

Pre-Trip Inspection

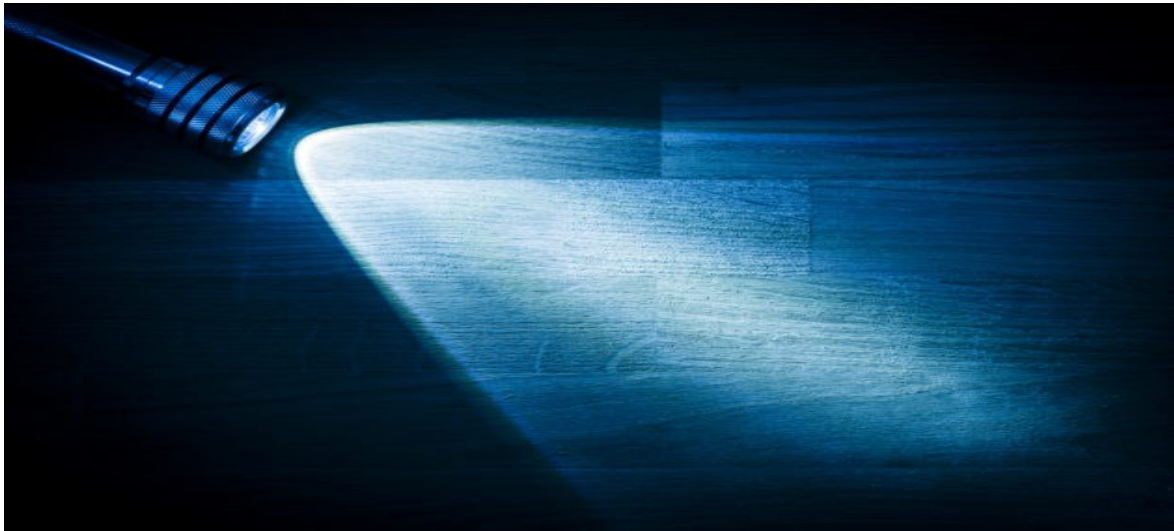
2017 PRESENTED BY DON WEST

Everyone knows how to do a pre-trip

- ▶ We do it everyday
- ▶ I've been driving for twenty years
- ▶ Complacent
- ▶ Were they grandfathered in?

Starting your Pre-Trip

- ▶ As you approach the bus look for damage to the bus and obvious things under the bus, such as leaks or hanging debris. (Use a flashlight when it is dark.) I would call inside a garage dark.....



Enter the Bus

- ▶ Fire extinguisher
- ▶ Emergency Reflectors, sometimes finding these can be fun
- ▶ First Aid Kit
- ▶ Two spare electric fuses, if so equipped. Which two?



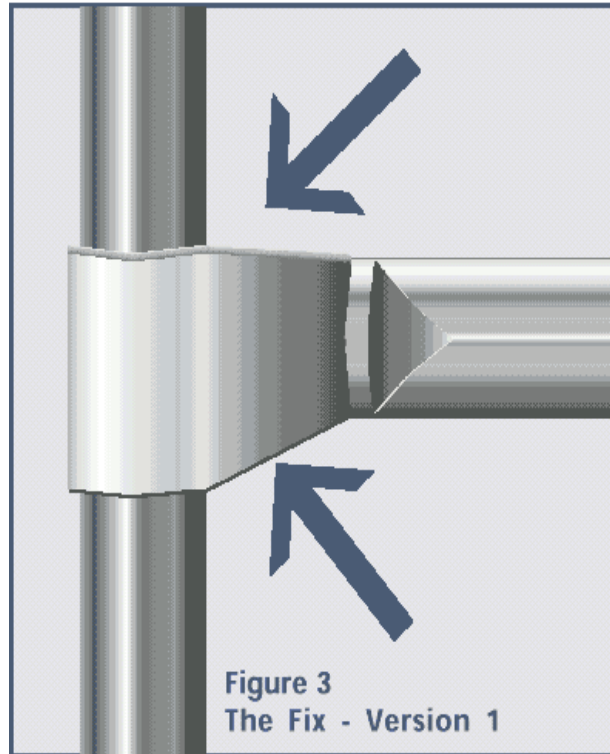
Check the steps

- ▶ I would do this first, the State Curriculum has it listed second, but standing on the steps, you could check almost everything from the previous slide.
- ▶ Be sure to see how that step feels as you are standing on it.
- ▶ They do have a tendency to rust out.
- ▶ The handrail must be tight and secure...not mentioned is that nothing smaller than a quarter should be able to be snagged on the handrail.
- ▶ IDOT used to check these with a $\frac{3}{4}$ nut on a string to see if it would get caught.
- ▶ Why is that important?

Backpack caught on handrail



Handrail Geometry



Check the Trash Can

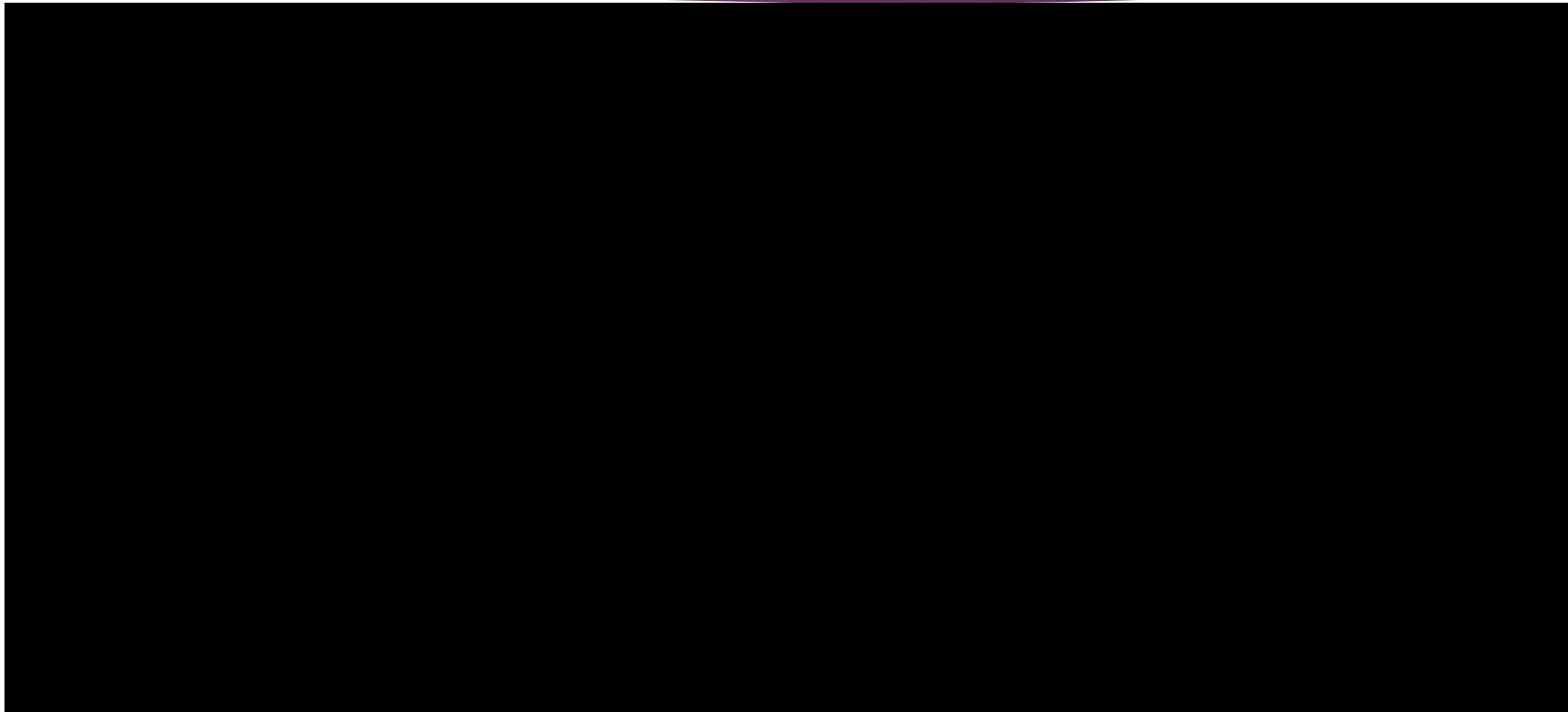
Trash Can Jenga



Under the Hood

- ▶ Under hood items must be checked at least once every 24 hours when a bus is being operated to transport students.
- ▶ What about weekends?
- ▶ Exempt times are excluded the 24 hour time period
- ▶ Section 458.1020 Definitions "Code" – The Illinois Vehicle Code [625 ILCS 5].
"Exempt Time" – The time when a school bus is not being used to transport school children (e.g., weekends, holidays, school not in session).

Service Door and Seat Belt



Accelerator Pedal

- ▶ One hard pump to check that the pedal returns and is not bound
- ▶ Hydraulic Brakes – check the brake motor by pressing the pedal until you hear the motor noise.
- ▶ This is done with key and engine off



Neutral Safety Switch

- ▶ Put the bus in any gear but neutral and try to start the bus
- ▶ Make sure you have the parking brake on and your foot on the brake
- ▶ This can be one of the most common issues as to why a bus won't start
- ▶ If the bus is not all of the way in neutral the bus won't start
- ▶ I have had more than one call for buses not starting and a quick jiggle of the gear selector fixed it

Start the engine

- ▶ Check the gauges
- ▶ Listen for unusual noises
- ▶ If you have hydraulic brakes, pump the brakes three times and apply firm pressure to the pedal for five seconds
- ▶ Air brakes are later

Check the Parking Brake

- ▶ Two methods for this
- ▶ Put the parking brake on and put the bus in gear, apply light pressure to the accelerator. The bus should not move forward.
- ▶ You can move the bus forward slowly and then apply the parking brake, **DO NOT USE THIS METHOD FOR AIR BRAKE BUSES**
- ▶ **WHY?**

Steering Wheel

- ▶ The State Curriculum says the wheel should move freely without excess play (no more than 10 degrees (or two inches) in a 20-inch wheel).



Interior

- ▶ Lights
- ▶ Defroster fans
- ▶ Heater motors
- ▶ Windshield Wipers and Washers
- ▶ Two-way radio



8 way lights

- ▶ Turn on the ambers
- ▶ You can look in the cross over mirrors to check them
- ▶ Ask someone if they are working, put your head next to the windshield, see the reflection on a garage wall, or depending on the bus you can deactivate the door but leave the lights on and check for yourself
- ▶ Leave the ambers on and start checking the interior of the bus working your way to the back

Seats

- ▶ On the way to the back of the bus, pull up on all of the seats to check for security
- ▶ Open the exit door and check your 8 way amber lights
- ▶ Proceed back to the front of the bus checking emergency windows and roof hatches
- ▶ Do roof hatches need warning buzzers?

Outside

- ▶ Turn on all lights and open the door to active the red 8 way light system
- ▶ As you exit the bus check the right mirror
- ▶ At the front wheel and tire check the following
- ▶ Tire condition: even wear of the tread, no cracks, splits, bulges or cords showing, properly inflated, no recaps
- ▶ What does 4/32 look like?

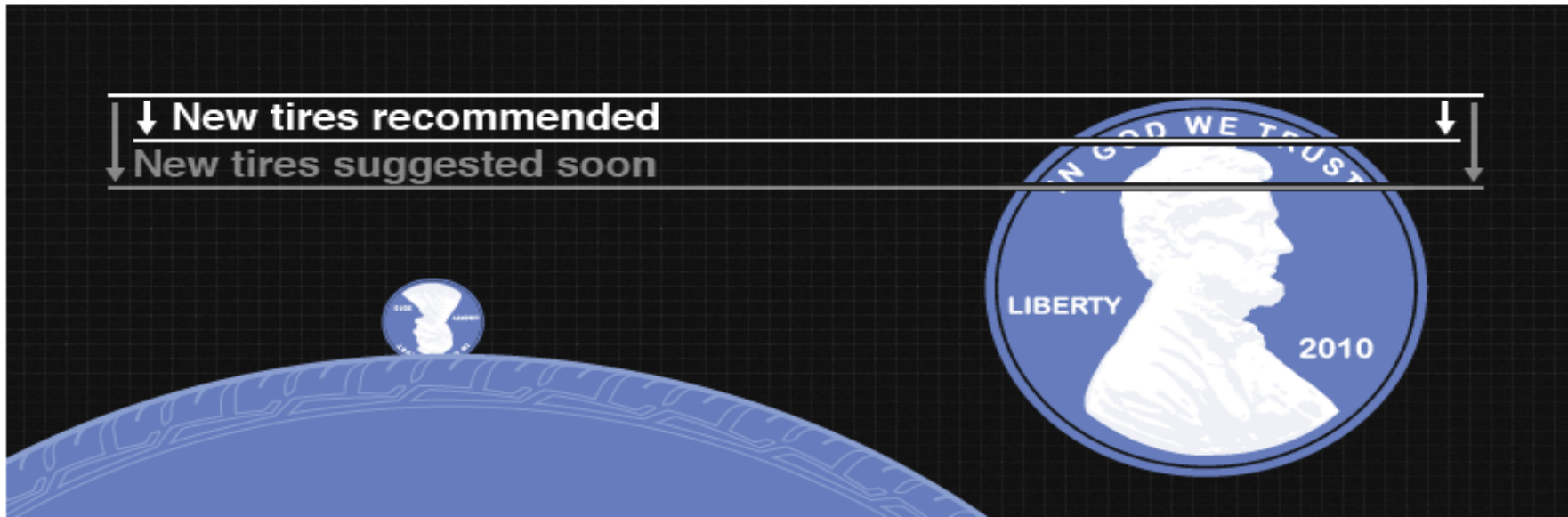
Insert pick of penny and 2/32

The idea of the penny test is to check whether you've hit the 2/32" threshold. Here's how it works:

Place a penny between the tread ribs on your tire. A "rib" refers to the raised portion of tread that spans the circumference of your tire. Tire tread is composed of several ribs.

Turn the penny so that Lincoln's head points down into the tread.

See if the top of his head disappears between the ribs. If it does, your tread is still above 2/32" , If you can see his entire head, it may be time to replace the tire because your tread is no longer deep enough.



Penn



Picture of worn front tires



Front Tire

- ▶ Rims
- ▶ Valve Stems
- ▶ Lug nuts
- ▶ Brakes

Front of the bus

- ▶ Two-way radio antenna
- ▶ Clearance lights
- ▶ Red 8 ways
- ▶ Windshield wipers and arms
- ▶ Inspection Sticker
- ▶ Side mirrors
- ▶ Hazard lights
- ▶ Cross over mirrors
- ▶ Headlights
- ▶ License plate
- ▶ Body Damage
- ▶ Crossing Arm
- ▶ Look under the bus and check for leaks and anything broken, bent, or hanging down

Driver Side of the Bus

- ▶ Check the left front tire the same as you did the right side
- ▶ Battery box
- ▶ Move to the middle of the bus
- ▶ Check lights, windows, reflectors, Stop arm and for body damage
- ▶ Look under bus for the exhaust or hanging debris
- ▶ Side emergency door if applicable

Rear Tires

- ▶ Tread depth 2/32
- ▶ Same type and size of tire
- ▶ Recaps secure and no chunks missing
- ▶ Same as the front for the rest

What about tires?

- ▶ What does the State Curriculum and CDL guide say? CDL requirements say to check the tires with a gauge or a mallet.....
- ▶ How do you use the mallet? The CDL guide doesn't say
- ▶ It does say however if you just kick the tires you won't get credit
- ▶ <https://www.youtube.com/watch?v=DoJG59-0EiM>
- ▶ State Curriculum says to check for proper inflation.....
- ▶ <http://www.overdriveonline.com/dump-the-thump-measuring-tire-pressure-precisely-is-worth-more-than-the-time-it-takes/>
- ▶ What can happen if a tire goes bad?

Road alligators



Back of the Bus

- ▶ Clearance Lights
- ▶ Red 8 ways
- ▶ Windows
- ▶ Hazards
- ▶ Tail Lights
- ▶ Reflectors
- ▶ License Plate Sticker
- ▶ Body damage
- ▶ Emergency door

Under Bus

- ▶ Check the exhaust, not more than 1" protruding from the bus
- ▶ Exhaust not rubbing on anything
- ▶ Shocks
- ▶ Differential
- ▶ Work your way back around to the entrance door checking what you checked on the driver side

Re-enter the Service Door

- ▶ Check the stair light is working
- ▶ Close the door to deactivate the 8 way lights
- ▶ Check the high beams
- ▶ Right and left turn signals, front and back
- ▶ Back up lights, How?
- ▶ Brake lights, How?
- ▶ Emergency door warning buzzer

Are drivers looking for threats?

- ▶ Battery boxes?
- ▶ Emergency doors?
- ▶ Fuel doors?

Video of checking the back door





Air Brakes

- ▶ **Bus on, Brake on** – Test **Governor Cut-In** by pumping the brake until the air pressure drops to around 80 pounds per square inch (psi). The gauge should start rising after you get below 80 psi. This indicates the **Governor** is working.
- ▶ **Bus on, Brake on** – The **Governor Cut-Out** begins as soon as the needle begins to rise. Watch the needle stop. Your air pressure should be between 120-130 psi.

Air Brakes

- ▶ **Bus Off, Brake Off** – For **Static Check**, release the parking brake and turn the bus engine off. Make sure your air pressure does not lose many more than 2 psi in one minute. The air pressure should be stable.
- ▶ **Bus Off, Brake Off – Applied Pressure Test**, have your parking brake and the engine off. Apply full pressure to the brake pedal, hold down for about one minute, and watch for the needle to stabilize. You do not want to lose more than 3 psi in that minute.

Air Brakes

- ▶ **Bus On or On Accessory, Brake Off – Low Pressure Air Warning System** – pump the brake pedal with the engine running. Continue pumping until the brake warning light comes on and you hear the buzzer.
- ▶ **Bus On or On Accessory, Brake Off – Emergency Spring Brake Pop-Out Valve Test** – Continue pumping the brakes until the emergency brake valve pops out. The valve should pop out between 7 ½ and 15 psi.

Air Brakes

- ▶ **Bus On, Brake On – Parking Brake** – Stop the vehicle, put the parking brake on, and gently pull against it in a low gear to test that the parking brake will hold.
- ▶ **Bus On, Brake Off – Service Brakes** –Release all brakes, and put the transmission in low gear, remove your hands from the wheel, move forward a few feet and apply the brake. The bus should stop in a straight line and not “pull” to the left or right.

Post Trip

- ▶ Check the bus for sleeping students
- ▶ Check for items left on the bus
- ▶ Sweep the bus if necessary
- ▶ Record any problems

What are their company practices?

- ▶ Is the company or school district following the law?
- ▶ How are post trips handled? Do drivers fill out a pre-trip or are they using a different form? According to page 22 of the State Curriculum, you are to record any problems, on what? According to page 15 of the State Curriculum, after any repairs are made, mechanics are required to sign and date the School Bus Driver's Pre-trip Inspection form.
- ▶ Are the mechanics signing the Pre-trip forms in your district?