ WARNING

Provide a support under the front of the trailer before loading or unloading to avoid nosedive.

Failure to follow this warning may result in personal injury, trailer damage or both.

12-99 A-6891-BD

# SAFETY

## Decals and Emblems

AAA-06891-P



AAA-06891-Q



AAA-06891-AH



AAA-06891-C



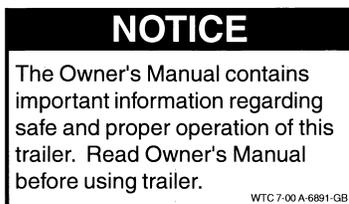
AAA-06891-CZ



AAA-06891-BC



AAA-06891-GB



AAA-06891-AW



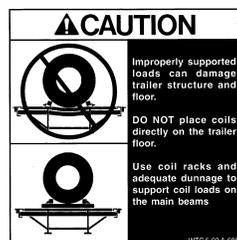
AAA-06891-AS



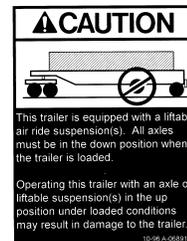
AAA-06891-DK



AAA-06881



AAA-06891-DL



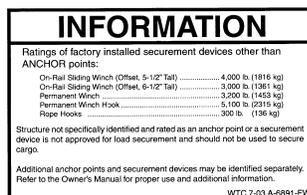
AAA-06891-GO



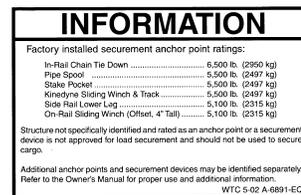
AAA-06891-GT



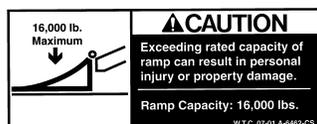
AAA-06891-FW



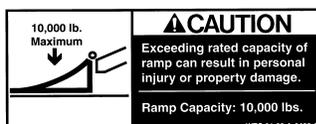
AAA-06891-EQ



AAA-06462-CS



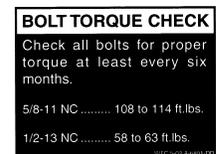
AAA-06462-CX



AAA-06891-LS



AAA-06891-DD



# SAFETY

## Decals and Emblems

### AAA-06891-LB

**MODEL CF-1060**  
80,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 02-12 AAA-06891-LB

### AAA-06891-LH

**MODEL CF-1080**  
80,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 03-10 AAA-06891-LH

### AAA-06891-LI

**MODEL CF-1090**  
90,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 03-10 AAA-06891-LI

### AAA-06891-LJ

**MODEL CD-1080**  
80,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 03-10 AAA-06891-LJ

### AAA-06891-LN

**MODEL AD-1080**  
80,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 03-10 AAA-06891-LN

### AAA-06891-LK

**MODEL AF-1080**  
80,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 03-10 AAA-06891-LK

### AAA-06891-LL

**MODEL AF-1080SS**  
80,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 03-10 AAA-06891-LL

### AAA-06891-LM

**MODEL AF-1090**  
90,000 LB. MAXIMUM DISTRIBUTED LOAD

Length	MAXIMUM CONCENTRATED LOAD IN POUNDS			
	A	B	A	B
45 FT.	47,000	42,000	42,000	47,000
48 FT.	47,000	42,000	42,000	47,000
50 FT.	47,000	42,000	42,000	47,000
53 FT.	47,000	42,000	42,000	47,000

WTC 03-10 AAA-06891-LM

### AAA-06462-CU AAA-06891-DX

**WILSON TRAILER COMPANY**  
4400 So. Lewis Blvd.  
Sioux City, Iowa 51106

Certifies the rear impact guard conforms to all requirements of 49 CFR 571.

**D.O.T.**

This guard was manufactured in:

JAN	FEB	MAR	APR	2003	2004
MAY	JUN	JUL	AUG	2005	2006
SEP	OCT	NOV	DEC	2007	2008

WTC 10-02 AA-6462-CU

**NOTICE**

FMVSS-121 regulations mandate higher pressure levels in the supply line.

Trailer brake performance will be impaired if tractor compressor adjustment is too low.

**CHECK YOUR TRACTOR!**

Compressor Cut-In Pressure: Adjust to 105 psi cut-in on governor.  
Compressor Cut-Out Pressure: Minimum 120 psi cut-out on governor.

NOTE: The use of additives in the air brake system is NOT recommended.

WTC 7-97 A-6891-DX

**Single Axle Slider Operation**

- Preparing to move slider.
- Pull SLIDER CONTROL KNOB to lock slider brakes and raise trailer.
- Push handle to release slider box pins.
- Release tractor parking brakes and move trailer to change slider position.
- Push handle to engage slider box pins.
- Push SLIDER CONTROL KNOB in to release brakes and lower trailer.

WTC 4-0 A-6891-C

**WARNING**

This trailer is equipped with Automatic Suspension Air Dump! Safe operation requires the following procedures:

- Position trailer.
- Release tractor brakes.
- Set tractor parking brakes or disconnect gladhand.
- Pull up at least 3-4 inches.
- Lower trailer onto landing gear.
- Unhook 5th wheel and disconnect tractor from trailer.

Failure to do so may result in personal injury or property damage.

WTC 12-90 B-2332-C

Pull to apply slider brakes.

Push to release brakes.

WTC 6-01 A-6891-GM

### AAA-06462-CM

**CAUTION**

Failure to use proper procedures for loading and unloading, when using ramps, could result in personal injury or property damage.

When loading or unloading:

- Jack stands must be lowered to ground and pinned.
- Trailer must be coupled to towing vehicle.
- Wheels must be blocked or trailer parking brakes locked.

WTC 3-00 A-6462-CM

### AAA-06891-HR

**INFORMATION**

This trailer is equipped with closely spaced belt winches.

The rated securement capacity of the permanent winches are reduced as follows when more than one consecutive winch or hook is used:

Number of winches used:	Single	Two adjacent	Three or more adjacent
Winch rating	3,200 lb.	1,600 lb.	1,000 lb.

WTC 01-03 A-6891-HR

### AAA-06891-GL

Pull to apply slider brakes and raise trailer.

Push to release brakes and lower trailer.

WTC 1-01 A-6891-GL

## Wheel Torques

Proper torquing and retorquing the wheel nuts are critical to prevent the premature loss of wheel equipment.

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

**Be sure loads are adequately secured and all securement devices are in good condition.**



## WARNING

**Use care when climbing on trailers and especially around loads. You must act responsibly for your safety.**

**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)

## SAFETY

### Rear Impact Guards



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

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

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

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

### ABS Braking System



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

The systems used on your Wilson trailer meet or exceed the FMVSS-121 requirement for ABS. The minimum ABS system 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. Stopping distance may not be reduced by ABS.

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

#### **NOTICE**

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

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

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

If the backup warning system fails to operate properly:

1. Be sure the auxiliary (blue) circuit is powered continuously by the tractor.
2. Check cable connections to the sensor, main harness drop-off, control box, lights, and alarm.
3. Check the orientation of the backup warning sensor. The mark on the top of the sensor must be directly away from the axle within  $\pm 15^{\circ}$  to function properly.

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

# SAFETY

## Over-The-Road Safe Handling

### YOU AND YOUR SAFETY

1. You - the OPERATOR - have control of the most important factors that affect vehicle stability. Semi-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



### **WARNING**

**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 of the 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 that needs to be inspected and cleaned regularly. 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, reflective tape, and reflectors need to be checked and cleaned. Inspect the electrical hookup for a clean and secure connection. Inspect all lights to see that they are working. 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 jaws and king pin. Apply the trailer brakes and attempt to move the tractor forward to insure that the fifth wheel and king pin are positively locked.



### CAUTION

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

## Load Securement



Proper cargo securement is vital to preventing load movement during transport. **It is the responsibility of the vehicle operator to ensure proper load securement throughout the trip.** Regularly inspect the securement devices and anchor points for damage and wear.

To guard against cargo loss or damage:

- Properly and completely secure the load no matter how short the trip.
- Inspect the load securement for proper installation and tension before trip.
- Check the load for movement and the securement devices for tightness between the first 25 and 50 miles of the trip.
- Check the load and securement before resuming travel after each stop.
- Inspect the load and securement after any sudden action event such as a sharp lane change or hard braking.



### WARNING

**The strength of worn or damaged load securement equipment is significantly reduced. Repair or replace damaged or worn securement equipment immediately.**

Refer to Sections 393.100-106 of the Federal Motor Carrier Safety Regulations for specific load securement requirements and additional information.

Refer to the **“Securing the Load”** section of this manual for Wilson Trailer anchor point and securement device ratings, proper use, and additional information.

## INSPECTION PROCEDURE BEFORE TRIP

### Hub Lubricants



Check and maintain the proper level of lubricant in all hubs. Check seals for leakage.

#### OIL

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



#### SEMI-FLUID GREASE

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 or solid metal caps 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. Refer to the "Hub Maintenance" section of this manual. (Rev. 6-97)**

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

### Wheel Studs



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 also be replaced. If more than two stud are broken, replace all studs.



### **WARNING**

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

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.

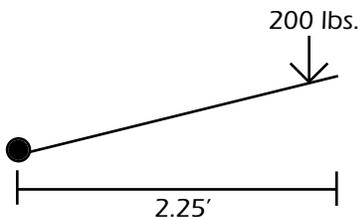


### WARNING

**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**

## INSPECTION PROCEDURE BEFORE TRIP

### Wheel Nut Torques



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

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.

Refer to the appropriate wheel installation information in the maintenance section for specific installation details.



### CAUTION

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

### Tires



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

## INSPECTION PROCEDURE BEFORE TRIP

### Mud Flaps



Be sure mud flaps are securely in place, not torn, or worn. Replace missing fasteners and secure loose mudflaps immediately. Replace damaged mudflaps.

### Structure



Check the trailer side rails, floors, main beams, and other structure for damage. Any problems observed in any structure should be corrected immediately to prevent the damage from extending further. Unrepaired damage could affect the safe load carrying capacity of the trailer or individual components.

### Air Ride Suspension



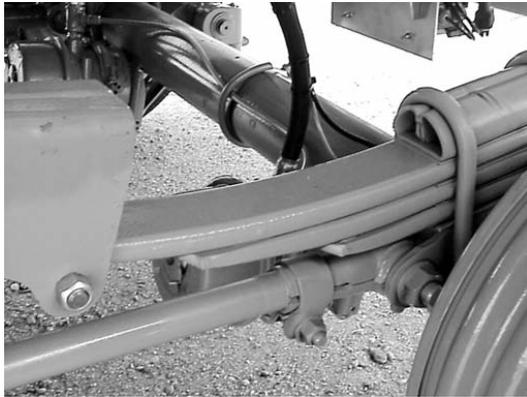
Before operating, the air ride must be set properly at the design height to get the correct load transfer to the suspension and the axle loads to balance. Check the suspension ride height at the rear axle (refer to "Measuring Ride Height" in maintenance section of this manual).

Inflate the suspensions. Be sure the air bags are fully inflated and free of cuts and debris. The "Full Suspension Dump" and the "Height Control Valve (HCV)" air controls need to work correctly and freely.

Adjust the ride height as needed using the procedures listed in "Adjusting Ride Height" in the maintenance section of this manual.

## **INSPECTION PROCEDURE BEFORE TRIP**

### **Spring Suspension**



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

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

Check bolt torques as listed in the "Spring Suspension Maintenance" section of this manual.

### **Slider Suspension**



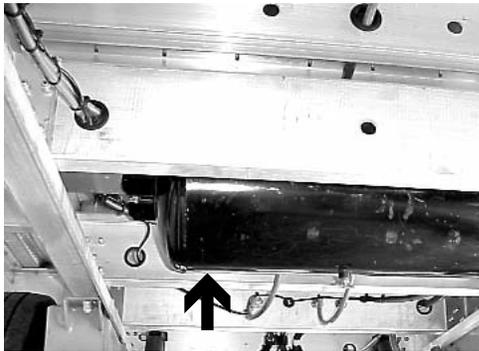
If trailer is equipped with a sliding suspension, be sure all four (4) lock pins are locked in place and the manual stop bar at the rear of the slider is locked before moving the trailer.

Inspect slider box and trailer structure for wear and damage.

Check the regular suspension items as noted in the appropriate sections of this manual.

# OPERATING INSTRUCTIONS

## Parking/Emergency Braking System



(Figure 1)

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 release of the spring brake for relining the brakes or for moving the trailer in the absence of air pressure.



(Figure 2)

Always install wheel chocks both in front and rear of the tires before manually releasing spring brakes. Do not operate the trailer with spring brakes manually released (caged).

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



### WARNING

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



### WARNING

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

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

# OPERATING INSTRUCTIONS

## Liftable Suspension / Lift Axles



Lift axles and controls allow a suspension to be raised when the trailer is empty or lightly loaded. Lift axles must not be raised if the remaining axle(s) will be loaded beyond their rated capacity. If lift axles are required to support the loaded weight of the trailer and payload, the lift axle should be lowered before loading cargo.

The manual lift control is located on the driver (road) side of the trailer near the suspension area.

Antilock Brake Systems (ABS) depend on feedback from the wheel sensors during the first seconds of movement to determine their configuration. This information determines how the system operates until the next time the vehicle stops and power to the ABS is shut off. Raising or lowering a lift axle while the vehicle is moving will interfere with the ABS operation and will cause the ABS light to remain on indicating a fault error. The system will reset on the next complete startup.



### CAUTION

**If this trailer is equipped with a liftable air ride suspension(s), all axles must be in the down position when the trailer is loaded.**

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

### **IMPORTANT**

**DO NOT raise or lower a lift axle while the trailer is moving.**

## Liftable/Steerable Axles



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. Rated capacity is limited to either 13,000 lbs. or 16,000 lbs. and 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.

# OPERATING INSTRUCTIONS

## 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.**

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 in 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.

## Axle Auto Lower System aka “ILAS Valve”



Automatic “ILAS” Valve

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

### How It Works

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



Manual “ILAS” Valve

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

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

(Rev. 04-11)



### WARNING

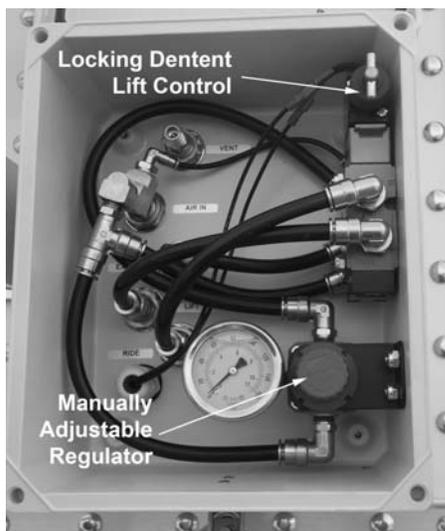
**CRUSHING HAZARD**

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

## OPERATING INSTRUCTIONS

### **Liftable, Regulated Axle (Dial Down)**

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 electrical power, the lift has a personal safety feature that will lift the axle when the power is disrupted.

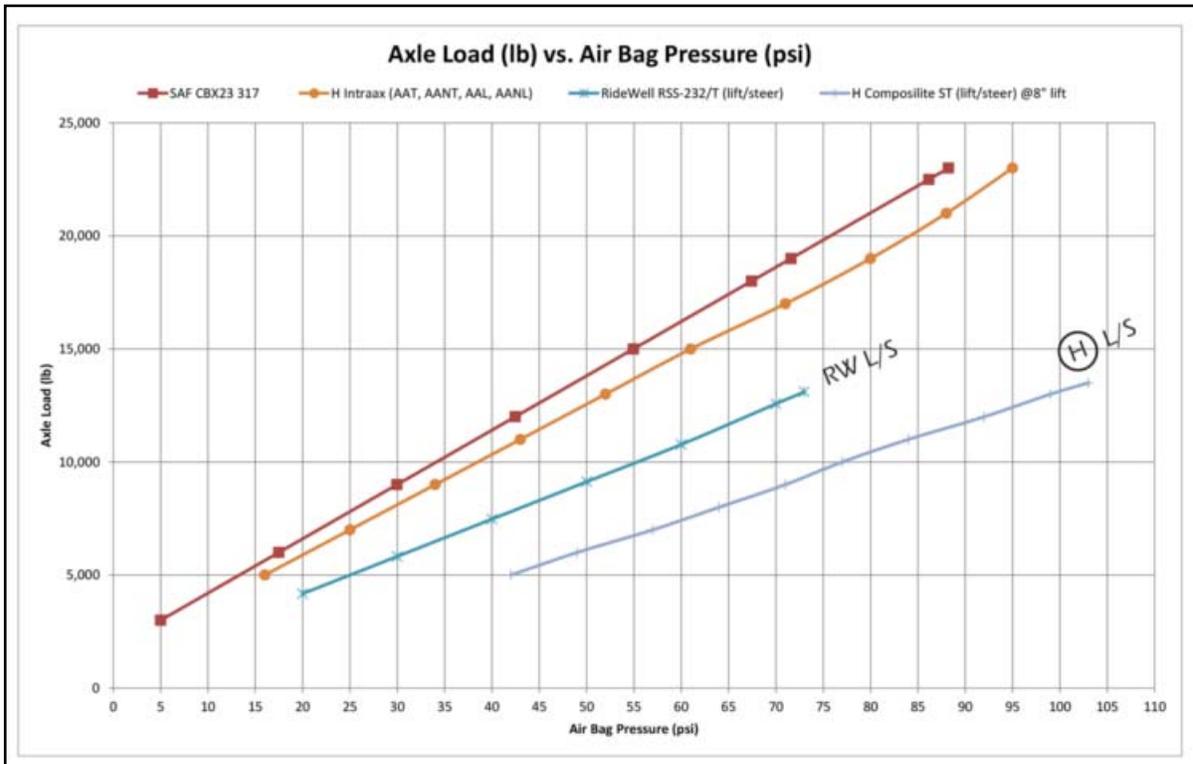
#### **NOTE**

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

(Rev. 04-14)

# 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.

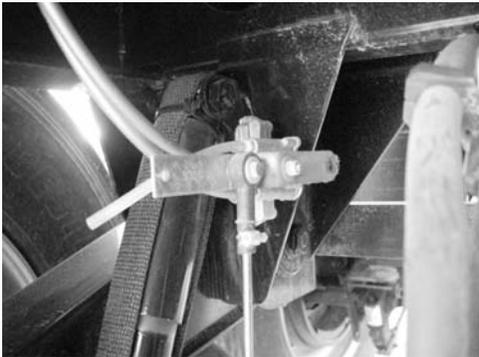
Note: Some lift box configurations will only read pressure at the gauge with a load on the trailer.

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)

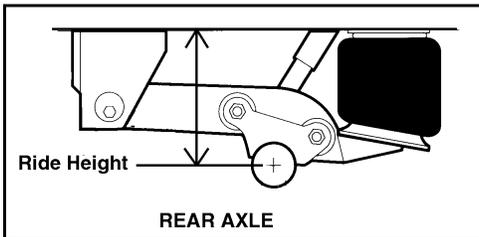
# OPERATING INSTRUCTIONS

## Air Ride Suspension



Air ride suspensions are set from the factory to operate at a specific ride height. The ride height is measured from the center of the axle to the bottom of the trailer frame on the rearmost axle and is controlled by the *height control valve* (figure 1). The height control valve adjusts the air pressure in the air springs to keep the trailer at the preset height under varying loads. Typical ride heights for Wilson Flatbed trailers are:

- High flatbed, permanent suspension . . . . .15"
- High flatbed, full suspension slider . . . . .9" or 15"
- Drop deck, permanent and slider susp. . . . .6.5"  
single axle slider, raised position . . . . .11.5"



Some trailers may be equipped with suspensions using ride height settings different from these. If you are in doubt of the proper ride height setting for your trailer, contact Wilson Trailer Company. For drop deck trailers equipped with sliding suspensions, refer to the SLIDER OPERATION of the AIR RIDE SUSPENSION section of this manual.

Ride height is preset at the factory and should not be changed unless the ride height is incorrect or you are instructed to do so by Wilson Trailer Company. Refer to ADJUSTING RIDE HEIGHT in the Maintenance section of this manual.

### **IMPORTANT**

**Changing the ride height can affect the performance and load equalization of the suspensions. Damage to the suspension, tires, and trailer may occur if the ride height is not properly adjusted.**

# OPERATING INSTRUCTIONS

## Full Suspension Dump Valve



Refer to the Loading the Trailer section in this manual for additional information on proper dump valve use.

Wilson trailers with air ride suspensions are equipped with a full suspension dump valve. The full suspension dump valve is used to exhaust the trailer suspensions during loading and unloading of cargo and when the trailer is to be parked and unhooked from the tractor (see *Parking the Trailer*).

Two dump valve options are available on your Wilson trailer:

- Manual
- Automatic

### Manual Dump Valve

The manual dump valve is a two position valve located under the deck near the center of the trailer on the road side. The manual valve allows the operator to inflate or exhaust the air ride suspensions.

- To inflate the suspensions, place the valve handle in the "FILL" position.
- To exhaust the suspensions, place the valve handle in the "DUMP" position.

### Automatic Dump Valve

The automatic dump valve exhausts the air suspensions whenever the trailer parking brakes are engaged.

- To inflate the suspensions, release the trailer parking brakes.
- To exhaust the suspensions;
  - (1) Apply the trailer parking brakes or disconnect the emergency (supply) airline.
  - (2) Wait 30 seconds for the air springs to exhaust.
  - (3) Briefly release the trailer parking brakes to allow the tires to rotate and the trailer to completely lower. Re-apply the parking brakes before the air suspension re-inflates and raises the trailer.

## **IMPORTANT**

**The parking brakes will engage before the suspension is fully exhausted. The parking brakes must be briefly released to lower the trailer completely. Failure to completely lower the trailer may result in unexpected trailer movement and damage to the landing gear legs.**

## OPERATING INSTRUCTIONS

### Slider Operation



Sliding suspensions are available in full suspension or single axle slider configurations. Full suspension sliders allow the position of the entire suspension to be moved forward or rearward to adjust the length of the trailer wheelbase and the amount of load carried on the trailer suspension. Single axle sliders allow one axle, either front or rear, to be moved forward or rearward to change the distance (spread) between the axles.

#### **IMPORTANT**

**Equipment damage or injury can occur from unexpected slider movement.**

**Slider box pins must be fully engaged in pin holes to properly secure the slider to the trailer.**

**Inspect all slider box pins and be sure the slider box pins are fully engaged in the pin holes before moving the trailer.**

#### **NOTE**

If the slider is hard to move, there may be grit or rocks between the surfaces of the slider box rails and the trailer frames. Refer to ***Sliders*** in the General Maintenance section of this manual.

(Rev. 3-06)

### Repositioning Full Suspension Slider

#### **IMPORTANT**

**Equipment damage or injury can occur from unexpected slider movement.**

**Slider box pins must be fully engaged in pin holes to properly secure the slider to the trailer.**

**Inspect all slider box pins and be sure the slider box pins are fully engaged in the pin holes before moving the trailer.**

When repositioning the slider:

- Park on a level, solid surface.
  - Always apply trailer brakes when leaving the cab.
  - Be sure the area around the trailer is clear before moving the vehicle.
  - Do not allow anyone near the trailer while adjusting slider position.
1. Pull slider pin handle to release slider box pins. If you are using a slider stop bar (recommended), move the stop bar to the new position and secure it.
  2. Release the tractor brakes only and move the trailer forward or rearward to reposition the slider.
  3. Push the slider pin handle in to engage the slider box pins. It may be necessary to move the trailer forward and rearward slightly with the slider brakes locked for the pins to fully engage the pin holes.

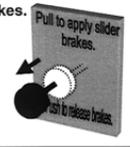
# OPERATING INSTRUCTIONS

## Repositioning Single Axle Slider, High Flat

When repositioning the slider:

- Park on a level, solid surface.
- Always apply trailer brakes when leaving the cab.
- Be sure the area around the trailer is clear before moving the vehicle.
- Do not allow anyone near the trailer while adjusting slider position.

1. Pull the SLIDER CONTROL KNOB out to lock the brakes on the slider axle. The SLIDER CONTROL KNOB is located in a box ahead of the front axle on the driver's side of the trailer.
2. Pull the slider pin handle to release slider box pins. If you are using a slider stop bar (recommended), move the stop bar to the new position and secure it.
3. Release **both** tractor and trailer brakes and move the trailer forward or rearward to change the slider position.
4. Push the slider pin handle in to engage the slider box pins. It may be necessary to move the trailer forward and rearward slightly with the slider brakes locked for the pins to fully engage the pin holes.
5. Push the SLIDER CONTROL KNOB in to release the brakes on the slider axle.

Single Axle Slider Operation	
<p>1. <b>Preparing to move slider.</b></p> <p>a. Park on level, solid surface.</p> <p>b. Always apply trailer brakes when leaving cab.</p> <p>c. Be sure the area around the trailer is clear before moving truck.</p> <p>d. Do not allow anyone near the trailer while adjusting slider position.</p>	<p>2. Pull SLIDER CONTROL KNOB to lock slider brakes.</p> 
<p>3. Pull handle to release slider box pins.</p> 	<p>4. Release trailer parking brakes and move trailer to change slider position.</p> 
<p>5. Push handle to engage slider box pins.</p> 	<p>6. Push SLIDER CONTROL KNOB in to release brakes.</p> 

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### **IMPORTANT**

**Slider box pins must be fully engaged in pin holes to properly secure the slider to the trailer.**

**Inspect all slider box pins and be sure the slider box pins are fully engaged in the pin holes before moving the trailer.**

# OPERATING INSTRUCTIONS

## Repositioning Single Axle Slider, Drop Deck



Wheel wells are cut into the side rails of drop deck trailers to provide clearance for tires. Because of the limited clearance, it is necessary to raise the trailer so that the tires can pass under the side rail between wheel wells when repositioning sliders on drop deck trailers. A second height control valve is installed on the permanent axle to raise the trailer to the proper height for moving the slider. Pulling the SLIDER CONTROL KNOB will lock the brakes of the slider axle and raise the trailer to the preset height to provide tire clearance. To function properly an adequate air supply must be connected to the trailer and the suspension inflated (the full suspension dump valve must be in the "FILL" position). If the trailer is equipped with an automatic dump valve that exhausts the air suspension when the trailer brakes are applied, the trailer brakes must be released to raise and move the slider.



Air suspensions will extend slightly when pushed rearward or collapse slightly when pulled forward with the brakes locked. Because of this, when the slider position is adjusted by pushing the trailer rearward, the trailer will "raise up" against the locked slider axle suspension, increasing the amount of clearance between the tires and the side rail. When the slider position is adjusted by pulling the trailer forward with the slider axle brakes locked, the trailer will "squat down", decreasing the clearance between the tire and the side rail. It is possible that the lower leg of the side rail may contact the tires when the slider is moved by pulling the trailer forward with a loaded trailer. This will not hurt the trailer or tires under most conditions.

Because of the small clearance between the tire and side rail:

- No rope hooks or other equipment may be installed under the side rail between wheel well openings for the slider suspension;
- All equipment such as belt winch hooks connected to the lower side rail leg must be removed from the lower side rail leg before moving the slider, especially when pulling the trailer forward.

Single Axle Slider Operation	
<p><b>1. Preparing to move slider.</b></p> <ol style="list-style-type: none"> <li>Park on level, solid surface.</li> <li>Always apply tractor brakes when leaving cab.</li> <li>Do not apply trailer parking brakes.</li> <li>Be sure the area around the trailer is clear.</li> <li>Do not allow anyone near the trailer while adjusting slider position.</li> </ol>	<p><b>2. Pull SLIDER CONTROL KNOB to lock slider brakes and raise trailer.</b></p>
<p><b>3. Pull handle to release slider box pins.</b></p>	<p><b>4. Release tractor parking brakes and move trailer to change slider position.</b></p>
<p><b>5. Push handle to engage slider box pins.</b></p>	<p><b>6. Push SLIDER CONTROL KNOB in to release brakes and lower trailer.</b></p>

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## OPERATING INSTRUCTIONS

### Repositioning Single Axle Slider, Drop Deck (Continued)

#### **IMPORTANT**

**When the SLIDER CONTROL KNOB is pushed in, the air suspension will lower the trailer and return to normal operating height. Keep the area around the trailer clear until the trailer is completely lowered and stops moving.**

#### **IMPORTANT**

**Slider box pins must be fully engaged in pin holes to properly secure the slider to the trailer.**

**Inspect all slider box pins and be sure the slider box pins are fully engaged in the pin holes before moving the trailer.**

When repositioning the slider:

- Park on a level, solid surface.
  - Always apply trailer brakes when leaving the cab unless the trailer is equipped with an automatic full suspension dump valve, in which case the trailer brakes should not be applied as the air supply will be removed from the suspension and the trailer will not raise to allow moving the slider.
  - Be sure the area around the trailer is clear before moving the vehicle.
  - Do not allow anyone near the trailer while adjusting slider position.
1. Pull the SLIDER CONTROL KNOB out to lock the brakes on the slider axle and raise the trailer. The SLIDER CONTROL KNOB is located in a box ahead of the front axle on the driver's side of the trailer.
  2. Pull the slider pin handle to release slider box pins.
  3. Release **both** tractor and trailer brakes and move the trailer forward or rearward to change the slider position.
  4. Push the slider pin handle in to engage the slider box pins. It may be necessary to move the trailer forward and rearward slightly with the slider brakes locked for the pins to fully engage the pin holes.
  5. Push the SLIDER CONTROL KNOB in to release the brakes on the slider axle and lower the trailer.

#### **NOTE**

**The full suspension dump valve may be used to lower the trailer more quickly by exhausting the air from the full suspension. Move the manual valve to the "DUMP" position until the trailer is approximately at normal ride height, then return the valve lever to the "FILL" position.**

# OPERATING INSTRUCTIONS

## Parking and Dock Walk



### CAUTION

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

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

### NOTE

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

(Rev. 10-00)

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

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

The **manual dump valve** is typically located on the road side near the center of the trailer. The "FILL" position is the normal operating position with the suspensions inflated. The "DUMP" position exhausts the suspensions.

To exhaust the suspensions, move the valve lever to the "DUMP" position. To inflate the suspensions, move the valve lever to the "FILL" position.

An **optional automatic suspension dump valve** is available in place of the manual valve. The automatic valve is activated to exhaust the suspension whenever the emergency air line pressure is zero, such as when the parking brakes are engaged or the gladhand is disconnected from the front of the trailer. To position a trailer with automatic exhaust valves tightly against a loading dock in the lowered position, it may be necessary to:

- 1) set the brakes and fully exhaust the suspension,
- 2) release the parking brakes and quickly move the trailer backward slightly then,
- 3) re-engage the parking brakes before the suspension has time to inflate.

### IMPORTANT

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

# OPERATING INSTRUCTIONS

## Backing

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

## Floor



Floors are available in a variety of configurations including wood, aluminum, aluminum with wood nailers, and Transdeck®. Rated floor capacity depends on the trailer model, floor material, and cross member support spacing. Refer to the chart below for a specific trailer configuration.

### FLOOR RATING

Floor	Wheel Load Crossbar spacing	
	12"	18"
1-3/8" Southern Pine	2,140 lbs.	1,297 lbs.
1-1/8" Apitong	1,689 lbs.	1,024 lbs.
1-3/8" Apitong	2,529 lbs.	1,534 lbs.
1-1/8" Transdeck	2,563 lbs.	2,156 lbs.
1-3/8" Transdeck	2,860 lbs.	2,558 lbs.
1-5/16" Aluminum	5,531 lbs.	3,524 lbs.
1-1/2" Aluminum	6,500 lbs.	4,335 lbs.



### CAUTION

**Floor damage may occur if rated capacity is exceeded.**

**DO NOT exceed floor capacity rating.**

#### Drop deck wheel areas

Do not place concentrated (wheel) loads over the wheel areas of drop deck trailers. The floor support spacing is larger than in the rest of the trailer to provide tire clearance and therefore the floor capacity is reduced over the tires. If a concentrated load must be placed over the wheel areas, use additional planking to distribute the load over a larger area. Exhaust the trailer suspension to lower the trailer deck and use planking over the wheel wells when loading wheeled equipment.

# OPERATING INSTRUCTIONS

## Loading the Trailer

<b>MODEL CF-1080</b>						
<b>80,000 LB. MAXIMUM DISTRIBUTED LOAD</b>						
<b>MAXIMUM CONCENTRATED LOAD IN POUNDS</b>						
<b>LENGTH OF TRAILER IN WHICH LOAD IS CONCENTRATED</b>						
Length	4 Feet		10 Feet		20 Feet	
	A	B	A	B	A	B
45 FT.	47,000 21 338 kg	53,000 24 062 kg	50,000 22 700 kg	56,000 25 424 kg	57,000 25 878 kg	64,000 29 056 kg
48 FT.	45,000 20 430 kg	51,000 23 154 kg	47,000 21 338 kg	53,000 24 062 kg	52,000 23 608 kg	59,000 26 786 kg
50 FT.	42,000 19 068 kg	48,000 21 792 kg	44,000 19 978 kg	50,000 22 700 kg	49,000 22 246 kg	55,000 24 970 kg
53 FT.	39,000 17 706 kg	45,000 20 430 kg	41,000 18 614 kg	47,000 21 338 kg	46,000 20 884 kg	50,000 22 700 kg

A) 49° Axle spacing set at 54-1/2" fixed tandem setting or 49° axle spacing slider set at 62-1/2" tandem setting.  
 B) 10-1" widespacer set at 90-1/2" tandem setting.  
 All concentrated loads are based on:  
 1) Load centered on trailer. 2) 30" King Pin.  
 3) Load capacity of beams only. Floor material, crossmember spacing, axle capacity, tire capacity, etc. must be rated for the specific application of each trailer.  
 To determine capacity of trailers with set-ahead suspensions, subtract the set-ahead distance from the trailer length and read the value corresponding to that length.  
 WTC 8-10 AAA-06891-LH

<b>MODEL CD-1080</b>						
<b>80,000 LB. MAXIMUM DISTRIBUTED LOAD</b>						
<b>MAXIMUM CONCENTRATED LOAD IN POUNDS</b>						
<b>LENGTH OF TRAILER IN WHICH LOAD IS CONCENTRATED</b>						
Length	4 Feet		10 Feet		20 Feet	
	A	B	A	B	A	B
45 FT.	45,000 20 430 kg	52,000 23 608 kg	47,000 21 338 kg	54,000 24 516 kg	52,000 23 608 kg	60,000 27 240 kg
48 FT.	43,000 19 522 kg	50,000 22 700 kg	45,000 20 430 kg	51,000 23 154 kg	48,000 21 792 kg	56,000 25 424 kg
50 FT.	41,000 18 614 kg	45,000 20 430 kg	43,000 19 522 kg	49,000 22 246 kg	45,000 20 430 kg	53,000 24 062 kg
53 FT.	39,000 17 706 kg	42,000 19 068 kg	41,000 18 614 kg	46,000 20 884 kg	43,000 19 522 kg	49,000 22 246 kg

A) 49° Axle spacing set at 55-1/2" fixed tandem setting.  
 B) 10-1" widespacer set at 91-1/2" tandem setting.  
 All concentrated loads are based on:  
 1) Load centered on trailer. 2) 30" King Pin.  
 3) Load capacity of beams only. Floor material, crossmember spacing, axle capacity, tire capacity, etc. must be rated for the specific application of each trailer.  
 To determine capacity of trailers with set-ahead suspensions, subtract the set-ahead distance from the trailer length and read the value corresponding to that length.  
 WTC 8-10 AAA-06891-LJ

Proper loading and load securement is important to safe operation and long trailer life. It is the responsibility of the operator to be sure the trailer is loaded within its rated capacity and that the load is properly secured.

The rated load capacity varies with each trailer configuration (model, length, suspension spread, and setting, etc.). Rated load capacity information is contained on the rating emblem located near the front of the trailer on the road side. Know the load limitations of your trailer and the allowable loads for the area(s) in which you operate. Adjust the load position on the trailer to achieve proper load distribution on the tractor and trailer. DO NOT exceed the rated capacity of the trailer.

To determine the rated capacity of trailers with set-ahead suspensions, subtract the set-ahead distance from the trailer length and use the value corresponding to that length.

### Examples:

- 48' trailer w/3' set-ahead - use 45' capacities.
- 53' trailer w/5' set-ahead - use 48' capacities.



## CAUTION

**Equipment damage and personal injury can result from unexpected trailer movement during loading and unloading.**

**Always exhaust air ride suspensions and apply parking brakes while loading and unloading trailer.**

- Exhaust air ride suspensions to avoid dock walk and other unexpected trailer movement.
- Apply parking brakes.
- Apply and remove cargo slowly; do not drop or suddenly lift a load.
- Do not exceed the rated capacity of the trailer.
- If the trailer must be loaded/unloaded on the landing gear without the tractor,
  - use a nose support stand to prevent tipping forward.
  - on trailers with set ahead suspensions or sliders in a set-ahead position, use rear frame support under the rear mainframe to prevent rearward tipping.



### WARNING

Provide a support under the front of the trailer before loading or unloading to avoid nosedive.

Failure to follow this warning may result in personal injury, trailer damage or both.

12-96 A-6891-BD



### WARNING

Personal injury or equipment damage can result from a tilting trailer.

DO NOT drive onto or load a trailer with set ahead suspension that is not hooked to a tractor or supported at the rear.

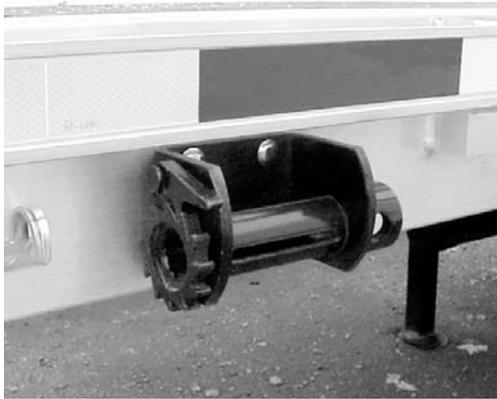
To prevent trailer tilting to the rear:

- Exhaust trailer air suspension.
- Leave a tractor hooked to the trailer, or support the rear of the trailer.

See Owner's Manual for additional information. WTC 8-01 A-6891-00

# OPERATING INSTRUCTIONS

## Securing the Load



Proper load securement is vital to safe operation and protection of people, the cargo, and the trailer. Know the ratings and limitations of the load securement equipment on your trailer and the requirements for proper load securement.

Wilson trailers can be equipped with a variety of load securement devices and anchor points. All approved securement devices and anchor points are identified on rating emblems located near the front of trailer on the road side. Not all securement devices and anchor points identified on the emblems are installed on every trailer. Review your trailer to determine which securement equipment is present and the appropriate ratings for the equipment on your trailer.



### DANGER

**Personal injury, damage to cargo, and equipment damage can occur from unexpected cargo movement.**

**Properly secure cargo to trailer and do not exceed rated securement device and anchor point rated capacities.**

## INFORMATION

### Factory installed securement and anchor point ratings

In-Rail Chain Tie Down .....	6,100 lb
Stake Pocket .....	5,100 lb
Quick-Tie Plate .....	6,100 lb
Side Rail Lower Leg .....	5,100 lb
Permanent Winch .....	5,100 lb
Permanent Winch Hook .....	5,100 lb
Rope Hooks .....	300 lb
Double "L" Sliding Winch .....	5,100 lb
Double "L" Ancra Glide Lock .....	5,100 lb
Double "L" Sliding Winch Hook .....	5,100 lb
Double "L" Sliding Flat Hook Retainer .....	5,100 lb

Structure not specifically identified and rated as an anchor point or a securement device for load securement and should not be used to secure cargo.

Additional anchor points and securement devices may be identified separately. Refer to the Owner's Manual for proper use and additional information.

WTC 08-10 AAA-6891-KG

<u>Anchor Point Device</u>	<u>Working Load Limit</u>
In-Rail chain tie down .....	6,100 lb. (2773 kg)
Pipe spool .....	5,500 lb. (2497 kg)
Stake pocket .....	5,500 lb. (2497 kg)
Kinedyne sliding winch & track .....	5,500 lb. (2497 kg)
Side rail lower leg .....	5,100 lb. (2315 kg)
On-Rail sliding winch .....	5,100 lb. (2315 kg)
(Offset 4" Tall)	

<u>Securement Device</u>	<u>Working Load Limit</u>
On-rail sliding winch .....	4,000 lbs. (1816 kg)
(Offset 5-1/2" Tall)	
On-rail sliding winch .....	3,000 lbs. (1362 kg)
(Offset 6-1/2" Tall)	
Permanent mount winch .....	5,100 lbs. (2315 kg)
Permanent mount winch hook .....	5,100 lbs. (2315 kg)
Rope hooks (all styles) .....	300 lbs. (136 kg)

Structure not specifically identified and rated as an anchor point or a securement device is not approved for load securement and should not be used to secure cargo.

## OPERATING INSTRUCTIONS

### Securing the Load



#### Tie Plates

Tie plates are intended to tie down loads across the deck of the trailer. Tie plates are to be used in securing fixed objects versus rubber tire equipment (loads subject to tire compression).



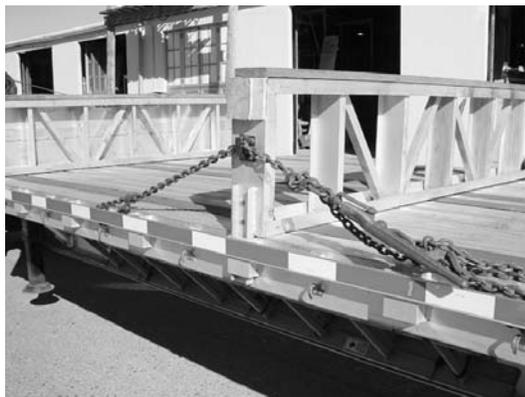
#### WARNING

**Improper tie down positioning can cause injury or death. Tie down hooks operating range is between 30° to 90° to deck surface. Never chain sideways on tie down plate. Doing so may cause the plate to disengage.**

### Load Rack/Load Levelers (Optional on drop deck)



Load racks (also known as load levelers) are available for use on Wilson drop deck trailers and are specifically built to match the height of the gooseneck drop. Load racks are rated to support 15,000 lb. distributed loads. Extra stake pockets are provided at the front of the main bed to store the load racks. Secure the stored load racks for transport by inserting the quick pin through the side stake below the pockets.



Load racks must always be located with the side stakes through a stake pocket and the retaining pin inserted through the stake below the pocket. Chain hooks are installed on the side of each load rack near the top for stabilizing the load racks in the forward and rearward directions when supporting a load. To secure the load rack, run a chain and binder on each side from the side rail through the chain hook and back to the side rail.

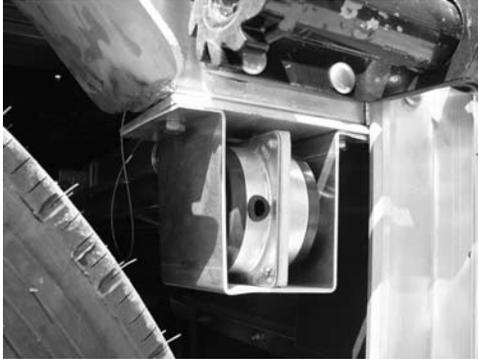
#### **IMPORTANT**

**Failure to properly secure the load racks in the forward and rearward directions can result in damage to the load, the load rack, or the trailer side rail and pocket if the load shifts.**

**Always chain the load racks when they are used to carry loads.**

## OPERATING INSTRUCTIONS

### Wide Load Lights (Optional)



Extendable wide load lights are available as an option on Wilson flatbed trailers. Wide load lights are hard-wired into the clearance light circuits as standard and are illuminated whenever the clearance lights are lit. Separate switch control is available as an option.

#### **NOTE**

**Wide load lights are grounded directly to the trailer through a ground wire in the harness and should not be grounded to the extension bracket. Refer to Wide Load Lights in the MAINTENANCE section of this manual.**



Extend the lights as appropriate to mark the width of the load and secure them in position. Retract the lights when loading and unloading cargo, and when they are not needed. Be sure the lights are firmly secured before traveling.

Extend and retract the light brackets at least once each month (more often when the trailer is operated in ice, snow, or mud) to ensure free movement of the extensions. Remove any foreign material and clean the brackets as required to ensure free movement. Inspect wiring for damage and corrosion.

# OPERATING INSTRUCTIONS

## Beaver Tail w/Fold-Over Ramps (Optional for CFD Drop Deck)



A stationary beaver tail with fold-over ramps is available as an option on Wilson drop deck trailers. The ramps are manually positioned and will level the deck when folded over in the transport position. Two or four ramps may be installed to provide access and deck leveling at the outer edges or for the full width of the trailer. Securement of the ramps in the transport position is provided to prevent movement during road travel. The center ramps are secured to the outer ramp by a connecting pin when in the transport position. Jack stands are provided to support the rear of the trailer during loading and unloading. The jack stands are stored in racks under the side of the trailer when not in use.

(Rev. 4-06)

Ramps are available in 10,000 lb. and 16,000 lb. rated wheel capacities. Refer to the rating emblem on your trailer to identify which ramp is installed.

<p>10,000 lb. Maximum</p>	<p><b>CAUTION</b></p> <p>Exceeding rated capacity of ramp can result in personal injury or property damage.</p> <p>Ramp Capacity: 10,000 lbs.</p> <p><small>WTC 01-03 A-6462-CX</small></p>
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<p>16,000 lb. Maximum</p>	<p><b>CAUTION</b></p> <p>Exceeding rated capacity of ramp can result in personal injury or property damage.</p> <p>Ramp Capacity: 16,000 lbs.</p> <p><small>W.T.C. 07-01 A-6462-CS</small></p>
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**Equipment damage or personal injury can occur from unexpected movement.**

**Keep the area around the trailer clear when loading and unloading and positioning ramps.**

**To reduce the chance for unexpected movement of the cargo or trailer when loading and unloading:**



### WARNING

- Always set the parking brakes or chock the wheels.
- Always exhaust air ride suspension.
- Always use the jack stands at the rear.
- Keep ramps and trailer deck clean and dry.
- Do not attempt to load if the ramps or trailer deck are dirty, muddy, icy, wet, or otherwise impaired.
- Do not attempt to load a trailer that is not hooked to a tractor.
- Do not exceed the rated capacity of the ramps.

# OPERATING INSTRUCTIONS

## Beaver Tail w/Fold-Over Ramps (Optional for CFD Drop Deck)

### Loading and Unloading the Trailer using Ramps

1. Apply the trailer parking brakes.
2. Exhaust the air ride suspension.
3. Remove the jack stands from the storage rack under the trailer and pin them into the brackets on each end of the trailer rear end.
4. Lower the ramps to the ground. Instructions for ramp use are noted below.
5. Load or unload the trailer using methods appropriate for the specific cargo. Use care when driving up or down the ramps.
  - a. Be sure ramps are dry and clean.
  - b. Align the vehicle with the ramps and drive straight up or down.
  - c. Drive slowly.
  - d. Check for adequate clearance between vehicle and trailer.
6. Secure the load using adequate and appropriate equipment and anchor points (refer to "Securing the Load" section in this manual).
7. Raise the ramps for transport. Refer to instructions below.
8. Remove and store the jack stands. It may be necessary to inflate the trailer suspension to relieve downward force on the stands. Be sure the jack stands are properly secured before traveling.

### Lower Ramps from Tail Deck to Ground

1. Release the transport securement latch from the outside ramp.
2. Remove the pin securing the inner and outer ramps to each other.



### **NOTE**

**If the ramps will not be immediately pinned together again, store the connecting pins in the storage racks provided on the outer ramp.**

3. One at a time, lift the upper end of each ramp from the trailer deck and pivot the ramp over to the ground. Do not drop the ramp!

## OPERATING INSTRUCTIONS

### Beaver Tail w/Fold-Over Ramps (Optional for CFD Drop Deck)



#### Lift Ramps from Ground to Tail Deck

1. Lift each ramp from the ground and lower gently onto the trailer tail. Do not drop the ramp!
2. Insert the connecting pin through both ramps and secure with a clip pin.
3. Connect and tighten the transport securement latch between the outside ramp and the trailer side rail.



(Rev. 4-06)

## OPERATING INSTRUCTIONS

### Spare Tire Carrier



#### **WARNING**

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

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

## OPERATING INSTRUCTIONS

### Parking the Trailer

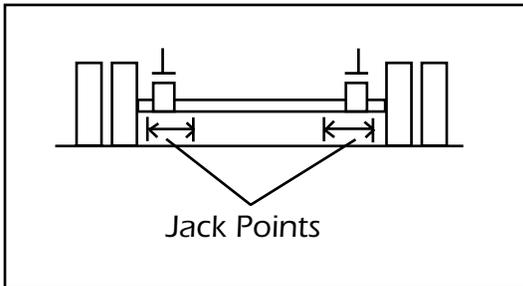
Wilson trailers are equipped with landing legs and spring parking brakes for safely supporting and restraining the trailer when it is unhooked from the tractor. Trailers with air ride suspensions are also equipped with full suspension dump valves to be used when parking your trailer (see *Full Suspension Dump Valve* sections in the Operation and Maintenance sections of this manual for additional information).

When unhooking your trailer from the tractor:

1. Choose a level location that is firm enough to support the weight of the trailer and the load. Be sure the trailer is not blocking other vehicles, equipment or roadways and is not exposed to damage while parked. If the trailer is exposed to traffic, be sure the conspicuity tape is cleaned to provide maximum reflection to approaching traffic. Use additional markers as appropriate to increase visibility.
2. Set the trailer parking brakes, and if equipped with air ride, exhaust the suspension (see *Full Suspension Dump Valve* in the Operation section of this manual).
3. Lower the landing legs until they contact the ground. Be sure ground surface is adequate to support the weight of the trailer and load. *Do not leave the landing legs off the ground and drop the trailer onto them, especially if the trailer is loaded. Dropping the trailer will damage the landing legs and mounting brackets.*
4. Disconnect the electrical and air lines between the tractor and trailer and release the fifth wheel jaws.
5. Slowly drive the tractor away from the trailer.
6. Walk around the trailer to be sure it is stable and secure and all equipment has been properly stowed.

# OPERATING INSTRUCTIONS

## Tire/Wheel Changing Procedure



### **IMPORTANT**

**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 the parking brakes and block wheels at other locations to prevent movement.
  3. Be sure air ride suspensions are inflated and an air source is available to maintain inflation.
  4. If a loaded trailer must be raised for changing tires, take appropriate precautions to reduce risk of tipping, load shifting, or structural damage, including:
    - Lower landing gear to support and stabilize the front of the trailer.
    - Use two lifting devices and raise both sides of the trailer evenly to prevent leaning and tipping.
  5. Position the jacks or lifting devices under the axle, as close to the outer end as possible. Use care to avoid placement that will cause contact and damage to other components such as brake chambers, cam shafts, U-bolts, and slack adjusters.
  6. Raise the trailer at a slow, steady rate until the tires to be removed are off the ground. If using two lifting devices, raise both sides of the trailer evenly to avoid leaning and tipping.
  7. Position trailer supports under trailer frame or axle to prevent unexpected lowering of the trailer.
  8. Remove the nuts securing the tires/wheels and remove the tire(s)/wheel(s) using a tire fork or a similar device to lift the tire(s).

# OPERATING INSTRUCTIONS

## Tire/Wheel Changing Procedure



**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 lost wheels and/or personal injury.**

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

### Torque Values:

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

11. Remove trailer supports.
12. Lower the trailer to the ground at a slow, steady rate. If two lifting devices are used, lower both sides evenly to avoid leaning and tipping.  
  
Watch for pinch points to ensure no electrical or pneumatic lines will be damaged.
13. Remove lifting devices and check wheel nuts to ensure they are torqued to the specified values.
14. Inspect suspension components for damage or improper adjustment resulting from raising and lowering the trailer. Repair any damaged components as necessary.
15. Remove blocks from wheels.

## OPERATING INSTRUCTIONS

### King Pin and Fifth Wheel Engagement

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**

#### **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.**

## OPERATING INSTRUCTIONS

### King Pin and Fifth Wheel Engagement

#### **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.

#### **IMPORTANT**

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

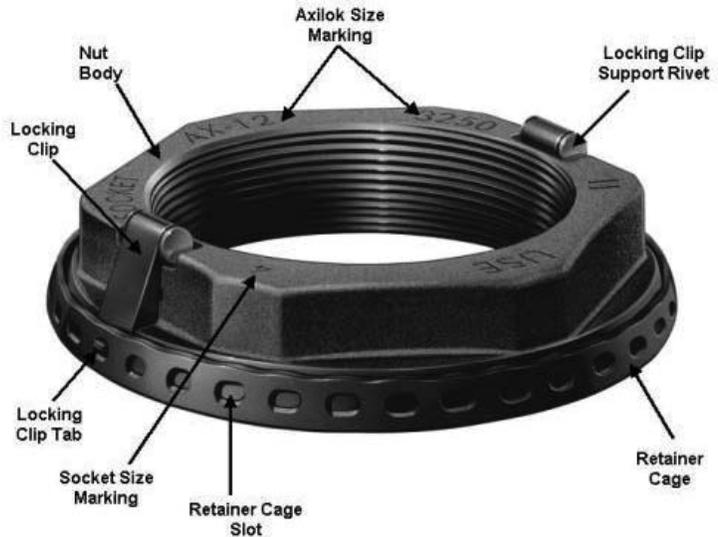
- **Always attach the lube plate securely to the aluminum pickup plate.**
- **Do Not use quick-attach lube plates such as those that attach only to the king pin shaft with a retaining ring.**
- **Do Not use lube plates attached to the tractor**

**Axilok Nut Removal & Installation Procedures**



**WARNING**

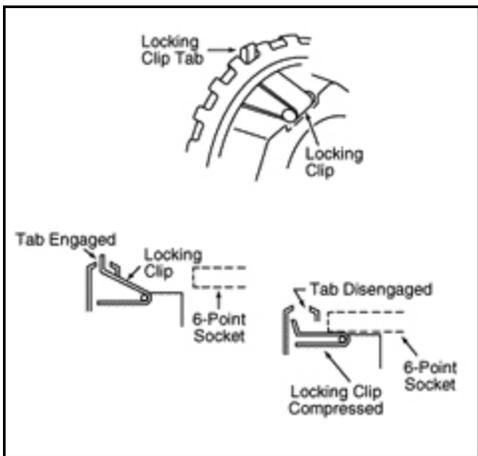
**Do not use chisel, hammer, or any power tool to remove the Axilok product.**



Axilok Component View  
 FIGURE 1

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



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 disengage 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

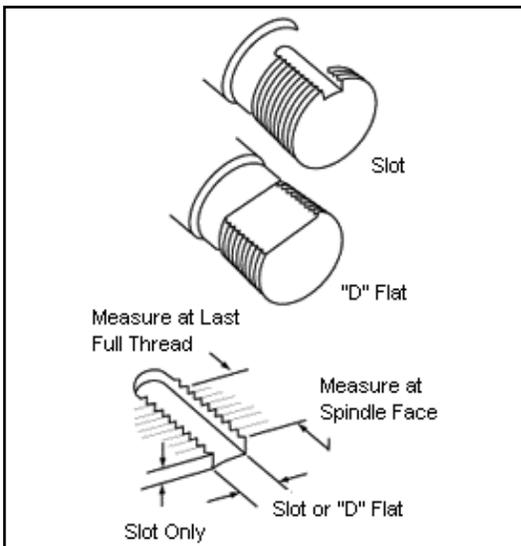
### Axilok Nut Pre-Installation Procedures



#### 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.**

Before installing Axilok, check the following:



Measuring Spindle Slot or "D" Flat  
FIGURE 3

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 distortion. 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**

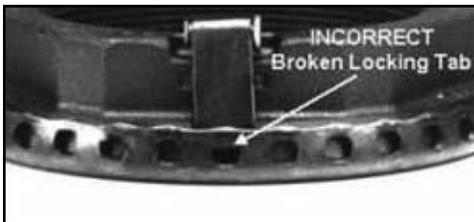
**Do not use Axilok assembly with hubs that have internal bearing spacer systems except as directed by the vehicle manufacturer.**

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.

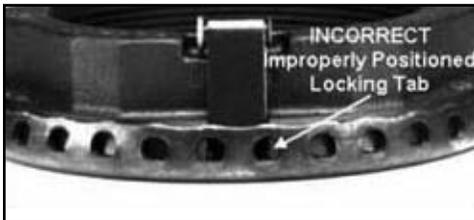
5. Free Rotation Inspection. This test will check for nut and socket compatibility.

- 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.**

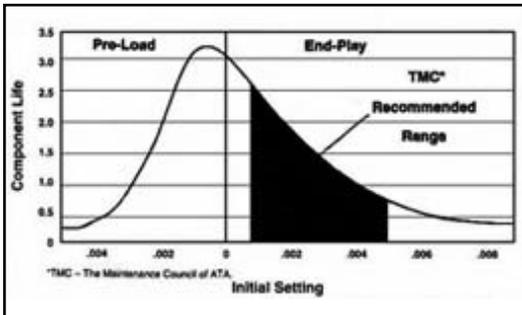
1. Before installation, perform pre-installation checks:

- 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



Recommended End Play Range  
FIGURE 6

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.

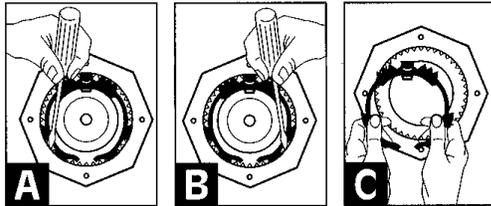
### STEP 2

#### **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.



### STEP 1

(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 3

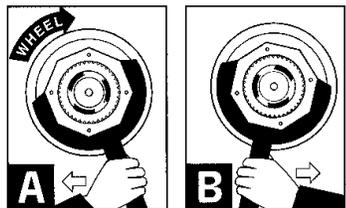
#### **Adjust the bearing**

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.

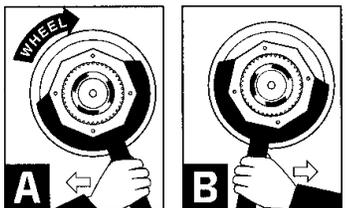


### STEP 2

(With hub/drum/wheels)

A: Tighten the nut to 100 ft-lbs. while the wheel is rotating.

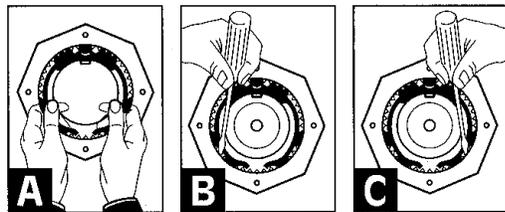
B: Back the nut off one raised face mark.



### STEP 3

# HUB AND BEARINGS

## Spindle Nut & Wheel Bearing Adjustment Procedures



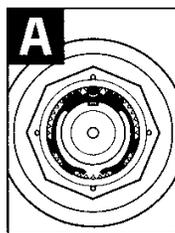
### STEP 4

### STEP 4

#### **Install the keeper** (Orange side facing out)

- A: Insert the keeper tab into the undercut groove of the nut and engage the keyway tang in the axle keyway. Insert keeper tab with bent legs facing out.
- B: Engage the mating teeth.
- C: Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.

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



### STEP 5

- A: Align the flat of the keeper with the milled flat on the spindle and insert the single keeper tab into the undercut groove of the nut. Insert keeper tab with bent legs facing out.
- B: Engage the mating teeth.
- C: Compress and insert the keeper arms, one at a time, into the undercut groove with a screwdriver.

### STEP 5

#### **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-TORO® representative.

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

## HUB AND BEARINGS

### Spindle Nut & Wheel Bearing Adjustment Procedures



#### WARNING

**Failure to follow this instruction could cause the wheel to come off and cause bodily injury. The PRO-TORO® 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.**

### 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. For preset or minimum maintenance wheel ends, see the manufacturers recommendations and instructions.

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.
  - a. If the grease consistency is sloppy or runny it is suitable for continued service.
  - b. If the grease is gritty, it is contaminated with dirt and must be replaced.
  - c. If the grease is milky, it is contaminated with water and must be replaced.
4. Check the seals for leakage. Replace as needed.

#### **NOTE**

**Dark discoloration is normal with extended service.**

#### **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)

## HUB AND BEARINGS

### Bearing Lubricant

#### **NOTE**

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

#### **NOTE**

**Dark discoloration is normal with extended service.**

**High mileage 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 airted 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.**

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.

#### 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.
  - a. If the grease consistency is sloppy or runny it is suitable for continued service.
  - b. If the grease is gritty, it is contaminated with dirt and must be replaced.
  - c. 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.

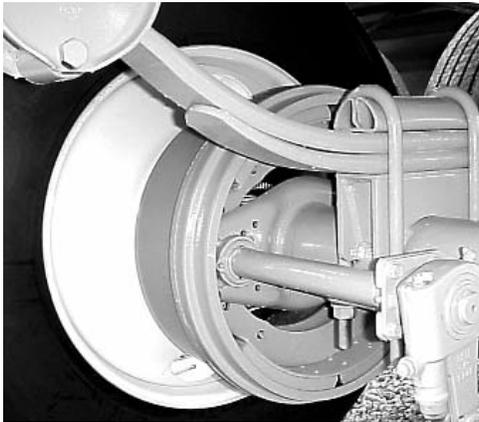
#### To install semi-fluid grease:

1. Apply a light coat of grease to all parts and surfaces.
2. Install the inner bearing, inner seal, and hub.
3. Fill the cavity 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. 7-97)

## BRAKES

### Brakes



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

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.

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.

### **NOTICE**

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



### **CAUTION**

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

## **BRAKES**

### **Spring Brake In-Service Checking Procedures**

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

#### **IMPORTANT**

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

- 1) Check overall condition of Foundation Brake Assembly including drums, shoes, lining, retainer/return springs, bushings and rollers.
- 2) Check for obvious Structural Damage to spring brakes, brake adjusters or cam shafts and replace per OEM specifications.
- 3) Hook up tractor or apply shop air and release parking brakes. Apply and fully release Parking Brakes several times while watching for brake adjuster movement. Adjusters should apply and retract at relatively the same distance for all wheel positions.
- 4) To verify equal push rod movement, measure each push rod from the Face of the Air Chamber to the Center of the Clevis Pin with brakes Fully Set or Parked. Apply air to chambers to release parking brakes and re-measure all wheel positions. All strokes should be within 1/8" of each other.
- 5) Applied Stroke at 90-100 p.s.i. can also be used to measure in a similar way as step #4. Apply Service Brakes instead of setting Spring (Emergency) Brakes and record before and after push rod measurements.

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

# BRAKES

## Spring Brake In-Service Checking Procedures

**NOTE**

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

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

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

**IMPORTANT**

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

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

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

**IMPORTANT**

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

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

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

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

**IMPORTANT**

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

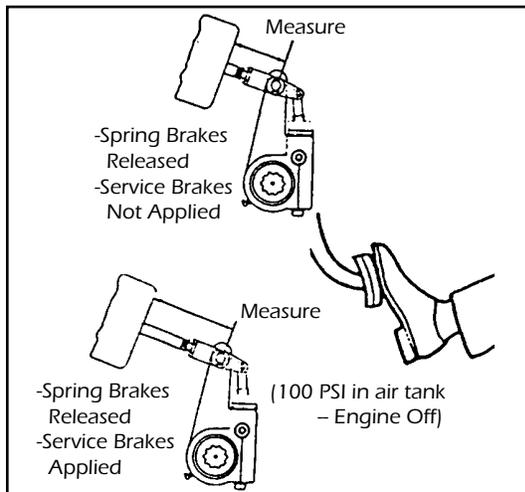
# BRAKES

## Automatic Slack Adjusters

### NOTICE

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

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



**MAXIMUM STROKE AT WHICH BRAKES MUST BE ADJUSTED.  
80-90 PSI AIR PRESSURE IN THE AIR CHAMBER. CLAMP TYPE AIR CHAMBERS.  
CAM BRAKES.**

Chamber Type (Size)	Stroke length not to exceed:
9	1-3/8 inches
12	1-3/8 inches
16	1-3/4 inches
20	1-3/4 inches
24	1-3/4 inches
24 long stroke	2 inches
30	2 inches
36	2-1/4 inches

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

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

### 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
3. Have another person apply and hold one full brake application.
4. Repeat Step 2 and measure WITH THE BRAKES APPLIED. Record each dimension.
5. Release the brakes.
6. Calculate the adjusted chamber stroke of each brake.
  - a. Subtract the dimension that was measured in Step 2 from the dimension measured in Step 4.
  - b. The difference between the two dimensions is the adjusted chamber stroke. The adjusted chamber stroke MUST NOT BE GREATER THAN THE STROKE LENGTH SHOWN BELOW for that size of air chamber.
  - c. If the adjusted chamber stroke you measured is greater than the maximum stroke shown, inspect the slack adjuster.

## **BRAKES**

### **Automatic Slack Adjusters**

#### **TRAILER ONLY**

1. Connect the auxiliary air system to the SUPPLY or EMERGENCY port of the trailer's air system.
2. Increase the air pressure to 100 psi MINIMUM to release the auxiliary spring chambers.
3. With the brakes NOT APPLIED measure the distance from the bottom of the air chamber to the center of the large clevis pin on all the brakes. Record each dimension.
4. Connect a second auxiliary air system to the SERVICE port of the trailer air system.
5. Increase the air pressure of the second air system to 85 psi to apply the service brakes.
6. Repeat Step 3 and measure WITH THE SERVICE BRAKES APPLIED. Record each dimension.
7. Calculate the adjusted chamber stroke of each brake.
  - a. Subtract the dimension that was measured in Step 3 from the dimension measured in Step 6.
  - b. The difference between the two dimensions is the adjusted chamber stroke. The adjusted chamber stroke MUST NOT BE GREATER THAN THE STROKE LENGTH SHOWN IN THE CHART for the size of air chamber.
  - c. If the adjusted chamber stroke you measured is greater than the maximum stroke shown in the chart, inspect the slack adjuster. See manufacturer's instructions.

(Rev. 2-93)

## WHEEL INSTALLATION

### Wheel Assemblies



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

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

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

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

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

### Wide Base Single Tires & 2" Offset Wheels

**Wilson Trailer recommends that customers using wide based super single tires and 2" offset wheels specify axles and hubs with the same size 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 size 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 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.**

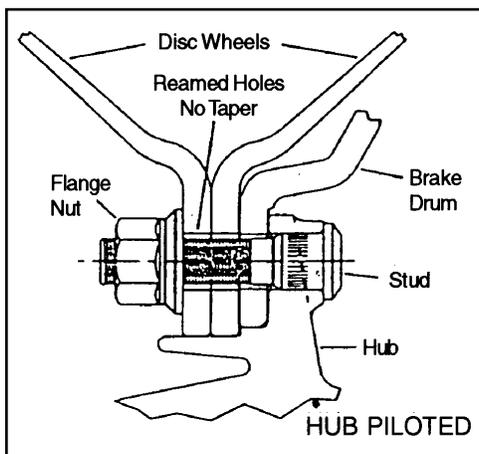
# WHEEL INSTALLATION

## 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.

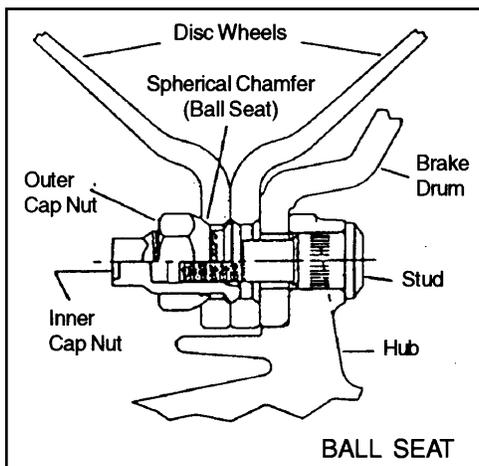
## Hub Pilot Mount Disc Wheels



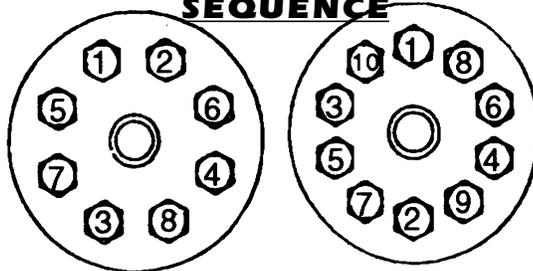
Hub piloted disc wheels have stud holes drilled straight through the wheel. Pilot bosses machined on the hub fit tightly into the center of the disc wheel. Hub piloted wheels may be steel or aluminum and are secured with single flange nuts.

**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 (.0015").**



### HUB PILOTED TIGHTENING SEQUENCE



RECHECK TORQUE AFTER FIRST 50 TO 100 MILES OF SERVICE

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

# WHEEL INSTALLATION

## Hub Pilot Mount Disc Wheels



### CAUTION

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



### CAUTION

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

### To Assure Proper Installation:

1. Do not mix hub piloted and ball seat mount disc wheels.
2. Use the correct flange nuts to match your wheels. Failure to do so may lead to loose wheels which significantly reduce product life and may result in a crash. Before proceeding with the installation of the disc wheel, make certain you are using the proper flange nuts. The hub piloted mounting uses M22 x 1.5 metric threads. The stud standout is at least 2.16". All studs have right hand threads.
3. Position the inner disc wheel over the studs and wheel pads being careful not to damage the stud threads. Make sure the disc wheel is flat against the mounting surface and there is clearance between the disc wheel taper and the brake drum.
4. Position the outer disc wheel over the studs and wheel pilot pads being careful not to damage the threads. Be sure the valve stems for both the inner and outer tires are accessible.
5. Install the flange nuts and tighten to 50 ft.lb. in the sequence shown on page 4-8. Note: On two piece flange nuts, apply a drop of oil between the nut and washer. **Make sure the flange washer is not seized to the nut.** Do not lubricate the mounting surface of the drum or wheel, or the stud threads.  
(Rev. 10-01)
6. Check both disc wheels to be sure they are properly seated on the hub assembly. If they are not, loosen the flange nuts and reposition the wheels.
7. Tighten the flange nuts to 450-500 ft.lb. dry thread torque in the sequence shown.

# WHEEL INSTALLATION

## Ball Seat Mount Disc Wheels

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

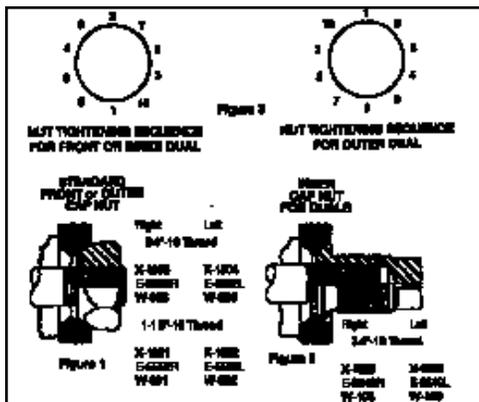
 **CAUTION**  
**Insufficient mounting torque can cause shimmy, resulting in damage to parts and excessive tire wear. Excessive mounting torque can cause studs and cap nuts to break and discs to crack in stud hole area.**

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

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

To assure proper installation of ball seat mounted disc wheels:

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



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

# WHEEL INSTALLATION

## Spoke Wheel Installation



### CAUTION

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

To assure proper installation of spoke wheel equipment:

1. Slide the inside rim over the wheel so the 28 degree mounting surfaces mate. Be sure the valve stem is point out and is centered between the two spokes.
2. Slide the rim spacer over the wheel and against the inner rim.
3. Slide the outer rim over the wheel. Be sure the valve stem is pointing in and is centered between the same spokes as the inner valve stem.
4. Install the rim clamps and nuts. Lightly tighten the rim nuts until they are properly seated.
5. Tighten the rim nuts one quarter turn at a time in the order shown until tightened to 200-260 ft.lb. of dry thread torque.

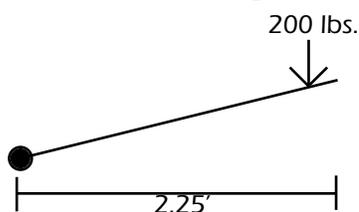


### CAUTION

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

Rev. 8-96

## Wheel Nut Torques



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

## AIR SYSTEM COLD WEATHER OPERATION

### Thawing Frozen Air Lines

### "Prevention is the best medicine"

#### DO'S

1. Do maintain freeze prevention devices to prevent road calls. Check (daily) evaporators or injectors so as not to run out of methanol alcohol. Check the air dryer for proper operation and change the desiccant when needed.
2. Do thaw out frozen air lines and valves by placing vehicle in a warmed building. This is the only method for thawing that will not cause damage to the air system or its components.

#### DON'TS

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



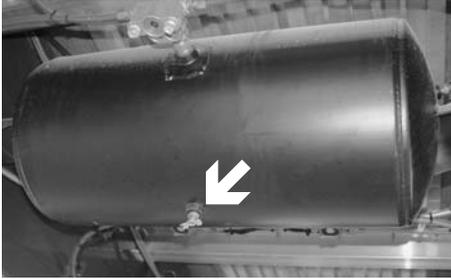
### CAUTION

**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 fluid lock and keep the brakes from fully releasing.**

# 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. On trailers not equipped with automatic drain valves, the drain on the bottom of each reservoir should be opened briefly each day to expel moisture.

## Air Travel Through Brake Valves

### NOTE

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

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.

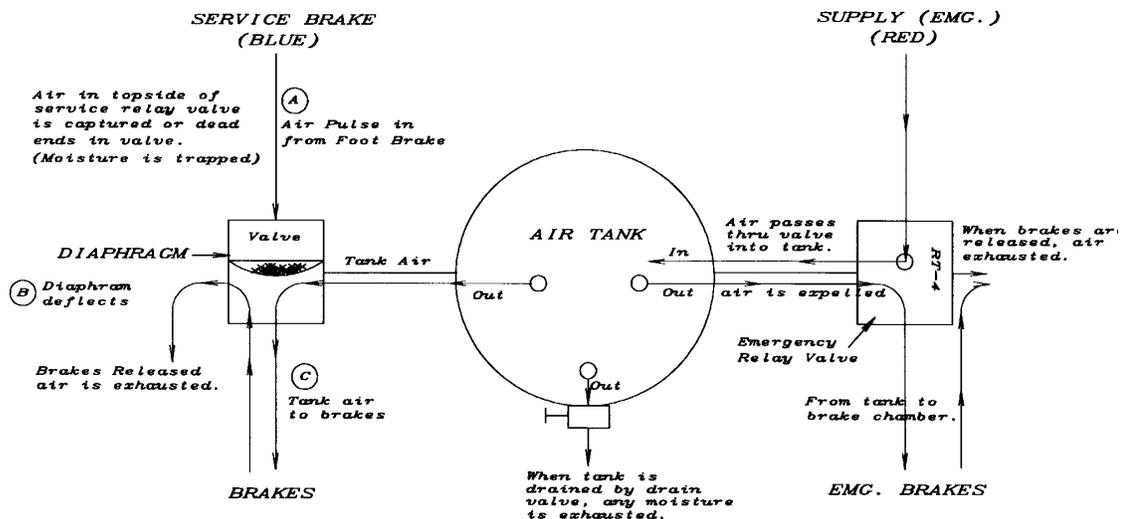
The diaphragm pushes on a spring loaded cylinder which opens up and lets TANK AIR pass to the brake chambers and applies force to activate the brakes. Upon release of foot, air in brake chambers exhausts out the bottom of service valve.

### NOTE

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

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.



(Rev. 10-01)

## PROPER AXLE ALIGNMENT

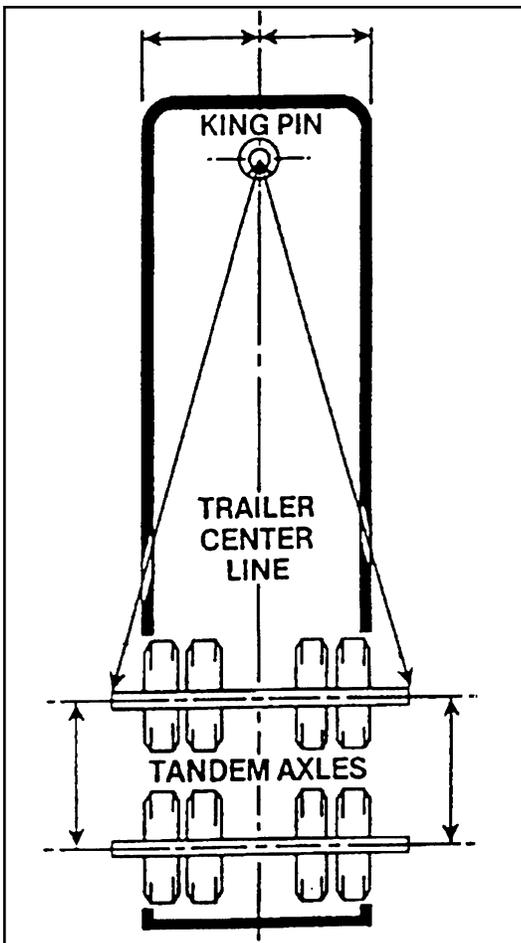
### **IMPORTANT**

**Your new Wilson trailer has been aligned at the factory with laser equipment.**

**Re-aligning the axles will be the owner's responsibility.**

Rev. 9-04

### **Alignment Procedures**



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 suspensions.)
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



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

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

Move the left end of the axle rearward (lengthen the alignment measurement) by turning the torque arm out to make it longer.

3. Check the alignment measurements. Repeat the adjustment in Step 2, if necessary.
4. When the axle is correctly aligned, tighten the torque arm clamp bolts to 65 ft.lb.

### **IMPORTANT**

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

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

## PROPER AXLE ALIGNMENT

### Alignment Procedures, 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 pivot bolt in the hanger.
2. Adjust the 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	<b>500-600 ft.lb.</b>
Neway RL228	<b>800 ft.lb.</b>
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

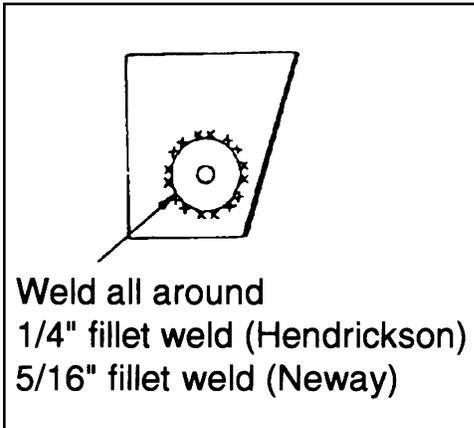
### Welded Alignment Collar Suspension

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

## Holland SwingAlign Axle Alignment

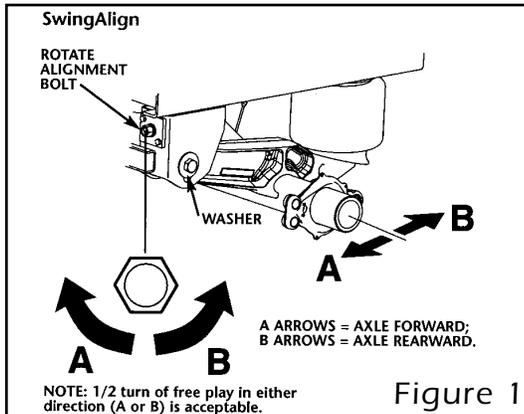


Figure 1

On the front face of the roadside frame bracket, rotate bolt head clockwise to move axle forward (A arrows); counterclockwise 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.

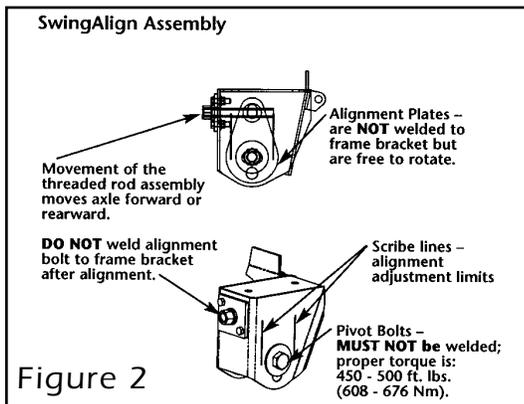


Figure 2

### IMPORTANT

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

### TORQUE CHART

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

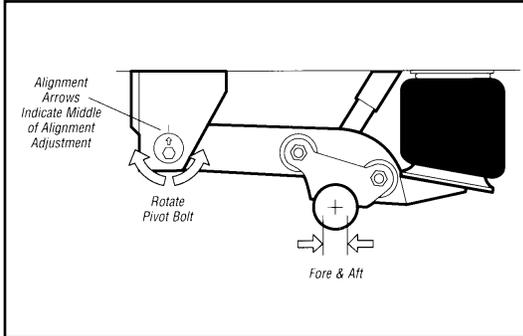
### IMPORTANT

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

Reference Holland XL-AR432 Rev. A

# PROPER AXLE ALIGNMENT

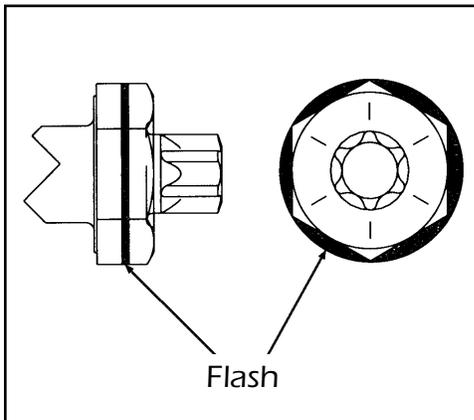
## Neway EZ-Align Suspension



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.**

## 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. ( $\pm 45$  ft.lbs.). Failure to reach the required torque can result in a loose pivot connection and potentially damage the suspension and other components.

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

### **IMPORTANT**

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

### **IMPORTANT**

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

(Rev. 10-00)

### 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.

# SUSPENSION MAINTENANCE

## 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.

	<u>New-Oiled</u>	<u>Clean-Dry</u>
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.)

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.

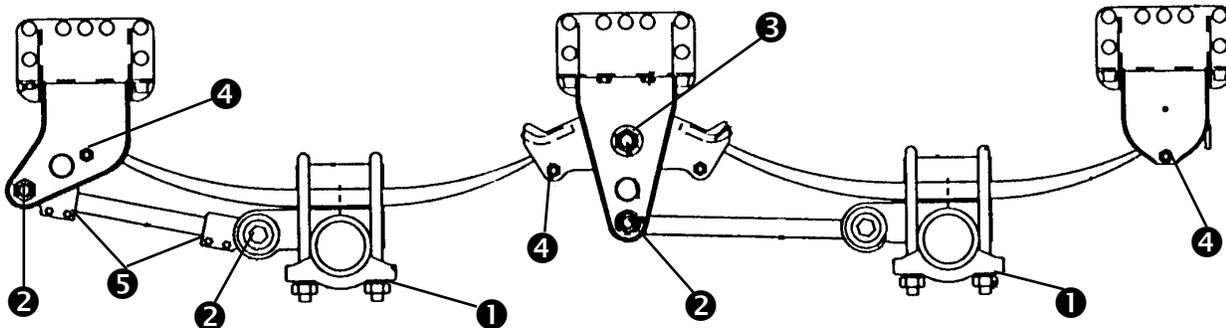
Use a good rubber lubricant on bushings before installation to prevent damage during installation. Be sure torque arm bolts are tightened back to 450 ft.lb. after replacing any torque arm bushings, and tighten equalizer step bolts back to 130 ft.lb. after replacing equalizer bushings.



**CAUTION**

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

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.



# SUSPENSION MAINTENANCE

## Full Air Ride Suspension

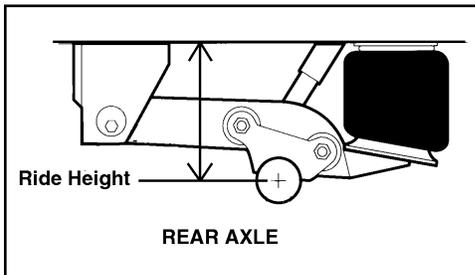


Complete details for inspection and maintenance can be found in the air ride suspension manufacturer's supplement provided with this manual. See warning emblems on trailer pertaining to air ride suspension.

### Periodic Inspections

Inspect the following items at least once a month:

- Alignment bolts and collars for proper tightness. (Refer to the *Alignment* section of this manual for torque requirements.)
- Pivot bushings for wear and damage.
- Suspension structure and axles for damage.
- Air springs, air lines, and fittings for damage, wear, and leaks.
- All fasteners for proper tightness. (Refer to the manufacturer's information for specific torque values.)
- Height control valve, mounting bracket, linkage, and air fittings for damage and wear.
- Ride height at the rearmost axle for proper adjustment.
- Operate the full suspension dump valve to check for proper operation of the exhaust and inflate functions.



### Measuring Ride Height

With suspension inflated, tractor brakes locked, and trailer parking brakes released, measure the vertical distance from the center of the axle to the bottom of the trailer frame.

High flatbed, permanent suspension	.....15"
High flatbed, box slider	... ..9"
(full suspension & single axle)	
High flatbed, z-rail slider	... ..15"
(full suspension & single axle)	
Drop deck, permanent & slider suspensions	.....6.5"
Drop deck, single axle slider, raised position	.....11.5"

If the measured ride height is different from the listed value for your trailer's suspension, refer to the *Adjusting Ride Height* section.

### Operating Full Suspension Dump Valve

**NOTE: Be sure area around trailer is clear of people.**

#### Manual Dump Valve

- Move the valve lever to "FILL" to inflate suspension and raise trailer.
- Move the valve lever to "DUMP" to exhaust suspension and lower trailer.

#### Automatic Dump Valve

- Release trailer brakes to inflate suspension.
- Engage trailer brakes to exhaust suspension.



## SUSPENSION MAINTENANCE

### Adjusting Ride Height

To adjust the ride height, change the length of the connecting linkage to achieve the correct setting:

To increase trailer ride height:

- Lengthen the connecting linkage.

To decrease trailer ride height:

- Shorten the connecting linkage.

#### **NOTE**

**The supply (emergency) air line must be connected to the trailer and the air tank filled for this adjustment.**

1. Park the tractor and trailer on level ground. Apply the tractor parking brakes and release the trailer parking brakes. Trailer suspensions must be inflated and the suspension dump valve (if equipped) in the "FILL" position (suspension inflated).
2. Measure the ride height at the rear axle and compare to the correct setting.
  - a. If ride height is less than specified, lengthen the connecting linkage.
  - b. If ride height is more than specified, shorten the connecting linkage.

#### Clamped Rod Linkage:

1. Loosen the clamp on the rubber end.
2. Slide the rod out to lengthen or in to shorten (it may be necessary to trim the rod).
3. Retighten the clamp on the rubber end.

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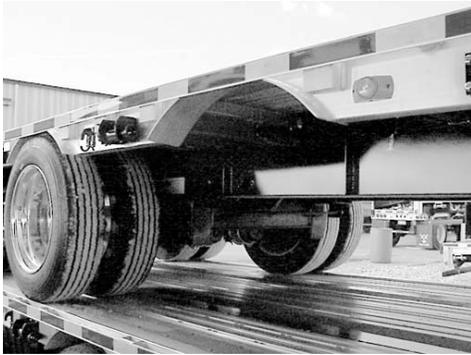
#### Bolted Linkage:

1. Remove bolts holding the two bars together.
2. Lengthen or shorten the linkage.
3. Re-install the bolts and tighten securely.

3. Use the dump valve to exhaust and re-inflate the trailer suspension. Measure the ride height. If ride height is not correct, repeat Step 2.

## SLIDER SUSPENSIONS

### Sliders



The full suspension and single axle slider options offered by Wilson Trailer Company are designed to require minimum maintenance. To ensure proper operation perform the following checks at least monthly:

- Inspect slider box and trailer structure for damage and wear.
- Operate the locking pins to ensure free movement.
- Lubricate the pins and pivots.
- Inspect air lines and tension springs for wear, damage, and contact with other structure. Air lines should not contact other components or structure. Reposition clamps, fittings, and springs as needed to prevent air line contact with surrounding structure.
- Inspect stop bars for damage and proper operation. Replace damaged or improperly working stop bars immediately.
- Inspect slider wear pads for excessive wearing. Replace as needed.
- Remove grit and rocks from between slider rail and trailer frame.
- Release slider pins.
- Lift the trailer from resting on the slider box with a jack.
- Blow air through or wash surfaces between slider and trailer frame.
- Lower trailer and re-engage slider pins.

(Rev. 3-06)

### Single Axle Sliders



The single axle slider option is available on front and rear suspensions. Single axle sliders are equipped with additional controls for moving the sliding axle from one position to another. In addition to the maintenance checks listed in the previous section, operate the slider control valve to ensure proper operation following the instructions on the emblem located in the control box. (See also *Slider Operation* in the owner's manual.)

On drop (step) deck flatbeds, the control system locks the parking brakes on the slider axle and raises the trailer deck approximately 5" for tire clearance with the side rail when moving the slider. Check for adequate tire clearance when the trailer is raised.

On platform (high) flatbeds the control system locks the parking brakes on the slider axle and the trailer is not raised.

## **SLIDER SUSPENSIONS**

### **Lift Axles**

Lift axles and controls allow an axle to be raised off the ground when the trailer is empty or lightly loaded.

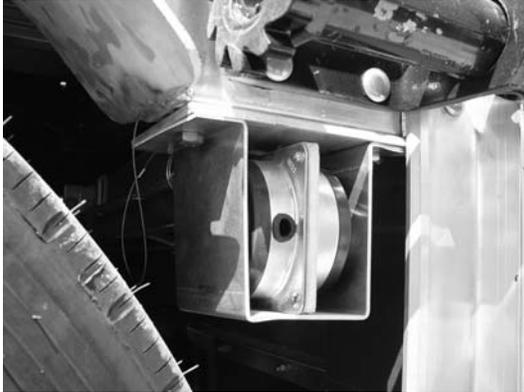
- Operate the lift axle controls
- Check for adequate ground clearance under the raised tires.

Drop (step) deck trailers with lift suspensions:

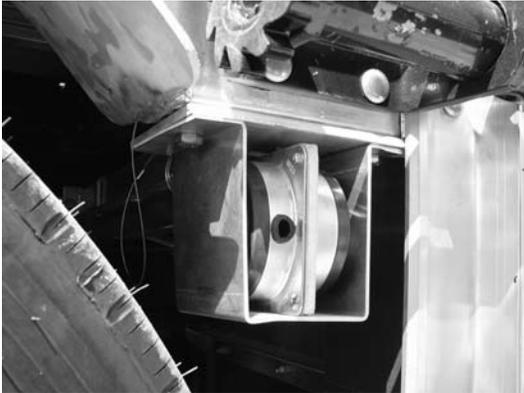
- Have limited clearance under the raised tires. Be sure the axle raises as much as possible.
- Are equipped with free-wheeling valves to prevent the brakes from being applied on the raised axle, which could result in skidding of the lightly loaded tires resulting in flat spotting. Be sure the wheels rotate freely when the axle is raised and the brakes are applied.

## WIDE LOAD LIGHTS

### Wide Load Lights (Optional)



- Extend and retract the light brackets at least once each month (and more often when the trailer is operated in ice, snow, or mud) to ensure free movement.
- Remove any foreign material and clean the brackets as required to ensure free movement.
- Inspect wiring for damage and corrosion.
- Turn the clearance lights on and be sure all wide load lights are lit. Repair non-working lights immediately.



### **NOTE**

**Wide load lights are grounded directly to the trailer through a ground wire in the harness.**

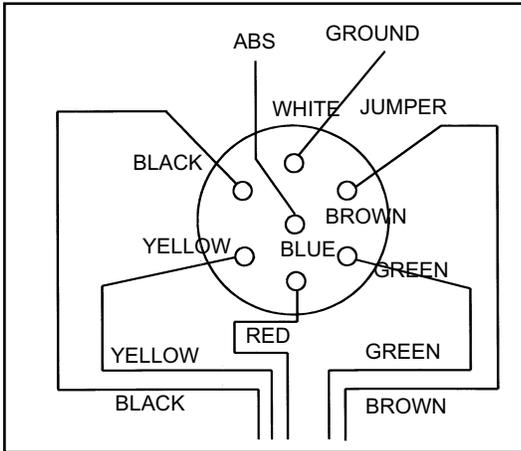
### **IMPORTANT**

**Ground the wide load lights to the trailer or electrical harness only. Do not ground the wide load lights to the light extension bracket. Electrical current flowing across the gap between the extension and the mounting bracket can cause moisture to form corrosion and "weld" the extension tube to the mounting bracket, making the lights unusable.**

# ELECTRICAL SYSTEM

Beginning in October 2005, Wilson Flatbed trailers are equipped with an internally grounded Grote electrical system with LED lights as standard. On this system the lights are grounded through the electrical harness rather than to the trailer frame. In addition to the internal ground, the trailer frame is grounded to the harness near the rear of the trailer. Electrical systems other than Grote may not be internally grounded. Lights other than Grote and LED are available as options.

## Connector Wiring Diagram

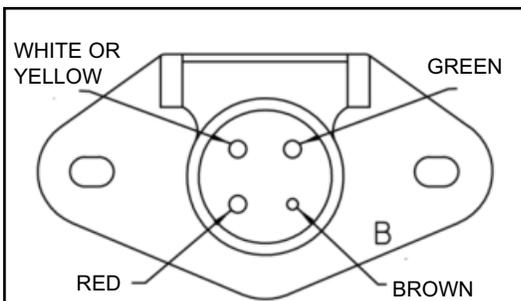


A 7-way plug is located on the front of your trailer. Each terminal carries current from your tractor electrical source through a circuit to the various electrical devices.

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  
Clearance Lights and Tail Lights,
3. BLACK: 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



### Auxiliary 4-way Receptacle

- Brown - Lift Axle Option or Landing Gear Lights
- White or Yellow - Ground
- Green - Inside Lights/Spot Lights
- Red - Backup Lights



## 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.**

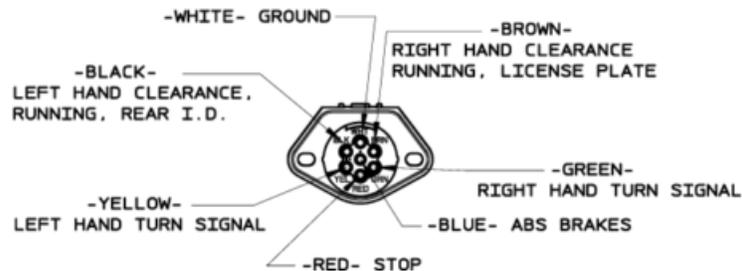
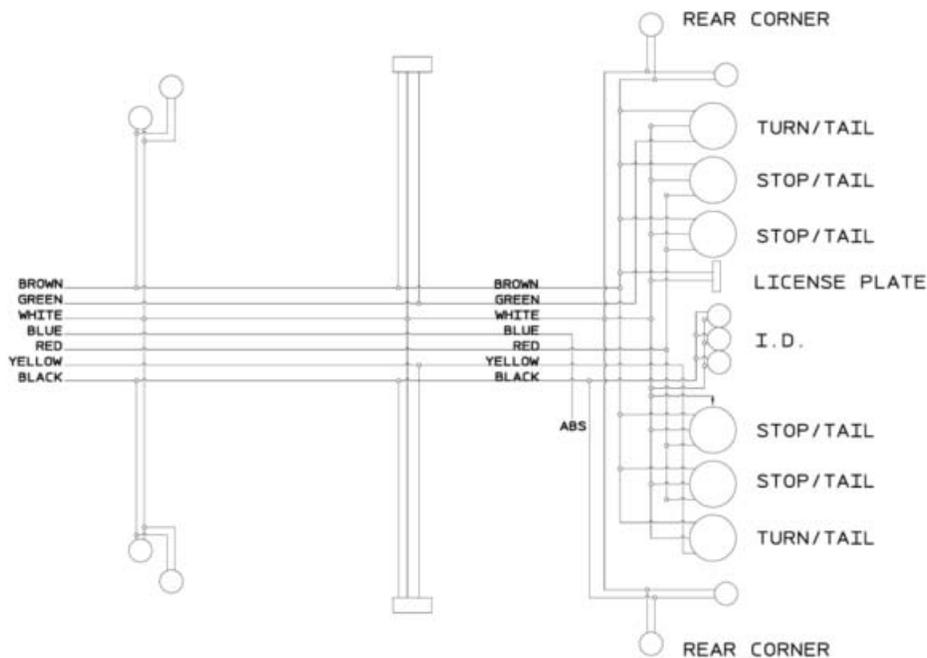
# ELECTRICAL SYSTEM



## CAUTION

Tractor-trailer owners and users who presently use the center pin for auxiliary 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)

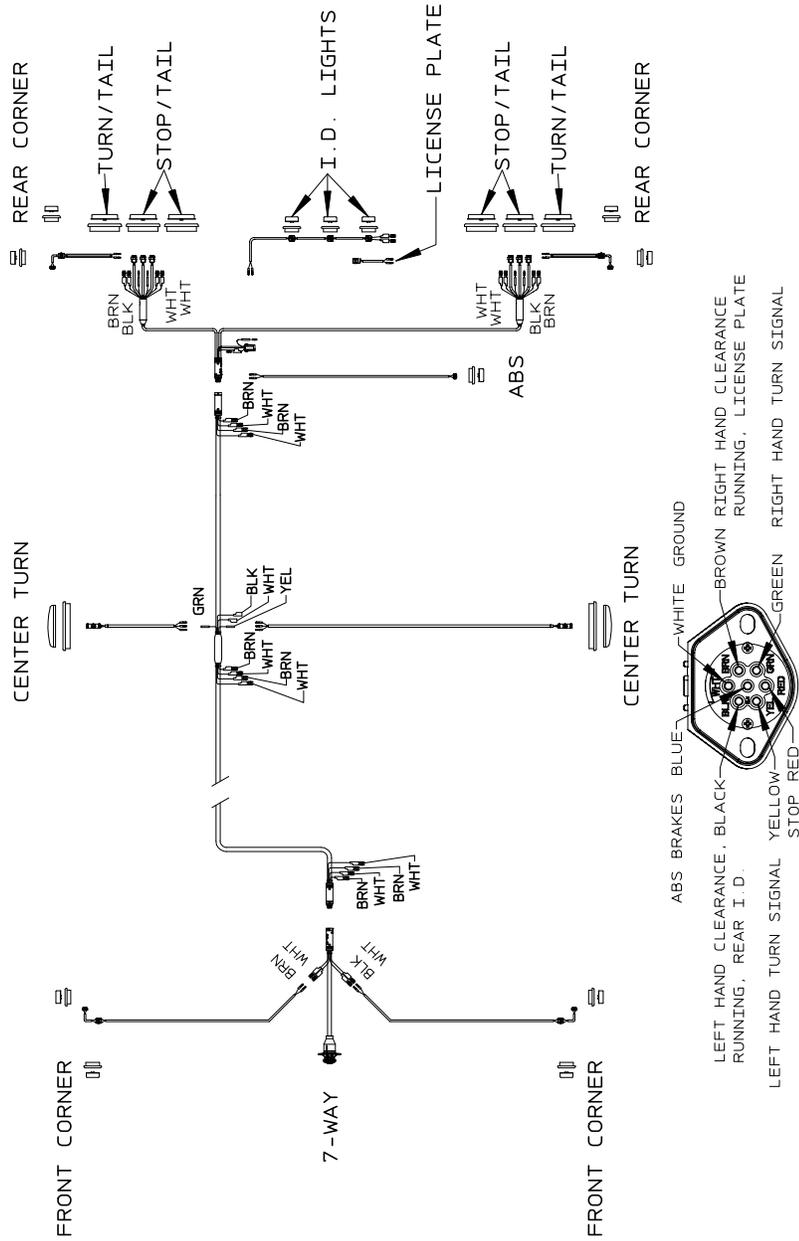
## Trailer Wiring Diagram



(Rev. 1-07)

# ELECTRICAL SYSTEM

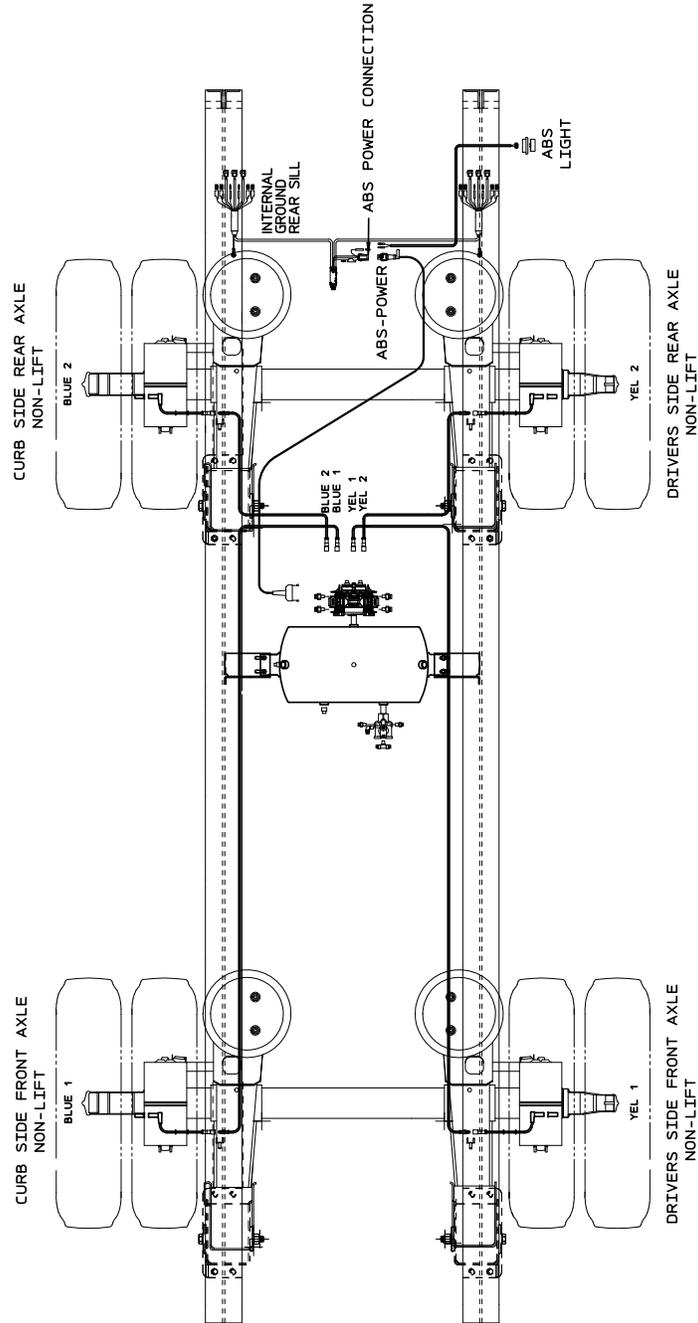
## Trailer Harness Diagram



(Rev. 1-07)

# ELECTRICAL SYSTEM

## Electrical Schematic: Anti-Lock Brakes



(Rev. 1-07)

# 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 or probe 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)
- Dielectric grease ONLY

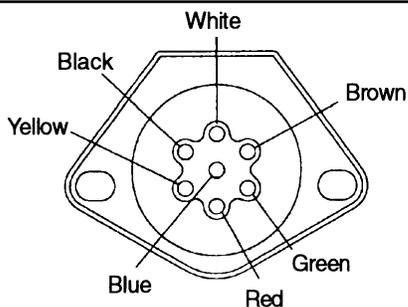


Figure 1

- 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 black and brown wire to make sure it is connected and there is current.
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)**

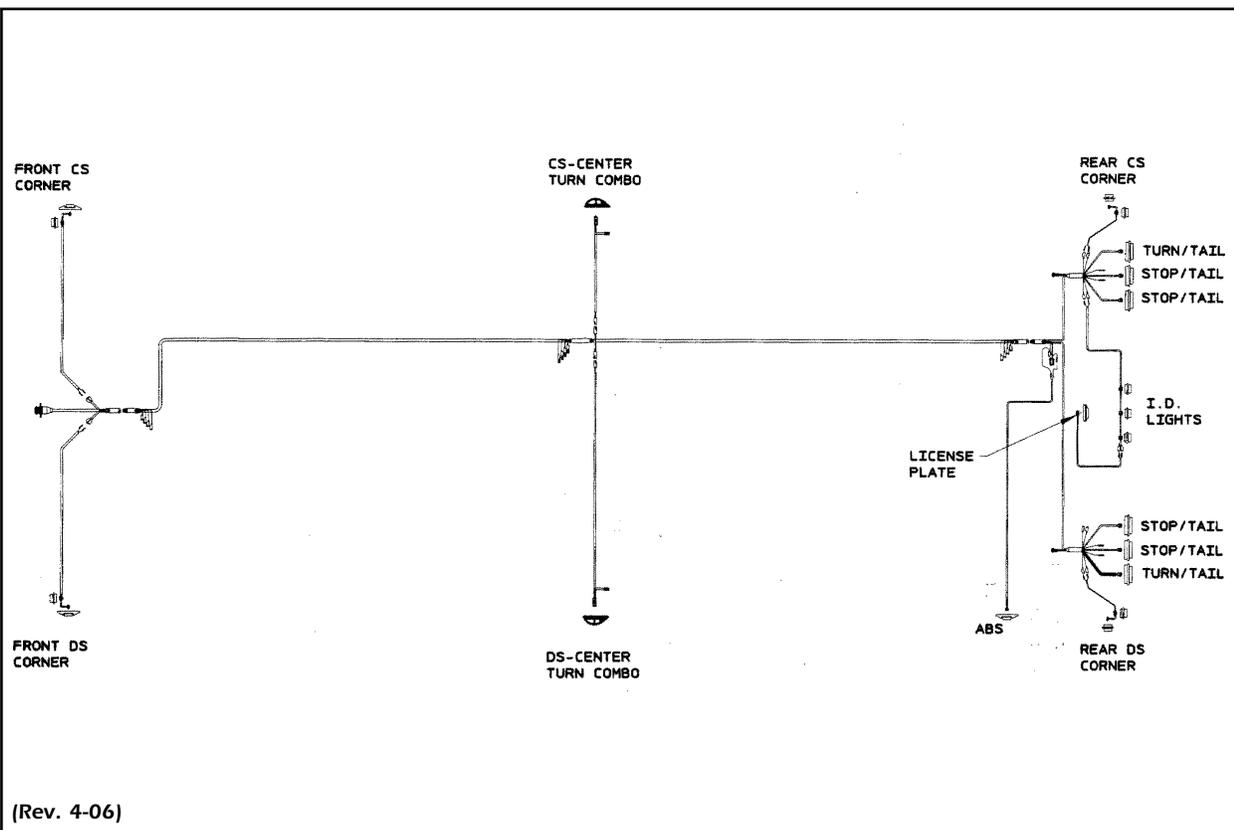
1. Check ground on turn lights for good clean ground.
2. Check grounds at rear sill harness elbow (See fig. 2 Detail "A").
3. Make sure grounds are clean so that current does not feedback through trailer.

# ELECTRICAL SYSTEM

## Electrical Troubleshooting

### Adding Additional Lights

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



## **ELECTRICAL SYSTEM**

### **Grote UBS Installation Instructions**

#### **Nose Box**

1. Connect the Grote Ultra Blue main harness to the nose piece harness and secure connection with plastic clip.

**NOTE: Unused terminals should be plugged with a dummy plug.**

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

2. Secure nose plug to trailer front channel with two 5/16" bolts.

#### **Main to Rear Sill Connections**

1. Connect main harness plug to rear sill harness and insure that the plugs are fully seated. Secure connection with plastic clip.

#### **Center Turn Lights**

1. Install center turn lights. Route harnesses to center drop off wires and secure.
2. Grease all connections and plug harnesses into center drop off wires.

**NOTE: All connections should be made between main beams and shielded from moisture as much as possible.**

(Rev. 4-06)

## 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 Connections**

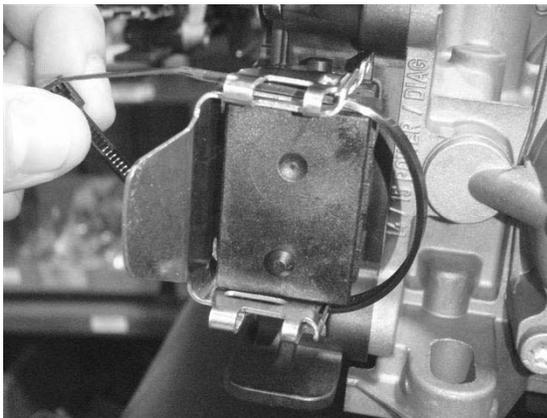
1. Assemble the four connections on rear sill harness to appropriate lamps. Insure that the plug is fully seated in the lamp and harnesses are securely plugged in.
2. Attach the drop off ground on each branch to the inside of the light cover boxes. Grease connection.
3. Assemble lamp with assembled plug 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. 4-06)

### ABS Valve Cap Securement

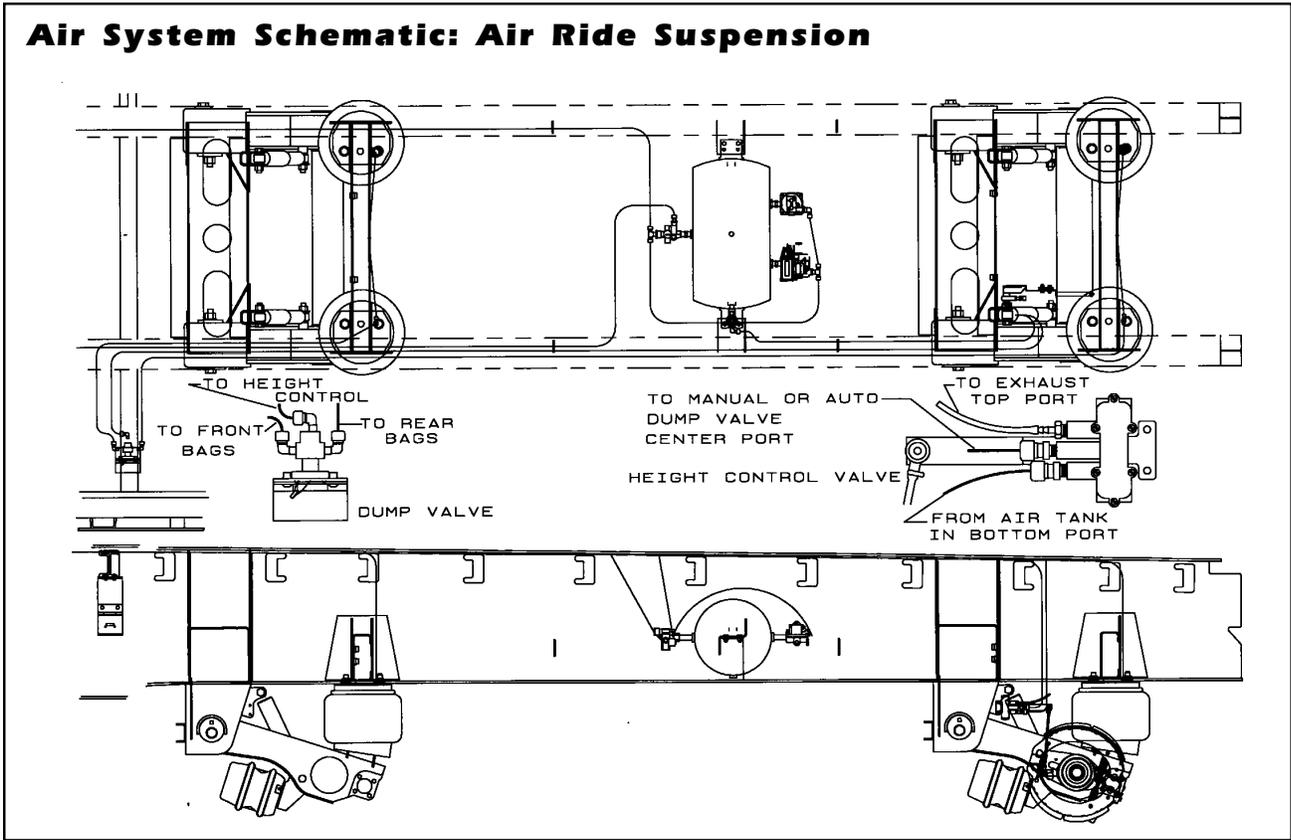


To make sure the plastic boots on your ECU valves stay on when the port is not being occupied with a connector, first, remove the boot and grease it with dielectric sealant then re-install the boot, close the clasp and install at zip tie as shown in the picture and pull it tight with the zip tie tool.

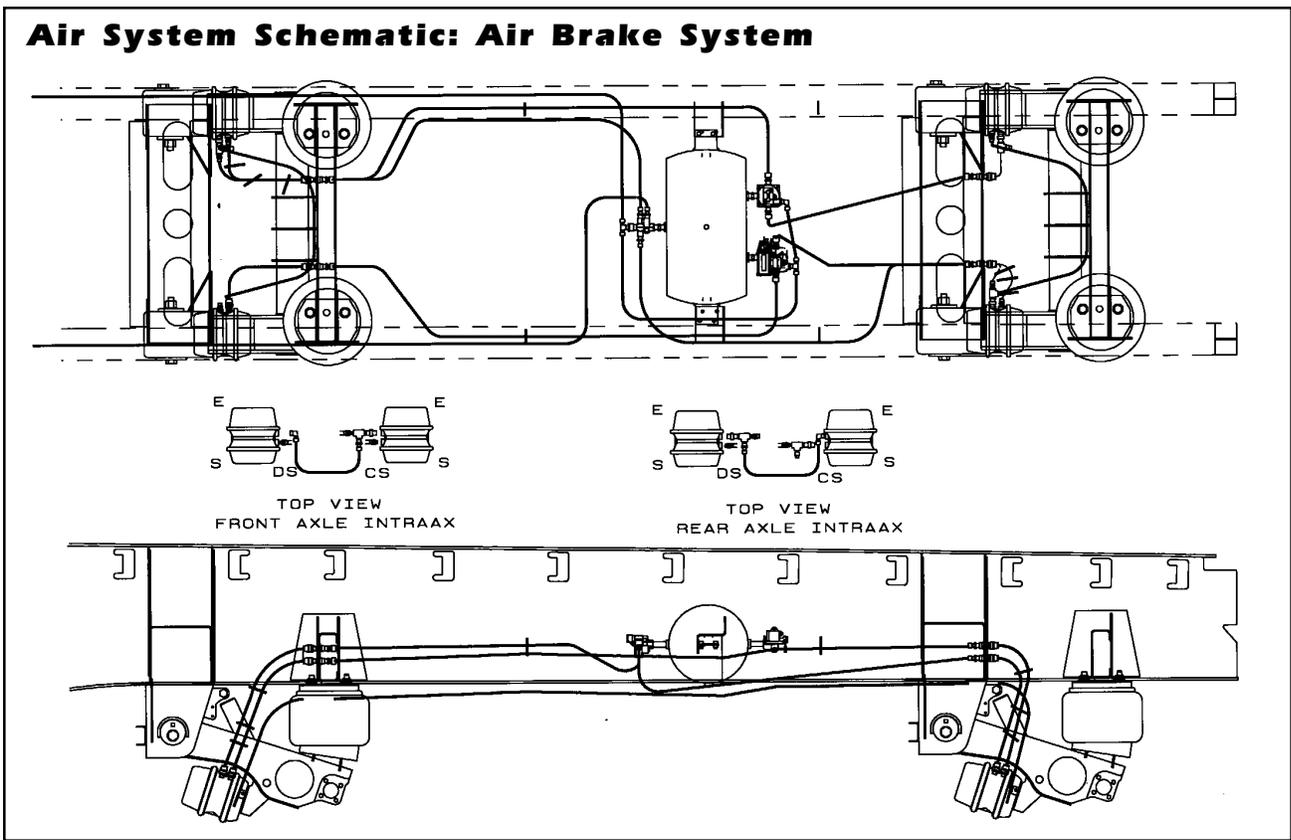
(Rev. 04-11)

# PNEUMATIC SYSTEM

## Air System Schematic: Air Ride Suspension



## Air System Schematic: Air Brake System



# LANDING GEAR

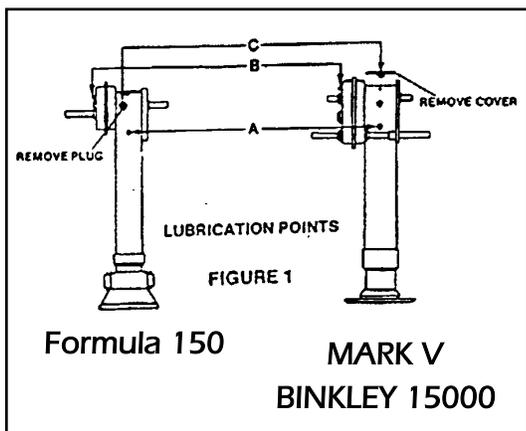
## Landing Gear



Holland-Binkley 51000 landing gear is standard on most trailers. All landing gear require periodic maintenance. Although your landing gear was adequately greased and packed with high quality lubricants when manufactured, it will be necessary to periodically supplement this lubrication to maintain satisfactory performance. Re-lubrication should be part of your preventive maintenance program and should be done semiannually or more often, if required. (Rev. 1-02)

### **Lubricate as follows:**

1. With the landing gear legs fully retracted lube each leg through grease fitting(s) provided (Item A).
2. Lubricate the gearbox, using the grease fitting provided (Item B).
3. Lubricate the bevel gearbox by removing the bevel gearbox cover for the MARK V and Binkley 51000, or the plastic plug on the FORMULA 150 (Item C).



### For **MODERATE TEMPERATURE**

**OPERATIONS** (20<sup>0</sup>F to 150<sup>0</sup>F), the following lubricates are recommended.

1. Union Oil Company-UNOBA Moly HD#5467
2. Solene Lubricants, Inc. S1054
3. Fiske Bros.-Lubriplate Art. & Mil.
4. Mobil Grease - Rex - #K-170
5. Shell EP-2 Alvania

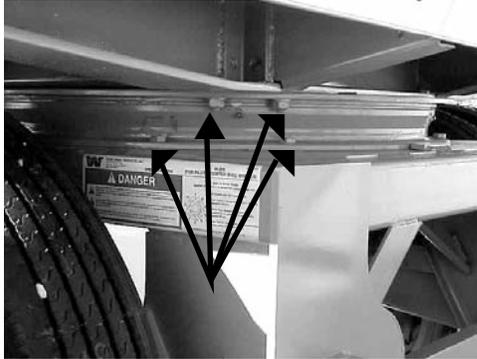
### For **LOW TEMPERATURE OPERATIONS**

(operations where the trailer may be located in -50<sup>0</sup>F to +20<sup>0</sup>F for extended periods of time), a low temperature grease is recommended. Holland recommends Fiske Bros. Lubriplate Art. & Mil.

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

# PULL TRAILER DOLLY OPERATIONS

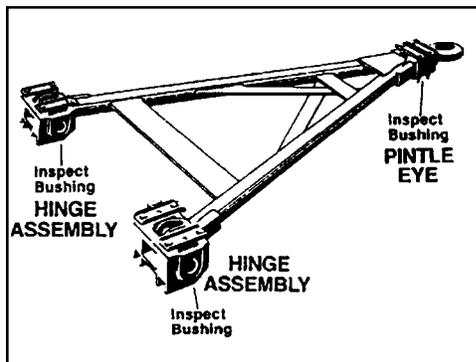
## Pull Trailer Dolly Connections



Dollies are designed for heavy duty service with a minimum of servicing. Check all bolts and fasteners for proper tightness.

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

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



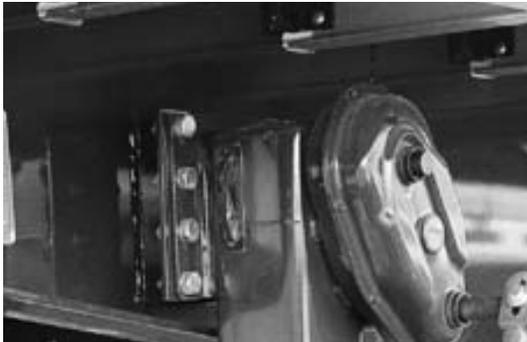
The pintle hook and two hinge assemblies should be checked monthly. This can be done by applying the brakes on the Pull trailer and attempting to move the front unit forward while a second individual visually checks for any abnormal end play both at the pintle eye and hinge bushings.

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

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

## GENERAL MAINTENANCE

### Fasteners



A variety of fasteners are used in assembling flatbed trailers. All fasteners are zinc plated to reduce corrosion.

#### **IMPORTANT**

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

Permanent fasteners (for example, Huck bolts and pop-rivets) require no tightening or adjustment over the life of the trailer. These fasteners should be inspected regularly for corrosion and looseness. If any permanent fasteners are found to be loose or missing, they must be replaced immediately. Corroded fasteners should be replaced.

#### **IMPORTANT**

**Permanent fasteners such as Huck bolts have specific properties that cannot be duplicated by threaded fasteners and nuts.**

**Do not use threaded fasteners as replacements for permanent fasteners.**

**Always use identical parts when replacing fasteners.**

Threaded fasteners are used in a variety of locations throughout the trailer and require occasional inspection to ensure that proper tightness is maintained and the components they retain are securely fastened to the trailer. All threaded fasteners should be inspected at least two times each year for tightness and corrosion.

#### **NOTE**

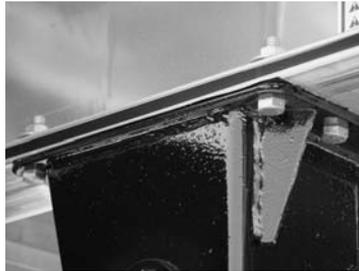
**See specific cautions and instructions for threaded fasteners on all aluminum trailers below.**

# GENERAL MAINTENANCE

## Fasteners in All Aluminum Trailers



Threaded fasteners play an especially important role in securing components on all aluminum trailers and should be inspected for proper tightness using a torque wrench after the first week and first month of operation (or approximately 2000 miles and 8000 miles, respectively), then two times a year thereafter.



### IMPORTANT

- If loose fasteners are found at any time, they must be retightened immediately to the torque values listed below and the fasteners should be inspected more frequently until they remain tight.
- If any fastener is repeatedly found to be loose and must be retightened at two consecutive inspections, that fastener must be replaced.
- If two or more adjacent fasteners are found to be loose in two consecutive inspections, replace those fasteners and one additional fastener on each side of the loose fasteners. If 50% or more of the fasteners retaining any component are found to be loose in two consecutive inspections, replace all the fasteners securing that component.
- When replacing fasteners, use only fasteners of equivalent or higher strength.

### BOLT TORQUE CHECK

Check all bolts for proper torque at least every six months.

5/8-11 NC ..... 108 to 114 ft.lbs.

1/2-13 NC ..... 58 to 63 ft.lbs.

W/TIC 3-02 A-6891-DD

## Bolt size and torques on Aluminum Trailers

<u>Bolt size and grade</u>	<u>Torque</u>	<u>Component</u>
1/2 -13 x 2 1/2 Countersunk, Gr. 8	58 to 63 ft.-lb.	King pin to king pin plate; Air bag top plate to main beam
5/8-11 x 2 1/2, Gr. 8, cap screws	108 to 114 ft.-lb.	Suspension to main frame*
5/8-11NC x 3, Countersunk, Gr. 8	108 to 114 ft. lb.	King pin plate to main beams and cross structure; Bottom flange splice on drop deck*

\* May be 1-5/8" huck fasteners on newer trailers.

(Rev. 4-06)

# GENERAL MAINTENANCE

## Floors



The floors on Wilson flatbed trailers are designed for long life with minimal maintenance. To maximize floor life and performance do not exceed floor ratings and check the following items regularly:

### Floor screws

Wilson uses 5/16 Gr. 8 pan head screws in all floors. Periodically check all floor screws for tightness. If loose screws are found, tighten by hand to 11-13 ft.-lb. of torque. Replace broken floor screws immediately.



### **NOTE**

**Some trailers are equipped with stub cross bars (floor sills) between the normal cross bars. Wilson Trailer does not fasten floor boards to the stub cross bars.**

### Aluminum floors:

Inspect the floor planks for denting and other damage. Replace floor planks as needed.



### Laminated wood floors (Transdeck, etc.)

Inspect top and bottom floor surfaces for damage to the outer laminate layers. Holes or gouges may be repaired with common body putty. Replace broken panels.

### Wood floors (Apitong, pine, etc.)

Inspect floor boards for rotting, breakage, looseness around screws, and other damage. Replace boards as needed. Apply a sealer such as boiled linseed oil to the top surface of the floor at least twice each year, and more frequently, if required. Apply extra sealer to splices and board ends to minimize water intrusion.

### **NOTE**

**Careful maintenance of wood floors will maximize their useful life. However, even well maintained wood floors must be replaced at some point. Inspect the floor boards carefully and replace with good quality lumber as needed.**

## **GENERAL MAINTENANCE**

### **Trailer Washing**

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

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

### **Paint Care and Repair**

To maintain the finish of the steel components of the trailer and to reduce the possibility of rust and corrosion damage, it is important to wash the trailer regularly and repair areas of damaged paint promptly.

The following are the procedures for paint touch up or repair on a trailer equipped with Sherwin Williams LOW VOC SUNFIRE paint products. These procedures use Sherwin Williams materials and have been specified by Sherwin Williams for repair of their paint. All repairs will be done with custom mixed aerosol spray cans. These products are available through the WTS Parts Department, or may be purchased from a local Sherwin Williams supply store.

Trailers equipped with Sherwin Williams paint can be identified by "4WW" as the first three digits of the VIN and by the number "6" as the twelfth (12) digit.

Example: 4WWxxxxxxx600001

Sherwin Williams stock numbers of products used for repair:

W4K157	Aqua Mate Low Voc Cleaner (in ga cans)
G2P162	Weldable Etch Primer (spray can)
G2A141	Jet Seal Primer (spray can)
G2C158	Blending Clear (spray can)
7447	Scotch Brite Pad

## **GENERAL MAINTENANCE**

### **Paint Care and Repair**

#### **Paint Repair Procedure**

1. Wash damaged area with water and wipe dry.
2. Wash and wipe dry with W4K157 cleaner.
3. Featheredge the damaged paint area with a D-A or hand sand. Final sand with 320 grit, by hand.
4. Scotch Brite with #7447 approximately 3 to 6 inches in diameter around the damaged area for the blend.
5. Spray the bare metal area and 1 to 2 inches in diameter around the damaged area with G2P162 Weldable Etch Primer (spray can).
6. Let primer flash until dull finish shows, approximately 5 minutes.
7. Spray the same area with G2A141 Jet Seal Primer (spray can).
8. Let primer flash until dull finish shows, approximately 5 minutes.
9. Spray entire damaged area with the custom color spray can. Apply approximately two coats as needed. Give a small amount of flash time between the color coats.
10. Spray the edge of the repair with G2C158 Blending Clear.

# GENERAL MAINTENANCE

## King Pin Inspection and Maintenance

<b>⚠ WARNING</b>	
1 	1. Check the King Pin to assure that it is properly engaged with the Fifth Wheel.
2 	2. Keep the Upper Coupler lubricated and free of debris to prevent galling of the Fifth Wheel Plate.
3 	3. Inspect the King Pin and the Plate Assembly regularly for wear and cracks.
4 	4. Failure to follow this warning may result in equipment damage or personal injury.

9-90 A-6891-AS

### **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.

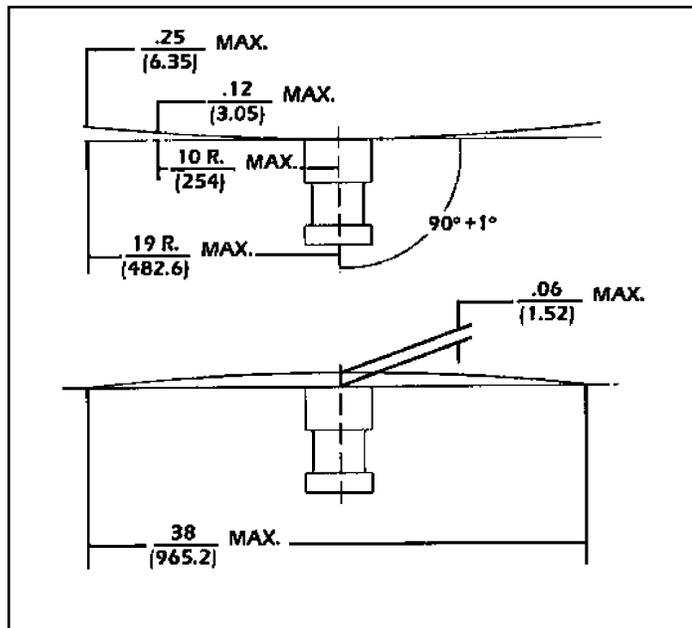
# GENERAL MAINTENANCE

## 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**



## 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 investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Wilson Trailer Company.

To contact NHTSA, 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 flatbed representative on a regular basis.

## CONSUMER INFORMATION

### Customer Assistance

When it comes to service, repair and parts, remember that your Wilson Trailer Company authorized 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 representative nearest you, call us at 800-798-2002 and ask for Dealer Information Services.

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

## CONSUMER INFORMATION

### Certificate of Limited Warranty



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

### Warranty Coverage

Wilson Trailer Company will repair or replace, at its option, any factory-installed part that is defective in material or factory workmanship under normal use, maintenance and service. Normal use excludes any operation in excess of 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 as it appears on the following page. Any repaired or replaced parts are covered only for the remainder of this warranty. All parts replaced under this warranty become the property of Wilson Trailer Company.

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

### Non-coverage Items

This warranty does not cover the following items:

Tires.

Axles, wheels, tires, suspension, trailer frame and other components and structure damaged through the use of single axle dump valves.

Non-standard features or items specified by the purchaser.

Parts that fail due to lack of required maintenance or use of non-equivalent parts.

Normal wear or deterioration on any part.

Any trailer normally driven outside the United States or Canada.

The replacement of expendable maintenance items when the replacement is not due to a defect in material or factory workmanship.

## CONSUMER INFORMATION

### Certificate of Limited Warranty

#### To Get Warranty Service

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

#### Owner's Responsibility

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

#### Limitations and Disclaimers

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

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

**Wilson Trailer Sales, Inc.**

Serial Number \_\_\_\_\_  
G.V.W. Rating \_\_\_\_\_  
Purchased By \_\_\_\_\_  
Date In Service \_\_\_\_\_  
Selling Dealer \_\_\_\_\_

By \_\_\_\_\_

  
(Authorized Signature)

## CONSUMER INFORMATION

### Extended Warranty Schedule

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

% Allowable to owner (from date in service to original purchaser) for Material and Labor excluding component parts and accessories.	<u>Vendor Items</u>			<u>Main Frame Rails</u>
		Suspensions Axles Hubs and Drums Bearings and Races Oil Seals Wheels Tires Lights and Wiring Harness Air Brake Valves and ABS Components Axle Springs Landing Gear Assemblies Lift Axle Controls	Outside Rails Metal Crossmembers King Pin Assembly Aluminum Flooring	Air Lines and Fittings Paint on Steel Components Wood Flooring Tool Boxes
%	MONTHS	MONTHS	MONTHS	MONTHS
100	Use Vendor's Warranty Schedule	1 - 24	1 - 12	1 - 60
0		Over 24	Over 12	Over 60

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

(Rev. 11-12)

**WILSON TRAILER SALES, INC.**

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