LITE-CHECK®
Trailer Preventative
Maintenance Inspection

SAFETY

- **BEFORE PROCEEDING, YOU MUST READ AND ACKNOWLEDGE YOUR UNDERSTANDING OF THE FOLLOWING SAFETY RULES.**
- As a participant in this program, you must follow these important safety rules.
  - Remove all jewelry from hands, arms and ears.
  - Always wear safety glasses.
  - Apply lock-out tag-out procedures.
  - Chock rear driver-side outer wheel in front and in rear of tire.
  - Remove keys from tractor unless you are cracking or testing.
  - Do not place tools on or around batteries.
  - Before working on electrical circuitry, disconnect the battery ground.

MAIN GOALS OF PMI

- Trailer must meet or exceed D.O.T standers out lined in 393 of the Federal Motor Carrier Safety Regulations handbook.
- Trailer needs to make it a minimum of 6 months with out being in the shop.
- To give drivers the ability to deliver freight on time and keep your customers coming back.

Gather all the tools that will be used to perform inspection

Pm sheet and additional comments sheet.

Torque wrench capable of reaching 450-500 Ft. lbs.

King pin test tool and flat bar.

Jack, jack stands, and a dial indicator.

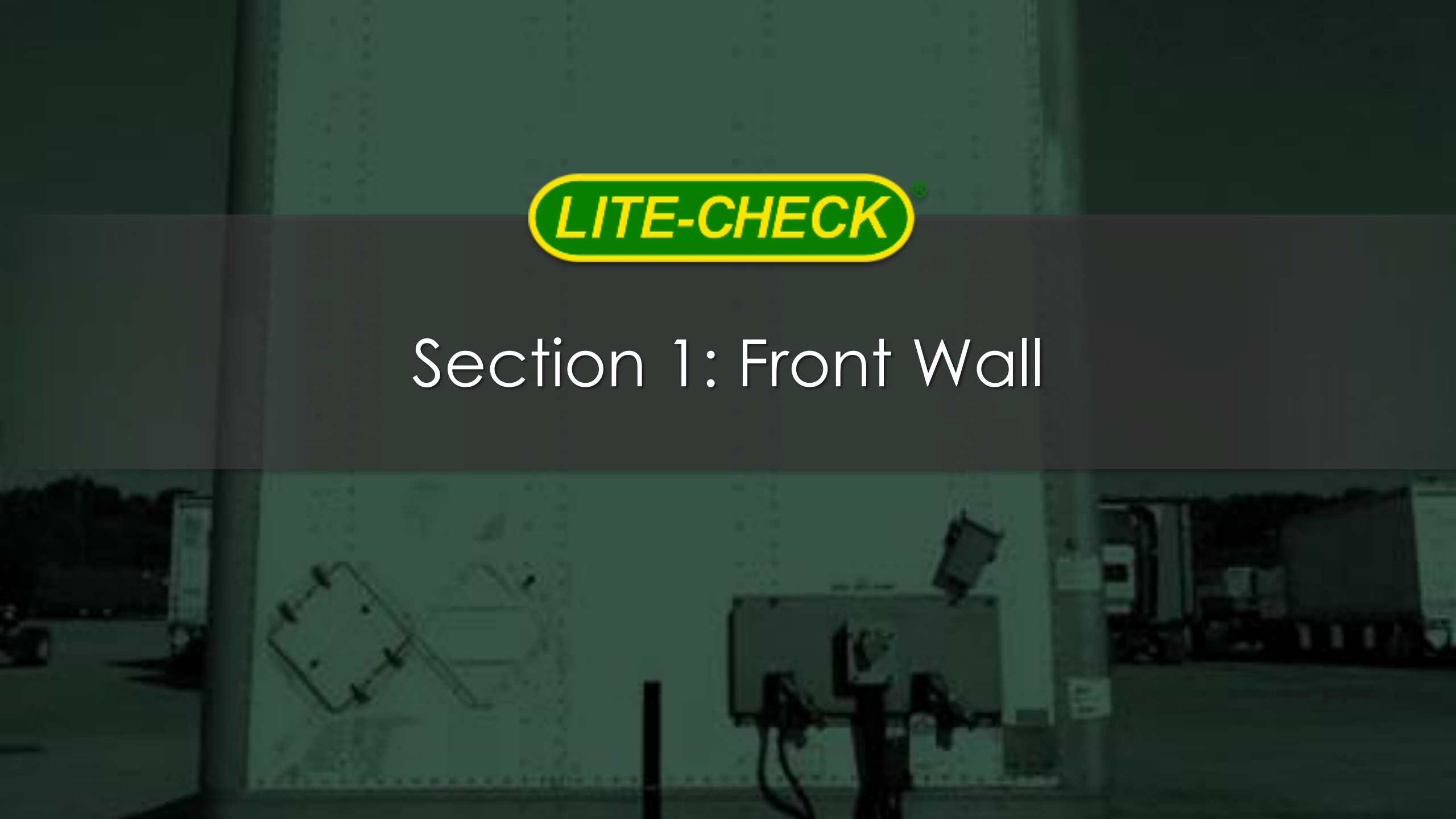
Tread Depth Gauge

Air Pressure Gauge

Tape Measure

ETC.

Begin PMI



Section 1: Front Wall

Gladhands

- **How to Inspect:**
- Inspect both front Gladhands for good overall condition, proper mounting, air leaks, and proper hose connections
- Inspect both front Gladhand seal orifices for corrosion and debris. Remove the gladhand from the system before cleaning to prevent air system contamination.
- Clean as needed using a small wire brush
- Lube glad-hand seal mounting orifice with a thin coat of white lube.

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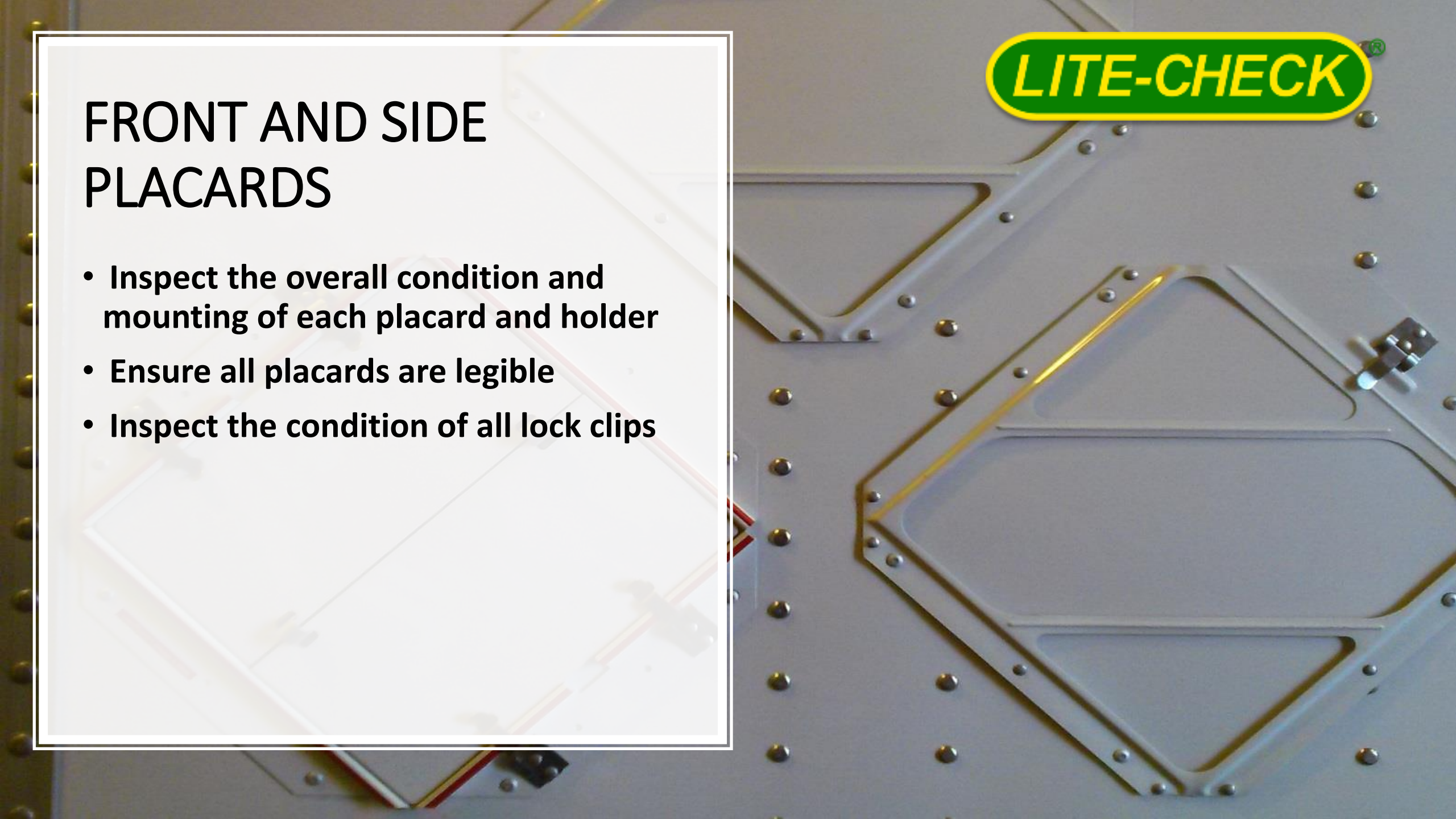
Replace Gladhand Seals

FRONT AND SIDE PLACARDS

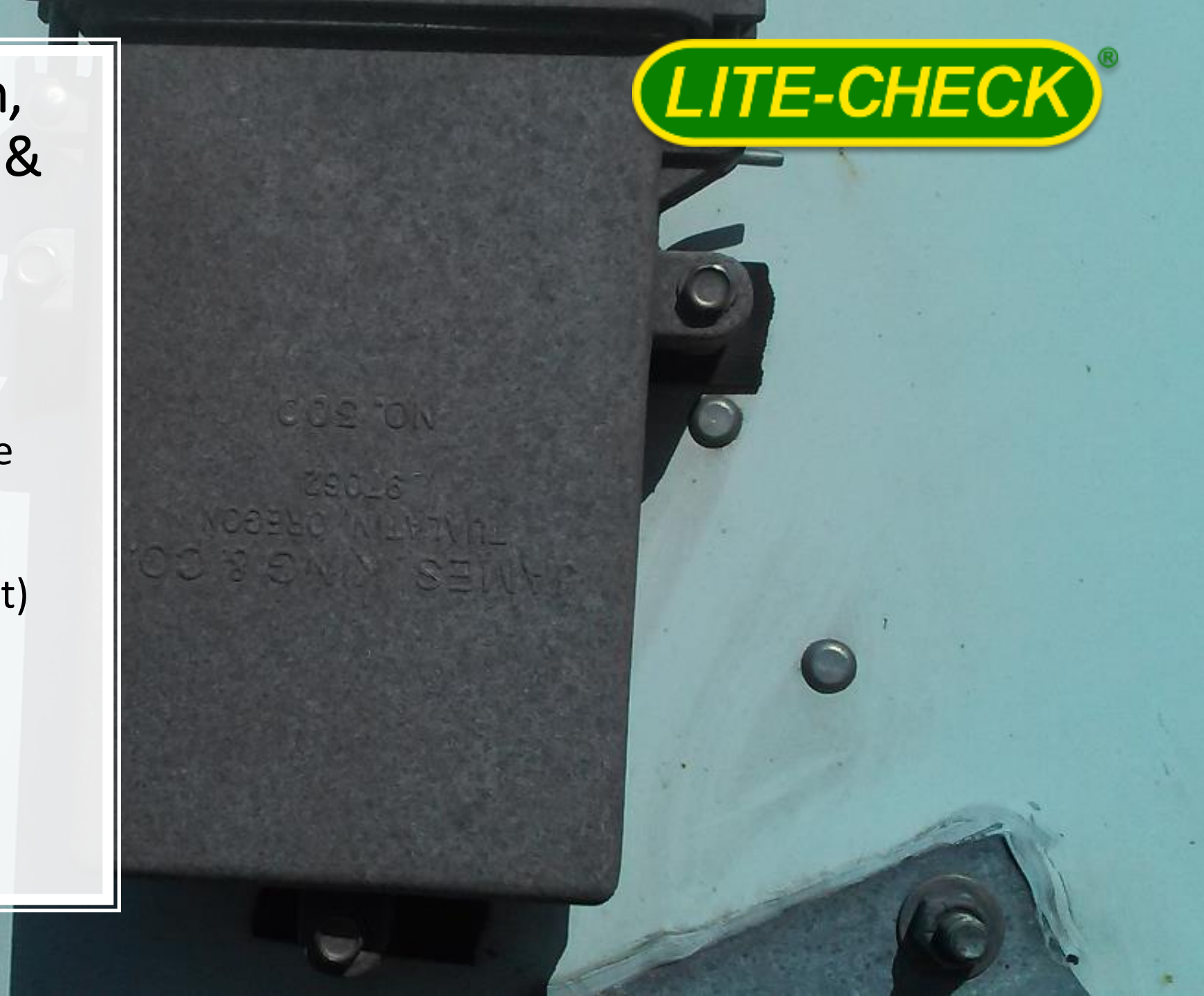
- **Inspect the overall condition and mounting of each placard and holder**
- **Ensure all placards are legible**
- **Inspect the condition of all lock clips**



Inspect: Registration, Registration Holder, & Registration Older Gasket

How to Inspect:

- Inspect holder for secure mounting, overall condition of box, lid, and seal. (must be water tight)
- Ensure registration is in the box and legible



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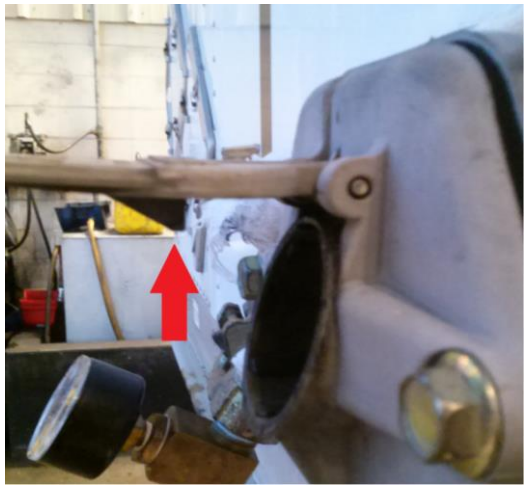
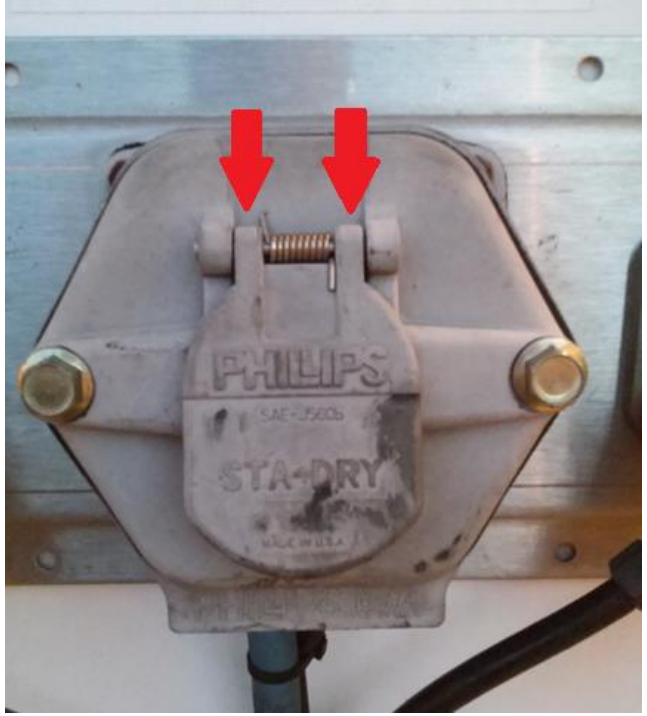
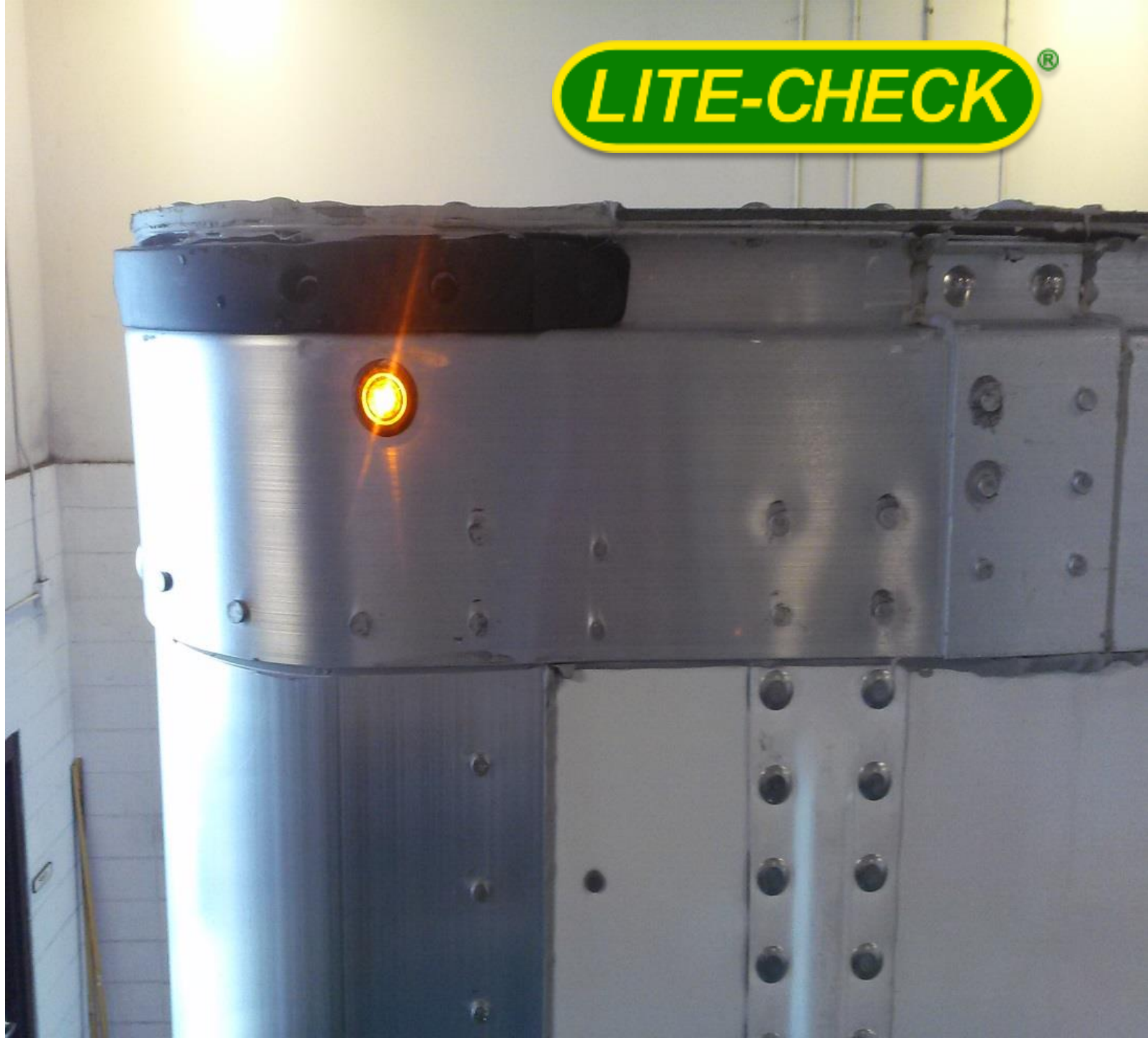
Front Light Receptacle and Wiring from Receptacle to Bulkhead

- **How to Inspect:**
- Visually Inspect the receptacle lid for cord locking tab
- Visually Inspect the hold down springs for the lid
- Inspect all electrical pins for wear and overall condition
- Inspect the mounting of the front receptacle box
- Inspect the harness running from the box to the bulkhead for proper securement and wire integrity





Inspect Front Clearance Lights

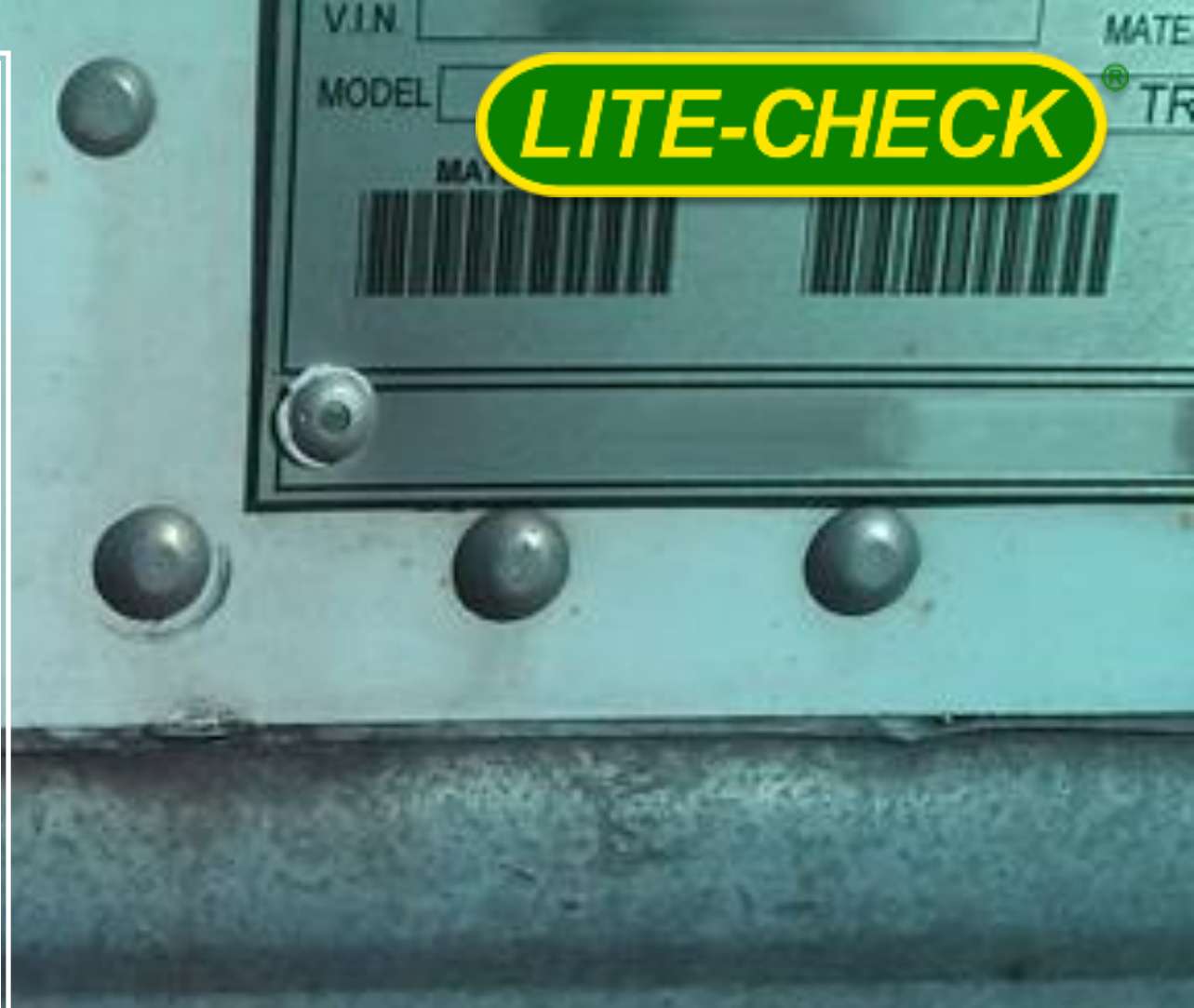


Exterior Condition

- **Inspect:**
- Overall appearance, paint, skin condition.
- Condition of all decals
- Corner caps
- Skins
- Front Header

Exterior Condition Continued

- **How To Inspect:**
- Inspect all rivets for looseness.
- Inspect the overall appearance, paint, skin condition.
- Inspect for excessive rust and corrosion.
- Inspect the condition of all decals and proper numbering (no patches in decal area).
- Inspect the corner caps, skins, front header for cracks, damage and proper sealing.



Note: All sections of the trailer including upper and lower rails, roof, sidewalls, front wall, rear doors and fasteners are critical to the structural integrity of the vehicle.

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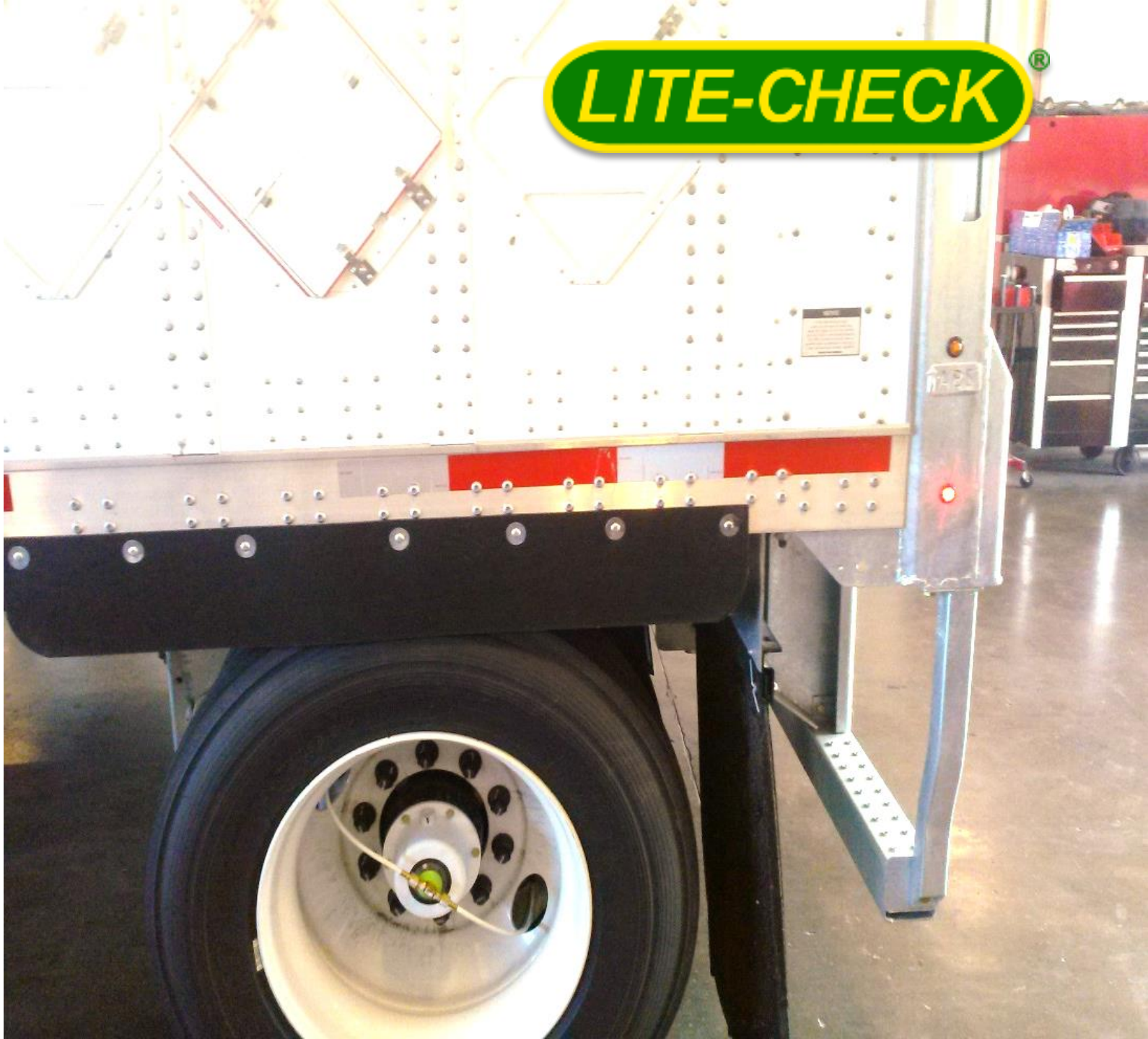
Section 2: Road Side

Road Side Lights and Reflectors

- **Inspect:**
- Side Marker Light
- Turn Signal Lights
- ABS Indicator Light
- Reflectors
- Conspicuity Tape

Road Side Lights and Reflectors, Continued

- Inspect the side marker and turn signal lights for proper operation and mounting
- Inspect the lenses and light condition
- Inspect the operation of the ABS indicator light for proper operation and condition
- Inspect the reflectors and conspicuity tape

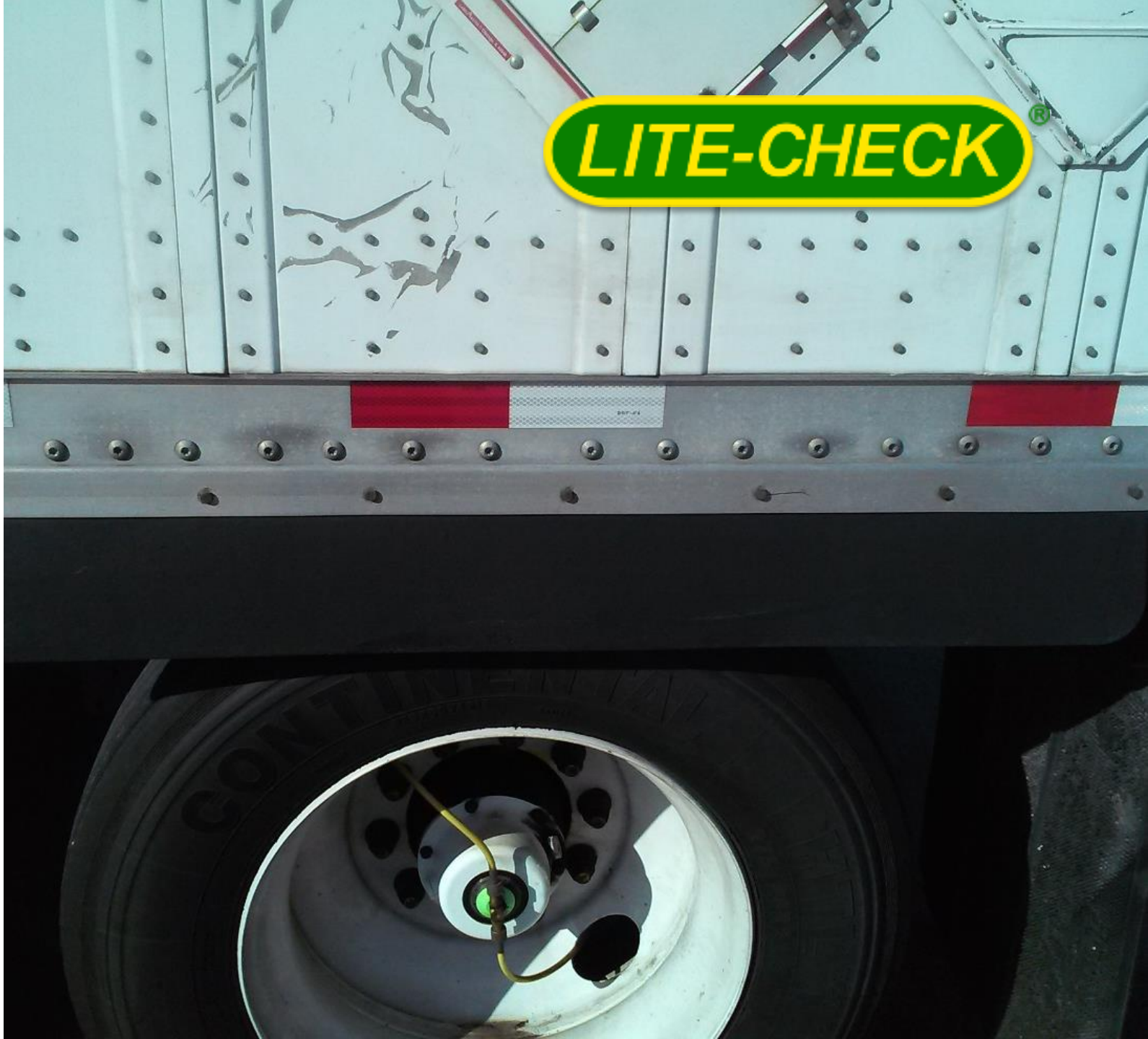


Exterior Condition

- Inspect the overall appearance of the paint and skin condition
- Inspect for excessive rust and corrosion.
- Inspect the upper and lower rail welds and bolts for cracks, corrosion and damage.
- Inspect the condition of all decals and proper numbering (no patches in decal area).
- Inspect the corner caps, skins, and braces for cracks, damage and proper sealing.
- Inspect the rivets for looseness.

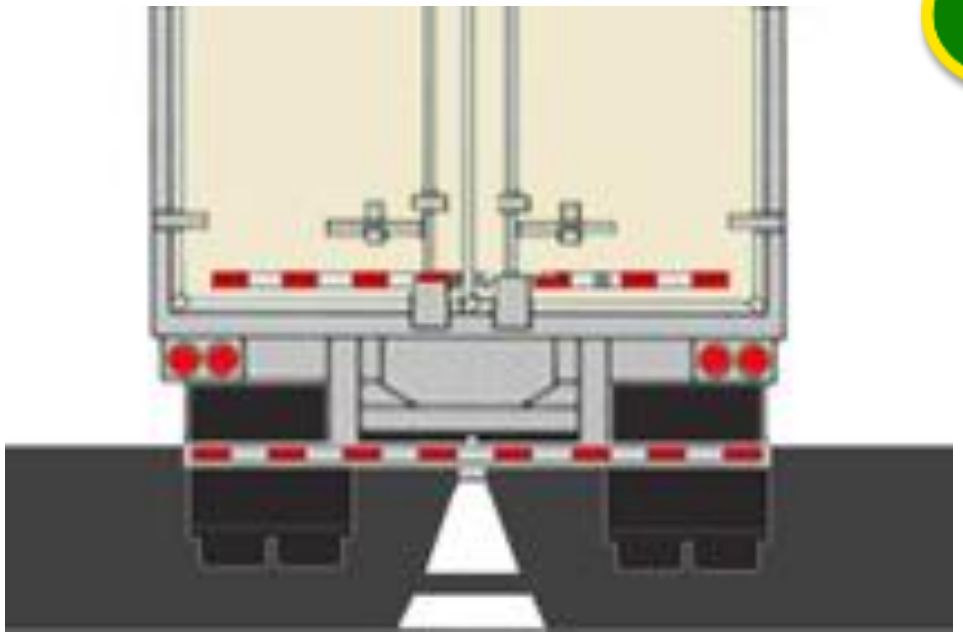
Side Mud Flaps

- **Inspect for cracked, torn or missing mud flaps**
- **Inspect flap bracket condition and mounting (If applicable)**



Section 3 Rear Wall / Door Rear Lights

- Cycle through each light circuit one at a time
  - Look for any circuit shorts
  - Only the light affiliated with the circuit selected should turn on
  - Left, Right turn signals, Aux for ABS light, brake, marker, clearance, license plate light

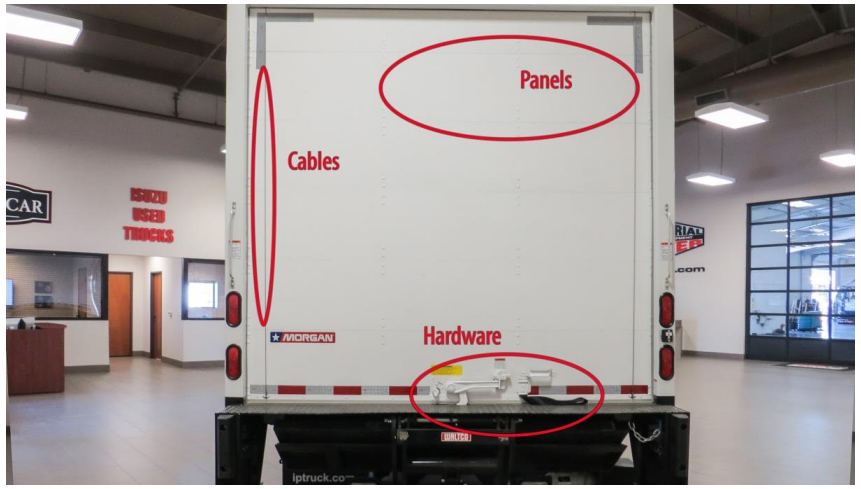


Reflectors

Inspect the reflectors for proper placement and overall condition

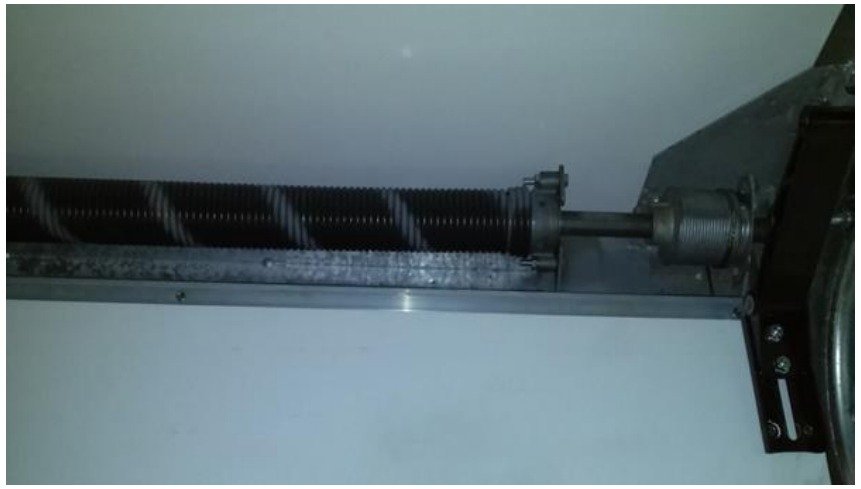
Door Assembly

- Inspect the door operation: seals, hinges, cables, tracks and rollers for damage and overall condition
- Inspect the operator, springs, mounting, and bearings for proper mounting and operation
- Inspect the door lock operation, latch adjustment, condition and mounting
- Inspect the door strap, grab handle, lifting bracket condition and mounting
- Inspect the door frame condition. Inspect for stress cracks and broken welds
- Inspect safety steps for damage and overall condition
- Inspect the door panels for cracks, missing or loose hardware



Lube Door Hinges / Operator

- **Lube all door hinges and rollers**
- **Lube the door operator**



Mud Flaps and Brackets

Inspect:

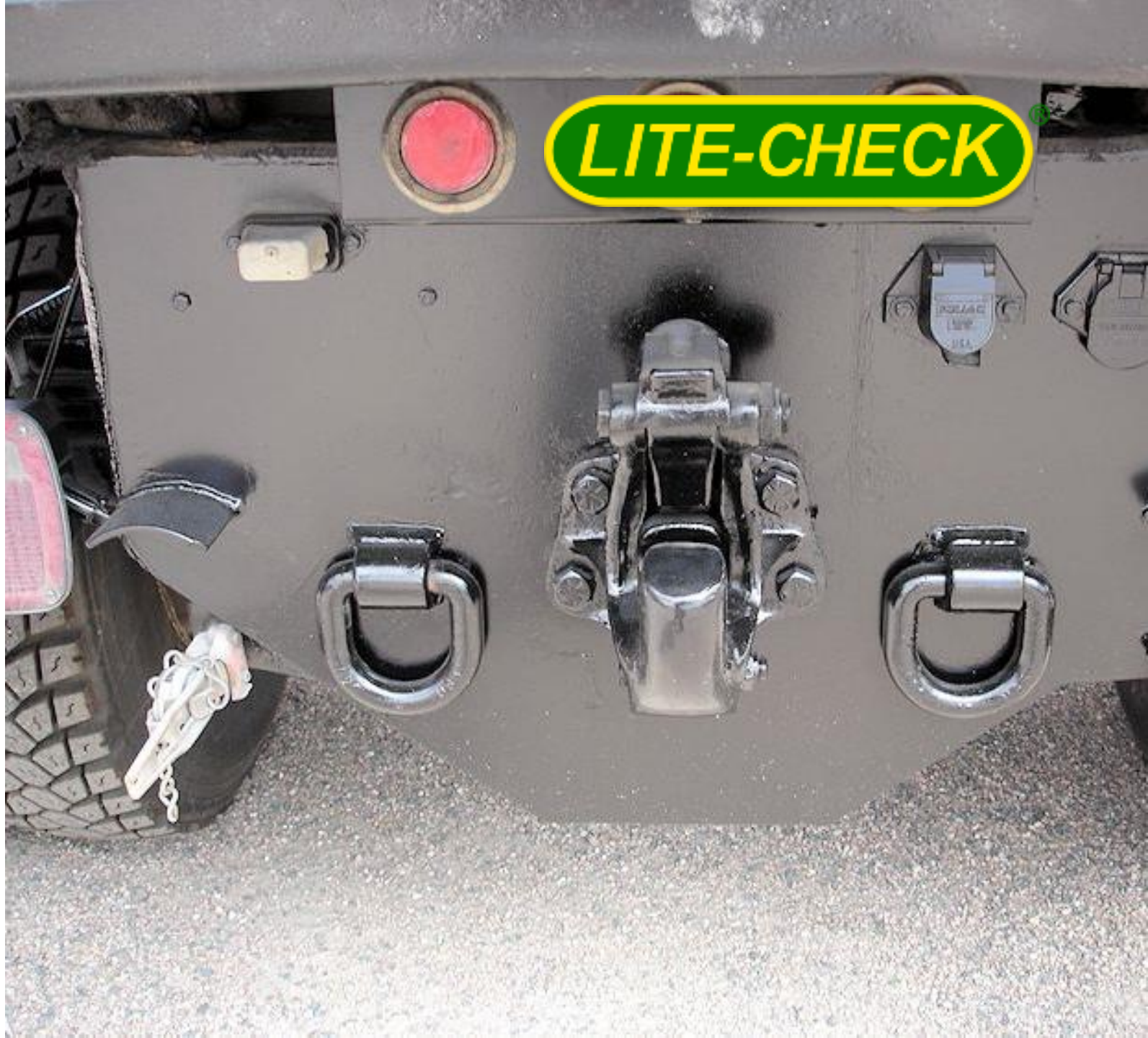
- **Rear Mud Flap & Rear Mud Flap Brackets**

- **Inspect both rear mud flaps for cracks.**
- **Inspect both mud flap brackets for overall condition and mounting.**
- **Ked, torn or missing mud flaps.**

Note: Keep the mud flaps 6" to 8" off the ground (and the same distance from side to side).

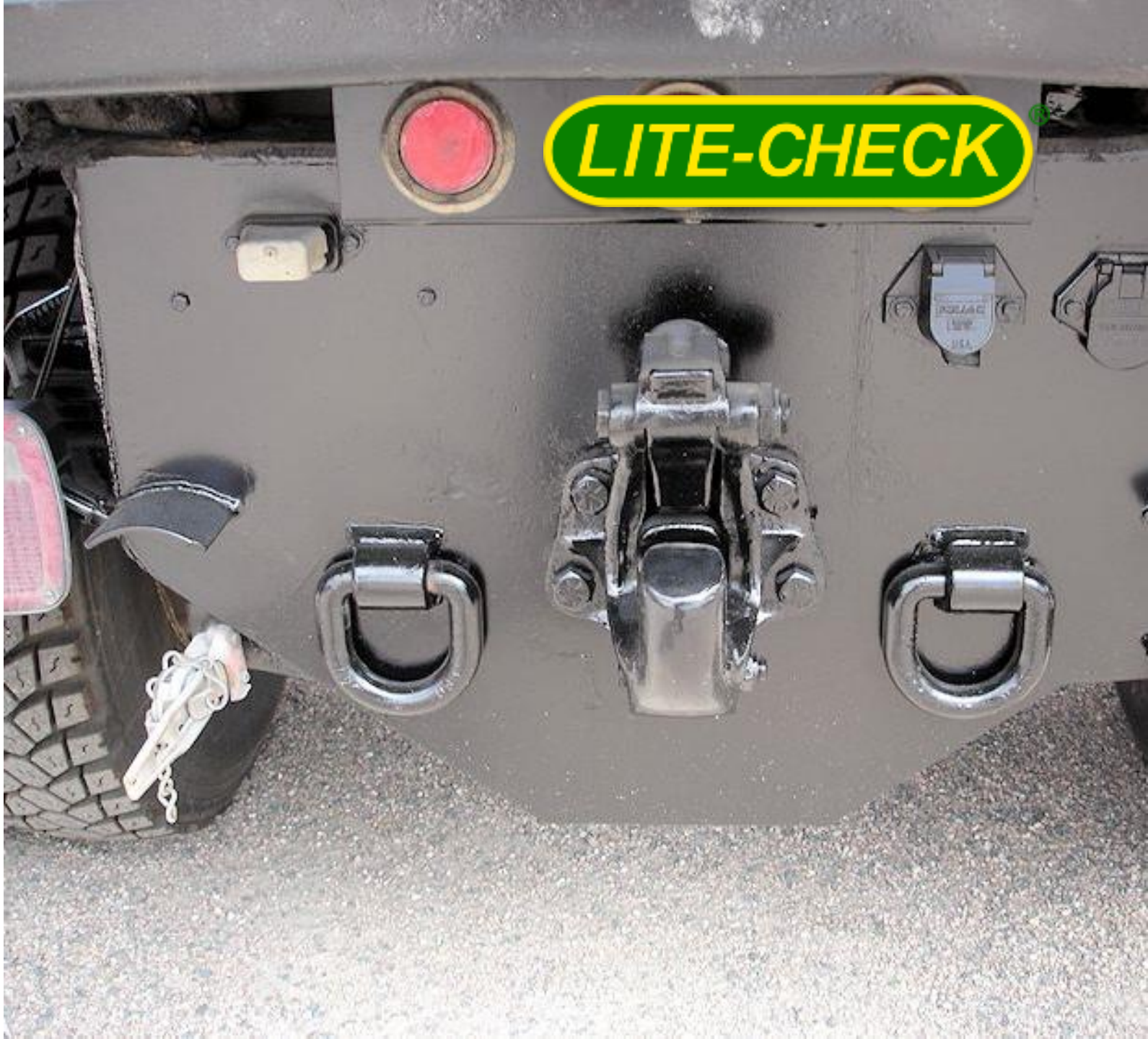
Pintle Hook / Safety Chain Loops

- Inspect pintle hook assembly, safety chain loop and pintle hook chamber



Pintle Hook / Safety Chain Loops Continued

- Inspect for loose or missing fasteners
- Inspect the pintle hook, safety chain loop and mounting plate for cracks
- Inspect the plunger and locking mechanism free play
- With air applied, inspect for leaks.
- Inspect the pintle hook safety-latch return spring.
- Inspect the pintle hook wear with gauge.
- Lubricate Latch.

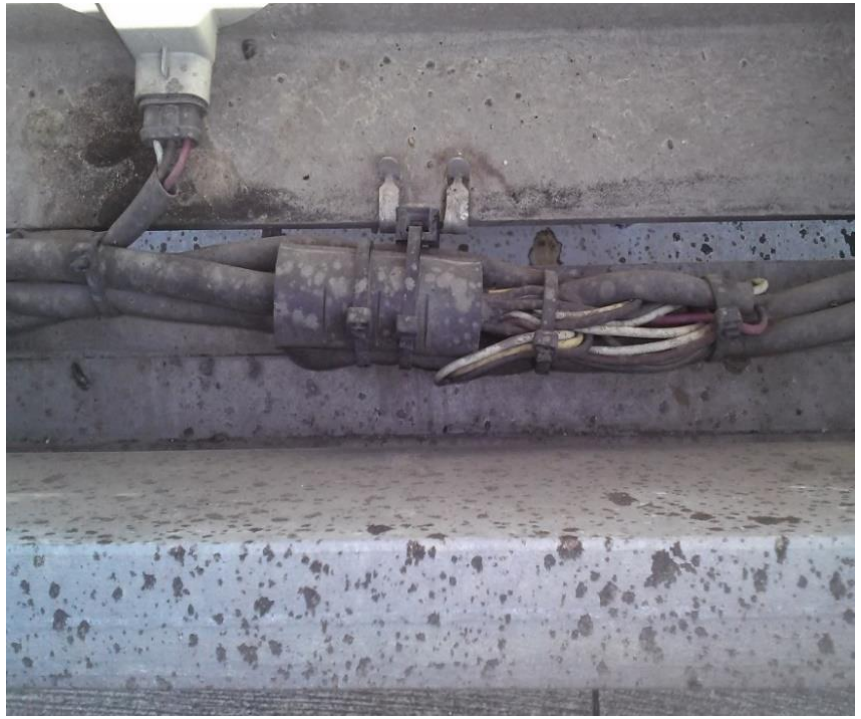


Pintle Hook / Safety Chain Loops Continued

- **Note: Replacement of pintle hook air chamber is required if any of the following conditions exist:**
  - **The pintle hook air chamber Julian date is 5 years or older on all pintle chambers with the exception of Haldex pintle chambers.***
  - **The pintle hook air chamber has not been replaced in the past 5 years by checking equipment history.***

Electrical Wiring

- **Inspect for any loose connections, corrosion, cracks, cuts or chaffing**
- **Protect and secure any loosely hanging wires**



License Plate

- Inspect:

- License Plate
- License Plate Mounting

TIRE INSPECTION

- **Inspect valve stems, valve caps, tire inflation pressure, tread depth, tire condition**
- **Watch for leaks, uneven tire wear, mismatched tires, tire damage such as cuts or exposed belt material and sidewall separation.**

Wheels / Hubs / Studs and Nuts

- **Inspect wheels, hubs, lug nuts, wheel studs, wheel bearings**
- **Watch for cracks, bent or damage**
- **With tire off ground, spin tire and listen for grinding or abnormal noise**

SECTION 4 CURB SIDE Side Mud Flap / Bracket

- **Inspect mud flaps including side mud flaps if applicable**
- **Look for cracked, torn or missing mud flaps**
- **Inspect the mounting hardware**

Exterior Condition

- Inspect overall condition, panels, rivets, decals, placards
  - **Inspect the same as the other side**

Lights / Reflectors

Inspect:

- Side Marker Light
- Turn Signal Lights
- Reflectors
- Conspicuity Tape

How to Inspect:

- Inspect the side marker and turn signal lights for proper operation and mounting
- Inspect the lenses and light condition
- Inspect the reflectors and conspicuity tape

Note: Conspicuity tape must cover at least half of the trailers length on both sides

SECTION 5
INTERIOR
Roof

- **Safety First, adhere to companies safety policies**
- **Inspect roof for bows, overall condition, cracks or holes**
  - **Use light test from inside trailer**

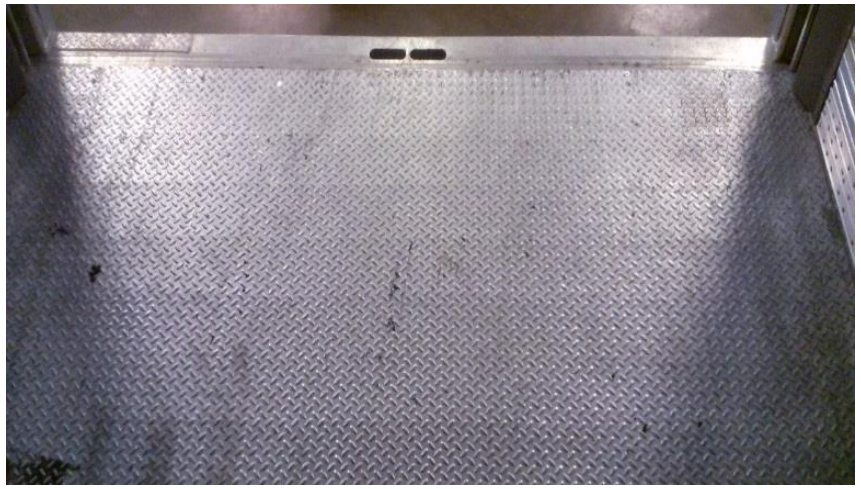
Safe Loading Devices

Inspect load ties, cargo hooks, logistic tracks, D-Rings and any other equipment to secure cargo

- **Inspect all load ties for over all condition and secure mounting**
- **Inspect all cargo hooks for overall condition and secure mounting**
- **Inspect all logistic tracks for overall condition and secure mounting**
- **Inspect all D-rings for overall condition and secure mounting**

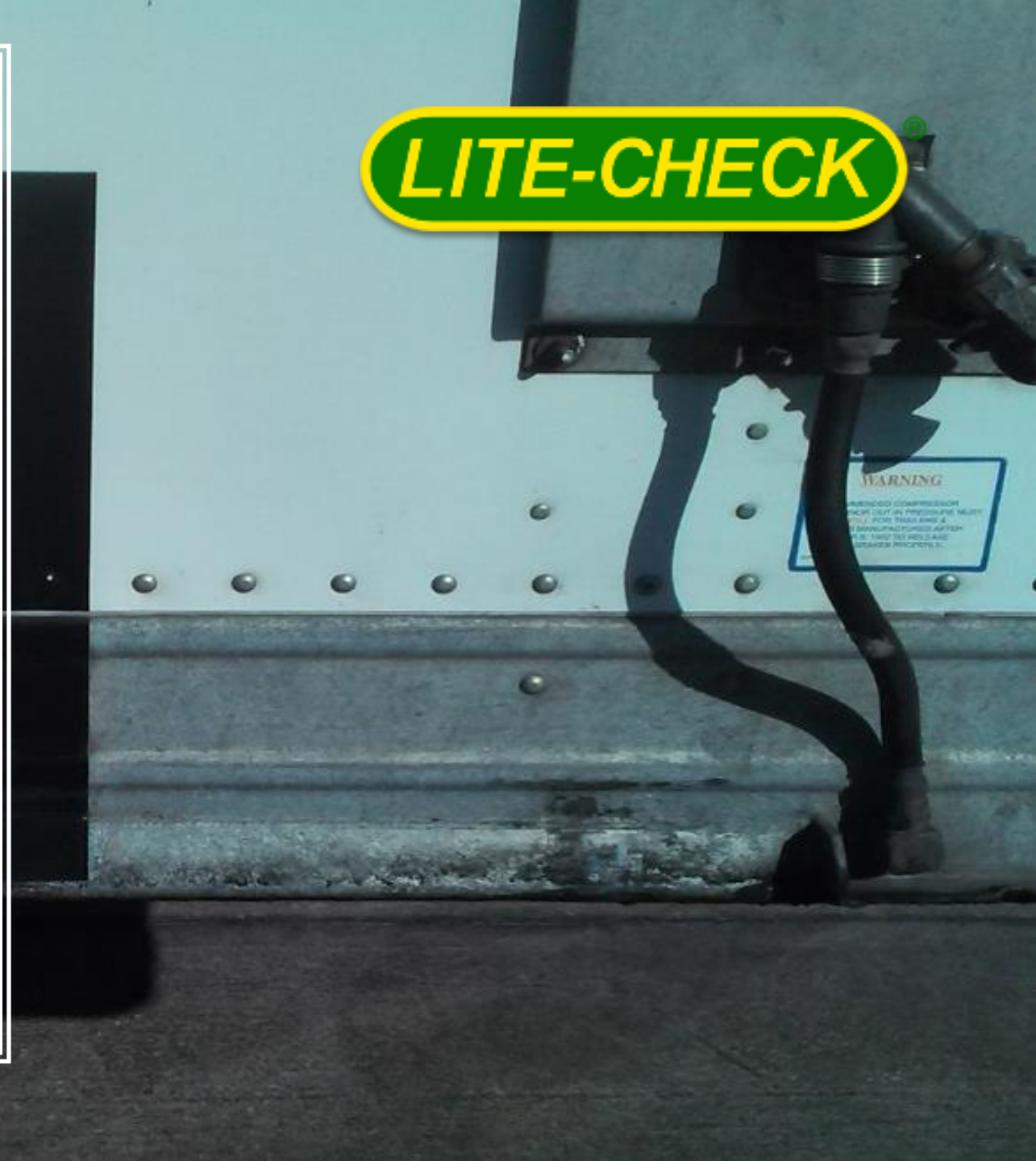
Interior

- **Inspect wall linings, vertical posts, scuff liner, floor, threshold plate**
- **Look for damage, secure mounting, cracks, rotting**



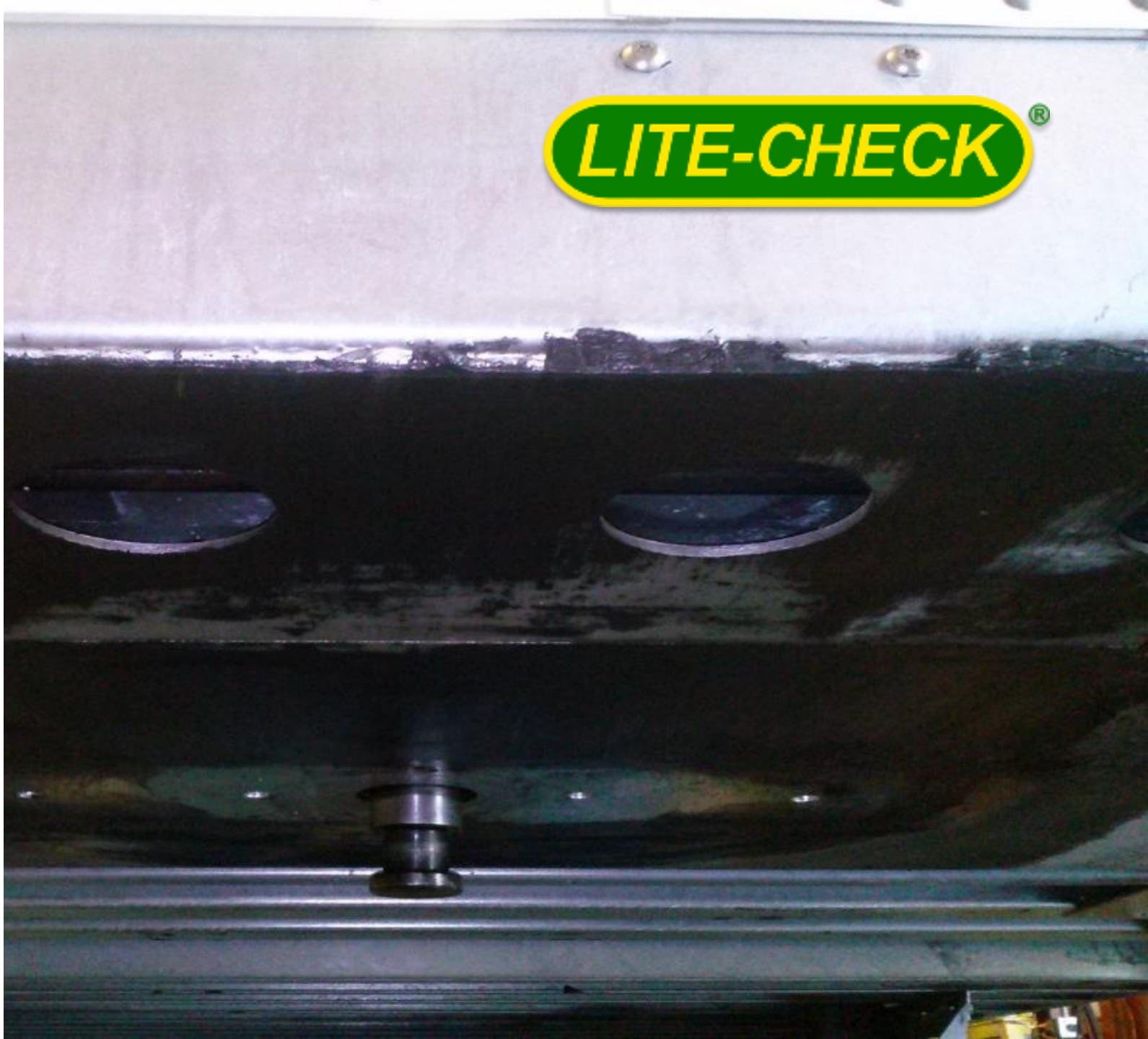
SECTION 6 CHASSIS
Upper Coupler / King Pin

- **Inspect front coupler plate and lift plate**
- **Lift plate is where the fifth wheel comes in contact with the trailer**
- **Leading edge of lift plate should be smooth with no sharp edges, gouges, cracks, holes or excessive corrosion**



Bottom coupler

- **Inspect bottom coupler condition and surface**
- **Look for surface cracks, gouges, damage**
- **Bottom coupler should be smooth and even**
- **Any welds in this area should be ground smooth and even with the plate**

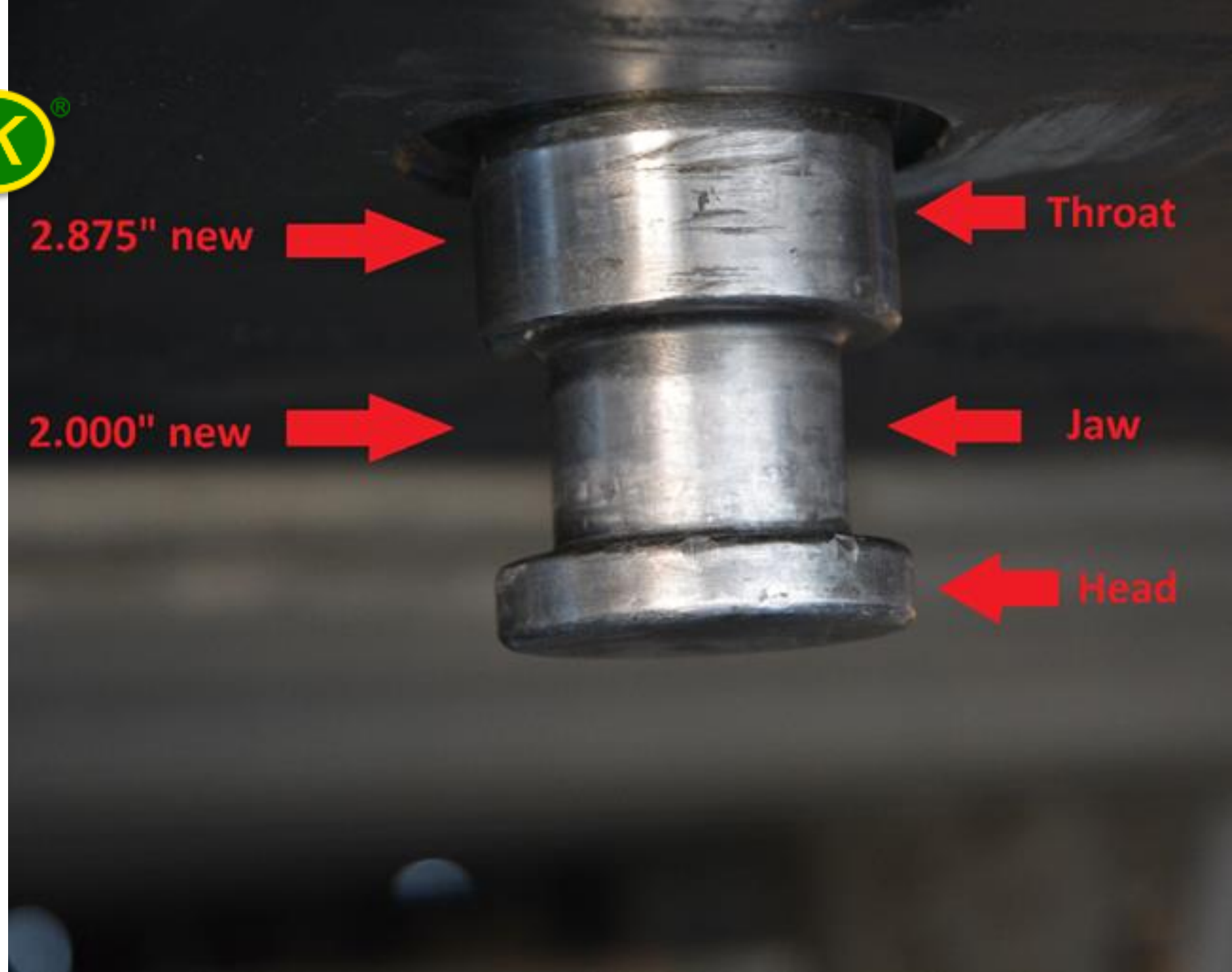


King Pin

- Inspect king pin for movement
- Grab the king pin by hand, any movement the King pin is defective
- Inspect the King Pin for movement
- Attempt to move the King Pin by hand
- If the King pin has any movement it is defective

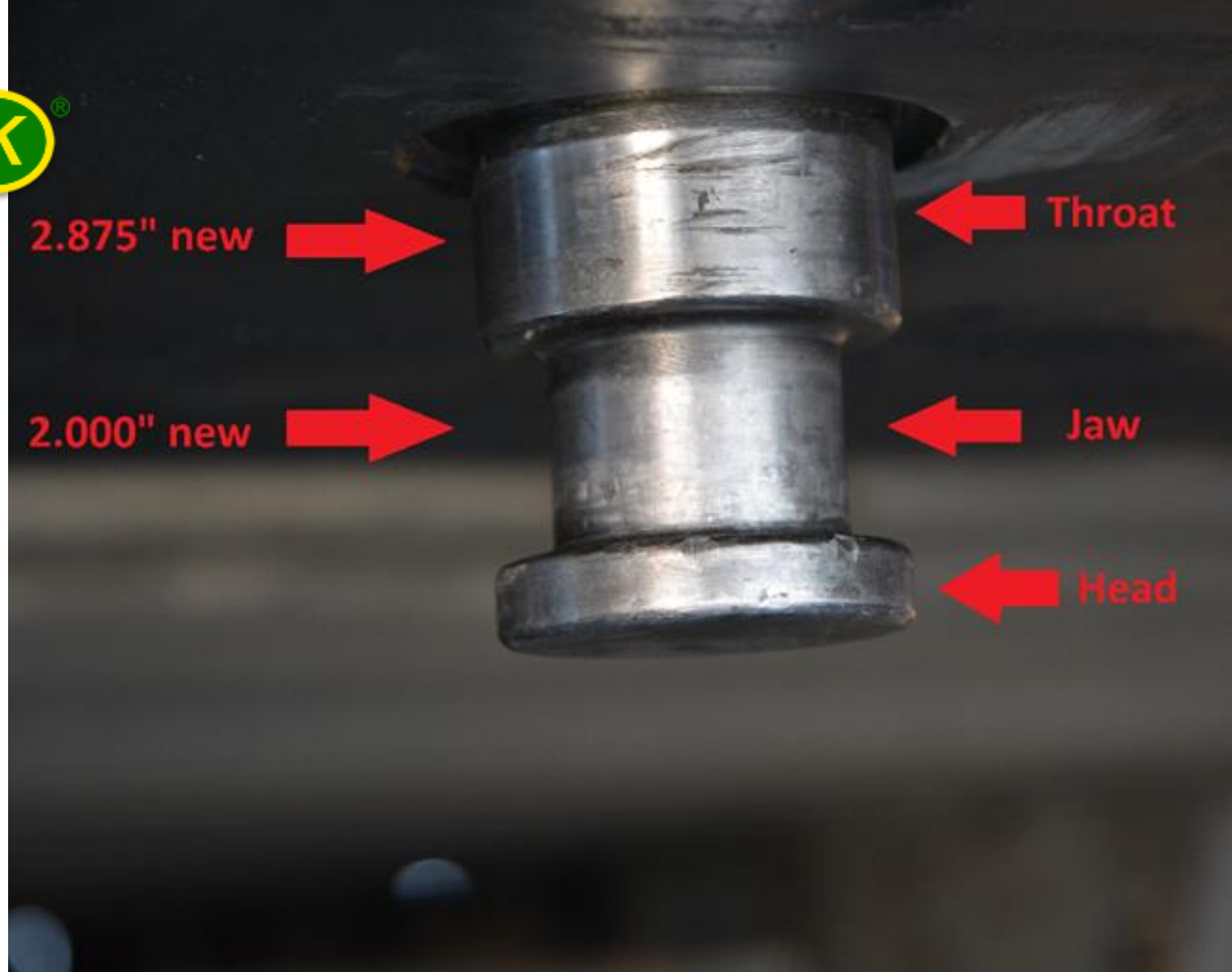
King Pin

- Use a King pin gauge to inspect for wear
- When inspecting the king pin thickness, rotate the gauge 360 degrees
- Inspect the King Pin for wear using a King Pin gauge
- The king pin has three sections that need to measured.
- First is the head. Use the gauge on the head and rotate 360°.
- Next is the Jaw. This is the narrowest section of the king pin.
- Use the section of the gauge labeled jaw and rotate 360°.



King Pin Continued

- The third section of the king pin is the throat. Sometimes call the shoulder, use the section of the gauge labeled throat or should and rotate 360°.
- During the inspection process, if any section of the pin does fit inside the gauge, a preseason measuring device should be used to determine the exact amount of wear. A new king pin is 2.00” at the Jaw and 2.875” at the head and throat/shoulder.
- Wear of .125” or more at any point would be a defect and place the trailer Out-Of-Service.



King Pin Continued

- **Using the King pin Gauge or a square, inspect and ensure the King pin is perpendicular to the bottom coupler plate**
- **Measure 360 degrees around King pin**
- **If the square is not the same distance from the Bottom Coupler 360° around the King Pin it is defective**

Bottom Coupler

- Using a straight edge, inspect the bottom coupler for upward or downward bow
- Inspect the bottom coupler assembly for upward and downward bow
- Use a flat bar across the plate
- Upward bow must be less than 1/16 of an inch in 38” around the pin
- Downward bow must be less than 1/8 of an inch a 10” radius of the pin and less than ¼” of an inch in a 19” radius of the pin

Rear of Bottom Coupler

- **Inspect the back of the Bottom Coupler**
- **The rear edge of the plate should be smooth and rounded to allow the fifth wheel plate to rotate freely**

Coupler / Lower Rail

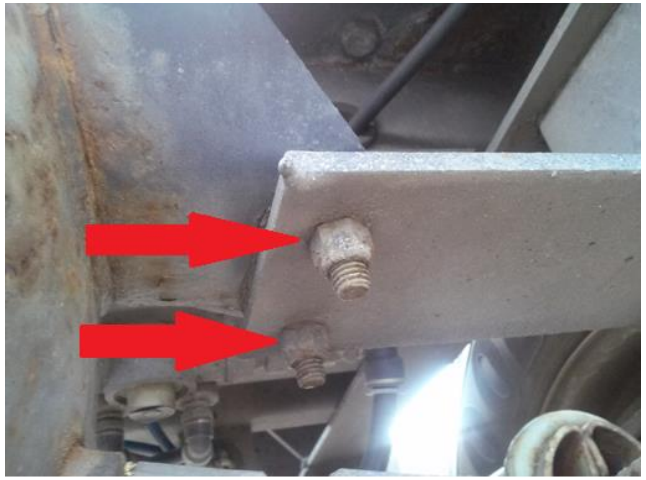
- Inspect the lower rail connection to the coupler
- Look at the mounting hardware, swelling between fasteners and any damage
- Inspect the sides of the coupler where the coupler attaches to the lower rail
- Inspect all mounting fasteners and check for swelling between the fasteners
- If a fastener is loose or removed, it must be replaced

Landing Gear

- Inspect landing gear, wing plates, cross tube and alignment
- Look for cracks, damage or loose fasteners
- The landing gear operation was checked when we raised the landing gear to pull the trailer in the shop
- Inspect the Landing Gear Wing Plates and braces for cracks, loose fasteners, and damage
- Inspect the Landing Gear handle and handle holder for proper secure mounting and overall condition
- Inspect the landing Gear alignment
- Inspect both sand shoe mounting and condition
- Inspect the Cross tube condition and bolts for wear

Frame Crossmembers

- **For efficiency, inspect all cross members as moving to the rear of the trailer**
- **Look for proper mounting, overall condition, cracks, broken welds, corrosion and any damage**

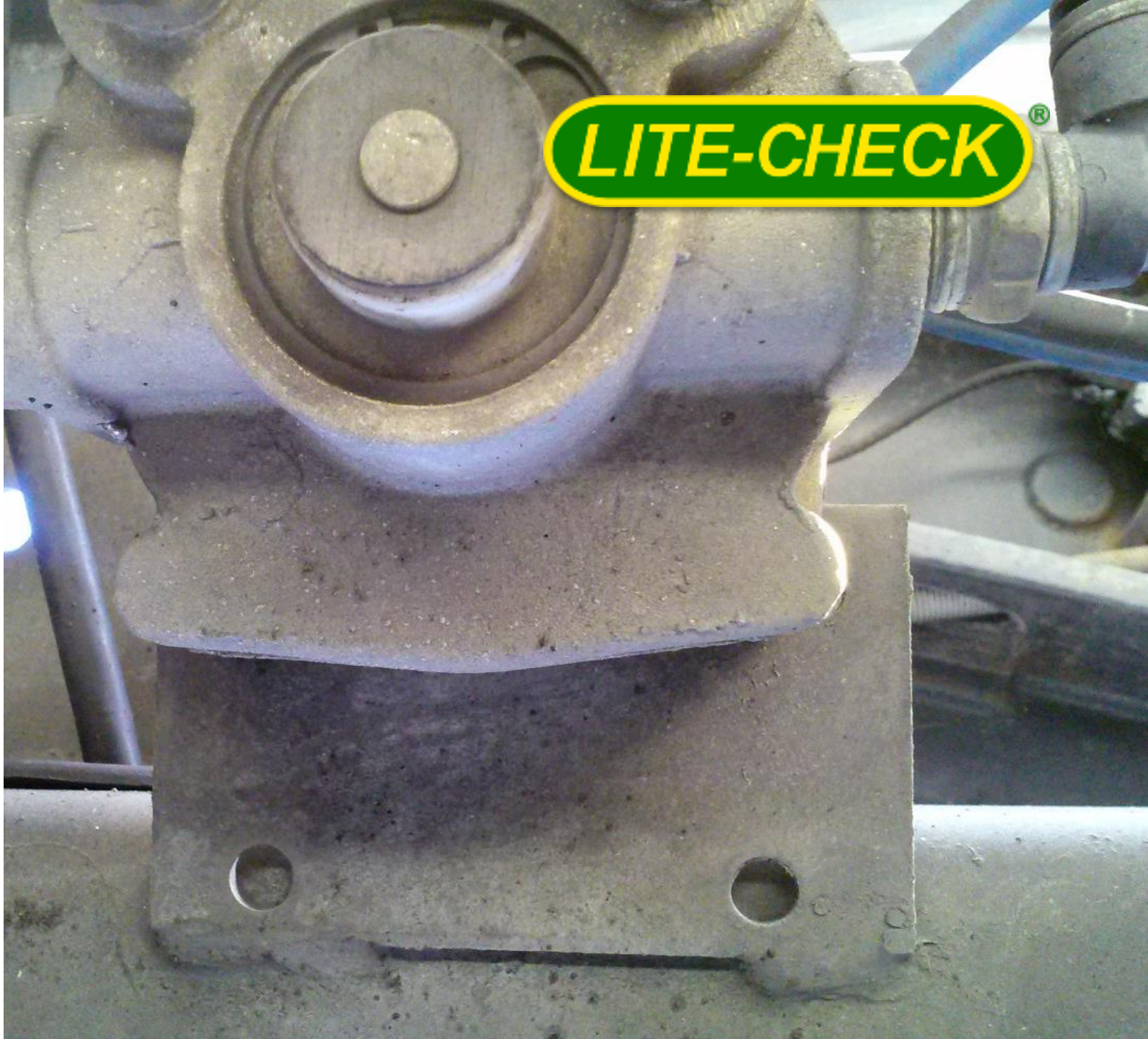


Air Tank

- Inspect air tanks, mounting and drains
- Look for overall condition, rust, secure mounting, cracked welds and any damage
- Pull the Air Tank drain for proper operation and condition
- Air tanks should be completely drained at every PM.
- Inspect the Air Tanks for good overall condition, rust, and secure mounting
- Inspect the Air Tank mounting tabs and braces for good Overall condition, cracked welds and damage
- Inspect the Air Tank drain operation and pull cord condition

Brake Valves

- Charge the air system with a regulator set at 100psi and release the brakes
- Once the system has equalized shut off the air supply
- Watch the air gauge and the rate of air loss should not exceed 3psi per minute
- Now apply the brakes on the service side and return system pressure to 100psi
- After system has equalized, shut off the air supply
- The air loss should not exceed 4psi per minute with the brakes applied
- If any test has exceed the pressure drop find and repair the air leak and preform the test again



Air lines / Hoses / Clamps / Filters

- **Perform the following inspection with the brakes still applied**
- **Inspect all Air Lines and Hoses for proper mounting, air leaks, and routing**
- **Secure any Air Lines or hoses that may be rubbing**
- **Inspect any clamps for proper securement**
- **Inspect all Air Filter if Trailer is equipped.**

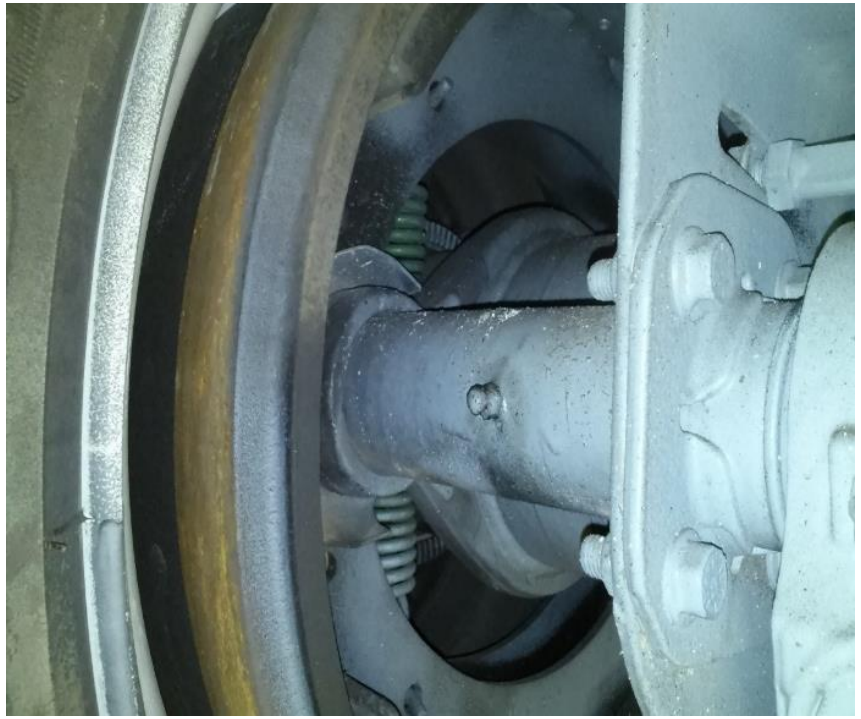
Brakes

Inspect:

- **Brakes, S-cams**

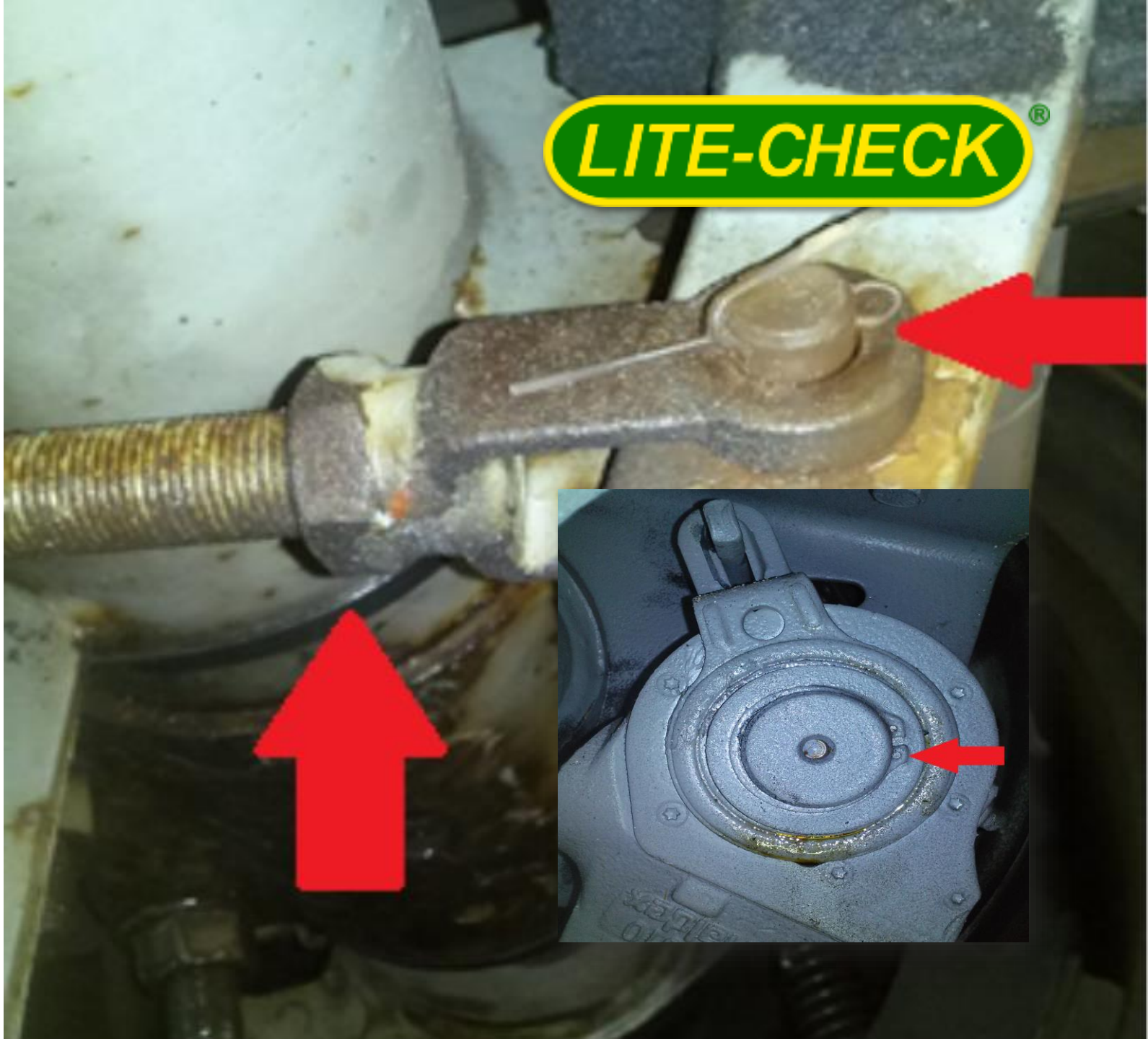
How to Inspect:

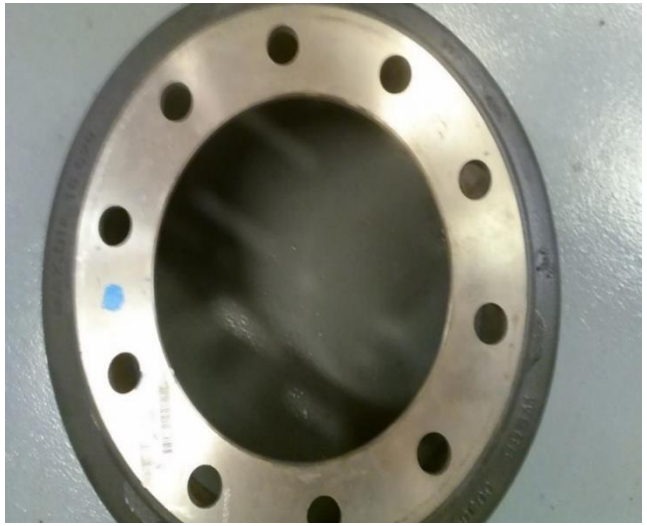
- **Inspect the brakes for broken, loose, mismatched, missing, or improper mechanical components**
- **Inspect brake linings for overall condition, cracks, and a minimum of ¼ thick at the lowest point**
- **Inspect the S-cam bushings for wear. Measure wear with a dial indicator. .030” maximum play in bushings**



Brakes

- Inspect the snap rings at the brake spider and at the slack adjuster
- Both snap rings must be fully seated and have tension
- Inspect both clevis pins. Check for the presents of a cotter pin and the clevis pin is not frozen in the bore
- Inspect the clevis pin jam nut is fully seated against the clevis





Brake Drum

- Inspect the brake drums for cracks, bell-mouthed, out-of-round, or the bolt holes are elongated
- Inspect the drum for heat checks that the check lines run together through the face of the drum
- Inspect the drum for a scored, grooved, wavy, or worn braking surface

Chambers

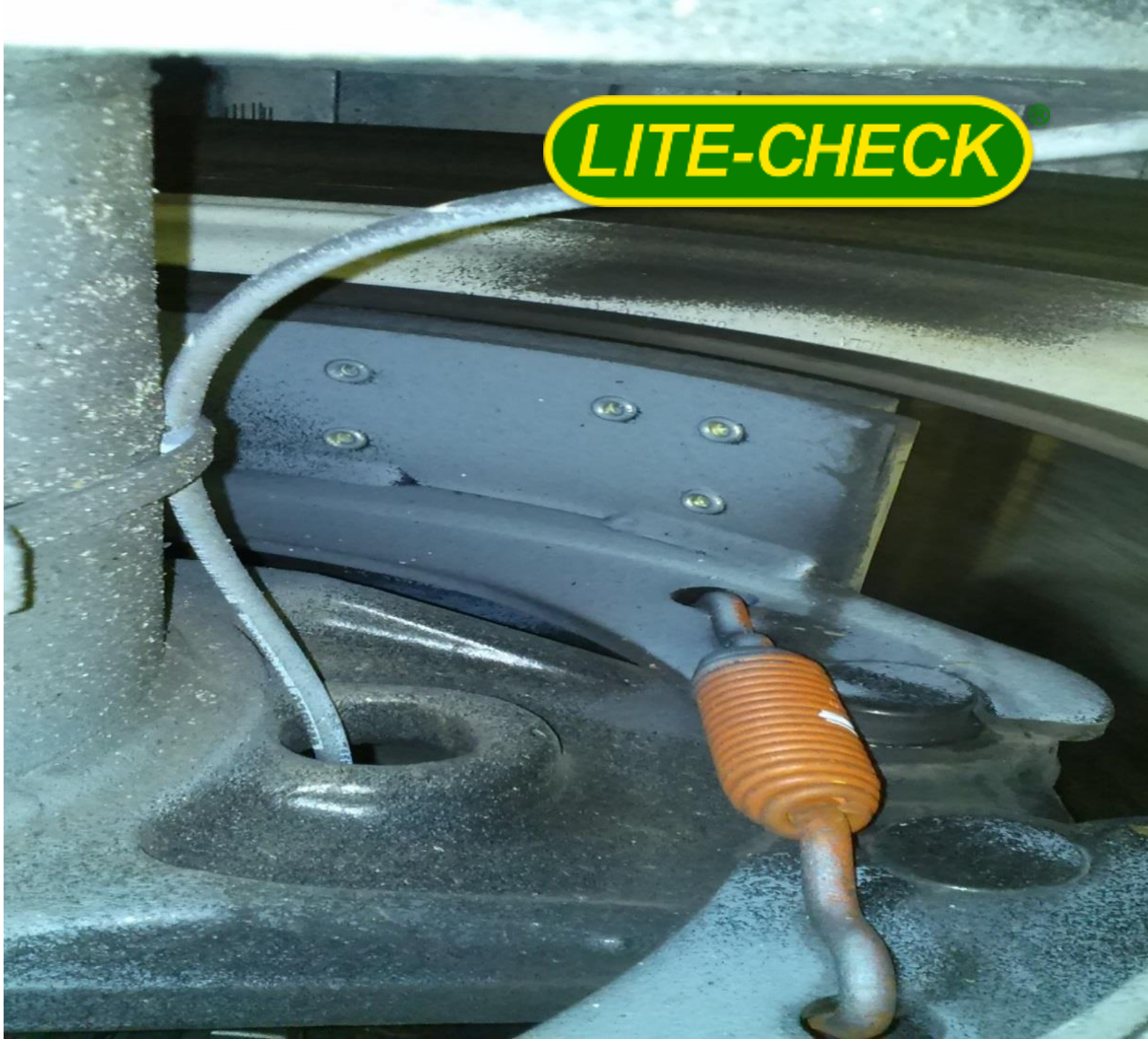
- Inspect the mounting condition of both brake chambers.
- Inspect the overall condition of the brake chambers. If any heavy rust or dents are found, replace the brake chamber.
- Inspect the Julian date of each chamber
- The Last two numbers are the year the chamber was manufactured and the first three numbers is the day of the year

Wheel Seals

- Inspect the wheel seals for leaks or any dampness
- The wheel seal should be replaced as soon as signs of a leak appear.
- If oil is dripping out of the hub, the brake shoe linings must be inspected.
- If any oil is present on the linings, the shoes must be replaced.

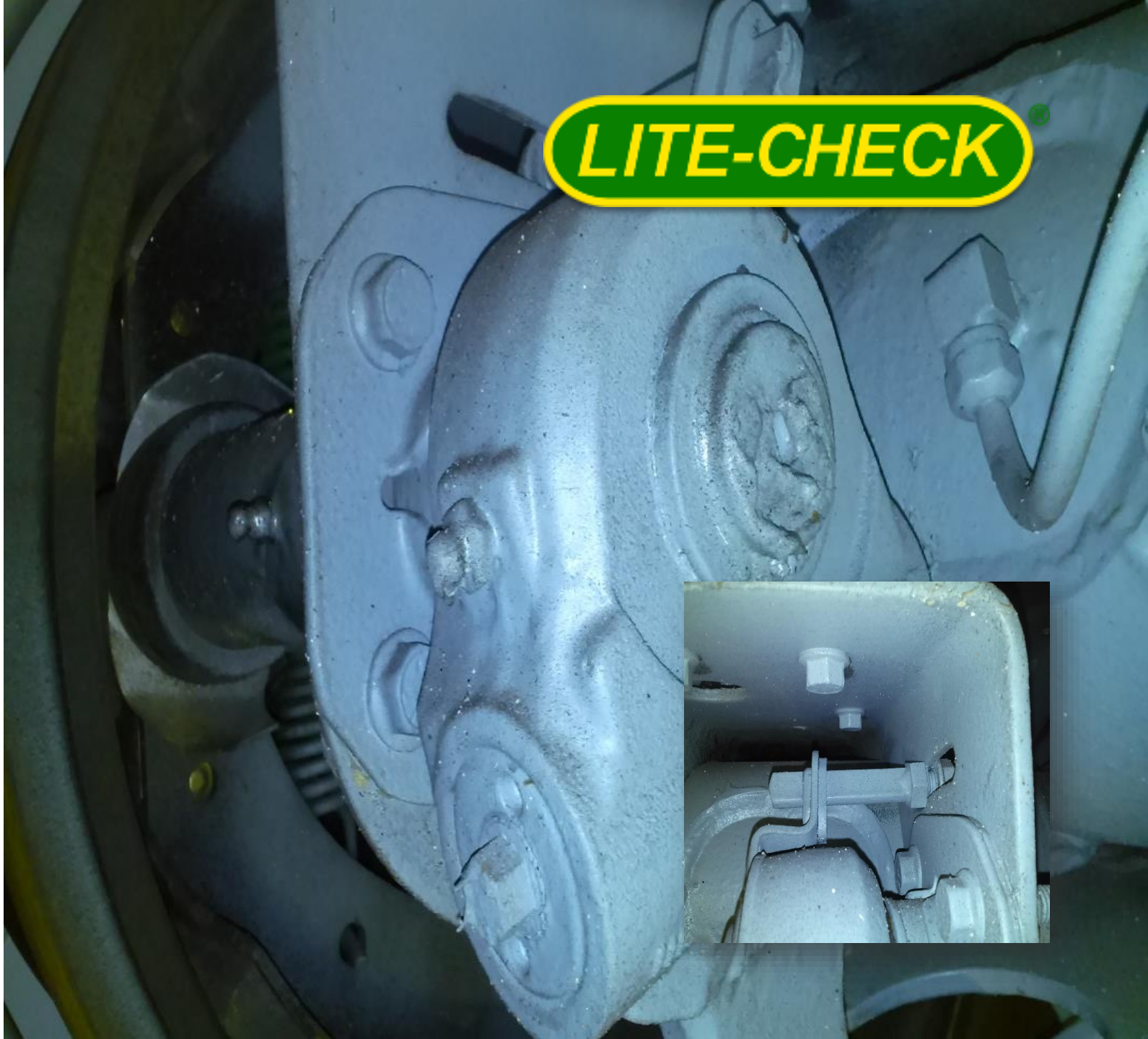
ABS Sensor / Wiring

- Inspect each wheel speed sensor for good overall condition and any damage
- Inspect for secure mounting of the sensors
- Inspect wiring going to each sensor for damage, proper securement, and corrosion
- Inspect all wiring for the ABS system for proper securement and overall condition



Slack Adjustors

- Inspect the slack adjuster for overall condition, S-cam Clip, and damage
- Inspect adjuster pin for proper securement
- Measure s-cam bushing wear on the outboard side using a dial indicator
- Anything over .030” of wear will need further diagnostics



Measure Applied Brake Stroke

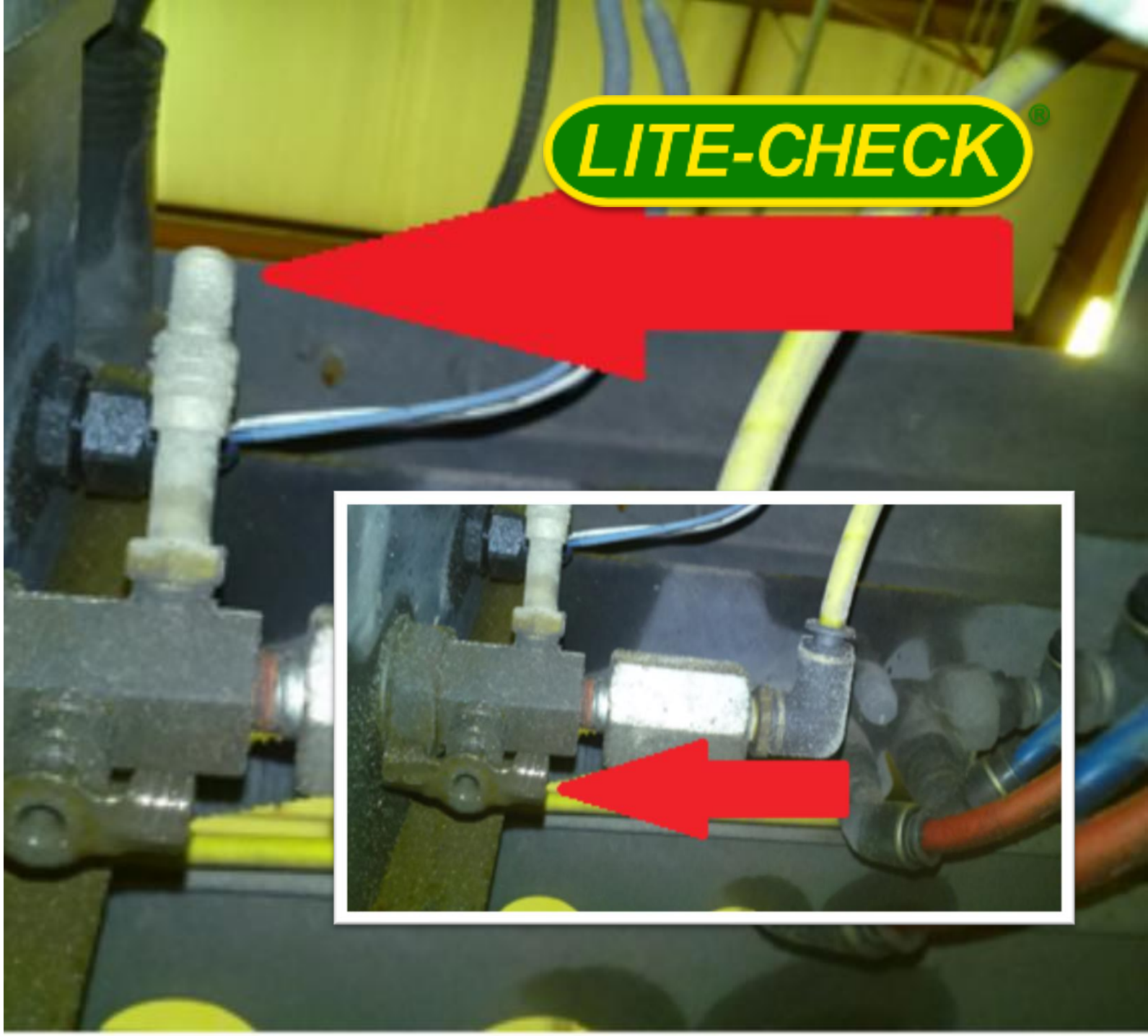
- Measure form the chamber backing plate to the leading edge of the clevis pin with the brakes released.
- Make sure system air pressure is above 90psi with the brakes applied.
- Measure from the same place on the brake chamber backing plate to the same leading edge on the clevis pin.
- Subtract the first measurement from the second measurement. This is the applied brake stroke measurement. This measurement will need to be entered on the PM sheet at each wheel end.
- The maximum allowable brake stroke on a type 30 long stroke clamp chamber is 2 ½”

Brake Lining

- Inspect the brake shoe lining condition
- Any missing rivets, rust jacking, or cracked linings must be replaced
- The thickness of the shoe lining must be greater than a ¼” at the center of the shoe

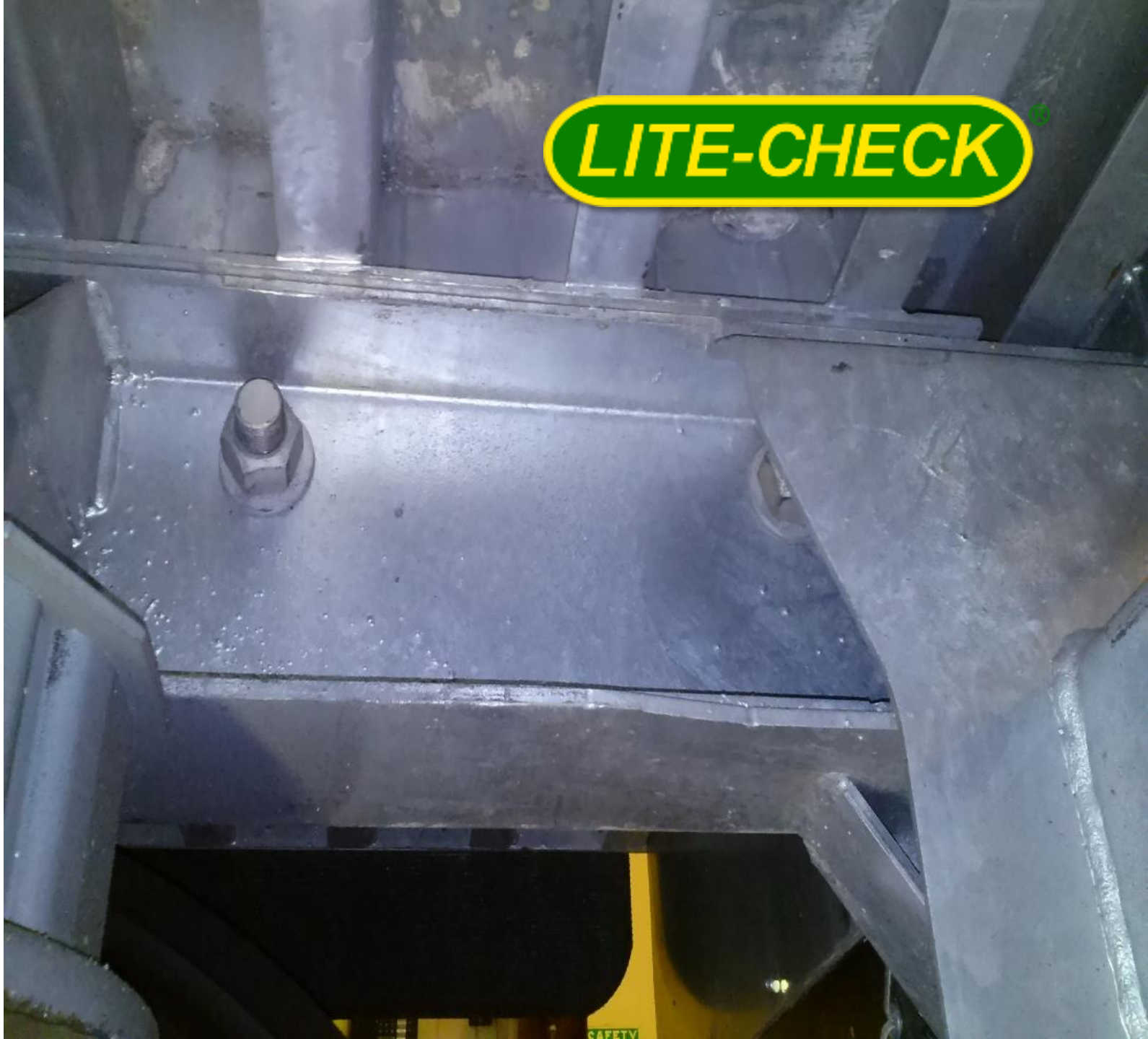
Tire Inflation System

- Inspect the tire inflation system for proper mounting and overall condition
- Use a tire gauge to check the set pressure at the test port located at the T.I.S. box
- Refer to the company tire inflation policy for proper set points
- Inspect for proper operation the T.I.S. light
- Open the drain valve next to the T.I.S box and apply AUX power to test the light operation



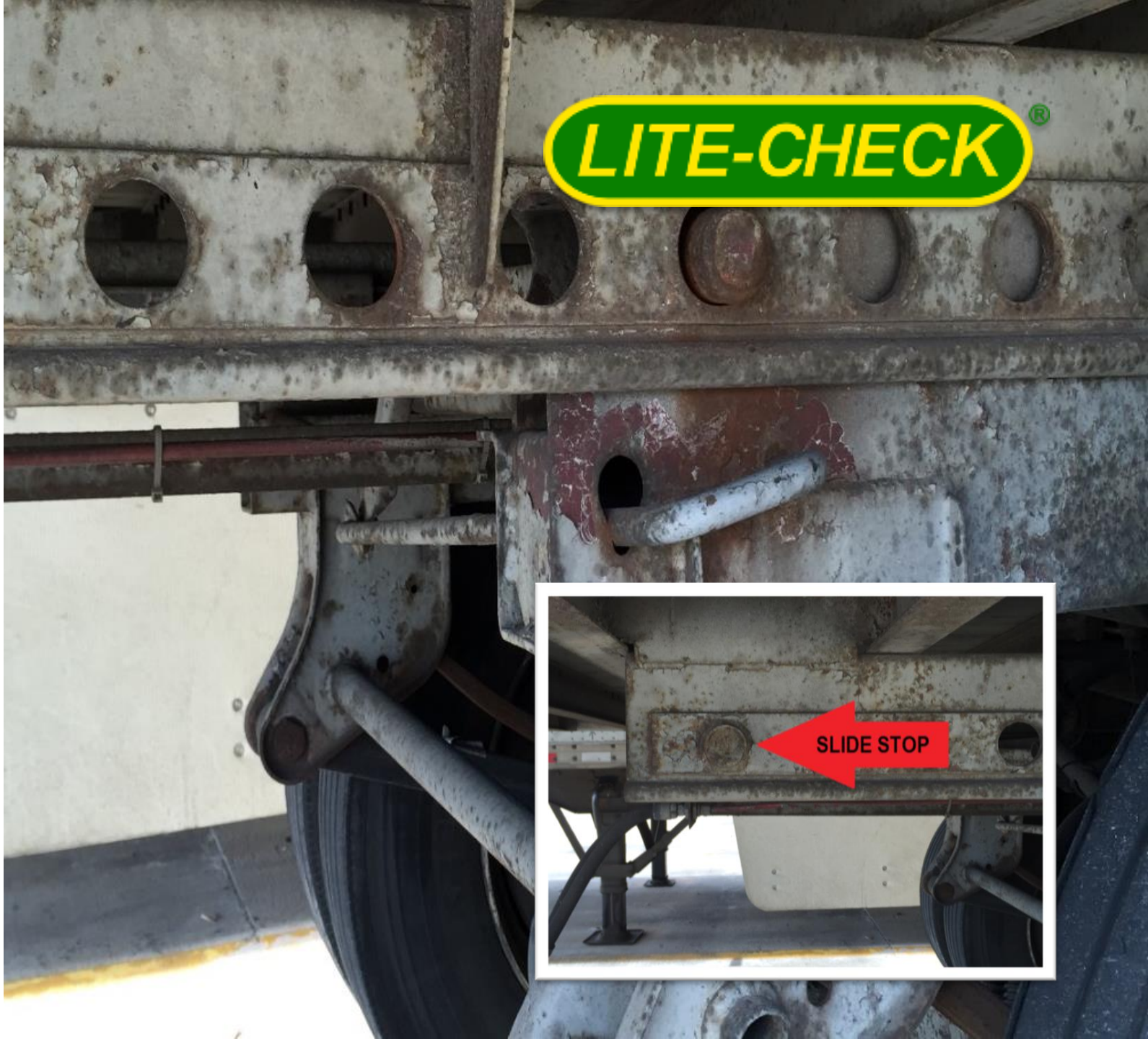
Frames / Crossmembers

- **Inspect the entire trailer frame for cracks, cracked welds, corrosion, and damage**
- **Inspect all crossmembers, flooring, floor screws, and sub pan for loose mounting, missing bolts or rivets, and cracks**



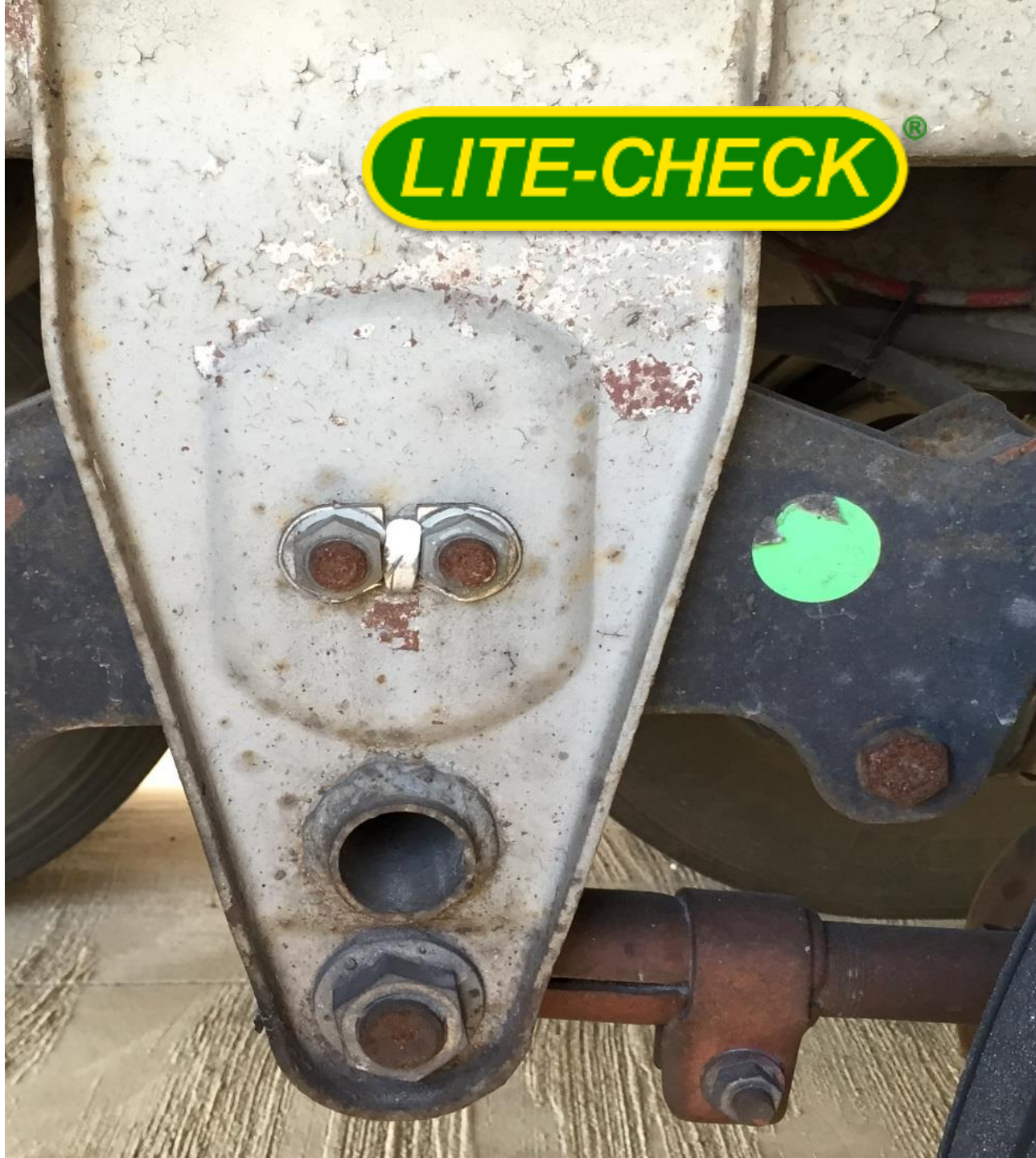
Slider Assembly

- **Inspect the slider assembly for proper operation and overall condition**
- **Inspect the slider rail, all welds, pads, slider stops, and lock pins for proper securement and damage**
- **Inspect the slider operation lever and linkage for proper operation and lock out**



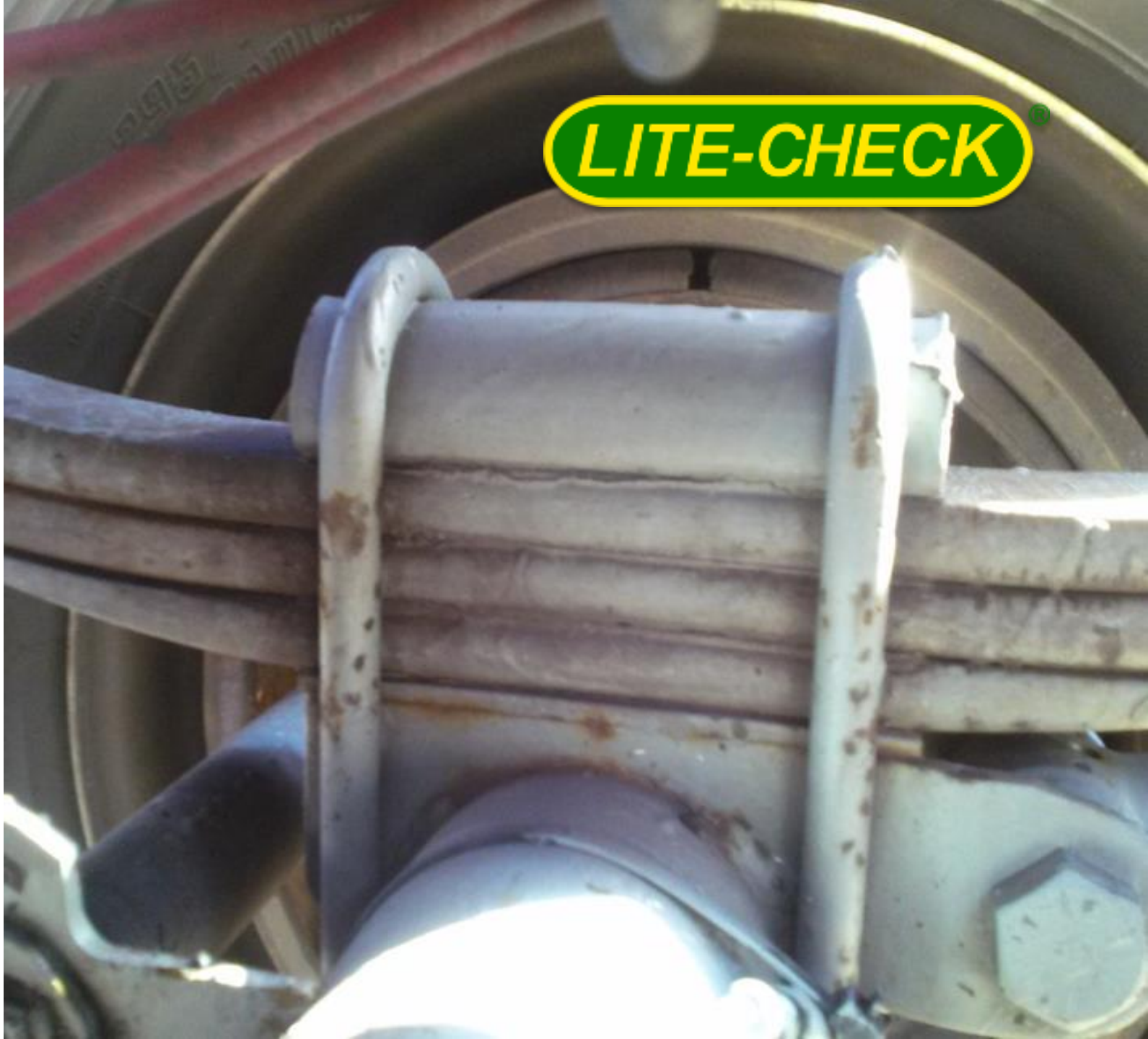
Torque Arms / Equalizers

- **Inspect all torque arms for wear, bushing condition, and fastener torque**
- **Inspect both equalizers for wear, bushing condition, and pivot torque**
- **Inspect all mounting brackets, bolts, and bushings for wear and excessive play**
- **Inspect torque arm adjustment clamps for effectiveness**



Suspension / U-Bolts

- Inspect the overall condition of the suspension system
- Inspect the air bags for dry rot, mounting, and air leaks
- Inspect the leaf springs for cracks, damage and proper mounting
- Inspect the condition of the U-Bolts
- Retorque the U-Bolts to manufactures specifications
- Inspect the anti-dock walk chamber on air ride equipped trailers
- A spring will pull back the suspension lock bar when air is released from the system
- A air bag will inflate overcoming the spring when air is supplied to the trailer
- If a chamber for the brakes or the anti-dock walk chamber is 7 years or older by the Julian date replace the chamber
- Inspect the routing of the air line to the chamber
- Inspect Spring hangers for wear

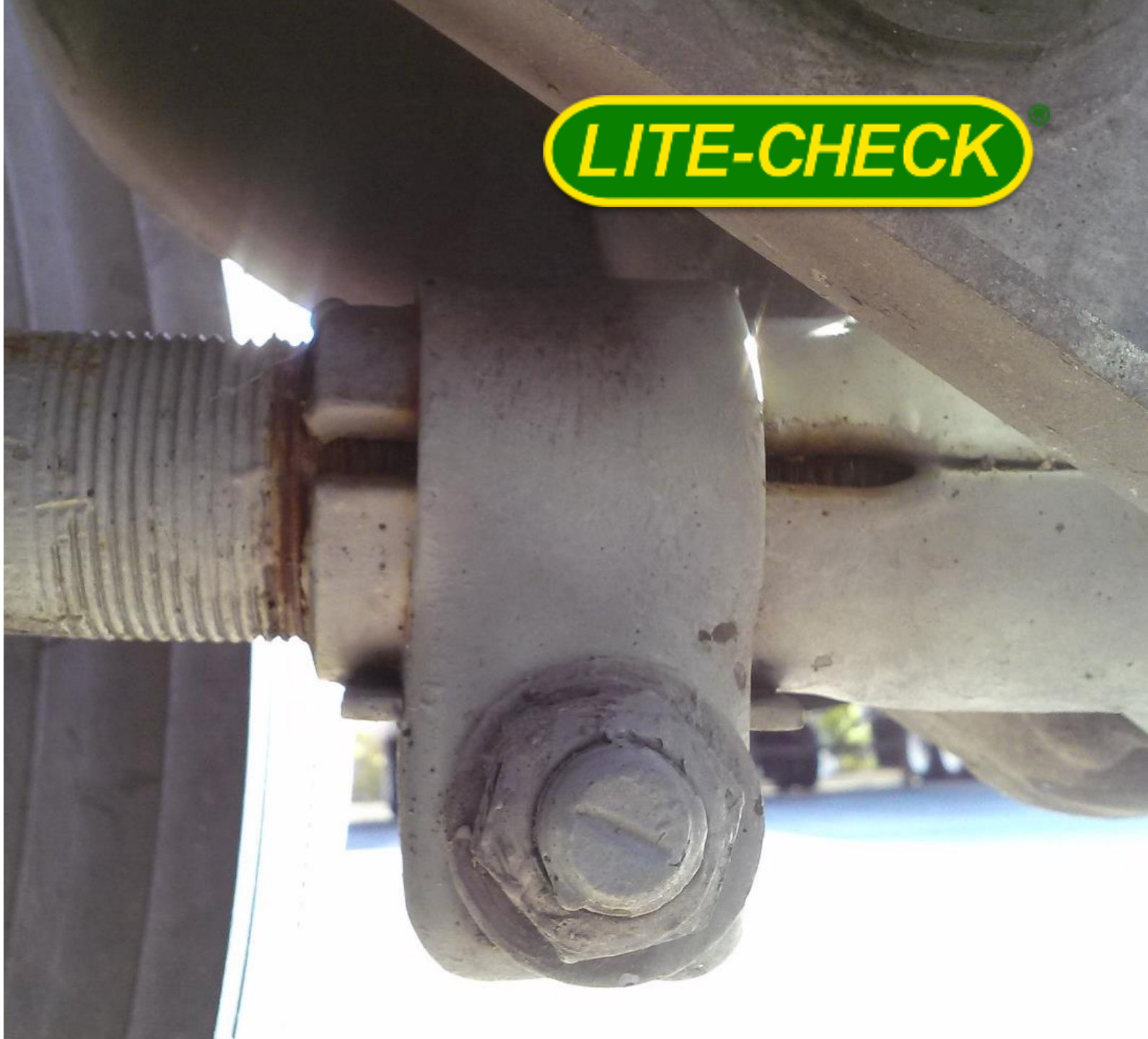


ICC Bumper

- **Inspect the overall condition of the ICC bumper**
- **Inspect the mounting condition and all welds for cracks and damage**

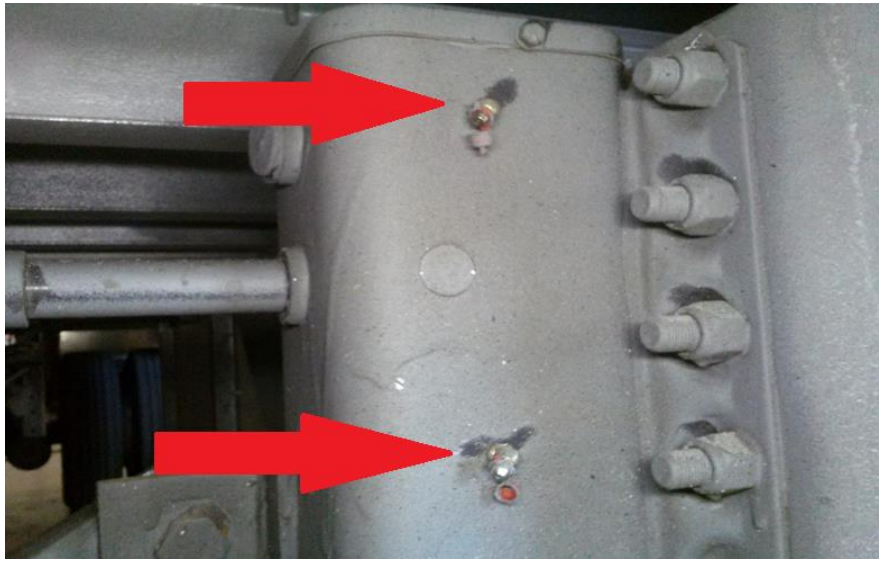
Axle Alignment

- Check the trailers alignment.
- Refer to the manufacturer for measuring and proper specification
- Refer to the manufacturer for proper adjustment techniques



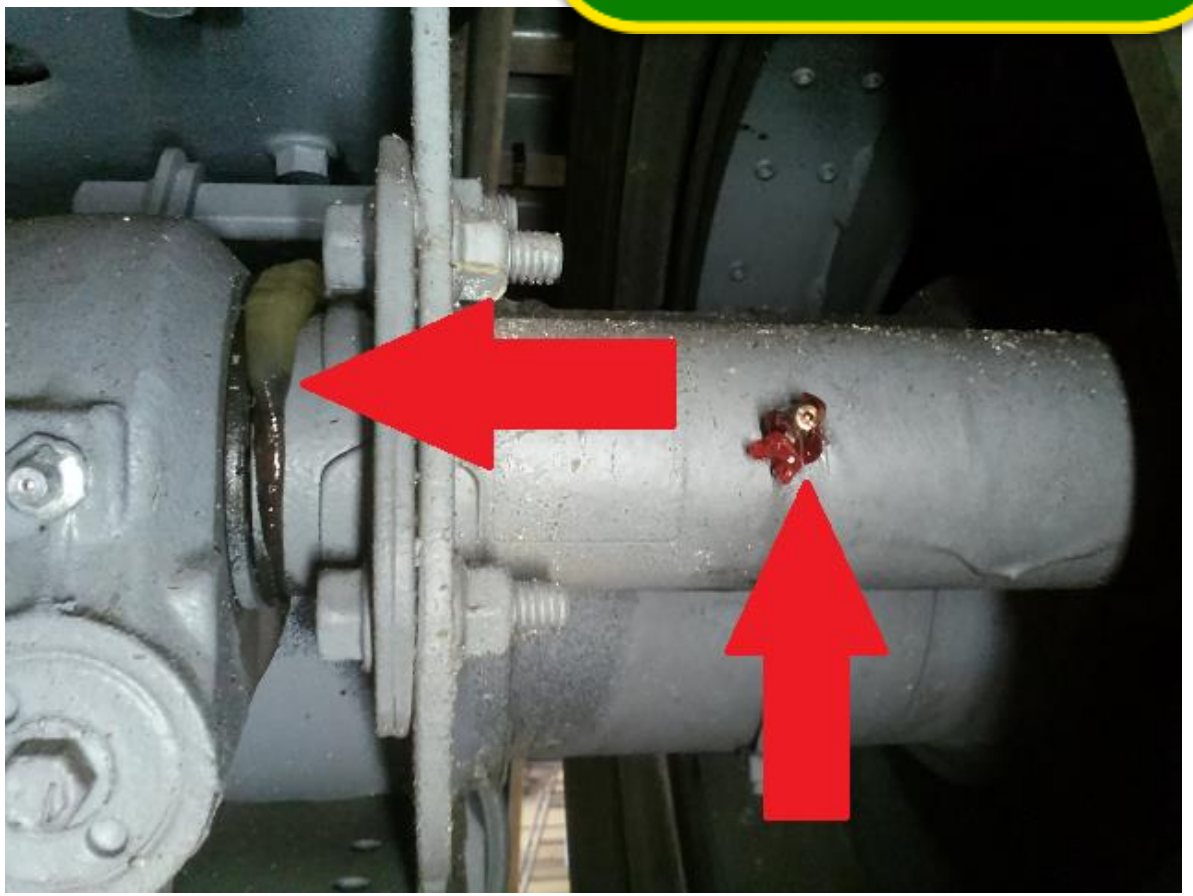
Lube
Landing Gears

- **Clean all grease fittings before greasing**
- **Grease the top and bottom filling on each landing gear leg for 5 to 7 seconds each**
- **Grease the gear box for 3 seconds on each fitting**



Lube S-cams

- Clean all grease fittings before greasing
- Grease all brake components with the brakes released
- Grease the S-cam busing at the spider until clean grease purges out of the seal
- Grease the S-cam tube until clean grease purges out of the tube seal at the slack adjuster



Lube
Slack Adjusters

- **Clean all grease fittings before greasing**
- **Grease the slack adjusters until clean grease purges out of the adjusters**

PM Documentation

- **After all repairs have been made, install a new PM decal**
- **Make sure the current month and year are punched out of the decal**
- **Position the PM Inspection Decal 19" above the bottom of the trailer and center on the radius**