SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-213

September 5, 2017

SERVICE ALERT

Haldex

Products Subjected to Flood and/or Storm Surge

Please read the attached instructions provided by Haldex regarding component inspection following Hurricane Harvey.

If you have any questions regarding the information indicated, please call Haldex Customer Service at 1.800.643.2374 or their Central Warranty Line at 1.877.442.5339.

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Haldex; it is making this available as a convenience and for information purposes. You are encouraged to contact Haldex at (1.800.643.2374) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

INSPECTION AND REPLACEMENT OF HALDEX BRAKE AND SUSPENSION PRODUCTS SUBJECTED TO FLOOD AND/OR STORM SURGE

Background:
Air brake valves, actuators and suspension valves have exhaust and or vent openings that can allow contamination to enter if these components have been submerged. While most flooding involves water, storm surges and hurricane caused floods carry large amounts of dirt, mud and other contaminants with the water. This water and contaminants can get into and seriously damage air brake valves, actuators and suspension products as well as wheel end components such as brake adjusters, brake linings/pads and bushings.

CAUTION

While handling components that have been submerged in flood waters, caution should be taken to protect the technicians and environment. With vehicles or components that have been exposed to flood waters and unknown contaminants, Haldex recommends:

- Technicians wear personal protective equipment (face masks, gloves, protective body wear, etc) while exposed to contaminated vehicles or components.
- Consultation with local EPA officials regarding the proper handling and disposal of material associated with flood and unknown contamination. All hazardous waste and contamination from submerged vehicles and components should be disposed of in accordance with local EPA requirements.

Inspection:
Inspect the vehicle for signs of water levels that have risen above the axle centerline of the vehicle. This includes indications that the water level has risen above the glad hands on trailers and dollies.
If there is any indication that the brake and/or suspension systems have been submerged or inundated by water or other debris or if there is a possibility that the systems have been submerged, the airbrake valves and actuators, Abs system components, electrical wiring harnesses and connectors, wheelend components and the suspension control valves should be replaced.
Indications of submersion include a mud, oil, water or debris line on the tires, frame or cab of the vehicle or mud or debris on the axle or brake system components.

Haldex Brake Products Corporation
10707 N.W. Airworld Drive
Kansas City, MO 64153-1215
USA
Phone: (816) 891-2470
Fax: (816) 880-9766

No attempt should be made to clean or repair any of the air brake, ABS, wheelend, electrical or suspension system components. This caution on cleaning includes power washing or any high pressure water wash that may force water or cleaning solution into the valves or electrical devices.

Wheel End Parts:
Wheel end brake hardware should also be inspected for contamination or damage and replaced. This includes inspection of camshafts and bushings and the replacement of brake adjusters, brake shoes and lining (or brake pads), ABS sensors and other wheelend brake hardware.

ABS / Electrical System:
If the vehicle has been subjected to flood or submersion, mud, oils and other debris can seep into the electrical connections and damage the system components. All electrical and ABS system components should be replaced. This includes ABS ECUs, wire harnesses, speed sensors, sensor cables, the electrical harnesses and 7 way connectors

Submerged Products or Systems:
Systems that show signs of having been submerged should have the entire system disassembled and replaced.
This includes the removal of all air brake lines (both plastic and rubber hose lines) from valves, reservoirs and actuators to assure that the lines are clean and not restricted, cut or damaged by the flood or debris.
All valves should be replaced to eliminate the possibility that contamination may have entered the valves or actuators and will prevent proper operation.

Valves and components that are on vehicles in floods and are above the water level need to be inspected for possible water in the lines leading to and from the valves. All lines should be removed and cleaned and inspected before being reinstalled.
Once all components have been inspected, cleaned or replaced, the system should be tested for leakage and operation before the vehicle is returned to service. Testing procedures are available from the Technology & Maintenance Council of American Trucking Association, the Truck Trailers Manufactures Association,

For additional information regarding specific Haldex components, please contact Haldex Tech Services desk at 1-800-643-2374 (prompt 3).

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SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-214

September 5, 2017

SERVICE ALERT

Bendix

Products Subjected to Flood and/or Storm Surge

Please read the attached instructions provided by Bendix regarding component inspection following Hurricane Harvey.

Please note – Saltwater submersion will necessitate valve replacement

If you have any questions regarding the information indicated, please call Bendix Customer Service at 1.800.247.2725.

All Service Alert related bulletins will be on Utility's public webpage:
http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Bendix; it is making this available as a convenience and for information purposes. You are encouraged to contact Bendix at (1.800.247.2725) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

Technical Bulletin

Subject: Flood Damage: Bendix Recommended Procedure for Trailer and Dolly Control Systems that may have been Submerged.

This Bulletin provides a recommended procedure for the inspection and (where possible) reconditioning of the air brake control system components on a trailer or dolly that has been submerged in flood waters.

CAUTION: Take all appropriate safety measures when working in conditions where hazardous waste, etc. may be present, including appropriate eye protection, gloves and masks. See the General Precautions section at the end of this Bulletin for recommended standard maintenance safety practices for normal conditions.

SALT (SEA) WATER IMMERSION

Bendix Commercial Vehicle Systems LLC recommends immediate replacement of all trailer or dolly pneumatic air brake valves that have been submerged in salt (sea) water to avoid any immediate or future operational issues as a result of internal corrosion. Due to the extremely corrosive nature of salt water and the inherent removal of valve lubrication, sudden and premature valve malfunction can result. Vehicle components recommended to be replaced include air reservoir(s), relay valves, spring brake valves, ABS relay-modulators and brake actuators. *If the air brake components are being replaced, there is no need to conduct the Air Brake System Inspections below, instead go to the sections for ABS System inspections and also the "General" heading for steps in restoring the vehicle to service.*

AIR BRAKE SYSTEM INSPECTION

In all other cases where the trailer or components have been submerged in fresh water, the recommended steps depend upon what is found during the following inspections. If the vehicle was in a coastal area and you are not certain whether the water submergence was by fresh water or salt (sea) water, our recommendation is to follow the guidelines for salt water submergence above. A separate section in this Bulletin covers inspections for the ABS system.

While it is not the scope of this Bulletin to address anything beyond the air brake control system of the trailer and dolly, as a useful first step, Bendix Commercial Vehicle Systems LLC recommends that a thorough power-washing of the trailer and dolly, including the foundation brakes, will assist the technician in determining the condition of the vehicle components. Follow usual chassis re-lubrication measures (including re-greasing of slack adjusters) after power-washing.

Since water and contaminants could have passed into the air brake system through unprotected gladhands, thoroughly inspect the gladhands and the supply and control hoses to determine if any liquid or solid contaminants are present.

If evidence of water or contamination is found in either control or supply hoses, go to Section A below.

If there is no obvious evidence of water or contamination, mark and remove the connectors at the first valve in the system from the front. Inspect the valve for water and contaminants. Carefully use air pressure to blow air through the hoses and watch for evidence of water or contamination. **CAUTION: Take all necessary precautions for safety of the technician and others in the work area during this procedure, including use of appropriate eye protection.**

If evidence of water or contamination is found, go to Section A below.

Continue to inspect all the valves in the air brake system, removing one service and control hose from each of the valves and inspect to determine if there is evidence of water or contamination. **If evidence of water or contamination is found, follow the instructions under Section A.**

continued over

If no evidence of water or contamination is found in any of the valves or hoses, follow the braking system inspections shown in Section B.

Section A. Trailer or dolly air brake systems with evidence of water or contamination

Once water or contamination has entered into any of the air brake components (for example through the exhaust valves, etc.), removal of all the water or contamination is not possible without total disassembly of the components. Therefore **Bendix recommends that all pneumatic air brake components be replaced** (including the air reservoir(s), relay valves, spring brake valves, ABS relay-modulators, and brake actuators). This action is necessary to avoid any immediate or future operational issues as a result of internal corrosion and water migration. Replace any trailer system air dryer present. Also, for ABS system checks, see the "ABS Systems" section below.

See "General" subheading below for hose cleaning/ replacement recommendations.

Section B. Trailer or dolly air brake system with no evidence of water/contaminants found.

Trailer/Dollies with only limited exterior exposure to fresh water can be returned to service after having their air brake system thoroughly tested. Include checks to verify that the parking and emergency brakes apply and release and that the reservoirs charge with minimal leakage (See General section at the end of this Bulletin for details of a leakage test). Also check that the application and release of the trailer and dolly service brakes occurs with no perceptible lag through the full range of normal service brake applications. Replace any non-functioning valves.

For ABS system checks, see "ABS Systems" section below. Vehicles with normally-functioning air brake systems can be returned to service. Be sure that towing vehicles have regularly-serviced air dryers to aid in removing any residual moisture from the trailer or dolly system.

In addition, all reservoirs should be pressurized and then slowly drained using their drain valves to remove any contents. After 30 days retest the vehicle.

30 DAY RETEST

Bendix recommends that trailers and dollies that do not show any internal evidence of water or contamination be retested 30 days after the vehicle has been returned to service. Bendix recommends that the vehicle be re-tested for operation, leakage, and contamination, and that a diagnostic check of the ABS system be carried out (see below). Use diagnostic software (e.g. Bendix® ACom5™ PC-Diagnostic Software) to look for any present or intermittent trouble codes stored in the ABS ECU. Any air brake components found inoperative should be replaced.

ABS SYSTEMS

ABS systems on trailers and dollies are comprised of an ABS wire harness, wheel speed sensors, and an Electronic Control Unit (ECU) — in many cases with an attached relay/modulator valve assembly (see above for air brake valve inspections).

ABS System Physical Inspection. Inspect ABS harnesses for damage, cuts, chafing, etc. and replace as necessary (Bendix does not recommend repairing or splicing harnesses).

Since the action of floodwaters and power-washing may move the ABS wheel speed sensors from their normal position close to the exciter (tone) ring, push (by hand) each of the wheel speed sensors until they contact the exciter ring. Normal wheel bearing play will adjust the sensor position when the wheel turns. When replacing ABS wheel speed sensors, either because of damage, or as a result of electronic diagnostic checks (see below), follow carefully the lubrication and re-installation instructions in the instruction sheet that is included with the replacement sensor (or, if available, you may use BW-120-A). Whenever a wheel speed sensor is removed from its mounting block, Bendix recommends that the sensor clip be replaced.

ABS System Electronic Inspection.

Unless damaged, Bendix® ABS trailer or dolly-mounted ECUs are normally "weatherproof" and are not affected by water or most types of contamination. Attach the trailer or dolly to a towing vehicle and power up the system. Note any ABS indicator lamp diagnostic codes. As necessary, use diagnostic software (e.g. Bendix® ACom5™ PC-Diagnostic Software) to look for any present or intermittent trouble code history stored in the ECU. Replace components as necessary.

GENERAL

Bendix recommends that standard operator pre-trip inspections to ensure proper air brake system operation be rigorously performed for all vehicles potentially impacted by flood conditions.

When replacing pneumatic system components that have been subjected to flood conditions, Bendix recommends that all contaminated air hoses be disconnected and flushed with clean water and blown out with air pressure to remove contaminants.

CAUTION: Take all necessary precautions for safety of the technician and others in the work area during this procedure, including eye protection.

If the contamination cannot be removed from an air line in this manner, replace the air line using SAE approved materials.

Air Brake System and Accessory Leakage Test

Park the vehicle on level ground and chock the wheels. Build system pressure to governor cut-out and allow the pressure to stabilize for one minute.

Step 1: Observe the dash gauges for two additional minutes without the service brakes applied.

Step 2: Apply the service brakes and allow the pressure to stabilize. Continue holding for two minutes (you may use a block of wood to hold the pedal in position.) Observe the dash gauges.

If you see any noticeable decrease of the dash air gauge readings (i.e. more than 4 psi, plus two psi for each additional trailer) during either two minute test, repair the leaks and repeat this test to confirm that they have been repaired.

For more information, see Bendix air leakage video BW2322(DVD), BW2324(VHS), or BW2327(CD).

Bendix Technical Assistance Team

For direct telephone technical support, call the Bendix technical assistance team at:

1-800-AIR-BRAKE (1-800-247-2725-2-1),

Monday through Friday, 8:00 A.M. to 6:00 P.M. EST, and follow the instructions in the recorded message.

Or, you may e-mail the Bendix technical assistance team at: techteam@bendix.com.

General Precautions. WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following general precautions should be observed at all times.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels. Always wear safety glasses.
2. Stop the engine and remove ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, EXTREME CAUTION should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically charged components.
3. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
4. If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with an AD-IS® air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.
5. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
6. Never exceed manufacturer's recommended pressures.
7. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
8. Use only genuine Bendix® replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
9. Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
10. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
11. For vehicles with Antilock Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-215

September 5, 2017

SERVICE ALERT

Meritor WABCO

Products Subjected to Flood and/or Storm Surge

Please read the attached instructions provided by Meritor WABCO regarding component inspection following Hurricane Harvey.

If you have any questions regarding the information indicated, please call Meritor WABCO Customer Service at 1.800.535.5560.

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Meritor WABCO; it is making this available as a convenience and for information purposes. You are encouraged to contact Meritor WABCO at (1.800.535.5560) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

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Revised 10-05

MERITOR WABCO

Technical Bulletin

Service Instructions for Meritor WABCO Components That Are Submerged in Contaminated Flood Water as a Result of the Recent Hurricanes

Important Information

Meritor WABCO components that are submerged in contaminated flood water as a result of the recent hurricanes may have sustained damage that includes, but is not limited to, rust and corrosion.

To help prevent possible product issues from occurring in the future, Meritor WABCO advises that you perform the following service procedures before you return a vehicle with submerged components to service. None of the following actions are warrantable.

⚠ WARNING

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Health and Human Services (HHS) are cautioning the public about the potential hazards associated with flood waters, due to elevated levels of contamination and other hazardous substances. For the complete EPA guidelines concerning flood water safety issues, visit the EPA website at www.epa.gov.

Recommended Service Procedures for Meritor WABCO Components Submerged in Contaminated Flood Water

Hazard Alert Messages

Read and observe all Warning and Caution hazard alert messages contained in the publication for the component you will service before you perform procedures to prevent serious personal injury and damage to components.

Service Publications

NOTE: All Meritor WABCO service literature is posted on our website, www.meritorwabco.com.

This bulletin does not provide the actual service or test procedures for Meritor WABCO components. For complete service information, refer to the appropriate Meritor WABCO maintenance manual:

- Pneumatic ABS (Tractor): Maintenance Manual 28, 30 or 0112
- Pneumatic ABS (Trailer): Maintenance Manual 29, 33 or 0180
- Hydraulic ABS: Maintenance Manual 39 or 0401
- Air Compressors: Maintenance Manual 31 or 0204
- Air Dryers: Maintenance Manual 34 or 35
- Air Brake Control Valves: TP-9973 or TP-9974

Inspect Components

Air Compressors

1. Do not start the vehicle before inspecting the compressor.
2. Inspect all air lines and connections for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
3. Ensure that all water is removed from the air filter and compressor air inlet. If water is present in the compressor, drain the oil from the crankcase.
4. If the engine is being replaced, Meritor WABCO recommends replacing the compressor.

Air Dryers

1. Inspect all air dryer components, air lines and connections for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
   - If several air dryer components need to be replaced, it may be more economical to replace the complete air dryer.
2. If excessive moisture is present, replace the air dryer cartridge.

Air Brake Control Valves

1. Inspect all valves for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Foot valve and quick release valves: Clean and lubricate the pins and plate.

Pneumatic and Hydraulic ABS — Wheel End Sensing Systems

1. Inspect ABS wheel end sensors, sensor spring clips and tooth wheels for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Inspect and clean the spring clip mounting blocks.
3. Lubricate sensors and spring clips with Meritor WABCO-approved lubricant.

Pneumatic and Hydraulic ABS — Electrical Connections

1. Inspect all electrical connections for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Clean and dry all electrical connections.
3. Apply dielectric grease to terminals.

Pneumatic and Hydraulic ABS — ECUs

1. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Check the entire ABS or HABS installation with Meritor WABCO diagnostic tools. Replace any component found to be functioning incorrectly.

MERITOR WABCO

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SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-216

September 5, 2017

SERVICE ALERT

Meritor

Products Subjected to Flood and/or Storm Surge

Please read the attached instructions provided by Meritor regarding component inspection following Hurricane Harvey.

If you have any questions regarding the information indicated, please call OnTrac Customer Service at 1.866.668.7221.

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Meritor; it is making this available as a convenience and for information purposes. You are encouraged to contact Meritor at (1.866.668.7221) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

MERITOR®

Technical Bulletin

Service Instructions for Heavy Vehicle Components That Are Submerged in Contaminated Floodwater

Important Information

Heavy vehicle components that are submerged in contaminated floodwater as a result of the recent hurricanes may have sustained damage that includes, but is not limited to, rust and corrosion.

To help prevent possible product issues from occurring in the future, Meritor advises that you perform the following service procedures before you return a vehicle with submerged components to service. None of the following actions are warrantable.

⚠ WARNING

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Health and Human Services (HHS) are cautioning the public about the potential hazards associated with floodwaters, due to elevated levels of contamination and other hazardous substances. For the complete EPA guidelines concerning floodwater safety issues, visit the EPA website at www.epa.gov.

Before You Service a Component

Contact the OnTrac Customer Service Center at 866-668-7221 to obtain the correct service publication.

For Complete Service Information on All Meritor Components

Visit the Literature on Demand Section of meritor.com.

Recommended Service Procedures for Components Submerged in Contaminated Floodwater

Hazard Alert Messages

Read and observe all Warning and Caution hazard alert messages contained in the publication for the component you will service before you perform procedures to prevent serious personal injury and damage to components.

Inspect Components

Axles

Rear Drive and Front Drive Steer

Refer to Maintenance Manual 5A, Single-Reduction Differential Carriers Single Rear Drive Axles, Rear-Rear Tandem Drive Axles and Front Drive Steer Axles; Maintenance Manual 5L, Single-Reduction Forward Differential Carriers on Tandem and Tridem Axles; Maintenance Manual MM-0970, MT-14X Series Single-Reduction Forward Differential Carriers on Tandem Axles; and Maintenance Manual MM-0990, Amboid Rear Differential Carrier Rear/Rear Carrier on MT-40-14X Series Tandem Drive Axles.

1. Remove and completely disassemble the carrier assembly. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Clean the housings to ensure that you remove all water and contaminants.
3. Replace all seals. ***Do not reuse seals.***
4. Replace the breather assembly.

Front Non-Drive Steer

Refer to Maintenance Manual 2, Front Non-Drive Steer Axles/All Meritor Conventional, Easy Steer Plus™ and MFS Series.

1. Remove and completely disassemble the wheel end and steering knuckle assembly.
2. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
3. Replace all seals. ***Do not reuse seals.***

Tie Rods

Inspection is not possible. Replace all tie rod ends.

Trailer Axles

Refer to Maintenance Manual 14, Trailer Axles.

1. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Remove the spindle end plugs. Drain any water that may have entered the axle tube cavity.
3. Blow air through the inside of the tube to clean and dry the tube cavity.
4. Replace the spindle end plugs.

Conventional (Non-Unitized) Hubs on Rear Drive, Front Drive Steer, Front Non-Drive Steer, and Trailer Axles

Refer to Maintenance Manual MM-0409, Wheel-End Components, Meritor Conventional and Unitized Wheel Ends.

Oil or Grease Lubricated; Conventional Bearings

1. Remove the hub from the spindle. Completely disassemble the hub assembly.
2. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
3. Clean the hubs to ensure that you have removed all water and contaminants.
4. Replace all seals. ***Do not reuse seals.***

Unitized Hubs on Front Non-Drive Steer and Trailer Axles

Refer to Maintenance Manual MM-0409, Wheel-End Components, Meritor Conventional and Unitized Wheel Ends.

Sealed; Not Adjustable

1. Replace the hub unit as an assembly. ***Inspection is not possible.***
2. Clean and inspect the spindles for water and contaminant damage that includes, but is not limited to, rust or corrosion before you install the new hub assembly. Replace damaged spindles.

Drivelines

Refer to Maintenance Manual MM-96147, Drivelines; Maintenance Manual MM-0998, Xtended Lube MXL™ 17N, 176N and 18N Series Drivelines.

RPL Permalube™ Series Permanently-Lubricated; MXL™ Greaseable Universal Joints and Slip Yokes

1. Replace all universal joints and center bearings. ***Inspection is not possible.***
2. Completely disassemble and inspect the slip assembly. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion.
3. Replace all damaged components.

Transfer Cases

Refer to Maintenance Manual MM-0146, Transfer Cases, MTC-4208, -4210 and -4213; and Maintenance Manual MM-0861, Transfer Cases, MTC-4208X/XL/XP, MTC-4210X/XL/XP and MTC-4213X Series.

1. Remove and completely disassemble the transfer case assembly.
2. Clean the housing to ensure that you have removed all water and contaminants.
3. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
4. Replace the breather assembly.
5. Replace all seals. ***Do not reuse seals.***

Air-Actuated Cam, Disc and Wedge Brakes (All Models)

Refer to Maintenance Manual 4, Cam Brakes and Automatic Slack Adjusters; and Maintenance Manual 4R, Wedge Brakes; MM-0467, DiscPlus™ EX225 Air Disc Brake.

1. Completely disassemble the brake assembly. You don't have to remove the brake spider or torque plate. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Clean all components and housings to ensure that you remove all contaminants. Ensure that all sliding surfaces, such as caliper slide pins, camshafts, etc., are free of rust and contaminants.
3. Replace all shoes and linings (pads).
4. Replace the seals. ***Do not reuse seals.***
5. Lubricate the brake assembly completely to purge all residual contaminants.
6. Contact the brake chamber manufacturer for instructions to verify what should be inspected or replaced before returning the vehicle to service.

Automatic Slack Adjuster

Refer to Maintenance Manual 4, Cam Brakes and Automatic Slack Adjusters.

1. Replace the complete slack adjuster assembly.
2. Clean and lubricate the clevis pin.

Hydraulic-Actuated Drum and Disc Brakes

1. Completely disassemble the brake assembly. You don't have to remove the torque plate or brake spider. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged components.
2. Clean all components and housings to ensure that you remove all contaminants. Ensure that all sliding surfaces, such as caliper slide pins, camshafts, etc., are free of rust and contaminants.
3. Replace all shoes and linings (pads).
4. Replace all seals. ***Do not reuse seals.***

Brake Drums and Rotors

Refer to Maintenance Manual MM-0409, Wheel-End Components, Meritor Conventional and Unitized Wheel Ends.

1. Remove and inspect the brake drums and rotors for water and contaminant damage that includes, but is not limited to, rust and corrosion.
   - **If you find rust on the braking surface:** Remove it with a light emery cloth.
2. Thoroughly clean all surfaces, including all debris on the rotor cooling vanes.
3. Clean and remove all contaminants from all ABS tooth wheel surfaces, as well as the air gaps between the teeth.

Shock Absorbers

Replace all shock absorbers.

RideStar™ RHP Series Trailer Air Suspension Systems

Refer to Maintenance Manual 14S, RideStar™ RHP Series Sliding Tandem Trailer Air Suspension System.

1. Remove and replace the suspension pivot bushings.
2. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion.
3. Clean the components before installing new bushings.
4. Replace all rubber parts. Replace all air springs.
5. Replace all shock absorbers.

Slider Pin Mechanism

1. Pull and release the slider pull handle several times.
2. Check to ensure that all four locking pins retract and engage freely, and that no binding or excessive corrosion is present on the linkage system.
   - **If the system does not operate freely or excessive corrosion is present:** Clean and lubricate the linkage connection points. Continue to pull and release the locking system until all pins retract and engage freely.

RideStar™ RFS Series Trailer Air Suspension System

Refer to Maintenance Manual 14F, RideStar™ Trailer Air Suspension Systems, RFS Series.

1. Remove and replace the suspension pivot bushings.
2. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion.
3. Clean the components before installing new bushings.
4. Replace all air springs. Replace all rubber parts.
5. Replace all shock absorbers.

Height Control Valve

1. Remove and replace the height control valve.
2. Ensure the air system is clean and dry.
3. Set the ride height. Refer to the manufacturer's specifications.

RideSentry™ MPA Series Trailer Air Suspension Systems

Refer to Maintenance Manual 14R, RideSentry™ MPA Series Sliding Tandem Trailer Air Suspension System.

1. Remove and replace the suspension pivot bushings.
2. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion.
3. Clean the components before installing new bushings.
4. Replace all rubber parts. Replace all air springs.
5. Replace all shock absorbers.

Slider Pin Mechanism

1. Disassemble and replace the pin control valve and slider pin actuation chamber.
2. Ensure the air system is clean and dry.

3. Set the trailer brakes. Release and engage the lock pins several times.
4. Check to ensure that all four locking pins retract and engage freely, and that no binding or excessive corrosion is present on the complete pin system.
    - **If the system does not operate freely or excessive corrosion is present:** Clean and lubricate the linkage connection points. Continue to pull and release the locking system until all pins retract and engage freely.

Meritor MTA Series Trailer Air Suspension System

Refer to Maintenance Manual 14M, Meritor MTA Series Trailer Air Suspension Systems.

1. Remove and replace the suspension pivot bushings.
2. Inspect all components for water and contaminant damage that includes, but is not limited to, rust and corrosion.
3. Clean the components before installing new bushings.
4. Replace all air springs. Replace all rubber parts.
5. Replace all shock absorbers.

Height Control Valve

1. Remove and replace the height control valve.
2. Ensure the air system is clean and dry.
3. Set the ride height. Refer to the manufacturer's specifications.

Meritor Tire Inflation Systems (MTIS) by P.S.I.™

Refer to Maintenance Manual 14P, Meritor Tire Inflation Systems (MTIS) by P.S.I.™, Standard MTIS, MTIS with the ThermALERT™ Systems.

1. Disassemble air hoses from the control box to the axle. Ensure they are clean and dry.
2. Disassemble the tire stem hoses from the "T" in the hubcap. Inspect the “T” for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged “Ts”.
3. Inspect the hubcaps for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged hubcaps.
4. Inspect all hoses for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged hoses.
5. Remove the hubs. Remove the stators from the axle plugs. Inspect the stators for water and contaminant damage that includes, but is not limited to, rust and corrosion. Replace all damaged stators. If the stators are not damaged, clean and dry them for possible reuse.
6. Remove the axle spindle end plugs. Drain all water that may have entered the axle tube cavity. Blow air through the inside of the tube to clean and dry the tube cavity.
7. Install new spindle plugs and install the stators.
8. Replace the MTIS control box and indicator light on the front of the trailer.
9. Ensure the system is operating correctly before returning the vehicle to service.

MERITOR

Meritor Heavy Vehicle Systems, LLC
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Troy, MI 48084 USA
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meritor.com

Printed in USA

TP-1305
Issued 11-12
(16579)

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-217

September 6, 2017

SERVICE ALERT

Conmet

Potential for Water Contamination in Hub Due to Flooding

Please read the attached instructions provided by Conmet regarding wheel end lubricant and replacement for equipment located in areas of moderate to severe flooding.

If you have any questions regarding the information indicated, please call Conmet at 1.800.547.9473.

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Conmet; it is making this available as a convenience and for information purposes. You are encouraged to contact Conmet at (1.800.547.9473) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

September 5th, 2017

Service Bulletin

A Publication of Consolidated Metco, Inc.

Service Alert: Potential for Water Contamination in Hub Due to Flooding

PURPOSE:
The purpose of this Service Alert is to advise wheel end lubricant inspection and replacement for equipment located in areas of moderate to severe flooding.

SCOPE:
This procedure covers all ConMet hub assemblies.

PROCEDURES:
A visual inspection of the hub lubricant is advised. Oil, such as a 50 weight synthetic, with a small amount of water added will turn to a milky white color (figure 1). Semi-fluid grease will also turn a milky color. However the color change will depend on the grease's base color. Figure 2 shows semi -fluid grease after water contamination. Its base color was a red/pink color and after contamination the lubricant has turned a milky shade of pink.

Contaminated lubricant should be removed from hub assembly and replaced with new lubricant. Hub cavity should be thoroughly cleaned to ensure removal of all contaminated lubricant.

WARNING:
Contaminated lubricant must be removed from the wheel end to prevent wheel bearing damage. Failure to remove contaminated lubricant will void ConMet PreSet warranty.

Inspect bearing cups and cones for water corrosion, rusting and unusual signs of wear. Replace bearings if necessary with appropriate bearing set.

Figure 1: 50 weight synthetic oil contaminated with a small amount of water turns milky white.

Figure 2: Red/pink semi-fl ud grease contaminated with a small amount of water turns milky pink.

Part No. 10016583A
9-2017

Consolidated Metco, Inc.
5701 SE Columbia Way, Vancouver, WA 98661 · (800) 547-9473 · www.conmet.com

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-218

September 6, 2017

SERVICE ALERT

Stemco

Inspection, Rebuild, Reassembly of Submerged Wheel Ends

Please read the attached instructions provided by Stemco regarding special consideration given to wheel ends that may have been submerged during Hurricane Harvey.

If you have any questions regarding the information indicated, please call Stemco at 1.800.527.8492.

All Service Alert related bulletins will be on Utility's public webpage:
http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Stemco; it is making this available as a convenience and for information purposes. You are encouraged to contact Stemco at (1.800.527.8492) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

Inspection, Rebuild, Reassembly of Submerged Tractor and Trailer Wheel Ends

Tractors and trailers exposed to water submersion require special consideration to be given to the work procedures used in salvage and/or rebuild of the units. STEMCO does not recommend putting any unit into service that has not had a complete wheel end inspection and/or repair as described below. If wheel ends are not properly repaired, wheel end performance may degrade, up to and including possible catastrophic wheel end failure.

CAUTION **While handling units which have been submerged in flood water, caution should be taken to protect technicians and the environment. With these units exposed to flood waters of unknown chemical composition, STEMCO recommends:**

- Technicians wear personal protective equipment (i.e. face, hand, protective body equipment, etc.) while exposed to contaminated wheel ends.
- Consultation with local EPA officials regarding proper handling and disposal procedures for the contents of contaminated wheel ends. All hazardous waste from affected wheel ends should be disposed of per EPA requirements.

1. Identify Wheel End Type and Conditions

- Is the wheel end equipped with Sentinel hub cap technology? Refer to #3 or #4 below.
- Is the wheel end lubricated with oil or grease?
- Does the wheel end contain a pre-adjusted bearing package? Some pre-adjusted wheel ends have limited rebuild capabilities. If you have this type of wheel end, contact the pre-adjusted wheel end manufacturer for rebuild instructions.

  NOTE: Water, especially salt water, is corrosive to wheel ends and may degrade lubricant and metal components

2. General Steps

- Inspect all wheel ends, not just a random sampling.
- Clean the exterior of wheel end, washing off potential chemical or other contamination in a location with approved drainage and run-off collection capabilities.
- In all cases where lubricant is drained or removed from a wheel end, properly dispose of that lubricant. Disposal may differ depending on level and type of chemical contamination in the lubricant.

STEMCO®
A Higher Standard of Performance.℠
an EnPro Industries company

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TS 16949

Printed in the USA

3. Sentinel Type Hub Cap

STEMCO offers hub caps with Sentinel technology (Sentinel hub cap and ESP plugs). These products provide water resistance to the internal hub cavity via a filter membrane. It is identifiable by the word "***Sentinel***" written on the non-removable red plastic cap or "***ESP***" on the blue removable plug. Wheel ends equipped with Sentinel technology are likely to have little, if any, contamination inside. However, under these extreme conditions all wheel ends should be inspected using the following procedure.

- Remove the hub cap.
- **Oil Lubrication** - Drain the wheel end lubricant into an approved receptacle.
  - Inspect lubricant for water contamination, dispose of lubricant properly.
  - If no lubricant contamination is found, install the hub cap with a new gasket and refill to the proper level. (Refer to TMC RP 631B)
- **Grease Lubrication** - Follow the recommended annual inspection procedure for grease wheel ends (Refer to TMC RP 631B). This involves removing the outer bearing and inspecting the hub cavity for proper lubricant level and condition.
  - If no contaminants are present assure proper grease level and reassemble. (ref: TMC RP 631B)
  - If the lubricant is determined to be contaminated, follow the complete disassembly practice listed in #4.

4. Non Sentinel Type Hub Caps

Other hub caps may not provide the same level of water resistance and, when submerged, it is likely that contamination will enter the wheel end. ***NOTE: Tire inflation systems hub caps in many instances look like the Sentinel system. These do not contain Sentinel technology. Treat these as you would a non Sentinel hub cap as described below.***

- Remove the hub cap.
- Drain wheel end lubricant (OIL or GREASE) into approved receptacle. Dispose of properly.
- Disassemble the wheel end.
- Inspect the bearings and races for any signs of rust or discoloration. If there is any sign of rust or pitting, both the ***BEARING AND THE CUP HAVE TO BE REPLACED.***

  NOTE: On aluminum hubs, a special procedure is used to install bearing cups. Refer to the hub manufacturer for their recommended procedure.
- Inspect the axle and hub for any signs of rust or discoloration. If rust is present, clean the surface with emery cloth to remove rust.

  NOTE: This is especially important on the axle bearing journals and seal shoulder and in the hub bearing and seal bores.

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877-232-9111

- Clean all components to be reused in solvent and properly dry these parts.

  NOTE: Never use compressed air to spin the bearing as this can cause injury to the technician and/or damage to the bearing.
- Lubricate bearing rollers and axle with the same type lubricant (OIL or GREASE) to be used in the hub.
- Reassemble the wheel end using proper assembly procedures.
  - Refer to TMC's RP 618B for bearing adjustment. ***NOTE: Verify that wheel end bearing adjustment is 0.001" to 0.005" end play using a dial indicator.***
  - Refer to TMC's RP 631B for lubricant fill procedures.
  - Installation instructions reference material is available at www.stemco.com. Or call STEMCO at 1-800-527-8492. Ask for technical support.

STEMCO wheel end components including seals, bearings, Pro-Torq nuts and an array of hub caps and gaskets are available through authorized distributors or OE dealers. These are available in either a complete rebuild kit or individually packaged components. Please consult your distributor/dealer or STEMCO for specific part numbers or additional information.

Thank you for your support of STEMCO products.

Technical information sources:

STEMCO Website at www.stemco.com refer to Tech Tips or installation instructions or call toll-free 1-800-527-8492.

- TMC RP 631B "Recommendations for Wheel End Lubrication"
- TMC RP 624B "Lubricant Fundamentals"
- TMC RP 618B "Wheel Bearing Adjustment Procedures"

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SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-219

September 6, 2017

SERVICE ALERT

P.S.I.

Inspection and Servicing Procedures for Flood Impact

Please read the attached instructions provided by P.S.I. regarding inspecting and servicing vehicles that may have suffered flood damage during Hurricane Harvey.

If you have any questions regarding the information indicated, please call P.S.I. at 210.222.1926.

All Service Alert related bulletins will be on Utility's public webpage:
http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from P.S.I.; it is making this available as a convenience and for information purposes. You are encouraged to contact P.S.I. at (210.222.1926) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

PRESSURE SYSTEMS INTERNATIONAL

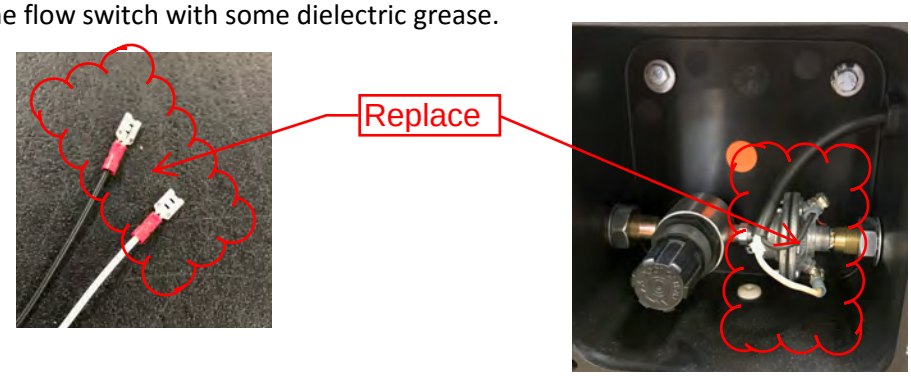
4323 Interstate Way
San Antonio, TX 78219
210.222.1926 Phone
210.568.4221 Fax

September 1, 2017
BUL-FloodInspection-RevA

Technical Bulletin - Inspection and Servicing Procedures for Flood Impacted Vehicles

- Step 1 - Check all airline connections
  - If airlines are intact, proceed to step 2
  - If any airline was found to be disconnected, possibly due to debris, the entire system needs to be taken apart and investigated for possible water entry.

- Step 2 – Inspect the control box
  - PSI recommends that the wiring harness terminals inside the box are replaced and reinstalled on the flow switch with some dielectric grease.



- Step 3 – If the wheel ends were fully submerged, PSI recommends that all hubcaps are removed and the wheel ends are inspected for water intrusion.
  - If you do find moisture in your wheel end, please contact your hub, wheel seal, bearing, and axle manufacturers for their recommended service requirements.

- Step 4 – Once it is determined that all trailer components are free of water and debris, a PSI system check should be performed.
  - Power the trailer at the 7-way, and apply air.
  - Check the light function. Create a leak in the system by opening the system maintenance valve on the PSI control box.
  - With this leak created, the light should be turned on.
    - Also with this leak created, you will be able to confirm that air is being supplied to the system. If air is not being supplied, inspect the pressure protection valve attached to the trailer air tank for possible damage.
  - During this process, PSI recommends that the output pressure of the box is checked.
    - Use an oil filled gauge attached to the output port of the control box.
    - For full instructions, please reference http://www.psitireinflation.com/UserFiles/Documents/Product/PRE-C01-RevA-.pdf
  - After the output pressure is checked and confirmed, bleed down the tires to 5psi below the desired spec pressure and allow the system to bring them back up.

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-220

September 7, 2017

SERVICE ALERT

Hendrickson

Inspection and Service for Water Submerged Trailers

Please read the attached document provided by Hendrickson regarding technical procedures for trailer suspension systems. The last page of the document includes information on inspection and service for trailers that have experienced flood impact or water submersion following Hurricane Harvey.

If you have any questions regarding the information indicated, please call Hendrickson at 1.866.743.3247.

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Hendrickson; it is making this available as a convenience and for information purposes. You are encouraged to contact Hendrickson at (1.866.743.3247) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

TECHNICAL PROCEDURE

TRAILER SUSPENSION SYSTEMS

SUBJECT: Preventive Maintenance Guide

LIT NO: L578
DATE: February 2016 **REVISION:** D

INTRODUCTION

This document recommends inspection areas and lubrication points on Hendrickson Trailer suspensions and components. Table 1 recommends inspection points and intervals for suspension components and systems. Table 2 recommends inspection and service after IDLE TIME or exposure to FLOOD. A list of relative literature is also included. The information in this document applies to Hendrickson products only.

For inspection and lubrication of vendor component products installed by Hendrickson, refer to VENDOR LITERATURE on page 3.

NOTE: Concepts and Functions is now included in literature T15001.

PERIODIC INSPECTION SCHEDULE

The Hendrickson Trailer air suspension requires very little attention (Table 1). Using the information in this publication and other Hendrickson publications will ensure maximum air suspension component life.

IMPORTANT: This document includes minimal inspection requirements for normal on-highway applications. For trailers subjected to some off-road, abnormally rough or extreme conditions, **inspection and lubrication should be adjusted to ensure maximum suspension performance and integrity**.

NOTE: The frequency at which inspections are recommended is based on an average trailer usage of 100,000 miles (160,000 km) per year. Higher usage would require more frequent inspections.

LUBRICATION POINTS AND FREQUENCY

There are few areas requiring lubrication for Hendrickson suspensions and axles. For literature providing lubrication details, refer to relative HENDRICKSON PUBLICATIONS, VENDOR LITERATURE and TMC on page 3.

The only Hendrickson components requiring lubrication are S-cam spider bushing and support bearing journal or cam tube. Each requires NLGI #2 EP chassis lubricant and should be replenished MONTHLY. Always apply grease until fresh lubricant appears at purge point.

CONTACT HENDRICKSON

Methods of contacting Hendrickson Trailer Technical Services include:

EMAIL

For **H**endrickson **T**railer **T**echnical **S**ervices, use the following e-mail address:

HTTS@Hendrickson-intl.com

PHONE

Contact Hendrickson Trailer Technical Services directly in United States or Canada at **866**-RIDEAIR **(743-3247)**. From the voice menu, select **Technical Services**/Warranty.

⚠**WARNING: Always wear proper eye protection and other required PPE (personal protective equipment) when performing vehicle maintenance, repair or service. Follow federal, state and local safety regulations as appropriate.**

ITEMS TO CHECK [1, 3] (RECOMMENDED)	A [6]	B [6]	C [6]	VISUAL, PHYSICAL LUBRICATION [2]	INSPECTION INTERVALS: PDI	DAILY	MONTHLY	QUARTERLY	ANNUALLY	REFERENCE LITERATURE: LIT. NO.	*TITLE* OR COMMENTS [3, 4]
Air springs				V			✔			L1155	*Air Springs*
Axle connections (welds & U-bolts, if equipped)				V				✔		L579	*Alignment Procedures*
Bolts				V	✔		✔			B31	*Torque Specifications*
MAXX22T™ ADB										T72009	*Installation and Maintenance Procedures*
• **Pad wear**				V/P				✔			Also inspect during brake and wheel-end service.
• **Rotor condition, separation cracks & excessive or abnormal wear**				V/P			✔				
• **Damage to adjuster, guide pin & piston boots**				V/P			✔				
• **Presence/Condition of adjuster & guide pin caps**				V/P			✔				
Brakes - Air disc											**Contact vendor** [7] or see TMC on page 3.
Brakes - Drum										L974	*Drum Brake Maintenance Procedures*
• **Brake chamber, pushrod, & overall condition**				V/P/L	✔		✔				Refer to fleet requirements for more details. Also see TMC on page 3.
• **S-cam & Cam Tube**				V/P/L	✔		✔				
• **Slack adjuster**				V/P/L	✔		✔ [7]				**Contact vendor** [7]
Obvious signs of wear, damage or change in condition of suspension & axle components				V		✔				L1073 L1074	*Primary Fixed Suspension Information* *Slider Suspension Information*
Pivot connections				V	✔		✔			L1071	*Pivot Bushing Inspection / Replacement Information*
• **Bushing tube spacers**				V				✔		L750	*Bushing Tube Spacer Inspection / Replacement Procedure*
• **TRI-FUNCTIONAL® Bushing**				V/P				✔		B106	*Pivot Bushing Inspection Procedures*
Ride height				P	✔			✔		L459	*Checking Trailer RH*, see L388 *RH Settings*
Self-steer axle										T62001	*Self-steer Axle Maintenance Procedures*
• **Tie rod ends**				V/P/L	✔		✔			T60001	*Decal: Self-steer Axle Lubrication*
• **Kingpin bushing, lock straight pivot arms**				V/P/L	✔			✔			
• **Lock straight air spring & chamber**				V/P	✔			✔			
Shock absorbers				V				✔		L551	*Shock Absorber Inspection Procedures*
Shock mounting brackets & bolts				V				✔		L635	*INTRAAX® Shock Mount Assembly Procedure*
Slider				V/P					✔	L1074	*Slider Suspension Information*
TIREMAAX® TIS (Tire inflation system)										L818	*TIREMAAX® EC TIS Installation, Service and Troubleshooting Procedures*
• **Indicator lamp operation (not constantly on)**				V	✔	✔					
• **Tires (low) / Listen for air leaks**				V	✔					L995	*TIREMAAX® CP TIS Installation, Service and Troubleshooting Procedures*
• **Check Tire Pressure**				V/P				✔			
• **Tire hose connections (damaged or loose)**				V/P	✔			✔		T51002	*TIREMAAX® CP and PRO Tire Inflation System Installation, Service and Troubleshooting*
• **Test lamp operation**				V/P				✔			
• **Complete system integrity check**				V/P					✔		
Welds (all)				V	✔			✔		L64	*Weld Procedures*, also see L1073 & L1074
Wheel-end component inspection [5]	**A** [6]	**B** [6]	**C** [6]							Various	L496 (std) [8], L776 (HUS), T72001 (HNP), T72002 (HXL7), T72004 (HLS), T72005 (HVS) [8], T72006 (HXL3) [8] and T72007 (HXL5) wheel-end maintenance procedures available online. [4, 7]
• **Lube level** [8] **and colorization**	X			V/L		✔					
• **Lubricant leaks (hubcaps & wheel seals)**	X	X	X	V			✔				
• **Smooth and quiet rotation**	X	X	X	P				✔			
• **WEM status** (Applicable when equipped with HUS®3)			X	V			✔			L1162	*Wheel-End Monitor (WEM™) Identification, Installation and Operation Instructions*
• **Hubcap integrity**	X	X	X	V			✔				
• **Check end play** [5]	X	[9]	[9]	P					✔ [5]		

1 The above checks should be done any time suspension is damaged or otherwise NOT functioning improperly.

2 **V** = Visual Check, **P** = Physical Check (operation, measuring, access, disassembly or other physical contact may be required), **L** = Lubrication Point.

3 For any inspection issues requiring service, refer to documents listed in the "Lit. No." column, T12002 *Suspension Troubleshooting Procedures* (includes list of relative TMC RPs) or T15001 *Air Ride Suspension Concepts and Functions* for assistance or PERIODIC INSPECTION SCHEDULE as needed.

4 Relative literature for inspected items is available on the Hendrickson Trailer Suspension Literature web page at www.Hendrickson-intl.com/TrailerLit.

5 While under warranty, Hendrickson Technical Services must be contacted prior to hubcap removal and servicing.

6 **A** = Standard Service 1-year warranty wheel end package), **B** = Extended-Life wheel ends (HLS®, HVS®, HUS®, HXL3®, HXL5®, HXL7®), **C** = HUS®

7 For information on vendor components, contact the vendor directly. Links to ADB and wheel end VENDOR LITERATURE is available at www.Hendrickson-intl.com/TrailerLit.

8 If applicable and during warranty coverage of Standard 1-year, HVS and HXL3 wheel ends; topping off oil to the hubcap fill line is allowed. The oil type must be the same as originally filled by Hendrickson during suspension build. CONTACT HENDRICKSON for more details or questions.

9 Servicing of wheel ends is not recommended while under warranty, unless necessary and after contacting Hendrickson Technical Services.

Table 1: *Hendrickson trailer suspension systems recommended inspection points and schedule*

TABLE 1: INSPECTION

Table 1 includes a list of recommended areas to inspect, periodic intervals and related literature.

AREAS TO INSPECT

Publication T12002 *Suspension Troubleshooting*, Appendix A, identifies various suspension components listed in Table 1 for inspection. Although the areas indicated are specific, a general inspection should include any point on the suspension where suspected wear or damage may occur.

For inspection of vendor components, some of which is included, refer to trailer OEM, TMC or **component vendor** documentation for more information.

INSPECTION/LUBRICATION INTERVALS

As stated on page 1, the following periodic intervals for inspection and lubrication can be modified according to trailer use. Inspection and lubrication may be required more often if:

- Required by OEM
- Required by component vendor; **contact vendor.**
- Trailer type and application demands are high
- Impact or other evidence of suspension damage.

PDI

Pre-Delivery Inspections are typically required by the trailer OE to be conducted prior to new trailer delivery to the customer. It is to be performed by the vehicle manufacturer or new trailer dealer and includes testing suspension and vehicle for proper operation. This should also be performed by a repair facility after replacing a suspension, slider box (AMBOX™) or axle/beam weldment (HALFTRAAX™).

Daily

This pre-operation inspection can detect worn, broken or loose parts before any serious problems occur. During a walk-around, check for any obvious problems or abnormalities.

Monthly

Inspection

This inspection is more comprehensive than the daily inspection and covers more areas.

Seals, hubcap and hubcap gaskets should be checked for condition and potential leaks.

Lubrication

S-cam spider bushing and support bearing journal or cam tubes should be greased at this time and during any service when grease points are easily accessible.

Quarterly

Inspection

Along with monthly inspection, perform quarterly inspections listed in Table 1.

Lubrication

Same as Monthly. As a minimum requirement, all lubrication points should be re-lubricated at this time interval, including slack adjusters.

Annually

Inspection

Along with Monthly and Quarterly, perform annual inspections listed in Table 1.

Lubrication

Same as Monthly.

REFERENCES

Several Hendrickson and vendor references provide inspection and lubrication information and details that are beyond the scope of this document.

HENDRICKSON PUBLICATIONS

References to Hendrickson Trailer literature can be found online at www.Hendrickson-intl.com/TrailerLit. Click on the hyperlinked literature number, listed in Table 1, to open.

VENDOR LITERATURE

References to vendor literature and contact information can be found online, starting at the vendor's home page. Some vendor literature is listed and linked in the "Brake & Wheel-End Components" section of www.Hendrickson-intl.com/TrailerLit.

TMC

The Technology & Maintenance Council (TMC) is a branch of the American Trucking Associations (ATA) (www.trucking.org). For the past 30+ years they have been defining and publishing recommended practices (RPs) for commercial vehicles and equipment. They are listed in the TMC Recommended Maintenance Practices Manual.

ITEMS TO CHECK (RECOMMENDED)	TYPE[1]	EVENT		COMMENTS
		IDLE TIME	AFTER FLOOD	
INSPECTION[2]				
Air springs	V	✔	✔	Inspect while aired up at ride height.
Brakes	V/P	✔	✔	
Bushing tubes	V	✔		
Bushing tube spacers	V	✔		
Air line hoses, tubing, fittings, valves, etc...	V/P	✔	✔	Pests and insects will enter and nest in any small opening. Seals and gaskets can dry and become non-functional.
Obvious signs of damage or wear	V	✔	✔	
Shock absorbers	V	✔	✔	Refer to L551.
Wires	V		✔	Exposure to moisture can corrode electrical connection and connectors.
SERVICE[2]				
Contamination[3]	V		✔	Where critical, remove all containments.
Lubrication[3]	V/P/L	✔	✔	Ensure lubricant is fresh and moisture free at all grease fittings. Refer to items (L) and relative literature column of Table 1 for more details.
S-cam and cam tubes	P/L	✔	✔	
Smooth wheel bearing rotation	P	✔	✔	
Change hub seals, gaskets and lubricant	P/L		✔	Mandatory after flood, as needed after idle.

1 **V** = Visual Check, **P** = Physical Check (some disassembly may be required), **L** = Lubrication Point. In addition, all systems should be operationally checked and tested.

2 Recommended checks before returning suspension to normal operation. Relative literature is listed in Table 1.

3 Replacing lubricant purges any collected moisture and/or degraded lubricant.

Table 2: *Special event inspections & service*

TABLE 2: AFTER IDLE TIME OR FLOOD

Table 2 includes recommended inspections and service for trailers that have been idle or submerged in water.

IDLE TIME

Trailer suspensions not operated (idle) for prolonged periods of time must be inspected prior to renewed operation (e.g. Trailer used for storage, etc...).

Normally, machined surfaces (bearing races, bearings, etc...) are protected by lubrications flowing onto, over and around during use. Lack of trailer motion causes lubricants to flow downward and away from these surfaces until it reaches a level pool in the hub. Metal surfaces are eventually unprotected and exposed to the environment.

Seals and gaskets not exposed to lubricant can degrade in performance. Check and replace as needed.

Surface cracks on rubber components do not effect performance. Refer to vendor for questions if needed.

FLOOD

Oil and water do not mix. Lubricants continue to seek a level state, even while under water. All metal surfaces, wires and materials that are directly exposed to moisture, pollutants and other contaminants can lead to rust and corrosion.

Refer to PERIODIC INSPECTION SCHEDULE for any questions or issues relative to inspection or lubrication or CONTACT HENDRICKSON.

HENDRICKSON

www.hendrickson-intl.com

TRAILER COMMERCIAL VEHICLE SYSTEMS
2070 Industrial Place SE
Canton, OH 44707-2641 USA
866.RIDEAIR (743.3247)
330.489.0045 • Fax 800.696.4416

Hendrickson Canada
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905.789.1030 • Fax 905.789.1033

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L578 Rev D 02-16 ECN 24754 Rev B 04-13 ECN 22027 Rev A 09-01

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-08-221

September 11, 2017

SERVICE ALERT

Federal Mogul

Submerged Trailer Wheel Ends

Please read the attached document provided by Federal Mogul regarding water submerged wheel ends and recommended procedures for wheel seals with flood impact damage or other forms of water ingress.

If you have any questions regarding the information indicated, please call Federal Mogul at 248.354.7700

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Federal Mogul; it is making this available as a convenience and for information purposes. You are encouraged to contact Federal Mogul at (248.354.7700) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

Federal Mogul Corporation
Powertrain Sealing
47001 Port Street
Plymouth, MI 48170

September 11, 2017

FM Tech Bulletin - Hurricanes Harvey & Irma - Submerged Trailer Wheel Ends

All wheel ends submerged in water because of a hurricane, flood and / or any other means of water ingress should have a wheel end inspection conducted as soon as possible. Federal Mogul recommends installing new seals & lubricant on all wheel ends that have been submerged in water or have experienced water ingress. Please consult with your bearing provider for bearing inspection / replacement recommendations.

Spindle Mount Seal Installation Instructions:

- Inspect all wheel ends that have been submerged.
- Inspect spindle for rust, burrs, nicks, roughness, deep scratches, etc. Clean or correct any imperfections with emery cloth & wipe clean. If sealer is needed, apply a thin film #2 sealer to the seal journal.
- Place seal on spindle with the words “FLUID SIDE” or “OIL SIDE” visible when view from the end of the axle. Press seal by hand as far as possible onto the seal journal.
- Place the Federal Mogul installation tool over spindle with flange against the seal. Use RD-386 for TN (tapered) or RD-295 for TP (straight) axle. Strike the end of tool with a 3 to 5-pound hammer until the tool flange bottoms on axle shoulder and a tone change is heard. Rotate tool 90° to 180° between each strike to assure seal is installed completely and squarely. Once the tone changes of the tool hitting the shoulder face is heard, rotate tool another 180° and hit one more time. Remove installation tool and verify that the seal is aligned squarely.
- Inspect seal OD for presence of oil. If seal appears dry, apply a thin film of clean oil to the seal OD (Too much pre-lube on seal OD can lead to an indication of false leakage)
- Install inner bearing cone assembly onto spindle as prescribed by the bearing manufacturer. Make sure the bearing cone bottoms onto the axle shoulder.
- Inspect hub chamfer and bore for burrs, nicks, roughness, deep scratches, etc. Clean or correct any imperfection.
- Assemble hub over spindle. Fill with ***new*** grease or oil as necessary. Install outer bearing onto spindle as prescribed by the bearing manufacturer.
- Fasten spindle nut to the proper adjustment procedure. Install ***clean & dry*** hubcap with new hubcap gasket using the proper bolt torque. Finish the grease or oil fill as necessary. Install hubcap plug.

Hub Mount Seal Installation Instructions:

- Inspect all wheel ends that have been submerged.
- Inspect hub chamfer and bore for rust, burrs, nicks, roughness, deep scratches, etc. Clean and correct imperfections with emery cloth and wipe clean.
- Pre-lubricate the inner bearing as instructed by your company's work instructions. Insert inner bearing into hub.
- Using the correct tool, place the seal onto the adapter plate until it is flush. The words "AIR SIDE" are to face the plate and "OIL SIDE" is to be opposite the plate.
- If the OD of the seal has rubber, wipe a thin film of clean application fluid to the OD of the seal. Do not use silicone.
- Hold the tool straight and drive the seal into the hub with firm hits on the end of the tool handle until the sound of impact changes. Rotate tool 180 degrees and strike again. Check that the bearing rotates freely.
- Wipe a thin film of clean application fluid to the ID of the seal. Take care not to get oil onto the face of the seal.
- Inspect spindle for rust, burrs, nicks, roughness, deep scratches, etc. Clean or correct any imperfection.
- Assemble hub over spindle. Fill with ***new*** grease or oil as necessary. Install outer bearing onto spindle as prescribed by the bearing manufacturer.
- Fasten spindle nut to the proper adjustment procedure. Install ***clean & dry*** hubcap with new hubcap gasket using the proper bolt torque. Finish the grease or oil fill as necessary. Install hubcap plug.

The above installation instructions can also be found at:
www.fme-cat.com/nationaloilbathseal

Please refer to the following TMC procedures for lubrication & wheel end adjustment procedures:

- TMC RP 631A "Recommendations for wheel end lubrication"
- TMC RP 624 "Lubricant Fundamentals"
- TMC RP 618 "Wheel bearing adjustment procedures"

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-12-017

September 11, 2017

SERVICE ALERT

MAXON

Inspect & Recondition Liftgates Recovered from Flood Waters

Please read the attached document provided by MAXON regarding procedures for inspection of liftgates that have experienced flood impact or water submersion.

If you have any questions regarding the information indicated, please call MAXON at 1.800.227.4116.

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

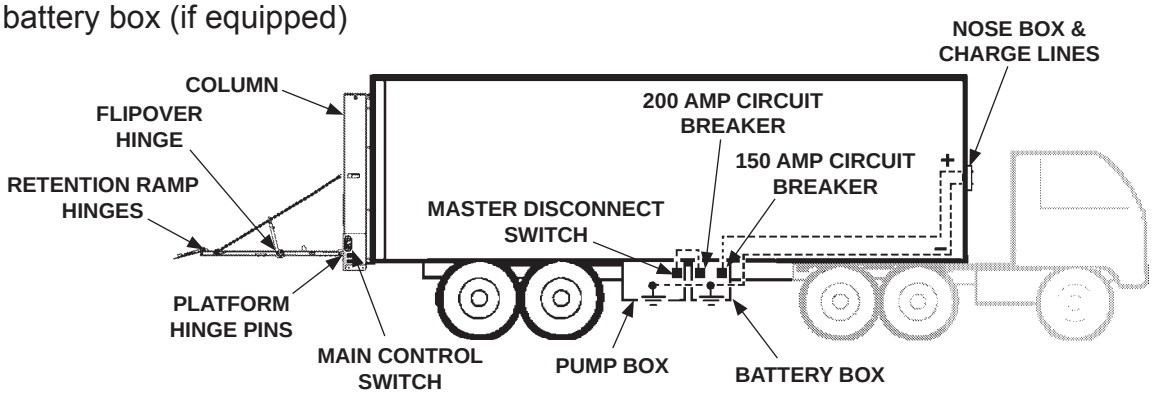
Utility hasn't independently evaluated the information contained in the attached product information letter from MAXON; it is making this available as a convenience and for information purposes. You are encouraged to contact MAXON at (1.800.227.4116) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

Technical Bulletin: Inspect & Recondition Liftgates Recovered from Flood Waters

⚠ CAUTION

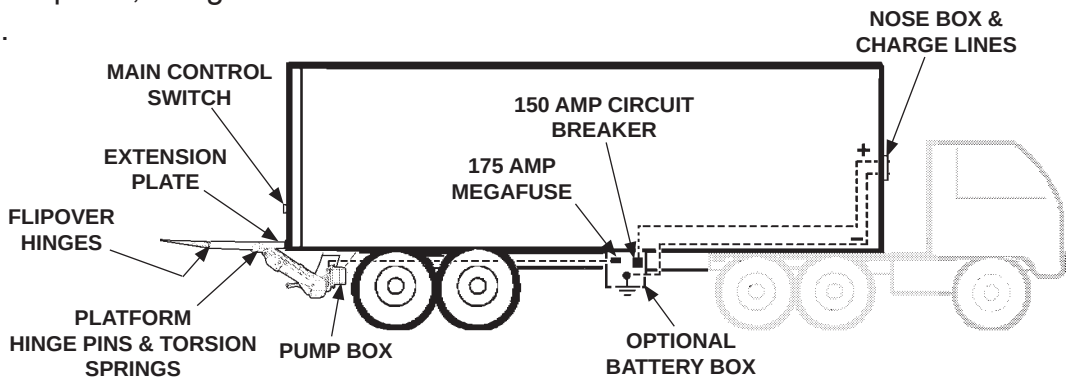
Do not operate liftgate until the liftgate is inspected and serviced, and necessary repairs are completed.

1. Clean all water, dirt and debris from liftgate.
   - Main frame, columns & extension plate
   - Platform
   - Pump box
   - Optional battery box (if equipped)



BMR LIFTGATE
FIG. 1-1

2. Drain and flush hydraulic fluid from liftgate hydraulic system.
   - Pump and reservoir
   - All hydraulic lines
   - All valves
   - Cylinders.
   - Replace automotive type spin-on oil filter in the pump box, if liftgate is so equipped.



TUK-A-WAY LIFTGATE
FIG. 1-2

3. Replace all electrical parts known to have been submerged in water. Refer to parts explosions on the Parts Portal at www.maxonlift.com.
   - Electric motor
   - Motor solenoid
   - Smart controller (if equipped)
   - Main control switch
   - Valve coils
   - Auxiliary control switch (if equipped)
   - Cycle counter (if equipped)
   - Electrical harness
   - Circuit breaker
   - Fuse holder and fuse
   - Master disconnect switch (if equipped)

4. If equipped with optional battery box, test condition of the batteries. Replace batteries if they don't pass load test or hold a charge.

5. Lubricate all critical rotating and pivot points on liftgates. Most are equipped with grease fittings. Refer to the preventive maintenance section of the maintenance manual for lubricant and location of fittings.
   - Grease all tandem roller assemblies on BMR model liftgates.
   - Lubricate slide pads surfaces (spray-on lube, no grease) on BMR and DMD models.
   - Grease wire ropes and sheaves on RC & RCM models.
   - Lubricate all platform hinge areas (spray-on lube, no grease).

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-12-018

September 13, 2017

SERVICE ALERT

Waltco

Restoration of Liftgates After Submersion in Flood Waters

Please read the attached document provided by Waltco regarding procedures for inspection of liftgates that have experienced flood impact or water submersion.

If you have any questions regarding the information indicated, please call Waltco at 330.633.9191.

All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

Utility hasn't independently evaluated the information contained in the attached product information letter from Waltco; it is making this available as a convenience and for information purposes. You are encouraged to contact Waltco at (330.633.9191) if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.

WALTCO

TECH TIPS

Date: 09/01/2017
No. TT050018
Model: ALL
Rev No. 02

Restoration of liftgates after being submerged due to flooding

Waltco recommended procedures:

Do not operate liftgate until restoration is complete

To lower platform, remove any return lines from the cylinder(s) at the pump unit. This will help prevent contamination from being sucked into the cylinders. Then loosen the hydraulic hose(s) at the pump to lower and/or open the platform.

Power wash the entire lift gate

- Including pump unit and batteries
- Inside crossbeam box (rail type liftgates)
- Entire lengths of roller c**h**ain and lifting cables. (rail type liftgates)
- Remove end caps on slider series liftgates to clean inside.

Hydraulic cylinders

- Drain and replace all hydraulic fluid, see chart below for recommended fluids.
- Drain any water that may have gotten into cylinder.
  (If cylinders were completely submerged we recommend disassembly o remove all contamination.)
- On power down units, cylinders may not need draining or disassembly.
- Clean or replace cylinder breather as required.

Pump unit

- Remove and replace motor.
- Drain and clean inside of reservoir thoroughly.
- Fill reservoir with clean fluid, see chart below for recommended fluids.
- Run pump until clear, clean, fluid comes out.
- Clean or replace pump breather as required.
- Drain and clean out hydraulic hoses.

Electrical connections

- All plug-together connectors should be taken apart & cleaned with WD-40
- All electrical connections should be coated with dielectric grease.

Relays

- Any relays that are not “potted” (sealed) should be replaced.

Some components are sealed and do not need to be replaced

- Most switches
- Power down modules
- Run (start) solenoids
- Circuit breakers
- Some Relays

Lubricate liftgate per Owner's Manual

Recommended Fluids	
Temperature Range	Acceptable Fluids
0° to 120° F	Waltco Biodegradable Liftlube™ part #85803860
	Shell Tellus S2 V 32
	Chevron Rando HDZ 32
-20° to 90° F	Waltco Biodegradable LiftLube Arctic part #85803866
	Waltco All Season Hyd Oil Part 85803867
	Shell Tellus S2 V 15 Mobil DTE 10 Excell 15

Fill reservoir

- Fill with recommended fluid or equivalent.
- Fill the reservoir to within 2" from the top. (Oil level instructions above)
- Fluids are available from the Waltco parts Dept. 1-800-411-5685 www.waltco.com

NOTE:
Do not use the following fluids:
Brake Fluid
Power steering fluid
Automatic Transmission Fluid (ATF)

Please contact Waltco at 330.633.9191 with any questions concerning the repair of your lift gate.

SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.

SB-17-031

September 6, 2017

SERVICE ALERT

Phillips

How to Mitigate Flood Water Damage

Please read the attached instructions provided by Phillips regarding mitigation of flood water damage to trailers following Hurricane Harvey.

If you have any questions regarding the information indicated, please call Phillips at 1.800.423.4512.

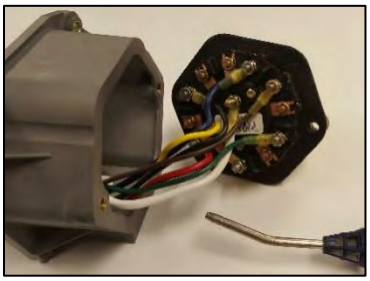
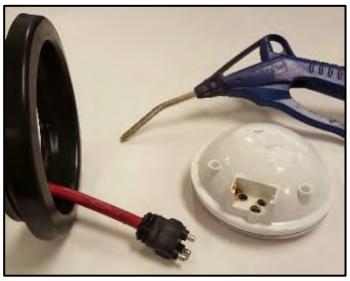
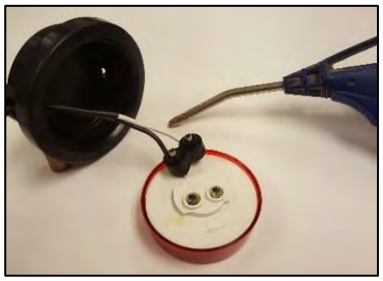
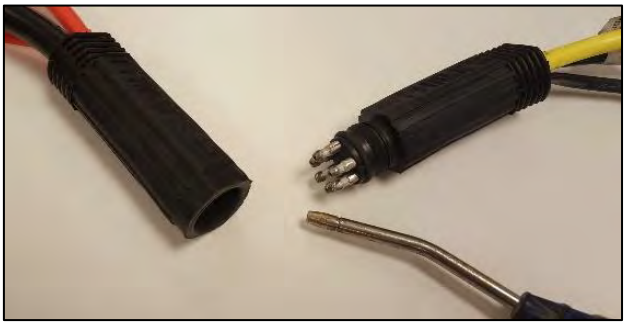
All Service Alert related bulletins will be on Utility's public webpage: http://www.utilitytrailer.com/service/service-bulletins/#service-alerts

Field Service Department
UTILITY TRAILER MANUFACTURING COMPANY

How to Mitigate Flood Water Damage to Your Trailer

If you are about to enter a flooded area and can unplug the 7-way electrical cable from tractor to trailer before entering standing water, please do so. This will help avoid any immediate shorts. Follow the same procedure for trailers that have already been submerged in water. DO NOT connect electrical trailer cables until the following steps have been completed.

1. If your trailer has been submerged above the tires, we recommend unplugging all electrical connections, starting with tractor to trailer electrical cables.
2. Use compressed air to blow all connections dry. Front main, mid-main, rear sill, marker, stop/turn/tail lights & ECU (ABS) plugs. Remember to blow dry the connections on the back of the lights and ECU (ABS).
   Note: The air valve will function without the ECU, meaning the brakes will still operate. However, the ABS system will NOT function, which leaves the brakes more susceptible to locking up.


3. Inspect every light to be sure water hasn't infiltrated the housing. If there is water intrusion, replace them before reconnecting pigtails.
4. Apply dielectric grease to all connections and plug back in.

Note: If there has been water intrusion or submersion at the 7-way connection, and your trailer has a nosebox, remove the 2 bolts holding the socketbreaker, pull the socketbreaker away from the housing, and check for moisture. If the circuit breakers have been exposed/submersed in water, all 6 WILL need to be replaced.

If you have a Phillips PERMALOGIC™ nosebox or equivalent, the water may have damaged the control module. Remember your PERMALOGIC™ and ECU (ABS) are computers, and they are weather-proof, not water-proof. These units are designed to repel water, not to be submerged. If they are not functioning properly after being exposed to water, they will most likely need to be replaced.

By following the above steps, you will help reduce the chances of corrosion moving through your electrical system.

COMMERCIAL VEHICLE PRODUCTS DIVISION
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