

Vehicle inspectors bulletin



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Test procedure for Mercedes-Benz air-over-hydraulic brake system

Purpose

To inform Heavy Vehicle Authorised Inspection Station (HVAIS) examiners of the procedure for testing the air-over-hydraulic brake system fitted to Mercedes-Benz based trucks and buses such as the Vario.

Background

The Rules for HVAIS require air brake systems (including air-over-hydraulic) fitted to heavy vehicles to be inspected as part of the safety check inspection. Appendix 'O' of the HVAIS rules and Vehicle inspectors bulletin (VIB) No. 14 *Test procedures for air brake systems* outline the procedures to be used for inspecting and testing air brake systems on heavy vehicles.

Mercedes-Benz based trucks and buses fitted with an air-over-hydraulic brake system are designed with a dual circuit split system. In the event of a failure of one sub-system, braking is provided through the intact circuit.

However, if the primary circuit is drained when the engine is not running there may be insufficient residual air pressure in the secondary circuit to achieve the required level of vehicle braking performance. In such an event the spring brakes will apply slowly.

As a result of the spring brakes applying the integrity of the braking system as outlined in VIB No.14 Section 2, Part B Clause 8 may not be able to be determined. To determine the integrity of the braking system for the Mercedes-Benz air-over-hydraulic brake system the following procedure replaces VIB No. 14 Section 2, Part B Clause 8.

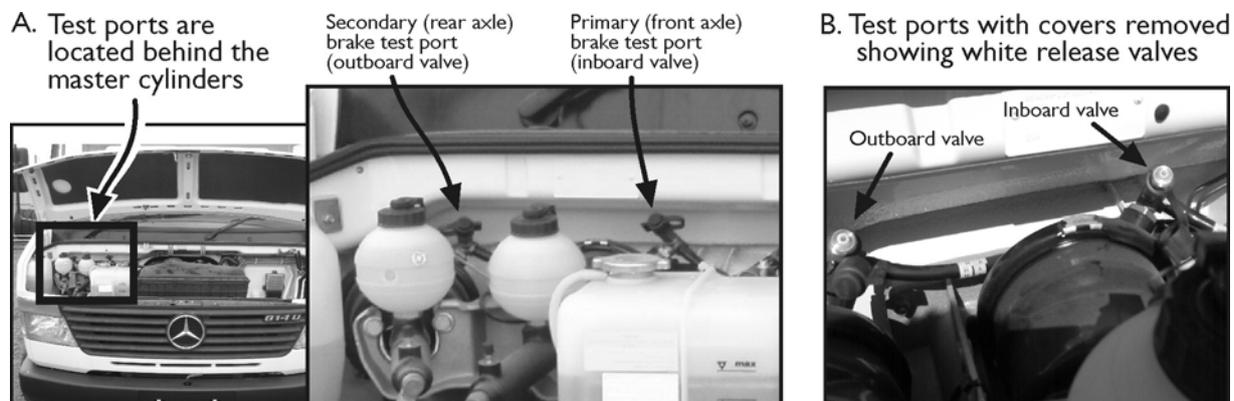
Inspection procedure

1. Ensure the vehicle is located on stable and level ground.
2. Ensure the vehicle's wheels are chocked.
3. Open the vehicle's bonnet (the bonnet release is located in passenger side foot well).

For ■ HVAIS Proprietors & Examiners ■ RTA Inspectors Vehicle Regulation ■ Engineering Signatories
■ RTA Registry Service Managers

4. Locate the test ports. There is one test port located on each of the pneumatic/hydraulic servos under the bonnet. The inboard test port is for the primary circuit (front brakes) and the outboard test port is for the secondary circuit (rear brakes). To help find the location of the test ports refer to Figure 1A.
5. Remove the rubber covers from the test ports to reveal the white release valves (see Figure 1B).

FIGURE 1: LOCATION OF RELEASE PORT VALVES



6. Have the driver release the park brake.
7. Have the driver start the engine and ensure maximum air pressure in the brake system is reached (until air compressor cuts out).
8. Have the driver stop the engine.
9. Drain the rear-most air tank (note that the spring brakes will slowly apply as the pressure in the circuit depletes).
10. Observe the air pressure gauge on the instrument panel to ensure that circuit 1 displays zero pressure.
11. Have the driver depress the service brake pedal and hold.
12. Depress the white release valve of the inboard master cylinder test port (front axle brake), and detect if pressurised air exits from the valve.
13. Close the drain valve, then have the driver restart the engine and ensure that maximum air pressure is reached (until air compressor cuts out).
14. Drain the front-most air tank.
15. Observe the air pressure gauge on the instrument panel to ensure that circuit 2 displays zero pressure.
16. Have the driver depress the service brake pedal and hold.
17. Depress the white release valve of the outboard master cylinder test port (rear axle brake), and detect if pressurised air exits from the valve.

Reason for rejection

In steps 12 and/or 17, air pressure is not detected exiting from the test port.

Implementation

Immediately



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