

Behind the Wheel

Pre-Trip Inspection

**Buckley
Productions, Inc.**

102 E. Blithedale Ave.

Mill Valley, CA 94941

(415)-383-2009

REFERENCE	CONTENT
	<p>Find a location that is as free of hazards as possible. The ideal place to begin training would be a large area that is isolated from heavy traffic, such as a <u>large parking lot, a fairground, an abandoned airfield, a deserted subdivision, an industrial park, or a little-used country road.</u></p> <p>If you must use the streets or frequently traveled roadways, try to find a straight, level road. If at all possible, use a road with a solid shoulder.</p> <p>Avoid areas that have hills, narrow bridges, sharp turns, ditches close to the road, heavy traffic, crossroads, or any obstruction to a driver's vision, such as trees and poles.</p> <p>You may have to travel some distance to find the ideal location, but the trouble will be well worth the effort. Your trainees will learn faster when they do not have to compete with hazards and distractions while learning to drive.</p> <p><u>VEHICLE INSPECTION TRAINING</u></p> <p>The following lesson has been designed to allow the trainee to progress toward competency in performing a daily inspection. The daily inspection is a method for the driver to locate defects that will affect the vehicle's safe operation. The job of an instructor is to teach the trainee the requirements in the regulations pertaining to daily inspection and explain the importance of <u>why</u> each item is being inspected. It is vital that the trainee learn how to inspect the vehicle, not memorize a list of items. It will be the instructor's responsibility to arrange the inspection in a logical sequence to help the trainee learn the inspection in a timely manner. On completion of training, the trainee should perform a complete vehicle and brake inspection within 30 minutes.</p>

REFERENCE	CONTENT
VC 27000	D. <u>Horns</u> 1. Electric 2. Air, if equipped
13 CCR 1270	II. <u>Driver's Seat and Seat Belt</u> A. Driver's seat - Check for proper securement and adjustment to ensure a correct driver posture. The trainee must be taught proper positioning. B. Seat belt - Check for proper adjustment. Determine type, self-adjusting or nonself-adjusting, and instruct the trainee on proper operations.
13 CCR 1284	<p>NOTE: The driver's seat on a Type 1 bus shall be readily adjustable backward and forward and up and down; on a Type 2 bus, at least backward and forward.</p> III. <u>All Doors, Door Emergency Releases, and Windows</u> A. Entrance door - Check for proper operation. B. Emergency doors and windows - Check for ease of operation and proper lettering.
13 CCR 1278 (c)	<p>NOTE: All emergency exits should operate in such a manner that they can be opened by pupils transported in the event of an emergency.</p> IV. <u>All Seats, Handrails, and Modesty Panels</u> A. Passenger seats - Check seat backs and frames for securement. Check seat cushions for securement. B. Handrails - Check for securement. C. Modesty panels - Check for securement.
13 CCR 1217	V. <u>Interior and Exterior Lighting System</u> A. Interior lighting 1. Dome and step lights - Check illumination and condition of lenses.

REFERENCE

CONTENT

B. Cooling and ventilating systems - Check the same as heaters and defrosters, if equipped.

VII. All Glass and Mirrors. Including Adjustment of Mirrors

A. All glass - Check all glass to ensure it is clean, not cracked or broken.

B. Mirrors - Check all mirrors. Ensure that they are clean, free of cracks, tightly secured to the vehicle, and adjusted in a manner that allows the driver the greatest visibility possible.

NOTE:

Trainees must be taught what proper mirror adjustment is. It is important that they know what they can and cannot see when the mirrors are properly adjusted.

VIII. Windshield Wipers and Washers

A. Windshield wipers - Check operation on all speeds. Check wiper blades for splitting or cracking. Also, check that the wiper arms are secure.

B. Washer - Check fluid level and ensure that it is operational.

IX. All Required Emergency Equipment

A. First-aid kit

1. Every school bus, youth bus, and farm labor vehicle shall carry a readily visible, accessible, and plainly marked first aid kit.

2. The kit shall be constructed to prevent dust and moisture from reaching the contents and maintained in good condition. The kit shall be removable from the place secured.

3. The required contents of a school bus first-aid kit and the required number of units (determined by the number of passengers a school bus is designed to carry) are shown on the following chart. Each youth bus and farm labor vehicle shall be equipped with a 10 unit first aid kit.

13 CCR 1243

REFERENCE	CONTENT
	<p>X. <u>All Tires, Wheels, and Lug Nuts</u></p> <p>A. Tires</p> <ol style="list-style-type: none">1. Front - Check for proper tread depth (4/32 inch minimum); check the sidewalls for cracks and bulges; and ensure that the valve stems do not touch the brake drums.2. Rear - Check for proper tread depth (2/32 inch minimum); check the sidewalls for cuts and bulges; and ensure that the valve stems do not touch the brake drums.3. Wheels - Check for cracks.4. Lug nuts - Check for missing or looseness.5. Grease or oil seals - check for leaks. <p>NOTE: Check with your mechanic to determine the direction the lug nuts are to be tightened on each vehicle.</p> <p>XI. <u>Engine Compartment and Fluid Levels</u></p> <p>A. Engine compartment</p> <ol style="list-style-type: none">1. Belts - Check all belts for overall condition; and check for wear, cracks, and adjustment.2. Hoses - Check the overall condition of the hoses; and check for wear, cracks, leaks, and swelling.3. Fuel cap - Ensure that the cap is properly secured. <p>B. Fluid levels</p> <ol style="list-style-type: none">1. Oil - Check for proper level of oil.2. Coolant - Check for proper level of coolant.3. Power steering - Check for proper level of fluid. <p>NOTE: Show the trainee what the proper fluid levels are. Also, explain how many quarts of oil are required between the add and full mark on the dipstick.</p>

REFERENCE

CONTENT

BRAKE SYSTEM TRAINING

The brake systems included are:

I. Air Brakes

- A. Dual air system (spring brakes)
- B. Manual or modulated air system (spring brakes)
- C. Automatically actuated air system (spring brakes)
- D. Dual air system (air-applied system DD3)
- E. Manual (air-applied system DD3)
- F. Automatically actuated (air-applied system DD3)
- G. Manual/modulated (air-applied system DD2)

II. Hydraulic Brake Systems

- A. Hydraulic system with vacuum booster
- B. All other hydraulic brake systems with power brake boosters

REFERENCE

CONTENT

5. Release the parking brake. Allow system time to stabilize; check pressure gauge for one minute and note any pressure drop (2 psi per minute allowed) (STATIC TEST).

6. Apply the service brake all the way down and hold. After the system is loaded, check the pressure gauge for air loss (3 psi per minute allowed). Tap gauge occasionally to unstick (APPLIED TEST).

*7. Reapply parking brake. Turn on ignition (DON'T START ENGINE); release the air in the front service air tank until the low-pressure warning device actuates (max. 75 psi, min. 55 psi).

*See note on following page.

THE AIR MUST BE RELEASED DIRECTLY FROM THE FRONT SERVICE TANK VALVE. DO NOT DEplete THE AIR BY REPEATED APPLICATION OF THE FOOT PEDAL AS THIS WILL EXHAUST BOTH THE FRONT AND REAR AIR SUPPLY.

*8. Reduce the air pressure to zero psi; then, release the parking brake, start the engine and immediately move the vehicle, depress the clutch, and apply the emergency stopping system through the service brake pedal.

*9. Allow the air system to build back to approximately 90 psi and repeat steps 7 and 8 for the rear service tank test. THE AIR MUST BE RELEASED DIRECTLY FROM THE REAR SERVICE TANK VALVE.

REFERENCE

CONTENT

MANUAL OR MODULATED AIR SYSTEM (Spring Brakes)

THIS INSPECTION PROCEDURE MAY EXCEED MINIMUM LEGAL REQUIREMENTS.

This system was used from the late 1960s and continued to be in common production until April 1, 1977.

1. Start engine to build up air pressure.
2. When system cut-out pressure is reached, note the pressure (max. 130 psi).
3. Apply service brake pedal enough times to allow the system air pressure to drop and the air governor to cut in (min. 85 psi); then allow the system to build back to maximum.
4. Place vehicle in gear, shut engine off (block wheels if necessary), and check pressure gauge for one minute and note any pressure drop (2 psi per minute allowed). Tap gauge occasionally to unstick (STATIC TEST).
5. Release the parking brake, allow the system time to stabilize, check pressure gauge for one minute, and note any pressure drop (2 psi per minute allowed) (STATIC TEST).
6. Apply the service brake all the way down and hold. After system is loaded, check pressure gauge for air loss (3 psi per minute allowed). Tap gauge occasionally to unstick (APPLIED TEST).

REFERENCE

CONTENT

AUTOMATIC ACTUATED AIR SYSTEM (Spring Brakes)

THIS INSPECTION PROCEDURE MAY EXCEED MINIMUM LEGAL REQUIREMENTS.

This system has been around many years and was used in California until 1968, at which time the manufacturers could no longer equip new buses with this system.

1. Start engine to build up air pressure.
2. When system cut-out pressure is reached, note the pressure (max. 130 psi).
3. Apply service brake pedal enough times to allow the system air pressure to drop and the air governor to cut in (min. 85 psi); then allow the system to build back to maximum.
4. Place vehicle in gear, shut engine off (block wheels, if necessary), and check pressure gauge for one minute and note any pressure drop (2 psi per minute allowed). Tap gauge occasionally to unstick (STATIC TEST).
5. Release the parking brake, allow the system time to stabilize, and check pressure drop (2 psi per minute allowed) (STATIC TEST).
6. Apply the service brake all the way down and hold. After the system is loaded, check the pressure gauge for air loss (3 psi per minute allowed). Tap gauge occasionally to unstick (APPLIED TEST).

REFERENCE

CONTENT

DUAL AIR SYSTEM (Air-Applied System DD3)

THIS INSPECTION PROCEDURE MAY EXCEED MINIMUM LEGAL REQUIREMENTS.

1. Start engine to build up air pressure.
2. When system cut-out pressure is reached, note the pressure (max. 130 psi).
3. Apply the service brake pedal enough times to allow the system air pressure to drop and the air governor to cut in (min. 85 psi); then allow the system to build back to maximum.
4. Place vehicle in gear, shut engine off (block wheels, if necessary), and release parking brake. Check pressure gauge for one minute and note any pressure drop (2 psi per minute allowed). Tap gauge occasionally to unstick (STATIC TEST).
5. Apply service brake all the way down and hold. After the system is loaded, check the pressure gauge for air loss (3 psi per minute allowed). Tap gauge occasionally to unstick (APPLIED TEST).
- *6. Turn on ignition (DON'T START ENGINE); apply the service brake to reduce the system air pressure. Note the pressure at which the low-pressure warning devices actuate (max. 75 psi, min. 55 psi) and turn off ignition.
7. Continue to reduce the air pressure and note the pressure at which rear brake application takes place.

*See note on following page.

REFERENCE

CONTENT

MANUAL AIR SYSTEM (Air-Applied System DD3)

THIS INSPECTION PROCEDURE MAY EXCEED MINIMUM
LEGAL REQUIREMENTS.

This system was used from the late 1960s and continued to be in common production until April 1, 1977.

1. Start engine to build up air pressure.
2. When system cut-out pressure is reached, note the pressure (max. 130 psi).
3. Apply service brake pedal enough times to allow the system air pressure to drop and the air governor to cut in (min. 85 psi); then allow the system to build back to maximum.
4. Place vehicle in gear and shut engine off (block wheels, if necessary). Release the parking brake, allow the system time to stabilize, check pressure gauge for one minute, and note any pressure drop (2 psi per minute allowed). Tap gauge occasionally to unstick (STATIC TEST).
5. Apply the service brake all the way down and hold. After system is loaded, check pressure gauge for air loss (3 psi per minute allowed). Tap gauge occasionally to unstick (APPLIED TEST).
- *6. Turn on ignition (DON'T START ENGINE) and apply the service brake to reduce the system air pressure. Note the pressure at which the low-pressure warning devices actuate (max. 75 psi, min. 55 psi). Then turn off ignition.

*See note on following page.

REFERENCE

CONTENT

AUTOMATIC ACTUATED SYSTEM (Air-Applied System DD3)

THIS INSPECTION PROCEDURE MAY EXCEED MINIMUM
LEGAL REQUIREMENTS.

1. Start engine to build up air pressure.
2. When system cut-out pressure is reached, note the pressure (max. 130 psi).
3. Apply service brake pedal enough times to allow the system air pressure to drop and the air governor to cut in (min. 85 psi); then allow the system to build back to maximum.
4. Place vehicle in gear, shut engine off (block wheels, if necessary), and release parking brake. Allow system time to stabilize. Check pressure gauge for one minute and note any pressure drop (2 psi per minute allowed). Tap gauge occasionally to unstick (STATIC TEST).
5. Apply the service brake all the way down and hold. After the system is loaded, check the pressure gauge for air loss (3 psi per minute allowed). Tap gauge occasionally to unstick (APPLIED TEST).
- *6. Turn on ignition (DON'T START ENGINE) and apply the service brakes to reduce the system air pressure. Note the pressure at which the low-pressure warning devices actuate (max. 75 psi, min. 55 psi). Then turn off ignition.

*See note on following page.

REFERENCE

CONTENT

MANUAL/MODULATED SYSTEM (Air-Applied System DD2)

THIS INSPECTION PROCEDURE MAY EXCEED MINIMUM
LEGAL REQUIREMENTS.

1. Start engine to build up air pressure.
2. When system cut-out pressure is reached, note the pressure (max. 130 psi).
3. Apply the service brake pedal enough times to allow the system air pressure to drop and the air governor to cut in (min. 85 psi). Then allow the system to build back to maximum.
4. Place vehicle in gear, shut engine off (block wheels, if necessary), and release parking brake. Check pressure gauge for one minute and note any pressure drop (2 psi per minute allowed). Tap gauge occasionally to unstick (STATIC TEST).
5. Apply the service brake all the way down and hold. After the system is loaded, check pressure gauge for air loss (3 psi per minute allowed). Tap gauge occasionally to unstick (APPLIED TEST).
- *6. Turn on ignition (DON'T START ENGINE) and apply the service brakes to reduce the system air pressure. Note the pressure at which the low-pressure warning devices actuate (max. 75 psi, min. 55 psi) and turn off ignition.
7. Continue to reduce the air pressure to 20 psi. Do not deplete air supply to zero.

*See note on following page.

REFERENCE

CONTENT

HYDRAULIC BRAKE SYSTEMS WITH VACUUM BOOSTER

1. Start engine and build vacuum to maximum; shut engine off.
Check vacuum loss for one minute. (No more than a 3-inch drop is allowed.) Tap gauge occasionally to unstick (STATIC TEST).
2. Apply service brake all the way down and hold. Check vacuum loss for one minute. (No more than a 3-inch drop is allowed.) Tap gauge occasionally to unstick (APPLIED TEST).
3. Turn on ignition (DON'T START ENGINE) and apply service brake to reduce vacuum. Note the point where the low-vacuum warning devices actuate. (MINIMUM OF 8 INCHES MERCURY IS ALLOWED.)
4. Continue to reduce vacuum to zero and hold service brake pedal all the way down and restart the engine. As soon as the engine is running, the service brake pedal should drop down just a little. (This indicates that the vacuum booster is working.)

Should the vacuum booster fail, the primary backup system will be the hydraulic side of the brakes; however, should you have a complete hydraulic failure, the primary backup system will be the parking brake.

5. Perform the Parking Brake Test (with Parking Brake Set).
 - a. Place shift selector in one gear higher than the normal starting gear.
 - b. Rev engine to approximately 1/3 maximum rpm.

REFERENCE

CONTENT

ALL OTHER HYDRAULIC BRAKE SYSTEMS WITH POWER BRAKE BOOSTERS

Because of the variety and design of hydraulic power brake systems and the operation of the warning devices, etc., the fleet operation should use the original equipment manufacturer's (O.E.M.) brake inspection information as a guide in developing an effective brake inspection procedure for a particular vehicle. The O.E.M. information can be found in the vehicle owner's manual or can be obtained from the chassis manufacturer.

REFERENCE

CONTENT

ALL OTHER HYDRAULIC BRAKE SYSTEMS WITH POWER BRAKE BOOSTERS

Because of the variety and design of hydraulic power brake systems and the operation of the warning devices, etc., the fleet operation should use the original equipment manufacturer's (O.E.M.) brake inspection information as a guide in developing an effective brake inspection procedure for a particular vehicle. The O.E.M. information can be found in the vehicle owner's manual or can be obtained from the chassis manufacturer.