TIMPTE
Bulk Commodity Trailer
ROUGHNECK

OPERATOR'S MANUAL

TIMPTE

Serving the transportation industry since 1884.

TIMPTE, INC.
100 Timpte Parkway
David City, NE 68632
402-367-3056

8/23/2020 9:45:57 AM

If you believe that this vehicle contains a safety defect you may contact Timpte Trailer Company, the National Highway Traffic Safety Administration (NHTSA) or both.

The trailer was designed and inspected to conform to industry standards and all applicable NHTSA safety standards. Timpte Trailer Co. warrants this vehicle to be free from defects in materials and workmanship when manufactured per the limited warranty agreement. If you detect a defect that could cause an accident or could cause an injury or death; or if you wish to report any such accident, injury or death, or any property damage claim or other complaint not addressed to the Timpte Trailer Warranty Department, then you should contact in writing:

Timpte Trailer Co.
Vice President of Engineering
100 Timpte Parkway
David City, NE 68632
Phone: 402-367-3056
Fax: 402-367-4340

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 Timpte Trailer Co.

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 Timpte Trailer Co.

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

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IMPORTANT

This manual has been prepared to help you operate your new Roughneck trailer successfully, economically, and safely. Please read your Operator's Manual carefully and have a full understanding prior to using your trailer or performing any maintenance. We urge you to contact your Timpte, Inc. factory representative or the Vice President of Engineering at Timpte (402-367-3056) immediately should you have any questions or need an explanation.

Timpte has provided several warnings in your Operator's Manual and on your trailer to help prevent personal injury. Timpte can not foresee all use or misuse of the trailer. Always use common sense judgment while using or performing maintenance to your trailer. Your safety is our primary concern.

This safety alert symbol is used throughout this manual to indicate potential personal safety hazards. Failure to heed the warnings associated with the safety alert symbol can result in property damage, serious injury or death.

Safety decals appear at various locations on your new Roughneck trailer. The decals are provided for your safety and should be kept clean. Replace any decal that has become worn or damaged, painted over, or otherwise difficult to read.

Information contained in this Operator's Manual is based on the latest information available at the time of publication. Changes are continually being made to improve our product lines.

We want to thank you for purchasing a Timpte trailer and to let you know that it was built for long life and low cost of operation. However, regular and proper maintenance of the trailer and your common sense use of it are required to extend the life of the trailer.

NORMAL TRAILER OPERATION

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

“Normal Service” means the loading and transportation of uniformly distributed loads of properly secured, noncorrosive cargo, in accordance with any applicable factory instructions and in a manner which does not subject the trailer or parts of the trailer to (a) concentrated loads; (b) loads in excess of the Gross Axle Weight Rating (GAWR) or Gross Vehicle Weight Rating (GVWR) stated on the Certification Plate affixed to the trailer by Timpte; and (c) accidental damage, or (d) stresses, impacts or shocks greater than those commensurate with normal, reasonable lawful use.

The GAWR (gross axle weight rating) is the structural capability of the lowest rated member of the running gear components: suspension system, hubs, brake drums, wheels, bearings, axles, brake linings 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.

NOTICE:

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

Modification of the 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. Any modification made to the trailer without prior approval of Timpte may void the warranty. Any operation of the trailer outside the limitations stated in this manual will void any responsibility of Timpte, Inc. for any of its results.

SAFETY

WARNING

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.

The following section contains the decals and emblems used on the Timpte Hopper Trailers. Due to differences in configurations and equipment, your trailer may or may not use all the decals and emblems shown. Newer trailers may also have decals and emblems that differ from older trailers. Replace damaged or missing decals promptly. Replacement decals for this trailer are available without charge by calling Timpte, Inc. at 402-367-3056.

WARNING

THIS TRAILER IS EQUIPPED WITH TRAILING BEAM AIR RIDE SUSPENSION.

1. MANUALLY EXHAUST ALL AIR IN THE SUSPENSION SYSTEM PRIOR TO SUPPORTING A LOADED TRAILER ON THE SUPPORT LEGS. FAILURE TO COMPLY CAN CAUSE STRUCTURAL DAMAGE TO THE SUPPORT LEG BRACES.
2. DO NOT USE EXCESSIVE FORCE WHEN COUPLING THE TRACTOR TO THE TRAILER (EMPTY OR LOADED) CONTINUING TO BACK-UP A TRACTOR/TRAILER WITH THE TRAILER BRAKES LOCKED CAN ROTATE THE TRAILING BEAMS AND OVEREXTEND THE SUSPENSION. OVEREXTENSION WILL CAUSE DAMAGE TO THE SUSPENSION SYSTEM.
3. MANUALLY EXHAUST ALL AIR IN THE SUSPENSION SYSTEM PRIOR TO AND DURING UNLOADING THE TRAILER. AFTER UNLOADING THE TRAILER, IMMEDIATELY ACTUATE THE AIR AND WAIT FOR THE SUSPENSION TO RETURN TO THE NORMAL RIDE HEIGHT BEFORE MOVING THE VEHICLE.

WARNING

– DO NOT ATTEMPT TO WALK ON TOP RAILS, THEY ARE NOT AN APPROVED WALKWAY
– FAILURE TO COMPLY CAN CAUSE SERIOUS INJURY OR DEATH

WARNING

USE KNOCK RAILS TO DISLODGE COMMODITY, POUNDING ON SLOPE SHEETS VOIDS WARRANTY.

TIMPTE P/N 035-03082

California Proposition 65 Warning Label For Trailer

WARNING

This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer, birth defects or other reproductive harm.

For more information go to: www.P65Warnings.ca.gov

WARNING

1. CHECK KING PIN TO ASSURE THAT IT IS PROPERLY ENGAGED WITH FIFTH WHEEL.
2. KEEP THE UPPER COUPLER LUBRICATED AND FREE OF DEBRIS TO PREVENT GALLING OF THE FIFTH WHEEL PLATE.
3. INSPECT THE KING PIN AND THE PLATE ASSEMBLY DAILY FOR WEAR AND CRACKS.

FAILURE TO FOLLOW THESE WARNINGS COULD RESULT IN SERIOUS INJURY OR DEATH

WARNING

FAILURE TO USE PROPERLY MATCHED WHEELS, STUDS, BRAKE DRUMS OR CAP NUTS WILL RESULT IN EQUIPMENT DAMAGE AND COULD RESULT IN SERIOUS INJURY OR DEATH IF WHEEL COMES OFF.

WARNING

CHECK WHEEL NUTS AFTER INITIAL 50 TO 100 MILES OF SERVICE. SEE OWNERS MANUAL FOR CORRECT TORQUE REQUIREMENTS. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS INJURY OR DEATH.

DANGER

IF SPRING BRAKES ARE CAGED, DEACTIVATED OR REMOVED, THIS VEHICLE WILL HAVE NO EMERGENCY PARKING BRAKES AND MUST NOT BE PARKED WITHOUT BLOCKING WHEELS OR DRIVEN.

NEVER STAND BETWEEN THE BACK OF THE TRAILER AND ANY STATIONARY OBJECT.

FAILURE TO FOLLOW THIS SAFETY PRECAUITON WILL RESULT IN DEATH OR SERIOUS INJURY

THIS PRODUCT IS PROTECTED BY US AND FOREIGN PATENTS AND TRADEMARKS INCLUDING:

PATENT # 6,736,297 B2 8,371,657 B2
6,814,532 B1 9,669,752 B2

REGISTRATION # 1,411,224 5,594,876 5,605,488
5,585,034 5,605,487 5,594,879

WARNING

NEVER CLIMB INSIDE THE HOPPER COMPARTMENT!

FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS INJURY OR DEATH.

⚠ WARNING

THIS TRAILER IS EQUIPPED WITH ANTILOCK BRAKE SYSTEM (ABS).

D.O.T. REGULATION FMVSS-121 REQUIRE ABS RECEIVE CONSTANT POWER FROM THE CENTER AUXILIARY PIN ON THE 7-WAY CONNECTOR.

INSPECT YOUR TRACTOR! TRACTOR MUST SUPPLY CONTANT POWER FOR THE ABS ON THE CENTER AUXILIARY PIN WHEN THE KEY SWITCH IS ON. DEACTIVATE ANY SWITCH IN THE TRACTOR THAT WILL TURN THE AUXILIARY POWER OFF (MUST SUPPLY CONSTANT POWER).

DO NOT MODIFY THE TRAILER ELECTRICAL SYSTEM TO POWER OPTIONAL EQUIPMENT OFF THE AUXILIARY CIRCUIT. FEDERAL LAW MANDATES THIS CIRCUIT IS DEDICATED FOR ABS ONLY.

CONTACT TIMPTE ENGINEERING IF YOU HAVE ANY QUESTIONS ABOUT YOUR PRESENT WIRING OR HOW TO REWIRE FOR AUXILIARY EQUIPMENT.

FAILURE TO FOLLOW THESE WARNINGS COULD RESULT IN SERIOUS INJURY OR DEATH.

CAUTION

DO NOT ATTEMPT TO HOIST TRAILER AT THIS FRAME STRUCTURE.

P/N 035-27163

⚠ CAUTION

NEW 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!

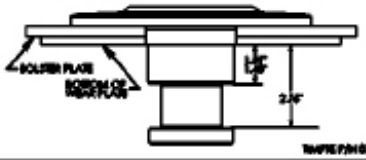
COMPRESSOR CUT-IN PRESSURE, ADJUST TO 105 PSI CUT-IN GOVERNOR

P/N 035-29182

⚠ CAUTION

TO INSURE PROPER TRACTOR TO TRAILER COUPLING, THE PROPER LENGTH OF KINGPIN MUST BE MAINTAINED PER SAE J2228.

- THE POLY WEAR PLATE INSTALLED ON THIS TRAILER MUST BE MAINTAINED AND AS IT WEARS, YOU MUST PERIODICALLY CHECK KINGPIN LENGTH AND REPLACE THE WEAR PLATE AS REQUIRED BY THE STANDARD.
- NEVER OPERATE THIS TRAILER WITHOUT A PROPER THICKNESS WEAR PLATE IN PLACE.



THUNDER ELECTRIC TARP SYSTEM, MANUAL OPERATION

1. Remove the motor shaft drive bolt and nut assembly that runs through the roll tube at the nose of the trailer. (FIG A.)
2. Remove the manual tarp crank handle from the retainer clips.
3. Slide the tarp crank handle universal joint onto the roll tube spline shaft until it is fully engaged and locked in place. Insert loxall pin to retain crank handle in place. (FIG B.)
4. Use the manual crank handle to open and close the tarp.
5. Follow the instructions that are on the decal at the rear of the trailer.
6. Replace the motor shaft drive bolt and nut assembly before moving the trailer to prevent the front arm from pivoting down and causing injuries while traveling.
7. After system is repaired remove the manual crank handle and place it in the retainer clips for storage.

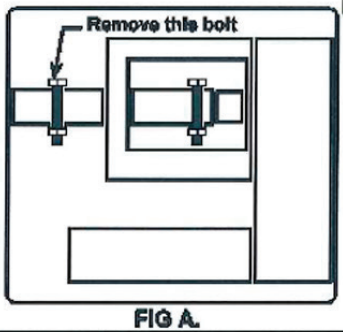


FIG A.

⚠ CAUTION:

The front and rear arms are spring loaded and can shift when bolts are removed.

Use an OSHA approved work platform when performing any maintenance on the motor or arms.

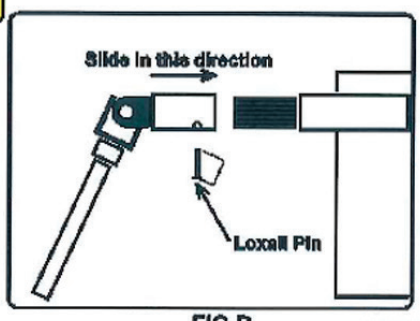


FIG B.

AIR BRAKE SYSTEM

Your new Timpte trailer is equipped with an air brake system which meets or exceeds the requirements of the federal regulation FMVSS-121 for grade-holding ability and emergency stopping in the event of an air supply failure in the service brake system. Air pressure is required to release the parking/emergency brake. As of 10/8/92-FMVSS 121 requires that the supply line for the air brake system be protected to 70 psi. This pressure level requires that supply line pressure levels are achieved before the pressure protection valve opens (opening pressure must be higher than the closing pressure by design).

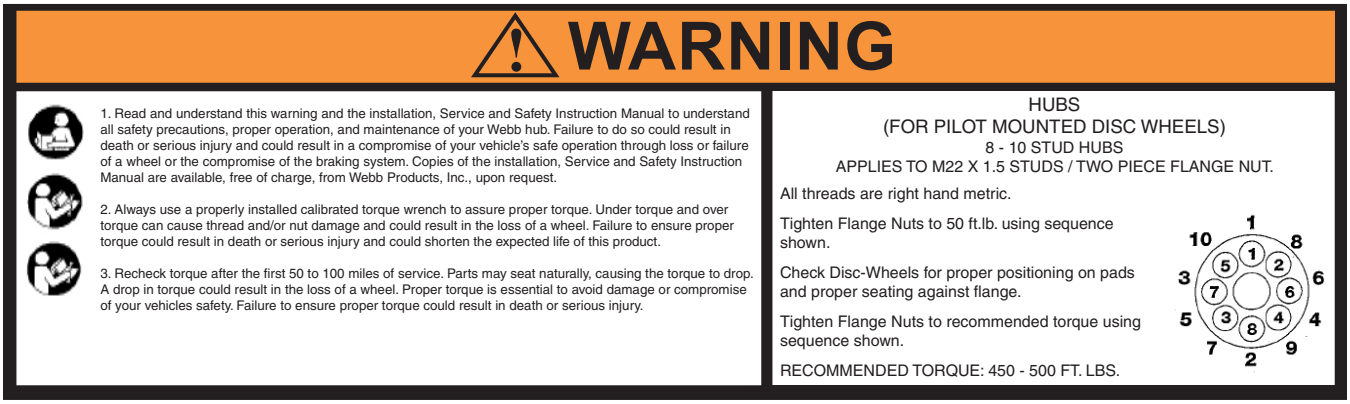
Keeping your compressor cut-in pressure at maximum levels (over 100 psi) is a clear advantage for peak operation of your entire system, we recommend using a 105 psi cut-in governor setting. Governor cut-out pressure should be at 120 psi minimum. Low compressor cut-in pressure may result in poor performance of the system, for example slow parking brake release time.

Should you still have a problem with your brake system after working through all of the inspection items and tests listed in this manual's maintenance section, contact your Timpte factory representative.

WHEEL NUT TORQUE

Proper torquing and retorquing the wheel nuts are critical to prevent the loss of wheel equipment. Wheel nuts should be torqued to 450 to 500 ft. lbs. (dry). Refer to the manufacturer's decal on the side of the trailer or manufacturer's maintenance information supplied with the trailer for proper torque specifications and tightening sequence.

Wheels must be checked and retorqued after the first 50 to 100 miles of use. This is important every time you change a wheel. Check the fastener torque on a regular on-going basis.



ABS BRAKING SYSTEM

As of 3/1/98 all trailers manufactured with air braking systems are required to have an ABS (Anti-Lock Braking System).

The system used on your trailer meets or exceeds the FMVSS 121 requirement for ABS. The ABS system on your Roughneck trailer is a 4S/2M system (4 wheel sensors - 2 modulator valves) or a 2S/1M (2 wheel sensors - 1 modulator valve). The intended purpose of ABS is to help maintain control and reduce the likelihood of jackknife situations.

The ABS status indicator light is located on the driver side of the trailer near the rear corner post. It indicates the system status upon initial startup by turning on and then turning off once the vehicle begins to move. If a malfunction in the ABS system occurs, the ABS system status light will come on and stay on until the problem is repaired. Anytime the system status light comes on and stays on, have the ABS system serviced as soon as possible.

WARNING! ABS (Anti-Lock Braking System) is a safety item and must be properly maintained. To operate an ABS equipped truck and trailer properly, during braking-constant pedal force must be applied. All ABS systems require clean, dry air to operate properly. Use of airline deicers or leakage of oil into the air system may diminish the performance of the system and will void the warranty.

You, the operator, have the Greatest Control over Safe Operation.

1. You, the operator, have control of the most important factors that affect safe trailer operation and vehicle stability. Trailers are a tool and, like any tool, are safe only when properly used by a conscientious, trained and qualified operator.
2. The fifth wheel should be securely mounted to the tractor frame and proper connection between the tractor and trailer verified.
3. The driver should be familiar with the characteristics of the particular trailer and of the load to be transported.
4. The driver should be familiar with the nature of the roads and traffic which may be encountered during the trip.
5. Stability – **Caution - like any other vehicle, 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 load 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 rollover accidents are:
    a. Excessive speed
    b. Violent swerving or turning
    c. Application of brakes or tractor power while turning.
    d. Entering curves at too high a speed
7. Tire Characteristics: High pressure truck/trailer tires have different characteristics under high speed cornering conditions than do passenger car tires. Truck/trailer tires are designed for carrying high loads over long distances. Their lateral stability becomes unpredictable when lateral forces approach .04g. 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 re-established.

⚠ WARNING

TO INSURE PROPER ENGAGEMENT OF THE KINGPIN TO THE FIFTH WHEEL COUPLER, THE KINGPIN MUST BE MAINTAINED WITHIN RECOMMENDED SAE STANDARDS. ***FAILURE TO DO SO COULD CAUSE SERIOUS INJURY OR DEATH.***

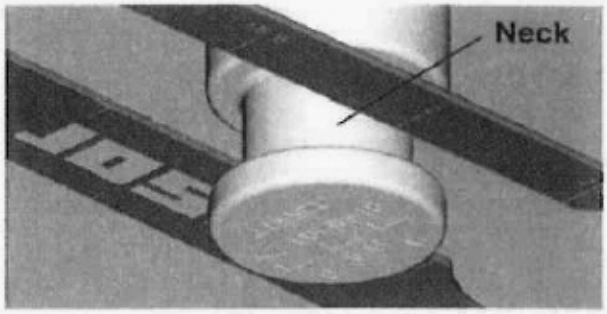


FIGURE 1

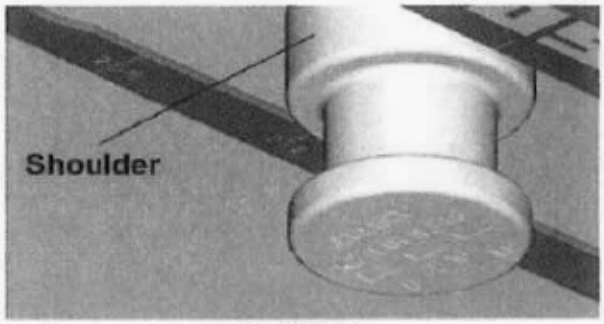


FIGURE 2

TRAILER KINGPIN WEAR

Per Recommended SAE Standards, check kingpin for wear across the pin neck and also the pin shoulder. In accordance with industry standards, Timpte recommends that the kingpin and its mounting structure be inspected for wear and damage on a daily basis.

1. Measure the neck - 2”
   - A. Insert the head of the kingpin through the large opening of the small slot. Locate the gage between the shoulder and the head of the kingpin.
   - B. Slide the gage toward the small end. The number stamped on the gage at the center of the kingpin indicates the dimension (see figure 1).
   - C. The kingpin should be replaced when, at any orientation, the neck OD measures 1 7/8” diameter.

2. Measure the shoulder - 2-7/8”
   - A. Repeat the above procedure using the large slot on the shoulder of the kingpin (see figure 2).
   - B. The kingpin should be replaced when, at any orientation, the shoulder OD measures 2 ¾” diameter.

TRAILER KINGPIN TO COUPLER INTERFACE INSPECTION CRITERIA

3. Measure the kingpin length
   The kingpin is the proper length if the “MAX” end engages and the “MIN” end does not engage as shown below.

   Important: Be sure to hold the gage edge flat to the upper coupler. Check both the “MAX” end and the “MIN” end as shown in figures 3 and 4.

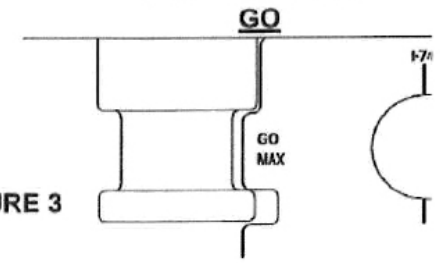


FIGURE 3

THE “MAX” END SHOULD ALWAYS ENGAGE THE KINGPIN.

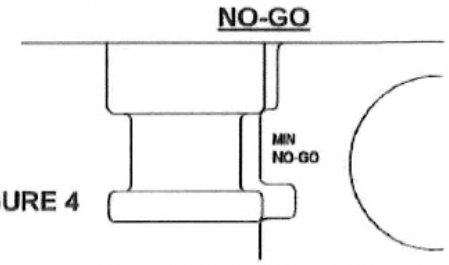


FIGURE 4

THE “MIN” END SHOULD *NEVER* ENGAGE THE KINGPIN.

Reference SAE J2228 standard for kingpin wear
Reference SAE J700 standard for upper coupler to kingpin interface

Inspection Procedures Before Each 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.

NOTICE:

It is the Operator's responsibility to conduct a safe and accurate pre-trip inspection of the vehicle. Per Federal Motor Carrier Statute 49 CFR 392.7 Equipment, Inspection and Use - No motor vehicle shall be driven unless the driver thereof shall have satisfied himself that the following parts and accessories are in good working order, nor shall any driver fail to use or make use of such parts and accessories when and as needed

- **Service Brake, including trailer brake connections**
- **Parking Brake**
- **Steering Mechanism**
- **Lighting devices and reflectors**
- **Tires/Tire Pressure**
- **Horn**
- **Windshield Wiper or wipers**
- **Rear-vision mirror or mirrors**
- **Coupling devices**
- **Hoses and Airlines**
- **Fifth Wheel Plate**
- **Gladhand Connections**
- **Hub Maintenance**
- **Mud Flaps**
- **RIG (Rear Underride Guard)**

Additional Federal Requirements for the Operator can be found in the Federal Motor Carrier Safety Regulations (FMCSR's) in the Code of Federal Regulations (CFR) Title 49 Parts 392, 393 and 396. These can be found on-line at http://www.access.gpo.gov/nara/ then scroll down to (CFR Sections by Citation).

Failure to regularly inspect the trailer may also void the warranty.

While it is ultimately the operator's responsibility to properly perform and document the pre-trip inspection, Timpte provides the following recommendations and suggestions.

LIGHTS AND REFLECTORS

The surfaces of the lights and reflectors need to be checked and cleaned. Inspect all lights to see if they are working and check all brake and signal functions.

ELECTRICAL WIRING

Inspect all visible wiring to see that it is not frayed and is properly supported and protected, and that all connections are tight. Inspect the electrical hookup for a clean and secure connection.

FIFTH WHEEL AND KINGPIN ENGAGEMENT

Inspect the kingpin and its structure on the trailer for damage or unusual wear. After hook up, make a direct visual inspection to assure proper coupling, then check for positive engagement of the lower fifth wheel and kingpin. Apply the trailer brakes and attempt to move the tractor forward to insure that the fifth wheel and kingpin are positively locked.

CAUTION! Plastic Kingpin Liners (Lube Plate) cannot be installed onto Timpte Trailer upper coupler/kingpin assemblies unless the trailer was purchased with that specification. A lube plate changes the kingpin interface dimensions relative to the fifth wheel lock. This may result in coupling difficulties, premature lock wear, and a potential for a dropped trailer.

TIRES

WARNING! DO NOT OVERLOAD! 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 treads or between dual tires.

MUD FLAPS

Be sure the mud flaps are securely in place and in good condition.

TARP SYSTEM

Check to be sure the tarp is in serviceable condition. Insure that the latching system is in good working order and that the tarp is properly secured for travel to prevent being blown about by the wind.

LANDING GEAR

Always raise the landing gear legs completely before moving the trailer. Make sure that the crank handle is properly secured. Prior to trailer transport, lock landing legs into low side gear ratio.

SOLID TOP/ROOF

Check to be sure roof panels are sound and secure, with no visible loose or missing fasteners. Inspect hatch door for smooth operation. Insure there is no binding or catching during operation. Be sure hydraulic lines routed on roof are secure. Lastly, check vents on front and rear roof caps that they are not clogged or obstructed.

HUB MAINTENANCE

Check wheel studs for good condition – no stripped threads – no bent or loose studs. Replace any broken or bent studs or studs with damaged threads. When a broken stud is replaced, the stud on each side of it should be replaced at the same time. If more than two studs on the same hub are broken, replace all of the studs.

WHEELS AND RIMS

Check all wheel nuts for tightness. Wheel flange nuts should be torqued to 450 to 500 ft. lbs (dry).

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

Look for:

- **Excessive rust or corrosion build-up**
- **Cracks in the metal**
- **Bent flanges or components**
- **Loose, missing, or damaged nuts**
- **Bent or stripped studs.**
- **Incorrectly matched rim parts**

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

HUB LUBRICANT

Check and maintain proper level of lubricant in hubs.

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

Hubs equipped with synthetic grease will retain the grease between the bearings and no lubricant visual check is possible. Trailers equipped with this option will not have a clear hub window or a fill plug.

Do not add oil to hubs equipped with synthetic grease lubricant. If mixing of lubricants occurs, remove the lubricant and re-install the proper lubricant as soon as possible.

NOTE: Hub cap mounting bolts (6) torque 10 to 15 ft. -lbs torque per bolt.

SIDE STRUCTURES

Check the trailer sides for inconspicuous damage to the top and bottom rails as well as the side structure – cracks, contusions, sharp bends, ripples, or missing fasteners. Any problems observed in the side structure should be corrected immediately to prevent the damage from extending further. Unrepaired damage could affect the safe load carrying capacity of the side structure.

SUSPENSION AND SUSPENSION SUBFRAME

Check the suspension and suspension subframe structure for damage or unusual wear. Any type of damage, cracks in the welds or structural members or loose fasteners need to be addressed immediately. Check spring suspensions for free movement of equalizer, condition of bushings, torque of fasteners and for any type of cracking or damage to the spring leafs. Check air ride suspensions for condition of bushings, air leaks, condition of shock absorbers, fastener torque, proper operation of ride height leveling valve and for proper inflation of the air springs.

NOTE: Never move an air ride trailer without first fully inflating the air springs – failure to do so could cause damage to the trailer and suspension and will void the warranty.

OPERATING INSTRUCTIONS

PARKING/EMERGENCY BRAKING SYSTEM

This portion of the air brake system makes provision for parking a 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. In addition to the normal release of spring brakes using air, a built-in manual release is provided. It allows easy release of the spring brakes for relining the brakes or for moving the trailer in the absence of air pressure.

DANGER

MANUAL RELEASE OF THE PARKING BRAKE SHOULD ONLY BE USED TO MOVE THE TRAILER TO A SAFE LOCATION WHERE REPAIRS CAN BE PERFORMED. ALWAYS INSTALL WHEEL CHOCKS IN FRONT OF AND BEHIND TIRES BEFORE MANUALLY RELEASING SPRING BRAKES. FAILURE TO FOLLOW THIS SAFETY WARNING COULD RESULT IN DEATH OR SERIOUS INJURY.

WARNING

DO NOT ATTEMPT TO MOVE THE TRAILER UNTIL PARKING BRAKE IS FULLY RELEASED. FAILURE TO FOLLOW THIS SAFETY WARNING WILL RESULT IN EQUIPMENT DAMAGE AND COULD RESULT IN SERIOUS INJURY OR DEATH.

WARNING

NEVER ATTEMPT TO USE THE TRAILER FOR THE MAJORITY OF THE BRAKING EFFORT BY BACKING OFF THE TRACTOR BRAKES. THIS IS ILLEGAL, UNSAFE, AND WILL CAUSE PREMATURE FAILURE OF THE TRAILER BRAKE SYSTEM. FAILURE TO FOLLOW THIS SAFETY WARNING COULD RESULT IN DEATH OR SERIOUS INJURY.

TRAILER LOADING

- Roll tarp to open position, or open solid top hatch door.
- Check trap door for closure.
- Position trailer to receive commodity.
- Set parking brake on the tractor prior to loading the commodity into the trailer.
- The trailer should be loaded evenly from front to rear, maintaining all state bridge laws.
  DO NOT Overload the trailer as this action could void the trailer warranty.
- Use the air system air gauge to determine legal load conditions. Calibrate the air gauge by comparing the gauge pressure to loaded trailer scale weight.
- The tarp bows, if present, can be swung to the side to facilitate loading as needed. Be sure to use a safe, approved walkway or scaffold to reach and manipulate bows.
- Balance the load.
- Roll the tarp closed or close the hatch door before proceeding to another location.

TRAILER UNLOADING

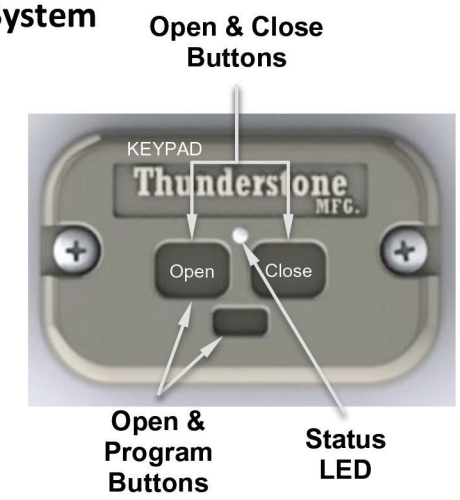
CAUTION! USE EXTREME CAUTION when attempting to dislodge commodity through the trap doors during the unloading process as this could result in serious personal injury or death.

- Position trailer at a point so commodity can be discharged properly and safely.
- Set parking brake on the tractor prior to discharging the commodity.
- Dump air bags (Air Ride only) prior to discharging commodity. **Failure to discharge air from air bags when unloading could cause damage due to over extension of the air bags and flexing of landing legs. This action could void the trailer warranty.**
- Confirm discharge point is clear of any pedestrians or obstructions.
- Open hopper trap door to begin discharging commodity. Always Use knockrails to assist with dislodging commodity.
- Confirm that all commodity has been discharged from the hopper.
- Close trap door prior to departing to your next destination.
- Roll the tarp closed or close solid top hatch before proceeding to another location.
- Inflate the air-ride suspension system prior to moving the trailer.

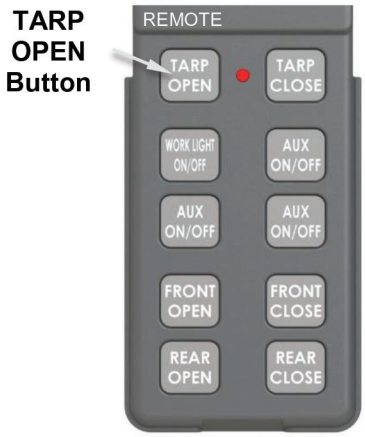
NOTE: Manual Tarp Systems are required to use the crank handle provided with the trailer to roll the tarp open and closed for loading and unloading the trailer. The crank handle is mounted at the rear of the trailer as a standard location for manually operated tarp systems.

NOTE: Timpte trailers are designed to transport free flowing commodity. Knockrail and pneumatic (air) hammer (vibrator) options are available to be installed to assist with unloading commodity, if needed. Speak with a Timpte Sales Representative with any question you may have with respect to knockrail and pneumatic (air) hammer options.

Programming Remote to work with the Thunder Electric Tarp System

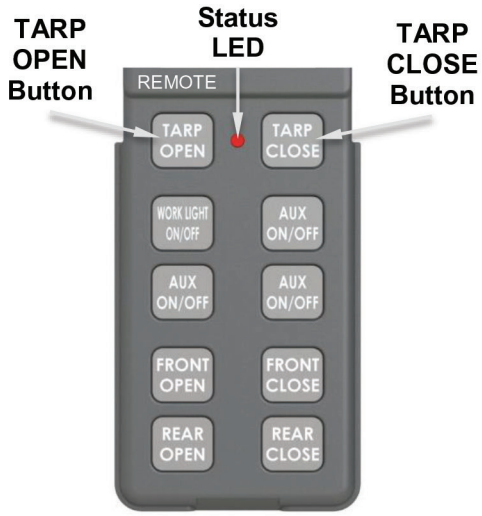


1. Power on the keypad controller on the front of the trailer by holding the "**Open"** and **"Close**" buttons on the keypad simultaneously for 5 seconds or until the white light illuminates to indicate the system is active.
2. Open the lid on the flip style remote and observe the buttons illuminate indicating the remote is active.
3. Repeat step 2 for each remote to be programmed. Up to four remotes can be programmed. Have all remotes ready for steps 4 & 5. Ignore if only one remote is to be programmed.
4. Press and hold the small **Program** & **"Open"** buttons on the keypad mounted on the trailer simultaneously until the light turns green. Release the buttons which will cause the status LED to quickly flash red/orange.
5. Press and hold the **"TARP OPEN"** button on the remote for 2 seconds OR until the red/orange flashing light momentarily turns white on the keypad, then release the button. Keypad light should then continue blinking red/orange.
6. Repeat step 6 for up to four remotes to be programmed. Ignore if only programming one remote.
7. Once all remotes are programmed press and release the program button to exit programming mode or keypad will also time-out after 10 seconds.
8. The keypad status LED should blink two sets of red indicating the remote(s) have been saved to memory.



Operating Remote with the Thunder Electric Tarp System

- **Powering on or off the electric tarp system.**
  - Open the lid on the remote and observe the buttons illuminate indicating the remote is active.
  - Press and hold the "**TARP OPEN**" and "**TARP CLOSE**" buttons simultaneously on the remote for 3-5 seconds or until the keypad status LED on the front of the trailer has illuminated.
  - Repeat the steps above to turn off the tarp system.
- **One Touch Operation** - *The one touch function is fully automated. The system will stop when fully opened or closed.*
  - Press and hold the desired directional button on the remote for 1 ½ seconds or until the keypad status light turns solid green on the front of the trailer. Release the button and the keypad status light will start flashing green indicating one touch operation. The tarp will travel in that direction automatically and stop when it is fully open or closed.

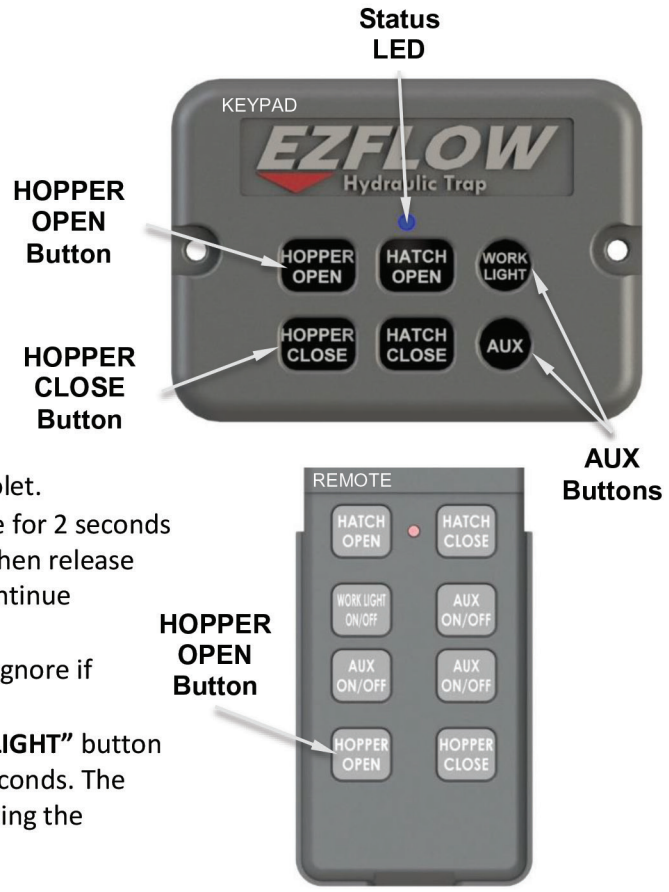


- **Incremental Operation**
  - To inch the tarp in either direction, press then release the desired directional button on the keypad or remote for less than 1 – 1 ½ seconds intermittently to inch the tarp in that direction.
- **Press and Hold operation**
  - Press and hold the desired directional button on the remote for more than 2 ½ seconds or until the status light turns from solid green to solid white on the front of the trailer. The tarp will continue to travel in that direction until you release the button.

- When any button on the remote is pressed, the status LED will flash rapidly indicating it is transmitting a signal.
- The status LED on the remote will flash continuously when the remote batteries have 25% charge left.
- Never travel with the tarp in a partially covered position. The trailer should always be covered when traveling.
- Always close the remote lid when not in use to prevent accidental button presses that can cause unwanted operation of the tarp or trap systems. When flip lid is in the closed position the remote is deactivated.

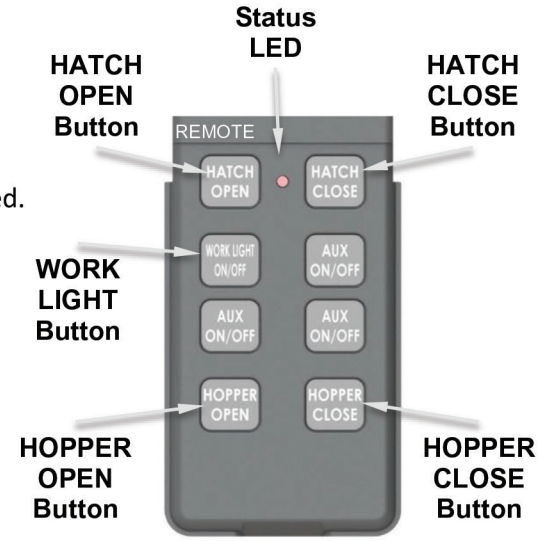
Programming Remote to work with the EZ Flow Trap & Hatch System

1. Power on the keypad controller on the trailer by holding the "**HOPPER OPEN"** and **"HOPPER CLOSE**" buttons on the keypad simultaneously for 3-5 seconds or until the blue light illuminates to indicate the system is activated.
2. Open the flip lid on the remote and observe the illuminated buttons to indicate the remote is active.
3. Repeat step 2 for each remote to be programmed. Up to four remotes can be programmed. Have all remotes ready for steps 4 & 5. Ignore if only one remote is to be programmed.
4. Press and hold the "**WORK LIGHT**" & "**AUX**" buttons on the keypad controller simultaneously for 10 seconds until the blue flashing light stays solid then release. The light on the keypad controller should start flashing violet.
5. Press and hold the **"HOPPER OPEN"** button on the remote for 2 seconds or until the blue flashing light on the keypad turns white then release the button. The keypad light on the trailer should then continue blinking violet.
6. Repeat step 5 for up to four remotes to be programmed. Ignore if only one remote is being programmed.
7. Once all remotes are programmed press the top **"WORK LIGHT"** button to exit programming or let the system timeout after 10 seconds. The keypad controller light should flash two sets of red indicating the remotes have been saved.



Operating Remote with the EZ Flow Trap & Hatch System

- **Powering up or down the system**
  - Open the remote flip lid and observe the buttons illuminate indicating the remote is active.
  - Press and hold the **"HOPPER OPEN"** and **"HOPPER CLOSE**" buttons on the remote simultaneously for 3-5 seconds or until the blue light on the keypad controller illuminates to indicate the system is activated.
  - Repeat the above steps to turn off the EZ Flow Trap & Hatch System.
- **To use the hopper doors**
  - Press and hold the desired directional button to open or close the hopper doors. The hopper door will travel in that directuion until the button is released.
- **To use the top hatch door**
  - Press and hold the desired directional button to open or close the top hatch door. The hatch door will travel in that direction until the button is released.



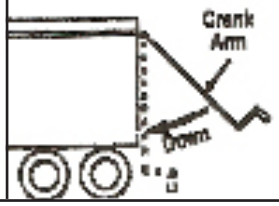
- **To control work lights (optional)**
  - On the trailer keypad press and release the top "**WORKLIGHT**" button to turn on or off the worklights.
  - On the remote press the "**WORKLIGHT ON/OFF**" button to turn on or off the worklights.

- When any button on the remote is pressed, the status LED will flash rapidly indicating it is transmitting a signal.
- The status LED on the remote will flash continuously when the remote batteries have 25% charge left.
- Always close the remote lid when not in use to prevent accidental button presses that can cause unwanted operation of the tarp or trap systems. When flip lid is in the closed position the remote is deactivated.

ROLL TARP

- The tarp must be kept to a recommended 40-60 lbs. of tension or excessive tarp wear may occur.
- Do not walk or stand on the end caps.
- Do not operate this vehicle at highway speeds, while the tarp system is in the “open” position.

OPERATING INSTRUCTIONS

1. Crank The Tarp Up Under The Latch Plate.	2. Bring The Crank Arm Down To A Vertical Position.	3. Lift The Crank Arm Up To The Crank Retainer.	To Adjust The Tarp Tension:
			1. Allow The Tarp To Roll Down Away From The Latch Plate. 2. Remove The Crank Arm From The Splined Shaft. 3. Rotate The Crank One Or Two Teeth & Reassemble.

A caution decal is located on the crank handle with instructions pertaining to rolling the tarp. Be sure to follow these instructions.

IMPORTANT: All tarp bows and cross members must be in place while operating a loaded trailer. The tarp bows and cross members hold the trailer walls together and prevent side structure failure. Always close tarp and lock handle into position before moving your trailer to prevent damage to the tarp system.

Always open the tarp before discharging a load. Failure to do so may damage the trailer and void the warranty.

If you must remove or reposition the ridge straps or tarp bows during loading, be sure to use a safe, approved walkway or scaffold. Never walk on the top rail, it is not designed to be a walkway.

TARP TENSION

To Set the Tarp Tension On The Crank:

METHOD ONE:

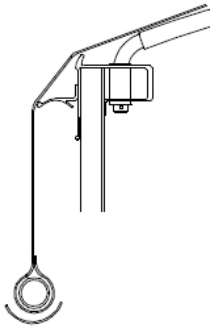
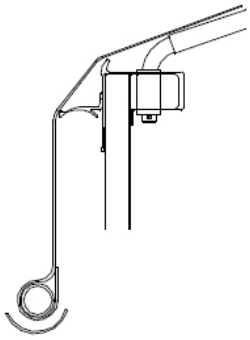
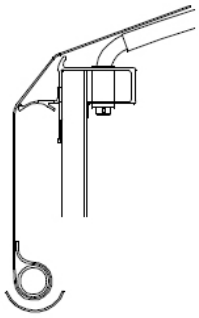
Hold the crank firmly with both hands
Tighten the tarp by rolling the main tarp tube up under the latch plate
Bring the crank handle down perpendicular to the ground
Continue to tighten by lifting it up (approximately 45 degrees) into the crank retainer:
Repeat this procedure while adjusting the splined shaft and the u-joint one tooth at a time to achieve 40 to 60 pounds of tension at the handle end of the crank.

METHOD TWO:

Another method to measure tension is to adjust the tension until you see a slight deflection or a gradual bend in the crank extension of approximately 1/8".

After Properly setting the tension on the crank, make sure that the tarp is in the locked position and check the following:

Check to see that the tarp has equal tension on both the end caps and the bows.
If, for any reason the tarp tension is not the same along the length of the tarp (i.e. tarp twist, uclamps not aligned, varying box widths from front to back), the u-clamps and the tarp may need to be readjusted in the loose areas of the tarp.

Normal Tarp Tension	To Decrease Tarp Tension	To Increase Tarp Tension
		
Normal	Twist pocket clockwise & reinstall the u-clamp to decrease tarp tension in that area	Twist pocket counter clockwise & reinstall the u-clamp to increase tarp tension in that area

WARNING! DO NOT walk, stand or climb over or on the end caps. The tarp caps are designed by the tarp system manufacturer to assist in supporting, tensioning and sealing the tarp. They are not a structural portion of the trailer. They are purposely light-weight and flexible and are not designed to support a person's body weight. Additionally, they are purposely smooth and curved to assist the tarp in sealing tight, and hence are not designed to be a walk surface. Failure to follow this warning could result in serious injury or death.

THUNDER ELECTRIC TARP SYSTEM OPERATING INSTRUCTIONS

Powering Up or Down the System

To turn the system on or off, locate the **"Open"** and **"Close"** buttons on the keypad controller on the front of the trailer. Press and hold both buttons simultaneously for approximately 3 seconds. The LED status light and the two large buttons will illuminate when the power is on and ready for operation. You can also press and hold the **"On/Open"** and **"Off/Closed"** buttons on the remote for 3 – 5 seconds to power the system on or off.

One Touch Operation: *The one touch function is fully automated. The system will stop when fully opened or closed.*
To open or close the tarp using the one touch operation feature, press and hold the desired directional button on the keypad or remote for 1 – 1 ½ seconds until the keypad status light turns solid green. Release the button and the keypad status light will start flashing green indicating one touch operation. The tarp will travel in that direction automatically and stop when it is fully open or closed.

Incremental Operation:

To inch the tarp in either direction, press then release the desired directional button on the keypad or remote for less than 1 – 1 ½ seconds intermittently to move the tarp in that direction.

Press and Hold Operation:

To open or close the tarp using the press and hold feature, press and hold the desired directional button on the keypad or remote for more than 2 ½ seconds or until the keypad status light turns from solid green to solid white. The tarp will travel in that direction until you release the button.

CAUTION! - Never travel with the tarp in a partially covered position. The trailer should always be covered when traveling.

OPTIONAL ARM ADJUSTMENT

As shipped from the factory, the front and rear arms are set to allow the axle to rest lightly on the end caps while following the contour as it moves across the trailer.

Different types of loads and conditions may require your tarp to operate differently. For this reason the system has been designed to be very versatile. Please see the steps below to adjust your arm if need be.

1. To help make the arms carry the axle over heaped loads: Increase the knuckle pressure on the front and rear arms by moving the spring pin up to the middle hole. If even more lift is desired, move the spring pin to the top hole.

2. For tighter arm control in windy conditions, increase the base pivot pressure on the front and rear arms by moving the spring pin up to the middle hole. If even more control is desired, move the spring pin to the top hole.

Recommended Maintenance:

All electrical connections should be checked regularly for corrosion. If any connections are found with corrosion, clean the connection and apply dielectric grease before reconnecting. Electrical connections can be found at motors, switches, contactors, limit switches, control boxes and batteries. Motor mounting bolts should be checked periodically to ensure a minimum torque of 70 in-lbs (5.8 ft-lbs). All mounting hardware should be checked to insure all system components are securely fastened. Visually inspect all moving parts for abnormal or excessive wear.

THUNDER TARP TROUBLESHOOTING GUIDE

Remote function not working.

1. Reset system by removing power trailer power connection for 15 seconds then reconnect.
2. Turn on the tarp system by pressing the (Open) & (Close) buttons simultaneously on the keypad for 3-5 seconds until the LED and buttons illuminate.
3. Test remote function.
4. If no function, reset system and reprogram remote per the remote programming instructions.
5. Also can be an indication that the trailer power connection is loose and needs reworked and tightened.

Tarp system will not power on.

1. Make sure that the 2-pole power cord is plugged into the trailer and has the proper polarity and voltage to the tarp system. Positive is on the top post.
2. Check that the tarp system circuit breaker near the tractor battery is reset, if applicable.
3. Turn on the tarp system by pressing the (Open) & (Close) buttons simultaneously on the keypad for 3-5 seconds until the LED and buttons illuminate.
4. Test the remote functions of the tarp system by pressing the (Open) & (Close) buttons simultaneously on the remote 3-5 seconds to verify keypad button failure.
5. Check for grease, dirt, and corroded connections at the battery terminals, circuit breaker and also at the trailer power receptacle plug and outlet.
6. Check for voltage on the back side of the 2-pole trailer receptacle. Also check for corrosion and looseness.
7. Check for proper connection of the communication cable between the inner control box and the RF keypad.
8. Unplug the power receptacle, wait 10 seconds, re-plug truck power and verify operation.

Tarp system powers on but does not function when pressing either (Open) or (Close), no flash codes are present.

1. Check for low voltage & loose connections.
2. Test the remote functions of the tarp system to verify keypad button failure.
3. Check for loose & corroded connections at the motor terminals and inspect the wires from the motor to the inner control box located in the nose of the trailer.
4. Unplug the power receptacle, wait 10 seconds, re-plug truck power and verify operation.

Tarp system does not function and a red/orange flashing light is present on the RF keypad, indicating an error code. See error code explanations below: (Codes will flash, pause, and repeat until problem is corrected.)

a) **Three** flashes indicates an **Overheat Protection** issue. This typically occurs if the system has been started and stopped rapidly in a short period of time. Also, it can indicate increased drag in the tarp system causing excess amperage. Check that set screws in control box are tight. Re-check the tarp system after a cool down period.

b) **Four** flashes indicates an **Over Voltage Protection** issue. Using a voltmeter, check the tractor batteries & alternator for voltage exceeding 15.5 volts.

c) **Five** flashes indicates an **Under Voltage Protection** issue. Using a voltmeter, check the system for low voltage. Also check all connection points for looseness and corrosion including battery terminals, circuit breaker, power cord, and receptacle plug. Connect an alternate power source to verify.

d) **Seven** flashes indicates there is not enough amperage or voltage to run the motor OR the drive motor windings are shorted. **MAY REQUIRE REMOVING POWER TO RESET.**
   (1) Connect an alternate power source to verify a low amperage/voltage problem.
   (2) Make sure the battery is fully charged and the charging system on the truck or power supply is running and working properly.

f) **Eight** flashes indicates com failure from the inner control box. Check com cable between RF keypad and inner control box for damage.

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Tarp system does not make a full cycle or closes/opens intermittently.

1. **Two** flashes indicates an **overcurrent protection** issue which is normal if the tarp fully opened or closed. If not, check for obstructions in the operation of the tarp such as snow or ice buildup. This also could indicate increased drag in the tarp motor or other motor problems causing premature tarp stoppage.
2. Remove the motor terminals and connect motor to a battery source using jumper cables to determine if the motor labors or stops when direct power is applied.

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WARNING! - Make sure all power supply to trailer is disconnected and the ground wire in the nose of the trailer and on the receiver box is disconnected prior to any welding on trailer. Failure to do so could result in damage to receiver control box.

THUNDER ELECTRIC TARP SYSTEM, MANUAL OPERATION

1. Remove the motor shaft drive nut and bolt assembly from the roll tube axle. See figure 5.1. **Note: Save the nut and bolt. If drive bolt will not come out due to excess tension from the drive motor, disconnect the motor leads and use jumper cables from a battery source to drive the motor in a direction that removes this tension.**
2. Remove the manual tarp crank handle from the crank handle retainer on the side of the trailer as seen in figure 5.2.
3. Locate the spline on the tarp roll rube, rear of the trailer seen in figure 5.3.
4. Slide the tarp crank handle universal joint and roll tube drive spline together (rear of trailer) by pushing the universal joint in-place until fully engaged with the roll tube spline. See figure 5.4.
5. Roll the tarp open and closed with the crank handle.
6. When finished, return the handle to the tarp crank handle retainer on the side of the trailer for storage and/or transport.

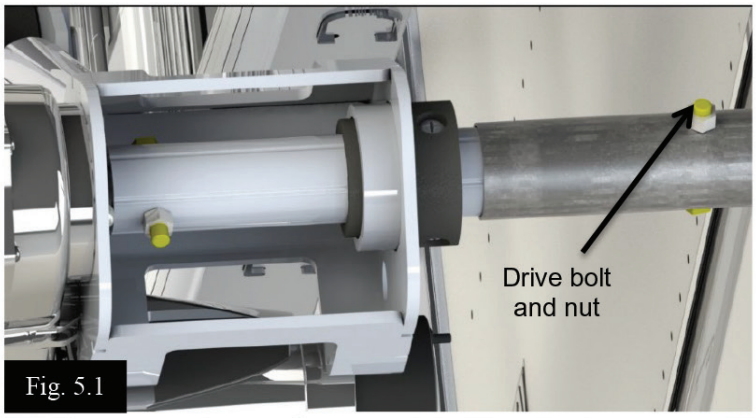


Fig. 5.1


Fig. 5.2


Fig. 5.3


Fig. 5.4

CAUTION! - The front and rear arms are spring loaded and can shift when the bolts are removed. Use an OSHA approved work platform when performing any maintenance on the motor or arms.

WARNING! - Do not travel with the motor disengaged from the roll-tube as the motor may slide off and cause the arm to fall, causing trailer or tarp system damage. It is recommended that the motor and arm assembly be secured to the front ladder assembly with a bungee cord if the trailer must travel while tarp system is disengaged.

EZ-FLOW HYDRAULIC TRAP DOOR SYSTEMS – RECOMMENDED HYDRAULIC FLUIDS

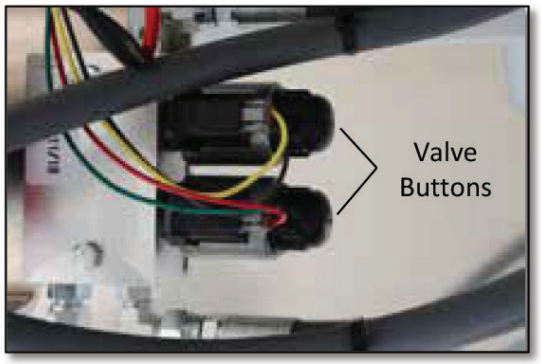
Product Engineering and R&D have approved the following hydraulic fluid for use with Timpte EZ-Flow Door installations, OEM or After-Market:

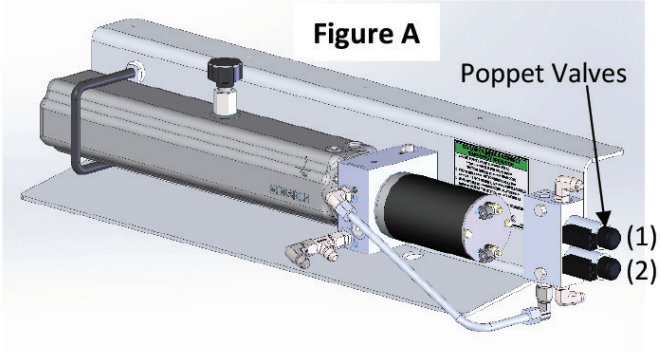
- Petro-Canada Hydrex Extreme Fluid
- United Zinc Free Arctic Hydraulic Fluid
- Timpte recommends replacing the hydraulic fluid every 24 months.
- Dispose of spent hydraulic fluid properly.

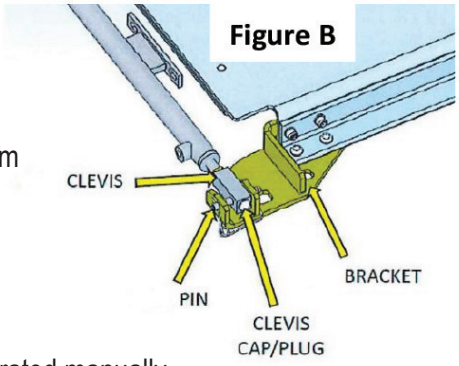
NO Substitutions are allowed without prior approval from Timpte Product Engineering.

EZ-FLOW^{XR} HYDRAULIC TRAP - MANUAL OVERRIDE SYSTEM

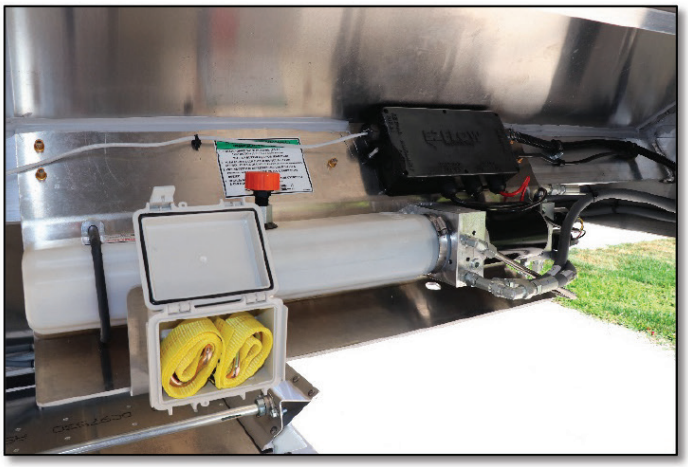
- How to use the manual open system.
  - Locate poppet valve buttons behind the motor on the blocking valve.
    - The Top Button (1) is for front door.
    - The Bottom Button (2) is for hatch door







  - Push & hold each button individually for approx. 15 secs or until system is depressurized.
  - When system has been depressurized, unlatch quick release pin from cylinder & remove.
  - Repeat this step on all cylinders as needed.
  - Door(s) are now disconnected from the cylinders and can now be operated manually.
  - Remove the straps from the storage box mounted on the motor bracket.
  - Hook the straps to the door by placing the hooks into the holes in the door.
  - Slide the straps through the slots in the shaft at least 6”.
  - Turn the crank shaft by hand to wind the strap onto the shaft until it gets tight.
  - Using the dolly crank turn the shaft and pull open the door until the hooks are close to the crank shaft.
  - Remove the hooks from the door.
  - When the tub is mostly empty pull the door by hand to finish opening and emptying the tub.



EZ-FLOW HYDRAULIC TRAP DOOR & SOLID TOP HATCH TROUBLE SHOOTING GUIDELINES

EASY FLOW HYDRAULIC DOOR TROUBLE SHOOTING GUIDELINES		
Symptoms	**Check List**	**Emergency Action**
Power Unit not operating	Check Electrical connection at motor	Disconnect power wires to motor and use jumper cable to each pole on pump. Reverse cables to operate in other direction. Use manual override on blocking valve for selected door when operating power unit.
	Check Electrical connection at tractor	Remove plug on end of electric motor, insert a 6-mm hex wrench, and use a electric or cordless drill to turn power supply. While operating the pump push manual override on blocking valve for door to be opened.
	Check Electrical connection at two pole connector	
	Check electrical ground on trailer	
Pump runs but cylinders do not operate	Check to make sure hopper door switch was selected	Push manual override on blocking valve while operating power unit
	Check electrical connection to blocking valves	Replace blocking valve coil and cartridge
	Check reservoir fluid level	Fill reservoir with Biodegradable hydraulic fluid
	Check relief valve setting on power unit, relief set to low	See Operator Manual for "Adjusting Pressure Relief Valves"
Cylinders "spongy" or "Jerking" when opening	Check reservoir fluid level	Fill reservoir with Biodegradable hydraulic fluid
	Check for air present in system	Bleed system/cycle system to remove air
	Check for loose fittings	Tighten fittings and cycle system to remove air
Hose failure	Find failed hose and inspect all hoses for wear or leaks	Replace damaged hose and fill reservoir with Biodegradable hydraulic oil
		Disconnect cylinder rod ends and use a Come-A-Long or winch to pull door open
Electric circuit keeps tripping	Check Electrical connections and wiring for shorts or loose connections	Fix or tape shorting area
	Check tractor for undersize circuit breaker in electrical system	Remove circuit breaker from system. Verify circuit breaker locations in system.
	Check relief valve setting on pump, relief set to high	See Operator Manual for "Adjusting Pressure Relief Valves"
Radio Receiver not working/manual switches working	Check electrical connections and wiring for loose or corroded connections. Getting voltage drop though system	Clean or tighten connection points
	Check ground connection on trailer	
	Using battery charger without battery to test system	Battery required to operate system
	Check battery voltage	Replace or clean power source
Door Open/Close Slowly	31" Stoke Ag door operates at 15 to 17 Seconds to open/Close	Clean or tighten connection points. Check for low voltage.
	39" Stoke Standard door operates at 18 to 20 Seconds to open/Close	See Operator Manual for "Adjusting Pressure Relief Valves"
Door doesn't close all the way	Something blocking the door	Remove blockage from trap door
	Nothing blocking the door	Adjust cylinder rod
Door creeping open while sitting	Check for air present in system	Bleed system/cycle system to remove air
Wires getting hot	Check to make sure power cord is wired correctly with positive and negative connections	Rewire properly to insure positive and negative are correct
		If wires are damaged replace wiring harness

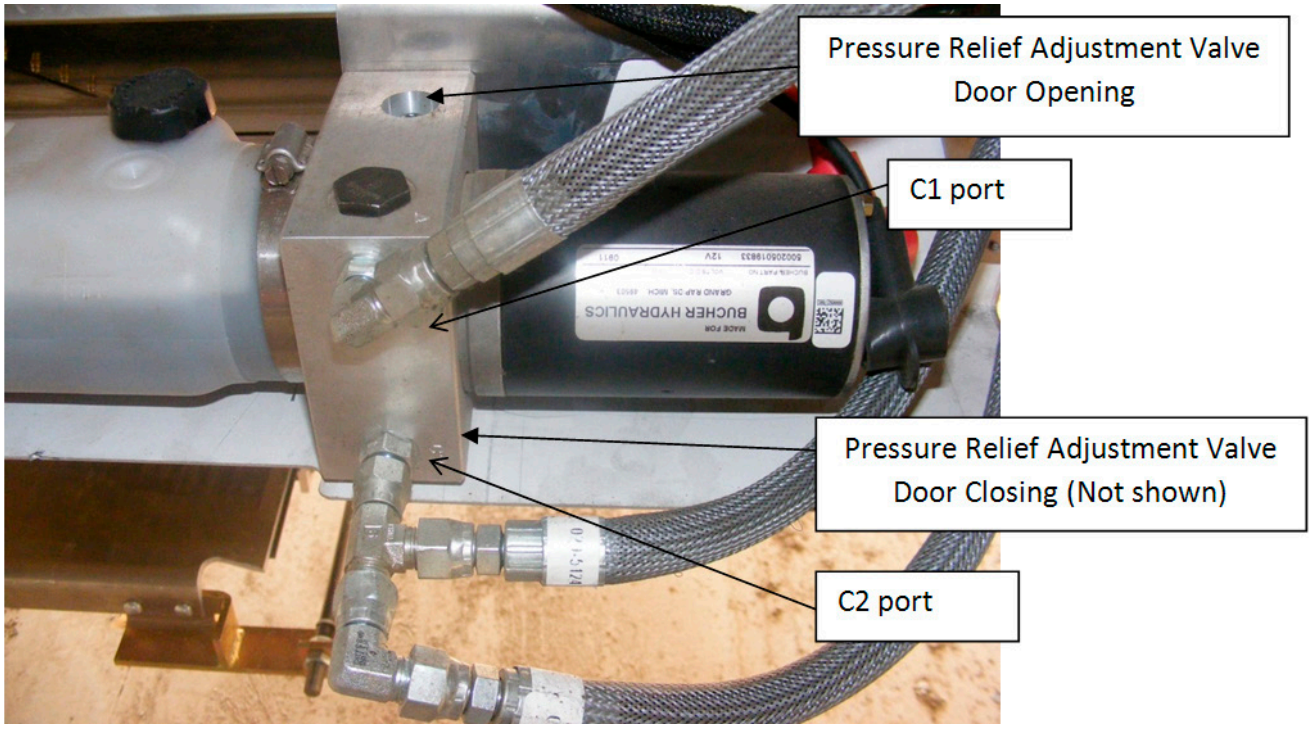
PRESSURE RELIEF ADJUSTMENT

The hydraulic power supply pump is equipped with two pressure relief valves to maximum system pressure at a safe level. These relief valves are located on each side of the pump, 180 degrees from each other. At the hose connections the ports on side of the pump are marked with “C1” and “C2”. The pressure relief on the “C1” side sets the pressure for opening the doors and the relief on the”C2” side sets the pressure for closing.

When testing or making adjustments on the pressure relief valve system a gauge in both ports of the pump is required to ensure the most accurate pressure setting. To adjust pressure relief valves:

Setting Relief Valves with Pressure Gauges:

1. Insert pressure gauges in each pump port “C1” and “C2”.
2. A Pressure Relief valve is located on each side of the pump. Use 9/16” socket and loosen the jamnut on each relief. Do not remove relief valve.
3. Use a 3/16” hex head wrench and turn the relief clockwise to increase pressure setting, counter clockwise to reduce the pressure. Approximately ¼ turn or 90 degrees equals 250 psi adjustments.
4. Operate the system until the cylinder is “dead headed” (cylinder at full stroke or fully retracted) and note the pressure on the gauge. Pumps from factory are preset at 2500 psi.
5. Cycle cylinders in both directions until pressure setting are achieved on both reliefs.
6. Tighten jam nuts and remove gauges.
7. Cycle system to remove any air that may have entered the lines when the gauges were removed.



Setting Reliefs Without Gauges:

1. A Pressure Relief valve is located on each side of the pump. Use 9/16” socket and loosen the jam nut on each relief. Do not remove relief valve.
2. Use a 3/16” hex head wrench and turn the relief clockwise to carefully bottom out relief valve. Do not tighten. Tightening relief valve can damage the valve seat.
3. Turn relief valve counter clockwise 2½ revolutions. Tighten jam nuts. This will set the pressure at approximately 2500 psi range. Approximately ¼ turn or 90 degrees equals 250 psi adjustment.

LANDING LEGS

Insure proper engagement of the handle onto the input shaft nut prior to cranking. Use wheel chocks and lock trailer brakes when uncoupling and coupling tractor and trailer. Insure that the supporting surface is of adequate strength and stability to support the trailer and the load, if applicable. Also be sure that the lay of the ground is reasonably flat and level. Select high speed or low speed gear reduction to raise or lower the landing legs. Reference decal on trailer for selection of mode and direction of rotation.

GENERAL MAINTENANCE

AVOIDING CONTAMINATION

The operator has the best opportunity to avoid contamination between commodities. It is critical that the operator clean and maintain the trailer interior and trap frame areas to avoid contamination. The interior hopper, dividers, etc. should be inspected and cleaned thoroughly by the operator as required. Use a broom or a high pressure sprayer to clean the interior surfaces including the dividers, wall liners and interior tub panels. Do not use a high pressure sprayer for trap frame cleaning and washing. High pressure water could enter and damage the bearings. Access to the interior of the trailer should be from underneath through the trap door opening. Never climb over the top of the trailer into the interior. See section below for trap frame maintenance.

TRAILER WASHING

Washing the trailer 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.

There are many different types of chemicals used today to de-ice the roadways. Many of these can cause severe damage to the steel substructure of the trailer and diminish the appearance of the aluminum and stainless steel components if not kept properly and regularly washed away.

A number of products hauled in the trailer will also lead to corrosion if the products are allowed to build up. Products that build up on the aluminum and steel members in the suspension subframe and upper coupler area should be routinely washed off.

CORROSIVE DETERIORATION

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

Corrosive deterioration caused by incompatible materials could void all or part of the trailer warranty.

The most important preventive maintenance step to avoid corrosion is cleaning; your trailer should be washed out after each load to minimize corrosion when hauling such items as salt, fertilizer, etc.

TRAP FRAME/TRAP OPERATOR MAINTENANCE

The following areas should be inspected regularly between loads and commodities.

- Doors (Top/sides/underside)
- Trap frame structure
- Roller bearings

It is critical that the trap frame area be maintained properly for trouble free operation. Clean these sections with a hand brush, compressed air (50 PSI max) or both between loads to avoid contamination.
Do not use high pressure sprayer as bearings could be damaged.

HUB MAINTENANCE

Check wheel studs for good condition – no stripped threads – no bent or loose studs. Replace any broken or bent studs or studs with damage to the threads. When a broken stud is replaced, the stud on each side of it should be replaced at the same time. If more than two studs on the same hub are broken, replace all of the studs.

WHEEL BEARING INSPECTION

Periodic inspection of wheel bearings and lubricants as well as regular lubricant changes are necessary for good maintenance and maximum wheel bearing life. The hub and/or wheel assembly must be properly cleaned to obtain optimum bearing life. This step also applies to field service. When adding or checking oil level, make certain cap and plug are clean. This step will minimize the possibility of dirt and road grime entering the system. **Wheel end-play is recommended to be confirmed annually (mininum) for all axle wheel-ends to improve wheel bearing life. Timpte recommends wheel-end play inspections every 100,000 miles of trailer use to properly maintain wheel-end play and extend wheel bearing life.** A reading of 0.001-0.005" of wheel-end play is normal. Use the wheel bearing adjustment procedure directly below to confirm and adjust wheel-end play as required or contact Timpte for a Branch review.

WHEEL BEARING ADJUSTMENT

1. Install adjusting nut so that pin on nut faces away from the hub.
2. Tighten inner nut to 200 ft. lbs. while rotating the hub in both directions.
3. Completely loosen the inner nut, then retighten to 50 ft. lbs. while rotating the hub in both directions.
4. Loosen the inner nut ¼ turn. Do not include socket backlash in the ¼ turn.
5. Install the lock washer. If the hole in the lock washer is not aligned with inner nut pin, remove the washer, turn it over and reinstall. If the washer hole is still not aligned with the pin, loosen the inner nut slightly until the hole and pin are aligned.

Note: The washer may have to be reversed again with minimum loosening of the nut.

6. Install the jam nut; Torque to 300 ft-lbs.
7. Check the hub end play with a magnetic base and dial indicator.
    a. Place the magnetic base and indicator on the end of the spindle. Touch dial indicator stem to hubcap gasket face.
    b. Slightly rotate the hub & drum in both directions while pushing inward until the dial indicator reading does not change.
    c. Set the dial to zero.
    d. Slightly rotate the hub & drum in both directions while pulling outward until the dial indicator reading does not change.
    e. Read the end play from the dial indicator.
8. End play between .001 and .005 is acceptable.
    a. If the end play is less than .001, loosen the jam nut; Repeat steps 1 through 8, and retorque to 300 ft. lbs.
    b. If the end play is greater than .005, increase the jam nut torque to 300 ft. lbs.
9. Repeat Steps 6 & 7 as necessary until the end play is within the acceptable range.
10. Bend tabs on lock washer over opposite flats of the jam nut.

BEARING LUBRICANT

The lubricant change interval depends on the type of lubricant used; oil or semi-fluid grease. Oil levels should be checked as part of the daily inspection. **Oil should be changed whenever seals are replaced, brakes are relined, or at least every 12 months or 100,000 miles.** Fill hubs with new oil to the level indicated on the hub window using HD80-90W heavy duty oil with an API rating of GL-15 or GL-4.

CAUTION! DO NOT overfill oil. Oil seal damage may occur due to excessive internal pressure.

Grease lubricated wheel ends should be changed whenever seals are replaced, brakes are relined or at least every 12 months or 100,000 miles with NLGI Grade 1 or 2 grease.

To install semi-fluid grease

1. Pack both bearings with grease by forcing grease into the cavities between rollers and cage from the large end of the cone.
2. Apply a light coat of grease to the spindle bearing journals.
3. Install the inner bearing, inner seal and hub.
4. Fill the cavity between the bearing races with grease up to the smallest diameter of the bearing cups.
5. Install the outer bearing and adjust end-play as noted in the “Wheel Bearing Adjustment Procedure” section.
6. Apply a light coat of grease to the interior of the hubcap and wheel retention hardware to indicate what lubricant is installed as well as to help prevent corrosion of these parts.

HUB/BEARING LUBRICATION OIL REQUIREMENT

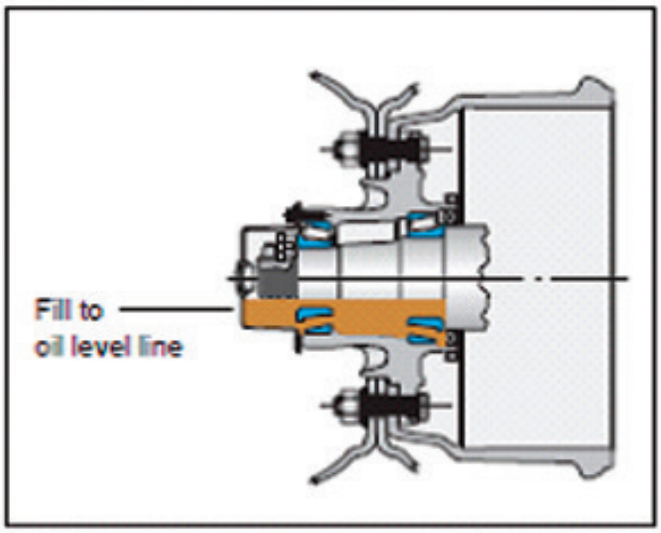


Fig. 3: Lubrication Fill Oil (Static)

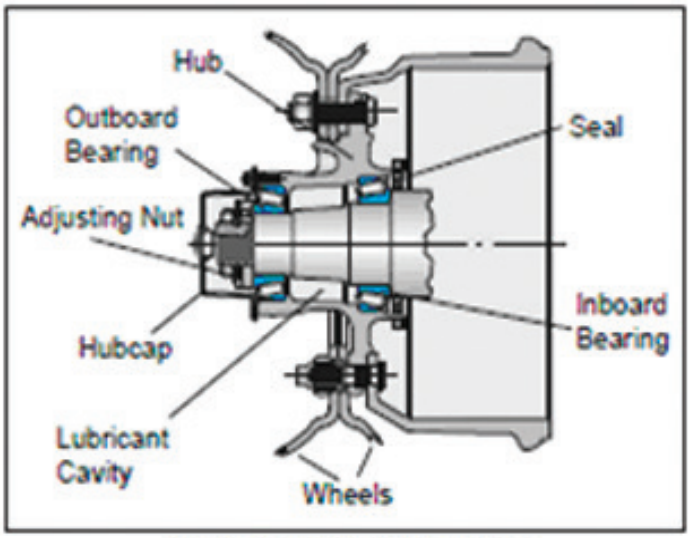
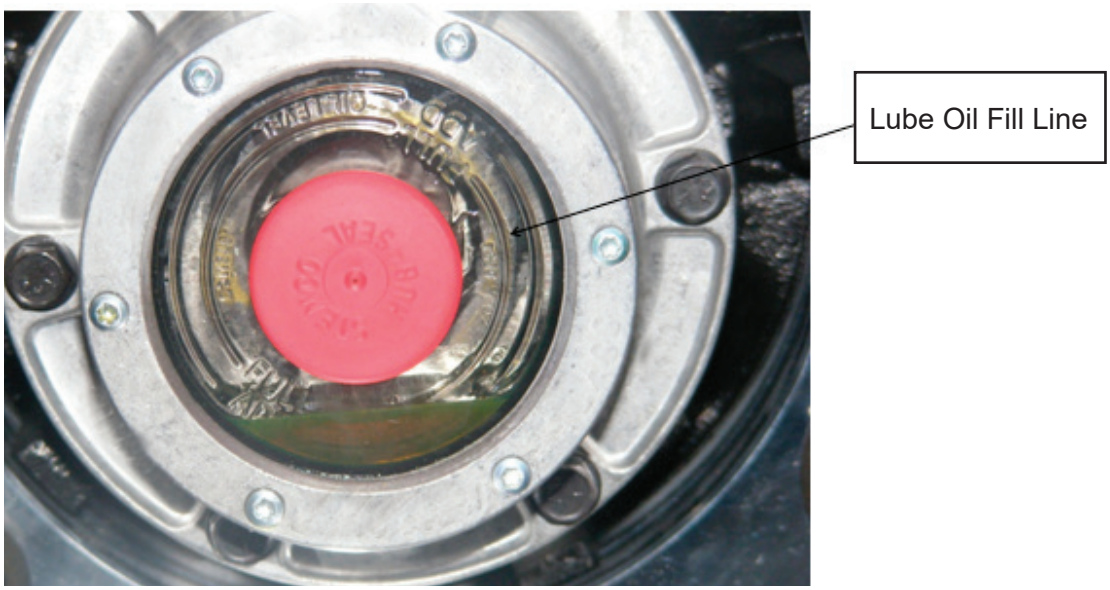


Fig. 1: Non-Drive Wheel End



BRAKES

Proper maintenance of the brakes is vitally important. This includes lining inspections and brake adjustments. A schedule for periodic adjustment, cleaning, inspection and lubrication of the brake equipment must be made according to duty cycle and type of operation.

Brakes must be adjusted as frequently as required for correct operation and safety. The adjustment must give correct clearance between the lining and drum, correct push rod travel, and correct balance between the brakes. Improper or inadequate lubrication is the leading cause of dragging brakes/premature brake wear.

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 pins or roller slots.
4. Camshaft and camshaft bushings for wear.
5. Shoe return springs for wear and loss of strength.
6. Brake linings for grease on the lining, wear, chips, and loose rivets or bolts.
7. Drums for cracks, deep scratches, heat checking or other damage.

NOTICE:

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

NOTICE:

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

See the manufacturer's maintenance manual for more information and details on brake maintenance, repair and trouble shooting.

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 and may eventually result in dragging brakes.

If you suspect air system problems in either service brakes or spring brakes, don't hesitate – service the brake system immediately;

Trouble shooting the air brake system:

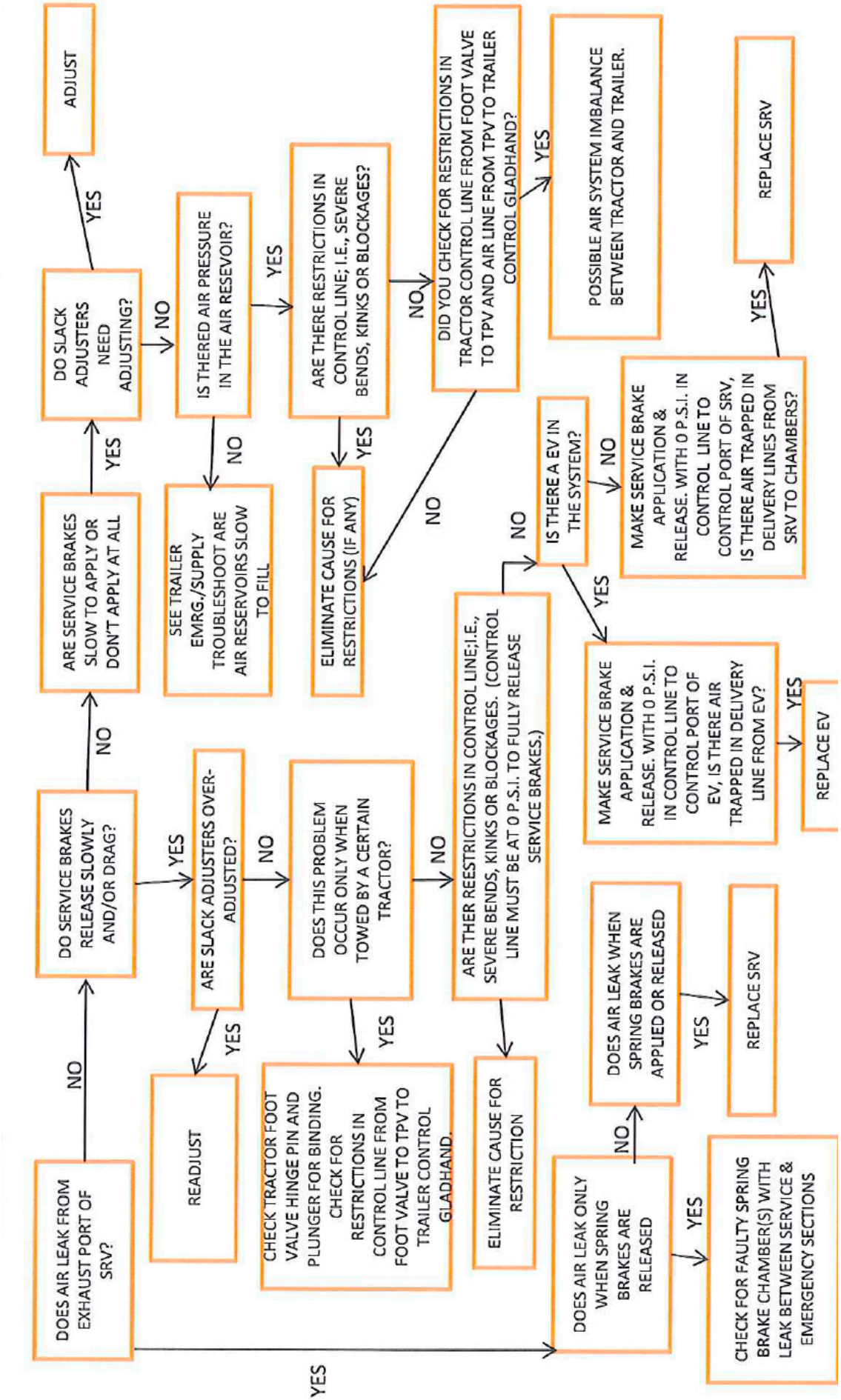
- Use the "soap bubble" test at all connections throughout the air system to detect external leaks
  - Threaded connections at the ECU
  - Threaded connections at the pressure protection valve
  - Any and all push-in fittings
- Check for exhaust leaks at all valves to detect internal leaks.
- Check the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

NOTE: Never splice air brake hoses within the air brake system. This action will void part or all of the trailer warranty.

AIR BRAKE SYSTEM - TROUBLESHOOTING GUIDE

CAUTION! Block wheels before servicing trailer air brake system. Drain resevoirs before removing air lines, hoses, or valves. Consult spring brake manufacturer's recommendations before working on spring brake chambers.

LEGEND
SRV - SERVICE RELAY VALVE (REFERENCE PG 38 BUBBLE 6)
EV - EMERGENCY VALVE (REFERENCE PG 38 BUBBLE 22)
TPV = TRACTOR PROTECTION VALVE



BRAKE CONTROLS

Proper operation of the brake system requires a good, clean seal between the glad hands. Inspect the rubber washers for each glad hand daily. Inspect the glad hands for cracks in the metal components daily. Check the air hoses for cracking and leaking daily. Check the operation of the braking system daily. Drain any water from the brake system by opening the drain petcocks on the bottom of the air tank(s) daily. Observe the ABS system status indicator lamp for proper operation as found under the ABS heading in the Safety Section.

AIR SYSTEM COLD WEATHER OPERATION

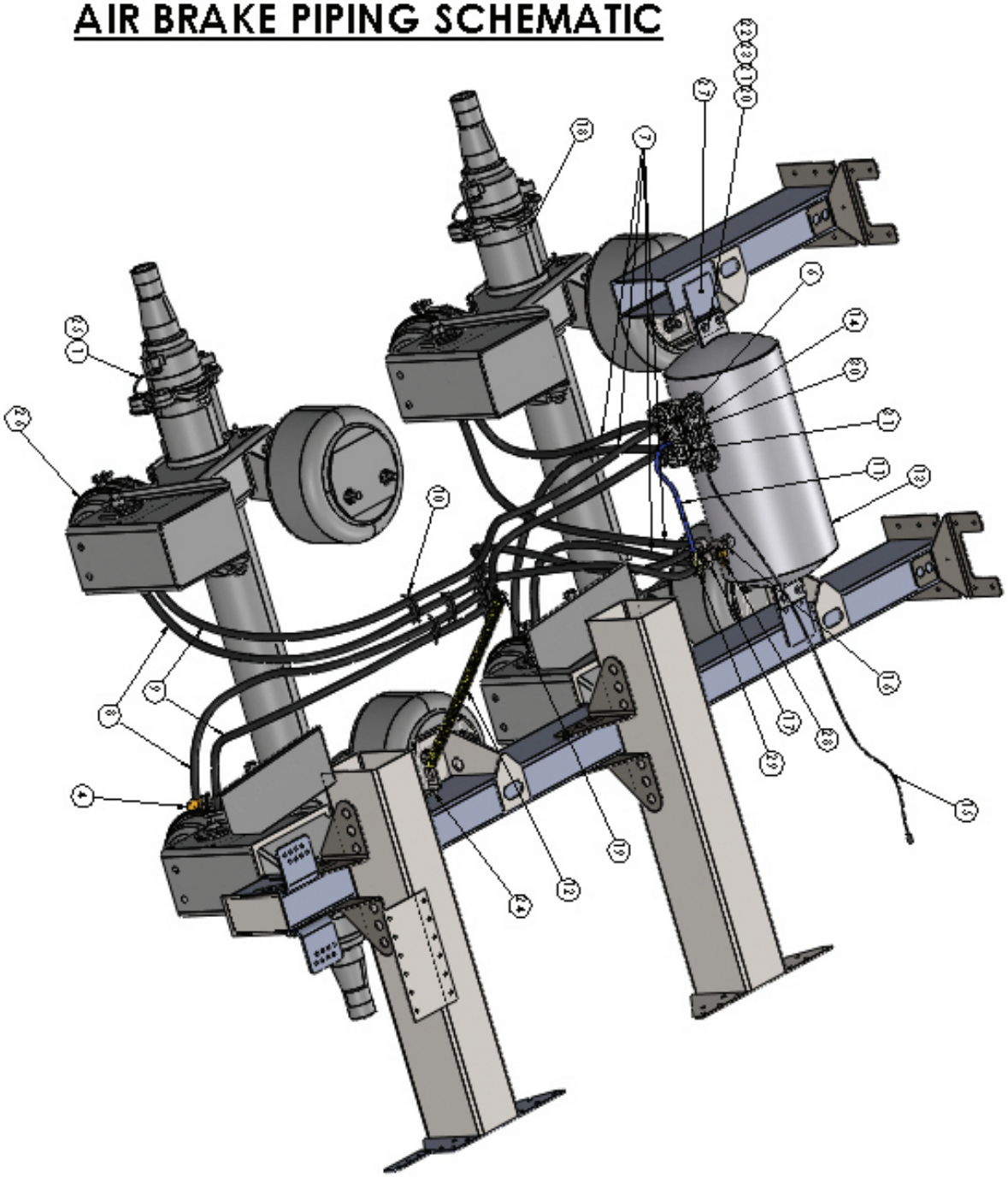
Reservoir Draining – Daily reservoir draining is the most basic step in reducing the possibility of freeze up.

Thawing Frozen Air Lines

1. Maintain freeze prevention devices to prevent frozen air lines. Daily check evaporators or injectors. Check the air dryer for proper operation and change the desiccant when needed.
2. 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.
3. Do not apply an open flame to air lines and valves. Beyond causing damage to the internal non-metallic parts of valves and melting or burning non-metallic air lines, THIS PRACTICE IS UNSAFE AND CAN RESULT IN VEHICLE FIRE.

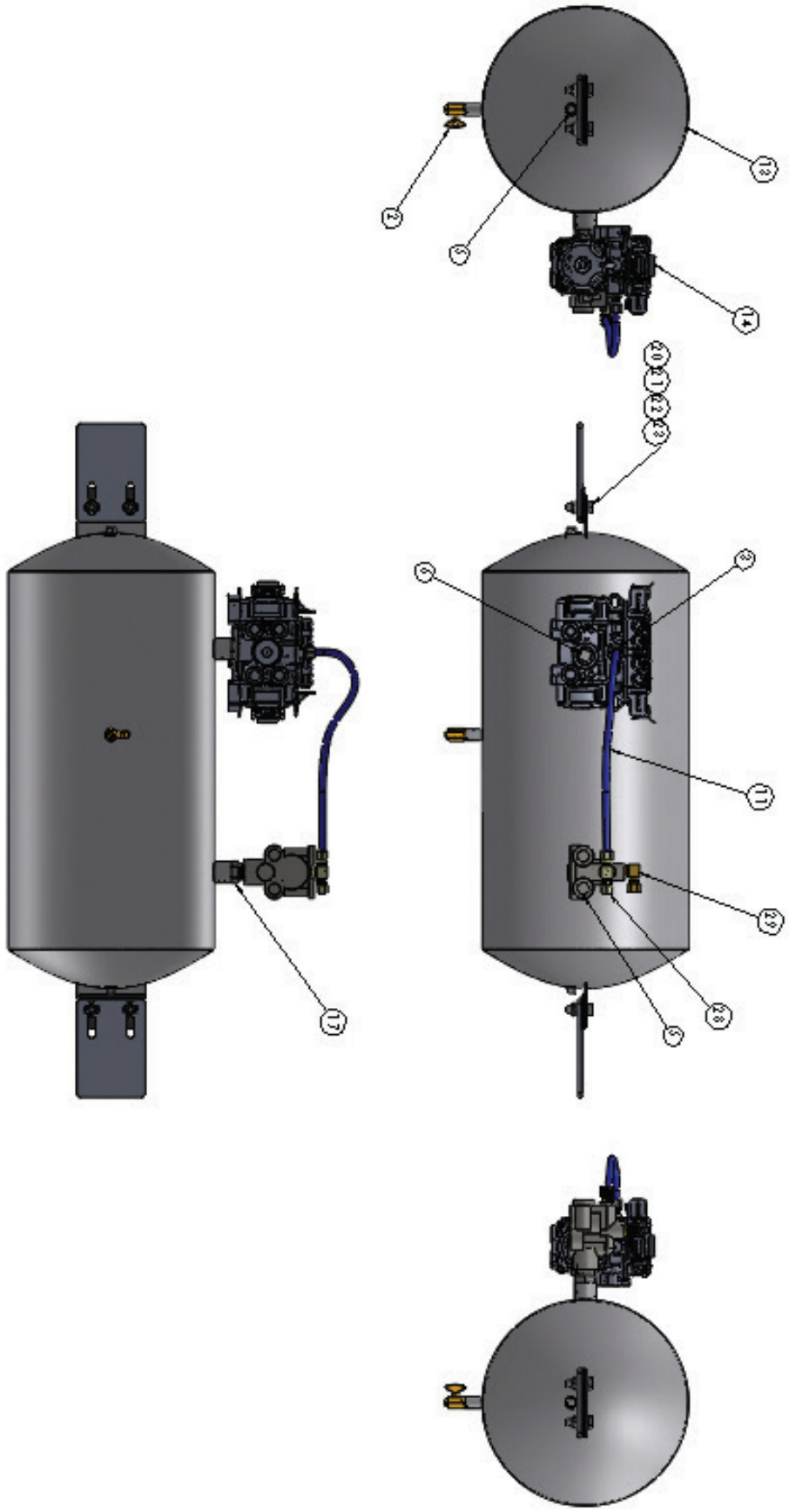
CAUTION! Do not pour any alcohol into gladhands. Doing this will result in valve failure and will void the warranty. Fluid in air lines can also cause a fluid lock and keep the brakes from fully releasing.

AIR BRAKE PIPING SCHEMATIC

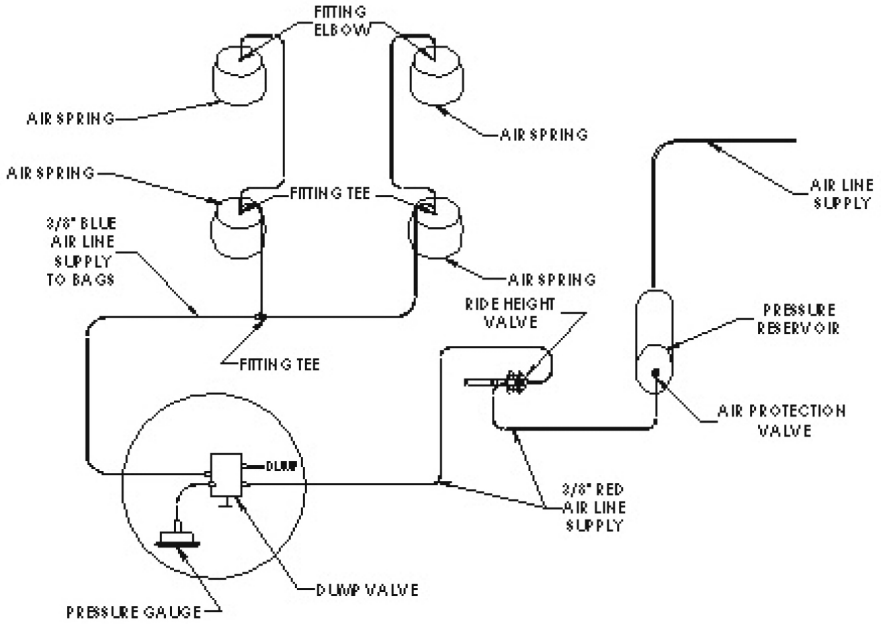


ITEM NO.	PART NUMBER	DESCRIPTION
1	021-31633	DENSO A ABS.AM
2	021-00701	FITTING DRAIN COCK 3/8" MNPT BRASS
3	021-00726	FITTING STRAIGHT 1/4" NPT A 3/8" TUBE
4	021-00743	FITTING STREET TEE 3/8" MNPT A 3/8" FNPT A 3/8" FNPT
5	021-00793	FITTING PIPE PLUG 3/8"
6	021-00797	FITTING PIPE PLUG 3/4"
7	021-02343-00440	HOSE ASSEMBLY 40"
8	021-02343-01120	HOSE ASSEMBLY 70"
9	021-02343-01230	HOSE ASSEMBLY 80"
10	021-21400	HOSE HANGER (DOG BONE)
11	021-31303	AIR BRAKE LINE 3/8" BLUE
12	021-34820	BUFFOTH SPRING 13" LONG 1" O.D. .072 WIRE THICK
13	021-34932	AIR TANK 12" DIA
14	021-37300	VALVE ABS ECU 4S2M
15	021-37324	HARNESS ABS POWER PIGTAIL
16	021-37327	FITTING HEX PIPE NIPPLE 3/4" A 2"
17	021-46023	VALVE EMERGENCY BRAKE
18	021-46034	CLIP ABS CABLE 3-3/4" AXLE
19	021-37234	3-HOLE HOLDER QWIK-SNAP
20	032-01287	BOLT 3/8-16 x 1 1/4" G RADE 5
21	032-01370	FASTENER WASHER 3/8" USS
22	032-01403	NUT 3/8-16 P-LOCK HEX HD
23	034-04499	FASTENER RECTANGULAR NEOPRENE 2-HOLE WASHER
24	031-34821	SPRING HANGER
25	021-34837	DENSO A MOUNTING CLIP
26	021-30723	BRAKE CHAMBER 30/30
27	various part #s	AIR TANK MOUNTING BRACKET
28	021-00734	FITTING ELBOW 1/4 NPT A 3/8 TUBE
29	021-00737	FITTING TEE M BRANCH 1/4 NPT A 3/8 TUBE A 3/8 TUBE
30	021-31470	DENSO A EA1 ABS 1.72M
31	021-32020	DENSO A EA1 ABS 3M

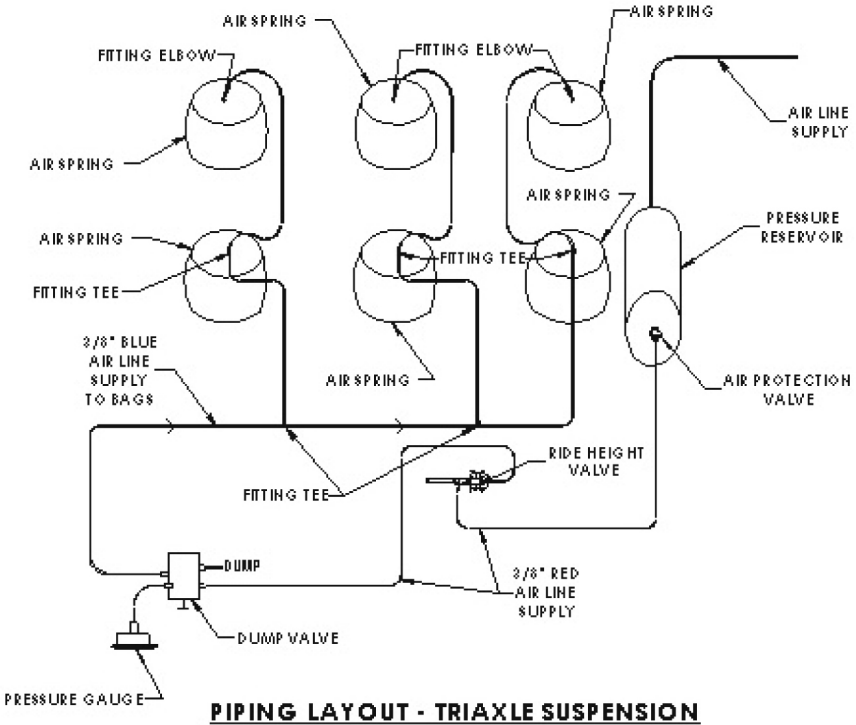
AIR BRAKE PIPING SCHEMATIC



AIR RIDE SUSPENSION SCHEMATIC



PIPING LAYOUT - TANDEM SUSPENSION



PIPING LAYOUT - TRIAXLE SUSPENSION

Trouble shooting hints for air piping systems:

- Check all push-in and T-fittings. Are they locked into place?
- Check all threaded connections to the spring brakes
- Check push-in fittings at the dump valve and/or lift box (if applicable)
- Check push-in fitting at ride height box (bottom of the box)
- Threaded connections at the gladhands on the nose of the trailer
- Check push-in fittings at top of air bags
- Check for adequate supply of air from tractor
  Is volume and pressure great enough to open Pressure Protection Valve
- Check free travel and response of Ride Height Valve
- Check filter at the Pressure Protection Valve

FILTER/LUBRICATOR/REGULATOR

SPECIFIED OIL

- SAE 10 or lighter air tool oil

FILLING WITH OIL

- Remove the reservoir from the FLR assembly
- Fill the reservoir with specified oil until oil appears in the small window. NOTE: If filling level is too high, oil can reach the system and damage it.
- Place the reservoir on the device until it engages audibly.

CHECKING SPRING BRAKES

Spring breaks must be inspected on a routine basis to insure proper operation. Inspection is recommended a minimum of every 3 months or 25,000 miles.

WARNING! Always chock wheels to prevent the vehicle from rolling before performing any brake maintenance.

1. Check overall condition of the foundation brakes including drums, shoes, lining, retainers, return springs, bushings and rollers. Replace any damaged or worn components per manufacturer's specifications.
2. Check for obvious structural damage to the spring brakes, brake adjusters, or cam shafts and replace any damaged or worn components per manufacturer's specifications.
3. Hook up appropriate air supply and release parking brakes. Apply and fully release Parking Brake 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 Brake Chamber to the Center of the Clevis Pin with the brakes Fully Set or Parked. Apply air to the chambers to release the parking brakes and re-measure all wheel positions. All strokes should be within 1/8" of each other.
5. Applied Stroke at 90 to 100 psi can also be used to measure in a similar way as in 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 recommended maximum readjustment limit of 2" for Standard 30/30 chambers and 2 1/2" for Long Stroke 30/30 chambers.

AUTOMATIC SLACK ADJUSTERS

Effective 10/20/94 all semi-trailers with air brake systems were required to be built with automatic slack adjusters to assist in maintaining the braking system performance. The automatic slack adjusters should be periodically checked to insure that they are performing correctly and should be lubricated on a regular schedule or at least every six months.

The following procedure can be used to check the in-service adjustment of air chamber push rod travel (adjusted chamber stroke) on trailer air brakes with automatic slack adjusters.

1. Connect an adequate air supply to the SUPPLY glad hand of the trailer's air system.
2. Increase the air pressure to 100 psi minimum to release the auxiliary spring brake chambers.
3. Determine the size and type of brake chamber you are inspecting.
4. With the brakes NOT APPLIED measure the distance from the bottom of the air brake chamber to the center of the large clevis pin on all wheel positions. Record each measurement.
5. Connect a second air supply to the CONTROL glad hand of the trailer's air system.
6. Increase the air pressure of the second air supply to 85 to 90 psi to apply the service brakes.
7. With the SERVICE BRAKES APPLIED measure the distance from the bottom of the air brake chamber to the center of the large clevis pin on all wheel positions. Record each measurement.
8. Calculate the adjusted chamber stroke of each brake. Subtract the dimension that was measured in Step #3 from the dimension that was measured in Step #6. The difference between the two dimensions is the adjusted air brake chamber stroke. The adjusted air brake chamber stroke must not be greater than 2" for 30/30 chambers and 1 ¾" for 24/20 chambers. If the adjusted air brake chamber stroke is greater than the dimensions listed, inspect the automatic slack adjuster for wear or damage. See manufacturer's recommendations for repair or replacement.

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 an accident.

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.

Make certain all tires are matched to 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.

WHEEL INSTALLATION

Hub piloted disc wheels have stud holes that are drilled straight through the wheel. Pilot bosses machined on the hub fit tightly into the center of the disc wheel. This supplies the alignment of the wheel to hub. Hub Piloted wheels are secured to the hub with flanged nuts.

Installation of a Hub Piloted Wheel

1. Be sure not to mix Hub Piloted and Stud Piloted 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 wheels make certain that you are using the proper flange nuts. The Hub Piloted mounting uses M22 x 1.5mm pitch metric thread series nuts. The stud standout should be at least 2.16". All studs have right hand threads.

⚠WARNING

1. Read and understand this warning and the installation, Service and Safety Instruction Manual to understand all safety precautions, proper operation, and maintenance of your Webb hub. Failure to do so could result in death or serious injury and could result in a compromise of your vehicle's safe operation through loss or failure of a wheel or the compromise of the braking system. Copies of the installation, Service and Safety Instruction Manual are available, free of charge, from Webb Products, Inc., upon request.

2. Always use a properly installed calibrated torque wrench to assure proper torque. Under torque and over torque can cause thread and/or nut damage and could result in the loss of a wheel. Failure to ensure proper torque could result in death or serious injury and could shorten the expected life of this product.

3. Recheck torque after the first 50 to 100 miles of service. Parts may seat naturally, causing the torque to drop. A drop in torque could result in the loss of a wheel. Proper torque is essential to avoid damage or compromise of your vehicles safety. Failure to ensure proper torque could result in death or serious injury.

HUBS
(FOR PILOT MOUNTED DISC WHEELS)
8 - 10 STUD HUBS
APPLIES TO M22 X 1.5 STUDS / TWO PIECE FLANGE NUT.

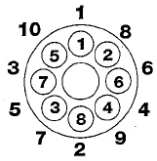
All threads are right hand metric.

Tighten Flange Nuts to 50 ft.lb. using sequence shown.

Check Disc-Wheels for proper positioning on pads and proper seating against flange.

Tighten Flange Nuts to recommended torque using sequence shown.

RECOMMENDED TORQUE: 450 - 500 FT. LBS.



3. Rotate the hub so that one of the intermittent pilots is located at the top position.
4. Position the inner disc wheel over the studs and wheel pads being careful not to damage the stud threads or the pilot diameter of the wheel. Make sure the disc wheel is flat against the mounting surface and there is clearance between the disc wheel taper and the brake drum.
5. Position the outer disc wheel over the studs and wheel pilot pads being careful not to damage the stud threads or the pilot diameter of the wheel. Be sure the valve stems for both the inner and outer tires are accessible.
6. Install the flange nuts and tighten to 50 ft. lbs following the sequence shown. 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.
7. Check both disc wheels for proper positioning on pilots and proper sealing against the drum/hub assembly. If they are not, loosen the flange nuts and reposition the wheels.
8. Tighten the flange nuts to 450 to 500 ft. lbs. dry thread torque following the sequence below.

Recheck the torque after the first 50 to 100 miles of service and at every pre-trip inspection.

TIRE CHANGE PROCEDURE

PRECAUTIONARY NOTES:

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

Do not climb under a raised trailer.

Do not leave a raised trailer unattended.

Avoid raising a loaded trailer whenever possible.

1. Position trailer on a level, hard surface capable of supporting the total vehicle weight and lifting equipment.
2. Set brakes and block wheels at other locations to prevent movement.
3. If a loaded trailer must be raised for changing tires, take appropriate precautions to reduce risk of tipping, load shifting, or structural damage. If necessary, use two lifting devices and raise both sides of the trailer evenly to prevent leaning and tipping.
4. 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.
5. 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.
6. Position trailer supports under trailer frame or axle to prevent unexpected lowering of the trailer.
7. Remove the nuts securing the tires and remove the tire(s) using a tire fork or similar device to lift the tire(s).

8. Install the replacement tire(s). Refer to the appropriate section of the Owner's Manual for specific instructions for wheel installation.
9. Torque the securing nuts to 450 to 550 ft. lbs. (dry)
10. Remove trailer supports
11. 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.
12. Remove lifting devices and check wheel nuts to ensure they are torqued to the specified values.
13. Inspect suspension components for damage or improper adjustment resulting from raising and lowering the trailer. Repair any damaged components as necessary.
14. Remove blocks from wheels.

AXLE ALIGNMENT

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. To properly align the suspension make sure the trailer is unloaded. Free the suspension of any "binds" by first pushing the trailer backwards and then pulling it forward a sufficient distance. Check axle alignment with the trailer on a level surface with the trailer level both side to side and front to back, with tires properly inflated, trailer securely restrained, trailer brakes (service & parking) released and with the trailer ride height valve properly set (if an air ride).
2. Check each dual tire set. Tires of each set must be matched to a maximum of 1/8" tire radius. 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 kingpin to identical locations on each end of the front axle using a consistent amount of pressure on the tape measure.
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.
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.

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 radius rod clamp 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 to make it longer.
3. Check the alignment measurements. Repeat the adjustment in Step #2 as necessary.
4. When the axle is correctly aligned, tighten the radius rod clamp bolts to 130 ft. lbs. oiled or 170 ft. lbs. dry.

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

Air ride suspensions are equipped with mechanisms to allow the movement of one end of the axle forward or rearward for the purpose of aligning the trailer axles.

Inspect the hanger pivot bushings as well as all other suspension components before adjusting the alignment.

DISC BRAKE INSPECTION

⚠CAUTION: Observe all safety instructions. Refer to IMPORTANT SAFETY NOTICES in this manual. These instructions must be observed to help avoid personal injury and/or material damage.

GENERAL INSPECTION

NOTICE: The 8 mm adjuster components can be damaged if using open-ended wrenches or power tools.

Only use tools listed in ADB TOOLS and described in these procedures.

Prior to removing the brake and during service:

Figure 4: *Damaged guide pin cap*

1. **Check** the brake system for damage and/or missing components (e.g. Figure 4).
2. **Replace** as needed.

CHECKING ADJUSTER OPERATION

NOTE: The brake chamber does not need to be removed in order to check the brake. The brake is shown, in this document, without the brake chamber for illustration purposes only.

Brake pads and pressure plate must be installed in order to check the adjuster.

Brake pads and pressure plate are held in place by the retainer springs and pad retainer bar.

NOTICE: Damage can occur at the inner seal when the plug removal tool is improperly positioned between brake caliper and outer edge of the adjuster boot.

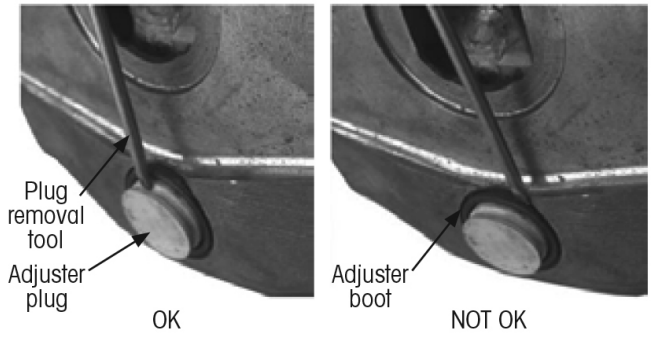


Figure 5: *Removing adjuster plug*

1. **Position** the plug removal tool at the adjuster plug when removing it (Figure 5).
2. **Carefully remove** the adjuster plug.

NOTICE: The use of an open-ended wrench and power tools can result in damage to the adjuster.

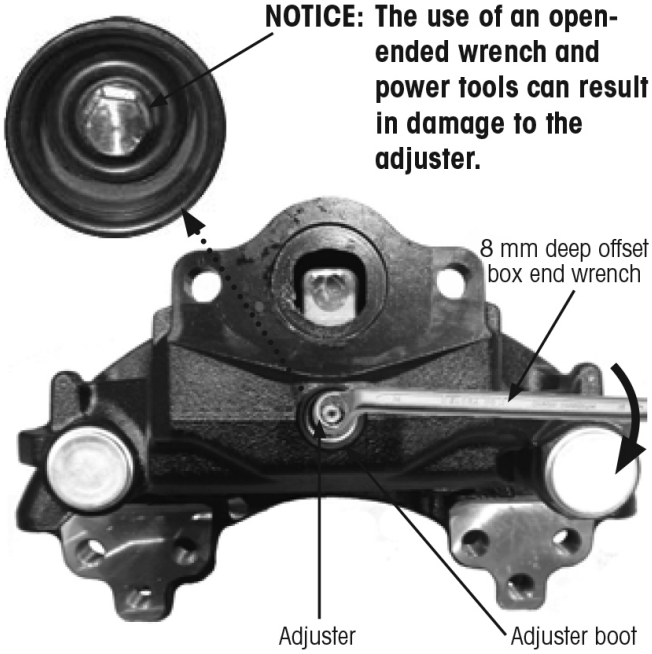


Figure 6: *Checking adjuster movement.*

3. **Check** the adjuster boot and plug for wear and damage. Discard and replace if worn or damaged.
4. Use an 8 mm deep offset box end wrench to **turn** the adjuster 1/2 turn clockwise (Figure 6).

NOTE: Checking the adjustment is only possible with a larger gap of 0.08" to 0.12" (2 to 3 mm). There must be sufficient space for the engaged wrench to rotate; it must not be obstructed when it is turned during adjustment.

5. This step requires two people: **Gently apply the brake** 5 times (braking pressure is approximately 14.5 psi,1 bar). If the adjuster functions correctly, the wrench will turn incrementally (Figure 6).

NOTE: With increasing adjustment the angle of rotation of the engaged wrench becomes smaller with each actuation. The adjuster is working correctly if the wrench rotates as described above.

6. **Remove** the offset box end wrench from the adjuster.
7. **Reinstall** the adjuster plug. Ensure a tight fit in the process. If not tight, replace.

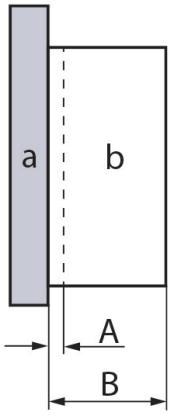
NOTICE: Faults that might occur:

- The adjuster or the attached wrench does not turn (Figure 6).
- The adjuster or the attached wrench only rotates with the first actuation.
- The adjuster or the attached wrench rotates back and forth in same position with every actuation.

  In these cases the adjuster is faulty and the brake must be replaced.

CHECKING BRAKE PAD WEAR

General guidelines to checking brake pads and wear include:



A = Minimum friction material thickness: 0.08″ (2 mm)

B = Total friction material thickness: 0.90″ (23 mm)

a = Backing plate

b = Brake pad friction material

Figure 7: *Measuring brake friction material thickness*

NOTICE: The brake pad thickness must be checked at regular intervals, in relation to vehicle use, during maintenance intervals.

Oil-contaminated brake pads must be replaced immediately.

Always replace all brake pads by axle, using a new retaining system for brake pads and pressure plates.

To avoid damaging the brake rotor, replace brake pads when friction material thickness (Figure 7, A) is at or close to the minimum. It must not be allowed to become less than 0.08″ (2 mm), measured from the backing plate (Figure 7, a).

Replace the brake pads at a minimum friction material thickness A < 0.08″ (2 mm).

MANUALLY MEASURING BRAKE PAD WEAR

Wear on the middle of the brake pads can be measured with a tape measure or a ruler either at the long guide pin screw at the rotor run-in or at the short guide pin screw at the rotor run-out:

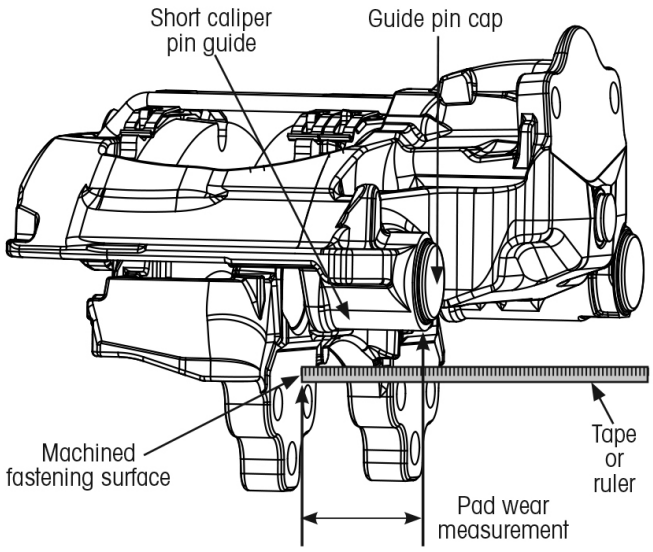


Figure 8: *Measuring brake pad wear*

As shown in Figure 8, measure the distance between the brake carrier machined fastening surface and the guide pin cap.

The measuring point on the brake carrier is the machined fastening surface attached to the torque plate, T71004.

Caliper movement, which results from pad and rotor wear, indicates the amount of wear. Measure movement (Figure 8) at the short caliper pin guide.

IMPORTANT: If wear exceeds 3.94″ (100 mm), replace brake pads.

INSPECTING THE BRAKE ROTOR

IMPORTANT: Regularly check the wear limits of brake pads and brake rotors.

⚠**CAUTION:** When brake pads and/or brake rotors are worn beyond limits, the braking effect is reduced and there is a risk of damage to brake components.

IMPORTANT:
- Always replace brake rotors by axle.
- The brake rotors must be clean and free from grease.
- Having installed new brake rotors, it is recommended that new brake pads be installed as well.

CHECKING ROTOR THICKNESS

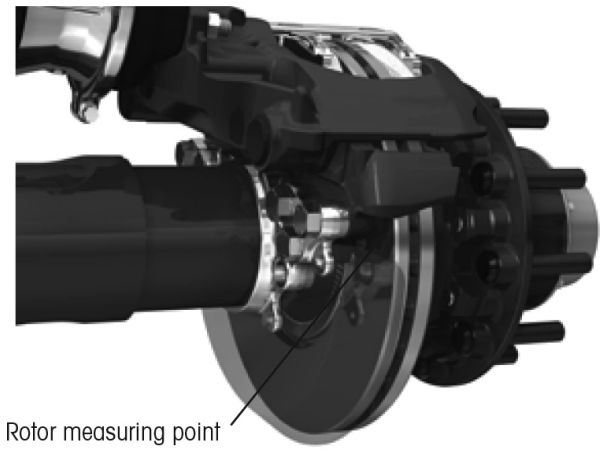
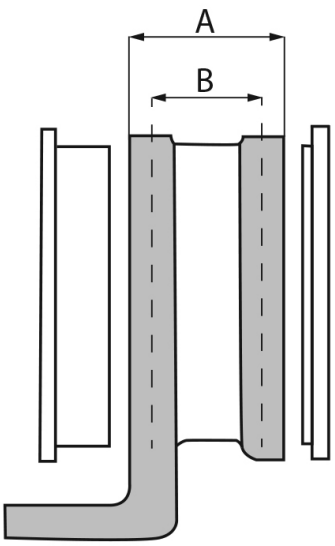


Figure 9: *Measuring rotor thickness*

1. **Measure** brake rotor thickness at the braking area (friction surface) at 3 points, 120° apart. Refer to Figure 9, Figure 10 and Figure 11 for rotor condition examples and measurements.



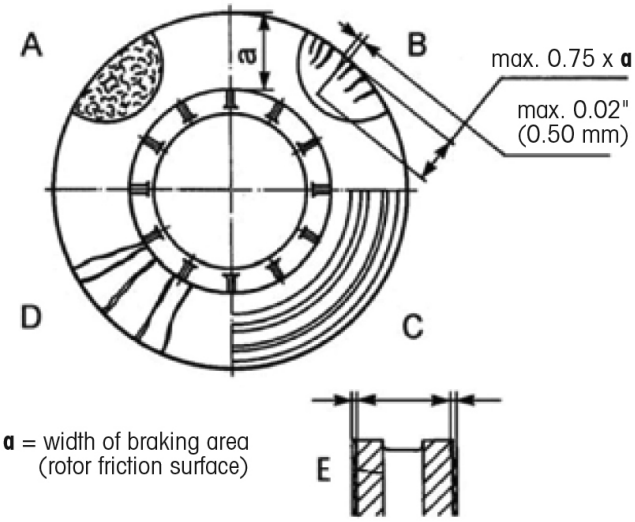
A = Total thickness new rotor: 1.69″ (43 mm)

B = Minimum wear limit: 1.46″ (37 mm)

Replace brake rotor on both sides if rotor thickness is near or below minimum before or after resurfacing.

Figure 10: *Rotor thickness*

CHECKING THE CONDITION OF THE BRAKE ROTORS



a = width of braking area (rotor friction surface)

Figure 11: *Rotor condition analysis*

Permissible

- **A** Web-like crack formation
- **B** Radial cracks up to max. 0.02″ (0.5 mm) width
- **C** Unevenness of the rotor friction surface up to max. 0.06″ (1.5 mm) depth

Not Permissible

- **D** Continuous cracks
- **E** A crack that passes completely through the rotor friction surface to the center vent from either side

2. **Check** the brake rotor for cracks and the condition of the friction surface (Figure 11).
3. **Replace** the brake rotor if a "not permissible" condition exists.

NOTE: If the rotor needs to be replaced, the hub must removed.

CHECKING THE RUNOUT OF THE BRAKE ROTORS

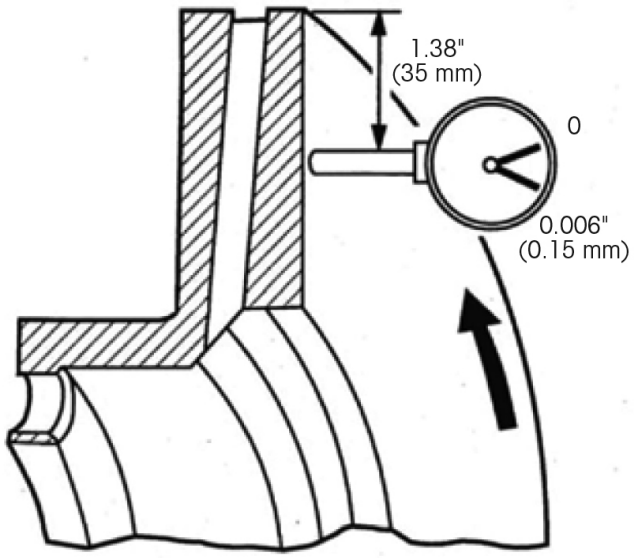


Figure 12: *Checking rotor runout*

1. **Fasten** the dial indicator to the brake caliper.
2. With the brake rotor installed, **check** the runout by rotating the wheel hub. Limit value: 0.006″ (0.15 mm).

IMPORTANT: Only install cleaned and grease-free brake rotors.

3. **Replace** the brake rotor or have it properly resurfaced if the brake rotor runout is more than 0.006" (0.15 mm). Also replace if, after resurfacing, the thickness is below minimum (Figure 10 on page 12).
4. **Install** the brake pads.

INTEGRAL DISC BRAKE

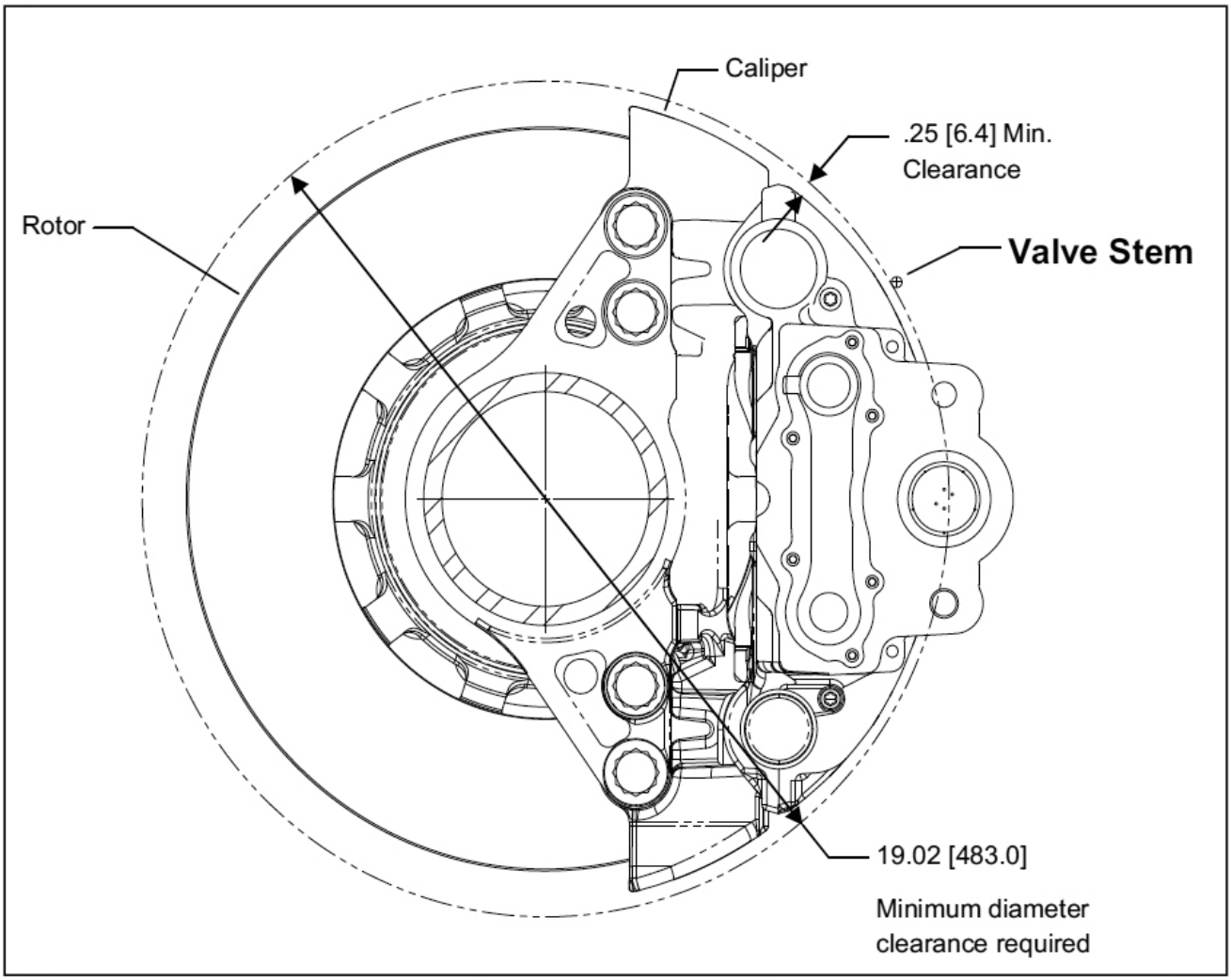
WHEEL AND VALVE STEM CLEARANCE NOTIFICATION

Careful attention must be given to the selection of the wheel and air valve stems to be sure they are compatible with Disc Brake Calipers.

IMPORTANT: A minimum of .25" (6mm) of clearance should be allowed between the disc brake caliper and the valve stem (Figure 1). Only rim and valve stem sizes approved by the trailer manufacturer.

CAUTION! Failure to provide adequate clearance between the disc brake caliper and the valve stem may cause the valve stem to sheer off resulting in loss of tire pressure and/or additional component damage which, if not avoided, may result in minor to moderate injury.

Figure 1



ELECTRICAL SYSTEM MAINTENANCE

Your Timpte trailer utilizes an internally grounded, automotive style electrical system that meets or exceeds all of the requirements of FMVSS 108.

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 on the trailer. Individual circuits may be traced by the various wire colors. Listed below is a schedule of the color code of the primary electrical circuits.

Blue – ABS Constant Power
Red – Stop Lights
Black – Red and Amber Clearance Lights
Brown – Tail and License Lights
Green – Right Turn Signal
Yellow – Left Turn Signal
White – Ground

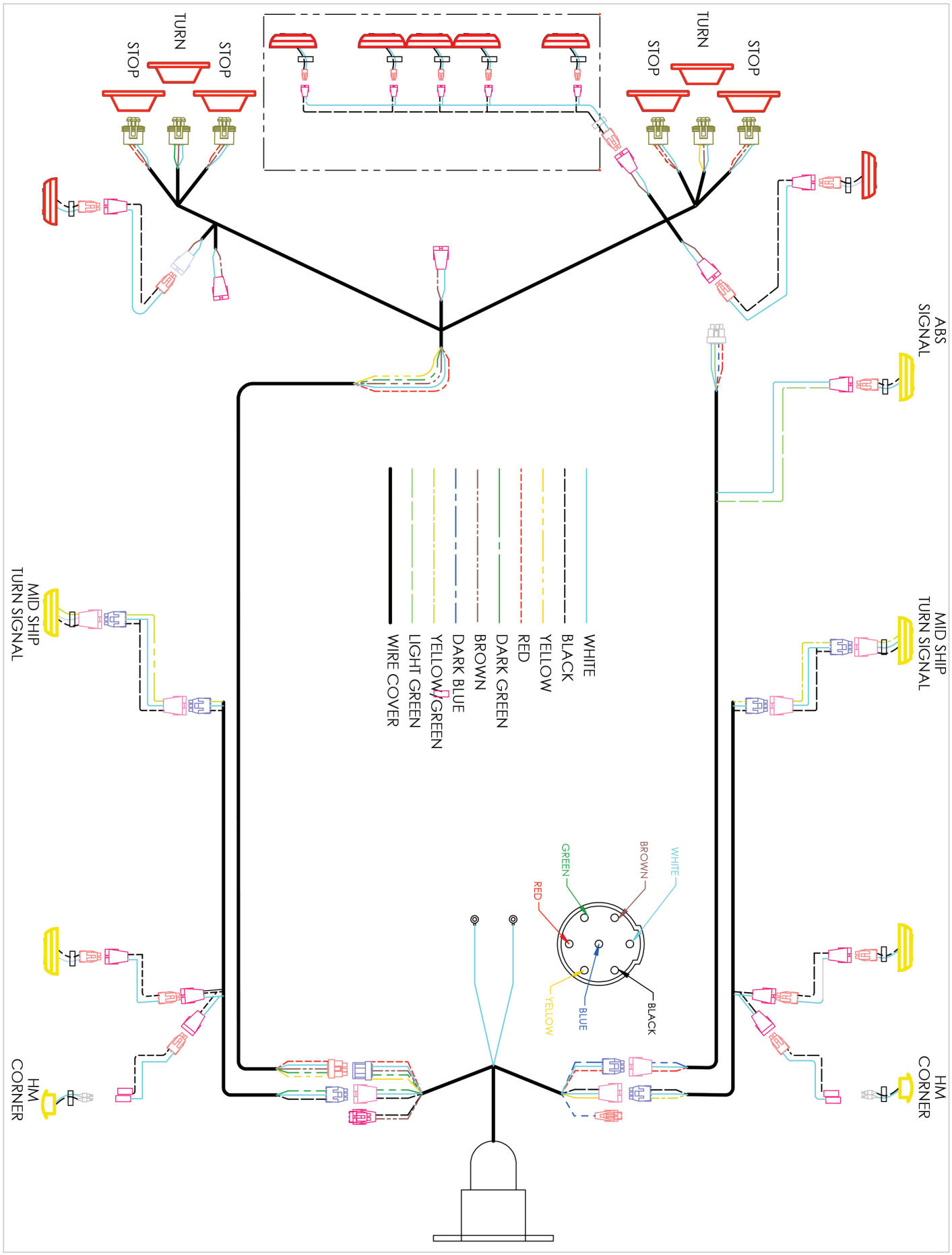
Use dielectric grease for all electrical connections to prevent corrosion between electrical junctions and to enhance electrical conductivity. (Failure to do so may void warranty.)

The wiring has been designed and sized for the lighting configuration supplied on the trailer by Timpte. Addition of other electrical devices may increase the load on the circuits beyond their design capacity, causing overheating & damage which will void the warranty on the electrical system.

DO NOT splice any electrical harness conductor. Splices may create open circuits or create the potential for "dead shorts" or "ground" issues within a circuit. Always replace damaged harnesses and conductors promptly. Splicing or modifying the harness may void warranty.

CAUTION – FMVSS #121 safety standard for Air Brake System required as of 3/1/1997 that trailers supply constant power via the blue center pin of the 7 way to the ABS system. As of 3/1/2001, all trailers were required to have an ABS system that provided for activation of the system status warning lamp inside the tractor cab.

Tractors and trailers using a single 7 way electrical connector will have constant power for the ABS on the center pin when the key switch is "on" and the ABS unit will communicate to the in cab system status warning lamp.



1R3 LIGHT CONFIGURATION

LANDING LEGS

LANDING GEAR LUBRICATION IS IMPORTANT!

Your landing gear was adequately greased and packed with high quality lubricants when manufactured and will not require additional lubrication for the first five (5) year period of service and operation. Following the initial five year period, it will be necessary to periodically supplement this lubrication to maintain satisfactory performance for your particular application. Re-lubrication should be part of your preventative maintenance program and should be done every month or more often, if required.

For ***low temperature operations*** (under 20° F) use a lithium or an anhydrous calcium extreme pressure grease that operates down to -65°F.
For ***cold weather operations***, it is also recommended to fill the gearbox approximately 3/4 full with grease. This helps minimize moisture accumulation, which can freeze, causing hard gear cranking.

For moderate temperature operations (20° F to 150° F) use a lithium or an anhydrous calcium extreme pressure grease.

Lubricate as follows: *(see FIGURE 1)*

1. Fully retract the landing gear, then using high gear, lower the leg 2-3 turns and lubricate the lift-screw assembly through grease fitting "***A***" (see landing gear legs shown below). Apply ½ lb. of grease.
   Distribute the lubrication by extending and retracting the leg several times.
2. Lubricate the gearbox, using grease fitting "***B***". Apply ¼ lb. of grease
3. Lubricate the bevel gear using grease fitting "***C***".
   Apply ¼ lb. of grease.

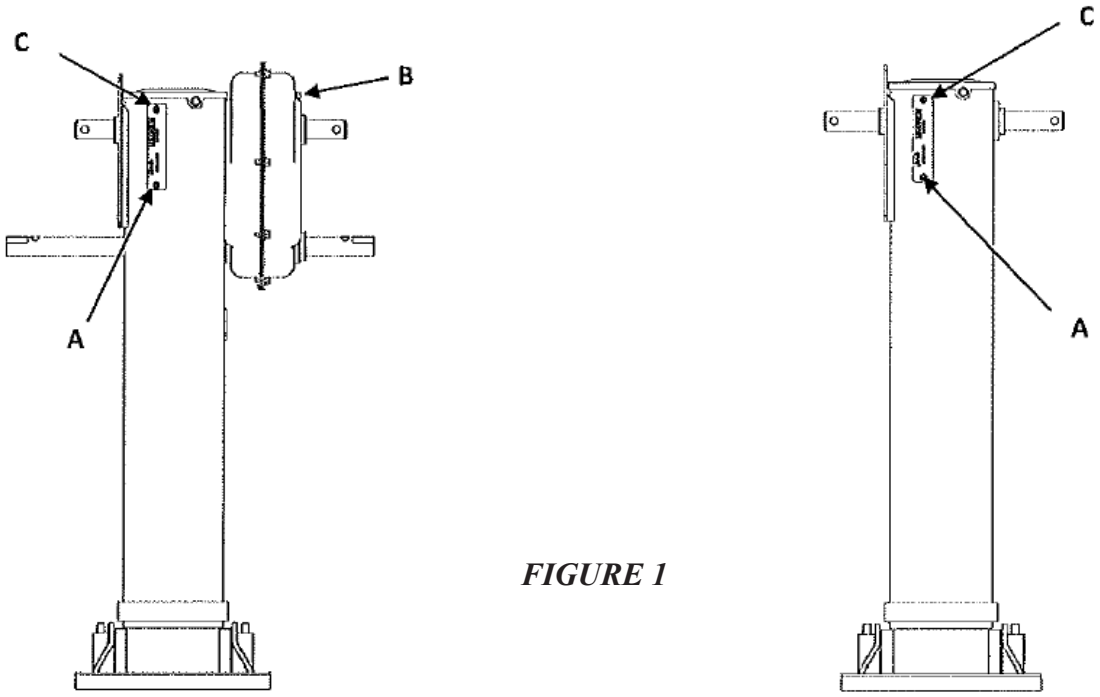


FIGURE 1

IMPORTANT - READ THIS

Timpte Reference Guide

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

- Inspect your trailer to ensure that all is correct and complete as ordered.
- Maintenance Schedule – Please refer to the maintenance schedule in the trailer packet. This document contains important information about maintenance, lubrication and torque requirements. Some highlights:
    a. Check wheel torque within the first 50 to 100 miles (450 to 500 ft-lbs dry).
    b. Several Daily inspections are required of all operators. Refer to the Operators Manual for details (page 53).
    c. Lubrication (Refer to Operators manual).
        1. Check hub oil daily (change every 100,000 miles).
        2. Lubricate trap operator U-joints monthly.
        3. Lubricate auto slacks and Cam bushings every 25,000 miles or semi-annually.
        4. If so equipped ensure that vibrators are getting properly lubricated and oil reservoir is filled. If not equipped with auto oiler, vibrators must be oiled prior to each use.
- Warranty – The Timpte Warranty Department will need to be contacted in advance for warranty repairs and a claim number issued for such repairs that are warrantable (402-367-3056).

TIMPTE

Serving the transportation industry since 1884.

MAINTENANCE SCHEDULE - ROUGHNECK

DAILY
WEEKLY
MONTHLY
ANNUALLY
SEMI-ANNUAL
QUARTERLY
MILEAGE/HR
BI-ANNUALLY

Trailer Serial Number _____

Customer Name _____

Operations Manual to Customer ___ Yes ___ No

In-Service Date _____

	Actual Reading	Time	Spec	Date	Initials
1. Alignment and Suspension check *					
• Suspension Torque Requirements (see decals on trailer or maintenance manual for specific suspension)		MILEAGE/HR			
• Check suspension for damage (cracks, loose or missing fasteners)		DAILY			
• Check air-ride suspensions for conditions of bushings, air leaks and shock absorbers		DAILY			
• Check spring condition for free movement of equalizer, condition of bushings, torque of fasteners and any type of cracking or damage to the spring leafs.		DAILY			
2. Wheels, Rims, Tires *					
• Check all wheel nuts for tightness, should be torqued to 450 to 500 ft-lbs (dry) after 50 to 100 miles of service - weekly thereafter.		WEEKLY			
• Check tires for cuts and abrasions.		DAILY			
• Check tire inflation daily. Reference Tire Manufacturer load tables for proper pressure.		DAILY			
a.)Tire Manufacturers require weekly tire inflation by gauge		WEEKLY			
b.)Tire rotation every 30,000 miles of trailer usage		MILEAGE/HR			
• Check wheel stud condition for stripped & damaged threads (if damaged see owners manual)		DAILY			
• Confirm bearing end-play every 100,000 miles or during each annual inspection * 0.001 – 0.005" range required, dial indicator measurement * also confirm bearing end-play to support long tire life		ANNUALLY/100K MI.			
3. Lights, Reflective Devices, Brakes and Electrical controls *					
• Check and clean all lamps, reflectors and conspicuity tape.		DAILY			
• Check 7-way electrical connection for proper engagement and that it's clean and free of corrosion.		DAILY			
• Check air brake glad hands for cracked housing and for rubber washer damage.		DAILY			
• Check air hoses and air lines for cracking and chafing.		DAILY			
• Check the operation of brakes. Check stroke indicators on auto slacks for proper adjustment.		DAILY			
• Drain moisture from the air brake system by opening the drain cocks on air tanks.		DAILY			
• Check ABS warning lamp for system status.		DAILY			
4. FIFTH WHEEL AND KINGPIN *					
• Inspect kingpin and its structure on the trailer for damage or unusual wear.		DAILY			
• Inspect coupling for positive engagement of the fifth wheel and kingpin.		DAILY			
• Inspect for proper lubrication of 5th wheel plate.		WEEKLY			
5. Trailer Body and Structural Components *					
• Visually check trailer body, suspension, sub-frame, upper coupler, etc. for any cracking, deterioration or of any loose or missing fasteners.		DAILY			
• Check trailer sides for damage, sharp bends, ripples or missing fasteners.		DAILY			
6. Tarp System *					
• Check to be sure the tarp is in serviceable condition.		DAILY			
• Insure that the latching system is in good working order.		DAILY			
• Check proper operation of electric tarp system if on trailer.		DAILY			
• Securing tarp prior to travel.		DAILY			
7. Lubrication *					
• Hub Oil - Check Daily - Change every 100,000 miles (every year minimum)		DAILY			
• Trap operator U-Joints		MONTHLY			
• Auto slacks		SEMI-ANNUAL			
• Cam Bushings (4 times during the life of brake linings - 25,000 miles)		MILEAGE/HR			
• Two speeds, grease		SEMI-ANNUAL			
8. Fluid Maintenance *					
• EZ-Flow System Oil Change (2 years or annually for high usage)		BI-ANNUALLY			

TIMPTE "PEACE OF MIND" LIMITED WARRANTY

TIMPTE SEVERE DUTY

Subject to the following paragraphs and warranty schedule, Timpte, Inc. warrants the First Purchaser* from Timpte, or from an authorized Timpte dealer, that a new Timpte **Roughneck Trailer** will be free from defects in materials and workmanship for the period of One Year from the date of delivery to the First Purchaser* except as listed in the exceptions below. "Severe Duty" may include, but is not limited to the transportation of High concentrated loads; Abrasive and Non-Agricultural commodities; Frequency of use; On and Off Road conditions.

Tires

Timpte provides no warranty coverage on the tires. They are covered under a separate manufacturer's warranty.

Tarps – For those Roughneck units that employ a tarp system option – the tarp is warranted for 90 days for workmanship and normal wear. All other tarp system components are warranted for 1 year.

Timpte Supplies Extended 3 Year Parts and Labor Coverage on the following items

- Landing Legs
- Axles
- Wheels
- Hub & Drum
- Auto Slack Brake Adjusters
- Wiring harness
- LED lights
- Brake Chambers
- Steel Subframe

This warranty does not cover items that need periodic adjustment as part of normal maintenance such as but not limited to; trap door adjustment and wheel bearing end play adjustment. This warranty does not cover any goods which are not defective, but which wear out and have to be replaced during the warranty period, including for example, but not limited to tires, brake linings, brake drums, lubricants, wheel flaps, seals, circuit breakers, and the like.

Timpte reserves the right to change or clarify the warranty coverage at any time. Contact the Timpte Warranty Administration Group at 402-367-3056 for any specific questions on coverage.

WARRANTY EXCLUSIONS

Misuse, neglect, overloading, improper loading, failure to follow any recommended loading or operating instructions, failure to follow specified maintenance procedures and intervals, unauthorized repair or structural modifications or failure to provide normal maintenance shall void this warranty in its entirety.

This warranty does not cover purchased components, attachments, or accessories, whether acquired from or provided by a Timpte dealer, Timpte CSC, or any other party, that are not in accordance with the factory-level standard specifications.

All warranty work must be approved by the Timpte Warranty Department prior to any work being performed.

CUSTOMER RESPONSIBILITIES

The First Purchaser* shall regularly inspect and check the trailer and follow all recommended maintenance procedures and intervals.

The First Purchaser* shall contact the Timpte Trailer Warranty Department immediately at 402-367-3056 upon detection of any perceived defect in the materials or workmanship. Any continued use of the trailer after discovery of a defect that could in any way aggravate the defect or otherwise damage the trailer will void the warranty on that part of the trailer.

Absolutely no work should be performed to the trailer prior to receiving authorization as evidenced by a valid claim number, from the Timpte Warranty department. Any work performed prior to receiving authorization will not be covered under warranty.

The First Purchaser* shall comply with the instructions of the Warranty Department related to a claim within 30 days of the date of those instructions or the warranty on that part of the trailer is voided. The Timpte Warranty Department will issue a claim number as Authorization for approved warranty repair. Timpte will not pay for any warranty work that was performed without a valid claim number. All transportation charges in connection with a warranty claim will be the sole responsibility of the First Purchaser*.

The First Purchaser's* sole and exclusive remedy against Timpte, arising from the Purchase and use of the trailer, is limited to repair or replacement of defective materials and workmanship, as provided herein.

Timpte may at its option require that the defective part or trailer be returned to a Timpte facility or a Timpte authorized service shop, as Timpte may determine.

All warranty work must be performed at the location designated and approved in advance by Timpte and to the specifications dictated by Timpte.

* "First Purchaser" means the first purchaser in good faith for a purpose other than resale.

** "Normal Service" means the loading and transportation of uniformly distributed legal loads of properly secured, noncorrosive cargo, in accordance with any applicable factory instructions and in a manner which does not subject the trailer or parts of the trailer to (a) concentrated loads; (b) loads in excess of the Gross Axle Weight Rating (GAWR) or Gross Vehicle Weight Rating (GVWR) stated on the Certification Plate affixed to the trailer by Timpte; and (c) accidental damage, or (d) stresses, impacts or shocks greater than those commensurate with normal, reasonable lawful use.

*** "Normal and Customary Charges" are a sum not exceeding the price charged by Timpte for such work.

LIABILITY LIMITATIONS

Timpte shall not be liable to the First Purchaser* or any other person for any damages, direct, incidental, consequential, Punitive or otherwise for breach of warranty, failure or delay in making delivery, or any other cause, except as specifically set forth in this warranty. In no event will Timpte's cumulative liability for breach of this warranty exceed the price charged by Timpte for any part to be replaced plus normal and customary charges ***for repairs to be made under this warranty.

Without limiting the foregoing, Timpte shall not be liable for any damages whatsoever as a result of cargo loss, downtime, driver, road service, towing expense, tire repair service, loss of profit, rental or substitute equipment or any other type of loss due to trailer performance. Premium labor rates (i.e. overtime, service calls, road side/mobile service) will not be paid for warranty repairs.

The warranties set forth herein are the only warranties applicable to Timpte Bulk Commodities Trailers and are expressly in lieu of all other warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose.

TIMPTE'S OBLIGATION

In the event of a defect in material or workmanship covered by this warranty, Timpte Inc. in its sole discretion will:

- Correct the defective work or replace the defective parts at Timpte's factory or at a Timpte CSC or dealer assigned by Timpte.
- Or reimburse the First Purchaser* by paying a sum not exceeding the price charged by Timpte for such work
- Or provide for repair of the defective parts by an authorized Timpte service facility,
- Or supply a replacement part to the First Purchaser*, who will install it at his own expense

Filing a Warranty Claim

To file a warranty claim with Timpte, Inc. pursuant to the Timpte Limited Warranty - contact the Warranty Department at Timpte, Inc. at 402-367-3056 or write;

Timpte, Inc.
Warranty Department
100 Timpte Parkway
David City, NE 68632

When filing a warranty claim several steps can be taken to aid the quick response to your request.

1. **Have the Serial Number of the Trailer** - Everything is registered and logged off the serial number. (Last six of the VIN#)
2. **Know the In-Service Date** - This will help in determining what warranty coverage is available per the Timpte Limited Warranty.
3. **Have contact information available** - The correct name of the owner, address and phone numbers are important to aid in the confirmation process and timely transfer of information.

Timpte Facilities

Timpte Customer Support Centers:

Timpte of Council Bluffs
2902 23rd Avenue
Council Bluffs, IA 51501
800-654-0636

Timpte of Mankato
2225 Howard Drive West
North Mankato, MN 56003
800-334-2096

Timpte of Aurora
3416 South 16th St.
Aurora, NE 68818
888-256-4884

Timpte of David City
200 Timpte Parkway
David City, NE 68632
833-388-1408

Timpte of Cedar Rapids
8615 St. Martin Blvd SW
Cedar Rapids, IA 52404
866-865-0992

Timpte of Princeton
160 West Progress Drive
Princeton, IL 61356
866-875-6509

Timpte of Bloomington
2312 West Market St.
Bloomington, IL 61705
309-820-1095

Timpte of Whitestown
3945 S Indianapolis
Road Lebanon, IN 46052
833-743-2290

Timpte of Sioux Falls
25768 Cottonwood Ave.
Sioux Falls, SD 57107
605-543-5160
800-424-8099

Timpte of Odessa
17724 W Interstate 20
Odessa, TX 79763

Satellite Sales Offices:

Timpte of Columbus
100 Columbus-Falls River Rd
Columbus, WI 53925
608-241-4955

Timpte of Sioux City
4325 South York St.
Sioux City, IA 51106
712-389-4670

Locations for Timpte Dealers can be found on the Timpte Website - www.timpte.com

REPORTING SAFETY DEFECTS & OTHER CLAIMS

If you believe that this vehicle contains a safety defect you may contact Timpte, Inc., the National Highway Traffic Safety Administration (NHTSA) or both.

The trailer was designed and inspected to conform to industry standards and all applicable NHTSA safety standards. Timpte, Inc. warrants this vehicle to be free from defects in materials and workmanship when manufactured per the limited warranty agreement. If you detect a defect that could cause an accident or could cause an injury or death; or if you wish to report any such accident, injury or death, or any property damage claim or other complaint not addressed to the Timpte Trailer Warranty Department, then you should contact in writing:

Timpte, Inc.
Vice President of Engineering
100 Timpte Parkway
David City, NE 68632
Phone: 402-367-3056
Fax: 402-367-4340

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 Timpte, Inc.

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 Timpte, Inc.

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

Timpte reserves the right to change or clarify the warranty coverage at any time. Contact the Timpte Warranty Administration Group at 402-367-3056 for any specific questions on coverage.

Notes:

Notes:

Notes: