Subject: Spheros Auxiliary Heater High Altitude Operation Adjustment			
Field change Program: Service Bulletin	**Bulletin Number:** 3133	**Revision:** A	**Date:** 04/30/2020
Coach Section: 16-Heating & A/C	**P/N:** 16-16-1820		**Type:** Service Information

Application:

Coach Model	Model Year	VIN
D4500	2017 - 2020	14385-14390, 14515, 14569, 14857, 15175, 14449-14450

WARNING

Read this entire procedure before beginning work.

Use Safe Shop Practices at All Times.

To avoid personal injury:

a. ***Proper Personal Protective Equipment (PPE) must be worn. Safety glasses and protective gloves are required for working with DEF Fluid.***
b. ***Turn the main battery disconnect switch to the OFF position.***
c. ***Ensure that both the front and the rear wheels are chocked.***
d. ***Position the ENGINE RUN and ENGINE START switches on the engine compartment remote control box to the OFF position.***
e. ***Allow enough time for components to cool down prior to working in the engine compartment.***

1.0 Description

This bulletin outlines the steps to adjust the air/fuel mixture on the Spheros auxiliary heater unit for coaches operating at an altitude greater than 5000ft above the sea level.

2.0 Material requirements

No material required.

3.0 Special tools

Combustion Analyzer UEI C165 or similar analyzer

4.0 Inspection

Drive the coach to the highest elevation point on the coach's operating route before performing the adjustment.

Start the auxiliary coolant heater and let it run for 3 minutes.

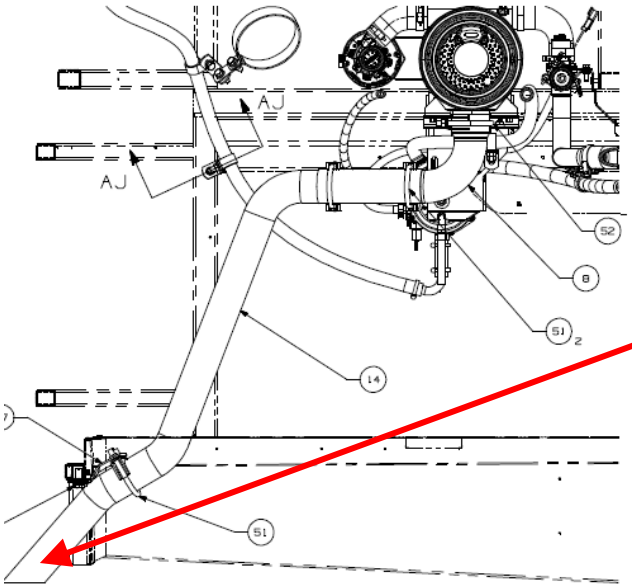
⚠WARNING

When working around a running engine, ensure no loose clothing, and you are aware of all rotating components.

Maintain an appropriate distance from the auxiliary heater exhaust pipe and auxiliary coolant heater since they may be hot.

Do not operate the auxiliary heater in an area where toxic or explosive materials or fumes may be present.

Using the combustion analyzer meter and probe measure the CO_2 content of the combustion gas at the exit of the auxiliary heater exhaust pipe. Follow the manufacturer's recommendation on the meter and probe usage. Note the measured CO_2 content.



Measure CO_2 here with the probe

If the measured CO_2 content is not within the 8.0-9.0% range, perform Section 5.0. Otherwise, the procedure is completed.

5.0 CO_2 content adjustment

Open the roadside engine access door.

Open the door

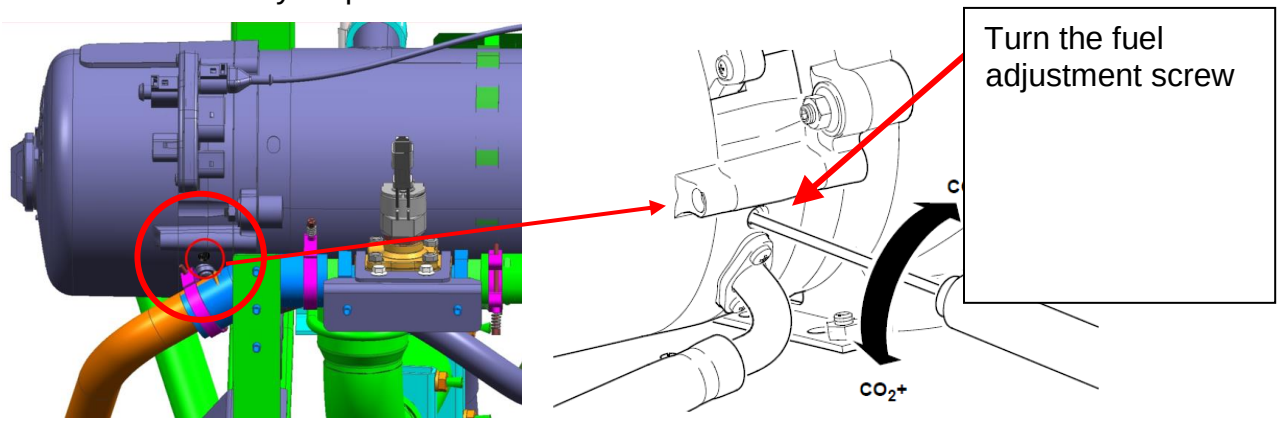
Locate the fuel flow rate adjustment screw on the side of the auxiliary coolant heater and turn it until the target value is reached.

⚠WARNING

When working around a running engine, ensure no loose clothing, and you are aware of all rotating components.

Maintain an appropriate distance from the auxiliary heater exhaust pipe and auxiliary coolant heater since they may be hot.

Do not operate the auxiliary heater in an area where toxic or explosive materials or fumes may be present.



Let the auxiliary heater run for 3 minutes and re-check the CO_2 content with the meter to verify the measurement. Adjust the fuel flow rate again if necessary and re-check the measurement after 3 minutes.

Repeat the process until the CO_2 content is within the 8.0-9.0% range.

End of the procedure