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Current Language: English Last Modified: 3/14/2024  
Other Languages: [Français](#), Author: Josh Bowman  
Viewed: 332

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Coding Information

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Title: Electric Vehicle Air Dryer Operation

Applies To: Electric CE Bus & eMV

## CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

03/14/2024 - Updated additional steps, based on recent findings  
05/25/2023 - Initial Article Release

## DESCRIPTION

This document will guide the user through proper operation of the air dryer and known concerns with the system.

### NOTE:

In order for the air dryer system to properly function and purge, the vehicle **MUST** be in HV Drive mode or the green drive enable indicator light on the dash illuminated.

## SYMPTOMS

Diagnostic Trouble Codes & Dashboard Indicator Lights:

DTC/Light	Description
N/A	

Customer Observations or Concerns:

Air dryer not purging when air compressor is commanded to disable  
Constant leak at purge valve

## SPECIAL TOOLS / SOFTWARE

Tool Description	Tool Number	Comments	Instructions
N/A	N/A	N/A	N/A

## SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
Switch, sensor, pressure switch	4200246C1	1	Yellow label, normally closed

## DIAGNOSTIC STEPS

**WARNING!** To prevent personal injury and / or death, or damage to property, park vehicle on hard flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in both directions.

**WARNING!** To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

**WARNING!** To prevent personal injury and / or death, or damage to property, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

**WARNING!** To prevent personal injury and / or death, NEVER service a high voltage vehicle without completing high-voltage safety training. Before working on vehicle, read and obey all High-Voltage Safety and Lock-Out Tag-Out procedures and information.

**WARNING!** To prevent personal injury and / or death, wear and use approved high-voltage Personal Protective Equipment (PPE) when near a high-voltage electric vehicle. Inspect PPE before use. Do not use gloves or other PPE with expired dates, holes, cracks, or damage. NEVER touch energized orange highvoltage cables or high-voltage components without wearing approved highvoltage PPE.

**WARNING!** To prevent personal injury and / or death, read all information in the Safety Information and High-Voltage Safety sections of the service manual.

**WARNING!** To prevent personal injury and / or death, or damage to property, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

Step	Action	Decision
1	<p><b>DIAGNOSTIC:</b></p> <p>Does the air dryer purge, when compressor disables or cuts out after reaching pressure. (between 110-130psi)</p>	<p><b>Yes.</b> No further action is needed, return vehicle back to service.</p> <p><b>No.</b> Verify vehicle is in High-Voltage (HV) drive mode. (green drive enable indicator on dash is on) Re-test and verify operation.</p> <p>If dryer still does not purge when in HV drive mode, please open a technical service case file.</p> <p>If dryer purges, but there is a constent air leak at the purge valve go to step 2.</p>

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Step	Action	Decision
2	<p><b>DIAGNOSTIC:</b></p> <p>Does the air dryer purge, but develops a constant air leak at the purge valve.</p>	<p><b>Yes.</b> Inspect the governor pressure switch and verify the correct sensor is installed.</p> <p>Incorrect sensor will have a white label, with PN 5005735 printed on it.</p> <p>Correct sensor will have a yellow label, with PN4200246C1 printed on it.</p> <p>Install correct sensor and retest. (refer to Figure 1)</p> <p>If constant air leak is still present please proceed to step 3.</p> <hr/> <p><b>No.</b> No further action is needed, return vehicle back to service.</p>

Step	Action	Decision
3	<p><b>DIAGNOSTIC:</b></p> <p>If air leak is still present after performing steps 1-2, apply the brake pedal several times to lower air pressure in system to engage air compressor. This should change the strategy, allowing the system to function normally.</p> <p><b>Note:</b> It has been found, when vehicle state switches from HV ready to HV Drive there is a built in purge valve check that does not look at air compressor status. This will allow the air compressor to stay on when opening the purge valve resulting in the air leak concern (purge valve stuck open). To prevent this, a calibration release is being worked on.</p>	<p>After performing step 3, if leak still occurs please open a technical service case file and reference all steps completed.</p>



**Figure 1: Air Dryer Switch Comparison**

Item 1: Correct Sensor, Yellow Label

Item 2: Incorrect Sensor, White Label

## **WARRANTY INFORMATION**

### **Warranty Claim Coding:**

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

### **Standard Repair Time(s):**

Refer to the [SRT Manual](#) for Repair Times

## **OTHER RESOURCES**

[Master Service Information Site](#)

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